

Frankfort + Gove Street Housing Project



Submitted to:
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

Submitted by:
Frankfort Gove, LLC
220 Boylston Street, Unit 1214
Boston, MA 02116

Prepared by:
Epsilon Associates, Inc.
3 Mill & Main Place, Suite 250
Maynard, MA 01754

In Association with:
Bruner + Cott Associates, Inc.
BSC Group
Drago & Toscano, LLP
EBI Consulting
Vanasse & Associates, Inc.

October 5, 2018

Project Notification Form

Submitted Pursuant to Article 80 of the Boston Zoning Code

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Chapter 1

General Information

1.0 GENERAL INFORMATION

1.1 Introduction

Frankfort Gove, LLC (the Proponent) proposes the redevelopment of an approximately 49,125 square foot (sf) site in East Boston, Massachusetts. The redevelopment involves the renovation of Our Lady of Mt. Carmel Catholic Church and the creation of 112 residential units in a new building, along with 84 associated parking spaces, open space and public realm improvements (the Project). The redevelopment site includes four parcels and is generally bound by Frankfort Street to the west, Lubec Street to the east and existing residential and institutional properties to the north and south (the Project site). Our Lady of Mt. Carmel Catholic Church was ordered closed in 2004 and this redevelopment will bring the attractive buildings back to useful life. Certain buildings within the Church complex are historic resources (See Section 7.0).

The Project will blend with the predominantly residential neighborhood and will revitalize Our Lady of Mt. Carmel Catholic Church (Church Building) as a cornerstone of this development. The Church Building has long been a notable beacon of this East Boston neighborhood. The proposed massing and materials of the new building along Frankfort Street (Frankfort Street Building) will mirror those of the existing residences while providing distinct and contemporary design. Along Gove Street, the new building will be similar in height to the other buildings along the street and in materials which were inspired by the context and in contemporary design.

The Project site is less than one half mile from the Maverick Blue Line station as well as multiple routes of major bus lines, which will easily facilitate the commute for future residents of the Project. Additionally, the site is approximately two miles from Boston Logan International Airport.

This Expanded Project Notification Form (PNF) is being submitted to the BRA doing business as Boston Planning and Development Agency (herein, the BPDA), to initiate review of the Project under Article 80B, Large Project Review, of the Boston Zoning Code. The PNF offers a description of the Project, its minimal impacts and its benefits to the City of Boston. A Letter of Intent (LOI) was filed with the BPDA on February 23, 2018, in accordance with the Boston Zoning Code.

1.2 Project Identification and Team

Address/Location:	Four parcels at the intersection of Frankfort and Gove streets in East Boston, Massachusetts (115 Gove Street, 120 Gove Street, 128-134 Gove Street, 21-43 Frankfort Street)
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Proponent: Frankfort Gove, LLC
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Transportation and Parking Consultant:	Vanasse & Associates, Inc. 35 New England Business Center Drive, Suite 140 Andover, MA 01810 (978) 474-8800 Jeffrey Dirk
Construction Manager	Cranshaw Construction 2310 Washington Street Newton Lower Falls, MA 02462 (617) 965-7300 Andrew Bisbee

1.3 Public Benefits

The Proposed Project will provide substantial benefits to the City of Boston and the East Boston community. The Project will generate both direct and indirect economic and social benefits to the East Boston neighborhood. The Project provides for:

- ◆ Creating much needed market rate residential housing in the East Boston Neighborhood;
- ◆ Creating fifteen on-site affordable home ownership units, which will meet the BPDA's affordable housing standards;
- ◆ Revitalizing several underutilized parcels and replacing the previous church use and church associated uses with modern residential housing units;
- ◆ Replacing an underutilized vacant parking lot with residential housing use;
- ◆ Replacing vacant buildings and land with residential use;
- ◆ Maintaining and renovating the existing Church Building, allowing for the preservation of this iconic neighborhood structure;
- ◆ Removing the existing compromised structures that have fallen into a state of disrepair and don't meet current Building Code requirements;

- ◆ Constructing a building that will incorporate open space in the form of private and communal decking;
- ◆ Creating a reflection space adjacent to the former Church Building, providing the neighborhood with landscaped open space;
- ◆ Creating a multifaceted and detailed landscape plan to incorporate plants and trees into the reflection space, parking facilities, streetscapes and open spaces within the properties;
- ◆ Constructing an underground parking garage that will accommodate parking spaces for the unit owners;
- ◆ Constructing a ground level parking facility that will accommodate parking spaces for the unit owners in the Church Building and which integrates trees and landscaping to minimize visual detriments to the surrounding abutters;
- ◆ Additional revenue in the form of property taxes to the City of Boston;
- ◆ Creating 124 construction and labor jobs;
- ◆ Providing housing proximate to the MBTA station for middle income residents, as well as affordable housing in compliance with the City of Boston Inclusionary Development Policy to promote the Commonwealth's Transit-Oriented Development policy goals;
- ◆ Creating bicycle storage within the building to encourage bicycling as a mode of transportation, allowing for less vehicular traffic;
- ◆ Encouraging alternative modes of transportation such as use of bicycling and walking, due to the close proximity of the MBTA Maverick and Airport stations;
- ◆ New stormwater management strategies and infrastructure that will significantly improve the quality and decrease the quantity of stormwater generated by the site when compared to the existing conditions;
- ◆ Streetscape and urban design elements that will enhance the pedestrian experience and the surrounding neighborhood through lighting and landscaping; and
- ◆ The Project will be constructed to be certifiable under the Leadership in Energy and Environmental Design (LEED) rating system targeting the Silver level.

1.4 Legal Information

1.4.1 Legal Judgements Adverse to the Proposed Project

There are no legal judgements or actions pending concerning the Proposed Project.

1.4.2 History of Tax Arrears on Property

All taxes due for the property have been timely paid by the Proponent, including the current FY taxes.

1.4.3 Site Control/Public Easements

The Project site, consisting of 1.13 acres, is under the control of the Proponent. On August 17, 2015, the Proponent acquired the four parcels which comprise the Project site, consisting of approximately 49,125 sf.

There are no public easements through the Project site.

1.5 Public Participation

The Project team has provided extensive community outreach efforts for the Proposed Project including community meetings in the East Boston neighborhood, and presentations before the elected officials. As part of the process, the Project team will hold an abutter's meeting to explain the Project to surrounding neighbors that will be directly impacted during and after construction. The Project team appeared three times before the Gove Street Association, as well as meeting with the Impact Advisory Group (IAG). The Proponent received feedback from the neighbors and members of the IAG and has made design changes accordingly.

Finally, the Project team has met individually with all of East Boston's elected officials and their staff members, including: Representative Adrian Madaro, City Councilor Lydia Edwards, and Mayor's Office of Neighborhood Services Liaison for East Boston, Jose Garcia-Mota. East Boston's elected officials have had input during the community outreach process and have had staff present at all community meetings.

The Proponent will continue to meet with public agencies, neighborhood representatives, local business organizations, abutting property owners, and other interested parties, and will follow the requirements of Article 80 pertaining to the public review process.

Chapter 2

Project Description

2.0 PROJECT DESCRIPTION

2.1 Project Description

2.1.1 Project Site

The Project site includes four parcels totaling approximately 49,125 square feet (sf). The Frankfort Street and 115 Gove Street parcels consist of approximately 32,390 sf and currently contain a Convent Building and a vacant lot. The 120 Gove Street and 128-134 Gove Street parcels total approximately 16,735 sf and currently include the closed Our Lady of Mt. Carmel Catholic Church and attached Rectory Building. See Figure 2-1 for an aerial locus map of the Project site and Figure 2-2 through Figure 2-6 for existing conditions on the site. Attachment A provides a site survey of the Frankfort and Gove Street parcels.

2.1.2 Area Context

The area surrounding the Project site includes a mix of residential, commercial and institutional uses. Existing residences are located to the north, west and south of the site. These residences are generally three-stories with brick facades, typical of East Boston. The Donald McKay School and East Boston Early Education Center are located directly to the southeast of the site. See Figure 2-7 for existing buildings in the vicinity of the Project site.

Maverick Square, located within a half mile from the Project site, includes numerous restaurants, shops, access to public transportation, parks and open spaces. Open spaces in the area include Lombardi Memorial Park, Lewis Mall, East Boston Greenway, Piers Park Sailing Center, Brophy Park, and Sumner and Lamson Street Playground. The Project site is located within one-half mile from the Maverick MBTA Blue Line station and is along the routes of multiple major bus lines. The Project site is also approximately two miles from Logan International Airport. The proximity to public transit makes the area an ideal location for transit-oriented development.

2.1.3 Proposed Project


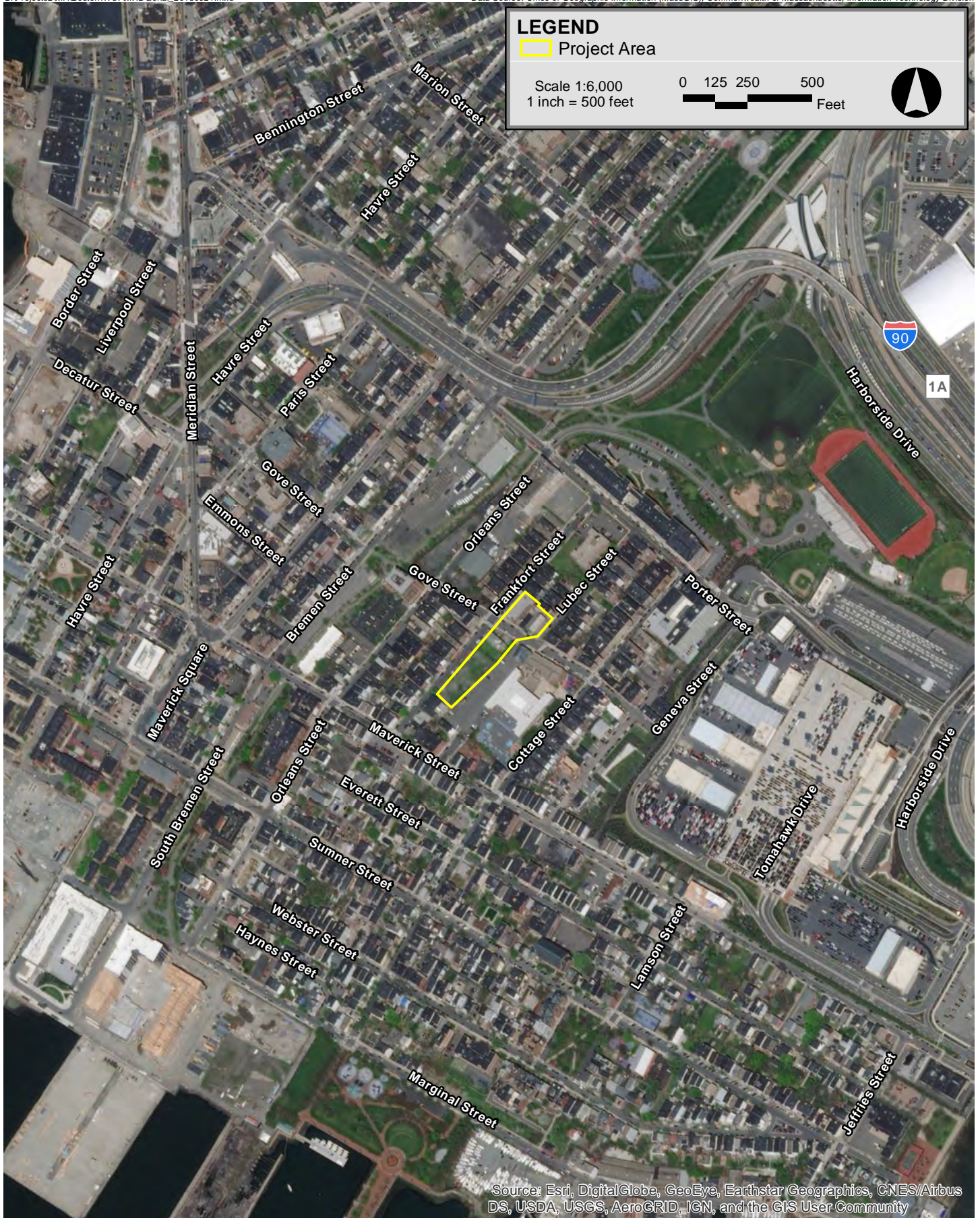
The Project proposes approximately 120,430 gross sf of residential space, approximately 27,885 gross sf of below-grade parking and approximately 22,140 sf of open space. In total, the Project will include approximately 112 units and approximately 84 parking spaces, 71 of which are located in a below-grade garage. Thirteen parking spaces are off Lubec Street in a new landscaped lot. The Project will also include approximately 112 covered bicycle parking spaces and approximately 23 outdoor bicycle parking spaces. The parking garage will provide electrical vehicle charging capacity.

LEGEND

Project Area

Scale 1:6,000
1 inch = 500 feet

0 125 250 500 Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

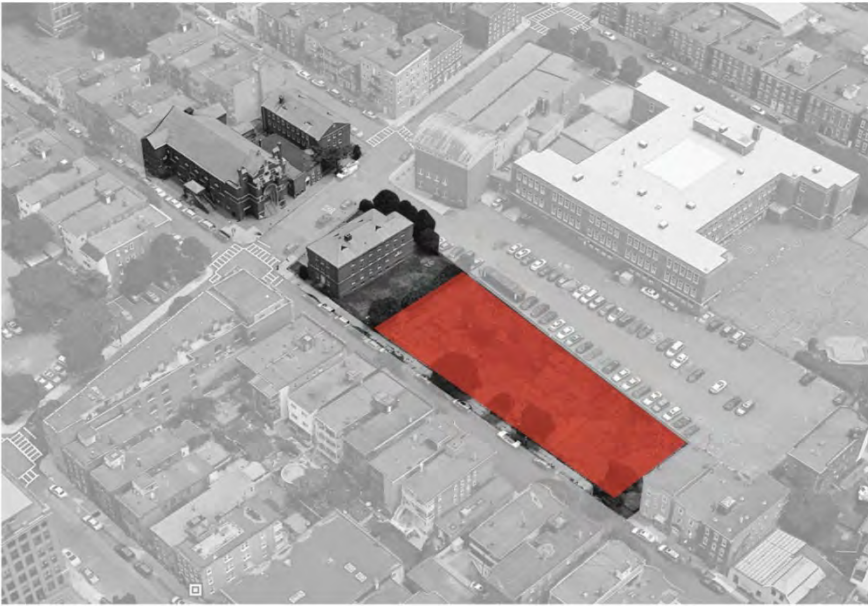
Frankfort Gove Street Housing Boston, Massachusetts



Figure 2-1
Aerial Locus Map



Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT STREET PARCEL

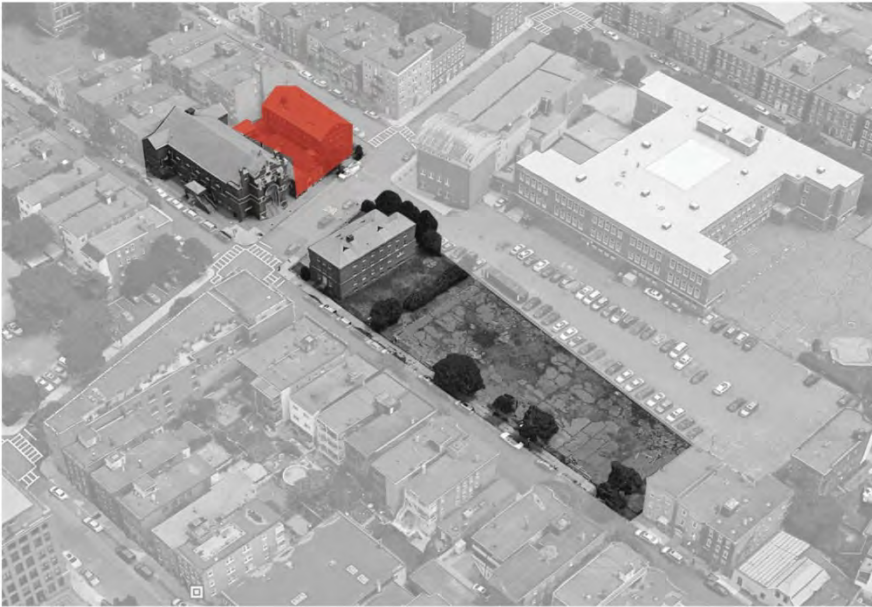
- EXISTING VACANT LOT





115 GOVE STREET PARCEL

- EXISTING CONVENT BUILDING - NOT SUITABLE FOR HOUSING

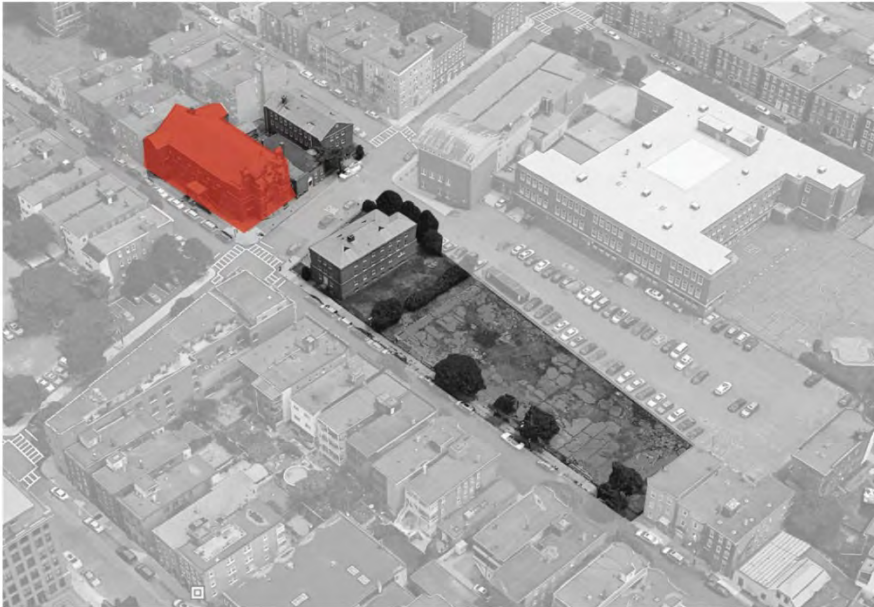


128 - 134 GOVE STREET PARCEL

- EXISTING RECTORY BUILDING - NOT SUITABLE FOR HOUSING



Frankfort Gove Street Housing Boston, Massachusetts



120 GOVE STREET PARCEL

- EXISTING CHURCH BUILDING
- 1907-1920



Frankfort Gove Street Housing Boston, Massachusetts



48 FRANKFORT ST
INTERSECTION OF FRANKFORT & GOVE ST



THE GUMBALL FACTORY
150 ORLEANS ST

Frankfort Gove Street Housing Boston, Massachusetts

The renovated Church Building will include approximately 14 residential units. The existing Rectory and Convent buildings will be removed. The vacant Frankfort Street parcel will include the construction of a new building including approximately 98 condominium units (identified as the Frankfort Street Building, which will encompass the 115 Gove Street parcel and the Frankfort Street parcel).

The Project will provide market-rate and affordable units with a variety of unit sizes and styles to accommodate East Boston’s diverse and growing population. The unit designs will vary and include apartments and lofts. The unit mix for the approximately 112 units will comprise a mix of studio units, one-bedroom or one-bedroom plus den units, and two-bedroom units. Approximately 13% of the units will be designated as affordable in accordance with the Mayor’s Inclusionary Development Policy. There will be a number of private decks as well as a common amenity roof deck to provide ample outdoor space for the residents. Table 2-1 includes the Project program. Figures 2-8 to 2-26 at the end of this section show site plans, floor plans and sections of the Project.

Table 2-1 Proposed Program

Project Element	Approximate Dimension
Church Building	
1-bedroom / 1-bedroom with den	10
2-bedroom	4
Frankfort Street Building	
1-bedroom / 1-bedroom with den	68
2-bedroom	30
Total Units	112 units
Parking	71 below-grade spaces, 13 surface spaces
Total Parking	84 spaces
Zoning Height*	Up to 65 feet
Parcel Area	49,125 square feet (1.13 acres)
FAR	2.45

*The As-of-Right height is 35 feet; the Project is seeking a variance of up to 65 feet.

2.1.4 Evolution of Design

During the conceptual design and planning of the Project, the Project team outlined several goals:

- ◆ Respectfully reposition the existing Church Building as a cornerstone of the neighborhood;
- ◆ Create a modern residential building that is woven into the surrounding context, reflecting its size, shape, and materiality;

- ◆ Bring additional vibrancy to the streets of this high-quality, urban neighborhood by activating the street and introducing beautiful landscaped spaces along Gove Street; and
- ◆ Be a model for resilient planning and sustainable design in 21st century Boston.

Repositioning the Existing Church Building

The Church Building will be the cornerstone of this development, respectfully reused and converted into spacious loft-style living units that capture the soaring interior spaces and volume of the building. There will be three levels of residential units with the top floor units capturing the currently hidden truss space above the vaulted ceiling. The exterior of the building, including its brick and stone façade, will be restored. It will be sensitively repaired where religious iconography was removed. The front door and side window openings will be lowered to the ground to better connect the building to the street and surrounding landscape. A reflective outdoor space that honors the church’s history will be crafted along the widened sidewalks at the corner of Frankfort and Gove streets. A new corner green space will be built at the corner of Gove and Lubec Streets to conceal parking for the Church Building units, while also creating a landscaped edge along Gove Street bringing much needed green space to the neighborhood.

Weaving into the Gove Street Neighborhood

Frankfort Street Row Houses: Mirroring the brick row houses along Frankfort Street will be a four-story structure extending along Frankfort Street and articulated as individual row houses with separate, raised entrances and planter boxes. The Project will serve to activate the street and add individual character including urban landscape and street trees. The fourth floor will contain setbacks for private deck space while reducing the massing along Frankfort Street. One row house will serve as an accessible main entrance to the condominiums and six-story building at the corner of Frankfort and Gove streets. The rear of the row houses will house a raised green space with fencing running along the adjacent School parking area. The primary material will be brick, with stone and ironwork accents, recalling the materials and details used around the neighborhood. A fifth story roof deck will be set back approximately 30 feet from the property line along Frankfort Street.

Frankfort Street Condominium Building: At the corner of Frankfort and Gove streets, there will be a six-story building condominium building. The existing street corridor along Gove Street includes taller structures such as the Gumball Factory Loft Building, the adjacent school building, the Church Building, and the former School Building that was converted to residential living. This six-story building will contain one- and two-bedroom condominium units with access to the main common roof deck amenity space through the main elevator lobby. The sixth floor will be set back approximately 25 feet from the Gove Street property line and approximately 12 feet from the Frankfort Street property line to reduce massing and shadows. The upper floor materials will be lighter in color and texture.

Materials – New Building

The primary exterior materials have been chosen with respect to the existing patterns, scale, and materials present within the adjacent Gove Street neighborhood. A modern mixture of brick and terra-cotta façade materials will complement the existing neighborhood brick in color and texture. Modern windows and Juliette balconies will complement the new facades in color and scale. The Project will feature cast iron railings and stone accents along the streetscape at Frankfort Street, as well as a modern interpretation of the existing ornamental cornices along Frankfort Street. The façade will be broken down in sections that respond to the scale of the row houses along Frankfort Street, reflecting their masonry facades and detail. The facades located above the fifth floor will set back from the street and be lighter in color. The ground floor of the six-story element will feature new glazing at the lobby and amenity spaces at the intersection of Frankfort and Gove streets. This glazed façade will wrap along Gove Street allowing view of the existing Church Building from the amenity spaces.

Landscape and Street Vibrancy

The Project will feature a new landscaped lot adjacent to the existing Church Building at Gove and Lubec streets. The landscaped lot will integrate approximately 13 parking spaces for the renovated Church Building, concealing them from the street through plantings and topography. The parking spaces will be integrated into the landscape with grated trees and coordinated pavers and plantings. New street trees along both sides of Gove Street will serve to activate a section of the neighborhood and suggest a link between the Church Building and the new Frankfort Street Building across Gove Street. The Project is also proposing a widened streetscape with landscaping and hardscape material selections in accordance with the Boston Complete Street guidelines where applicable.

2.2 City of Boston Zoning

2.2.1 Site Zoning

The Project site is located in a Multi-Family Resident Subdistrict (MFR) of the East Boston Neighborhood District, Article 53 of the Boston Zoning Code (the “Code”). (See below Table 2-2 Gove Street - Zoning Compliance and Table 2-3 Frankfort Street - Zoning Compliance).

The Project site is comprised of four separate City of Boston parcels. The parcel ID’s for these parcels are Parcel ID 0104015000, which has an address of 120 Gove Street, Parcel ID 0104010000, which has an address of 128-134 Gove Street, Parcel ID 0103988002, which is known as Frankfort Street, and Parcel ID 0103988001, which is a vacant lot that is also only known as Frankfort Street. The Gove Street site will consist of the Gove Street parcels and will contain approximately 16,735 sf of land. The Frankfort Street site will consist of the two Frankfort Street parcels and will contain approximately 32,390 sf. Multi-

family dwellings are an allowed use in Multi-Family Residential Subdistricts under Article 53, Table A. Therefore, since both Project site are located within a Multi-Family Residential Subdistrict a use variance will not be necessary.

The proposed Project will seek relief from several dimensional regulation requirements of the existing zoning outlined in Article 53. One or both of the proposed buildings will require variances from the Zoning Board of Appeal, will likely include: floor-area-ratio (“FAR”), height, additional lot area per additional dwelling unit, open space, and rear yard setback. Depending on the final design and location of the buildings, other dimensional regulations may result in noncompliance with Article 53, Section 9, triggering furthering zoning exceptions, which would also require variances.

The proposed Project will not seek any relief regarding Off-Street Parking requirements or Off-Street Loading requirements. Typically, under to Table N of Article 53, which governs the parking requirements within East Boston, 2.0 parking spaces must be provided per unit when ten or more units are being proposed. However, footnote number one to Table N states that the provisions of Table N do not apply to proposed projects that are subject to Large Project Review. Similarly, according to Table O of Article 53, Off-Street Loading requirements do not apply to projects subject to Large Project Review. Therefore, no variances or relief will be required regarding the proposed parking or loading spaces relating to the Project.

The site is located in an area that contains primarily residential uses. The abutting structures are a variety of residential dwellings and apartment buildings. Although some of the two and three-family structures in the neighborhood are smaller than the proposed Project, the Donald McKay School and the Gumball Factory Residential Building, as well as several other four-story residential buildings are similar to the proposed Project in size and scope. Overall, the Project team feels that given this location and the immense size of the lots, and the structures influencing the design, that the proposed building’s height, mass and scale are appropriate for this location.

Table 2-2 Gove Street Zoning Compliance

Categories	Multi-Family Residential Subdistrict	Proposed Project*
Minimum Lot Area (Square Feet)	2,000 sf For First 2 Units	16,737 sf
Lot Area for Each Additional Dwelling Unit (Square Feet)	1,000 sf per DU (12,000)	14,737 sf
Floor Area Ratio	1.0	
Minimum Lot Width	40 Feet	152 Feet
Minimum Lot Frontage	40 Feet	130 Feet

Table 2-2 Gove Street Zoning Compliance (Continued)

Categories	Multi-Family Residential Subdistrict	Proposed Project*
Minimum Front Yard	5 Feet	5 Feet
Minimum Side Yard	5 Feet	7-35 Feet
Minimum Rear Yard	30 Feet	0-5 Feet
Maximum Building Height	3 Stories/35 Feet	Up to 55 Feet, 0 Inches
Minimum Useable Open Space Per Dwelling Unit (Square Feet)	200 sf / Unit (2,800)	750 – 1325 sf / Unit
Off-Street Parking Spaces	2 Space per Dwelling Unit (28 Spaces) *Negated by Article 80 Large Project Review	13 Spaces

*The proposed Church Building renovation includes an existing, non-conforming condition for building height and front/side/rear yard dimensions.

Table 2-3 Frankfort Street – Zoning Compliance

Categories	Multi-Family Residential Subdistrict	Proposed Project*
Minimum Lot Area (Square Feet)	2,000 sf For First 2 Units	32,403 sf
Lot Area for Each Additional Dwelling Unit (Square Feet)	1,000 sf per DU (96,000)	30,403 sf
Floor Area Ratio	1.0	
Minimum Lot Width	40 Feet	350 Feet
Minimum Lot Frontage	40 Feet	350 Feet
Minimum Front Yard	5 Feet	5 Feet
Minimum Side Yard	5 Feet	7-35 Feet
Minimum Rear Yard	30 Feet	0 to5 Feet
Maximum Building Height	3 Stories/35 Feet	Up to 65 Feet, 0 Inches
Minimum Useable Open Space Per Dwelling Unit (Square Feet)	200 sf / Unit (19,600)	660 – 1320 sf / Unit
Off-Street Parking Spaces	2 Space per Dwelling Unit (196 Spaces) *Negated by Article 80 Large Project Review	71 Spaces

*The proposed Church Building renovation includes an existing, non-conforming condition for building height and front/side/rear yard dimensions.

2.2.2 Article 80 – Large Project Review

The proposed Project is subject to review by the BPDA pursuant to Article 80B, Large Project Review of the Code. The Project will require Zoning Relief in the form of variances, conditional use permits or other form of Zoning Relief as to be determined through the development review process of Article 80 of the Code.

2.3 Anticipated Permits

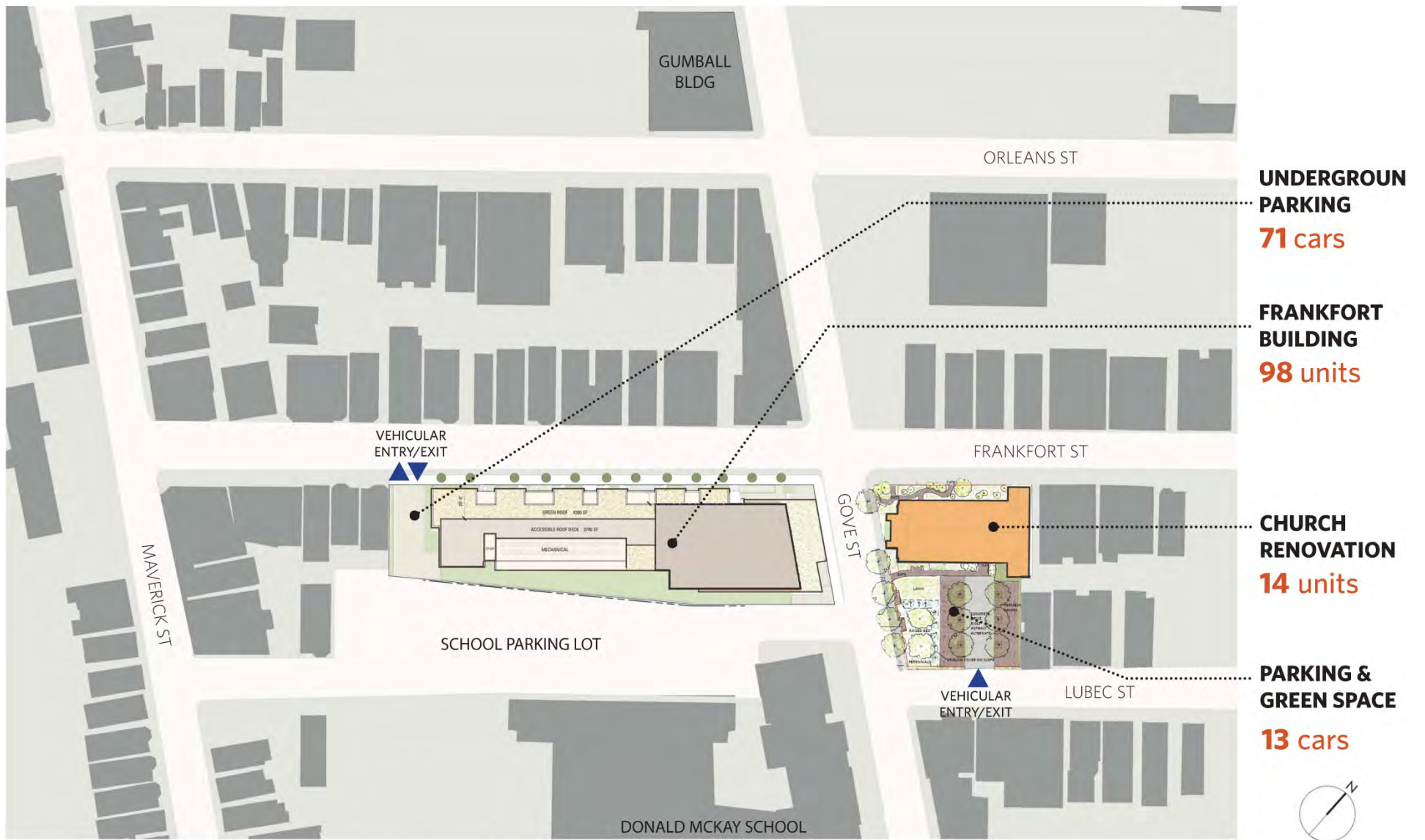
Table 2-4 represents a preliminary list of permits and approvals from governmental agencies that are expected to be required for the Project, based on currently available information. It is possible that only some of these permits or actions will be required, or that additional permits or actions will be required.

Table 2-4 Anticipated Permits and Approvals

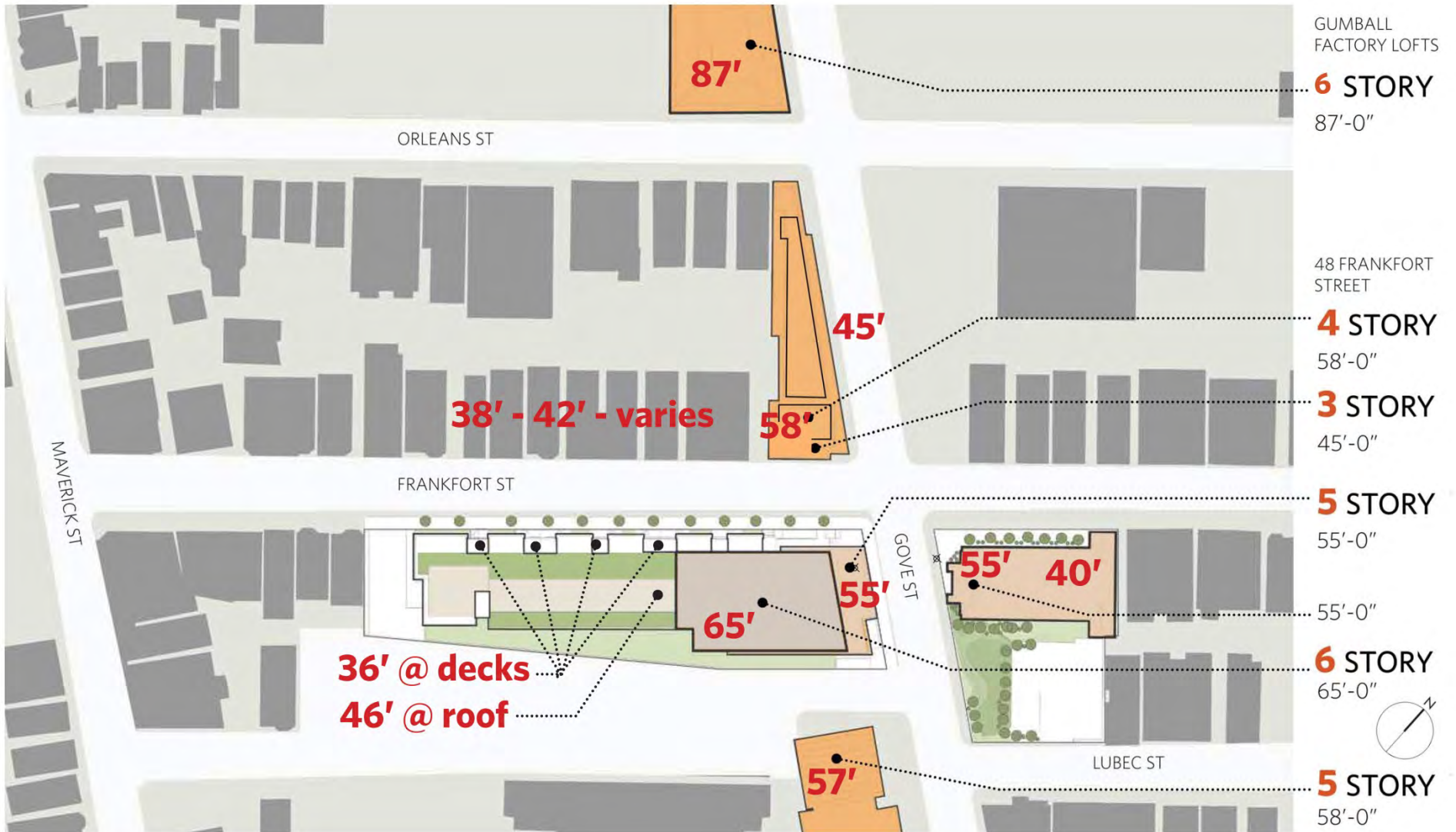
<i>Agency</i>	<i>Permit / Approval</i>
Local	
Boston Planning & Development Agency	Article 80 Review and Execution of Related Agreements; Section 80B-6 Certificate of Compliance
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Department of Public Works, Public Improvement Commission	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Other
Boston Zoning Board of Appeals	Possible Variances and Dimensional Relief from Existing Zoning Code Requirements
Boston Public Safety Commission, Committee on Licenses	Permit for Storage of Fuel in (Emergency Storage) Tanks; Garage Licenses
Boston Fire Department	Approval of Fire Safety Equipment
Boston Water and Sewer	Approval for Sewer and Water Connections; Construction Site Dewatering; and Storm Drainage
Boston Parks Department	Approval for Site Location in Relation to Nearby Parks
Boston Department of Inspection Services	Building Permits; Certificates of Occupancy; Other Construction-Related Permits
Interagency Green Building Committee	Zoning Article 37 Compliance
State	
Department of Environmental Protection	Notification of Demolition and Construction
Federal	
U.S. Environmental Protection Agency	NPDES Notice of Intent for Construction

2.4 Schedule

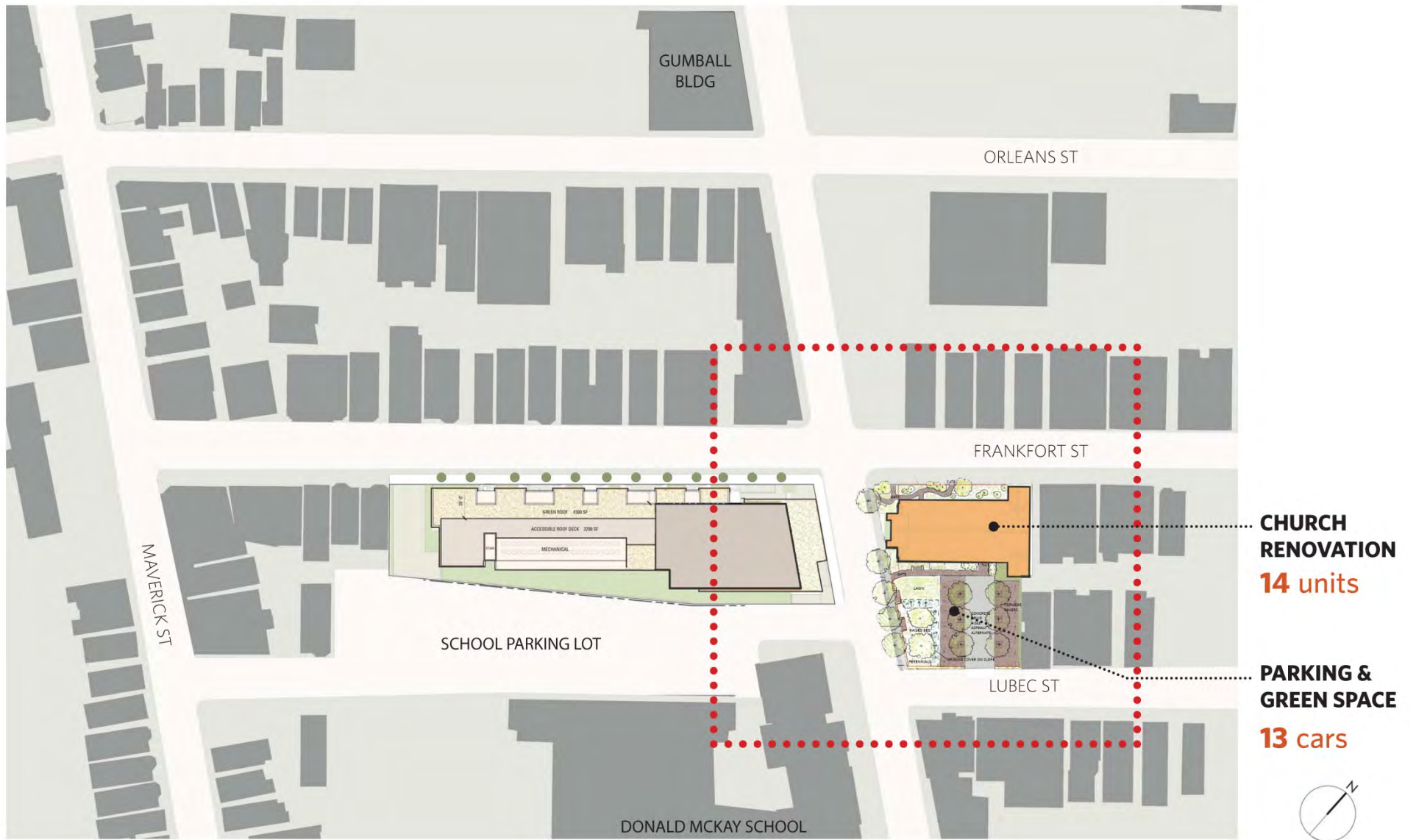
Construction of the Project is expected to commence in the third quarter of 2019 and is expected to be completed in the first quarter of 2021.



Frankfort Gove Street Housing Boston, Massachusetts

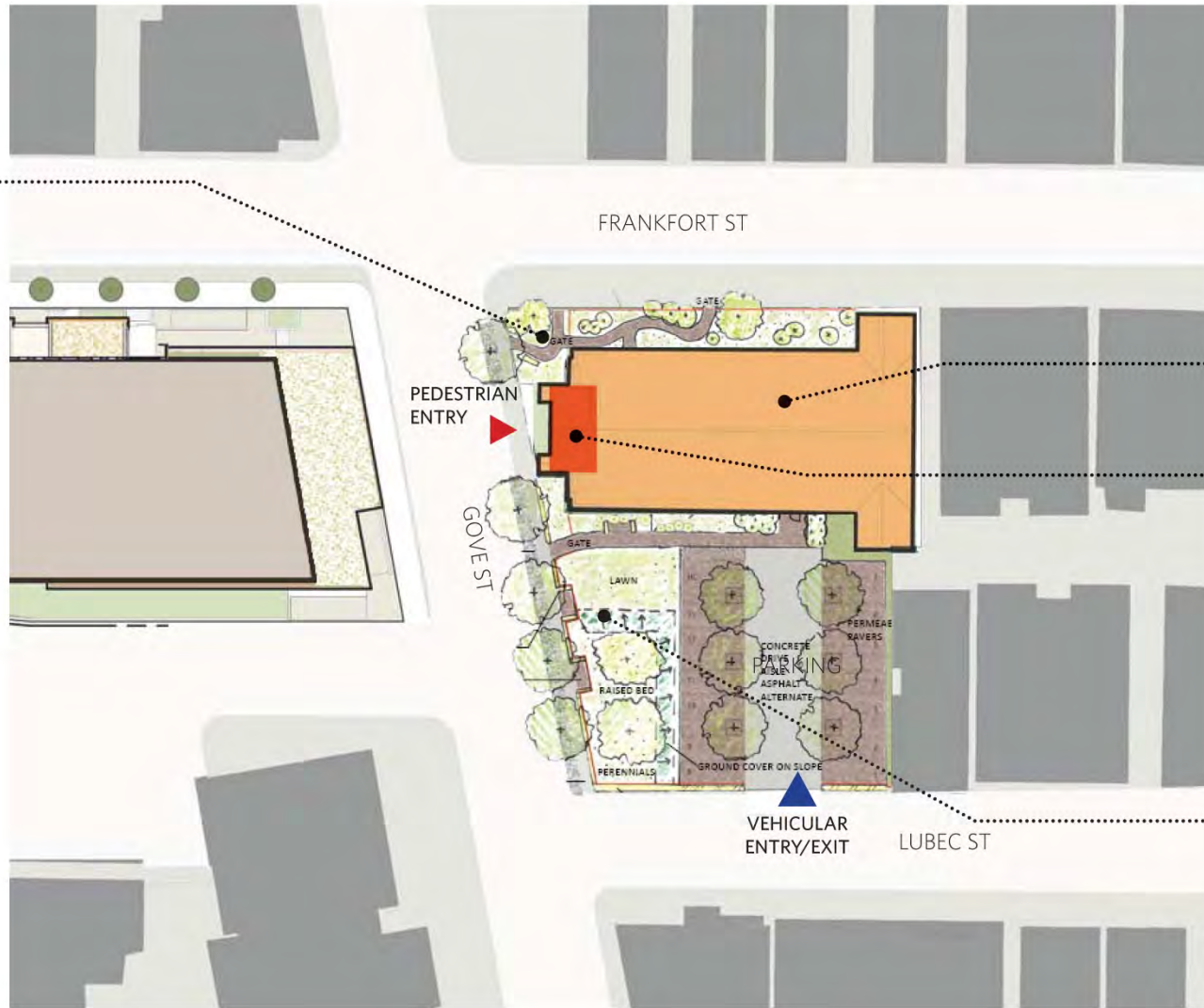


Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts

REFLECTION SPACE

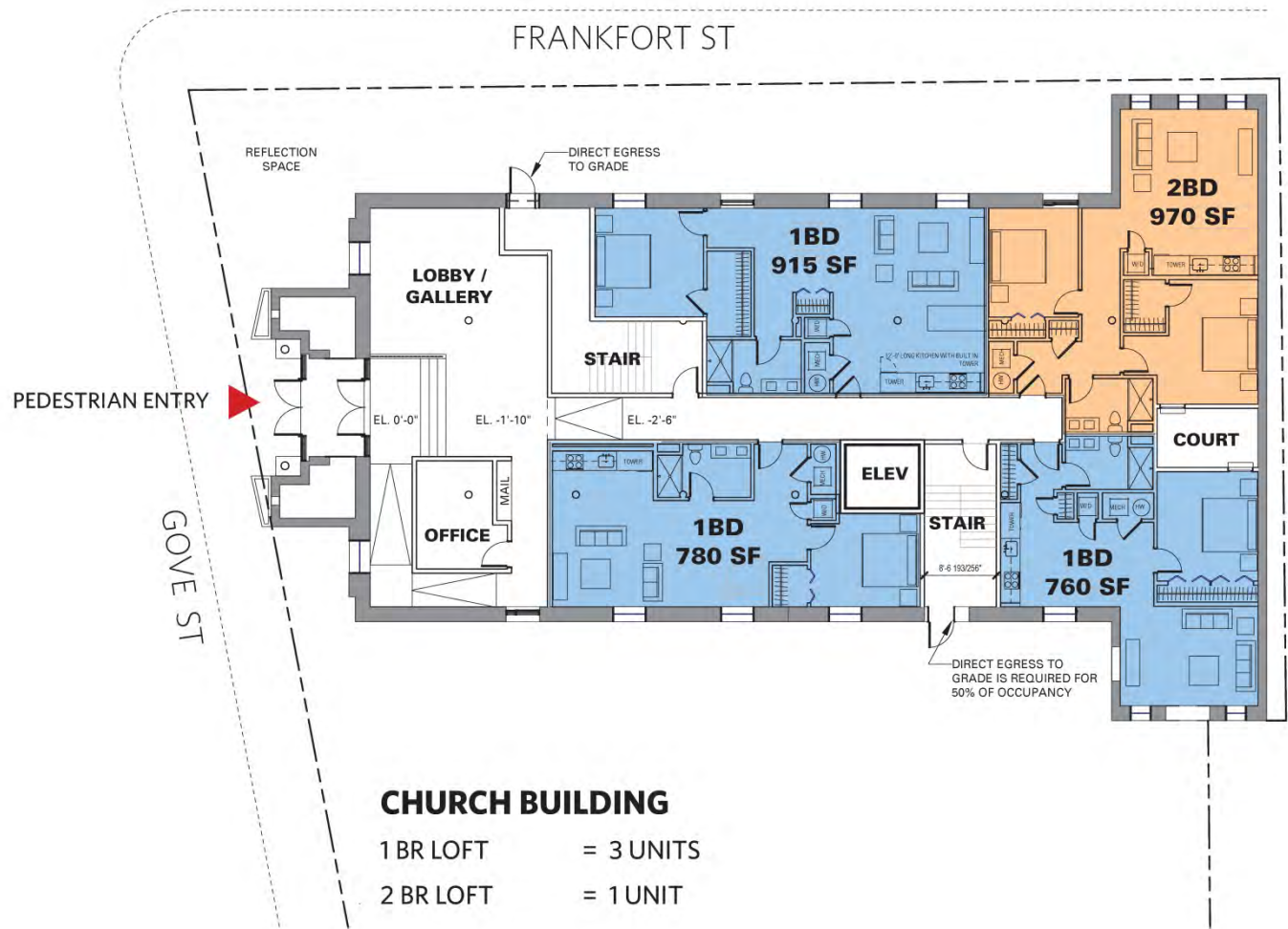


46'-0" TALL @
EXISTING RIDGE

55'-0" TALL @
EXISTING RIDGE

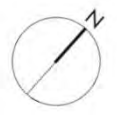
GREEN SPACE

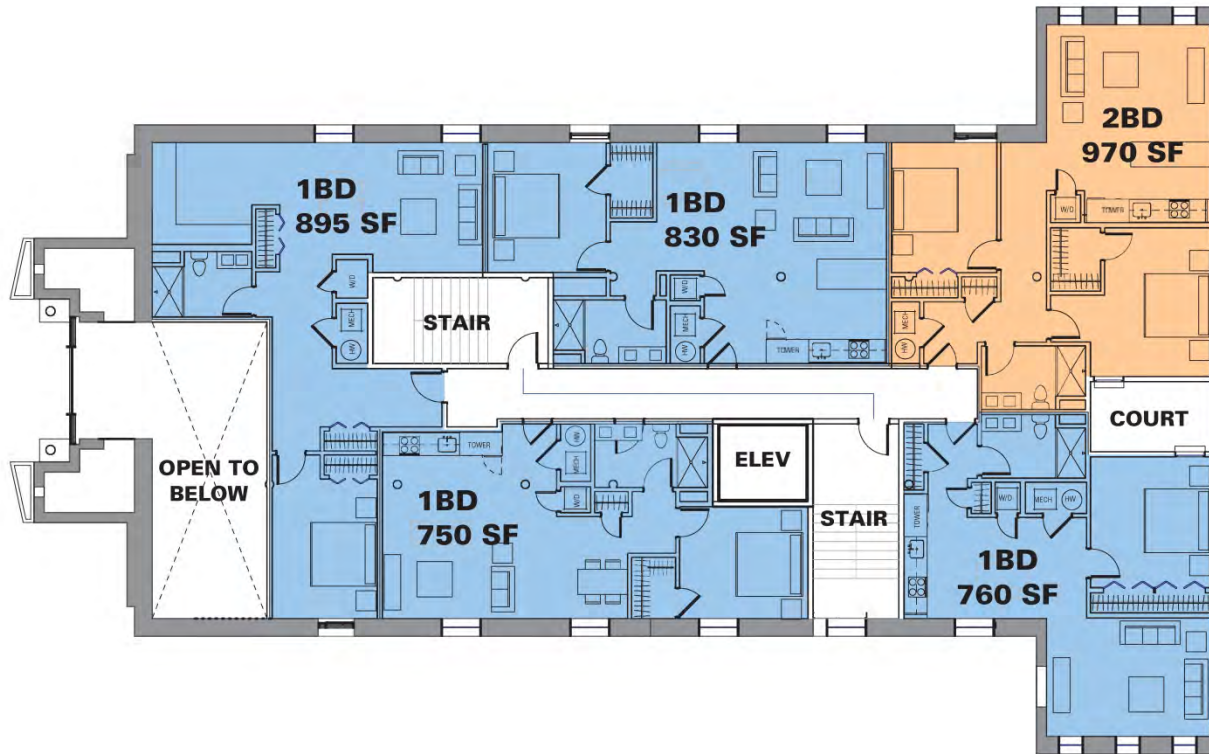
Frankfort Gove Street Housing Boston, Massachusetts



CHURCH BUILDING

1 BR LOFT	=	3 UNITS
2 BR LOFT	=	1 UNIT

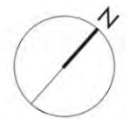




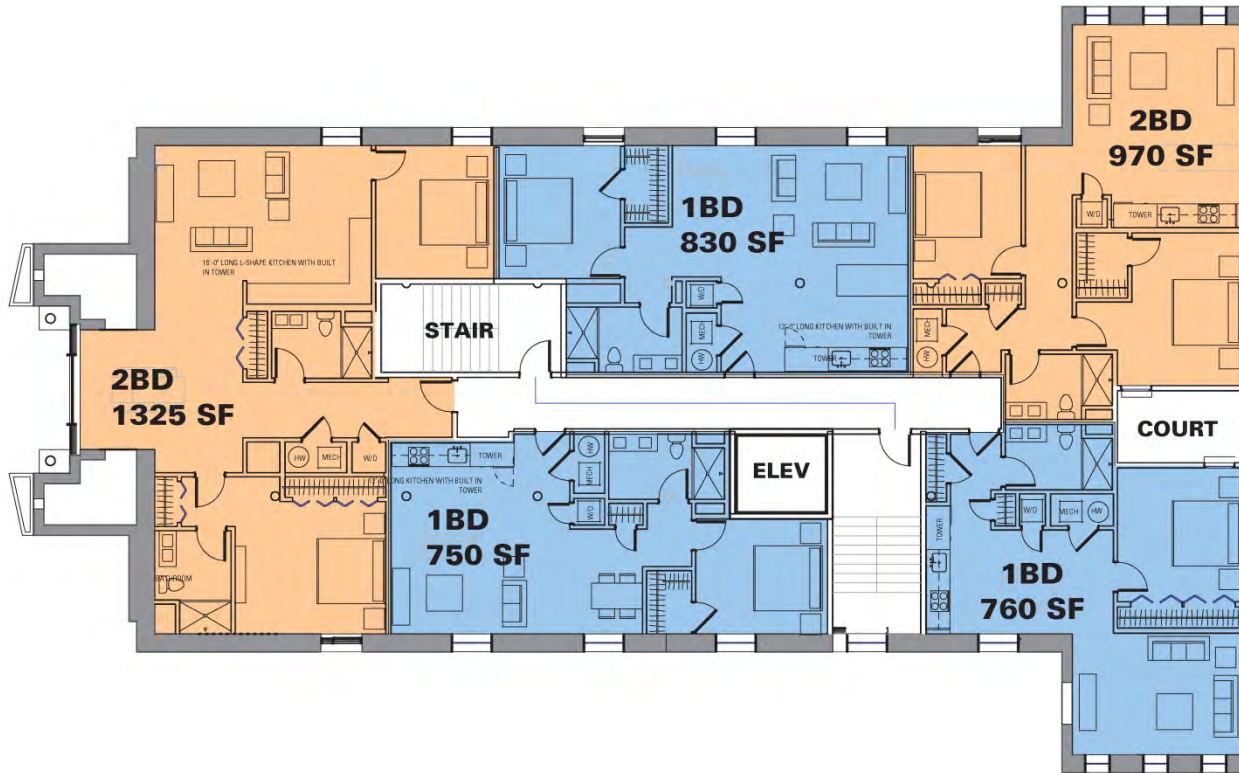
CHURCH BUILDING

1 BR LOFT = 4 UNITS

2 BR LOFT = 1 UNIT



Frankfort Gove Street Housing Boston, Massachusetts

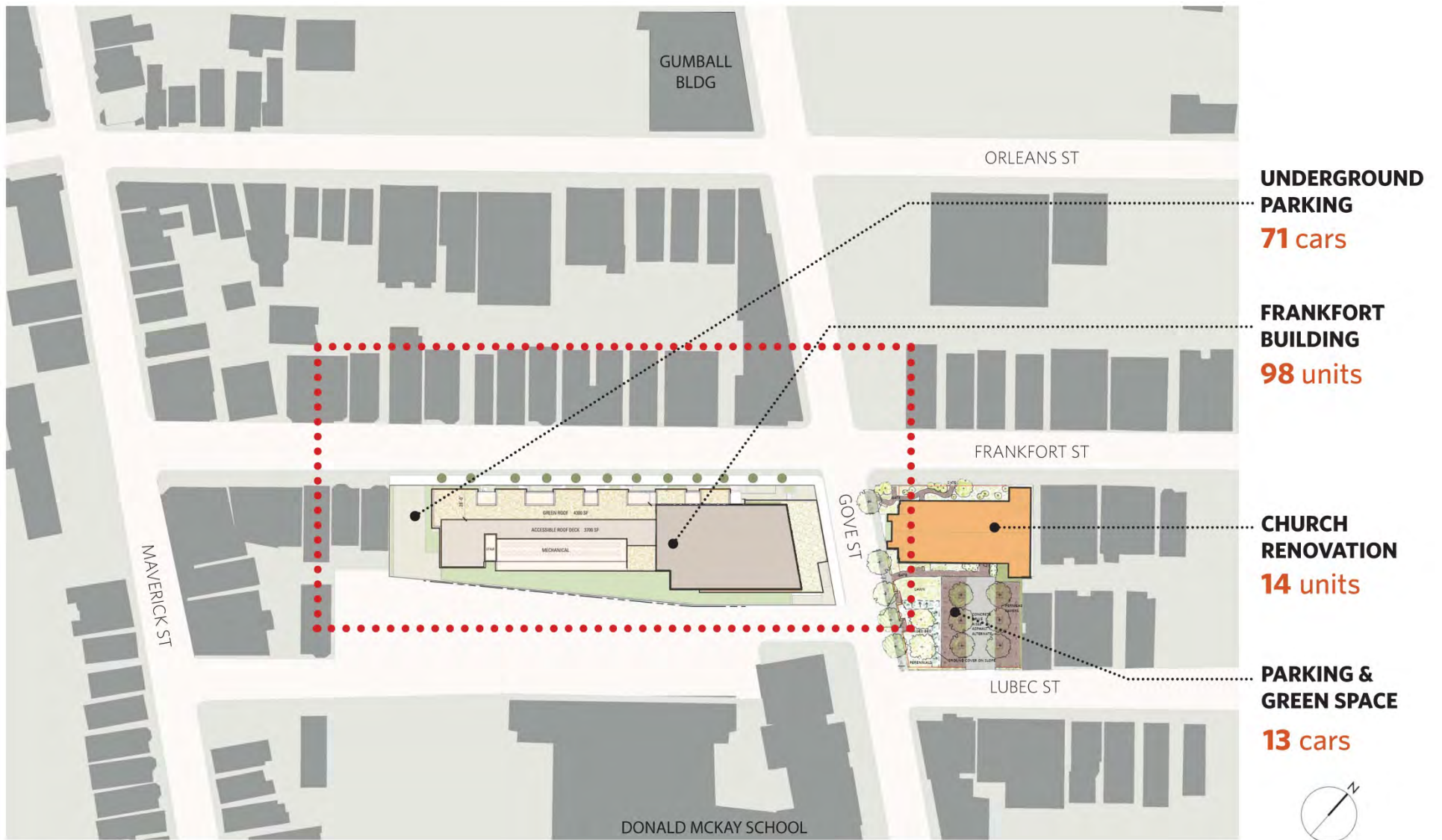


CHURCH BUILDING

1 BR LOFT = 3 UNITS
 2 BR LOFT = 2 UNIT



Frankfort Gove Street Housing Boston, Massachusetts



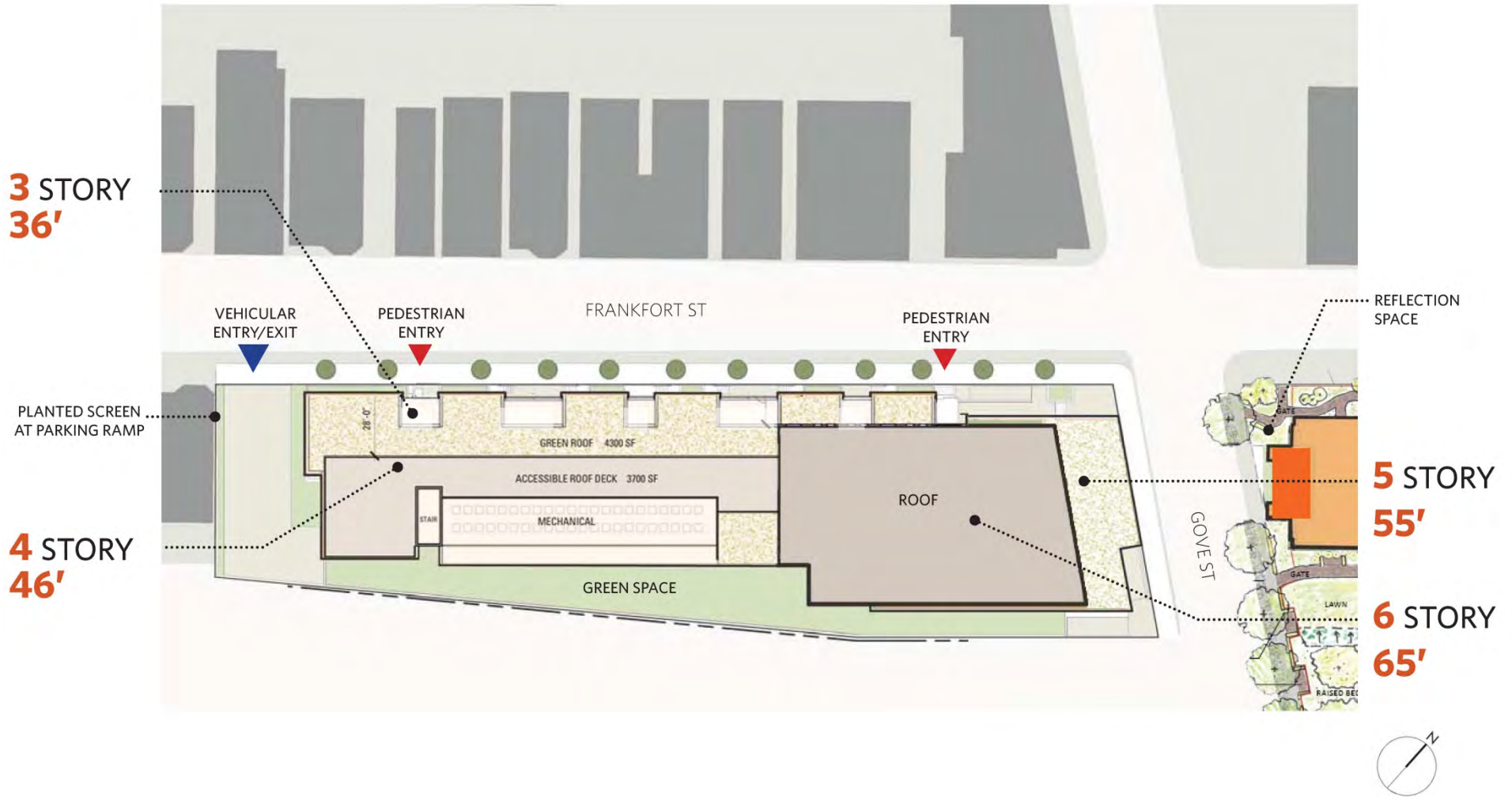
Frankfort Gove Street Housing Boston, Massachusetts

3 STORY
36'

4 STORY
46'

5 STORY
55'

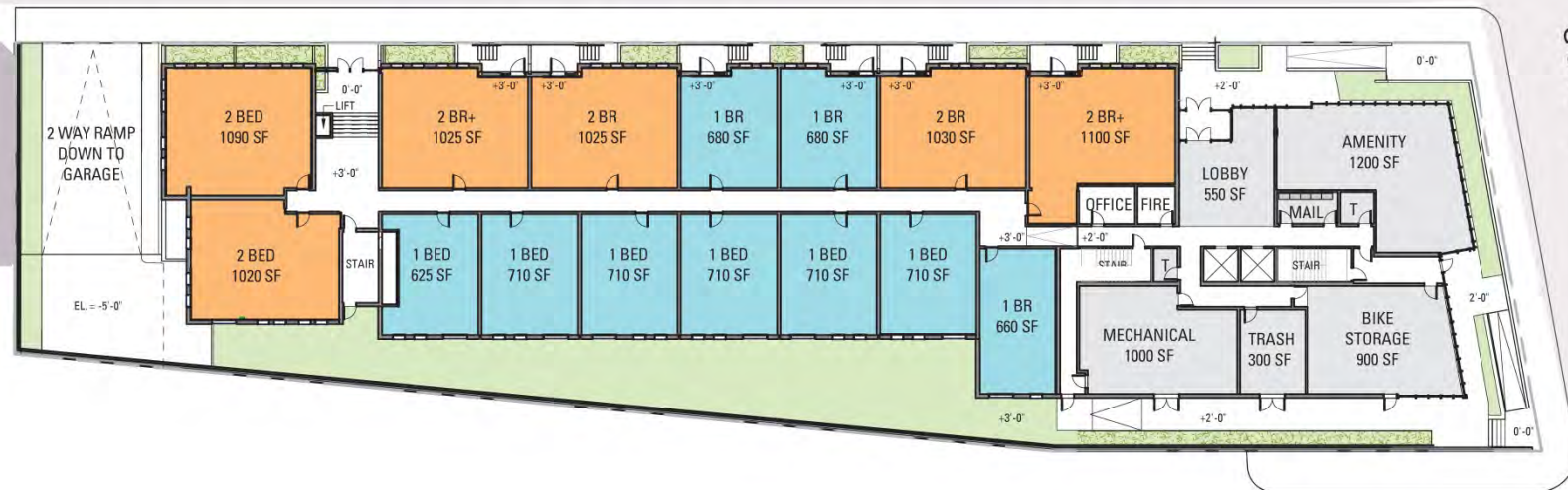
6 STORY
65'



Frankfort Gove Street Housing Boston, Massachusetts

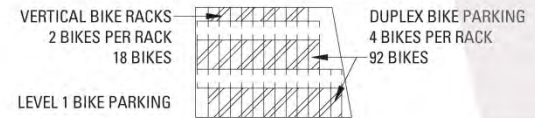
FRANKFORT ST

GOVE ST



FRANKFORT BUILDING - 15 UNITS

- 1 BR = 7 UNITS
- 1 BR PLUS = 2 UNITS
- 2 BR = 4 UNITS
- 2 BR PLUS = 2 UNITS
- SCALE - 1" = 30'-0"



Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT BUILDING - 23 UNITS

- 1 BR = 14 UNITS
- 1 BR PLUS = 3 UNITS
- 2 BR = 4 UNITS
- 2 BR PLUS = 2 UNITS

SCALE - 1" = 30'-0"



Frankfort Gove Street Housing Boston, Massachusetts

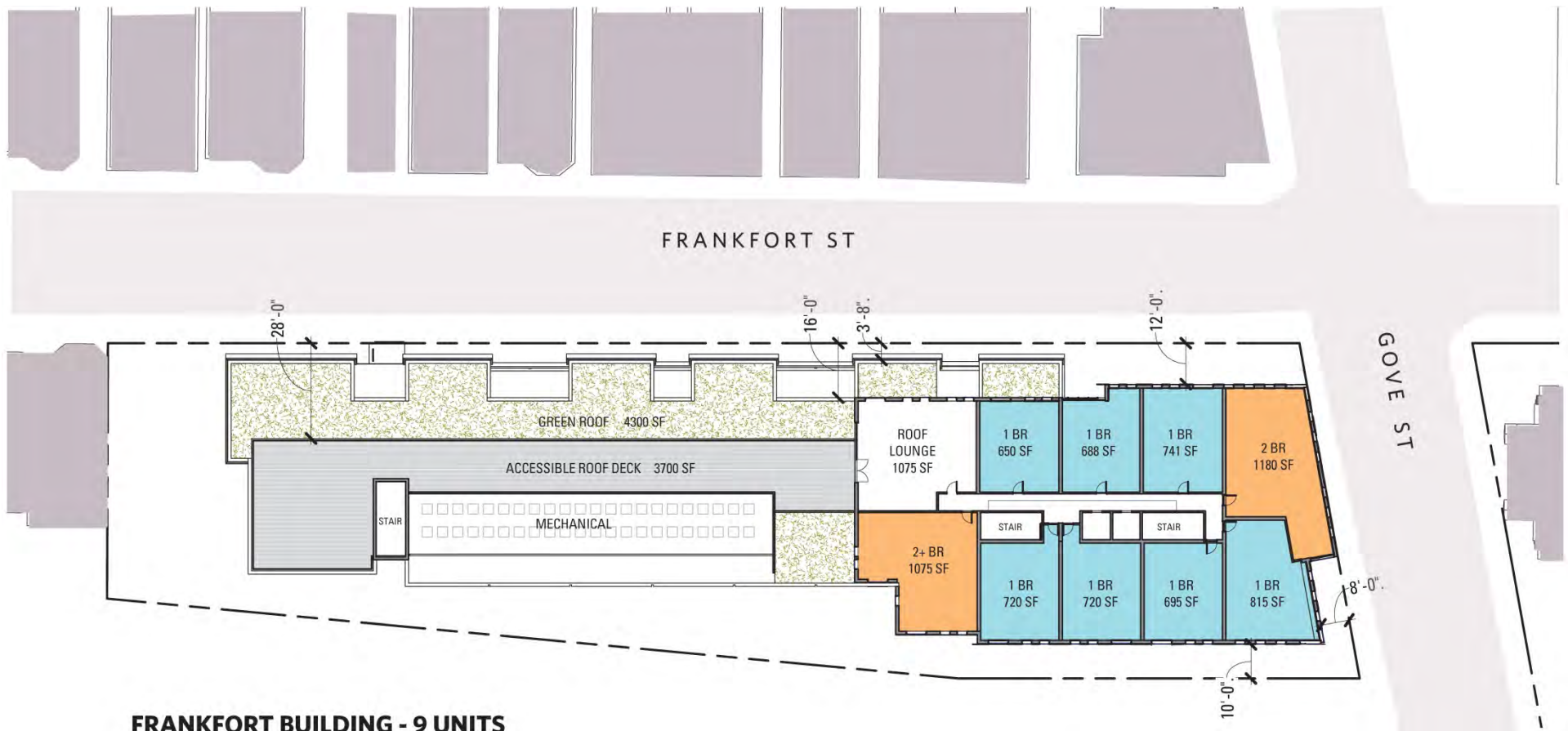


FRANKFORT BUILDING - 21 UNITS

- 1 BR = 10 UNITS
- 1 BR PLUS = 6 UNITS
- 2 BR = 4 UNITS
- 2 BR PLUS = 1 UNITS

SCALE - 1" = 30'-0"





FRANKFORT BUILDING - 9 UNITS

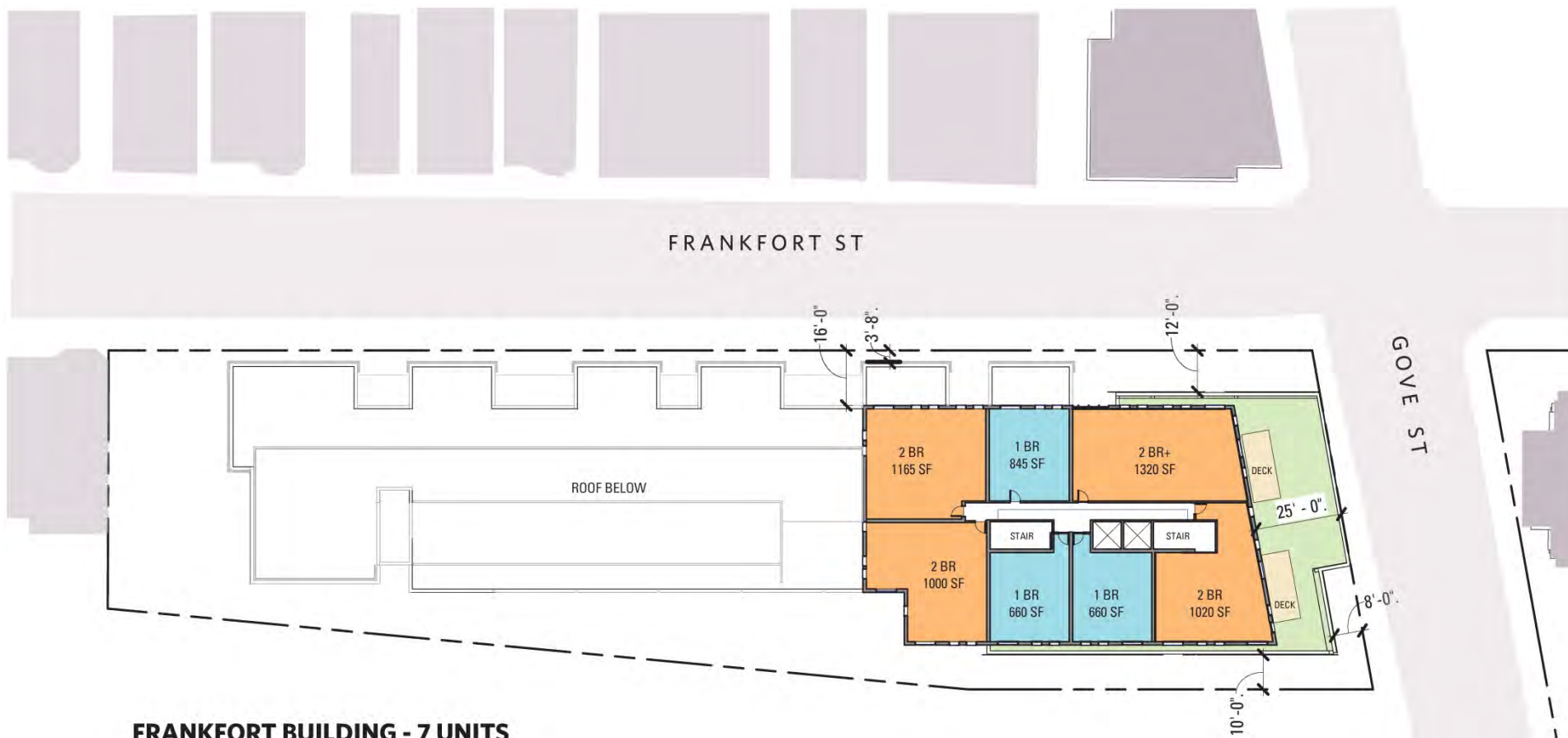
1 BR = 5 UNITS

1 BR PLUS = 1 UNITS

2 BR = 2 UNITS

2 BR PLUS = 1 UNITS

SCALE - 1" = 30'-0"

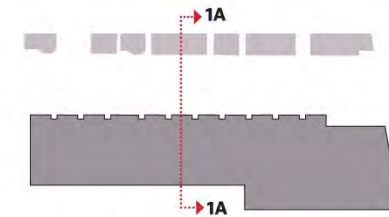


FRANKFORT BUILDING - 7 UNITS

- 1 BR = 2 UNITS
- 1 BR PLUS = 1 UNITS
- 2 BR = 3 UNITS
- 2 BR PLUS = 1 UNITS
- SCALE - 1" = 30'-0"

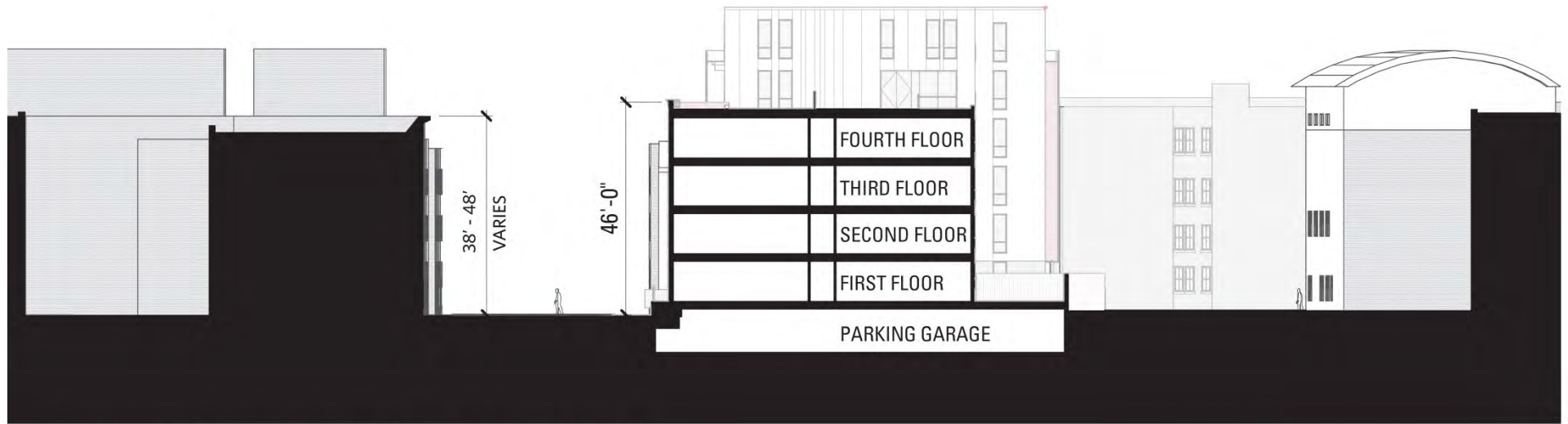


FRANKFORT STREET SECTION - FOUR STORY BLOCK

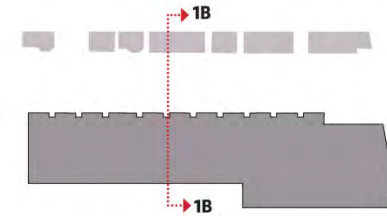


KEY PLAN

Frankfort Gove Street Housing Boston, Massachusetts

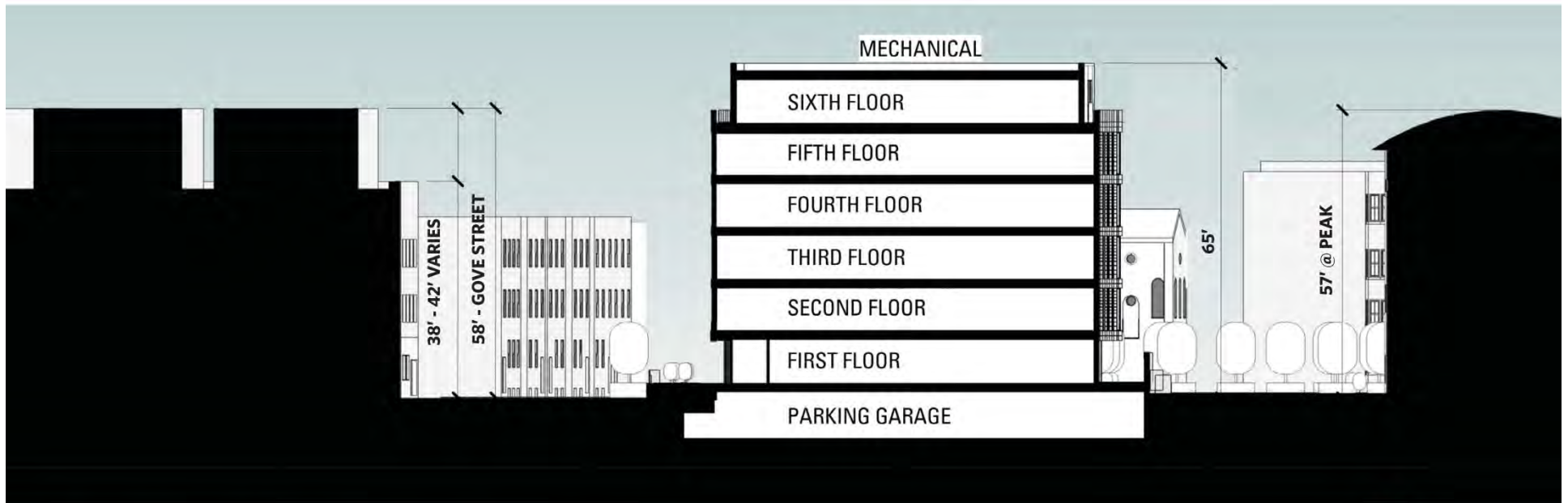


FRANKFORT STREET SECTION - FOUR STORY BLOCK

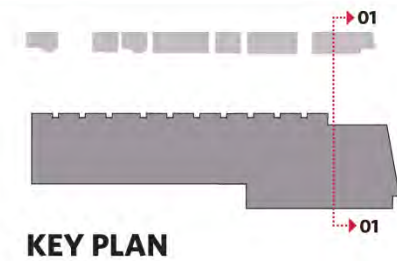


KEY PLAN

Frankfort Gove Street Housing Boston, Massachusetts

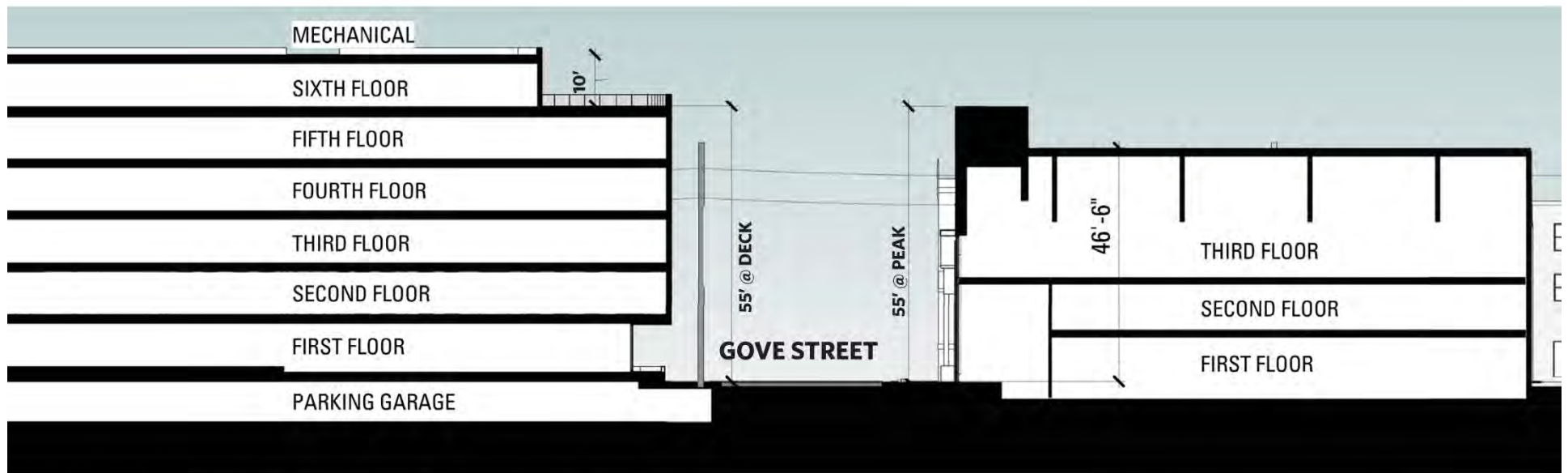


FRANKFORT STREET SECTION - SIX STORY BLOCK

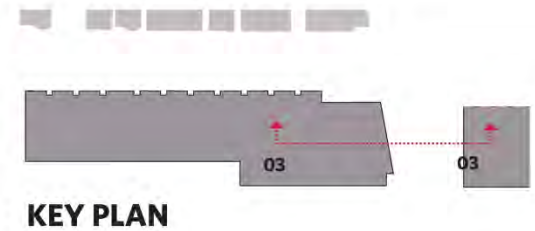


KEY PLAN

Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT STREET SECTION - ACROSS GOVE STREET



Frankfort Gove Street Housing Boston, Massachusetts

Chapter 3

Transportation

3.0 TRANSPORTATION

3.1 Introduction

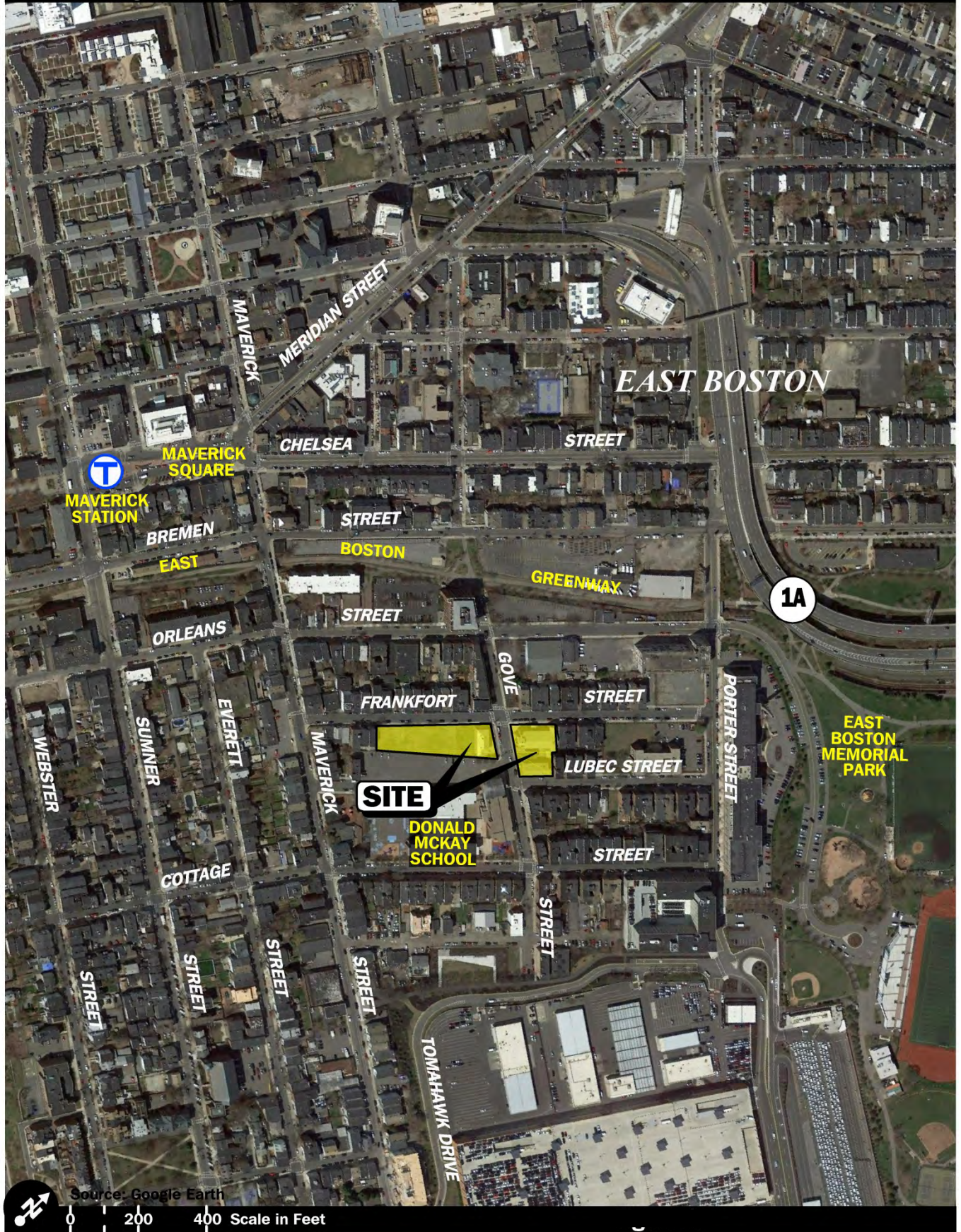
Vanasse & Associates, Inc. (VAI) has prepared this section in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a multi-family residential community at the location of the former Mt. Our Lady of Mt. Carmel Church and rectory located off Gove Street and Frankfort Street in the East Boston Neighborhood of Boston, Massachusetts. Since the completion of the assessment, a new building that was originally programmed for the rectory site has been replaced with green space and 13 parking spaces. As a result of these changes, the initial development program that was to include 115 residential units has been reduced to 112 units and the overall number of parking spaces has increased from 82 to 84. This slight reduction in the number of residential units does not have a material impact on the analysis results or the findings that are presented herein, which are based on the original 115 unit development program.

3.2 Project Description

The Project will entail the construction of a 112-unit multi-family residential community at the location of the former Our Lady of Mt. Carmel Church and rectory located off Gove Street and Frankfort Street in the East Boston Neighborhood of Boston, Massachusetts. The Project area encompasses several parcels of land which are shown on Figure 3-1 (collectively, Project site).

The north parcel contains the Church Building and is bounded by residential properties to the north, Gove Street to the south, Lubec Street to the east and Frankfort Street to the west. The former Church Building will be renovated and expanded to encompass 14 residential units. A surface parking lot will be provided that will accommodate parking for 13 vehicles and will be accessed from a new driveway that will intersect the west side of Lubec Street approximately 50-feet north of Gove Street.

The south parcel includes the former church Rectory Building and the paved parking lot to the south of the building. These existing features will be removed to accommodate the construction of a new six-story building that will encompass 98 residential units. Parking will be provided for 71 vehicles in a garage to be located beneath the residential building and will be accessed by way of a new driveway that will intersect the east side of Frankfort Street at the south end of the parcel.



Frankfort Gove Boston, Massachusetts

In total (north and south parcels), the Project will provide on-site parking for 84 vehicles, or an approximate parking ratio of 0.75 spaces per unit, which is within the maximum parking ratio range recommended by BTD for a residential development in the East Boston Neighborhood that is located within a ten-minute walk of a transit station.¹

3.3 Study Methodology

This study was prepared in consultation with the Boston Planning and Development Agency (BPDA), BTD and the Massachusetts Department of Transportation (MassDOT); was performed in accordance with the scope of work identified by BTD for the Project, MassDOT's Transportation Impact Assessment (TIA) Guidelines, and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; on-street parking; public transportation services; observations of traffic flow; and collection of pedestrian, bicycle and vehicle counts.

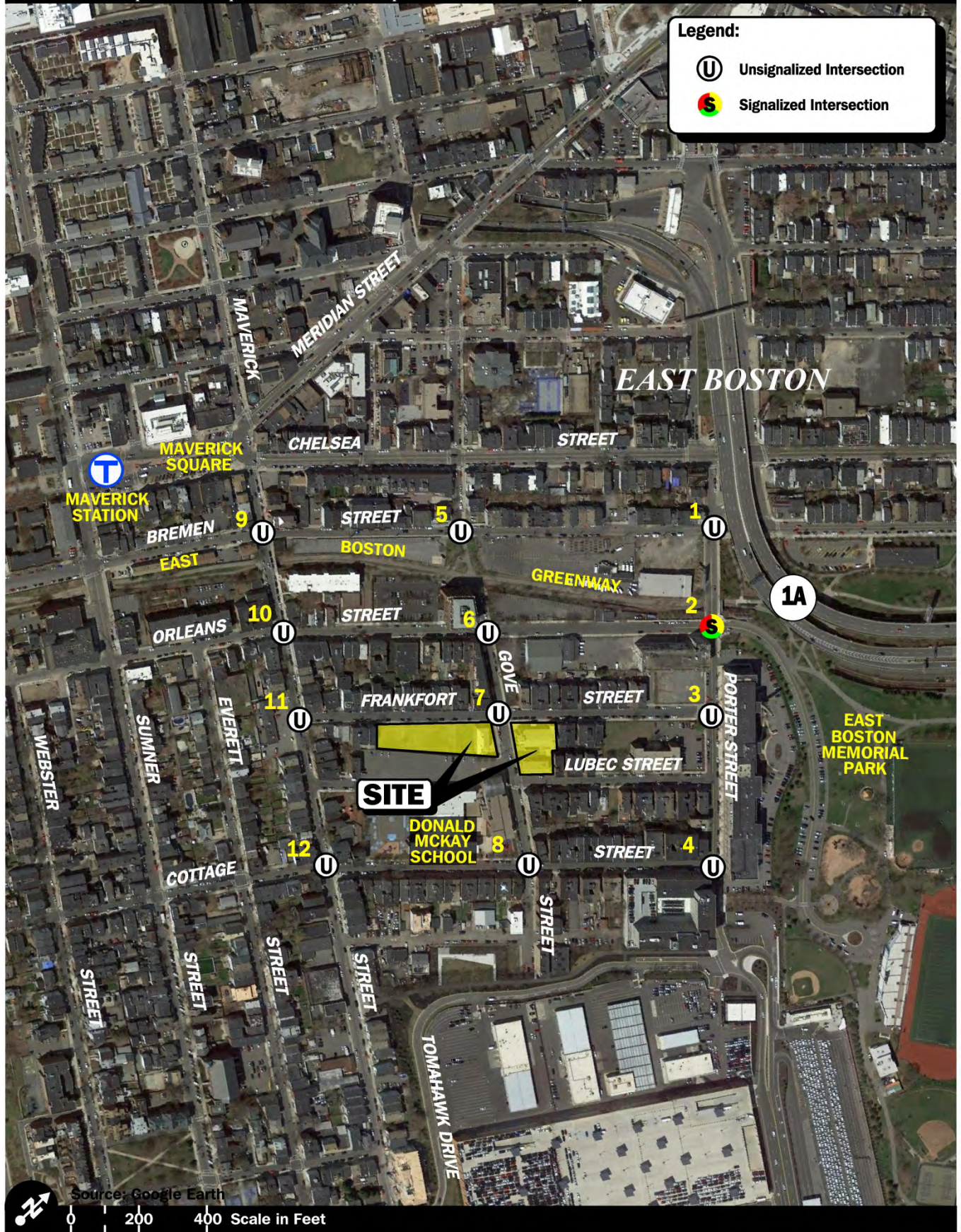
In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon from the current year was selected for analyses consistent with MassDOT's Transportation Impact Assessment (TIA) Guidelines. The analysis conducted in stage two identifies existing or projected future capacity, safety, and access issues, as these areas relate to the transportation infrastructure.

The third stage of the study presents and evaluates measures to address deficiencies in the transportation infrastructure, if any, identified in stage two of the study.

3.4 Existing Conditions

A comprehensive field inventory of existing conditions within the study area was conducted in January 2018. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; on-street parking; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area for the Project was developed in consultation with BTD and selected to contain the major roadways providing access to the Project site, including Gove Street, Frankfort Street, Porter Street and Maverick Street, as well as the following specific intersections which are depicted on Figure 3-2:

¹ Guidelines by the Boston Transportation Department for use by the Zoning Board of Appeal, Section 5, Parking Ratios.



Frankfort Gove Boston, Massachusetts

1. Porter Street at Bremen Street
2. Porter Street at Orleans Street
3. Porter Street at Frankfort Street
4. Porter Street at Cottage Street
5. Gove Street at Bremen Street
6. Gove Street at Orleans Street
7. Gove Street at Frankfort Street
8. Gove Street at Cottage Street
9. Maverick Street at Bremen Street
10. Maverick Street at Orleans Street
11. Maverick Street at Frankfort Street
12. Maverick Street at Cottage Street

The following describes the study area roadways and intersections as observed in January 2018.

Roadways

Gove Street

- ◆ Two-lane roadway under City jurisdiction
- ◆ Traverses the study area in a general northwest-southeast direction between
- ◆ Orleans Street and Geneva Street
- ◆ Provides a 33-foot wide traveled-way that accommodates two-way travel with no marked centerline, regulated on-street parking and a sidewalk along both sides
- ◆ Citywide regulated travel speed pursuant to M.G.L. c. 90 § 17C is 25 miles per hour (mph)
- ◆ Illumination is provided by way of street lights mounted on wood or concrete poles
- ◆ Land use within the study area consists of the Project site, residential and commercial properties, the Donald McKay School and the East Boston Early Childhood Center

Frankfort Street

- ◆ Two-lane roadway under City jurisdiction
- ◆ Traverses the study area in a general northeast-southwest direction between Maverick Street and Porter Street
- ◆ Provides a 34-foot wide traveled-way that accommodates two-way travel with no marked centerline, regulated on-street parking and a sidewalk along both sides
- ◆ Citywide regulated travel speed is 25 mph
- ◆ Illumination is provided by way of street lights mounted on concrete poles
- ◆ Land use within the study area consists of the Project site and residential and commercial properties

Porter Street

- ◆ Two-lane urban minor arterial roadway under City jurisdiction
- ◆ Traverses the study area in a general northwest-southeast direction between
- ◆ Havre Street and Transportation Way; one-way in a southeast bound direction between Havre Street and Bremen Street
- ◆ Provides two 17-foot wide travel lanes separated by a double-yellow centerline with regulated on-street parking and a sidewalk along both sides
- ◆ Porter Street is closed by means of a gate at Cottage Street that restricts access to the east (Logan International Airport)
- ◆ Citywide regulated travel speed is 25 mph
- ◆ Illumination is provided by way of street lights mounted on wood or concrete poles
- ◆ Land use within the study area consists of residential and commercial properties

Maverick Street

- ◆ Two-lane urban minor arterial roadway under City jurisdiction
- ◆ Traverses a one-way northwest bound alignment between Tomahawk Drive and New Street
- ◆ Provides a 34-foot wide traveled-way that accommodates two-way travel with no marked centerline, regulated on-street parking and a sidewalk along both sides

- ◆ Citywide regulated travel speed is 25 mph
- ◆ Illumination is provided by way of street lights mounted on concrete poles
- ◆ MBTA bus Route 120, Orient Heights - Maverick Station, provides service along Maverick Street with multiple curbside stops
- ◆ Land use within the study area consists of residential and commercial properties, and Maverick Station on the Massachusetts Bay Transportation Authority (MBTA) Blue Line subway system

Intersections

Table 3-1 and Figure 3-3 summarize lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in January 2018.

Table 3-1 Study Area Intersection Description

Intersection	Traffic Control Type ^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Porter St./ Bremen St.	S	1 lane on all approaches; Porter St. is one-way eastbound	No - on-street parking is permitted on all legs except on Bremen St. north of the intersection and Porter St. east of the intersection	Yes – sidewalks along both sides of the intersecting roadways; crosswalks provided for crossing both legs of Porter St. and the south leg of Bremen St.	Yes - Shared traveled-way ^b
Porter St./ Orleans St./ East Boston Memorial Pk Dwy	TS	1 lane on all approaches	No - on-street parking is permitted along both sides of Orleans St. and Porter St. east of the intersection	Yes – sidewalks along both sides of Porter St., Orleans St. and west side of East Boston Memorial Pk dwy; crosswalks across all legs; pedestrian traffic signal equipment and concurrent phasing provided	Yes - Shared traveled-way
Porter St./ Frankfort St.	S	1 lane on all approaches	No - on-street parking is permitted on all legs	Yes – sidewalks along both sides of Porter St. and Frankfort St.; crosswalk provided for crossing Frankfort St.	Yes - Shared traveled-way

Table 3-1 Study Area Intersection Description (Continued)

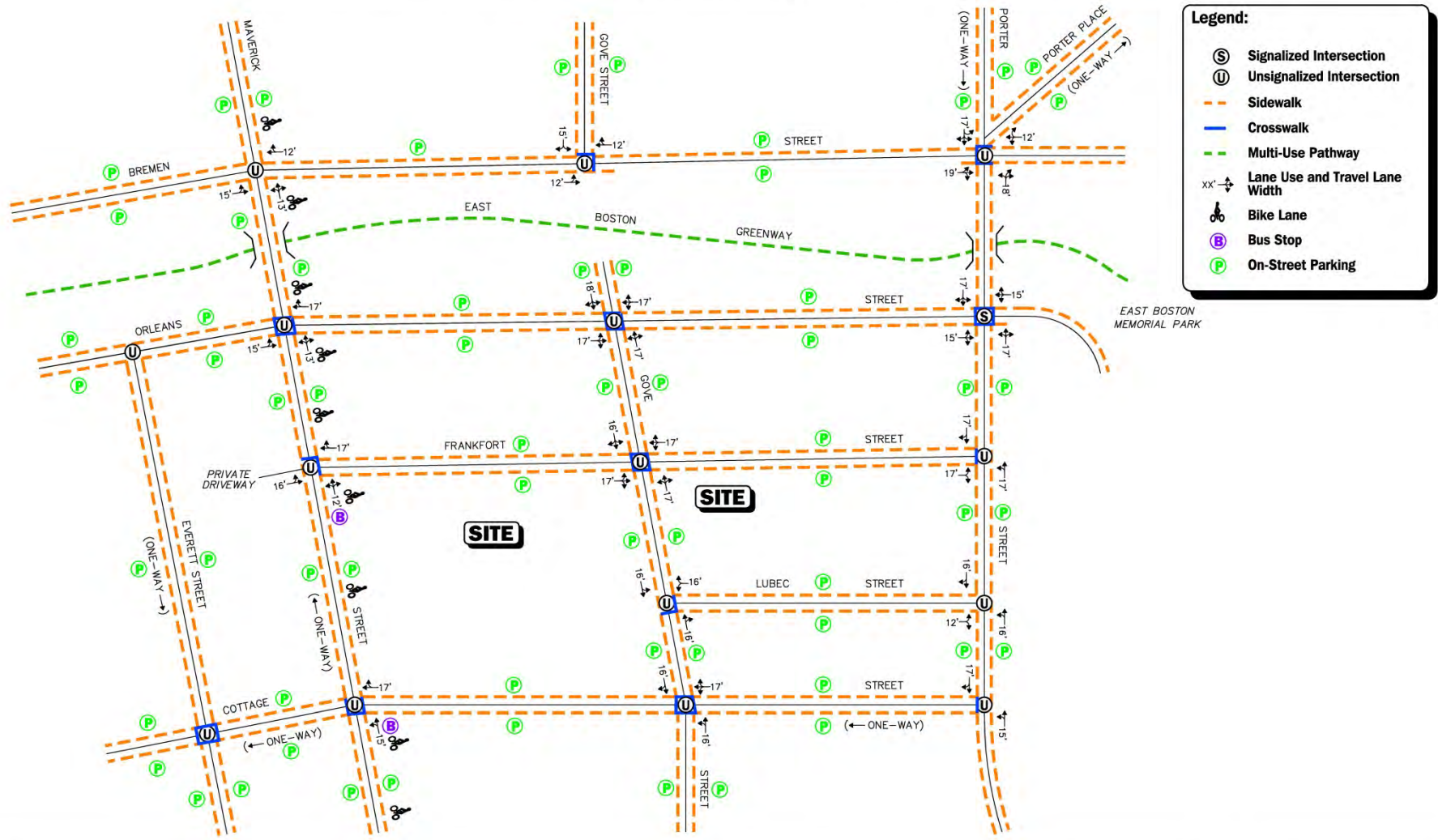
Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Porter St./ Cottage St.	S	1 lane on all approaches; Cottage St. is one-way southbound	No - on-street parking is permitted along both sides of Cottage St. and Porter St. west of the intersection	Yes – sidewalks along both sides of Porter St. and Cottage St.; crosswalk provided for crossing Cottage St.	Yes - Shared traveled-way
Bremen St./ Gove St.	S	1 lane on all approaches	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of intersecting roadways except the east side of Bremen St. north of the intersection; crosswalks across the north and west legs of the intersection; entrance to the East Boston Greenway from Gove St.	Yes - Shared traveled-way on Gove St.
Orleans St./ Gove St.	S	1 lane on all approaches	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of intersecting roadways; crosswalks across all legs	Yes - Shared traveled-way
Frankfort St./ Gove St.	S	1 lane on all approaches	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of intersecting roadways; crosswalks across all legs	Yes - Shared traveled-way
Cottage St./ Gove St.	S	1 lane on all approaches; Cottage St. is one-way southbound	No - on-street parking is permitted on all legs	Yes - along both sides of the intersecting roadways; crosswalks across all legs	Yes - Shared traveled-way
Maverick St./ Bremen St.	S	1 lane on all approaches; Maverick St. is one-way westbound	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of the intersecting roadways	Yes - Shared traveled-way with bicycle lane on Maverick St.

Table 3-1 Study Area Intersection Description (Continued)

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Maverick St./ Orleans St.	S	1 lane on all approaches; Maverick St. is one-way westbound	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of the intersecting roadways; crosswalks provided across all legs	Yes - Shared traveled-way with bicycle lane on Maverick St.
Maverick St./ Frankfort St.	S	1 lane on all approaches; Maverick St. is one-way westbound	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of intersecting roadways; crosswalks across Frankfort St. and the west leg of Maverick St.; bus stop located on the north side of Maverick St. east of the intersection	Yes - Shared traveled-way with bicycle lane on Maverick St.
Maverick St./ Cottage St.	S	1 wide lane on all approaches; Maverick St. is one-way westbound and Cottage St. is one-way southbound	No - on-street parking is permitted on all legs	Yes - sidewalks along both sides of intersecting roadways; crosswalks across the north, south and east legs of the intersection; bus stop located on the north side of Maverick St. east of the intersection	Yes - Shared traveled-way with bicycle lane on Maverick St.

^aTS = traffic signal control; S = STOP-sign control; Y = YIELD-sign control; R = rotary/roundabout control; NC = no control present.

^bCombined shoulder and travel lane width equal to or exceed 14 feet.



Not To Scale

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3.4.1 Existing Traffic Volumes

In order to determine existing traffic-volume demands and flow patterns within the study area, manual turning movement counts (TMCs) and vehicle classification counts were completed at the study intersections in January 2018 while public schools were in regular session. The TMC's were performed during the weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods on January 25, 2018 (Thursday). These time periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

3.4.2 Traffic Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic volume data from MassDOT Continuous Count Station No. 8087 located on Route 1A, north of the Boston/Revere line, were reviewed.² Based on a review of this data, it was determined that traffic volumes for the month of January are approximately 7.1 percent below average-month conditions and, therefore, the January traffic count data was adjusted upward to average-month conditions. The 2018 Existing weekday morning and evening peak-hour traffic volumes graphically depicted on Figures 3-4 and 3-5, respectively.

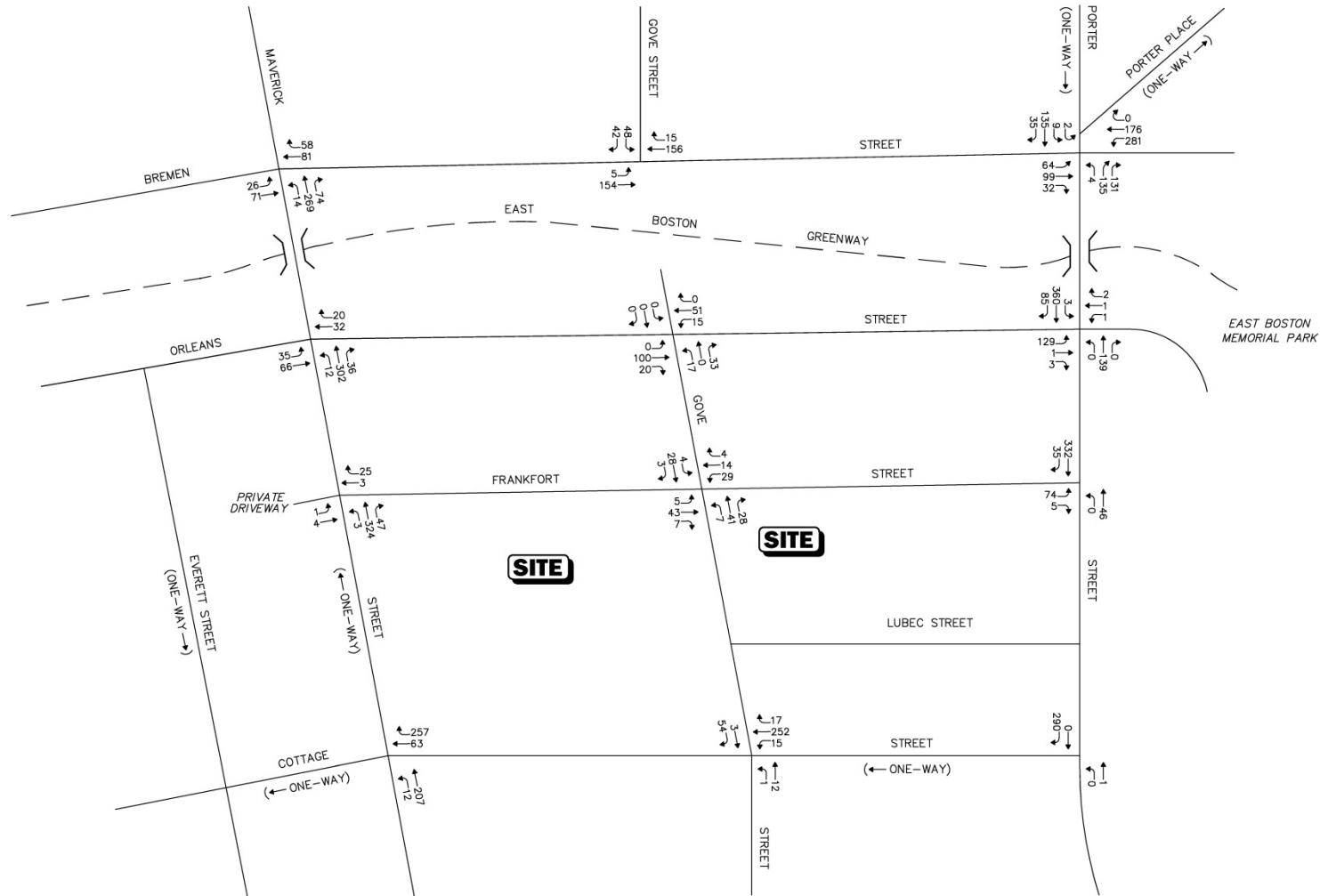
3.4.3 Pedestrian and Bicycle Facilities

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in January 2018. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections, as well as the location of existing and planned future bicycle facilities.

3.4.4.1 Pedestrian Facilities

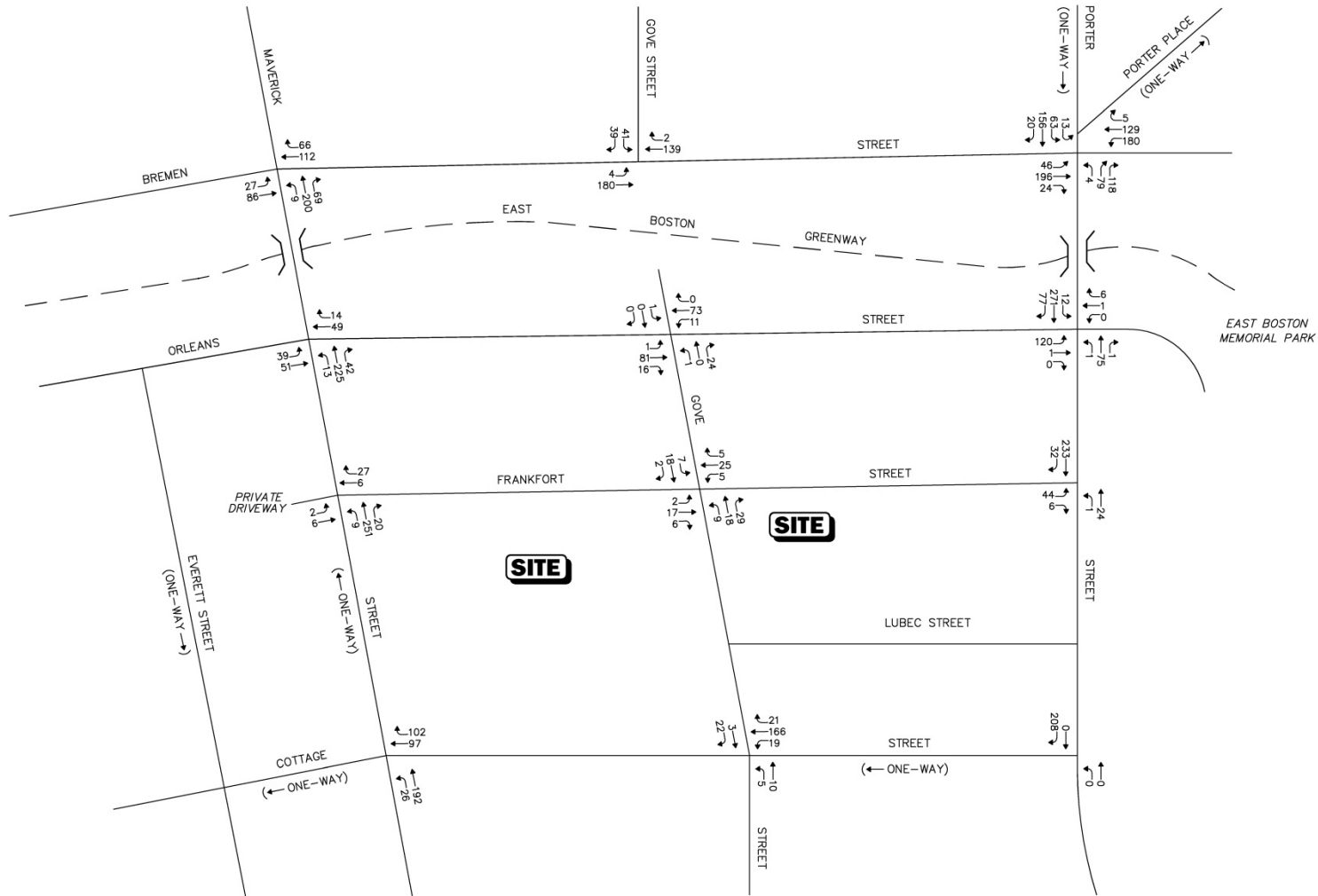
As detailed on Figure 3-3, sidewalks are generally provided along one or both sides of the study area roadways, with marked crosswalks provided for crossing one or more approaches of the study intersections. The crossings at the signalized study area intersection (Porter Street/ Orleans Street) are included as a part of the traffic signal system at the intersections (pedestrian pushbuttons, signal indications and phasing (concurrent) are provided for the crossings). In addition, the East Boston Greenway, a multi-use trail that traverses an alignment from East Boston Piers Park (Marginal Street) to Neptune Road and Wood Island Station on the MBTA Blue Line subway system, is located to the south of the Project site and is accessible from Gove Street at Orleans Street.

² MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2018.



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale

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Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
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Figures 3-6 and 3-7 depict the 2018 Existing weekday morning and evening peak-hour pedestrian volumes at the study area intersections, respectively, which were collected in conjunction with the January 2018 TMCs. A review of the pedestrian volume data at the study intersections indicates that the largest number of pedestrian crossings occurred at the Maverick Street/ Bremen Street intersection (proximate to Maverick Station on the MBTA Blue Line subway system) during both the weekday morning and evening peak hours (338 to 385 crossings were observed).

3.4.4.2 Bicycle Facilities

The study area roadways generally provide sufficient width to support bicycle travel in a shared traveled-way configuration³ given the low travel speed environment and relatively modest traffic volumes. A marked bicycle lane is provided along Maverick Street and Orleans Street is designated (by signs) as a bicycle route. In addition, as described in the previous section, the East Boston Greenway multi-use trail is accessible from Gove Street at Orleans Street.

Figures 3-8 and 3-9 depict the 2018 Existing weekday morning and evening peak-hour bicycle volumes at the study area intersections, respectively, which were collected in conjunction with the January 2018 TMCs. Given the seasonality of the bicycle count data (January), bicycle activity within the study area was found to be relatively modest, with bi-directional bicycle volumes found to range from approximately one to ten bicyclists during the peak hours.

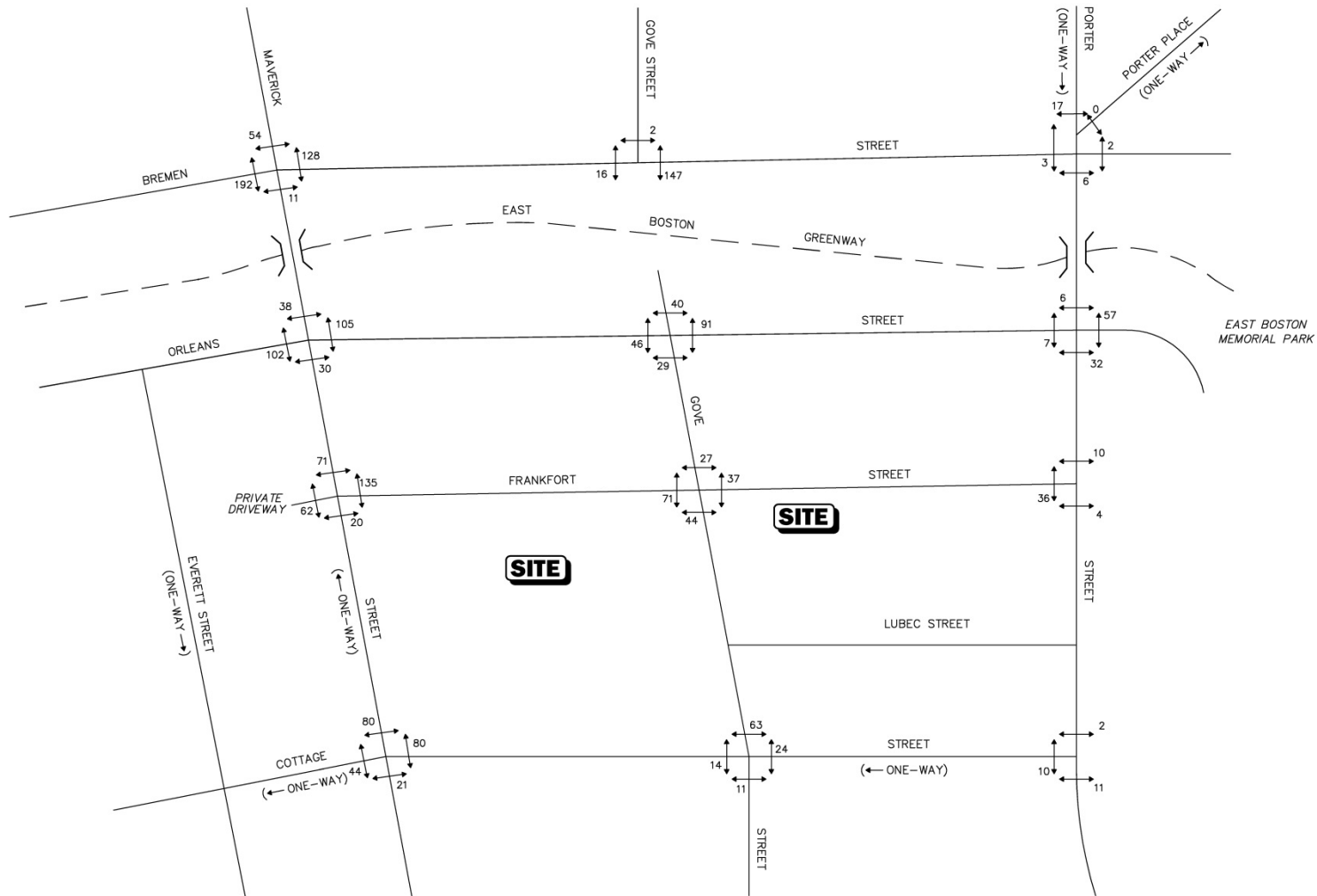
3.4.4 Public Transportation

Public transportation services are provided within the study area by the MBTA (Blue Line subway and fixed-route bus service) and are accessible to residents of the Project.

Maverick Station on the Blue Line subway system is located at Maverick Square and is within a 7-minute walking distance of the Project site. MBTA bus Route 120, Orient Heights - Maverick Station, provides service along Maverick Street to both Maverick Station and Orient Heights Station on the Blue Line subway system, with a stop located at the Maverick Street/ Frankfort Street intersection which is within a two-minute walking distance of the Project site. Sidewalks and bicycle accommodations are provided along the study area roadways that link the Project site to both Maverick Station and the Route 120 bus stop.

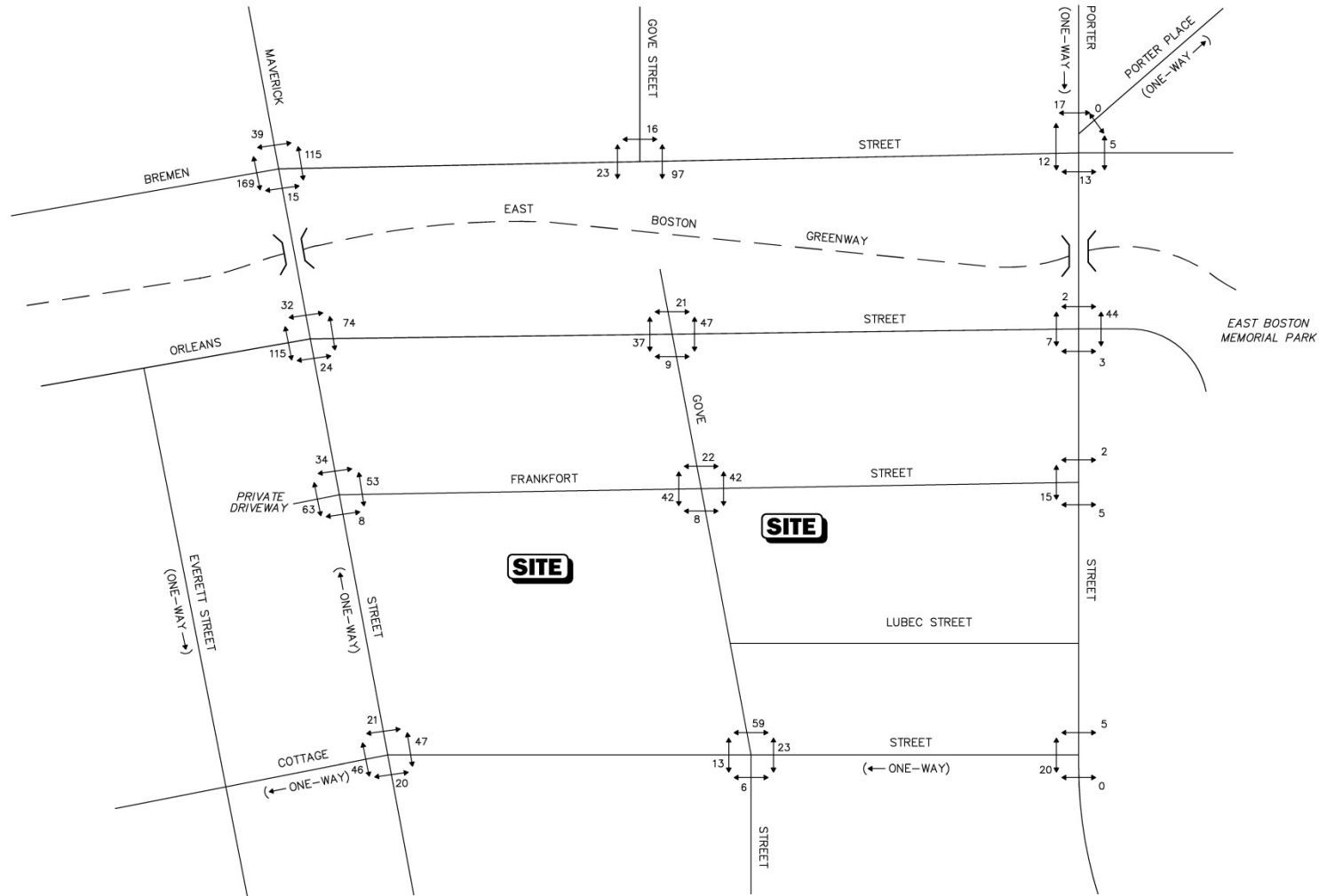
The public transportation schedules and fare information are provided in Attachment B.

³ A minimum combined travel lane and paved shoulder width of 14-feet is required to support bicycle travel in a shared traveled-way condition.



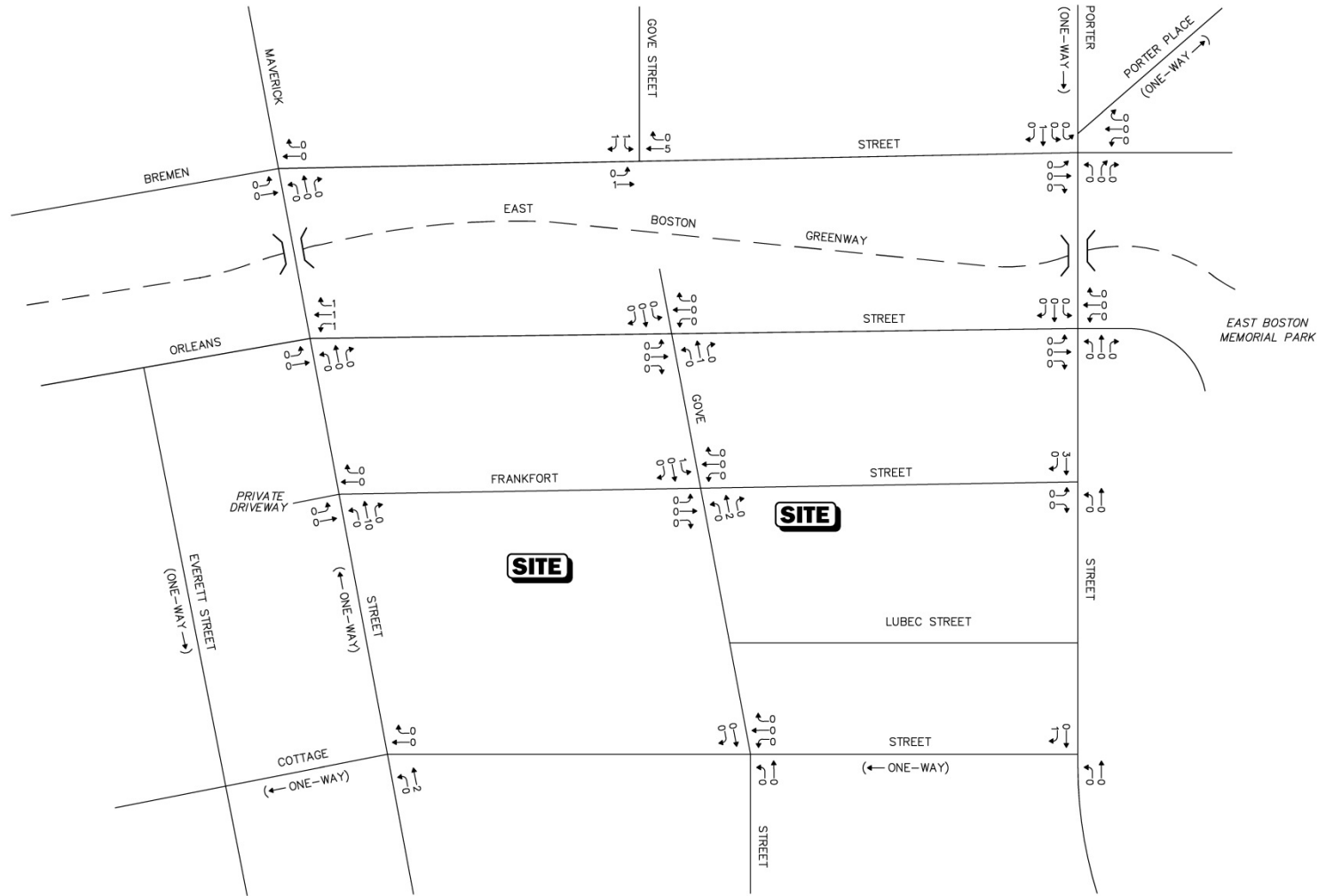
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
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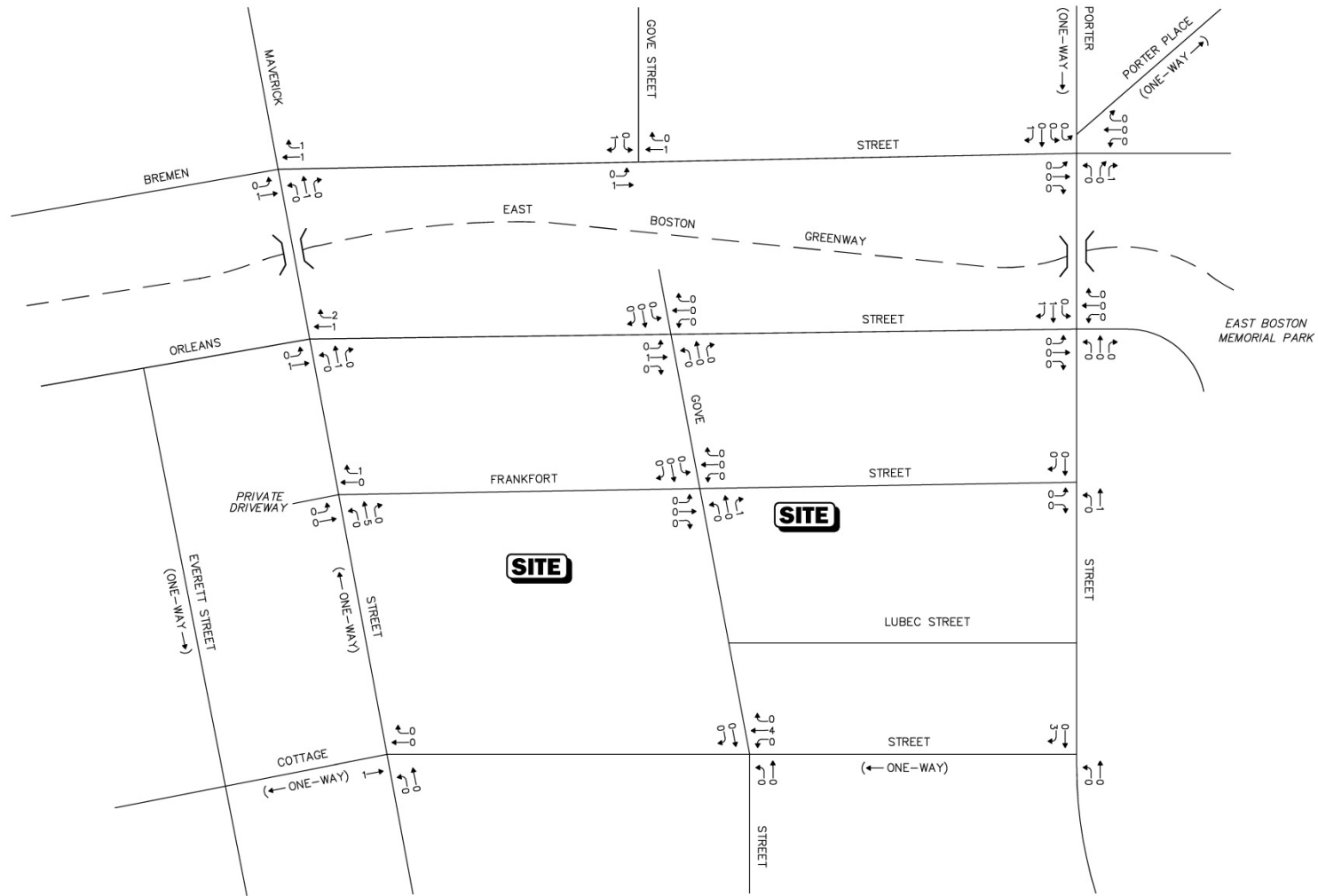
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
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Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale

Frankfort Gove Street Housing Boston, Massachusetts



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale

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3.4.5 *Parking*

An inventory of on-street parking accommodations within the study area was conducted in January 2018 in conjunction with the field inventories, and is depicted on Figure 3-10. The majority of the on-street parking within the study area consists of resident permit parking and/or 2-hour parking with a resident permit exclusion (i.e., vehicles with a resident parking permit can exceed the 2-hour parking restriction). No parking regulations were identified for the segments of Gove Street between Frankfort Street and Lubec Street (south side) and between Lubec Street and Cottage Street (north side). On-street parking is prohibited along both sides of Porter Street between Orleans Street and Bremen Street, along both sides of Porter Street north of Bremen Street, and along the east side of Bremen Street between Maverick Street and Gove Street.

3.4.6 *Motor Vehicle Crash Data*

A review of the MassDOT statewide High Crash Location List indicated that there were no locations within the study area that were included on MassDOT's Highway Safety Improvement Program (HSIP) listing as a high crash cluster location for 2013-2015. MassDOT defines a HSIP eligible cluster as: "...a cluster in which the total number of 'equivalent property damage only' crashes is within the top 5 percent of all clusters in that region. 'Equivalent property damage only' is a method of combining the number of crashes with the severity of crashes based on a weighted scale where a fatal crash is worth 10, an injury crash is worth 5 and a property damage only crash is worth 1." Designation as a HSIP location allows for MassDOT to prioritize funding for safety-related improvements in a specific region of the state.

The MassDOT High Crash Location mapping is provided in Attachment B.

3.5 **Future Conditions**

Traffic volumes in the study area were projected to the year 2025, which reflects a seven-year planning horizon consistent with MassDOT's Transportation Impact Assessment (TIA) Guidelines. Independent of the Project, traffic volumes on the roadway network in the year 2025 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2025 No-Build traffic volumes reflect 2025 Build traffic volume conditions with the Project.



Legend:

- 2-Hour Parking Limit
M-F, 8am-6pm - Except Residential Permit
- 2-Hour Visitor Parking
M-F, 8am-6pm - Except Residential Permit
- Residential Permit - M-F, 8am-6pm
- Residential Permit Only
- 2 Hour Parking
- No Parking
- No Parking Regulations Posted

Not To Scale

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3.5.1 *Future Traffic Growth*

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

3.5.2 *Specific Development by Others*

The BPDA website and BTD were consulted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on this consultation, the following projects were identified for inclusion in this assessment:

- ◆ **135 Bremen Street** – 94 residential units and 8,300 square feet (sf) of commercial space
- ◆ **31 Orleans Street** – 14 residential units
- ◆ **175 Orleans Street (Boston Loftel)** – 127 room hotel
- ◆ **202 Maverick Street** – 23 residential units
- ◆ **70 Bremen Street** – 32 residential units and 1,028 sf of commercial space
- ◆ **125 Summer Street** – 52 residential units and 3,400 sf of retail space
- ◆ **114 Orleans Street** – 23 residential units
- ◆ **91-111 Summer Street** – 119 residential units and 7,200 sf of commercial space
- ◆ **10-16 Everett Street** – 19 residential units

Traffic volumes associated with the aforementioned specific development projects by others were obtained from their respective traffic studies or using trip-generation information available from the Institute of Transportation Engineers (ITE)⁴ for the appropriate land use, and were assigned onto the study area roadway network based on existing traffic patterns where no other information was available. No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

3.5.3 General Background Traffic Growth

Traffic-volume data compiled by MassDOT from Continuous Count Station No. 8087 located on Route 1A, north of the Boston/Revere line, were reviewed. Based on a review of this data, it was determined that traffic volumes within the study area have generally increase by approximately 0.92 percent per year over the past several years. As such, a slightly higher 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

3.5.4 Roadway Improvement Projects

MassDOT and BTD were contacted in order to determine if there were any planned future roadway improvement projects expected to be complete by 2025 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

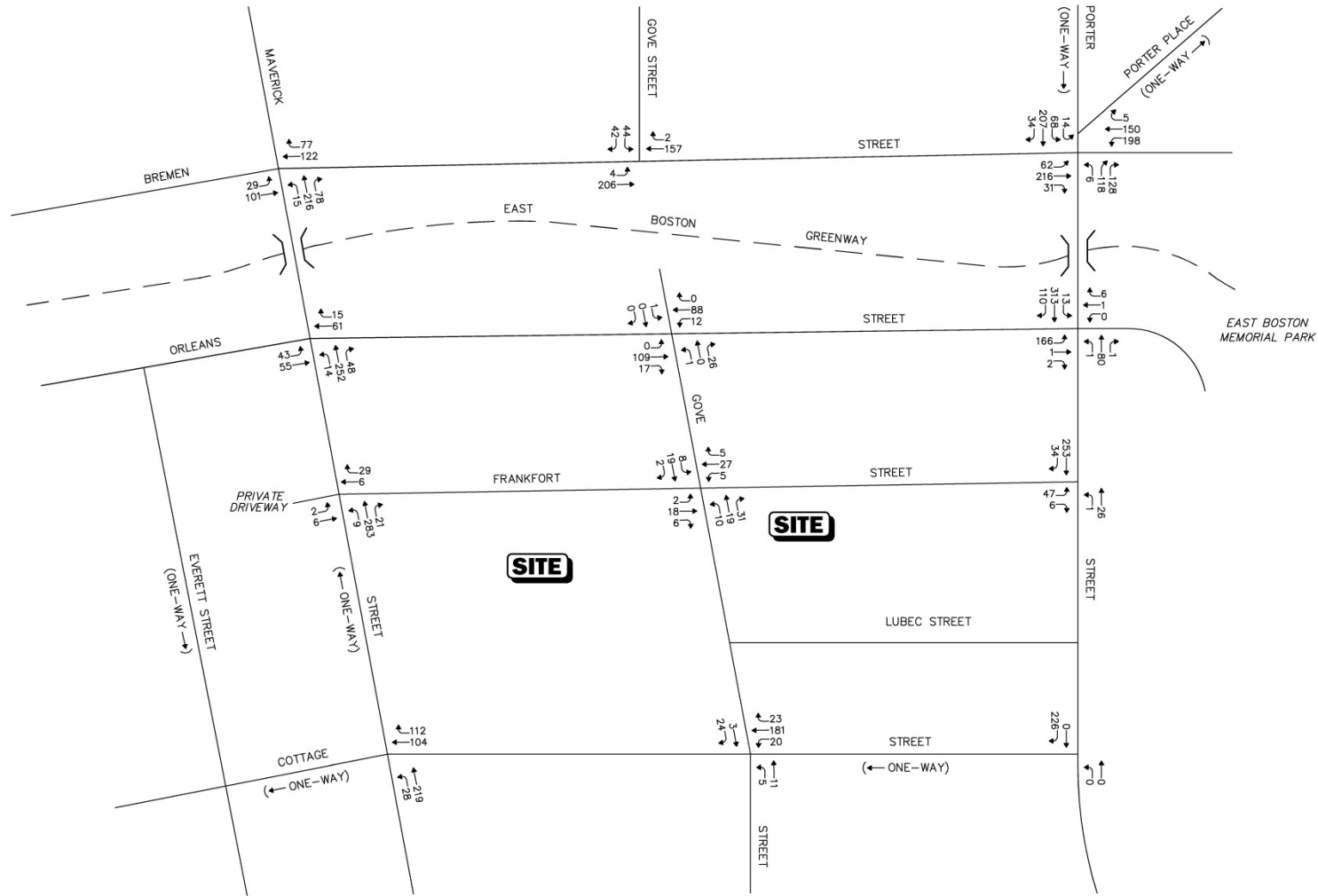
3.5.5 No-Build Traffic Volumes

The 2025 No-Build condition peak-hour traffic-volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2018 Existing peak-hour traffic volumes and then adding the peak-hour traffic volumes associated with the identified specific development projects by others. The resulting 2025 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figures 3-11 and 3-12, respectively.

3.5.6 Project-Generated Traffic

Design year (2025 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

⁴ Ibid.



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
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As proposed, the Project will entail the construction of a 115-unit multi-family residential apartment community. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE⁵ for a similar land use as that proposed were used. ITE Land Use Code (LUC) 221, Multifamily Housing (Mid-Rise), was used to develop the base traffic characteristics of the Project.

3.5.7 *Alternative Modes of Transportation*

Given the availability of public transportation services within walking distance of the Project site (MBTA bus and subway services) and the interconnected network of sidewalks and bicycle accommodations, it is expected that a portion of the residents of the Project will use public transportation services, walk or bicycle, thereby reducing the volume of traffic that may be associated with the Project. In order to determine the proportion of residents of the Project that may use public transportation, walk or bicycle as their primary mode of transportation, travel mode data obtained from BTD for Area 7, East Boston, and vehicle occupancy data obtained from the 2009 National Household Travel Survey were used. This data is summarized in Table 3-2.

Table 3-2 Travel Mode Data and Vehicle Occupancy Ratio

Time Period	Mode of Transportation			Vehicle Occupancy Ratio ^b
	Automobile (Enter/Exit)	Transit (Enter/Exit)	Pedestrian/Bicycle (Enter/Exit)	
Weekday Daily	54%/54%	17%/17%	29%/29%	1.13
Weekday Morning Peak	51%/45%	15%/25%	34%/30%	1.13
Weekday Evening Peak	45%/51%	25%/15%	30%/34%	1.13

^aBTD Mode Share for Area 7.

^bPersons per vehicle. Source: *Summary of Travel Trends: 2009 National Household Travel Survey*; FHWA; Washington, D.C.; June 2011.

The base trip-generation calculations obtained using the ITE data were converted to person trips using the vehicle occupancy ratio (VOR) shown in Table 3-2 and were then disseminated to the available modes of transportation. The automobile person trips were converted back to vehicle trips by dividing by the VOR. Table 3-3 shows the resulting calculations for the Project using the above methodology.

⁵ Ibid 1.

Table 3-3 Trip Generation Summary

Time Period/Direction	ITE Vehicle Trips ^a	Person Trips				
		Total Person Trips ^b	Automobile Person Trips ^c	Transit Trips ^c	Pedestrian/Bicycle Trips ^c	Automobile Trips ^d
<i>Average Weekday Daily:</i>						
Entering	313	354	191	60	103	169
<u>Exiting</u>	<u>313</u>	<u>354</u>	<u>191</u>	<u>60</u>	<u>103</u>	<u>169</u>
Total	626	708	382	120	206	338
<i>Weekday Morning Peak Hour:</i>						
Entering	11	12	6	2	4	5
<u>Exiting</u>	<u>30</u>	<u>34</u>	<u>15</u>	<u>9</u>	<u>10</u>	<u>13</u>
Total	41	46	21	11	14	18
<i>Weekday Evening Peak Hour:</i>						
Entering	31	35	16	9	10	14
<u>Exiting</u>	<u>20</u>	<u>23</u>	<u>12</u>	<u>3</u>	<u>8</u>	<u>11</u>
Total	51	58	28	12	18	25

^aBased on ITE LUC 221, *Multifamily Housing (Mid-Rise)*, and 115 units.

^bITE vehicle trips x 1.13 persons per vehicle.

^cTotal person trips x BTM Mode Share for Area 7 (Table 2).

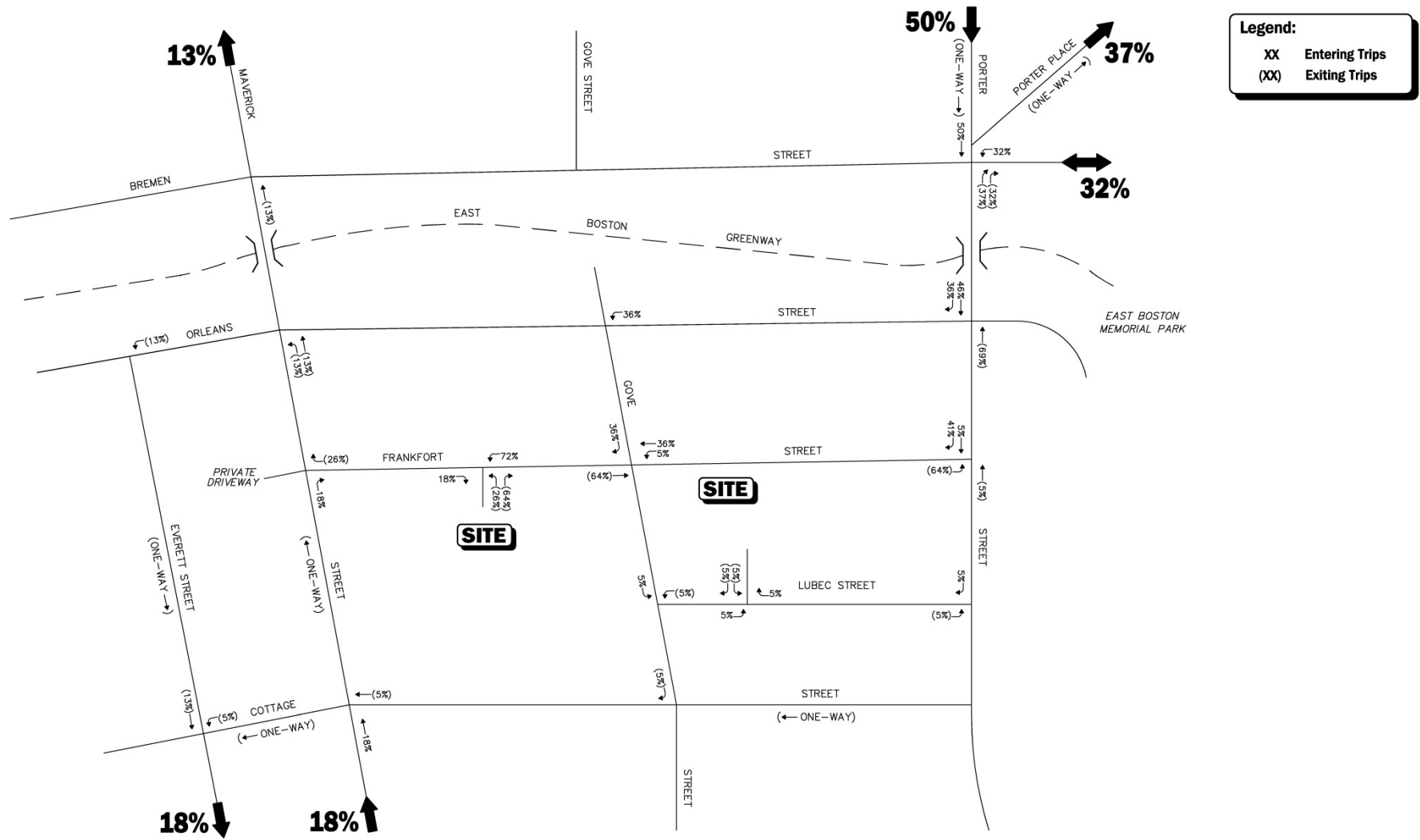
^dAutomobile person trips divided by 1.13.

3.5.8 Project-Generated Trip Volume Summary

As can be seen in Table 3-3, after applying appropriate adjustments to account for the use of public transportation and pedestrian and bicycle trips, the Project is expected to generate approximately 338 automobile trips, 120 transit trips and 206 pedestrian/bicycle trips on an average weekday (two way, 24 hour volumes), with 18 automobile trips (5 vehicles entering and 13 exiting), 11 transit trips and 14 pedestrian/bicycle trips expected during the weekday morning peak-hour, and 25 automobile trips (14 vehicles entering and 11 exiting), 12 transit trips and 18 pedestrian/bicycle trips expected during the weekday evening peak-hour.

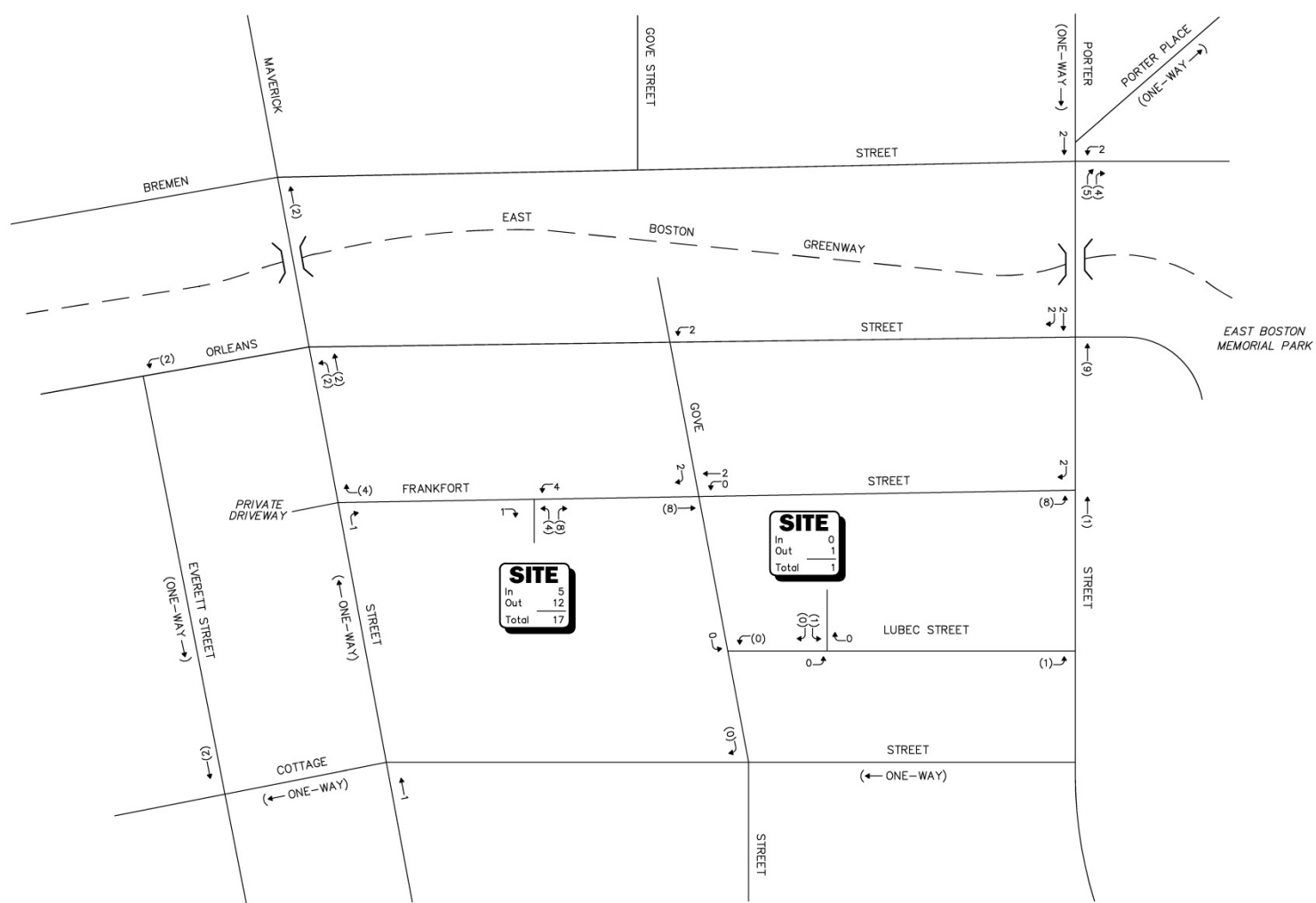
3.5.9 Trip Distribution and Assignment

The directional distribution of generated trips to and from the Project site was determined based on origin-destination data obtained from BTM for Area 7, East Boston. The general trip distribution for the Project is graphically depicted on Figure 3-13. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figures 3-14 and 3-15.



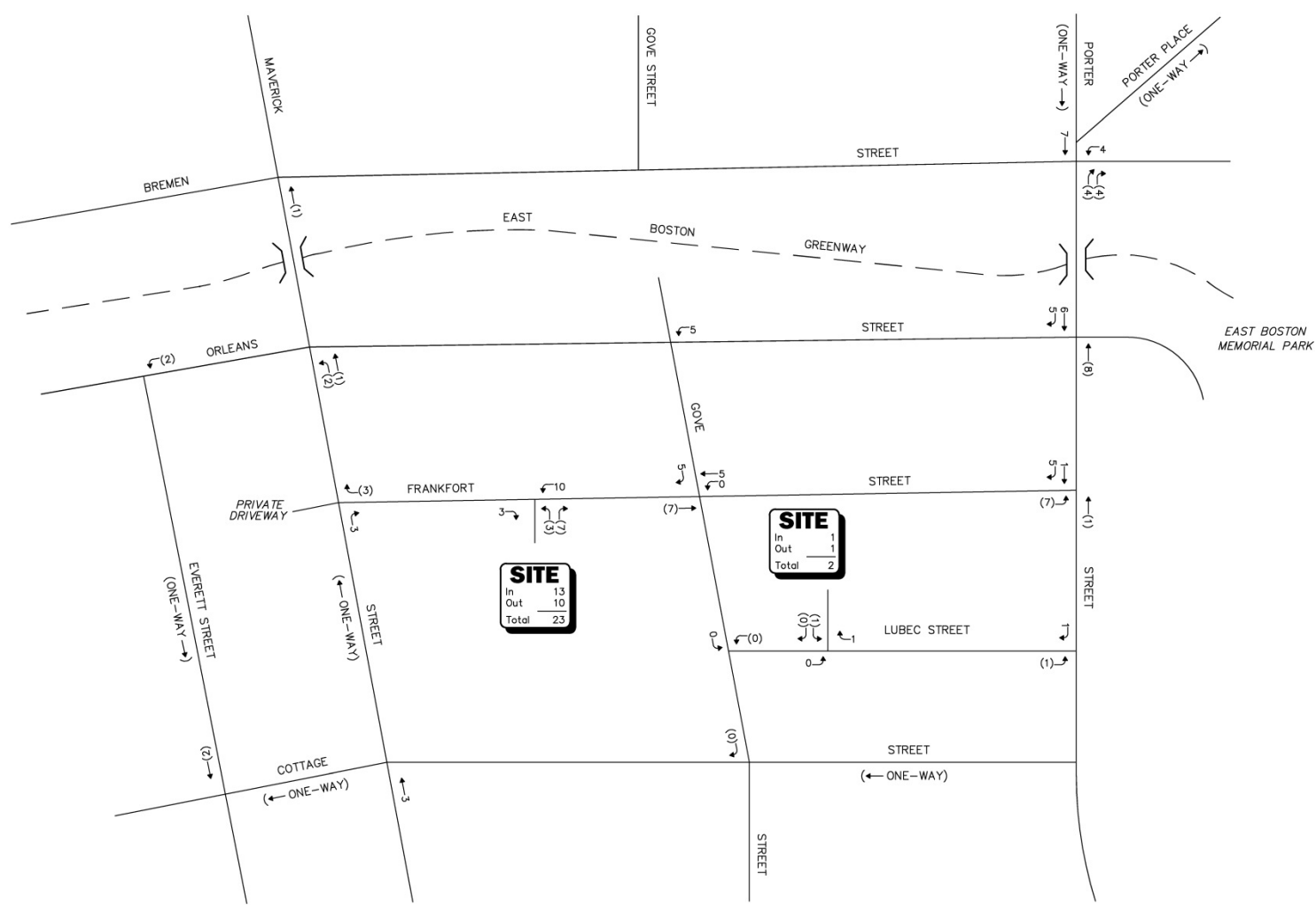
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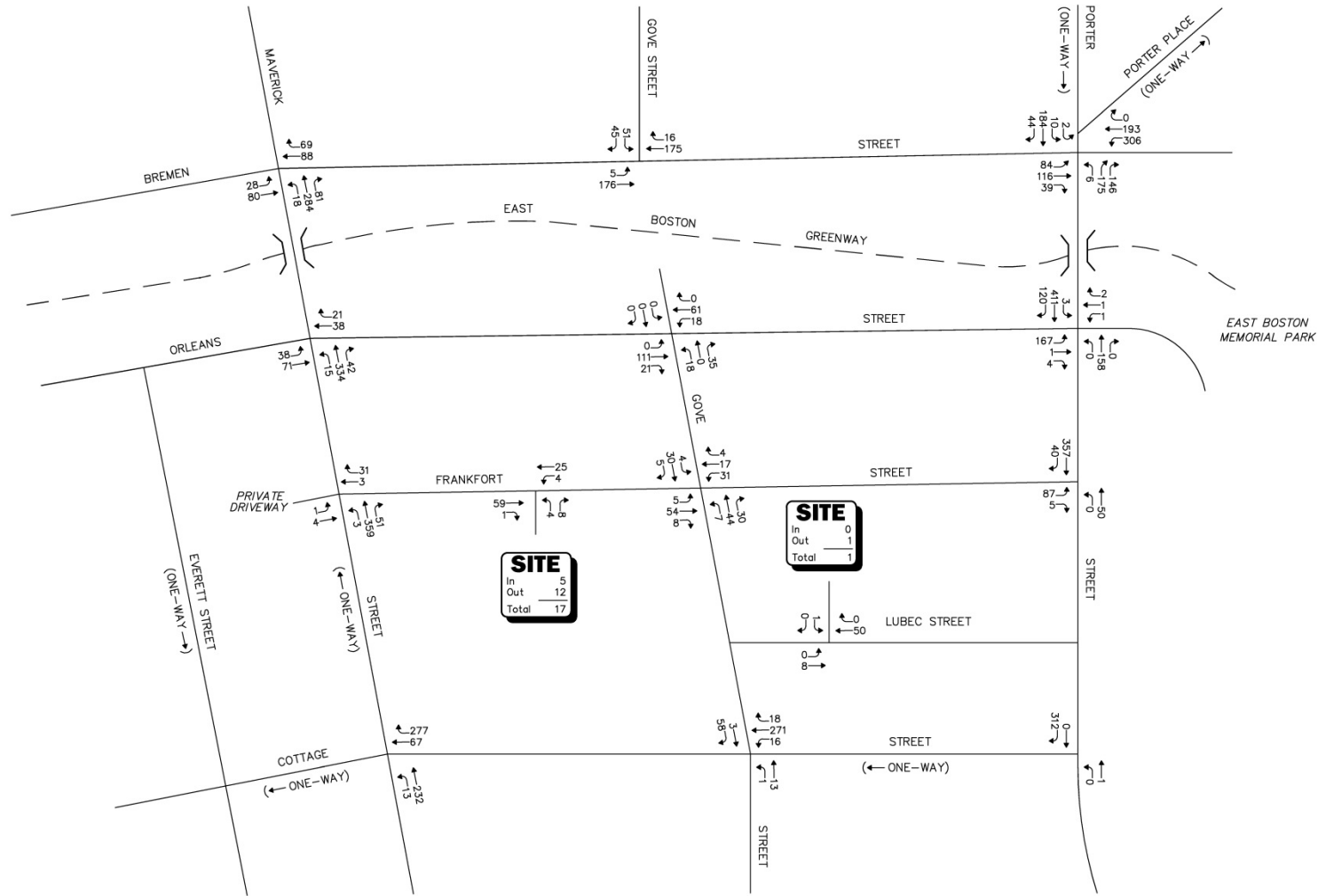
3.5.10 Future Traffic Volumes – Build Condition

The 2025 Build condition traffic volumes were developed by adding the traffic expected to be generated by the Project to the 2025 No-Build traffic volumes. The resulting 2025 Build peak-hour traffic-volumes are graphically depicted on Figures 3-16 and 3-17.

A summary of peak-hour projected traffic-volume increases outside of the study area that is the subject of this assessment is shown in Table 3-4. These volumes are based on the expected increases from the Project.

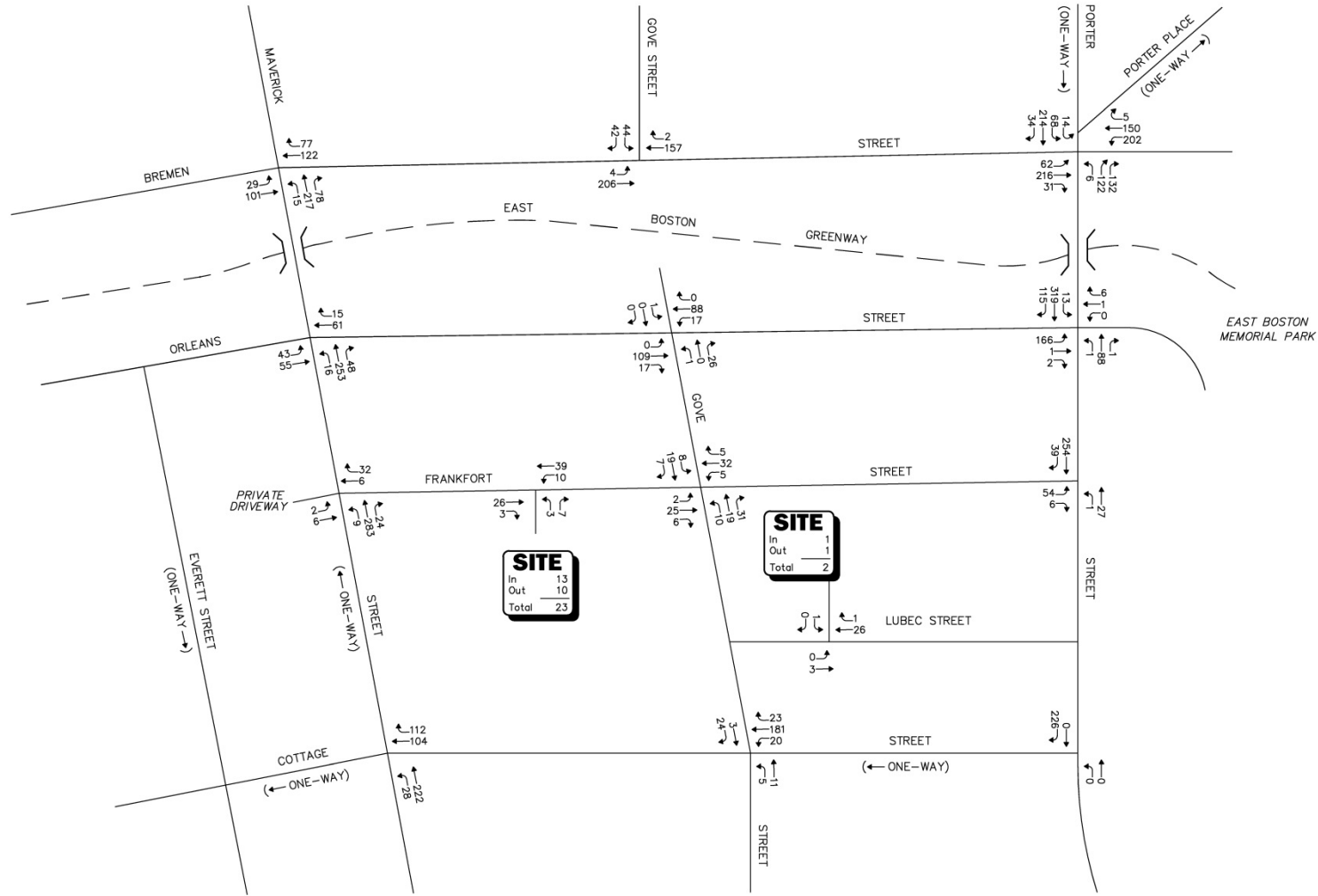
Table 3-4 Peak Hour Traffic – Volume Increases

Location/Peak Hour	2018 Existing	2025 No-Build	2025 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Bremen Street, north of Porter Street:</i>					
Weekday Morning	696	765	771	6	0.8
Weekday Evening	691	765	773	8	1.0
<i>Bremen Street, south of Maverick Street:</i>					
Weekday Morning	192	214	214	0	0.0
Weekday Evening	234	267	267	0	0.0
<i>Orleans Street, south of Maverick Street:</i>					
Weekday Morning	145	160	162	2	1.3
Weekday Evening	152	173	175	2	1.2
<i>Maverick Street, east of Cottage Street:</i>					
Weekday Morning	219	244	245	1	0.4
Weekday Evening	218	247	250	3	1.2
<i>Maverick Street, west of Bremen Street:</i>					
Weekday Morning	353	389	391	2	0.5
Weekday Evening	293	322	323	1	0.3
<i>Porter Street, west of Bremen Street:</i>					
Weekday Morning	181	238	240	2	0.8
Weekday Evening	252	323	330	7	2.2



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale

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Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale

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As shown in Table 3-4, Project-related traffic-volume increases outside of the study area relative to 2025 No-Build conditions are anticipated to range from 0 to 2.2 percent during the peak periods, with vehicle increases shown to range from 0 to 8 vehicles. *When dispersed over the peak-hour, such increases would not result in a significant impact (increase) on motorist delays or vehicle queueing outside of the immediate study area this is the subject of this assessment.*

3.6 Traffic Operations Analysis

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing, No-Build and Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

3.6.1 Methodology

3.6.1.1 Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.⁶ The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

3.6.1.2 Signalized Intersections

The six levels of service for signalized intersections may be described as follows:

- ◆ *LOS A* describes operations with very low control delay; most vehicles do not stop at all.

⁶ The capacity analysis methodology is based on the concepts and procedures presented in the Highway Capacity Manual; Transportation Research Board; Washington, DC; 2010.

- ◆ *LOS B* describes operations with relatively low control delay. However, more vehicles stop than *LOS A*.
- ◆ *LOS C* describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- ◆ *LOS D* describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable.
- ◆ *LOS E* describes operations with high control delay values. Individual cycle failures are frequent occurrences.
- ◆ *LOS F* describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Levels of service for signalized intersections were calculated using the Percentile Delay Method implemented as a part of the Synchro™ 8 software as required by MassDOT. The Percentile Delay Method assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on “percentile” delay. Level-of-service designations are based on the criterion of percentile delay per vehicle and is a measure of: i) driver discomfort; ii) motorist frustration; and iii) fuel consumption; and includes a uniform delay based on percentile volumes using a Poisson arrival pattern, an initial queue move-up time, and a queue interaction delay that accounts for delays resulting from queues extending from adjacent intersections. Table 3-5 summarizes the relationship between level-of-service and percentile delay, and uses the same numerical delay thresholds as the HCM method. The tabulated percentile delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to entire intersections.

Table 3-5 Level-of-Service Criteria for Signalized Intersections

Level of Service	Percentile Delay Per Vehicle (Seconds)
A	≤ 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	> 80.0

3.6.1.3 Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- ◆ *LOS A* represents a condition with little or no control delay to minor street traffic.
- ◆ *LOS B* represents a condition with short control delays to minor street traffic.
- ◆ *LOS C* represents a condition with average control delays to minor street traffic.
- ◆ *LOS D* represents a condition with long control delays to minor street traffic.
- ◆ *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- ◆ *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 Highway Capacity Manual.⁷ Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2010 Highway Capacity Manual. Table 3-6 summarizes the relationship between level of service and average control delay for two-way stop controlled and all-way stop controlled intersections.

Table 3-6 Level-of-Service Criteria for Unsignalized Intersections^a

Level-of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
$v/c \leq 1.0$	$v/c > 1.0$	
A	F	≤ 10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	> 50.0

^aSource: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

⁷ *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

3.6.1.4 Vehicle Queue Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the Synchro™ intersection capacity analysis software which is based upon the methodology and procedures presented in the 2010 Highway Capacity Manual. The Synchro™ vehicle queue analysis methodology is a simulation based model which reports the number of vehicles that experience a delay of six seconds or more at an intersection. For signalized intersections, Synchro™ reports both the average (50th percentile) the 95th percentile vehicle queue. For unsignalized intersections, Synchro™ reports the 95th percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately three minutes out of 60 minutes during the peak one hour of the day (during the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length).

3.6.1.5 Analysis Results

Level-of-service and vehicle queue analyses were conducted for 2018 Existing, 2025 No-Build and 2025 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Tables 3-7 and 3-8. The detailed analysis results are presented in Attachment B.

The following is a summary of the level-of-service and vehicle queue analyses for the intersections within the study area. For context, a LOS of "D" or better is generally defined as "acceptable" operating conditions.

3.6.1.5.1 Signalized Intersections

Porter Street/Orleans Street – Under 2018 Existing conditions, this signalized intersection was shown to operate at an overall LOS A during both the weekday morning and evening peak hours. Under 2025 No-Build and 2025 Build conditions, overall operating conditions at the intersection were shown to degrade slightly (1.5 second increase in average motorist delay) from LOS A to LOS B during the weekday morning peak-hour as a result of traffic volume increases independent of the Project and to remain operating at LOS A during the weekday evening peak-hour. Project-related impacts at this intersection were defined as an increase in motorist delay of less than 1.0 seconds with no change in LOS or increase in vehicle queuing.

3.6.1.5.2 Unsignalized Intersections

Porter Street/Bremen Street – Under 2018 Existing conditions, critical movements at this intersection (all movements from Bremen Street southbound) were shown to operate at LOS E during the weekday morning peak-hour and at LOS C during the weekday evening peak-

hour. Under 2025 No-Build and 2025 Build conditions, the critical movements were shown to degrade from LOS E to LOS F during the weekday morning peak-hour and from LOS C to LOS D during the weekday evening peak-hour as a result of traffic volume increases independent of the Project. Project-related impacts were defined as an increase in motorist delay of less than 3.0 seconds and in vehicle queuing of up to one (1) vehicle.

Porter Street/Frankfort Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Porter Street/Cottage Street – All movements at this intersection were shown to operate at LOS A under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Bremen Street/Gove Street – All movements at this intersection were shown to operate at LOS A under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Orleans Street/Gove Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Frankfort Street/Gove Street – All movements at this intersection were shown to operate at LOS A under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Cottage Street/Gove Street – All movements at this intersection were shown to operate at LOS A under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Maverick Street/Bremen Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Maverick Street/Orleans Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Maverick Street/Frankfort Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Maverick Street/Cottage Street – All movements at this intersection were shown to operate at LOS B or better under all analysis conditions, with no change in LOS or vehicle queuing for any movement predicted to occur as a result of the Project.

Frankfort Street/Project Site Driveway – All movements at this intersection were shown to operate at LOS A during both the weekday morning and evening peak hours, with negligible vehicle queuing predicted.

Lubec Street/Project Site Driveway – All movements at this intersection were shown to operate at LOS A during both the weekday morning and evening peak hours, with negligible vehicle queuing predicted.

Table 3-7 Signalized Intersection Level-of-Service and Vehicle Queue Summary

Signalized Intersection/Peak-hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
<i>Porter Street at Orleans Street</i>												
<i>Weekday Morning:</i>												
Porter Street EB LT/TH/RT	0.54	8.6	A	2/6	0.57	9.1	A	3/8	0.58	9.1	A	3/8
Porter Street WB LT/TH/RT	0.17	5.9	A	1/2	0.18	5.9	A	1/2	0.18	5.9	A	1/2
Orleans Street NB LT/TH/RT	0.34	15.0	B	1/3	0.48	19.9	B	2/5	0.48	20.0	B	2/5
Driveway SB LT/TH/RT	0.01	10.5	B	0/1	0.01	12.8	B	0/1	0.01	12.8	B	0/1
Overall	–	9.2	A	–	–	10.7	B	–	–	10.7	B	–
<i>Weekday Evening:</i>												
Porter Street EB LT/TH/RT	0.38	6.0	A	1/4	0.51	8.4	A	2/6	0.52	8.4	A	2/6
Porter Street WB LT/TH/RT	0.08	4.9	A	1/1	0.10	5.9	A	1/1	0.10	5.8	A	1/1
Orleans Street NB LT/TH/RT	0.22	10.1	B	1/2	0.37	14.0	B	1/4	0.37	14.4	B	1/4
Driveway SB LT/TH/RT	0.01	7.0	A	0/1	0.01	8.0	A	0/1	0.01	8.1	A	0/1
Overall	–	6.8	A	–	–	9.5	A	–	–	9.5	A	–

^aVolume-to-capacity ratio.

^bPercentile delay per vehicle in seconds.

^cLevel-of-Service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

Table 3-8 Unsignalized Intersection Level-of-Service and Vehicle Queue Summary

Unsignalized Intersection/ Peak Hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LO S	Queue 95 th	Demand	Delay	LOS	Queue 95 th
<i>Porter Street at Bremen Street</i>												
<i>Weekday Morning:</i>												
Porter Street EB LT/TH/RT	181	14.3	B	2	238	20.6	C	4	240	21.1	C	4
Porter Street WB LT/TH/RT	270	16.9	C	3	318	26.8	D	6	327	28.5	D	6
Bremen Street NB LT/TH/RT	195	14.3	B	2	239	20.4	C	4	239	20.8	C	4
Bremen Street SB LT/TH/RT	457	39.1	E	10	497	> 50.0	F	14	499	> 50.0	F	14
<i>Weekday Evening:</i>												
Porter Street EB LT/TH/RT	252	14.5	B	3	323	24.4	C	5	330	26.2	D	6
Porter Street WB LT/TH/RT	201	12.4	B	2	252	18.1	C	3	260	19.5	C	4
Bremen Street NB LT/TH/RT	266	14.5	B	3	309	22.7	C	5	309	23.8	C	5
Bremen Street SB LT/TH/RT	314	16.6	C	4	350	27.9	D	6	357	30.1	D	7
<i>Porter Street at Frankfort Street</i>												
<i>Weekday Morning:</i>												
Porter Street EB TH/RT	367	0.0	A	0	395	0.0	A	0	397	0.0	A	0
Porter Street WB LT/TH	46	0.0	A	0	49	0.0	A	0	50	0.0	A	0
Frankfort Street NB LT/RT	79	12.5	B	1	84	13.1	B	1	92	13.3	B	1
<i>Weekday Evening:</i>												
Porter Street EB TH/RT	265	0.0	A	0	287	0.0	A	0	293	0.0	A	0
Porter Street WB LT/TH	25	0.3	A	0	27	0.3	A	0	28	0.3	A	0
Frankfort Street NB LT/RT	50	10.8	B	1	53	11.1	B	1	60	11.2	B	1

See notes at end of table.

Table 3-8 Unsignalized Intersection Level-of-Service and Vehicle Queue Summary (Continued)

Unsignalized Intersection/ Peak Hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Porter Street at Cottage Street												
<i>Weekday Morning:</i>												
Porter Street EB TH/RT	290	0.0	A	0	312	0.0	A	0	312	0.0	A	0
Porter Street WB LT/TH	1	0.0	A	0	1	0.0	A	0	1	0.0	A	0
<i>Weekday Evening:</i>												
Porter Street EB TH/RT	208	0.0	A	0	226	0.0	A	0	226	0.0	A	0
Porter Street WB LT/TH	0	0.0	A	0	0	0.0	A	0	0	0.0	A	0
Bremen Street at Gove Street												
<i>Weekday Morning:</i>												
Gove Street EB LT/RT	90	8.3	A	1	96	8.5	A	1	96	8.5	A	1
Bremen Street NB LT/TH	159	8.6	A	1	181	8.9	A	1	181	8.9	A	1
Bremen Street SB TH/RT	171	8.7	A	1	191	9.0	A	1	191	9.0	A	1
<i>Weekday Evening:</i>												
Gove Street EB LT/RT	80	8.1	A	1	86	8.3	A	1	86	8.3	A	1
Bremen Street NB LT/TH	184	8.6	A	1	210	9.0	A	1	210	9.0	A	1
Bremen Street SB TH/RT	141	8.3	A	1	159	8.6	A	1	159	8.6	A	1
Orleans Street at Gove Street												
<i>Weekday Morning:</i>												
Gove Street EB LT/TH/RT	0	0.0	A	0	0	0.0	A	0	0	0.0	A	0
Gove Street WB LT/TH/RT	50	9.5	A	1	53	9.7	A	1	53	9.7	A	1
Orleans Street NB LT/TH/RT	120	0.0	A	0	132	0.0	A	0	132	0.0	A	0
Orleans Street SB LT/TH/RT	66	1.7	A	0	77	1.7	A	0	79	1.7	A	0
<i>Weekday Evening:</i>												
Gove Street EB LT/TH/RT	1	10.0	B	0	1	10.5	B	0	1	10.6	B	0
Gove Street WB LT/TH/RT	25	8.9	A	0	27	9.1	A	0	27	9.1	A	0
Orleans Street NB LT/TH/RT	92	0.1	A	0	127	0.0	A	0	127	0.1	A	0
Orleans Street SB LT/TH/RT	84	1.0	A	0	100	1.0	A	0	105	1.2	A	0

See notes at end of table.

Table 3-8 Unsignalized Intersection Level-of-Service and Vehicle Queue Summary (Continued)

Unsignalized Intersection/ Peak Hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Frankfort Street at Gove Street												
<i>Weekday Morning:</i>												
Gove Street EB LT/TH/RT	35	7.5	A	1	37	7.6	A	1	39	7.6	A	1
Gove Street WB LT/TH/RT	76	7.5	A	1	81	7.6	A	1	81	7.7	A	1
Frankfort Street NB LT/TH/RT	55	7.6	A	1	59	7.7	A	1	66	7.7	A	1
Frankfort Street SB LT/TH/RT	47	7.7	A	1	50	7.8	A	1	52	7.8	A	1
<i>Weekday Evening:</i>												
Gove Street EB LT/TH/RT	27	7.3	A	0	29	7.3	A	0	34	7.3	A	0
Gove Street WB LT/TH/RT	56	7.1	A	1	60	7.2	A	1	60	7.2	A	1
Frankfort Street NB LT/TH/RT	25	7.2	A	0	26	7.2	A	0	33	7.3	A	0
Frankfort Street SB LT/TH/RT	35	7.3	A	1	37	7.3	A	1	42	7.4	A	1
Cottage Street at Gove Street												
<i>Weekday Morning:</i>												
Gove Street EB TH/RT	58	7.3	A	1	61	7.4	A	1	61	7.4	A	1
Gove Street WB LT/TH	13	7.3	A	0	14	7.8	A	0	14	7.8	A	0
Cottage Street SB LT/TH/RT	284	9.1	A	2	305	9.4	A	2	305	9.4	A	2
<i>Weekday Evening:</i>												
Gove Street EB TH/RT	25	7.0	A	0	27	7.0	A	0	27	7.0	A	0
Gove Street WB LT/TH	15	7.6	A	0	16	7.6	A	0	16	7.6	A	0
Cottage Street SB LT/TH/RT	206	8.2	A	1	224	8.4	A	1	224	8.4	A	1
Maverick Street at Bremen Street												
<i>Weekday Morning:</i>												
Maverick Street WB LT/TH/RT	357	11.3	B	3	391	12.4	B	3	393	12.4	B	3
Bremen Street NB LT/TH	87	9.0	A	1	108	9.3	A	1	108	9.3	A	1
Bremen Street SB TH/RT	139	9.0	A	1	157	9.4	A	1	157	9.4	A	1
<i>Weekday Evening:</i>												
Maverick Street WB LT/TH/RT	278	10.1	B	2	309	10.9	B	2	310	10.9	B	2
Bremen Street NB LT/TH	113	8.9	A	1	130	9.2	A	1	130	9.2	A	1
Bremen Street SB TH/RT	178	9.0	A	1	199	9.4	A	1	199	9.4	A	1

Table 3-8 Unsignalized Intersection Level-of-Service and Vehicle Queue Summary (Continued)

Unsignalized Intersection/ Peak Hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
<i>Maverick Street at Orleans Street</i>												
<i>Weekday Morning:</i>												
Maverick Street WB LT/TH/RT	350	11.4	B	3	387	12.6	B	4	391	12.7	B	4
Orleans Street NB LT/TH	101	9.0	A	1	109	9.3	A	1	109	9.3	A	1
Orleans Street SB TH/RT	52	8.3	A	1	59	8.5	A	1	59	8.6	A	1
<i>Weekday Evening:</i>												
Maverick Street WB LT/TH/RT	280	9.7	A	2	314	10.3	B	2	317	10.4	B	2
Orleans Street NB LT/TH	90	8.5	A	1	98	8.8	A	1	98	8.8	A	1
Orleans Street SB TH/RT	63	8.1	A	1	76	8.3	A	1	76	8.4	A	1
<i>Maverick Street at Frankfort Street</i>												
<i>Weekday Morning:</i>												
Maverick Street WB LT/TH/RT	374	0.1	A	0	412	0.1	A	0	413	0.1	A	0
Driveway NB LT/TH	5	12.1	B	0	5	12.6	B	0	5	12.6	B	0
Frankfort Street SB TH/RT	28	10.9	B	1	30	11.3	B	1	34	11.3	B	1
<i>Weekday Evening:</i>												
Maverick Street WB LT/TH/RT	280	0.3	A	0	313	0.3	A	0	316	0.3	A	0
Driveway NB LT/TH	8	11.4	B	0	8	11.8	B	0	8	11.9	B	0
Frankfort Street SB TH/RT	33	10.2	B	1	35	10.5	B	1	38	10.6	B	1
<i>Maverick Street at Cottage Street</i>												
<i>Weekday Morning:</i>												
Maverick Street WB LT/TH	219	9.7	A	2	244	10.3	B	2	245	10.3	B	2
Cottage Street SB TH/RT	320	9.6	A	2	344	10.2	B	3	344	10.2	B	3
<i>Weekday Evening:</i>												
Maverick Street WB LT/TH	218	9.7	A	2	247	10.3	B	2	250	10.3	B	2
Cottage Street SB TH/RT	199	8.9	A	2	216	9.3	A	2	216	9.3	A	2

Table 3-8 Unsignalized Intersection Level-of-Service and Vehicle Queue Summary (Continued)

Unsignalized Intersection/ Peak Hour/Movement	2018 Existing				2025 No-Build				2025 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Frankfort Street at the Project Site Drive												
<i>Weekday Morning:</i>												
Project Site Drive WB LT/RT	--	--	--	--	--	--	--	--	12	8.8	A	0
Frankfort Street NB TH/RT	--	--	--	--	--	--	--	--	60	0.0	A	0
Frankfort Street SB LT/TH	--	--	--	--	--	--	--	--	29	1.0	A	0
<i>Weekday Evening:</i>												
Project Site Drive WB LT/RT	--	--	--	--	--	--	--	--	10	8.7	A	0
Frankfort Street NB TH/RT	--	--	--	--	--	--	--	--	29	0.0	A	0
Frankfort Street SB LT/TH	--	--	--	--	--	--	--	--	49	1.5	A	0
Lubec Street at the Project Site Drive												
<i>Weekday Morning:</i>												
Project Site Drive EB LT/RT	--	--	--	--	--	--	--	--	1	8.8	A	0
Lubec Street NB LT/TH	--	--	--	--	--	--	--	--	8	0.0	A	0
Lubec Street SB TH/RT	--	--	--	--	--	--	--	--	50	0.0	A	0
<i>Weekday Evening:</i>												
Project Site Drive EB LT/RT	--	--	--	--	--	--	--	--	1	8.7	A	0
Lubec Street NB LT/TH	--	--	--	--	--	--	--	--	3	0.0	A	0
Lubec Street SB TH/RT	--	--	--	--	--	--	--	--	27	0.0	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel-of-Service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

3.7 Sight Distance Evaluation

Sight distance measurements were performed at the Project site driveway intersections with Frankfort Street and Lubec Street in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)⁸ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 3-9 presents the measured SSD and ISD at the subject intersections.

As can be seen in Table 3-9, the available lines of sight at the Project site driveway intersections were found to meet or exceed the recommended minimum sight distance (SSD) to function in a safe manner based on the appropriate approach speed along the intersecting roadway and with consideration of the urban environment in which the Project is located.⁹ It is recommended that on-street parking be prohibited within 20-feet (one parking space) of the Project site driveways in order to provide the requisite sight lines and to allow for vehicle maneuvering entering/exiting the Project site.

⁸ *A Policy on Geometric Design of Highway and Streets*, 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2011.

⁹ In an urban environment with a sidewalk and on-street parking, exiting motorists are assumed to temporarily occupy the sidewalk and the protected area formed by the parking lane in order to observe vehicles on the intersecting roadway.

Table 3-9 Sight Distance Measurements

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Frankfort Street at the Project Site Driveway</i>			
<i>Stopping Sight Distance:</i>			
Frankfort Street approaching from the north	155	--	315
Frankfort Street approaching from the south	155	--	223
Intersection Sight Distance:			
Looking to the north from the Project Site Drive	155	240/280	216
Looking to the south from the Project Site Drive	155	240/280	223 ^c
<i>Lubec Street at the Project Site Driveway</i>			
<i>Stopping Sight Distance:</i>			
Lubec Street approaching from the north	155	--	158
Lubec Street approaching from the south	80	--	85 ^d
Intersection Sight Distance:			
Looking to the north from the Project Site Driveway	155	240/280	158
Looking to the south from the Project Site Driveway	80	145/170	85 ^d

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011; and based on a 25 mph approach speed for Frankfort Street and Lubec Street northbound, and a 15 mph approach speed for Lubec Street southbound given the proximity of the driveway to Gove Street.

^bValues shown are the intersection sight distance for a vehicle turning right/left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

^cSight line that is available with driver positioned 10 feet from the edge of roadway (from within the sidewalk area).

^dClear line of sight is provided to/from Gove Street

3.8 Conclusions and Recommendations

3.8.1 Conclusions

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed construction of a 115-unit multi-family residential community at the location of the former Our Lady of Mt. Carmel Church sanctuary and rectory located off Gove Street and Frankfort Street in the East Boston Neighborhood of Boston, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE¹⁰ and with adjustment to account for the use of public transportation and pedestrian and bicycle trips, the Project is expected to generate approximately 338 automobile trips, 120 transit trips and 206 pedestrian/bicycle trips on an average weekday (two-way, 24 hour volumes), with 18 automobile trips, 11 transit trips and 14 pedestrian/bicycle trips expected during the weekday morning peak-hour, and 25 automobile trips, 12 transit trips and 18 pedestrian/bicycle trips expected during the weekday evening peak-hour;
2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with the majority of the movements at the study intersections shown to operate at LOS D or better under all analysis conditions where an LOS of "D" or better is defined as "acceptable" operating conditions;
3. Independent of the Project, the Bremen Street southbound approach to Porter Street was identified as operating at or over capacity (defined as LOS "E" or "F", respectively) during the weekday morning peak-hour, with Project-related impacts at the intersection defined as an increase in vehicle queuing of up to one vehicle;
4. All movements at the Project site driveway intersections with Frankfort Street and Lubec Street are expected to operate at LOS A with negligible vehicle queuing predicted;
5. A review of the MassDOT statewide High Crash Location List indicated that there were no locations within the study area that were included on MassDOT's Highway Safety Improvement Program (HSIP) listing as a high crash cluster location for 2013-2015; and
6. Lines of sight to and from the Project site driveways were found to meet or exceed the recommended minimum sight distance to function in a safe manner with consideration of the urban environment in which the Project is located.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

3.8.2 Recommendations

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements

¹⁰ Ibid 1.

have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

3.8.2.1 Project Access

Access to the Project will be provided by way of two driveways configured as follows: north parcel - a full access driveway that will intersect the west side of Lubec Street approximately 50-feet north of Gove Street; south parcel - a full access driveway that will intersect the east side of Frankfort Street at the south end of the parcel. The following recommendations are offered with respect to Project access, internal circulation and parking:

- ◆ The Project site driveways should be a minimum of 20-feet in width with vehicles exiting the driveways under stop control.
- ◆ Where perpendicular parking is provided, the drive aisle behind the parking should be a minimum of 23-feet in order to allow for vehicle maneuvering.
- ◆ All signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD).¹¹
- ◆ Marked crosswalks with Americans with Disabilities Act (ADA) compliant wheelchair ramps should be provided at all proposed pedestrian crossings.
- ◆ Signs and landscaping to be installed as a part of the Project within intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.
- ◆ Snow windrows within sight triangle areas shall be promptly removed where such accumulations would impede sight lines.
- ◆ Audible and visual pedestrian warning devices will be installed at the garage exit driveway to warn pedestrians of vehicles that may be exiting the driveway.
- ◆ On-street parking should be prohibited within 20-feet (one parking space) of the Project site driveways in order to provide the requisite sight lines and to allow for vehicle maneuvering entering/exiting the Project site.
- ◆ Five percent of the parking spaces to be constructed as a part of the Project will include electric vehicle (EV) charging stations, with accommodations (reserve conduit and space available for electric system components) provided to expand the number of EV charging stations from 5 percent to 15 percent.

¹¹ Ibid 2.

3.8.2.2 Off-Site

Frankfort Street at Gove Street

The addition of Project-related traffic to the intersection of Frankfort Street at Gove Street was not shown to result in a change in LOS, with all movements expected to continue to operate at LOS A during the peak hours. In an effort to enhance pedestrian accessibility and safety in the area, the Project proponent will install pedestrian actuated flashing beacons with accompanying pedestrian crossing warning signs for each of the crosswalks at the intersection. These improvements will be completed prior to the issuance of a Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits and approvals.

Lubec Street at Gove Street

In an effort to enhance pedestrian accessibility and safety at the Lubec Street/Gove Street intersection and to/from the Donald McKay School and the East Boston Early Childhood Learning Center, the Project proponent will install pedestrian actuated flashing beacons with accompanying pedestrian crossing warning signs for the Gove Street crosswalk at the intersection. These improvements will be completed prior to the issuance of a Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits and approvals.

3.8.2.3 Transportation Demand Management

Public transportation services are provided within the study area by the Massachusetts Bay Transportation Authority (MBTA) (Blue Line subway and fixed-route bus service) and are accessible to residents of the Project. Maverick Station on the Blue Line subway system is located at Maverick Square and is within a 7-minute walking distance of the Project site. MBTA bus Route 120, Orient Heights - Maverick Station, provides service along Maverick Street to both Maverick Station and Orient Heights Station on the Blue Line subway system, with a stop located at the Maverick Street/Frankfort Street intersection which is within a 2-minute walking distance of the Project site. Sidewalks are provided along the study area roadways that link the Project site to both Maverick Station and the Route 120 bus stop. In addition, bicycle lanes are provided along Maverick Street and the East Boston Greenway multi-use path is located to the west of the Project site and is accessible from Gove Street.

In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles, the following Transportation Demand Management (TDM) measures will be implemented as a part of the Project:

- ◆ A Transportation Coordinator will be assigned for the Project and the name and contact information for said person will be provided to BTM.

- ◆ The owner or property manager will join the A Better City (ABC) Transportation Management Association (TMA) and the Transportation Coordinator will contact MassRIDES to obtain information on facilitating and encouraging healthy transportation options for residents of the Project;
- ◆ Information regarding public transportation services, maps, schedules and fare information will be posted in a central location and/or otherwise made available to residents;
- ◆ A “welcome packet” will be provided to residents detailing available public transportation services, bicycle and walking alternatives, and commuter options available through MassRIDES’ and their Bay State Commute (formerly NuRide) program which rewards individuals that choose to walk, bicycle, carpool, vanpool or that use public transportation to travel to and from work;
- ◆ Residents will be made aware of the Emergency Ride Home (ERH) program available through MassRIDES, which reimburses employees of a participating MassRIDES employer partner worksite that is registered for ERH and that carpool, take transit, bicycle, walk or vanpool to work;
- ◆ Sidewalks along the Project site frontage on Frankfort Street, Gove Street and Lubec Street will be reconstructed as necessary to provide an ADA accessible travel route for pedestrians;
- ◆ A mail drop will be provided in a central location in each building;
- ◆ Bicycle parking will be provided consisting of: i) secure bicycle parking conveniently located proximate to the building entrance; and ii) weather protected bicycle parking located in a secure area within the building.
- ◆ Two parking spaces will be offered for use by car-share services; and
- ◆ Real-time transportation display technologies will be installed in building lobbies.

With implementation of the above recommendations, safe and efficient vehicular, pedestrian and bicycle access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.

Chapter 4

Environmental Review Component

4.0 ENVIRONMENTAL REVIEW COMPONENT

4.1 Wind

Major buildings, especially those that protrude above their surroundings, may cause increased local wind speeds at the pedestrian level. Typically, wind speeds increase with elevation above the ground surface, and taller buildings intercept these faster winds and deflect them down to the pedestrian level. The funneling of wind through gaps between buildings and the acceleration of wind around corners of buildings may also cause increases in wind speed. Conversely, if a building is surrounded by others of equivalent height, it may be protected from the prevailing upper-level winds, resulting in no significant changes to the local pedestrian-level wind environment.

The Project ranges from four to six-stories, and approximately 65 feet tall at its highest point. The other buildings surrounding the Project site are primarily two to six-stories tall and similar in height to the Project. Additionally, the Project will include new trees on the sidewalks surrounding the Project, which serve to reduce wind speeds. Due to the Project's low height, along with significant landscaping included in the Project, wind impacts are not anticipated.

4.2 Shadow

4.2.1 Introduction and Methodology

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

The shadow impact analysis presents the existing shadow and new shadow that would be created by the Project, illustrating the incremental impact of the Project. The analysis focuses on nearby open spaces and sidewalks adjacent to and in the vicinity of the Project site. Shadows have been determined using the applicable Altitude and Azimuth data for Boston. Figures showing the net new shadow from the Project are provided in Figures 4.2-1 to 4.2-14 at the end of this section.

The shadow impact analysis shows that new shadow will generally be limited to the surrounding streets and Project site.

4.2.2 Vernal Equinox (March 21)

At 9:00 a.m. during the vernal equinox, new shadow from the Project will be cast to the northwest onto Frankfort Street and its sidewalks.

At 12:00 p.m., new shadow from the Project will be cast to the north and onto Frankfort Street and its southern sidewalk and a portion of Gove Street and its western sidewalk.

At 3:00 p.m., new shadow from the Project will be cast to the northeast across Gove Street and its sidewalks.

No new shadow will be cast onto nearby existing open spaces or bus stops during the time periods studied.

4.2.3 *Summer Solstice (June 21)*

At 9:00 a.m. during the summer solstice, new shadow from the Project will be cast to the northwest across Frankfort Street and its southern sidewalk.

At 12:00 p.m., new shadow from the Project will be minimal and cast to the north across Frankfort Street's southern sidewalk.

At 3:00 p.m., new shadow from the Project will be cast to the east across a portion of Gove Street and its western sidewalk.

At 6:00 p.m., new shadow from the Project will be cast to the southeast across a portion of Gove Street and its western sidewalk and the surface parking lot adjacent to the Project site.

No new shadow will be cast onto nearby existing open spaces or bus stops during the time periods studied.

4.2.4 *Autumnal Equinox (September 21)*

At 9:00 a.m. during the autumnal equinox, new shadow from the Project will be cast to the northwest and across Frankfort Street and its sidewalks.

At 12:00 pm., new shadow from the Project will be cast to the north and across Frankfort Street and its southern sidewalk.

At 3:00 p.m., new shadow from the Project will be cast to the northeast and across a portion of Gove Street and its sidewalks.

At 6:00 p.m., new shadow from the Project will be cast to the east and across Gove Street and its sidewalks and a portion of the surface parking lot adjacent to the Project site.

No new shadow will be cast onto nearby existing open spaces or bus stops during the time periods studied.

4.2.5 *Winter Solstice (December 21)*

The winter solstice creates the least favorable conditions for sunlight in New England. Because the sun angle during the winter is lower than in other seasons, shadows are made longer and reach further into the surrounding area.

At 9:00 a.m., new shadow from the Project will be cast to the northeast across Frankfort Street and its sidewalks.

At 12:00 p.m., new shadow from the Project will be cast to the north across Frankfort Street and its sidewalks and a portion of Gove Street and its sidewalks.


At 3:00 p.m., new shadow from the Project will be cast to the northeast across a sliver of Frankfort Street and its southern sidewalks and onto a portion of Gove Street and its sidewalks.

No new shadow will be cast onto nearby existing open spaces or bus stops during the time periods studied.

4.2.6 *Conclusions*

Fourteen time periods were studied to determine the extent of new shadow to be cast by the Project. The shadow study shows that new shadow will mainly be cast across nearby streets and sidewalks. No new shadow will be cast across existing open space or nearby bus stops in the area.




■ Proposed shadow
■ Existing shadow

Frankfort Gove Street Housing Boston, Massachusetts




Frankfort Gove Street Housing Boston, Massachusetts




Frankfort Gove Street Housing Boston, Massachusetts



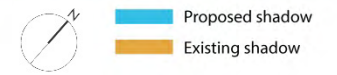

■ Proposed shadow
■ Existing shadow

Frankfort Gove Street Housing Boston, Massachusetts




 Proposed shadow
 Existing shadow

Frankfort Gove Street Housing Boston, Massachusetts




Frankfort Gove Street Housing Boston, Massachusetts



Proposed shadow
Existing shadow


Frankfort Gove Street Housing Boston, Massachusetts




■ Proposed shadow
■ Existing shadow

Frankfort Gove Street Housing Boston, Massachusetts

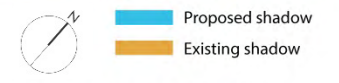
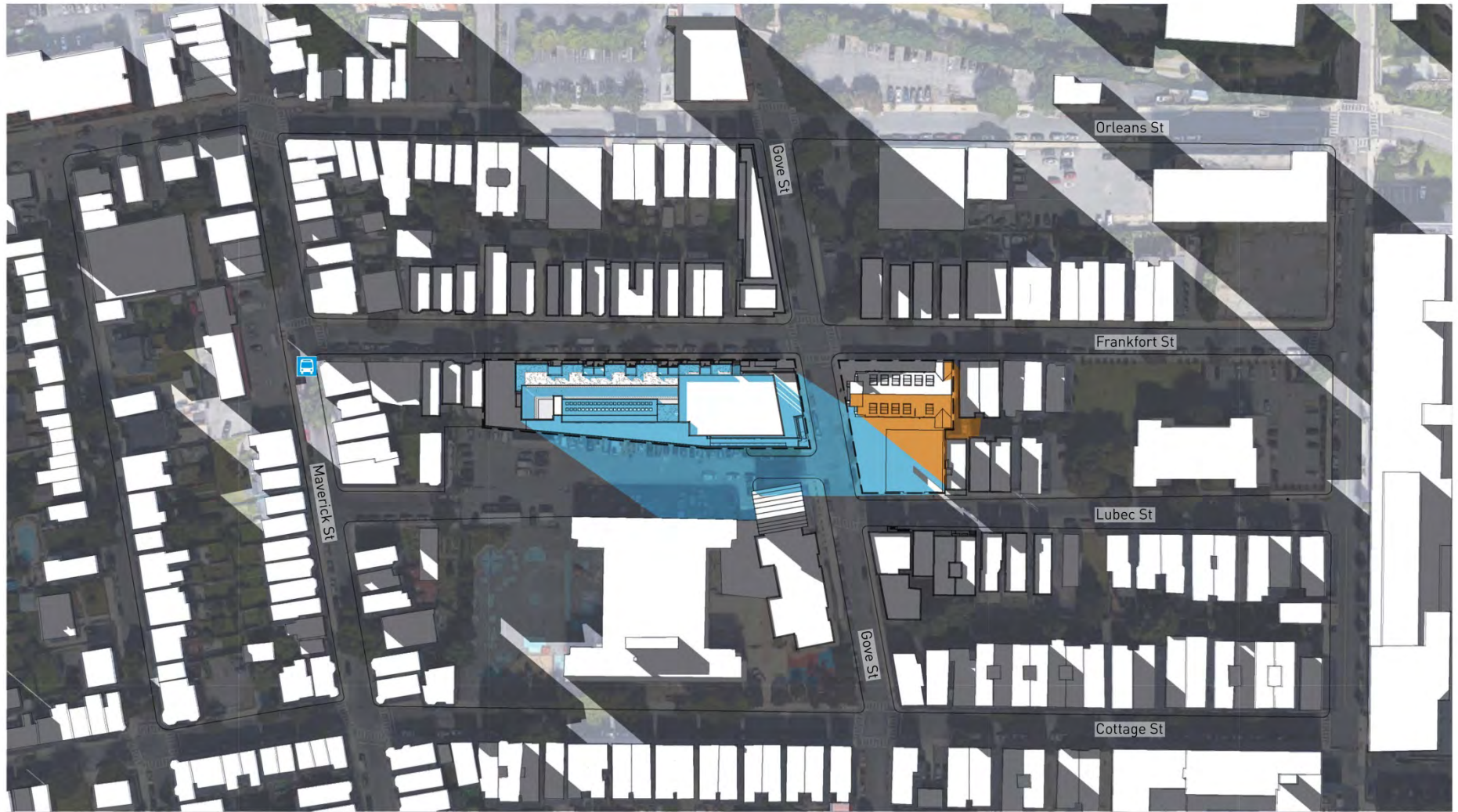



■ Proposed shadow
■ Existing shadow

Frankfort Gove Street Housing Boston, Massachusetts



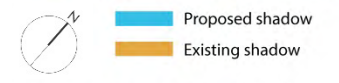
Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts

4.3 Daylight Analysis

4.3.1 *Introduction*

The purpose of the daylight analysis is to estimate the extent to which a proposed project will affect the amount of daylight reaching the streets and the sidewalks in the immediate vicinity of a project site. The daylight analysis for the Project considers the existing and proposed conditions, as well as daylight obstruction values of the surrounding area.

4.3.2 *Methodology*

The daylight analysis was performed using the Boston Redevelopment Authority Daylight Analysis (BRADA) computer program¹. This program measures the percentage of "sky dome" that is obstructed by a project and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site.

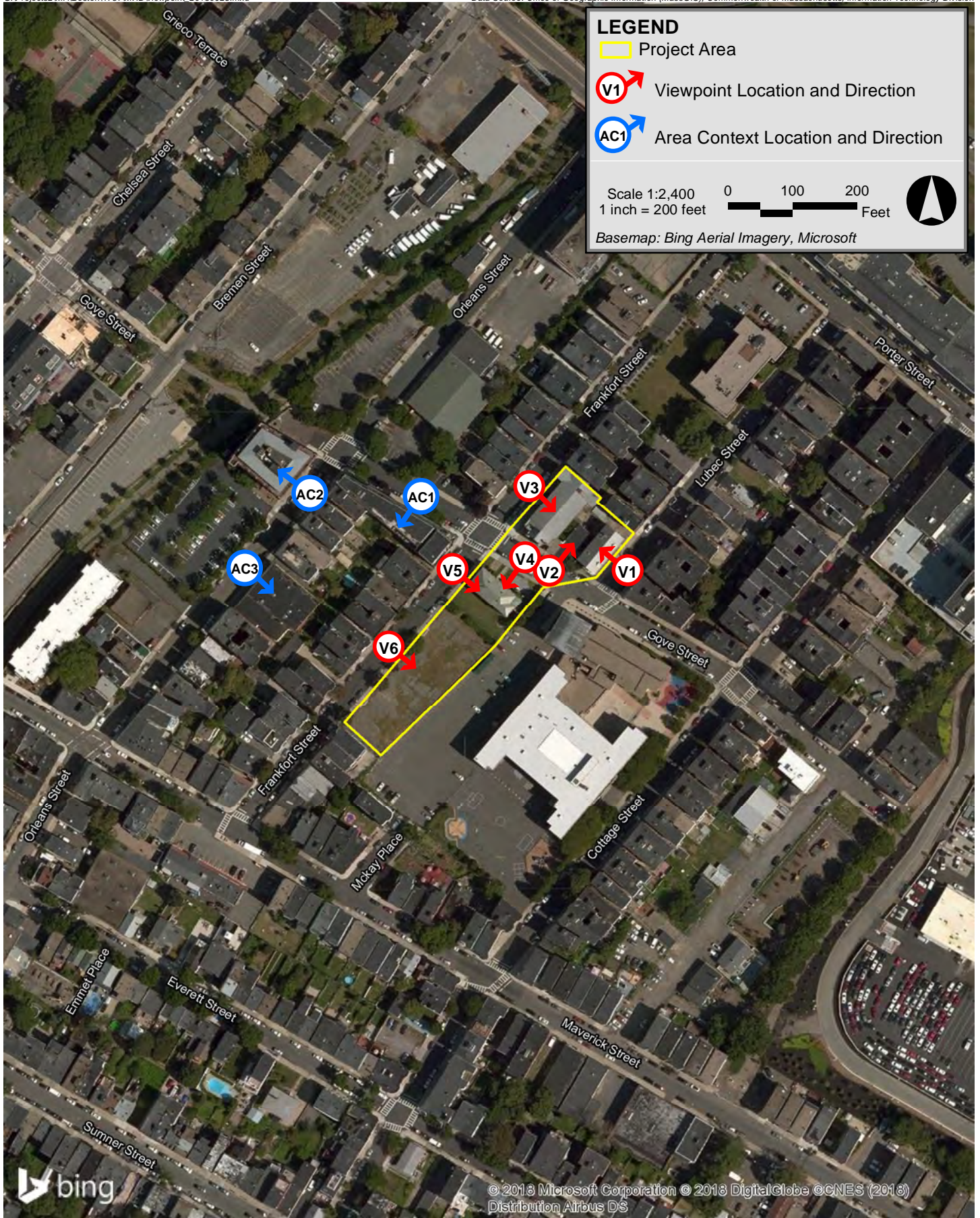
Using BRADA, a silhouette view of the building is taken at ground level from the middle of the adjacent city streets or pedestrian ways centered on the proposed building. The façade of the building facing the viewpoint, including heights, setbacks, corners and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the building in the "sky dome" from the viewpoint chosen. The BRADA program calculates the percentage of daylight that will be obstructed on a scale of 0 to 100 percent based on the width of the view, the distance between the viewpoint and the building, and the massing and setbacks incorporated into the design of the building; the lower the number, the lower the percentage of obstruction of daylight from any given viewpoint.

The analysis compares three conditions: Existing Conditions; Proposed Conditions; and the context of the area.

Six viewpoints were chosen to evaluate the daylight obstruction for the Existing and Proposed Conditions. Three area context points were considered to provide a basis of comparison to existing conditions in the surrounding area. The viewpoint and area context viewpoints were taken in the following locations and are shown on Figure 4.3-1.

- ◆ **Viewpoint 1:** View from the center of Lubec Street facing northwest toward the 128-134 Gove Street parcel.
- ◆ **Viewpoint 2:** View from the center of Gove Street facing north toward the 128-134 Gove Street parcel and the Church Building.

¹ Method developed by Harvey Bryan and Susan Stuebing, computer program developed by Ronald Fergle, Massachusetts Institute of Technology, Cambridge, MA, September 1984.



Frankfort Gove Street Housing Boston, Massachusetts

- ◆ **Viewpoint 3:** View from the center of Frankfort Street facing southeast toward the Church Building.
- ◆ **Viewpoint 4:** View from the center of Gove Street facing southwest toward the 115 Gove Street parcel.
- ◆ **Viewpoint 5:** View from the center of Frankfort Street facing southeast toward the 115 Gove Street parcel.
- ◆ **Viewpoint 6:** View from the center of Frankfort Street facing southeast toward the Frankfort Street parcel.
- ◆ **Area Context Viewpoint AC1:** View from the center of Gove Street facing southwest toward 99 Gove Street.
- ◆ **Area Context Viewpoint AC2:** View from the center of Orleans Street facing northwest toward 150 Orleans Street.
- ◆ **Area Context Viewpoint AC3:** View from the center of Orleans Street facing southeast toward 117 Orleans Street.

4.3.3 Results

The results of each viewpoint are described in Table 4.3-1. Figures 4.3-2 through 4.3-9 illustrate the BRADA results for each analysis.

Table 4.3-1 Daylight Analysis Results

<i>Viewpoint Locations</i>		<i>Existing Conditions</i>	<i>Proposed Conditions</i>
Viewpoint 1	View from the center of Lubec Street facing northwest toward the 128-134 Gove Street parcel.	50.6%	9.8%
Viewpoint 2	View from the center of Gove Street facing north toward the 128-134 Gove Street parcel and the Church Building.	49.2%	24.3%
Viewpoint 3	View from the center of Frankfort Street facing southeast toward the Church Building	62.1%	62.1%
Viewpoint 4	View from the center of Gove Street facing southwest toward the 115 Gove Street parcel.	18.3%	49.1%
Viewpoint 5	View from the center of Frankfort Street facing southeast toward the 115 Gove Street parcel.	20.4%	50.8%
Viewpoint 6	View from the center of Frankfort Street facing southeast toward the Frankfort Street parcel.	0%	64.9%

Table 4.3-1 Daylight Analysis Results (Continued)

<i>Viewpoint Locations</i>		<i>Existing Conditions</i>	<i>Proposed Conditions</i>
<i>Area Context Points</i>			
AC1	View from the center of Gove Street facing southwest toward 99 Gove Street	69.3%	N/A
AC2	View from the center of Orleans Street facing northwest toward 150 Orleans Street	83.1%	N/A
AC3	View from the center of Orleans Street facing southeast toward 117 Orleans Street	69.7%	N/A

Lubec Street – Viewpoint 1

Lubec Street runs along the southern portion of the 128-134 Gove Street parcel. Viewpoint 1 was taken from the center of Lubec Street facing northwest toward the parcel. Since the existing Rectory Building that currently occupies the site will be demolished and replaced with surface parking and green space, the development of the Project would result in a lower daylight obstruction value of 9.8%.

Gove Street – Viewpoint 2

Gove Street runs along the western portion of the 120 Gove Street parcel and the 128-134 Gove Street parcel. Viewpoint 2 was taken from the center of Gove Street facing northeast toward the 128-134 Gove Street and the Church Building. Since the existing Rectory Building that currently occupies the site will be demolished and replaced with surface parking and green space, the development of the Project would result in a lower daylight obstruction value of 24.3%.

Gove Street – Viewpoint 3

Gove Street runs along the southern portion of the 120 Gove Street parcel. Viewpoint 3 was taken from the center of Gove Street facing northeast toward the Church Building. As described earlier, the Church Building will remain on the Project site and therefore the daylight obstruction value will remain the same.

Gove Street – Viewpoint 4

Gove Street runs along the eastern portion of the 115 Gove Street parcel. Viewpoint 4 was taken from the center of Frankfort Street facing southwest toward the 115 Gove Street parcel. The existing condition includes a three-story Convent Building that is set back from the property line, resulting in a lower daylight obstruction value of 18.3% for Viewpoint 4. The development of the Project will result in a daylight obstruction value of 49.1%. While

this is an increase over existing conditions, the Project will have a daylight obstruction value similar to buildings in the vicinity of the Project site, including the Area Context buildings.

Gove Street – Viewpoint 5

Gove Street runs along the northern portion of the 115 Gove Street parcel. Viewpoint 5 was taken from the center of Gove Street facing southeast toward the 115 Gove Street parcel. The existing condition includes a three-story Convent Building that is set back from the property line, resulting in a lower daylight obstruction value of 20.4% for Viewpoint 5. The Proposed Project will increase the daylight obstruction value to 50.8%. While this is an increase over existing conditions, the Project will have a daylight obstruction similar to buildings in the vicinity of the Project, including the Area Context buildings.

Frankfort Street – Viewpoint 6

Frankfort Street runs along the northern portion of the Frankfort Street parcel. Viewpoint 6 was taken from the center of Frankfort Street facing the Frankfort Street parcel. The parcel is currently vacant, resulting in an existing daylight obstruction value of 0%. The development of the Project will result in a daylight obstruction value of 64.9%. While this is an increase over existing conditions, the Project will have a daylight obstruction similar to buildings in the vicinity of the Project, including the Area Context buildings.

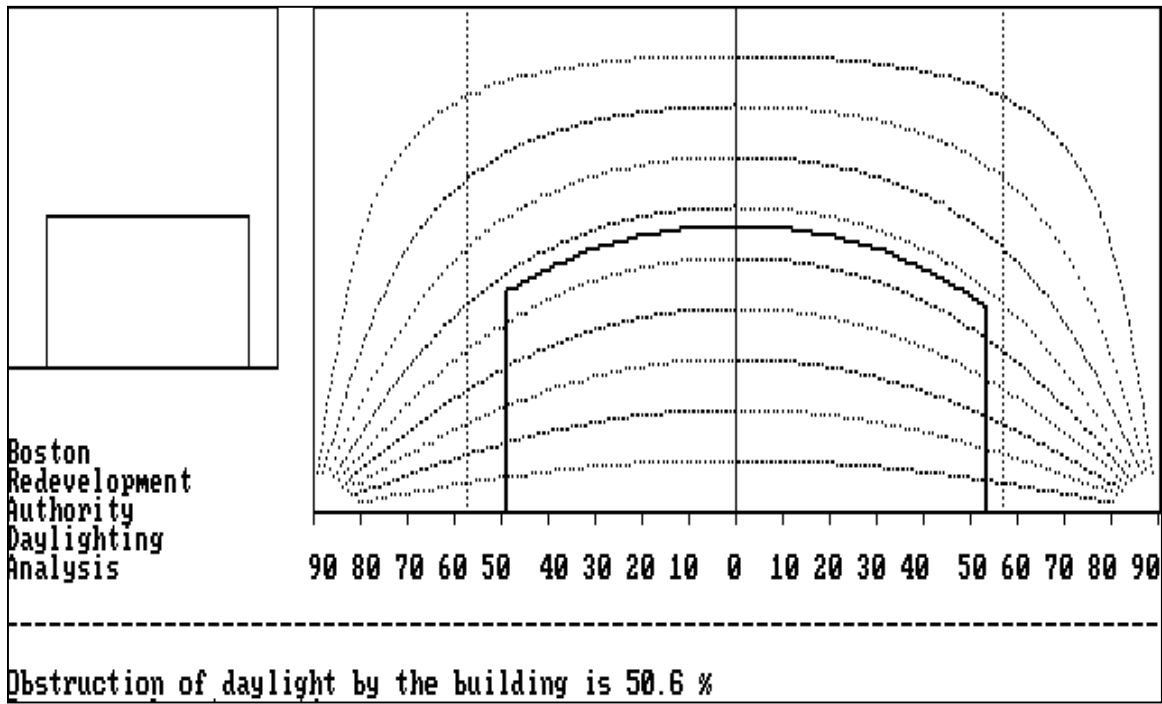
Area Context Viewpoints

The Project site is located in East Boston in an area with a mix of relatively low density residential and institutional uses and surface parking lots. To provide a larger context for comparison of daylight conditions, obstruction values were calculated for the three Area Context Viewpoints described above and shown on Figure 4.3-1. The daylight obstruction values ranged from 69.3% for AC1 and 83.1% for AC2. Daylight obstruction values for the Project are consistent with the Area Context values.

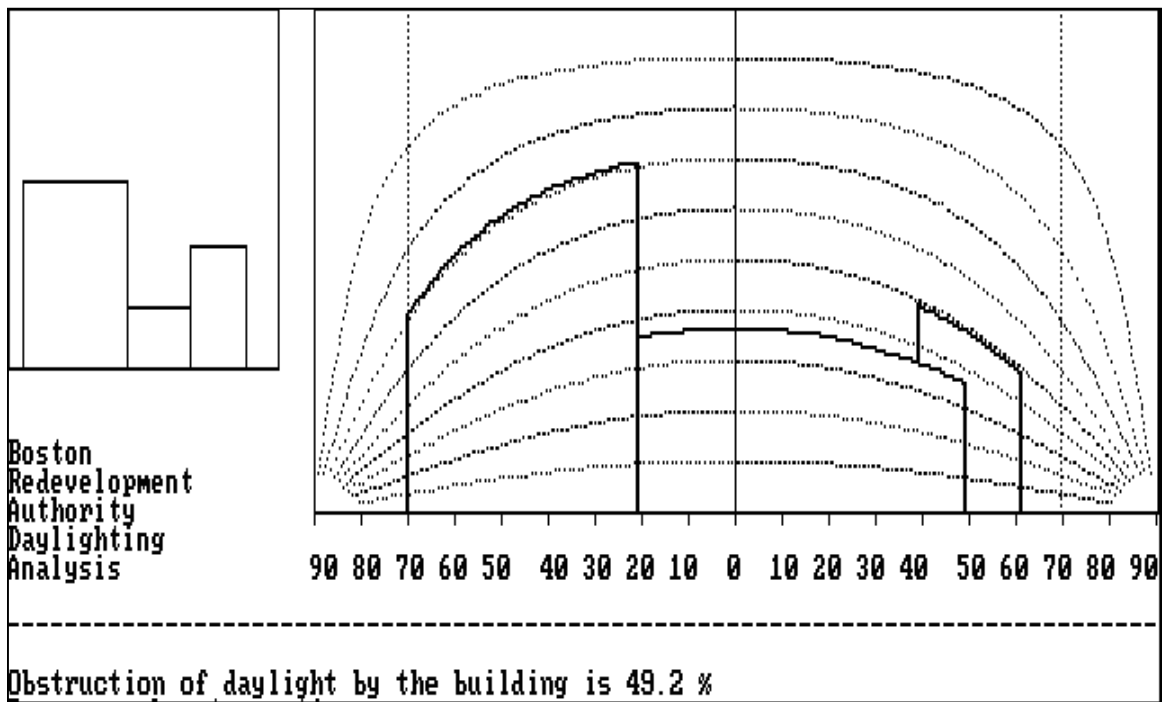
4.3.4 Conclusions

The daylight analysis conducted for the Project describes existing and proposed daylight obstruction conditions at the Project site and in the surrounding area. The results of the BRADA analysis indicate that while the development of the Project will result in increased daylight obstruction over existing conditions from certain locations, the resulting conditions will be similar to or less than the daylight obstruction values within the surrounding area. The design includes setbacks from the streets, space between buildings, open space, and a variety of heights that allow for views of the sky and minimizes daylight impacts.

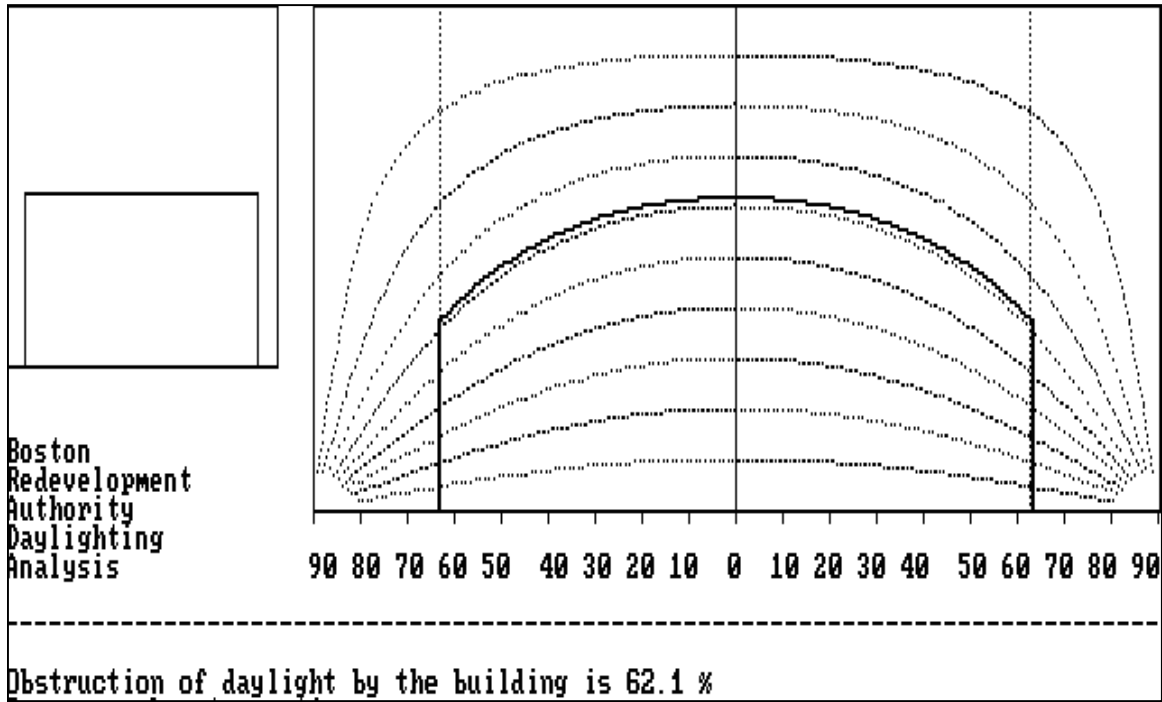
Viewpoint 1: View from Lubec Street facing northwest toward the 128-134 Gove Street parcel



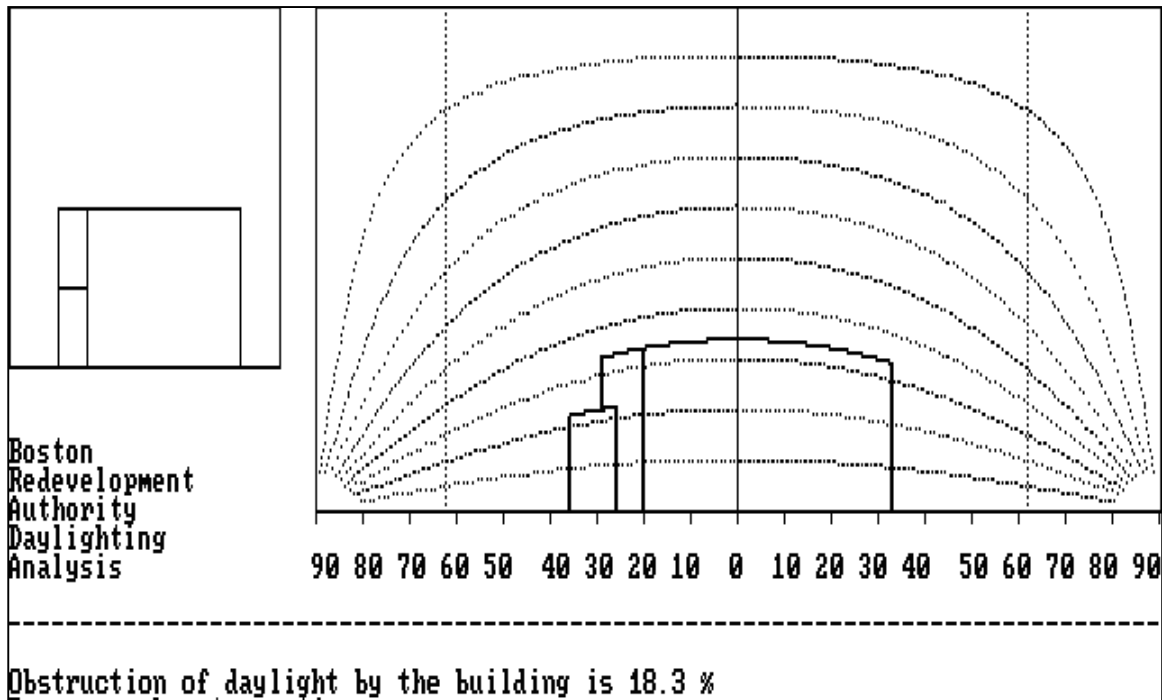
Viewpoint 2: View from Gove Street facing north toward the 128-134 parcel and the Church Building



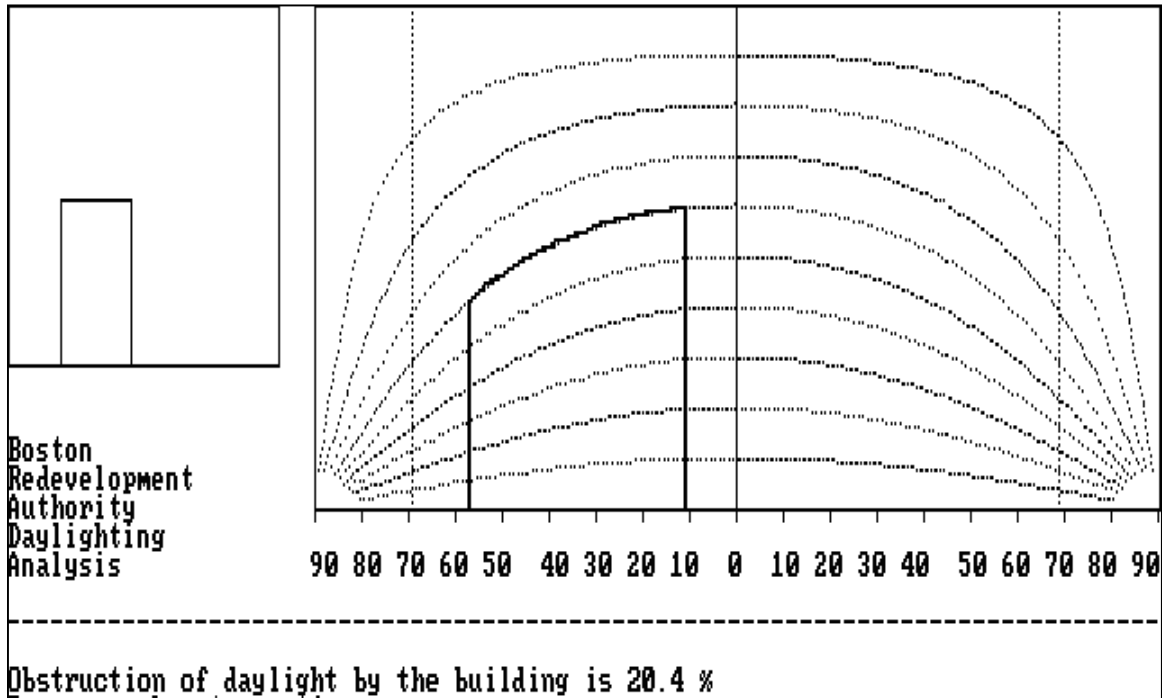
Viewpoint 3: View from Frankfort Street facing southeast toward the Church Building



Viewpoint 4: View from Gove Street facing southwest toward the 115 Gove Street parcel



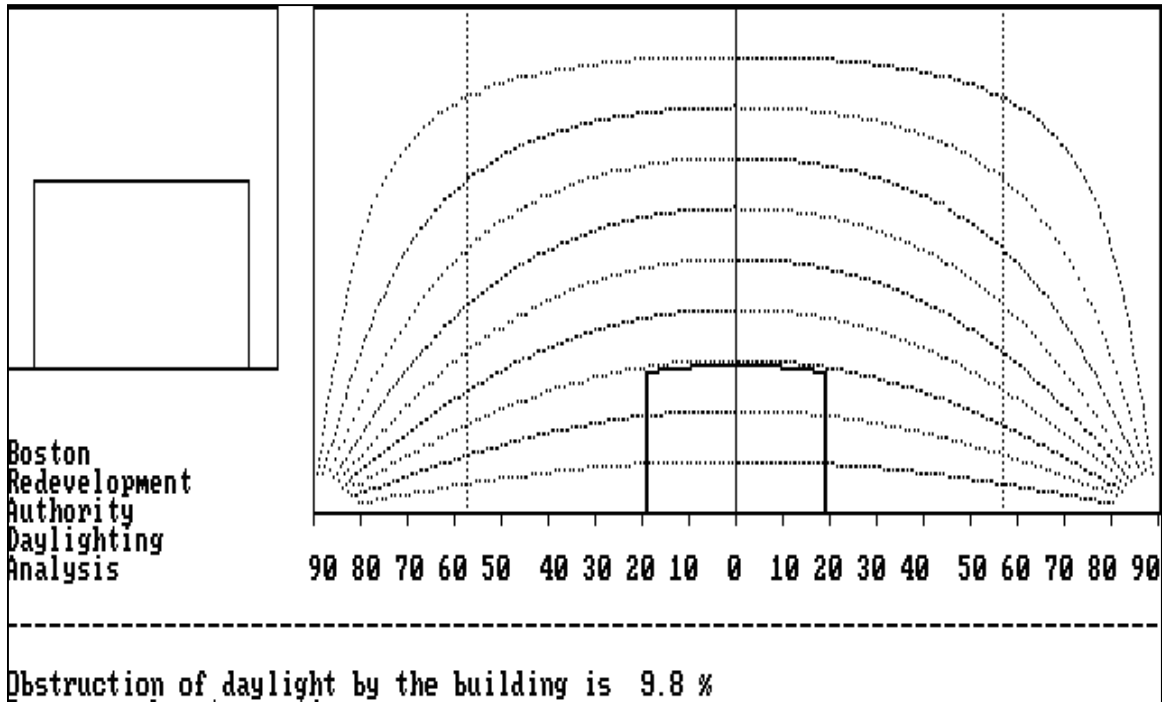
Viewpoint 5: View from Frankfort Street facing southeast toward the 115 Gove Street parcel



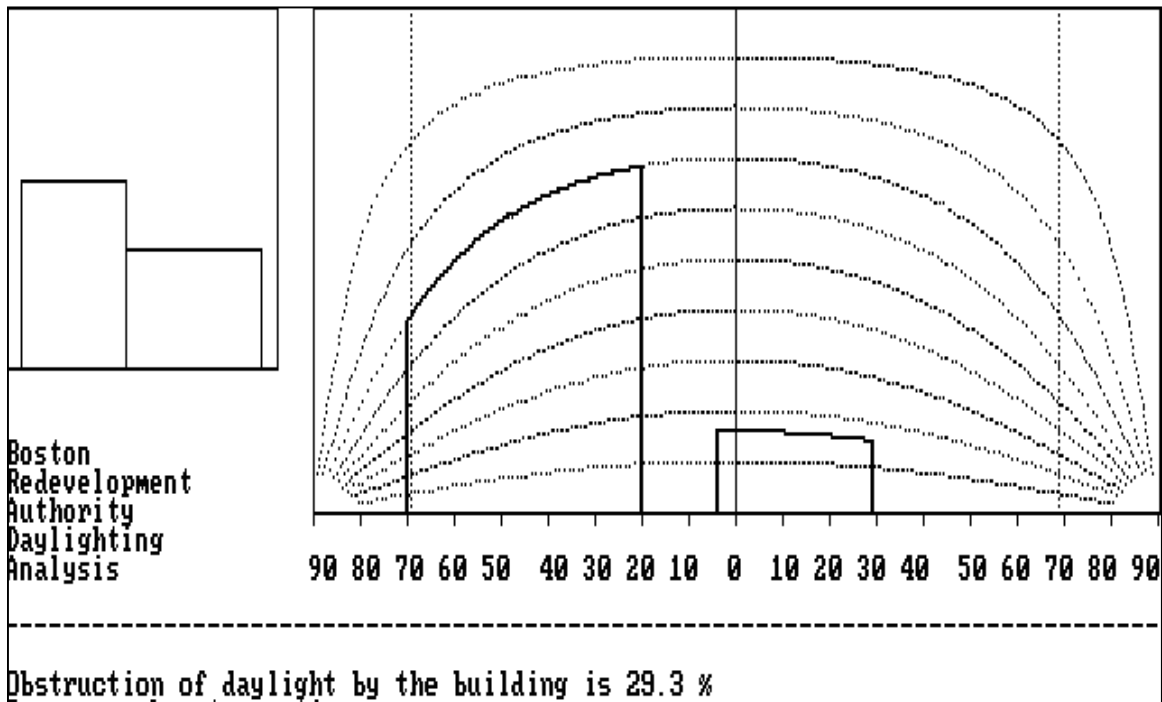
Viewpoint 6: View from Frankfort Street facing southeast toward the Frankfort Street parcel

0% since the lot is vacant

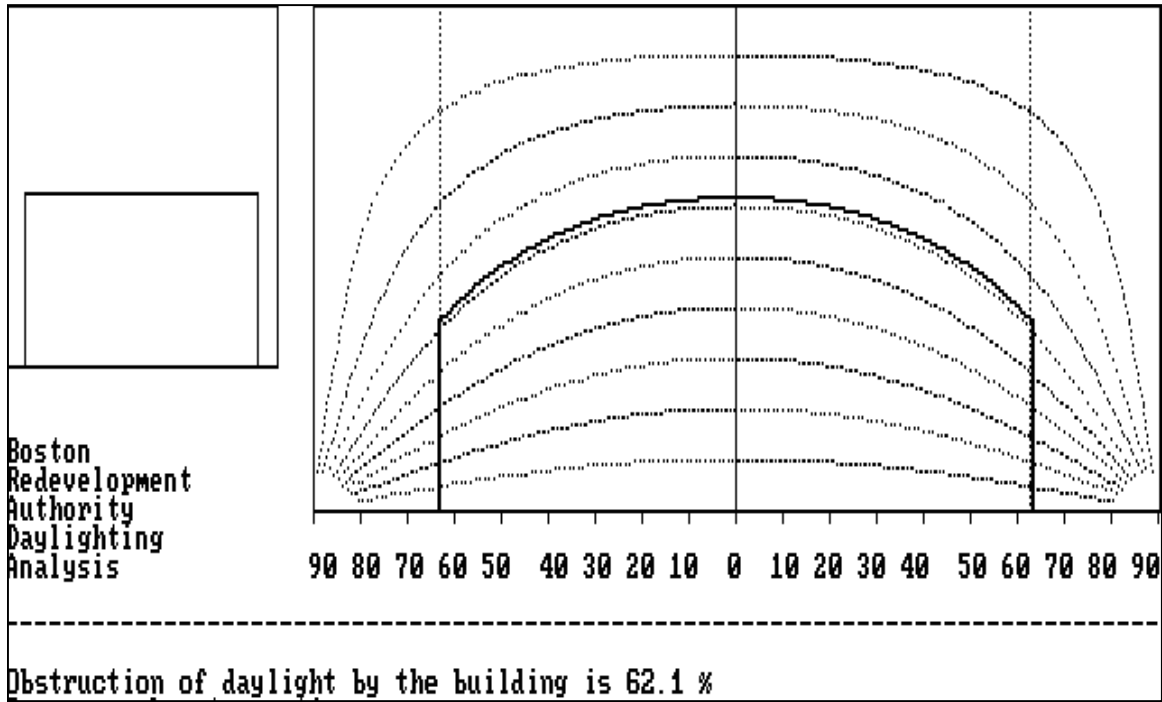
Viewpoint 1: View from Lubec Street facing northwest toward the 128-134 Gove Street parcel



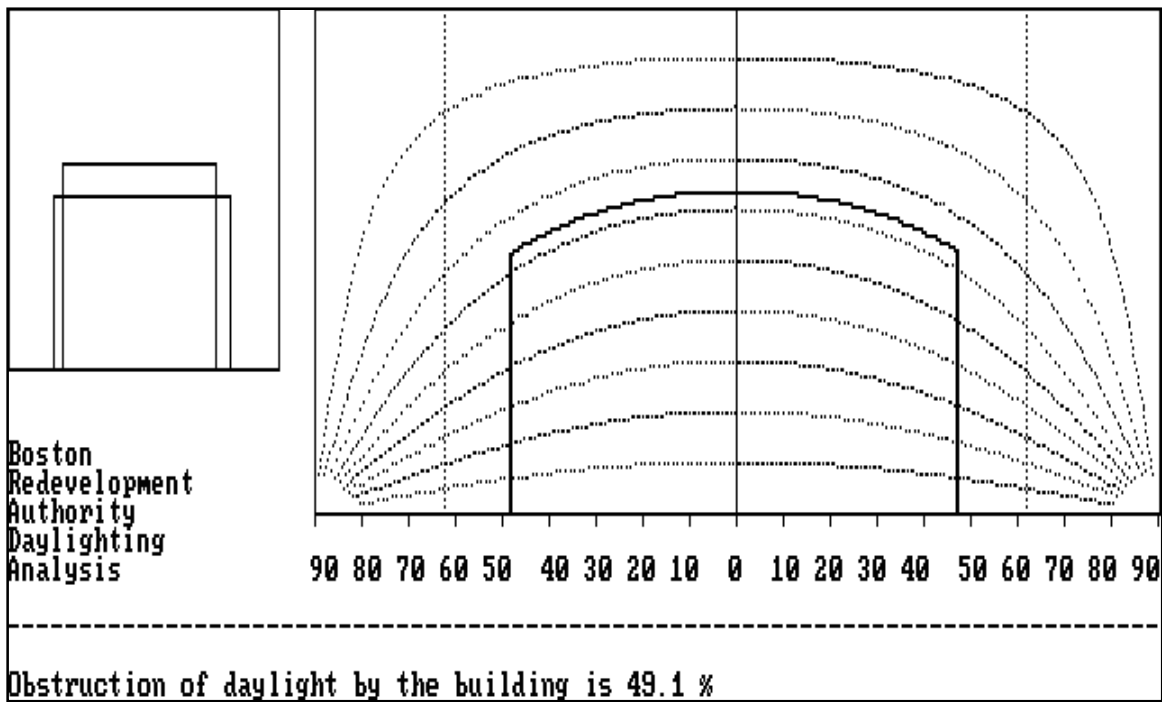
Viewpoint 2: View from Gove Street facing north toward the 128-134 parcel and the Church Building



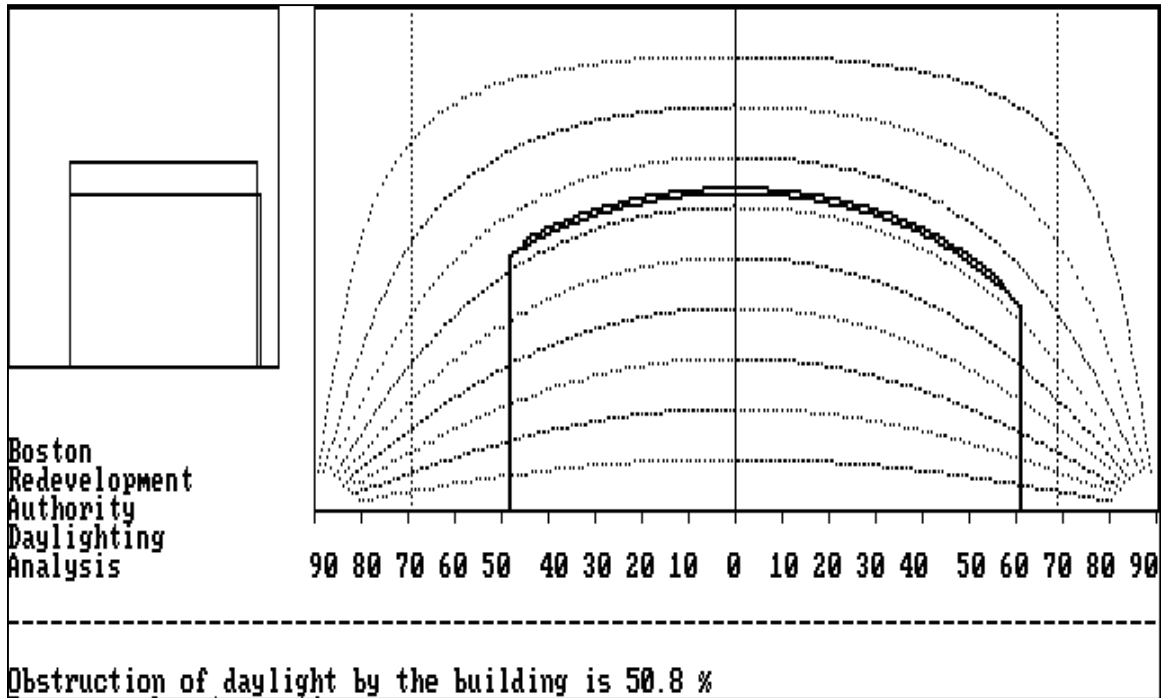
Viewpoint 3: View from Frankfort Street facing southeast toward the Church Building



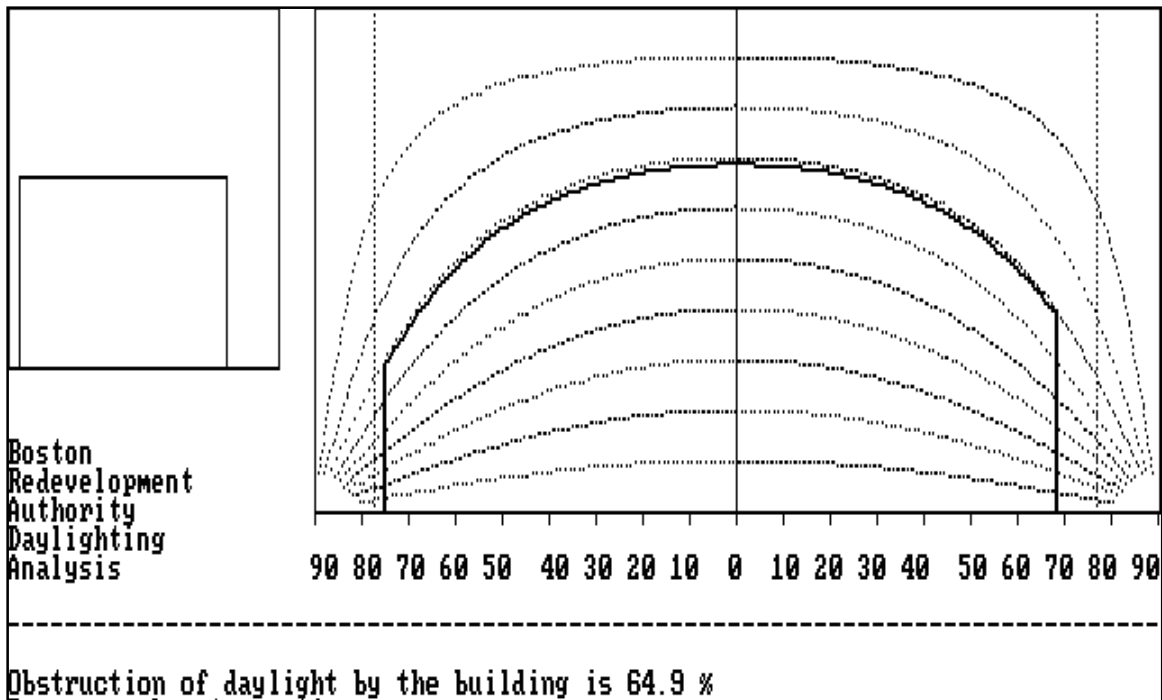
Viewpoint 4: View from Gove Street facing southwest toward the 115 Gove Street parcel



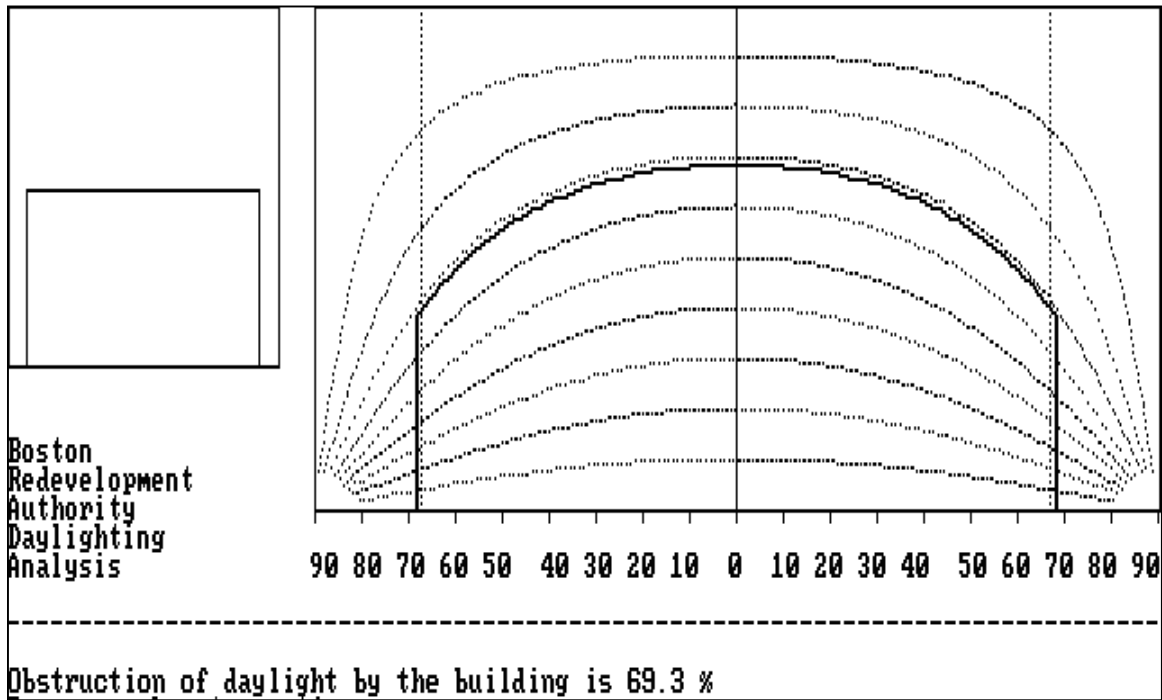
Viewpoint 5: View from Frankfort Street facing southeast toward the Frankfort Street parcel



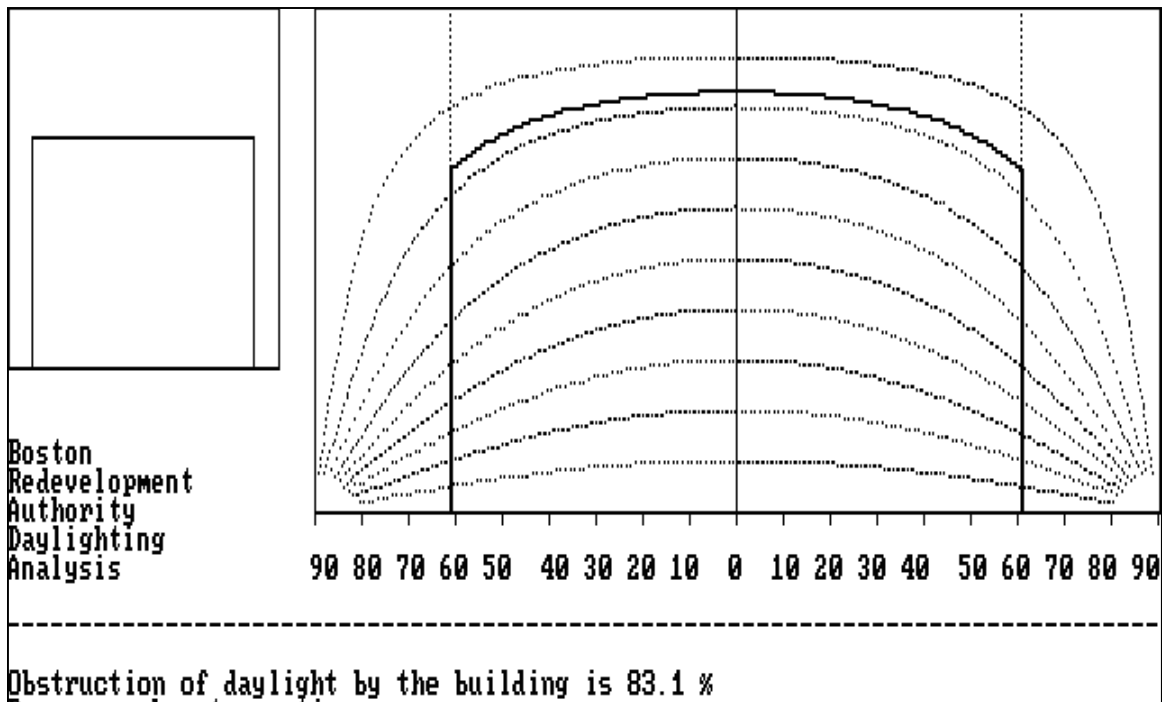
Viewpoint 6: View from Frankfort Street facing southeast toward the Frankfort Street parcel



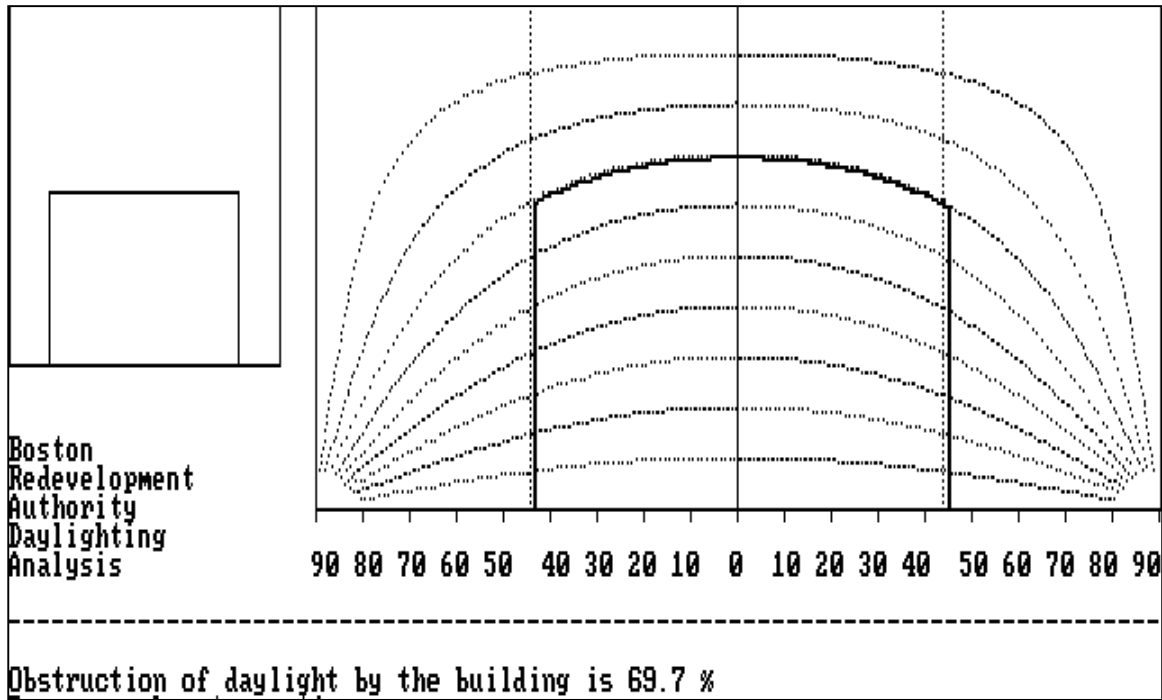
AC1: View from Gove Street facing southwest toward 99 Gove Street



AC2: View from Orleans Street facing northwest toward 150 Orleans Street



AC3: View from Orleans Street facing southeast toward 117 Orleans Street



4.4 Solar Glare

The Project materials are still being studied and glazing of the windows will be determined as the design progresses. Due to the type of potential glass and glazing proposed, solar glare impacts are not currently anticipated.

4.5 Air Quality

4.5.1 Introduction

BPDA requires that proposed projects evaluate the air quality in the local area, and assess any adverse air quality impacts attributable to the project. The BPDA guidelines state that impacts from stationary sources (boilers, engines) and mobile sources (vehicles) must be addressed.

4.5.2 BPDA Air Quality Analysis Requirements

BPDA Guidelines state:

A mesoscale analysis predicting the change in regional emissions of volatile organic compounds ("VOCs") and nitrogen oxides ("NOx") should be performed for projects that generate more than 10,000 vehicle trips per day. The above analyses shall be conducted in accordance with the modeling protocols established by the Massachusetts Department of Environmental Protection (and the U.S. Environmental Protection Agency).

For this Project, the vehicle trip threshold is not exceeded. Therefore, a mesoscale analysis was not prepared.

BPDA Guidelines also state:

A microscale analysis predicting localized carbon monoxide concentrations should be performed, including identification of any locations projected to exceed the National or Massachusetts Ambient Air Quality Standards, for projects in which: 1) project traffic would impact intersections or roadway links currently operating at Level of Service ("LOS") D, E, or F or would cause LOS to decline to D, E, or F; 2) project traffic would increase traffic volumes on nearby roadways by 10% or more (unless the increase in traffic volume is less than 100 vehicles per hour); or, 3) the project will generate 3,000 or more new average daily trips on roadways providing access to a single location.

For this Project, the transportation analysis shows that Project traffic shows no intersections are currently operating at LOS D or worse, or projected to operate at LOS D or worse for future cases. Therefore a microscale analysis is not required. All intersections evaluated in

the transportation analysis in Section 2.0 are below the BPDA thresholds requiring a microscale analysis of carbon monoxide. Additionally, the Project doesn't generate enough traffic to require a mesoscale vehicle emissions quantification analysis.

Any new stationary sources will be reviewed by the Massachusetts Department of Environmental Protection during permitting under the Environmental Results Program, as required. It is expected that all stationary sources will be small, and any impacts from stationary sources would be insignificant.

Therefore, a qualitative assessment of current air quality in the area is presented.

4.5.3 National Ambient Air Quality Standards and Background Concentrations

Background air quality concentrations and federal air quality standards were utilized to conduct the above air quality impact analyses. Federal National Ambient Air Quality Standards (NAAQS) were developed by the U.S. Environmental Protection Agency (EPA) to protect the human health against adverse health effects with a margin of safety. The modeling methodologies were developed in accordance with the latest Massachusetts Department of Environmental Protection (MassDEP) modeling policies and Federal modeling guidelines.² The following sections outline the NAAQS standards and detail the sources of background air quality data.

4.5.3.1 National Ambient Air Quality Standards

The 1970 Clean Air Act was enacted by the U.S. Congress to protect the health and welfare of the public from the adverse effects of air pollution. As required by the Clean Air Act, EPA promulgated NAAQS for the following criteria pollutants: nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (PM-10 and PM-2.5), carbon monoxide (CO), ozone (O₃), and lead (Pb). The NAAQS are listed in Table 4.5-1. Massachusetts Ambient Air Quality Standards (MAAQS) are typically identical to NAAQS (differences are highlighted in **bold** in Table 4.5-1).

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

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

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

Table 4.5-1 National (NAAQS) and Massachusetts (MAAQs) Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu\text{g}/\text{m}^3$)		MAAQs ($\mu\text{g}/\text{m}^3$)	
		Primary	Secondary	Primary	Secondary
NO ₂	Annual (1)	100	Same	100	Same
	1-hour (2)	188	None	None	None
SO ₂	Annual (1)(9)	80	None	80	None
	24-hour (3)(9)	365	None	365	None
	3-hour (3)	None	1300	None	1300
	1-hour (4)	196	None	None	None
PM-2.5	Annual (1)	12	15	None	None
	24-hour (5)	35	Same	None	None
PM-10	Annual (1)(6)	None	None	50	Same
	24-hour (3)(7)	150	Same	150	Same
CO	8-hour (3)	10,000	Same	10,000	Same
	1-hour (3)	40,000	Same	40,000	Same
Ozone	8-hour (8)	147	Same	235	Same
Pb	3-month (1)	1.5	Same	1.5	Same

(1) Not to be exceeded.

(2) 98th percentile of one-hour daily maximum concentrations, averaged over three years.

(3) Not to be exceeded more than once per year.

(4) 99th percentile of one-hour daily maximum concentrations, averaged over three years.

(5) 98th percentile, averaged over three years.

(6) EPA revoked the annual PM-10 NAAQS in 2006.

(7) Not to be exceeded more than once per year on average over three years.

(8) Annual fourth-highest daily maximum eight-hour concentration, averaged over three years.

(9) EPA revoked the annual and 24-hour SO₂ NAAQS in 2010. However, they remain in effect until one year after the area's initial attainment designation, unless designated as "nontainment".

4.5.3.2 Background Concentrations

To estimate background pollutant levels representative of the area, the most recent air quality monitor data reported by the MassDEP in their Annual Air Quality Reports was obtained for 2014 to 2016. The three-hour and 24-hour SO₂ values are no longer reported in the annual reports. Data for these pollutant and averaging time combinations were obtained from the EPA's AirData website.

The Clean Air Act allows for one exceedance per year of the CO and SO₂ short-term NAAQS per year. The highest second-high accounts for the one exceedance. Annual NAAQS are never to be exceeded. The 24-hour PM-10 standard is not to be exceeded more than once per year on average over three years. To attain the 24-hour PM-2.5 standard, the three-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu\text{g}/\text{m}^3$. For annual PM-2.5 averages, the average of the highest yearly

observations was used as the background concentration. To attain the one-hour NO₂ standard, the three-year average of the 98th percentile of the maximum daily one-hour concentrations must not exceed 188 µg/m³.

Background concentrations were determined from the closest available monitoring stations to the proposed development. All pollutants are not monitored at every station, so data from multiple locations are necessary. The closest monitor is at 174 North Street (1.1 miles west-southwest), but this site only samples PM-2.5. The next closest site is at Kenmore Square, roughly 3.5 miles west-southwest of the Project location. However, this site only samples for SO₂ and NO₂. A site on Harrison Avenue is roughly 3.7 miles southwest of the Project. This site samples for the remaining pollutants. A summary of the background air quality concentrations are presented in Table 4.5-2.

Table 4.5-2 Observed Ambient Air Quality Concentrations and Selected Background Levels

Pollutant	Averaging Time	2014	2015	2016	Background Concentration (µg/m ³)	NAAQS	Percent of NAAQS
SO ₂ (1)(6)	1-Hour (5)	25.4	14.4	10.7	16.9	196.0	9%
	3-Hour	24.6	11.5	10.0	24.6	1300.0	2%
	24-Hour	13.1	7.6	5.2	13.1	365.0	4%
	Annual	2.5	1.3	1.1	2.5	80.0	3%
PM-10	24-Hour	53.0	30.0	30.0	53.0	150.0	35%
	Annual	14.9	14.2	14.1	14.9	50.0	30%
PM-2.5	24-Hour (5)	14.4	16.7	14.7	15.2	35.0	44%
	Annual (5)	6.9	7.3	7.7	7.3	12.0	61%
NO ₂ (3)	1-Hour (5)	92.1	105.3	88.4	95.3	188.0	51%
	Annual	32.3	32.5	28.3	32.5	100.0	33%
CO (2)	1-Hour	1963.1	1560.9	2750.4	2750.4	40000.0	7%
	8-Hour	1489.8	1031.4	2062.8	2062.8	10000.0	21%
Ozone (4)	8-Hour	106.0	109.9	113.9	113.9	147.0	77%
Lead	Rolling 3-Month	0.014	0.016	0.017	0.017	0.15	12%

Notes:

From 2012-2014 EPA's AirData Website

(1) SO₂ reported ppb. Converted to µg/m³ using factor of 1 ppm = 2.62 µg/m³.

(2) CO reported in ppm. Converted to µg/m³ using factor of 1 ppm = 1146 µg/m³.

(3) NO₂ reported in ppb. Converted to µg/m³ using factor of 1 ppm = 1.88 µg/m³.

(4) O₃ reported in ppm. Converted to µg/m³ using factor of 1 ppm = 1963 µg/m³.

(5) Background level is the average concentration of the three years.

(6) The 24-hour and Annual standards were revoked by EPA on June 22, 2010, Federal Register 75-119, p. 35520.

Air quality in the vicinity of the Project site is generally good, with all local background concentrations found to be well below the NAAQS.

4.5.4 Stationary Sources

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

It is expected that the majority of stationary sources (boilers, engines, etc.) may be subject to the MassDEP's Environmental Results Program (ERP). The Proponent will complete the required applications and submittals for the equipment, as necessary.

4.5.5 Mobile Sources

Mobile sources of air pollution include gasoline, diesel, and natural gas fueled vehicles. Emissions from mobile sources have continually decreased as engine technology and efficiency have been improved.

Given that the Project does not significantly increase vehicle volumes, and does not affect any already poorly functioning intersections, it can be reasonably assumed that the vehicle trips generated by the Project will not cause adverse air quality impacts in the area.

4.6 Stormwater/Water Quality

Section 8.0 includes a discussion of stormwater and water quality.

4.7 Flood Hazard Zones/Wetlands

The most current version of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston – Community Panel Number 25025C0081J, effective March 16, 2016, indicates the FEMA Flood Zone Designations for the site area. The map shows that the Project is located within the 100-year flood zone.

The design team is studying the incorporation of a number of measures to mitigate against flood impacts, including:

- ◆ Placing essential mechanical equipment above the future flood level;
- ◆ Water-tight utility conduits;
- ◆ Wastewater backflow prevention; and
- ◆ Reliant materials on the first floor that can either withstand flooding or easily be replaced.

The Project site does not contain wetlands.

4.8 Geotechnical Impacts

Design Consultants, Inc. (DCI) has provided a summary report for the geotechnical investigations at the former Our Lady of Mount Carmel property and associated buildings located at the corner of Gove Street and Frankfort Street in East Boston. The Project consists of the following:

- ◆ Demolishing the existing Convent Building (115 Gove Street) and removing the adjoining parking lot on Frankfort Street;
- ◆ Removing the existing Rectory Building and its addition (120 Gove Street);
- ◆ Rehabilitating the Church Building (120 Gove Street);
- ◆ Constructing a new four-story structure at 128 Gove Street and along Frankfort Street to Gove Street.

The proposed structure along Frankfort Street is intended to have an underground garage. The lower garage area will be accessed by from Frankfort Street. It is also anticipated that the new structures will be connected to the existing Boston Water and Sewer utilities.

DCI conducted subsurface investigations and prepared the following geotechnical engineering summary, below. This section summarizes the findings and conclusions from the study. The primary objective of the investigations was to obtain sufficient subsurface data to assist with the preliminary design and earthwork program.

4.8.1 Sub-soil Conditions

DCI worked with EBI Consultants, Inc. (EBI) to develop the subsurface investigation plan discussed below and shown in Attachment C. Borings were observed by a DCI geotechnical engineer. Boring logs are provided in Attachment C and are summarized in Table 4.8-1.

A total of ten borings (B-1 through B-10) were located at the site. Two borings (B-1 and B-2) were located north of the existing Rectory Building; two borings were located in Gove Street (B-3 and B-4); and six borings (B-5 through B-10) were located south of the former convent and in the vacant parking lot. DCI developed coordinates for the ten boring locations and surveyed them at the site to sub-meter accuracy.

The borings were drilled to depths ranging from 29- to 42-feet. Borings were advanced using a combination of hollow stem auger and drive-and-wash drilling techniques. Split spoon samples and standard penetration test (SPTs) were typically collected at the surface and at approximate five-foot intervals. Continuous samples were collected at times to identify potential unsuitable materials, such as organics.

Table 4.8-1 Summary of Boring Data

Borehole	Approx. Ground Elevation (Boston City Base)	Est. Bottom of Fill		Est. Bottom of Organic Sand/Silt/Clay and Peat		Boring Depth (ft)
		Depth (ft)	Elevation	Depth (ft)	Elevation	
B-1	18.0	8.5	9.5	19.3	-1.3	29.0
B-2	18.0	6.5	11.5	18.5	-0.5	32.0
B-3	17.0	10.0	7	17.0	0	29.0
B-4	17.5	10.5	7	16.0	1.5	29.0
B-5	17.5	14.0	3.5	18.5	-1.0	37.0
B-6	17.5	14.5	3	18.5	-1.0	37.0
B-7	17.5	12.5	5	20.0	-2.5	29.0
B-8	17.5	10.0	7.5	18.5	-1.0	32.0
B-9	17.5	11.0	6.5	18.0	-0.5	42.0
B-10	17.5	10.5	7	17.0	0.5	32.0

The borings generally encountered the following subsurface conditions from the ground surface to depth:

Concrete and Asphalt – Seven of the ten borings encountered a four-inch thick layer of concrete (B-1 and B-2) or a one- to six-inch thick layer of old asphalt (B-3, B-4, B-8, B-9 and B-10) at the ground surface.

Topsoil – Three borings (B-5, B-6 and B-7) encountered a two- to four-inch thick topsoil layer consisting of a silty sand with little organics.

Urban Fill – All borings encountered a near surface fill layer consisting of sand with little to some silt and trace to little gravel, or sand and silt (silt and sand) with varying amounts of gravel. The fill also contained trace to little glass, brick, coal ash and wood. The fill was encountered to an estimated depth of 3.5-feet (B-5) to 11.5-feet (B-2). SPTs indicate that the material is generally loose to medium dense, or soft to medium stiff.

Organic Sand/Silt/Clay and Peat – Below the fill, all borings encountered a layer of stratified sand, silt and clay with varying amounts of organic material. Distinct layers of peat were encountered in this zone. In four borings (B-1, B-2, B-4 and B-5) the peat layers varied for 2- to 18-inches-thick. In the remaining borings (B-3, and B-6 through B-10) the peat layer was more significant and ranged from two- to seven-feet thick. Clay and Silt – Three borings (B-1, B-2 and B-3) encountered a layer of clay and .The underlying clay and silt layer is medium stiff to very stiff.

Stratified Sand, Silt and Clay – Several borings (B-3 through B-10) encountered stratified layers of sand, silt and clay to the bottom of the borehole. The stratified sand, silt and clay ranges from being medium dense to dense to medium stiff to very stiff.

4.8.2 Groundwater

Groundwater observations were made at the time of drilling between April 19 and April 24, 2017. DCI’S observations are provided in Table 4.8-2. Groundwater was observed to be about 9- to 10-feet (about El. 8.5 to El. 7.0) below the existing ground surface. Groundwater observations are expected to fluctuate and higher levels will be factored into the foundation design.

Table 4.8-2 Summary of Groundwater Observations

Borehole	Approx. Ground Elevation (Boston City Base)	Date	Est. Groundwater Observation	
			Depth (ft)	Elevation
B-1	18.0	4/21/17	10.0	8.0
B-2	18.0	4/21/17	10.0	8.0
B-3	17.0	4/20/17	10.0	7.0
B-4	17.5	4/20/17	10.0	7.5
B-5	17.5	4/24/17	9.0	8.5
B-6	17.5	4/24/17	9.0	8.5
B-7	17.5	4/20/17	10.0	7.5
B-8	17.5	4/19/17	10.0	7.5
B-9	17.5	4/19/17	10.0	7.5
B-10	17.5	4/19/17	10.0	7.5

4.8.3 Groundwater Conservation Overlay District

The site is not located within a Groundwater Conservation Overlay District as outline in Article 32 of the City of Boston Zoning Code.

4.9 Solid and Hazardous Waste

4.9.1 Hazardous Waste

Prior to any demolition or renovation to the existing structures a survey for asbestos will be performed in accordance with applicable Federal, State, and local regulatory requirements (including AHERA and 310 CMR 7.00) as well as applicable asbestos-industry standards.

Lead-containing paint survey will be conducted for compliance with OSHA Lead in Construction regulation CFR 1926.62. A survey will also be performed for other hazardous materials including PCBs and Universal Wastes.

4.9.2 *Operation Solid and Hazardous Waste Generation*

The Project will generate solid waste typical of other residential projects. Solid waste generated by the Project will be approximately 106 tons per year, based on the number of bedrooms proposed at a generation rate of four pounds (lbs) per bedroom per day. Other than typical wastes generated by residential use (e.g., paint, detergents, etc.), no hazardous wastes are anticipated to be generated by the Project.

4.9.3 *Recycling*

Recyclable materials will be recycled through a program implemented by building management.

The building will include areas for trash collection and recycling collection on each floor, and a trash room in close proximity to the loading dock. Recycling facilities will be provided on-site for paper, glass, plastic and metal.

4.10 Noise Impacts

The City of Boston has both a noise ordinance and noise regulations. Chapter 16 §26 of the Boston Municipal Code sets the general standard for noise that is unreasonable or excessive: louder than 50 decibels between the hours of 11:00 p.m. and 7:00 a.m., or louder than 70 decibels at all other hours. The Boston Air Pollution Control Commission (APCC) has adopted regulations based on the City's ordinance – "Regulations for the Control of Noise in the City of Boston", which distinguish among residential, business, and industrial districts in the City. In particular, APCC Regulation 2 is applicable to the sounds from the Proposed Project.

Table 4.10-1 below presents the "Zoning District Noise Standards" contained in Regulation 2.5 of the APCC "Regulations for the Control of Noise in the City of Boston," adopted December 17, 1976. These maximum allowable sound pressure levels apply at the line of the receiving property. Zoning District Standards are presented below in Table 4.10-1.

Table 4.10-1 City of Boston Zoning District Noise Standards, Maximum Allowable Sound Pressure Levels

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

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

Additionally, the MassDEP has the authority to regulate noise under 310 CMR 7.10, which is part of the Commonwealth's air pollution control regulations. According to MassDEP, "unnecessary" noise is considered an air contaminant and thus prohibited by 310 CMR 7.10. The MassDEP administers this regulation through Noise Policy DAQC 90-001 which limits a source to a 10-dBA increase above the L90 ambient sound level measured at the Project property line and at the nearest residences. The MassDEP policy further prohibits "pure tone" conditions where the sound pressure level in one octave-band is 3 dB or more than the sound levels in each of two adjacent bands.

While the details of the mechanical equipment associated with the Project have not yet been precisely determined, steady operational noise from stationary sources will primarily involve heating, cooling, and ventilation equipment for the residential units. During the final design phase of the Project, mechanical equipment will be specified to meet the applicable City of Boston and MassDEP noise limits. Reasonable efforts will be made, if necessary, to minimize noise impacts from the Project using routinely employed methods of noise control.

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

4.11 Construction Impacts

4.11.1 *Introduction*

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

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

During the construction phase of the Project, the Proponent will provide the name, telephone number and address of a contact person to communicate with on issues related to the construction.

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

4.11.2 *Construction Methodology/Public Safety*

Construction methodologies that ensure public safety and protect nearby tenants will be employed. Techniques such as barricades and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and the control of noise and dust.

As the design of the Project progresses, the Proponent will meet with BTD to discuss the specific location of barricades, the need for lane closures, pedestrian walkways, and truck queuing areas. Secure fencing, signage, and covered walkways may be employed to ensure the safety and efficiency of all pedestrian and vehicular traffic flows. In addition, sidewalk areas and walkways near construction activities will be well marked and lighted to protect pedestrians and ensure their safety. Public safety for pedestrians on abutting sidewalks will also include covered pedestrian walkways when appropriate. If required by BTD and the

Boston Police Department, police details will be provided to facilitate traffic flow. These measures will be incorporated into the CMP which will be submitted to BTB for approval prior to the commencement of construction work.

4.11.3 *Construction Schedule*

It is anticipated that construction activities will start in the third quarter of 2019, with completion by the first quarter of 2021. The Project is proposed to be built in one phase; however, it may be necessary to separate the rehabilitation of the Church Building from the construction of the Frankfort Street Building.

Typical construction hours will be from 7:00 a.m. to 6:00 p.m., Monday through Friday, with most shifts ordinarily ending at 3:30 p.m. No substantial sound-generating activity will occur before 7:00 a.m. If longer hours, additional shifts, or Saturday work is required, the construction manager will place a work permit request to the Boston Air Pollution Control Commission and BTB in advance. Notification should occur during normal business hours, Monday through Friday. It is noted that some activities such as finishing activities could run beyond 6:00 p.m. to ensure the structural integrity of the finished product; certain components must be completed in a single pour, and placement of concrete cannot be interrupted.

4.11.4 *Construction Staging/Access*

Access to the Project site and construction staging areas will be provided in the CMP.

Although specific construction and staging details have not been finalized, the Proponent and its construction management consultant will work to ensure that staging areas will be located to minimize impacts to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic adjacent to the Project site. Construction procedures will be designed to meet all Occupational Safety and Health Administration (OSHA) safety standards for specific site construction activities.

4.11.5 *Construction Mitigation*

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

A CMP will be submitted to BTB for review and approval prior to issuance of a Building Permit. The CMP will include detailed information on specific construction mitigation measures and construction methodologies to minimize impacts to abutters and the local community. The CMP will also define truck routes which will help in minimizing the impact of trucks on City and neighborhood streets.

“Don’t Dump - Drains to Boston Harbor” plaques will be installed at storm drains that are replaced or installed as part of the Project.

4.11.6 Construction Employment and Worker Transportation

The number of workers required during the construction period will vary. It is anticipated that approximately 124 construction jobs will be created over the length of construction. The Proponent will make reasonable good-faith efforts to have at least 51% of the total employee work hours be for Boston residents, at least 40% of total employee work hours be for minorities and at least 12% of the total employee work hours be for women. The Proponent will enter into jobs agreements with the City of Boston.

Construction worker parking will be available at the Project site, however, all workers will be strongly encouraged to use public transportation and ridesharing options. The general contractors will work aggressively to ensure that construction workers are well informed of the public transportation options serving the area. Space on-site will be made available for workers' supplies and tools so they do not have to be brought to the Project site each day.

4.11.7 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period, depending on the activity. The construction team will manage deliveries to the Project site during morning and afternoon peak hours in a manner that minimizes disruption to traffic flow on adjacent streets. Construction truck routes to and from the Project site for contractor personnel, supplies, materials, and removal of excavations required for the development will be coordinated with BTM. Traffic logistics and routing will be planned to minimize community impacts. Truck access during construction will be determined by the BTM as part of the CMP. These routes will be mandated as a part of all subcontractors’ contracts for the development. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity.

“No Idling” signs will be included at the loading, delivery, pick-up and drop-off areas.

4.11.8 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected during demolition, excavation and the early phases of construction. Plans for controlling fugitive dust during demolition, excavation and construction include mechanical street sweeping, wetting portions of the Project site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts, pursuant to this Article 80 approval. These measures are expected to include:

- ◆ Using wetting agents on areas of exposed soil on a scheduled basis;

- ◆ Using covered trucks;
- ◆ Minimizing spills on the construction site;
- ◆ Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- ◆ Minimizing storage of debris on the construction site; and
- ◆ Periodic street and sidewalk cleaning with water to minimize dust accumulations.

4.11.9 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities.

Mitigation measures are expected to include:

- ◆ Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- ◆ Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- ◆ Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- ◆ Replacing specific construction operations and techniques by less noisy ones where feasible;
- ◆ Selecting the quietest of alternative items of equipment where feasible;
- ◆ Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- ◆ Turning off idling equipment; and
- ◆ Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

4.11.10 Construction Waste

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

4.11.11 Protection of Utilities

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

4.11.12 Rodent Control

A rodent extermination certificate will be filed with each building permit application for the Project. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for each phase of the Project, in compliance with the City's requirements.

Chapter 5

Sustainable Design and Climate Change Preparedness

5.0 SUSTAINABLE DESIGN AND CLIMATE CHANGE PREPAREDNESS

5.1 Introduction

The Project site was formerly used as Our Lady of Mount Carmel Church and contains associated Rectory and Convent Buildings, and a parking lot. The main Church Building, which is located at 120 Gove Street, will be salvaged and renovated into residential use. The Rectory Building located at 128-134 Gove Street, and the Convent Building located across the street are both compromised structurally, and will therefore be removed. The development will serve to invigorate this section of East Boston and bring life to vacant buildings.

The Project will be constructed as distinct buildings along Gove Street and Frankfort Street. Overall, the Project will create 112 condominium units with associated parking and open space. The Church Building located on the corner of Frankfort and Gove Street will be restored and renovated into approximately 13 residential units. The second portion of the Project along Gove Street, which is the site of the former Rectory Building, will be transformed into a new landscaped corner with integrated parking to serve the Church Building renovation.

The proposed Frankfort Street Building will be located across Gove Street and will contain approximately 98 units. This building will be constructed to include two distinct designs. The first portion will be a six-story building with set-backs along the sixth floor. As the building moves along Frankfort Street, it will step down to four-stories, with a fourth-floor pullback matching the massing and height of the surrounding buildings. This section of the building will employ a row house style design to match context of the existing structures across the street as you move along Frankfort Street. Condominium sizes will include one- and two-bedroom units in flat and loft styles. There will be one common deck amenity and several private roof decks. Underground parking at Frankfort Street and some additional ground level parking at Gove Street will be provided.

Sustainability has been a priority for the Project from the beginning of design. The Project team aims to design the Project to LEEDv4-NC Silver standards. The team is focused on resiliency, durability, energy savings, and quality of living. Because the Project is in a BPDA flood zone, the team intends to mitigate potential damage and losses by placing living spaces and equipment above street level. Indoor environmental comfort and air quality, energy performance, and occupant access to the outdoors will all be incorporated into the buildings. The buildings will feature a variety of sustainable materials in both common and living spaces.

5.2 Sustainable Design

The Project team is currently targeting a LEED Silver level. 40 out of a possible 110 points in the LEEDv4 BD+C: New Construction and Major Renovation rating system have been identified as achievable and an additional 44 points are under ongoing consideration for eligibility and feasibility. As the Project develops, the final point total should place the Project within the anticipated range for silver, which requires 50 points.

Location and Transportation

The Project team has identified 4 achievable points out of a possible 16 points, with an additional potential 9 points which require further evaluation.

The points will be achieved through access to quality transit, and diverse land uses (i.e., food retail, community-serving retail, services, civic and community services, and community anchor uses). Additional points may be achieved under each of these credits, pending the outcome of calculations. Also, additional points are possible for development in a historic neighborhood, bicycle facilities, and a reduced parking permit, pending further research and Project team decisions.

Sustainable Sites

The Project team has identified 4 achievable points out of a possible 10 points, with an additional potential 5 points requiring further evaluation.

The achievable points are based on rainwater management, and a reduction of heat island effect of roofing, decking, and paving materials. Additional points may be available pending calculations of open space and vegetation available for habitat. A Site Assessment may also contribute. The Project team will continue to track and evaluate the feasibility of the open space and habitat credits, and further define the rainwater management and heat island mitigation efforts.

Water Efficiency

For the Water Efficiency category, the Project team was able to identify 3 target points out of a possible 11 points.

Landscape irrigation requirements will be achieved with the incorporation of drought-resistance plants and irrigation system efficiency. Indoor water use will be reduced at least 20%, and possibly up to 40%, using low-flow fixtures in residences and communal areas, as well as EnergyStar-rated eligible appliances. Full-building water meters will be installed, and the Project team is weighing the option of submetering.

Energy & Atmosphere

The Project team currently expects to achieve approximately 12 points of the possible 33 points. An additional 9 points may be possible pending further calculations and Project team decisions.

Enhanced commissioning is expected to be conducted, and exterior envelope commissioning may be conducted as well. Energy use will be optimized to achieve a goal of 20% reduction over baseline. Additional points may be possible pending final design of envelope and mechanical systems. Submetering of the energy systems is currently anticipated, and solar panels are under consideration. Achievement of the Enhanced Refrigerant Management credit depends on the final selection of mechanical equipment, and purchase of green power and/or carbon offsets are an option if additional points are necessary to meet certification goals.

Materials and Resources

Out of 13 possible Materials and Resources points, the Project team has identified 5 achievable points.

Three of the points will be achieved via specification of materials for which manufacturers provide disclosure and transparency, in form of Environmental Product Declarations (EPDs). The Project team will aim to use materials that are verified to minimize use and generation of harmful substances and to have improved life-cycle impacts. Raw materials sourced in a responsible manner will be specified where possible and cost-effective, and reuse of the Church Building will also contribute. Additional points may be available for use of greater quantities of environmentally preferable materials. The final number of points will depend on Project and materials cost tally. Also depending on quantities, exemplary performance points may be available for these credits.

An additional 2 points are anticipated for diverting waste streams from the landfill through recycling, reuse, and repurposing.

Indoor Environmental Quality

Indoor environmental quality is a priority for the Project. Out of 16 possible IEQ points, the team has identified 9 as achievable.

A Construction Indoor Air Quality Management Plan will be developed and implemented during construction for the benefit of the construction team as well as future occupants. Low-emitting products including paints and coatings, adhesives and sealants, flooring materials, composite woods, and ceilings, walls, and insulation will be specified.

Future building occupants will have a high degree of controllability over their spaces, including thermostats and operable windows in the units, and the HVAC systems will be designed to meet ASHRAE 55-2010 standards. Areas designed for chemical use and storage will be ventilated directly to the exterior, and entry mats and air filtration systems will prevent air contaminants from entering the building. Quality views will be available from most occupied spaces, and residents will enjoy acoustic isolation from exterior background noise and neighboring units.

Innovation and Design

The Project team has established numerous strategies for acquiring the points associated with both exemplary performance of some of the credits in other categories, as well as innovative ways to address sustainability not covered by existing credits in the Building Design & Construction rating system. The final strategies chosen for implementation will be determined based on final calculations and decisions from the Project team and will include a combination of approaches to earn at least 3 points, and up to all 6, offered in this category.

The exemplary strategies may include (pending final calculation numbers): minimum of 40 products from five manufacturers with qualified EPDs, a minimum of 40 products that meet the material ingredient reporting requirements will be installed, or 100 percent of the parking will be placed under cover to reduce heat island effect. Similarly, the innovative strategies implemented may include a green education campaign for occupants and visitors, or a green housekeeping policy for base building services. Additionally, the Project will earn 1 of the 6 points through the inclusion of a LEED Accredited Professional on the core Project team.

Regional Priority Credits

The 4 points available in this category are contingent upon meeting certain thresholds for credits in other categories, as determined by the USGBC. Out of 5 possibilities considered especially significant for the Project location (based on zip code), the 3 most achievable options for the Regional Priority category related to the following strategies: use of a high-priority site, rainwater management, and indoor water use reduction. Additional possibilities include renewable energy production and optimization of energy performance (threshold 8 points).

The points in this category are automatically awarded pending award of the original credits to which they are linked.

5.3 Climate Change Resilience

5.3.1 Introduction

Climate change conditions considered by the Project team include higher maximum and mean temperature, more frequent and longer extreme heat events, more frequent and longer droughts, more severe freezing rain and heavy rainfall events, and increased wind gusts.

The expected life of the Project is anticipated to be approximately 50 years. Therefore, the Proponent has planned for climate-related conditions projected 50 years into the future. A copy of the completed Checklist is included in Attachment D. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses.

5.3.2 Extreme Heat Events

The Intergovernmental Panel on Climate Change (IPCC) has predicted that in Massachusetts the number of days with temperatures greater than 90°F will increase from the current five-to-twenty days annually, to thirty-to-sixty days annually.¹ The Project design will incorporate a number of measures to minimize the impact of high temperature events, including:

- ◆ Installing operable windows where possible;
- ◆ Planting shade trees around the site;
- ◆ Installing a high performance building envelope; and
- ◆ Specifying high reflective paving materials, high albedo roof tops and green roofs to minimize the heat island effect.

Energy modeling for the Project has not yet been completed; however, the Proponent will strive to reduce the Project's overall energy demand and greenhouse gas emissions that contribute to global warming. The Proponent will encourage alternative modes of transportation through the Project's TDM program, as described in Section 3.8.2.3.

¹ IPCC (Intergovernmental Panel on Climate Change), 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Avery, M. Tignor, and H. L. Miller (eds.)]. Cambridge University Press, Cambridge, UK, and New York, 996 pp.

5.3.3 Rain Events

As a result of climate change, the Northeast is expected to experience more frequent and intense storms. To mitigate this, the Proponent will take measures to minimize stormwater runoff and protect the Project's mechanical equipment. The Project will be designed to reduce the existing peak rates and volumes of stormwater runoff from the site, and promote runoff recharge to the greatest extent practicable. The Project is investigating if a closed drainage system is possible.

5.3.4 Drought Conditions

Although more intense rain storms are predicted, extended periods of drought are also predicted due to climate change. Under the high emissions scenario, the occurrence of droughts lasting one to three months could go up by as much as 75% over existing conditions by the end of the century. To minimize the Project's susceptibility to drought conditions, the landscape design is anticipated to incorporate native and adaptive plant materials and a high efficiency irrigation system will be installed. Aeration fixtures and appliances will be chosen for water conservation qualities, conserving potable water supplies.

5.4 Renewable Energy

The Proponent will evaluate the potential for a roof-mounted solar photovoltaic (PV) system, and the availability of grants and renewables funding. Due to the spacing of the windows on the Church Building, space for a solar PV system is limited. The amount of space suitable for the Project is limited due to the mechanical needs and the proposed roof deck amenity space for the Frankfort Street building. Approximately 477 sf of rooftop area could potentially be used for solar PV panels, after taking into account the space available for solar PV panels, as well as space necessary around the panels, between panels, etc. Assuming 12 watts per square foot, this allows for an approximately 6 kW array. In the locations proposed, an installation of this solar array equals an annual generation of approximately 7.8 MW hours. The feasibility of installing a solar PV system will be further evaluated and determined at the time of construction.



LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Gove Street + Frankfort Street Housing

4/2/2018

Y ? N

	1		Credit 1	Integrative Process	1
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4	9	3	Location and Transportation		Possible Points:	16
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-	-	-	Credit 1	LEED for Neighborhood Development Location	16
		1	Credit 2	Sensitive Land Protection	1
	2		Credit 3	High Priority Site	2
2	2	1	Credit 4	Surrounding Density and Diverse Uses	5
2	3		Credit 5	Access to Quality Transit	5
	1		Credit 6	Bicycle Facilities	1
	1		Credit 7	Reduced Parking Footprint	1
		1	Credit 8	Green Vehicles	1

4	5	1	Sustainable Sites		Possible Points:	10
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Y			Prereq 1	Construction Activity Pollution Prevention	Required
	1		Credit 1	Site Assessment	1
	2		Credit 2	Site Development--Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
2	1		Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
		1	Credit 6	Light Pollution Reduction	1

3	4	4	Water Efficiency		Possible Points:	11
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Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
1	1		Credit 1	Outdoor Water Use Reduction	2
2	2	2	Credit 2	Indoor Water Use Reduction	6
		2	Credit 3	Cooling Tower Water Use	2
	1		Credit 4	Water Metering	1

12	9	12	Energy and Atmosphere		Possible Points:	33
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Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
3	2	1	Credit 1	Enhanced Commissioning	6
8	3	7	Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
		2	Credit 4	Demand Response	2
	1	2	Credit 5	Renewable Energy Production	3
	1		Credit 6	Enhanced Refrigerant Management	1
	2		Credit 7	Green Power and Carbon Offsets	2

5	8	0	Materials and Resources	Possible Points:	13
Y			Prereq 1 Storage and Collection of Recyclables		Required
Y			Prereq 2 Construction and Demolition Waste Management Planning		Required
	5		Credit 1 Building Life-Cycle Impact Reduction		5
1	1		Credit 2 Building Product Disclosure and Optimization - Environmental Product Declarations		2
1	1		Credit 3 Building Product Disclosure and Optimization - Sourcing of Raw Materials		2
1	1		Credit 4 Building Product Disclosure and Optimization - Material Ingredients		2
2			Credit 5 Construction and Demolition Waste Management		2

9	2	4	Indoor Environmental Quality	Possible Points:	16
Y			Prereq 1 Minimum Indoor Air Quality Performance		Required
Y			Prereq 2 Environmental Tobacco Smoke Control		Required
1	1		Credit 1 Enhanced Indoor Air Quality Strategies		2
3			Credit 2 Low-Emitting Materials		3
1			Credit 3 Construction Indoor Air Quality Management Plan		1
		1	Credit 4 Indoor Air Quality Assessment		2
1			Credit 5 Thermal Comfort		1
1	1		Credit 6 Interior Lighting		2
		3	Credit 7 Daylight		3
1			Credit 8 Quality Views		1
1			Credit 9 Acoustic Performance		1

3	2	1	Innovation	* Possible Points:	6
1			Credit 1.1 Innovation - TBD (possible - MRc2 exemplary performance)		5
1			Credit 1.2 Innovation - TBD (possible - MRc4 exemplary performance)		
	1		Credit 1.3 Innovation - TBD (possible - SSc5 exemplary performance)		
	1		Credit 1.4 Innovation - TBD (possible IEQc1 exemplary performance)		
		1	Credit 1.5 Innovation - TBD		
1			Credit 2 LEED Accredited Professional		1

0	4	0	Regional Priority	** Possible Points:	4
	1		Credit 1 Regional Priority: High Priority Site (threshold 2 points)		1
	1		Credit 2 Regional Priority: Rainwater Management (threshold 2 points)		1
	1		Credit 3 Regional Priority: Indoor Water Use Reduction (threshold 4 points)		1
	1		Credit 4 Regional Priority: Renewable Energy Production (threshold 2 points)		1
			OR Regional Priority: Optimize Energy Performance (threshold 8 points)		

40	44	25	Total	Possible Points:	110
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Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Chapter 6

Urban Design

6.0 URBAN DESIGN

The approximately 1.13-acre Project site is located at the intersection of Frankfort and Gove streets in East Boston and is generally bound by Frankfort Street to the west, Lubec Street to the east, and residential and institutional properties to the north and south. The Project site currently includes Our Lady of Mt. Carmel and an attached Rectory Building, an existing Convent Building, and a vacant lot. Most of the surrounding uses are residential, commercial and institutional, with public open space, transportation and amenities such as the MBTA Maverick Blue Line stop and Maverick Square, East Boston Memorial Park, East Boston Greenway, and multiple major MBTA bus routes. The site is also within two miles of Boston Logan Airport.

The Project will introduce additional housing and new, sophisticated design, and will showcase the revitalized Church Building as a renewed cornerstone of the neighborhood. The principles governing this development are described below.

Connecting to the Surrounding Neighborhood

The design of the Project will complement and contemporize the neighborhood through the combination of warm materials such as brick and terracotta, and modern materials such as metal siding and balcony railings. The Project site will be further amplified with improved landscaping and paving materials.

The structures along Frankfort and Gove streets are approximately four-stories with residential and commercial uses. The Church Building is approximately four-stories, 55 feet tall at the ridge of its front roof.

The existing residences located between Frankfort and Maverick streets are generally mid-rise and three-stories (between 38 and 48 feet to the cornice line). These buildings consist of red brick and details such as lintels, cornices and articulated entrances. See Figure 6-1 for the existing materials context on Frankfort Street. For consistency, the proposed facades of the building along Frankfort Street will be four-stories and will have brick facades and details such as cornices and metal balcony railings. At the intersection of Frankfort and Gove streets, the building is five stories and 55 feet to the parapet, which is in kind with the larger buildings along the Gove Street corridor. The sixth story is set back 25 feet from the Gove Street property line, and 16 feet back from the Frankfort Street property line. The portion of the Frankfort Street Building closest to this intersection will be clad in terracotta and metal siding to provide design interest and material depth. The design of the Project will respect the materials and heights of the existing neighborhood structures, and provide modern materials and details for the Frankfort Street Building. See Figures 6-2 through 6-11 for perspectives, elevations, materials and the interior design precedent for the Frankfort Street Building.



ENTRANCES



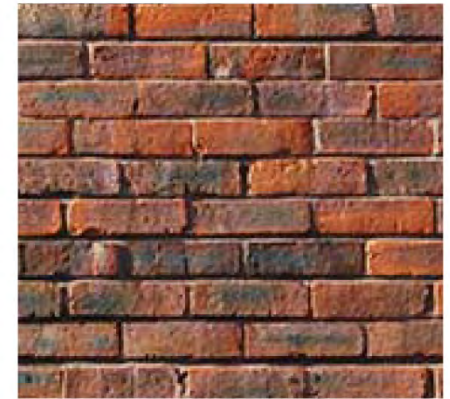
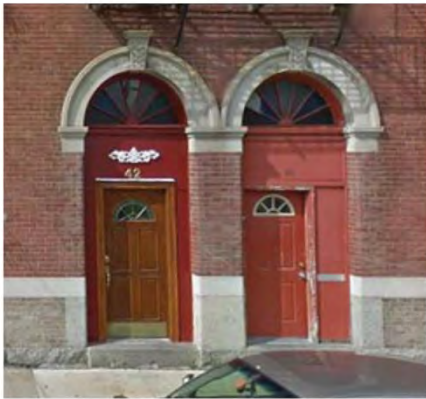
LINTELS



CORNICES



BRICK





Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT ST SCHEMATIC ELEVATION



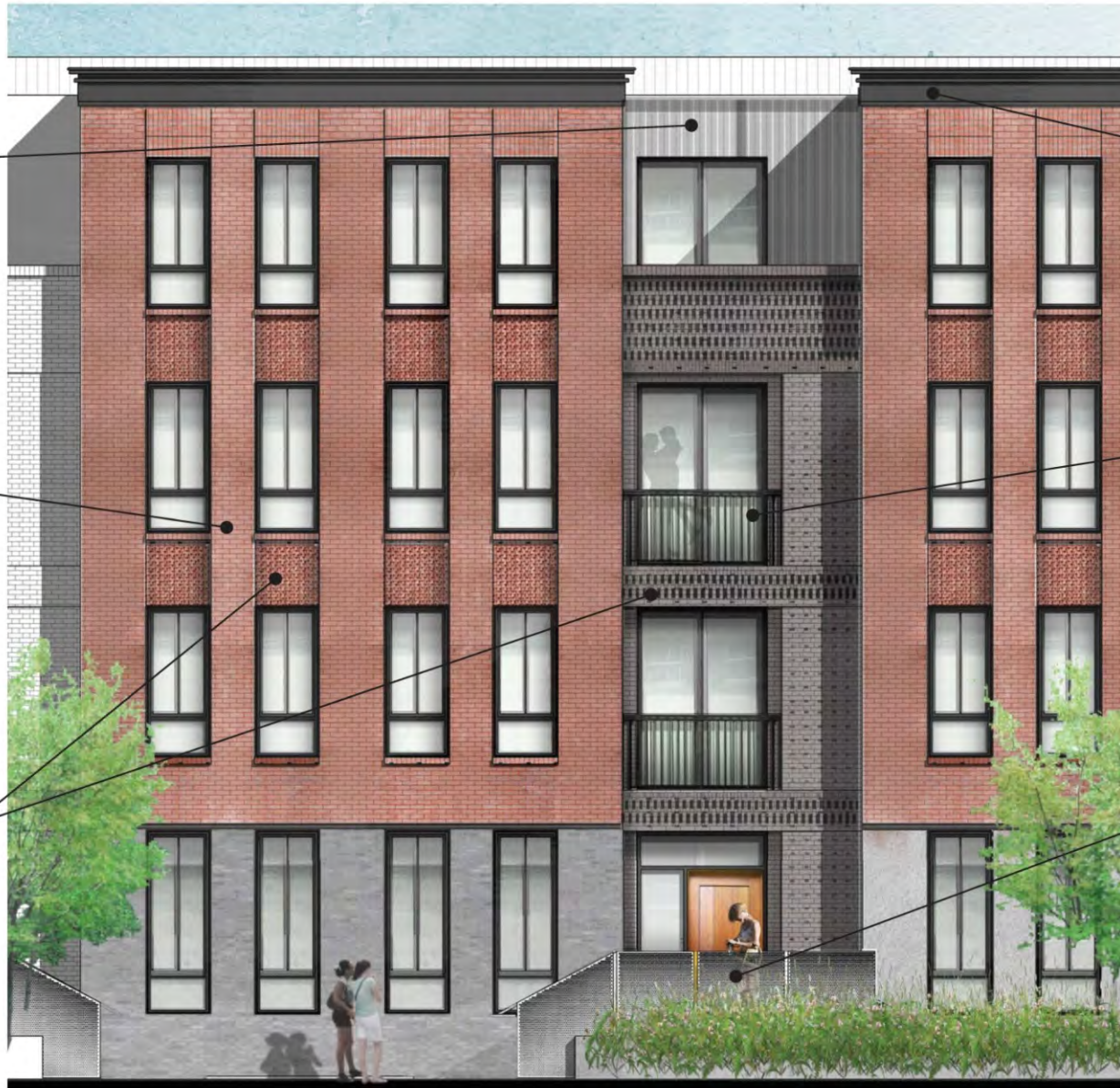
METAL SIDING OR
FIBER CEMENT



BRICK
FACADE



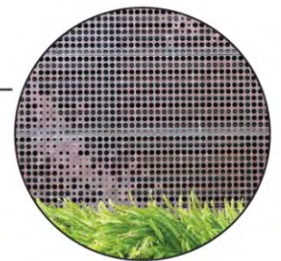
BRICK
ACCENT



CORNICE



METAL RAILING
BALCONY



METAL SCREEN
@ STOOP

Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT ST SCHEMATIC ELEVATION

Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



GOVE ST SCHEMATIC ELEVATION



FRANKFORT ST - REAR - SCHEMATIC ELEVATION

Frankfort Gove Street Housing Boston, Massachusetts



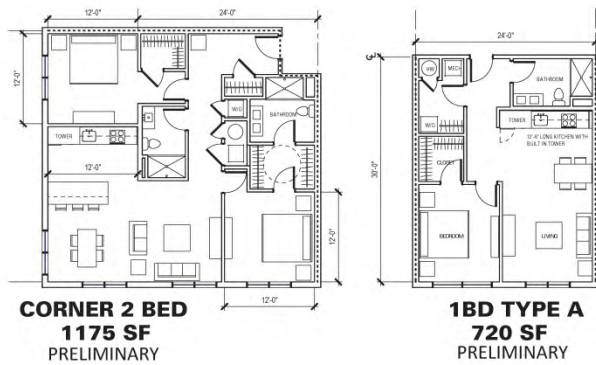
Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



FRANKFORT STREET BUILDING 98 TOTAL UNITS

- | | | |
|------------------------|----------|----------------|
| ▪ ONE BEDROOM | 53 UNITS | AVERAGE 700SF |
| ▪ ONE BEDROOM PLUS DEN | 16 UNITS | AVERAGE 800SF |
| ▪ TWO BEDROOM | 17 UNITS | AVERAGE 1050SF |
| ▪ TWO BEDROOM PLUS DEN | 12 UNITS | AVERAGE 1100SF |



Frankfort Gove Street Housing Boston, Massachusetts

Revitalizing a Neighborhood Cornerstone

Our Lady of Mt. Carmel Catholic Church was officially closed in 2004. The proposed Project design will respect the structure and will retain the existing brick and limestone façade. The entrance onto Gove Street will be revitalized to create a prominent focal point of the neighborhood. The Church Building will be creatively transformed into a residential use). It will be cleaned and repaired, especially where religious iconography was removed. Stairs will be removed at the front entry and joined with a larger, glazed entrance to open up the lobby and activate the ground floor. On the east and west facades, window openings will be extended to the ground to increase transparency. See Figures 6-12 through 6-17 include perspectives, elevations, materials and interior design precedent for the proposed Church Building renovation.

Activate public realm and open space

The Project will greatly improve the pedestrian experience of the public realm on every side of the site. The landscaped open space surrounding the Church Building gives character and a pleasant destination to the streetscape. A green space includes benches, raised plantings, trees and landscaped parking area will be located to the east of the Church Building. This is a significant open space on the site and will provide a quiet and serene retreat set back from the street. On the west side of the Church Building, there will be a reflection garden, which will be a place to reflect on the history of the Church Building, perhaps with informational graphics. Along Frankfort Street, the streetscape will be improved with street trees, planting beds and individually articulated entrance stoops to boost street life and activity. The corner will be landscaped as it fronts a mostly transparent ground floor housing lobby and other amenity spaces. See Figures 6-18 through 6-24 for renderings, materials and proposed landscaping details.

Transit-oriented development

The site's proximity to the MBTA's Maverick Station will easily facilitate transit throughout the Greater Boston Area for the Project's future residents. In addition to the site's future residents, the development is within two miles of Boston Logan International Airport and will allow travel beyond Boston for residents and visitors.



Frankfort Gove Street Housing Boston, Massachusetts

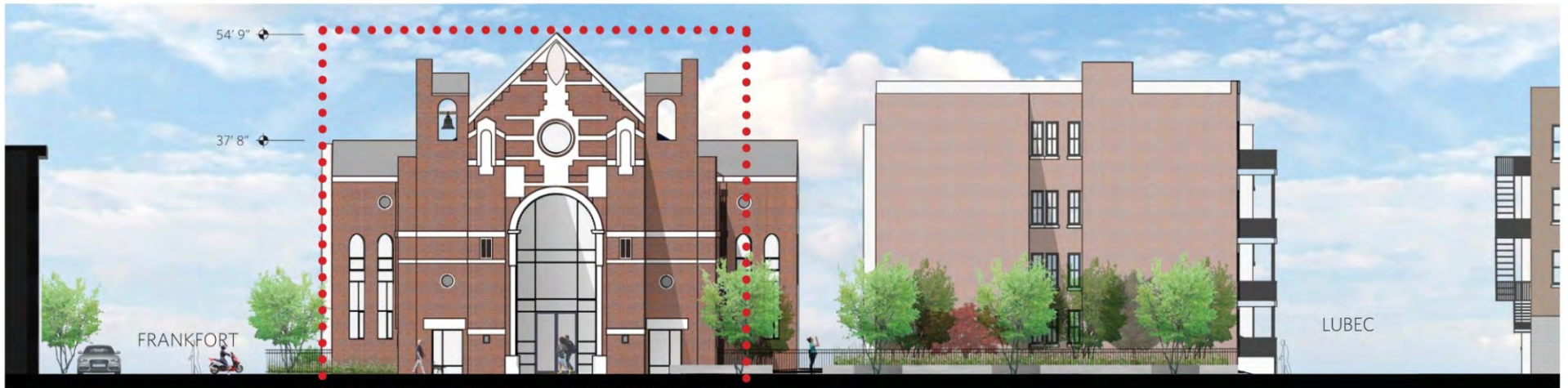


CHURCH BUILDING - WEST



CHURCH BUILDING - NORTH

Frankfort Gove Street Housing Boston, Massachusetts



CHURCH BUILDING - WEST

SEE ENLARGED ELEVATION



CHURCH BUILDING - NORTH

SEE ENLARGED ELEVATION

Frankfort Gove Street Housing Boston, Massachusetts

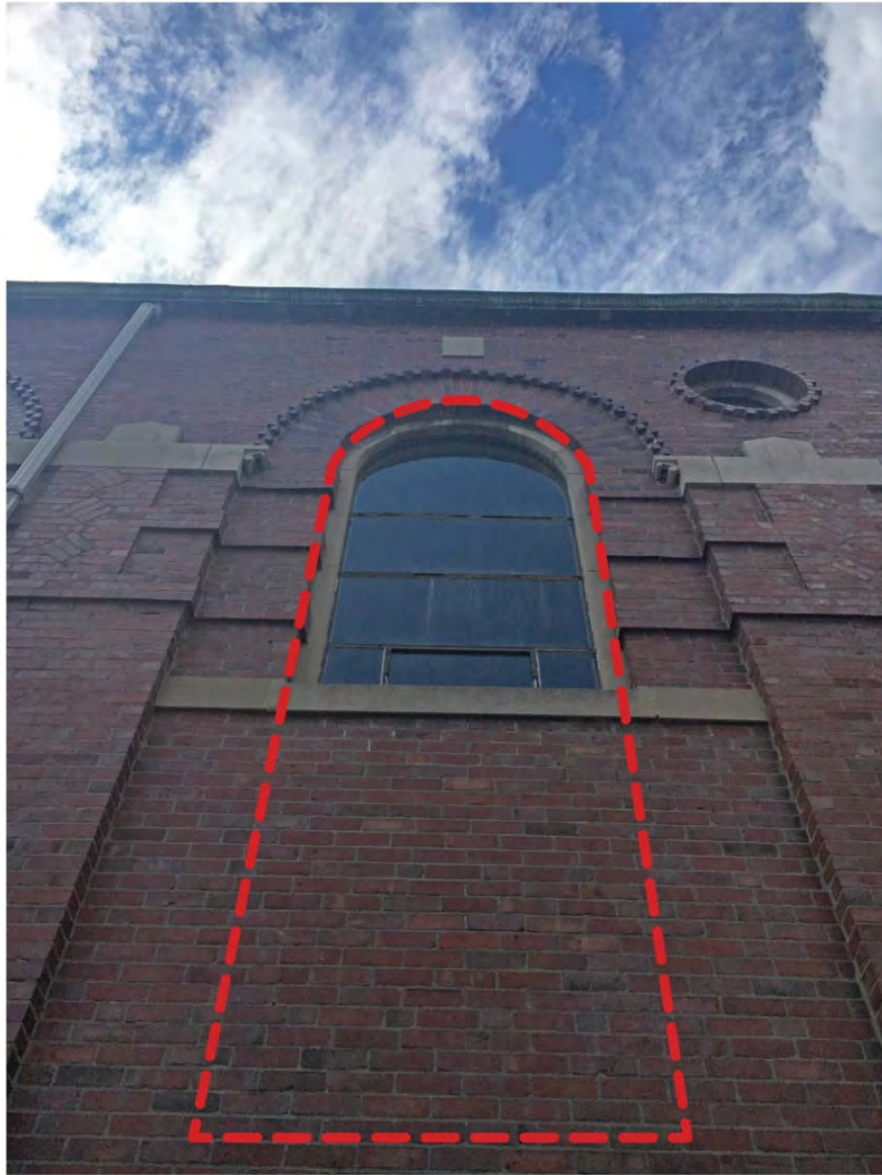


EXISTING STAIR AT CHURCH ENTRANCE

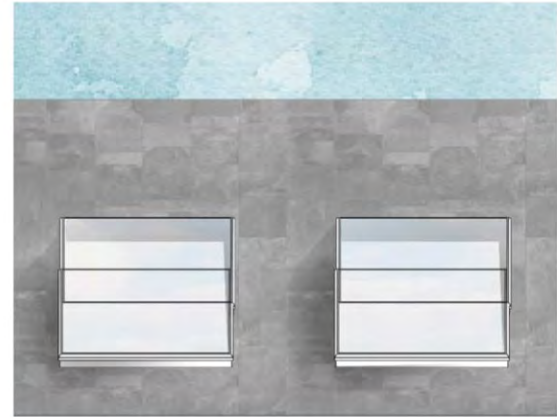


PROPOSED ENTRANCE TO CHURCH BUILDING

Frankfort Gove Street Housing Boston, Massachusetts

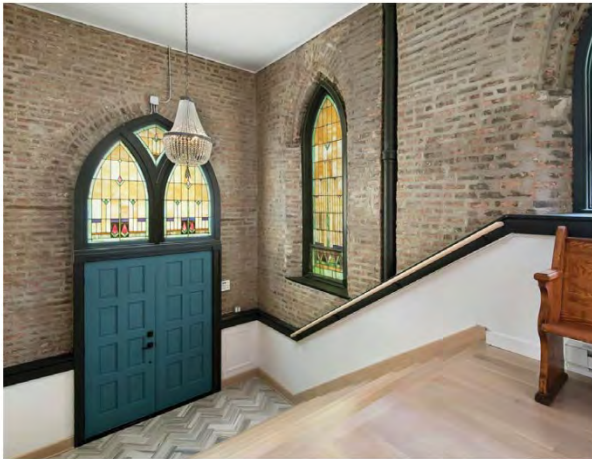


EXISTING WINDOW CONDITION



PROPOSED WINDOW CONDITION

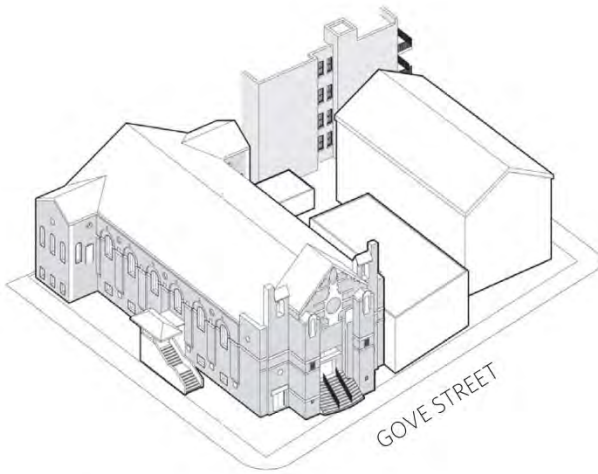
Frankfort Gove Street Housing Boston, Massachusetts



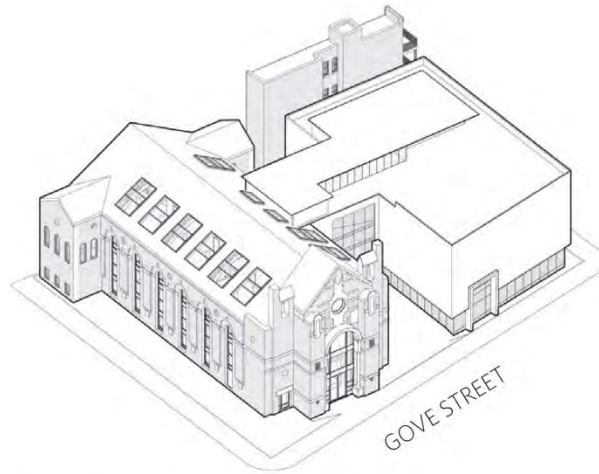
GOVE STREET CHURCH BUILDING
14 TOTAL UNITS

- ONE BEDROOM LOFT STYLE 10 UNITS (AVERAGE 800 SF)
- TWO BEDROOM LOFT STYLE 4 UNITS (AVERAGE 1050 SF)

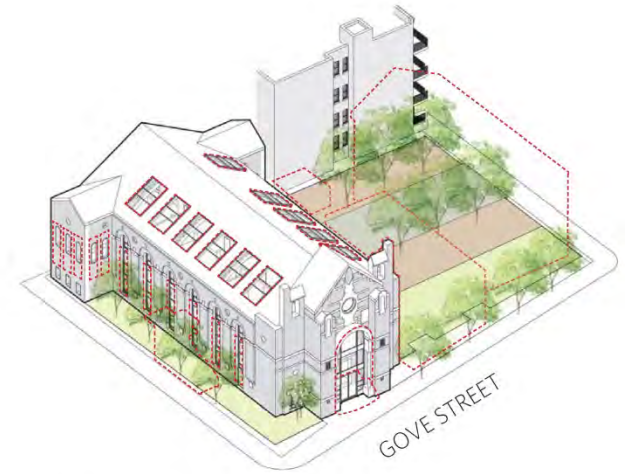
Frankfort Gove Street Housing Boston, Massachusetts



EXISTING



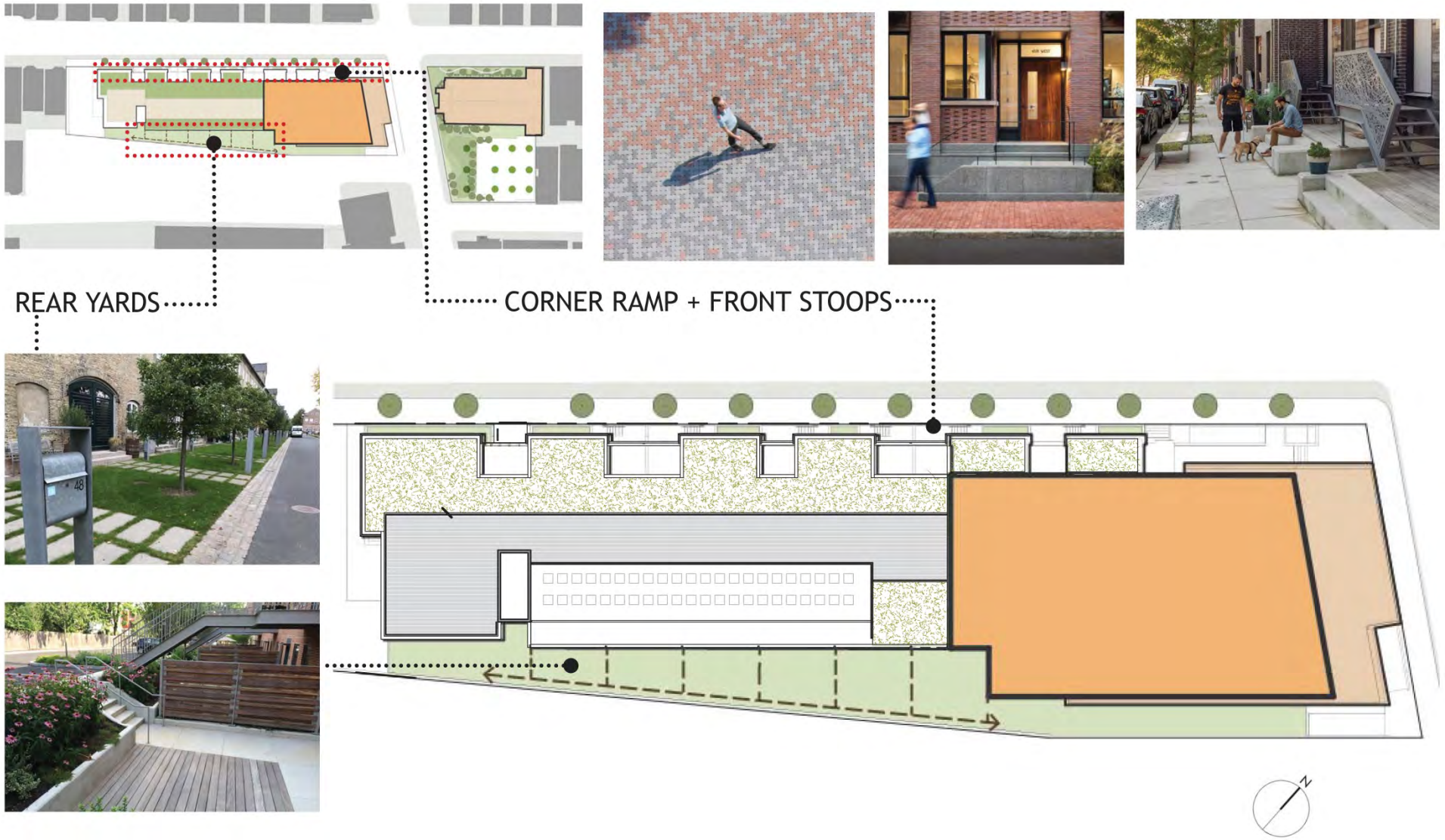
PREVIOUS WITH ADDITION



CURRENT WITH GREEN SPACE

CURRENT WITH GREEN SPACE

- REMOVE EXISTING FLOOR AND GOVE STREET ENTRY STAIR
- CREATE MAIN ENTRY OFF OF GOVE STREET
- RESTRUCTURE TO ACCOMMODATE 3 NEW RESIDENTIAL LEVELS
- ENLARGE WINDOW AREAS FOR SUFFICIENT NATURAL LIGHT
- INSTALL SKYLIGHTS FOR THIRD FLOOR UNITS
- RESPECT AND INTEGRATE THE EXISTING CHURCH CHARACTER
- CREATE REFLECTION SPACE AT CORNER OF CHURCH
- NEW GREEN SPACE WITH 13 INTEGRATED PARKING SPACES



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Amelanchier grandiflora



Prunus yedoensis



Ginkgo biloba

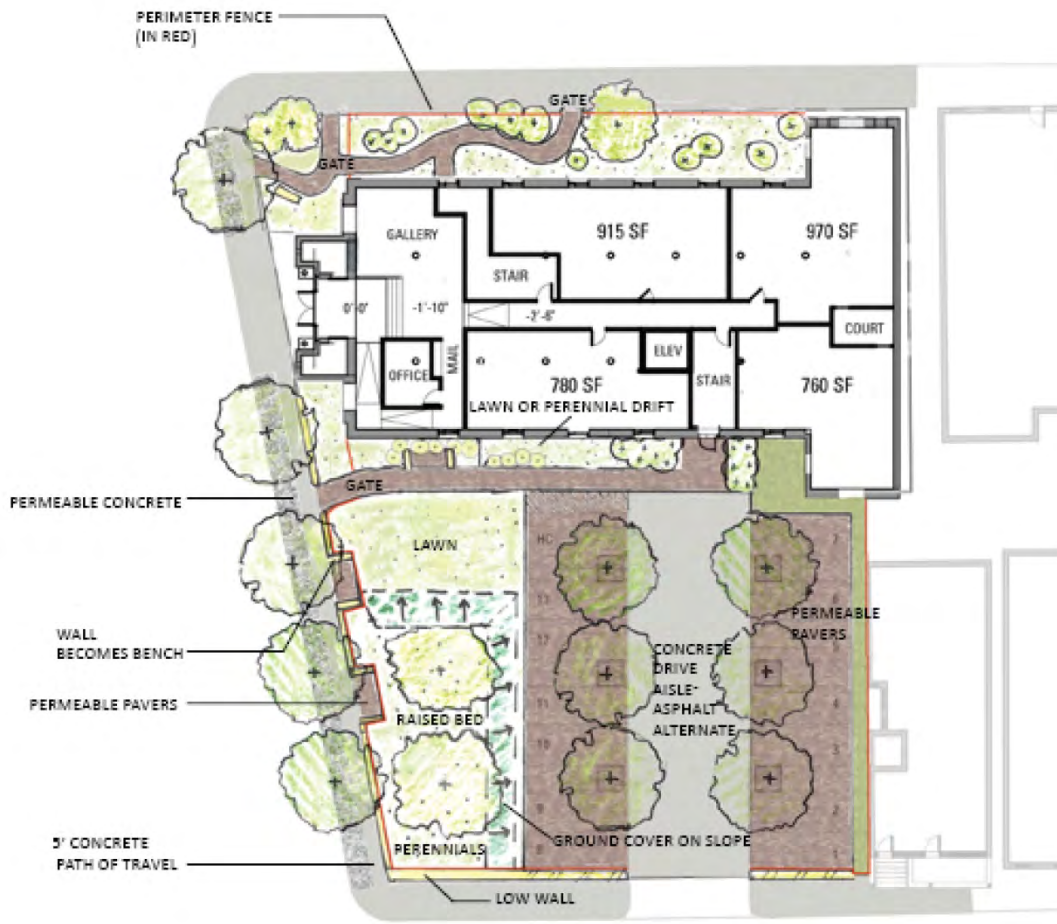


Syringa reticulata



Platanus occidentalis

Frankfort Gove Street Housing Boston, Massachusetts



CHURCH BUILDING - SITE PLAN



Pennisetum



Echinacea



Gaura



Panicum virgatum



Echinops



Metasequoia glyptostroboides



Perovskia



Salvia



Liriope

Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts

Chapter 7

Historic and Archaeological Resources

7.0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

7.1 Introduction

This section describes the historic and archaeological resources located on the Project site and within the Project's vicinity. Reviews of the State and National Registers of Historic Places, as well as the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (the Inventory), were undertaken to identify historic and archaeological resources.

7.2 Historic Resources

7.2.1 Historic Resources on the Project Site

The approximately 1.13-acre Project site is located at the intersection of Frankfort and Gove streets in the neighborhood of East Boston. The site is located in the 115-146 Gove Street survey area (BOS.H) and the Our Lady of Mount Carmel Catholic Church Complex (BOS.W), listed in the Inventory. The site encompasses four parcels located at the intersection of Gove Street and Frankfort Street and is generally bound by Frankfort Street to the west, Lubec Street to the east and existing residential and institutional properties to the north and south. The four parcels include the Our Lady of Mount Carmel Roman Catholic Church (BOS.26), the Our Lady of Mount Carmel Roman Catholic Rectory (BOS.15268) and the Our Lady of Mount Carmel Roman Catholic Convent (BOS.27).

Established in 1905, Our Lady of Mount Carmel Roman Catholic Church (BOS.26) is located in the northeast corner of the intersection of Frankfort Street and Gove Street. Constructed in two phases the lower church was designed by A. N. Rogers was built in 1907 and the Arts and Crafts-inspired upper brick church was designed by Matthew Sullivan in 1920. The church was founded as an Italian-speaking mission of St. Lazarus Church located at 61 Ashley Street in East Boston. In 1913, Rev. James Merighi was appointed the first resident pastor, serving until 1917. Our Lady of Mt. Carmel Catholic Church was officially closed in 2004. The three-bay wide façade of the brick and cast stone church features a projecting gabled entrance set within a segmental arched surround. The tower is flanked by brick bell towers and capped by a small square cupola. The six-bay wide side elevations feature round arched windows with brick round arch lintels.

The Our Lady of Mount Carmel Roman Catholic Rectory (BOS.15268) is located east of the Church on the northern side of Gove Street. Designed by Boston architect Thomas F. McDonough in 1955, the three-story brick building features one-over-one double hung replacement sash windows with cast stone sill and brick lintels with cast stone keystones. A central entrance features a one-bay projecting portico supported by Doric columns and capped by an iron balustrade. A one-story five-bay wide brick connector building,

containing the parish hall adjoins the rectory and the church. The two eastern bays of the north elevation have been bricked in, while stone lintels survive over the two western windows. The central entrance features a stone rounded-arched entry.

Constructed in 1949-1958 the Our Lady of Mount Carmel Roman Catholic Convent (BOS.27) is located on the southern side of Gove Street within the southeast corner of the intersection of Frankfort and Gove. The three-story, eight- bay by four-bay brick building is capped by a low-pitched hipped roof. The building’s main entrances, located on the west and north elevations are enhanced by concrete surrounds and accessed by a set of brick and concrete steps. The regularly spaced fenestration features six-over-six double hung wood sash with brick lintel and cast stone sills. Four first floor windows of the north elevation feature keyed round-arched surrounds and paneled aprons.

7.2.2 Historic Resources in the Project Vicinity

In addition to the existing buildings located on the Project site, there are two resources listed in the State and National Registers within the Project vicinity. Table 7-1 identifies these resources within one-quarter mile of the Project site and corresponds to resources depicted in Figure 7-1.

Table 7-1 Historic Resources in the Vicinity of the Project Site

Map No	Name	Address	Designation
1	Theodore Lyman School	30 Gove Street	National Register Individual Property
2	Street Clock	9 Chelsea Street	Local Landmark

7.3 Archaeological Resources within the Project Site

The Project site consists of a previously developed urban parcel. As confirmed on September 24, 2018 there are no known archaeological resources listed in the State and National Registers of Historic Places or included in the Inventory within the Project Site.

7.4 Impacts to Historic Resources

7.4.1 Urban Design

The Project includes redevelopment of the site for approximately 120,430 sf residential space including the renovation of Our Lade of Mt. Carmel Catholic Church and the creation of two new building containing up to 112 residential units, 84 parking spaces, open space and public realm improvements. Architecturally, the Project will blend with the residential neighborhood and revitalize the Our Lady of Mt. Carmel Catholic Church.



Frankfort Gove Street Housing Boston, Massachusetts

The Our Lady of Mt. Carmel Catholic Church (Church Building) will be renovated for 14 residential units. The Gove Street entrance will be revitalized with the lowering of the existing entrance to grade and the installation of a two-story glass entry within the existing arched opening. The proposed Project design will respect the architectural integrity of the building. The existing rectory and church addition will be removed for parking and green space at the corner of Gove Street and Lubec Street.

The existing convent will be removed to accommodate the construction of the new Frankfort and Gove Street Building, a residential building containing 45 apartment units and 42 row house units. The portion of the building to contain apartment units will be six-stories and 65 feet in height and will be clad in terracotta and metal siding. The proposed rowhouses will be four-stories and 46 feet tall with brick facades, consistent with the existing heights and materials of the existing residences located between Frankfort and Maverick Streets which are generally two- and three -story red brick buildings.

The Project will redevelop and replace an underutilized site and provide market-rate and affordable units with a variety of unit sizes and styles. The design of the Project will complement the neighborhood with the use of brick, terracotta and modern materials such as metal siding.

7.4.2 Shadow Impacts to Historic Resources

A shadow impact analysis was conducted to investigate shadow impacts from the Project during three time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.) during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and the winter solstice (December 21). In addition, shadow studies were conducted for the 6:00 p.m. period during the summer solstice and autumnal equinox. The shadow analysis presents net new shadow from the Project, as well as the existing shadow, and illustrates the incremental impact of the Project. The analysis shows that the Project's impact will generally be limited to the immediately surrounding streets and sidewalks and the Project site itself. See shadow figures 4.2-1 – 4.2-14.

New shadows will largely be directed to the west and north toward Frankfort Street, the north and northeast toward Gove Street. Among the periods studied, the only potential new shadow impacts to the Our Lady of Mt. Carmel Catholic Church (Church Building) are on December 21st, 3:00 pm, September 21st at 6:00 pm, March 21st at 3:00 pm and 6:00 pm. At these times, the impacts will be mainly limited to the southern end of the building. The potential shadows will have no impact to the National Register and Local Landmark resources in the Project's vicinity.

7.5 Consistency with Other Historic Reviews

7.5.1 Boston Landmarks Commission Article 80 Review

The submission of this PNF initiates review of the Project by the BLC under the City's Article 80 Review process.

7.5.2 Boston Landmarks Commission Article 85 Review

The proposed demolition of the buildings on the Project site will be subject to review by the Boston Landmarks Commission under Article 85 of the Boston Zoning Code. An Article 85 Application will be submitted to the BLC for the proposed demolition of the Rectory (1955) and the Convent (1949-1958) buildings.

7.5.3 Massachusetts Historical Commission

The MHC has review authority over projects utilizing or requiring state or federal funding, licensing, permitting and/or approvals that may have direct or indirect impacts to properties listed in the State or National Registers of Historic Places. If the Project requires a state or federal action, the MHC review process will be initiated through the filing of an MHC Project Notification Form as prescribed in MHC's governing regulations.

Chapter 8

Infrastructure

8.0 INFRASTRUCTURE

8.1 Overview of Existing Utility Services

The Project site is located at the intersection of Frankfort and Gove Streets in East Boston. The site currently consists of four parcels of land (former Our Lady of Mount Carmel complex) including the Church Building, the Rectory Building, the Convent Building and a surface parking lot totaling 1.13 acres of land area. The Project proposes to raze the existing Convent and Rectory buildings and construct a new building with a subsurface parking garage. The Church Building will be rehabilitated as part of the Project.

As shown on Figures 8-1 and 8-2 there are existing utilities in each street. The existing infrastructure surrounding the site appears sufficient to handle the increase in service needs from the Proposed Project. The following sections describe the existing sewer, water, drainage systems and energy services surrounding the Project and provide an explanation for how these systems will service the Project.

8.2 Water Supply

8.2.1 Existing Water Infrastructure

BWSC owns, operates, and maintains the water distribution systems in the vicinity of the Project Site. According to available record plans from BWSC, there is a twelve inch water main in Frankfort Street and an eight inch main in Gove Street. The existing water distribution in the vicinity of the Project site is shown on Figure 8-1.

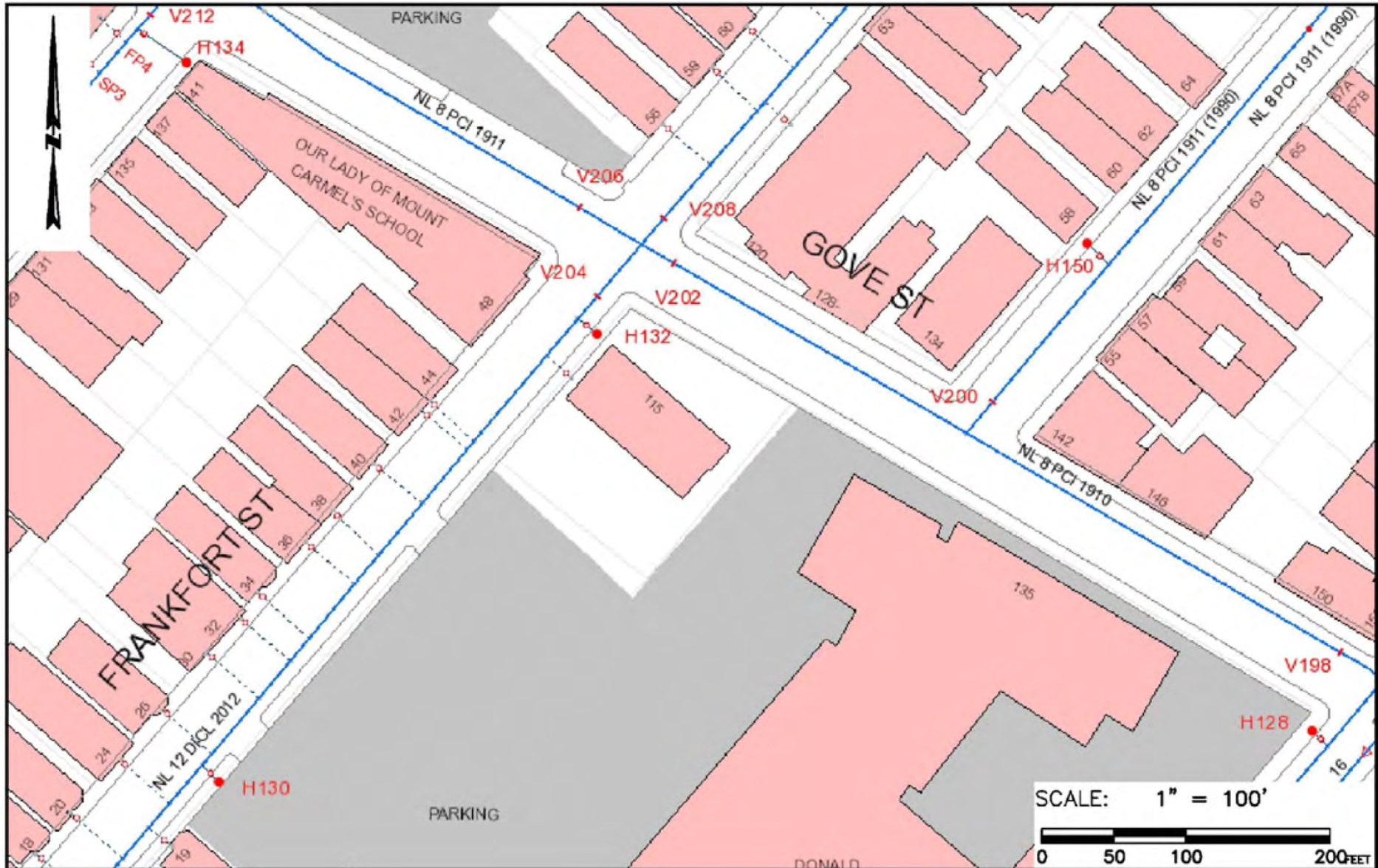
8.2.2 Water Consumption

The estimated proposed water demand for the Project is based on the estimated sanitary sewer flow (see Table 8-1), with a factor of 1.1 applied to account for consumption and other losses. Based on this formula, the Project's estimated additional peak water demand for domestic uses is 17,666-gallons per day. The proposed water demand calculation will be refined as the building program is further refined in future Article 80 filings with the BPDA and coordinated with BWSC. The domestic water will be supplied by the BWSC water system.

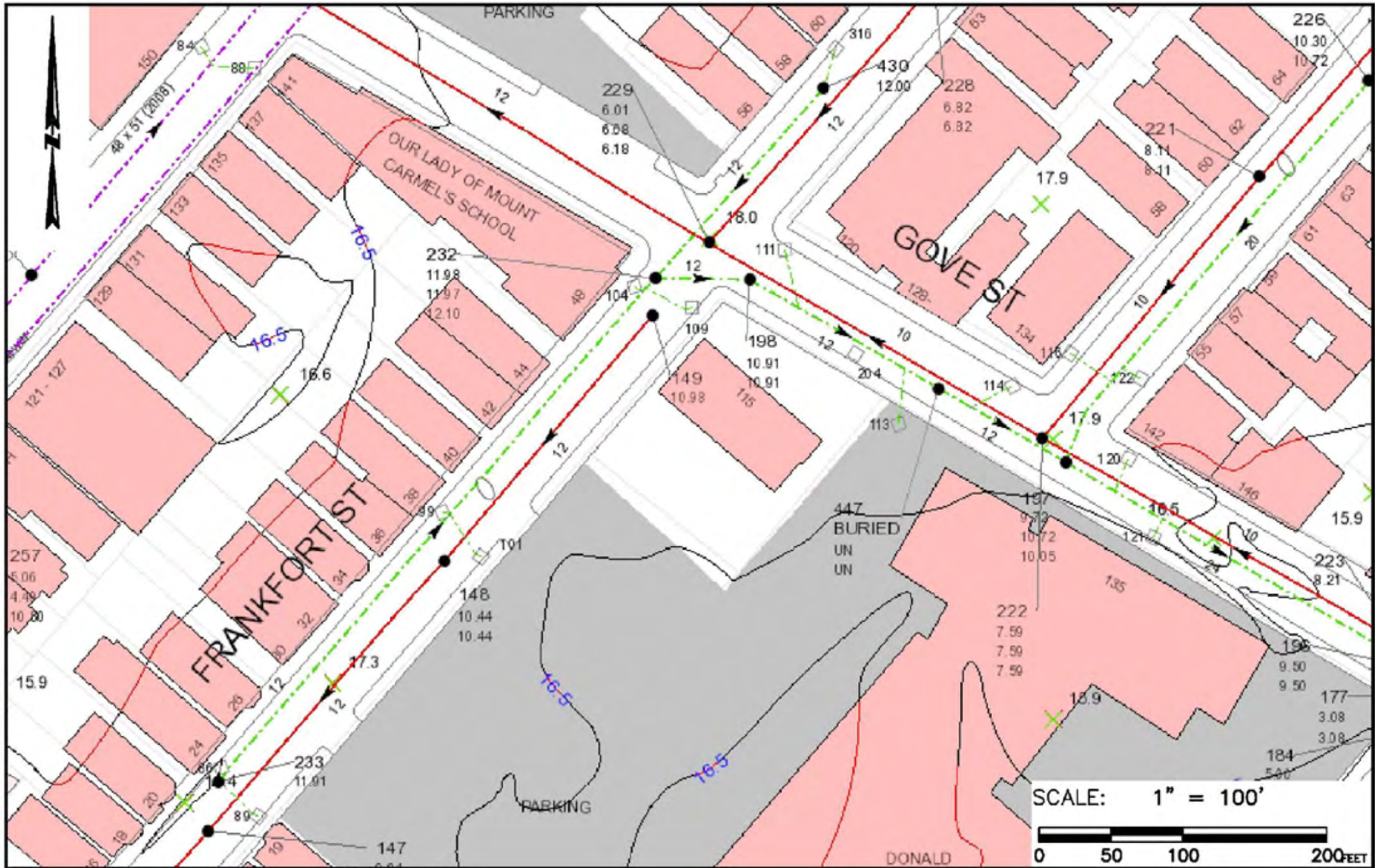
There are no anticipated water capacity concerns in the vicinity of the Project site.

8.2.3 Proposed Water Connections

The new building will require a new connection to the water main. As the design progresses, the Project will coordinate with BWSC for new water connections to the mains in accordance with all BWSC and ISD requirements. The existing Church Building to remain proposes to reuse the existing water service connections.



Frankfort Gove Street Housing Boston, Massachusetts



Frankfort Gove Street Housing Boston, Massachusetts

Further investigation is required to determine if the capacity and condition of the existing water service connections allow for reuse. All services will be in accordance with BWSC and ISD requirements.

8.2.4 Water Supply Conservation and Mitigation

The Project will be LEED certifiable in accordance with the BRA's Article 37 Green Building program. As such, various water conservation measures such as low-flow toilets and urinals, restricted flow faucets, and sensor operated sinks, toilets, and urinals may be incorporated in order to meet the LEED water conservation requirements. Specific water conservation measures to be included in the Project will be more fully described as the building designs develop.

8.2 Wastewater

8.2.1 Existing Wastewater

BWSC owns, operates, and maintains the sanitary and combined sewer mains on and in the vicinity of the Project Site. Per available record information from BWSC, there are sewer mains in the streets surrounding the Project Site. The existing sewer system in the vicinity of the Project site is shown on Figure 8-2. The sewers ultimately flow to the Massachusetts Water Resources Authority's (MWRA's) Deer Island Wastewater Treatment Plant, where it is treated and discharged to Massachusetts Bay.

8.2.2 Wastewater Generation

The Massachusetts Department of Environmental Protection (MassDEP) establishes sewer generation rates for various types of establishments in a section of the State Environmental Code Title V (Title V), 310 CMR 15.203. Based on an estimate of the Project's building program, Table 8-1 gives the estimated proposed sanitary sewer flows expected to be generated by the Project. Based on these Title V sewer generation rates, the Project is expected to produce approximately 16,060 gallons/day of additional sewer flow. The proposed sewer generation calculation will be refined as the building program is further refined in future Article 80 filings with the BPDA and coordinated with BWSC.

Table 8-1 Net New Sewer Generation

Frankfort Street			
Unit Type	Program	Sewer Generation Rate	Sewer Flow (gpd)
1 Bedroom	68 Units	110 gallons/day/room.	7,480
2 Bedroom	30 Units	110 gallons/day/room.	6,600
Total New Sewer Generation at Frankfort Street			14,080
Gove Street			
Unit Type	Program	Sewer Generation Rate	Sewer Flow (gpd)
1 Bedroom	10 Units	110 gallons/day/room	1,100
2 Bedroom	4 Units	110 gallons/day/room	880
Total New Sewer Generation at Gove Street			1,980
Grand Total New Sewer Generation for Frankfort and Gove Streets			16,060

The Project’s engineer will coordinate final, proposed sewer flows and available capacity with BWSC during Project design to ensure the Project needs are met without disruption of service to the surrounding area.

8.2.3 Proposed Connection

The new building will require a new sanitary sewer service connection to the BWSC sewer main. The existing Church Building to remain proposes to reuse the existing sanitary sewer service connection. Further investigation is required to determine if the capacity and condition of the existing sanitary sewer connection allow for reuse. All sewer service connections will be designed and installed in accordance with BWSC requirements.

8.2.4 Sewer System Mitigation

As previously stated, the Project will be LEED certifiable in accordance with the BPDA’s Article 37 Green Building program. As such, various measures for water conservation and wastewater reduction such as low-flow toilets and urinals, restricted flow faucets, and sensor operated sinks, toilets, and urinals may be incorporated to meet the LEED requirements. Specific water conservation and wastewater reduction measures to be included in the Project will be more fully described as the building designs develop.

8.4 Stormwater Management

8.4.1 *Existing Conditions*

The existing Project site consists of concrete sidewalks, the Church Building, Rectory Building, Convent Building with a grass yard and an asphalt parking lot. Runoff from the parking area and paved sidewalks likely sheet flows to catch basins located in Frankfort and Gove Streets that connect to the BWSC drainage system. Runoff from the roof of the existing buildings appears to be connected directly to the BWSC drainage system. The Project is in the process of determining the exact location of the connections.

8.4.2 *Proposed Conditions*

The Project is in the process of determining the exact existing location of connections to the BWSC drainage system. The stormwater runoff from the roof of the Church Building will maintain any existing connections. The new building areas will be designed to collect the roof runoff and be directed to a stormwater infiltration system (if feasible) to promote groundwater infiltration and mitigate for any additional impervious site area. The proposed drainage system design will be refined during the design process.

The Project will disturb more than one acre of land; therefore, construction will require the submittal of a Notice of Intent (NOI) for coverage under the Construction General Permit (CGP) as part of the Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES). Appropriate erosion and sedimentation (E&S) controls will be installed to prevent sediment laden stormwater runoff from leaving the site and entering the BWSC drainage system during construction. E&S controls will be maintained as necessary until all disturbed areas have been stabilized through the placement of pavement and structures and will conform to the Water Quality section of the City of Boston Environment Department Guidelines for Construction.

8.4.3 *Water Quality Impacts*

Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas. During construction, existing storm drain inlets will be protected with filter fabric, straw bales and/or crushed stone, to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Depending on how the site work is split up, if it is all under one project it will be over one-acre of disturbance, which will trigger the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The Erosion and Sediment Controls will also conform to the Water Quality section of the City of Boston Environment Department Guidelines for Construction.

8.4.4 MassDEP Stormwater Management Policy Standards

In March 1997, MassDEP adopted a Stormwater Management Policy to address non-point source pollution. In 1997, MassDEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the 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. The design will incorporate the appropriate stormwater treatment, and 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 Project.

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

Compliance: The proposed design will comply with this standard to the maximum extent practicable. The pre-development stormwater discharge rates will be met or decreased as a result of the improvements associated with the Project.

Standard #3: For New Construction, loss of annual recharge to groundwater 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. The 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 comply with this standard to the maximum extent practicable.

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 determined in accordance with the Massachusetts Stormwater Handbook; and (c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

Compliance: The proposed design will comply with this standard. Within the Project's limit of work, there will be building roof, paved sidewalk, landscaped areas, and roadway areas. Runoff from paved areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected by deep sump, hooded catch basins and conveyed through water quality units before discharging.

Standard #5: For Land Uses with Higher Potential Pollutant Loads (LUHPPL), 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 higher 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 proposed design will comply with this standard. The Project is anticipated to be a LUHPPL (per the Policy, Volume I, page 1-6) due to the average daily trips to the site.

Standard #6: Stormwater discharges within 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 significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding 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) or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Compliance: The proposed design will comply with this Standard to the maximum extent practicable. The Project will not discharge untreated stormwater to a sensitive 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 best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent possible. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Compliance: The Project will comply with this standard. The Project will comply with the Stormwater Management Standards as applicable to the redevelopment.

Standard #8: Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.

Compliance: The Project will comply with this standard. Sedimentation and erosion controls will be incorporated as part of the design of the Project and employed during 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: The Project will comply with this standard. An O&M Plan including long-term BMP operation requirements will be prepared for the Project and will assure proper maintenance and functioning of the stormwater management system.

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

Compliance: The Project will comply with this standard. No illicit connections will be proposed with the Project.

8.5 Anticipated Energy Needs

8.5.1 Telecommunications Systems

The Proponent will select private telecommunication companies to provide telephone, cable, and data services. There are several potential candidates capable of providing service. Upon selection of a provider or providers, the Proponent will coordinate service connection locations and obtain appropriate approvals.

8.5.2 Electricity and Natural Gas

There are existing natural gas mains in Gove Street and overhead power line in both Gove and Frankfort streets. The Proponent will work with the natural gas and electric suppliers to confirm the systems have adequate capacity.

8.5.3 Utility Protection During Construction

Existing public and private infrastructure located within nearby public rights-of-way will be protected during Project construction. The installation of proposed utility connections within public ways will be undertaken in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and applicable utility company requirements. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by BWSC as part of its Site Plan Review process. All necessary permits will be obtained before the commencement of work.

The Proponent will continue to work and coordinate with the BWSC and the utility companies to ensure safe and coordinated utility operations in connection with the Project.

Chapter 9

Coordination with Other Governmental Agencies

9.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

9.1 Architectural Access Board Requirements

The Project will comply with the requirements of the Architectural Access Board and will be designed to comply with the standards of the Americans with Disabilities Act. See Appendix E for the Accessibility Checklist.

9.2 Boston Landmarks Commission Article 85 Review

The proposed demolition of the buildings on the Project Site will be subject to review by the Boston Landmarks Commission under Article 85 of the Boston Zoning Code. An Article 85 Application will be submitted to the BLC for the proposed demolition of the Rectory (1955) and the Convent (1949-1958) buildings.

9.3 Boston Civic Design Commission Article 80 Review

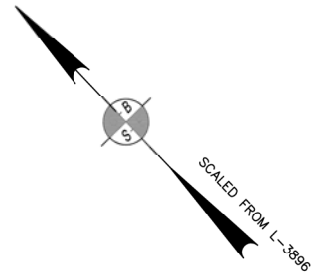
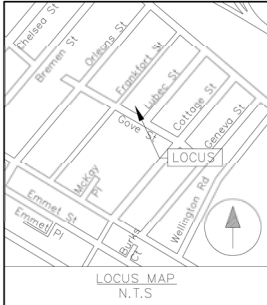
The Project will comply with the provisions of Article 28 of the Boston Zoning Code. This PNF will be submitted to the Boston Civic Design Commission by the BPDA as part of the Article 80 process.

9.4 Massachusetts Historical Commission

The MHC has review authority over projects utilizing or requiring state or federal funding, licensing, permitting and/or approvals that may have direct or indirect impacts to properties listed in the State or National Registers of Historic Places. If the Project requires a state or federal action, the MHC review process will be initiated through the filing of an MHC Project Notification Form as prescribed in MHC's governing regulations.

Appendix A

Site Survey



LEGEND:

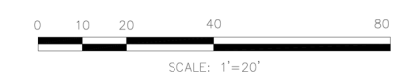
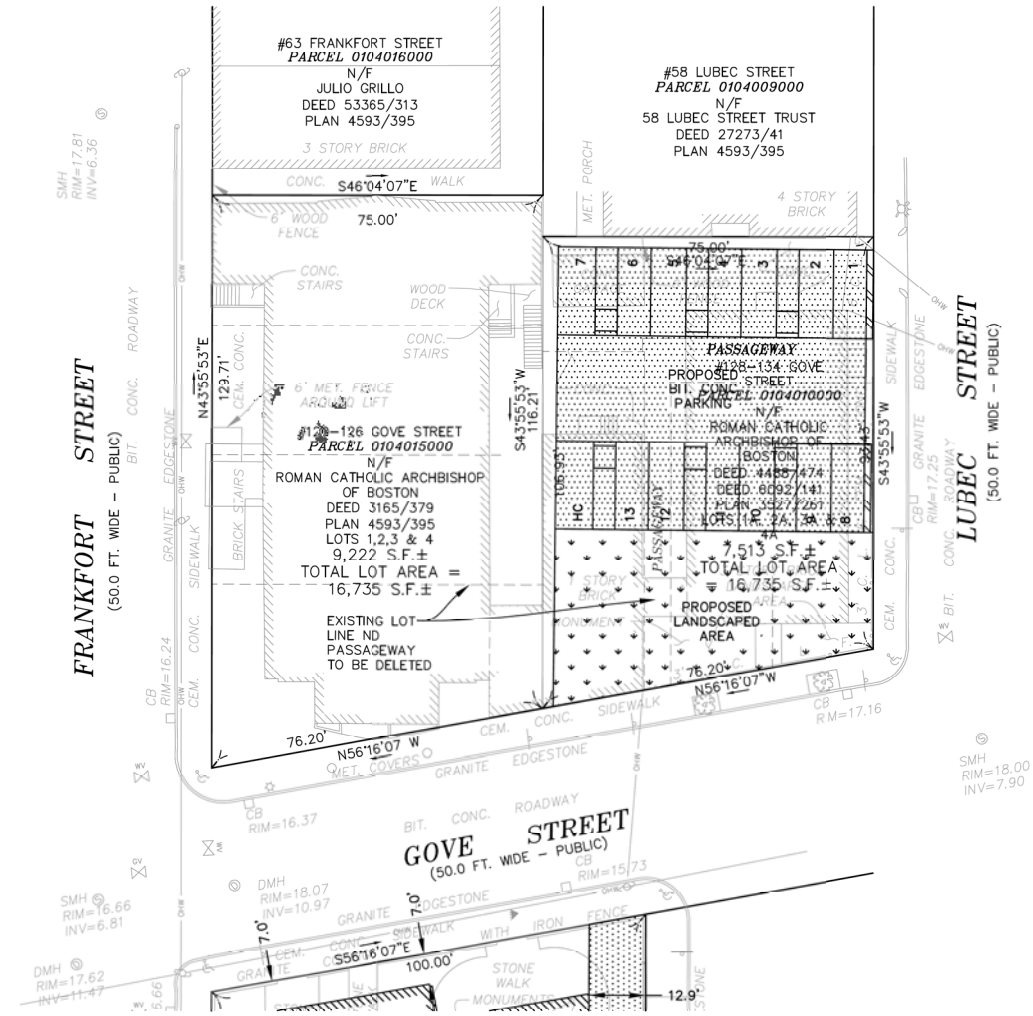
- ⊙ SEWER MANHOLE
- ⊙ DRAIN MANHOLE
- ⊙ CABLE TV MANHOLE
- ⊙ HANDICAP RAMP
- ⊙ GAS SHUT OFF
- ⊙ WATER SHUT OFF
- ⊙ BOSTON WATER VALVE
- ⊙ CATCH BASIN
- ⊙ LIGHT POLE
- ⊙ UTILITY POLE
- ⊙ SIGN
- ⊙ TRAFFIC SIGNAL
- BIT.
- CONC.
- CL- CHAIN LINK FENCE
- R= RIM ELEVATION
- I= INVERT ELEVATION
- X FENCE
- S SEWER
- D DRAIN
- W WATER
- G GAS
- TEL TELEPHONE
- OHW OVERHEAD WIRE

REFERENCES

1. BOSTON PUBLIC WORKS DEPARTMENT LAYOUT PLAN L-3896.
2. BOSTON PUBLIC WORKS DEPARTMENT SURVEY FIELD NOTES BK 1232/138-141.
3. CITY OF BOSTON ASSESSING MAPA 1084 & 1085

NOTES

- 1) ELEVATIONS REFER TO BOSTON CITY BASE.
- 2) UNDERGROUND UTILITIES ARE ONLY SHOWN FROM LIMITED RESEARCH ONLY. THERE IS EVIDENCE OF ADDITIONAL LINES IN THE AREA.
- 3) THE SURVEY IS BASED ON DEEDS AND PLANS OF RECORD AND ALSO THE TITLE COMMITMENT CASE #C22157 PREPARED BY COMMONWEALTH TITLE INSURANCE COMPANY EFFECTIVE DATE 7-1-15.
- 4) LOCUS IS NOT LOCATED WITHIN A FLOOD ZONE AS MARKED ON THE CURRENT FLOOD BASE MAPS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. SEE MAP 25025C 0081G UPDATED THROUGH SEPTEMBER 25, 2009.

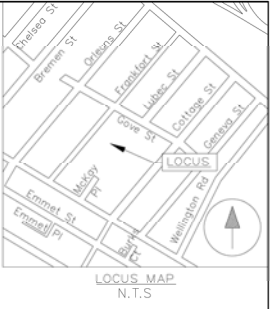


PLAN OF PROPOSED CONSTRUCTION
120-134 GOVE STREET
BOSTON, MASSACHUSETTS
(EAST BOSTON DISTRICT)

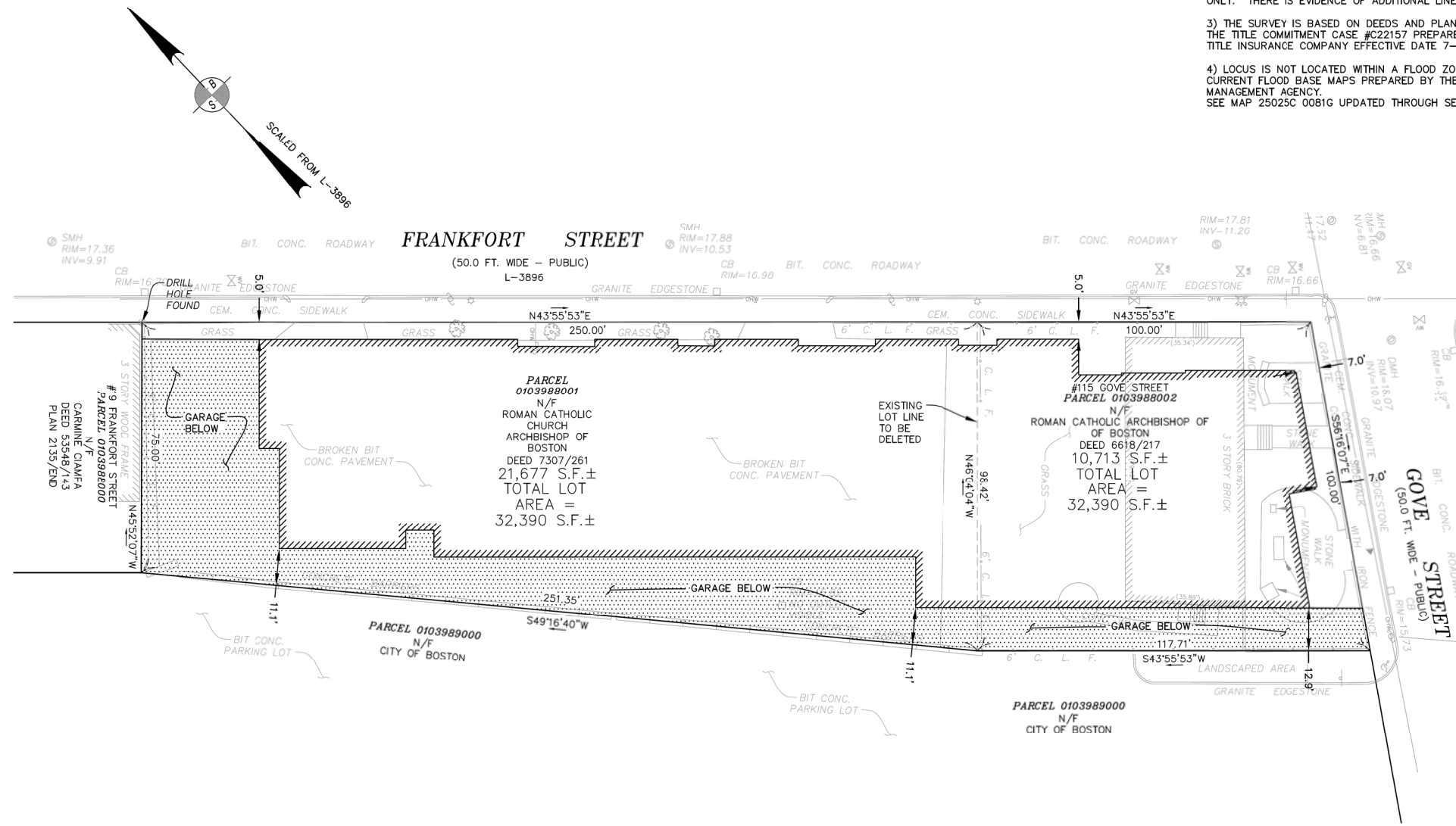
PREPARED FOR
 FRANKFORT GOVE LLC
 220 BOYLSTON STREET, SUITE 1214
 BOSTON, MA 02116

GREATER BOSTON SURVEYING AND ENGINEERING
 19 FREDITH ROAD
 WEYMOUTH, MA 02189
 (781) 331-6128

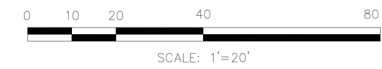
CALC BY: PJT CHECK BY: DGM DATE: SEPTEMBER, 2018 SCALE: 1"=20'



- REFERENCES**
1. BOSTON PUBLIC WORKS DEPARTMENT LAYOUT PLAN L-695, L-1168.
 2. BOSTON PUBLIC WORKS DEPARTMENT SURVEY FIELD NOTES BK 1232/138-141
- NOTES**
- 1) ELEVATIONS REFER TO BOSTON CITY BASE.
 - 2) UNDERGROUND UTILITIES ARE ONLY SHOWN FROM LIMITED RESEARCH ONLY. THERE IS EVIDENCE OF ADDITIONAL LINES IN THE AREA.
 - 3) THE SURVEY IS BASED ON DEEDS AND PLANS OF RECORD AND ALSO THE TITLE COMMITMENT CASE #C22157 PREPARED BY COMMONWEALTH TITLE INSURANCE COMPANY EFFECTIVE DATE 7-1-15.
 - 4) LOCUS IS NOT LOCATED WITHIN A FLOOD ZONE AS MARKED ON THE CURRENT FLOOD BASE MAPS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. SEE MAP 25025C 0081G UPDATED THROUGH SEPTEMBER 25, 2009.



- LEGEND:**
- ⊙ SEWER MANHOLE
 - ⊙ DRAIN MANHOLE
 - ⊙ CABLE TV MANHOLE
 - ♿ HANDICAP RAMP
 - ⊙ GAS SHUT OFF
 - ⊙ WATER SHUT OFF
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 - I= INVERT ELEVATION
 - x FENCE
 - s SEWER
 - d DRAIN
 - w WATER
 - g GAS
 - tel TELEPHONE
 - ohw OVERHEAD WIRE



PLAN OF PROPOSED CONSTRUCTION
21-47 FRANKFORT STREET
BOSTON, MASSACHUSETTS
(EAST BOSTON DISTRICT)

PREPARED FOR
 FRANKFORT GOVE LLC
 220 BOYLSTON STREET, SUITE 1214
 BOSTON, MA 02116

GREATER BOSTON SURVEYING AND ENGINEERING
 19 FREDITH ROAD
 WEYMOUTH, MA 02189
 (781) 331-6128

CALC BY: PJT CHECK BY: DGM DATE: SEPTEMBER, 2018 SCALE: 1"=20'

Appendix B

Transportation

APPENDIX

PROJECT SITE PLAN
MANUAL TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
PUBLIC TRANSPORTATION SCHEDULES
EAST BOSTON GREENWAY LOCATION MAP
MASSDOT HIGH CRASH LOCATION MAP
GENERAL BACKGROUND TRAFFIC GROWTH
BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS
TRIP-GENERATION CALCULATIONS
BTD TRIP DISTRIBUTION
CAPACITY ANALYSIS WORKSHEETS

PROJECT SITE PLAN



LEVEL 01 - PARKING STUDY
CHURCH - 6,200 GSF
NEW BUILDING - 3,850 GSF

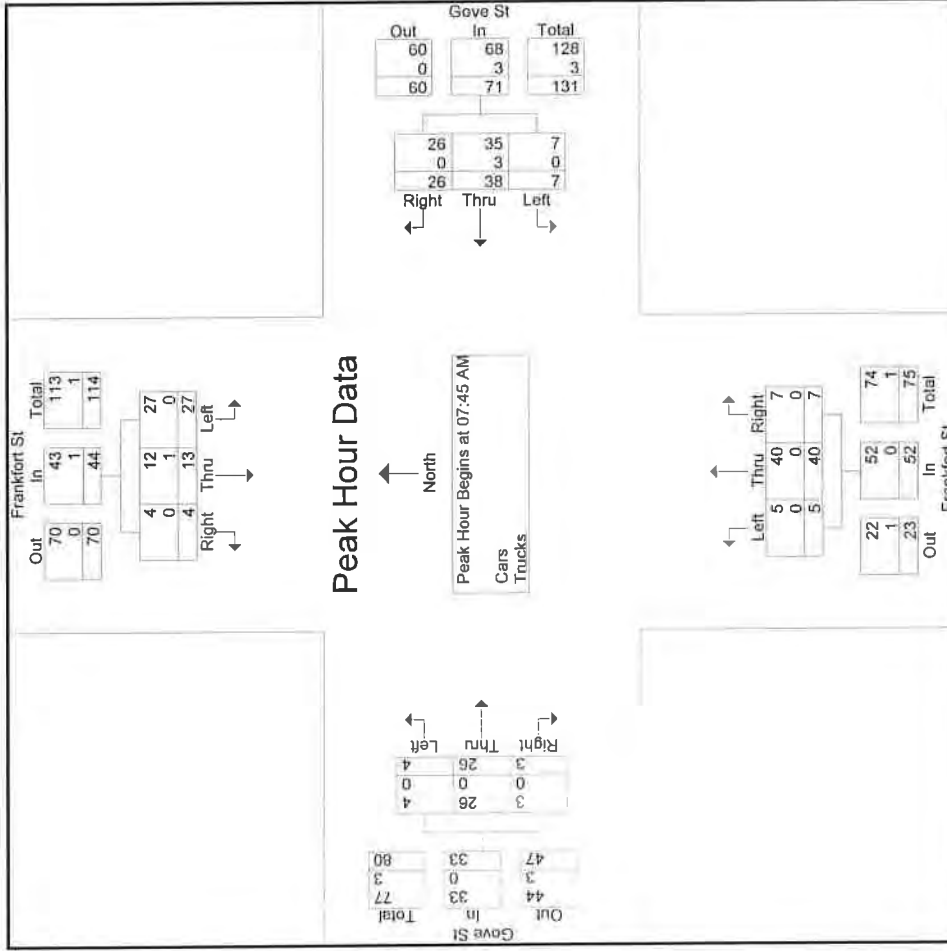
MANUAL TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 3



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	07:30 AM	07:45 AM	07:30 AM	07:45 AM	07:30 AM
+0 mins.	6	11	6	19	0	6
+15 mins.	2	4	1	17	2	20
+30 mins.	12	17	1	14	2	14
+45 mins.	7	12	3	26	1	12
Total Volume	27	44	11	76	5	52
% App. Total	61.4	29.5	9.1	48.7	36.8	13.5
				9.6	76.9	13.5
				5	40	7
				5	29	4
				13.2	76.3	10.5

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	4	1	1	1	4	0	10	0	0	2	0	23
07:15 AM	3	5	0	0	2	8	1	9	2	1	5	1	37
07:30 AM	5	2	0	6	7	6	1	3	1	2	8	1	42
07:45 AM	6	4	1	1	9	7	0	4	2	0	4	0	38
Total	14	15	2	8	19	25	2	26	5	3	19	2	140
08:00 AM	2	2	0	1	7	6	2	15	3	2	9	3	52
08:15 AM	12	3	1	3	11	9	2	11	1	1	8	0	62
08:30 AM	7	3	2	2	8	4	1	10	1	1	5	0	44
08:45 AM	1	1	0	1	2	2	0	3	1	1	4	1	17
Total	22	9	3	7	28	21	5	39	6	5	26	4	175
Grand Total	36	24	5	15	47	46	7	65	11	8	45	6	315
Approch %	55.4	36.9	7.7	13.9	43.5	42.6	8.4	78.3	13.3	13.6	76.3	10.2	
Total %	11.4	7.6	1.6	4.8	14.9	14.6	2.2	20.6	3.5	2.5	14.3	1.9	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	1	0	0	3	0	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	3	0	0	0	0	0	0	4
Grand Total	0	0	1	0	0	3	0	0	0	0	0	0	4
Approch %	0	0	100	0	0	100	0	0	0	0	0	0	0
Total %	0	0	25	0	0	75	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 13

Groups Printed-Bikes, Peds

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Approch %	0	0	0	0	0	0	0	0	0	0	0	0
Total % :	0	0	0	0	66.7	0	0	0	0	33.3	0	0
										98.8		1.2

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Approch %	0	0	0	0	100	0	0	0	0	100	0	0
Total % :	0	0	0	0	66.7	0	0	0	0	33.3	0	0
										98.8		1.2

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

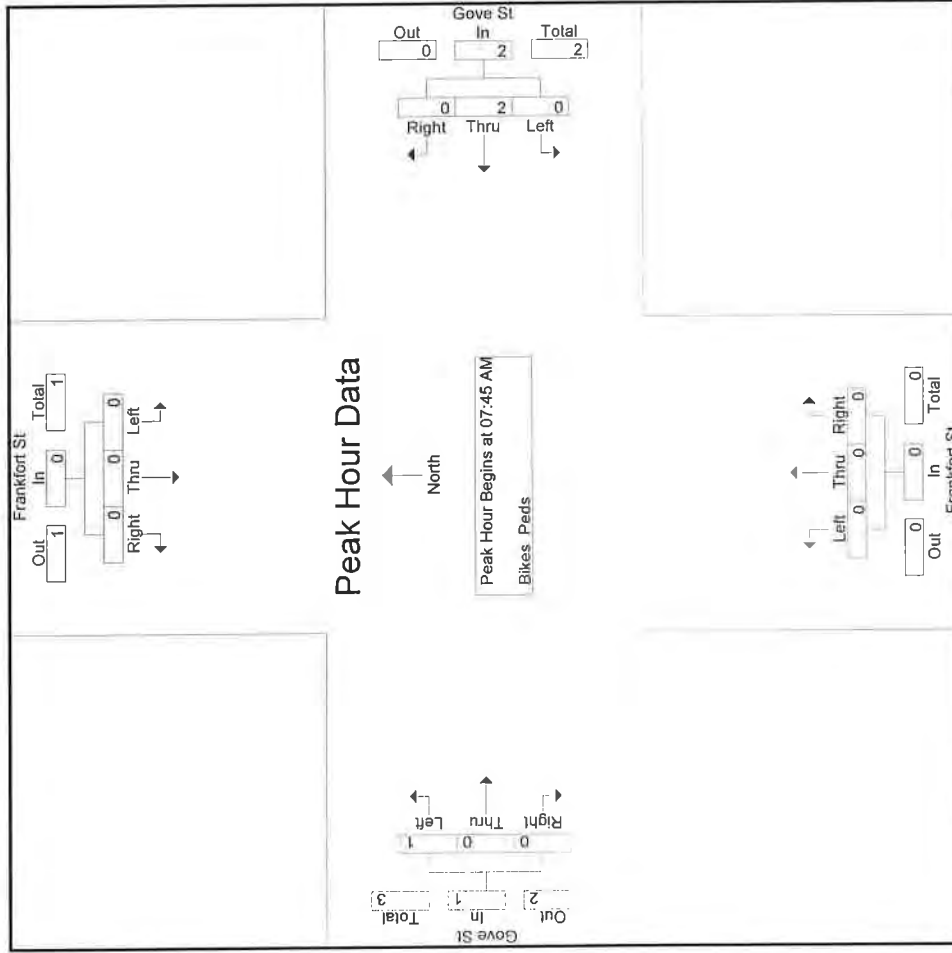
File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 14

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	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	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1	3
% App. Total	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	0	3
PHF	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.250	.000	.000	.250	.375

Accurate Counts
978-664-2565

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear



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			07:45 AM			07:00 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1	0	0	1
Total Volume	0	0	0	0	0	0	2	0	2	0	0	0
% App. Total	0	0	0	0	0	0	100	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

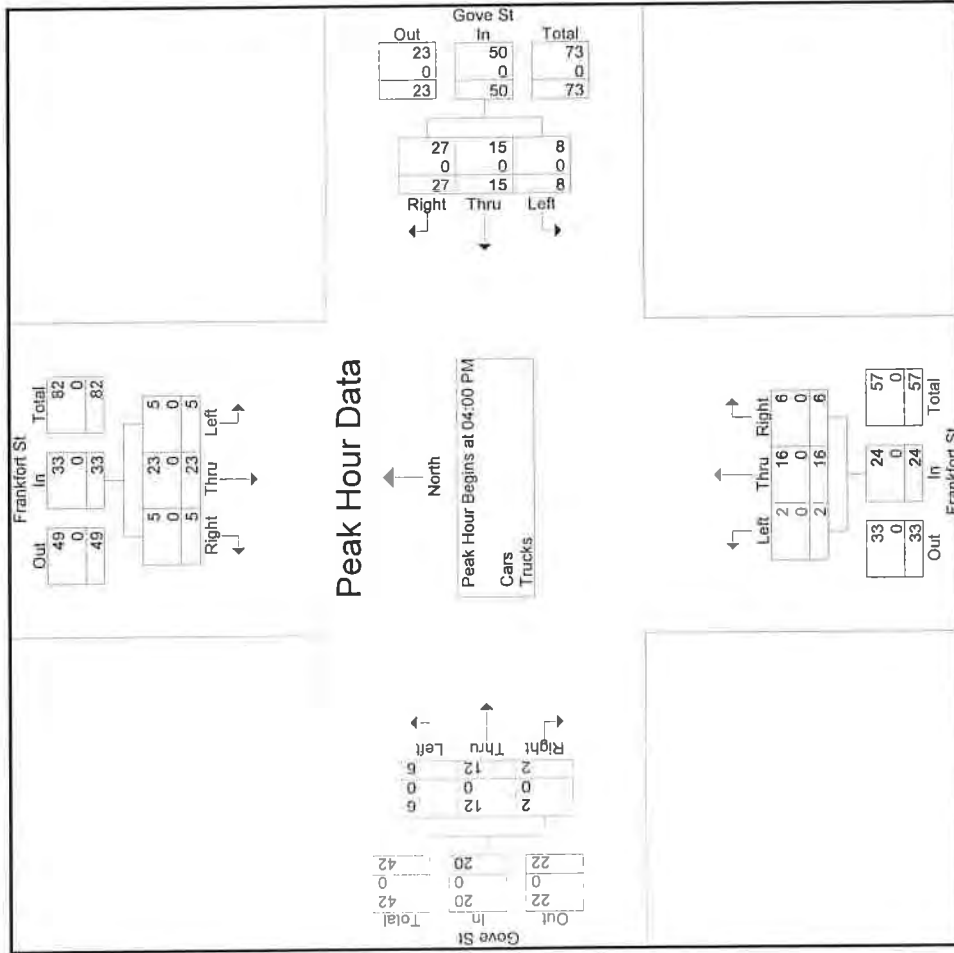
Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
04:00 PM	3	0	7	1	6	3	0	1	5	2	1	2	31
04:15 PM	1	2	3	2	6	5	0	4	3	0	0	3	29
04:30 PM	0	1	5	1	3	4	2	0	6	3	0	3	28
04:45 PM	1	2	8	4	12	3	0	1	2	1	4	4	39
Total	5	5	23	8	27	15	2	6	16	6	2	12	127
05:00 PM	0	1	4	0	5	5	1	0	1	0	0	5	23
05:15 PM	0	0	5	2	4	6	0	4	10	0	2	2	35
05:30 PM	3	2	4	0	2	4	0	1	5	0	2	2	25
05:45 PM	1	1	4	1	5	4	0	0	2	2	1	1	23
Total	4	4	17	3	16	19	1	5	18	2	7	10	106
Grand Total	9	9	40	11	43	34	3	11	34	8	9	22	233
Approch %	15.5	15.5	69	12.5	48.9	38.6	6.2	22.9	70.8	20.5	23.1	56.4	
Total %	3.9	3.9	17.2	4.7	18.5	14.6	1.3	4.7	14.6	3.4	3.9	9.4	
Cars	9	9	40	11	43	34	3	11	34	8	9	21	232
% Cars	100	100	100	100	100	100	100	100	100	100	100	95.5	99.6
Trucks	0	0	0	0	0	0	0	0	0	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	4.5	0.4

Accurate Counts

978-664-2565

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 3

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

Time	04:00 PM	04:30 PM	04:30 PM	04:30 PM
+0 mins.	10	3	6	10
+15 mins.	6	5	6	13
+30 mins.	6	4	3	8
+45 mins.	11	3	12	19
Total Volume	33	15	27	50
% App. Total	15.2	69.7	15.2	16
				30
				54
				27
				12
				8
				4
				3
				11
				4
				8
				15
				3
				19
				10
				2
				0
				13
				6
				5
				2
				1
				6
				3
				4
				1
				8
				4
				1
				3
				6
				2
				5
				1
				6
				4
				1
				3
				6
				2
				14
				4
				2
				5
				1
				4
				2
				2
				4
				2
				14
				5
				19
				10
				6
				0
				2
				0
				13
				6
				5
				2
				1
				6
				3
				4
				1
				8
				4
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				1
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				14
				5
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				3
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				14
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				14
				5
				19
				10
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				0
				2
				0
				13
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				1
				6
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				1
				8
				4
				1
				3
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				2
				14
				4
				2
				5
				1
				4
				2
				4
				2
				14
				5
				19
				10
				6
				0
				2
				0
				13
				6
				5
				2
				1
				6
				3
				4
				1
				8
				4
				1
				3
				6
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				14
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				1
				4
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				10
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				1
				3
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				2
				5
				1
				4
				2
				4
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				14
				5
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				6
				0
				2
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				13
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				3
				6
				2
				14
				4
				2
				5
				1
				4
				2
				4
				2
				14
				5

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 5

Groups Printed-Cars

Start Time	Frankfort St From North		Gove St From East		Frankfort St From South		Gove St From West		Int. Total
	Left	Right	Left	Right	Left	Right	Left	Right	
04:00 PM	3	0	1	6	0	5	2	1	31
04:15 PM	1	2	2	6	0	3	0	0	29
04:30 PM	0	1	1	3	2	6	3	0	28
04:45 PM	1	2	4	12	0	2	1	1	39
Total	5	5	8	27	2	16	6	2	127
05:00 PM	0	1	0	5	1	1	0	1	23
05:15 PM	0	0	2	4	0	10	0	2	35
05:30 PM	3	2	0	2	0	5	0	2	24
05:45 PM	1	1	1	5	0	2	2	2	23
Total	4	4	3	16	1	18	2	7	105
Grand Total	9	9	11	43	3	34	8	9	232
Approch %	15.5	15.5	12.5	48.9	6.2	70.8	21.1	23.7	55.3
Total %	3.9	3.9	4.7	18.5	1.3	14.7	3.4	3.9	9.1

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	1
Approch %	0	0	0	0	0	0	0	0	0	0	100	0	0
Total %	0	0	0	0	0	0	0	0	0	0	100	0	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 13

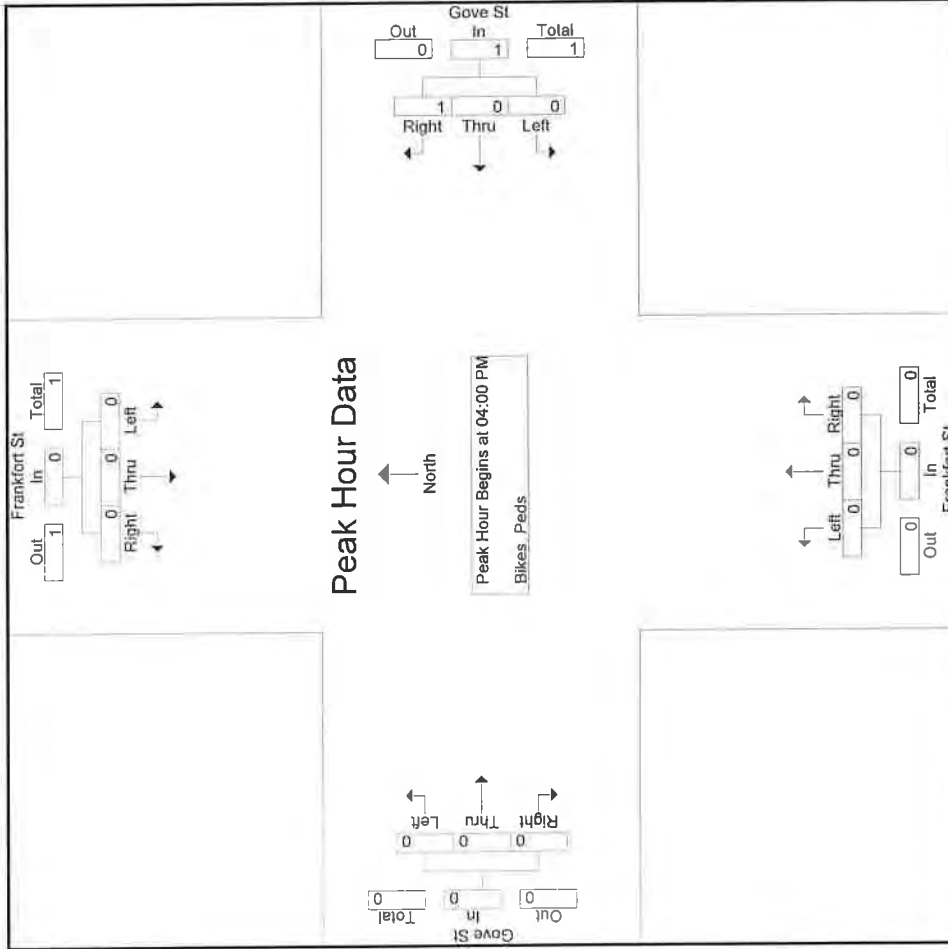
Groups Printed- Bikes- Peds

Start Time	Frankfort St From North			Gove St From East			Frankfort St From South			Gove St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	36	1	37
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
Total	0	0	0	0	0	1	0	0	0	0	0	0	93	1	94
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	27	0	27
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28
05:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	15	1	16
Total	0	0	0	0	1	0	0	0	0	0	0	0	102	1	103
Grand Total	0	0	0	0	1	1	0	0	0	0	0	0	195	2	197
Apprch %	0	0	0	0	50	50	0	0	0	0	0	0	99	1	100
Total %	0	0	0	0	50	50	0	0	0	0	0	0	99	1	100

Accurate Counts
978-664-2565

File Name : 75860001
 Site Code : 75860001
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Frankfort Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear



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			04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	0	0	0
% App. Total	0	0	0	0	0	0	100	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 EW Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 1

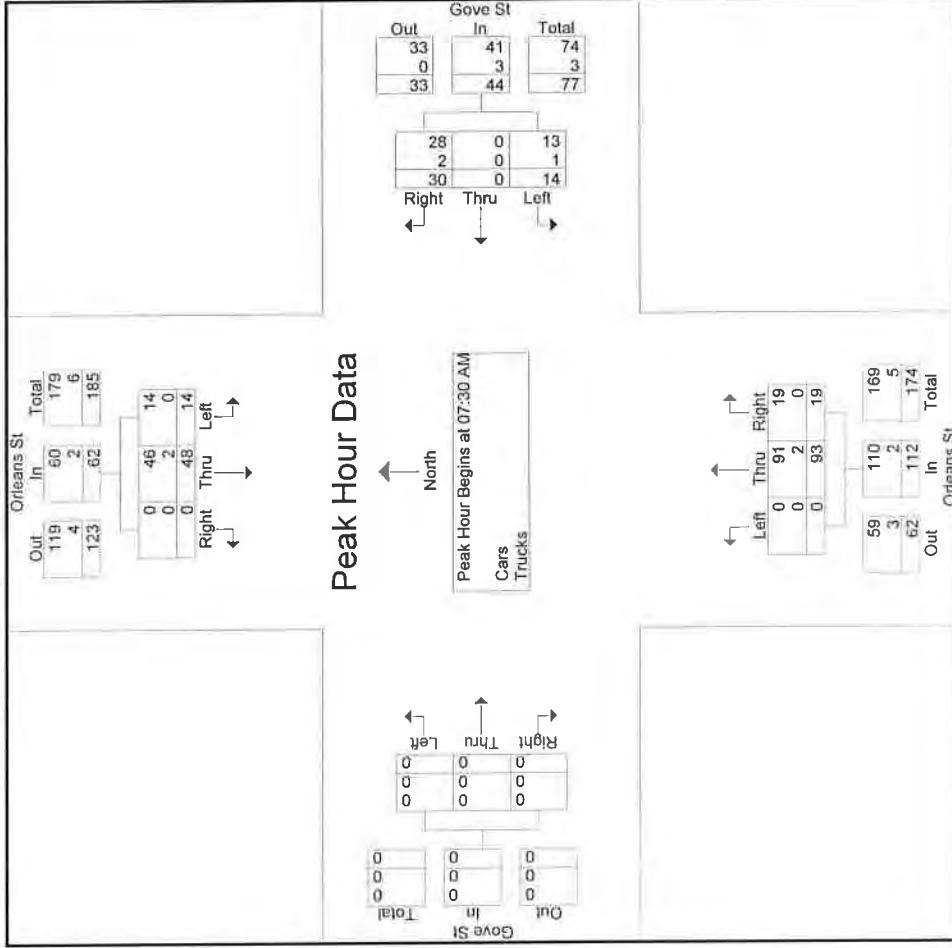
Groups Printed- Cars - Trucks

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
07:00 AM	1	0	6	2	2	0	0	2	11	0	0	1	25
07:15 AM	3	1	11	0	5	0	0	7	22	0	0	0	49
07:30 AM	1	0	9	1	5	0	0	5	27	0	0	0	48
07:45 AM	5	0	15	3	6	0	0	4	18	0	0	0	51
Total	10	1	41	6	18	0	0	18	78	0	0	1	173
08:00 AM	4	0	10	5	7	0	0	4	29	0	0	0	59
08:15 AM	4	0	14	5	12	0	0	6	19	0	0	0	60
08:30 AM	1	0	14	3	4	0	0	3	15	0	0	0	40
08:45 AM	0	0	11	1	1	0	0	1	11	0	0	0	25
Total	9	0	49	14	24	0	0	14	74	0	0	0	184
Grand Total	19	1	90	20	42	0	0	32	152	0	0	1	357
Apprch %	17.3	0.9	81.8	32.3	67.7	0	0	17.4	82.6	0	0	100	97.8
Total %	5.3	0.3	25.2	5.6	11.8	0	0	9	42.6	0	0	0.3	34.9
Cars	19	1	88	19	40	0	0	32	149	0	0	1	349
% Cars	100	100	97.8	95	95.2	0	0	100	98	0	0	100	97.8
Trucks	0	0	2	1	2	0	0	0	3	0	0	0	8
% Trucks	0	0	2.2	5	4.8	0	0	0	2	0	0	0	2.2

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 3



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		07:15 AM		07:00 AM	
+0 mins.	0	20	3	0	6	9
+15 mins.	0	14	0	0	7	12
+30 mins.	0	18	0	0	12	17
+45 mins.	0	15	0	0	4	7
Total Volume	0	67	16	0	29	45
% App. Total	0	79.1	35.6	0	64.4	82.8

Accurate Counts
978-664-2565

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 5

N/S Street : Orleans Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

Groups Printed- Cars

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	1	6	0	2	0	2	0	11	2	0	1	0	25
07:15 AM	3	11	1	0	0	5	0	22	7	0	0	0	49
07:30 AM	1	9	0	1	0	5	0	26	5	0	0	0	47
07:45 AM	5	14	0	3	0	6	0	18	4	0	0	0	50
Total	10	40	1	6	0	18	0	77	18	0	1	0	171
08:00 AM	4	9	0	5	0	7	0	29	4	0	0	0	58
08:15 AM	4	14	0	4	0	10	0	18	6	0	0	0	56
08:30 AM	1	14	0	3	0	4	0	14	3	0	0	0	39
08:45 AM	0	11	0	1	0	1	0	11	1	0	0	0	25
Total	9	48	0	13	0	22	0	72	14	0	0	0	178
Grand Total	19	88	1	19	0	40	0	149	32	0	1	0	349
Apprch %	17.6	81.5	0.9	32.2	0	67.8	0	82.3	17.7	0	100	0	
Total %	5.4	25.2	0.3	5.4	0	11.5	0	42.7	9.2	0	0.3	0	

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 9

Groups Printed- Trucks

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	1	0	0	0	0	2
08:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	1	0	2	0	1	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	2	0	2	0	0	0	0	6
Grand Total	0	2	0	1	0	2	0	3	0	0	0	0	8
Approch %	0	100	0	33.3	0	66.7	0	100	0	0	0	0	0
Total %	0	25	0	12.5	0	25	0	37.5	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 14

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.250

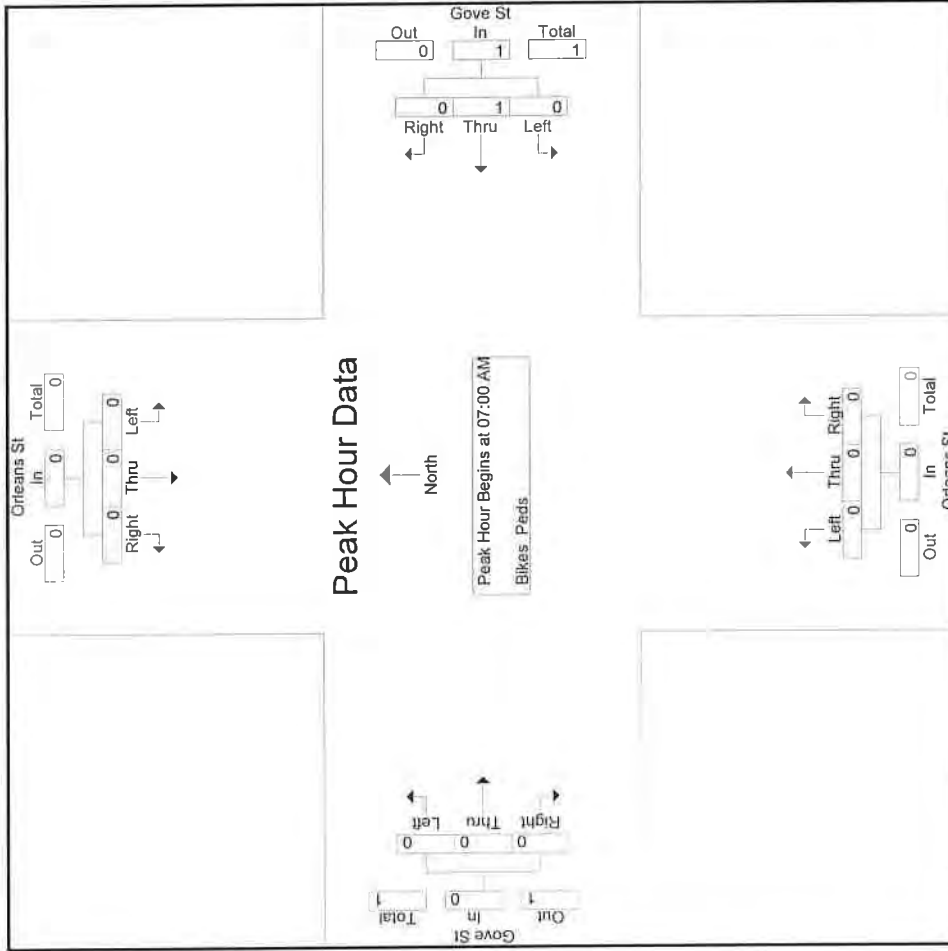
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 15



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			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	7	0	3	0	3	0	15	1	0	0	0	30
04:15 PM	3	11	0	1	0	4	0	17	4	0	0	0	40
04:30 PM	3	18	0	0	0	7	0	24	2	0	0	0	54
04:45 PM	4	16	0	1	0	5	0	16	4	0	0	0	46
Total	11	52	0	5	0	19	0	72	11	0	0	0	170
05:00 PM	1	18	0	0	0	4	0	23	5	0	0	0	51
05:15 PM	2	16	0	0	0	7	1	13	4	1	0	0	44
05:30 PM	3	16	0	0	0	6	0	19	1	0	0	0	45
05:45 PM	0	19	1	0	0	4	0	16	2	0	0	0	42
Total	6	69	1	0	0	21	1	71	12	1	0	0	182
Grand Total	17	121	1	5	0	40	1	143	23	1	0	0	352
Approch %	12.2	87.1	0.7	11.1	0	88.9	0.6	85.6	13.8	100	0	0	
Total %	4.8	34.4	0.3	1.4	0	11.4	0.3	40.6	6.5	0.3	0	0	
Cars	16	121	1	5	0	39	1	142	23	1	0	0	349
% Cars	94.1	100	100	100	0	97.5	100	99.3	100	100	0	0	99.1
Trucks	1	0	0	0	0	1	0	1	0	0	0	0	3
% Trucks	5.9	0	0	0	0	2.5	0	0.7	0	0	0	0	0.9

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 2

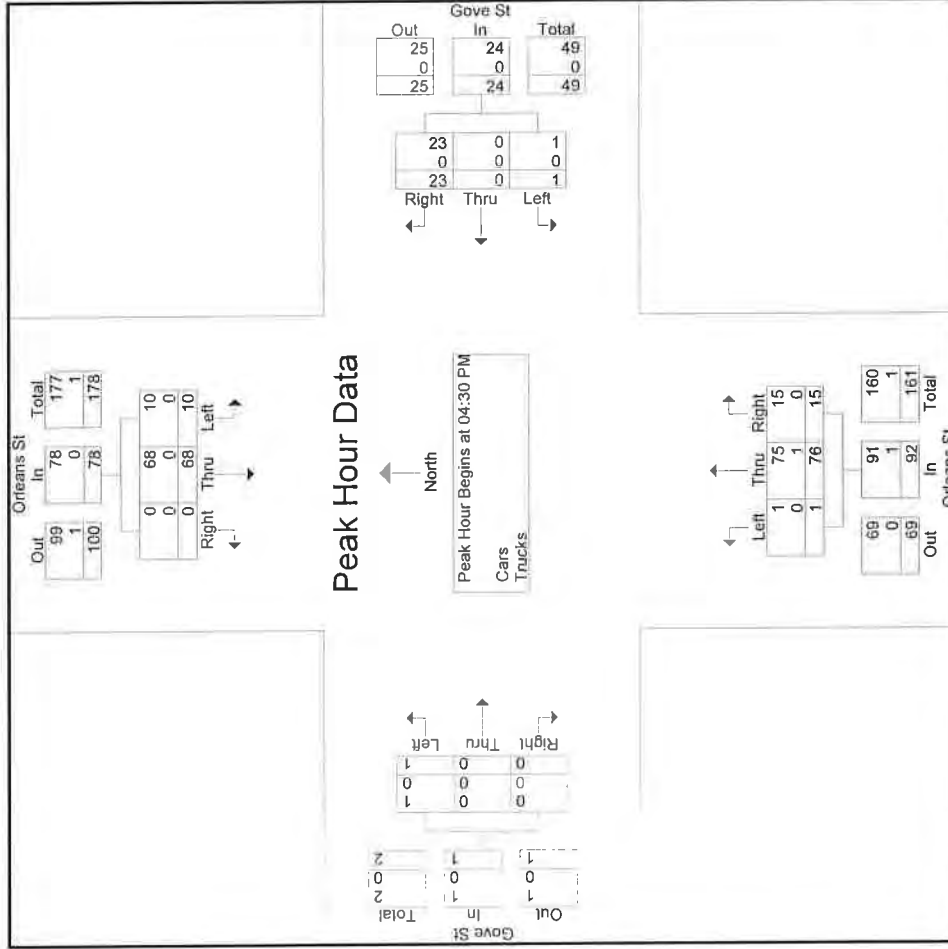
Start Time	Orleans St From North				Gove St From East				Orleans St From South				Gove St From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
	Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	3	18	0	21	0	0	7	7	0	24	2	26	0	0	0	0	54
04:45 PM	4	16	0	20	1	0	5	6	0	16	4	20	0	0	0	0	46
05:00 PM	1	18	0	19	0	0	4	4	0	23	5	28	0	0	0	0	51
05:15 PM	2	16	0	18	0	0	7	7	1	13	4	18	1	0	0	1	44
Total Volume	10	68	0	78	1	0	23	24	1	76	15	92	1	0	0	1	195
% App. Total	12.8	87.2	0		4.2	0	95.8		1.1	82.6	16.3		100	0	0		
PHF	.625	.944	.000	.929	.250	.000	.821	.857	.250	.792	.750	.821	.250	.000	.000	.250	.903
Cars	10	68	0	78	1	0	23	24	1	75	15	91	1	0	0	1	194
% Cars	100	100	0	100	100	0	100	100	100	98.7	100	98.9	100	0	0	100	99.5
Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	1.3	0	1.1	0	0	0	0	0.5

Accurate Counts

978-664-2565

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 3

N/S Street : Orleans Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:15 PM			04:30 PM					
+0 mins.	3	18	0	21	0	3	6	3	0	17	4	21	0	0	0
+15 mins.	4	16	0	20	0	4	5	4	0	24	2	26	0	0	0
+30 mins.	1	18	0	19	0	7	7	7	0	16	4	20	0	0	0
+45 mins.	2	16	0	18	0	5	6	5	0	23	5	28	1	0	1
Total Volume	10	68	0	78	0	19	24	19	0	80	15	95	1	0	1
% App. Total	12.8	87.2	0	20.8	0	79.2	0	84.2	0	15.8	0	100	0	0	0

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860002
 Site Code : 75860002
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	7	0	3	0	2	0	15	1	0	0	0	29
04:15 PM	3	11	0	1	0	4	0	17	4	0	0	0	40
04:30 PM	3	18	0	0	0	7	0	23	2	0	0	0	53
04:45 PM	4	16	0	1	0	5	0	16	4	0	0	0	46
Total	11	52	0	5	0	18	0	71	11	0	0	0	168
05:00 PM	1	18	0	0	0	4	0	23	5	0	0	0	51
05:15 PM	2	16	0	0	0	7	1	13	4	1	0	0	44
05:30 PM	2	16	0	0	0	6	0	19	1	0	0	0	44
05:45 PM	0	19	1	0	0	4	0	16	2	0	0	0	42
Total	5	69	1	0	0	21	1	71	12	1	0	0	181
Grand Total	16	121	1	5	0	39	1	142	23	1	0	0	349
Approch %	11.6	87.7	0.7	11.4	0	88.6	0.6	85.5	13.9	100	0	0	
Total %	4.6	34.7	0.3	1.4	0	11.2	0.3	40.7	6.6	0.3	0	0	

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 9

Start Time	Groups Printed- Trucks												Int. Total		
	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	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	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	0	0	1	0	1	0	0	1	0	0	0	3
Approch %	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
Total %	33.3	0	0	0	0	33.3	0	0	0	33.3	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 13

Groups Printed- Bikes- Peds

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Inclu. Total	Exclu. Total	Peds	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
	Peds			Peds			Peds			Peds						
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	2	18	1	19
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	16	0	16
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	27	0	27
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	25	0	25
Total	0	0	0	0	0	0	0	1	0	0	0	0	14	86	1	87
05:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	4	27	1	28
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	35	0	35
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	25	0	25
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	18	0	18
Total	0	0	0	0	0	0	0	1	0	0	0	0	23	105	1	106
Grand Total	0	0	0	0	0	0	0	2	0	0	0	0	37	191	2	193
Apprch %	0	0	0	0	0	0	0	100	0	0	0	0	0	99	1	
Total %	0	0	0	0	0	0	0	100	0	0	0	0	0	99	1	

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

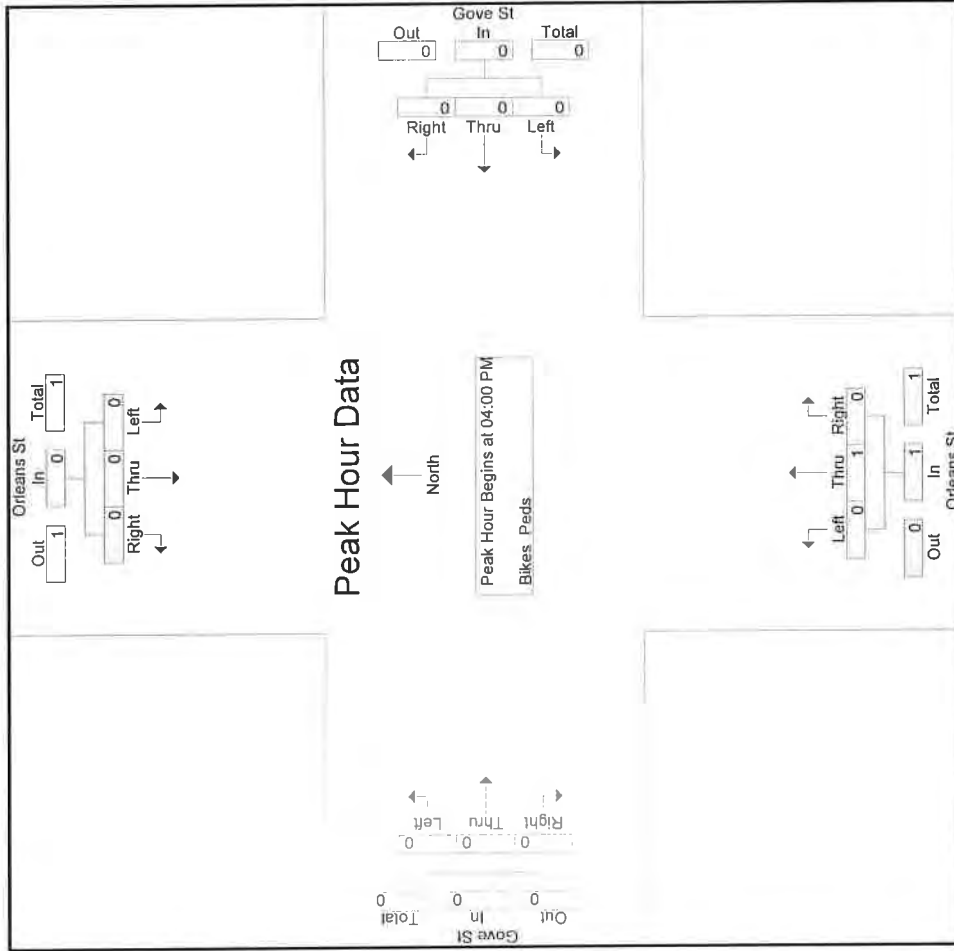
File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 14

Start Time	Orleans St From North			Gove St From East			Orleans St From South			Gove St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
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	1	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	1	0	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250

Accurate Counts
978-664-2565

N/S Street : Orleans Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860002
Site Code : 75860002
Start Date : 1/25/2018
Page No : 15



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			04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume :	0	0	0	0	0	0	0	0	0	1	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

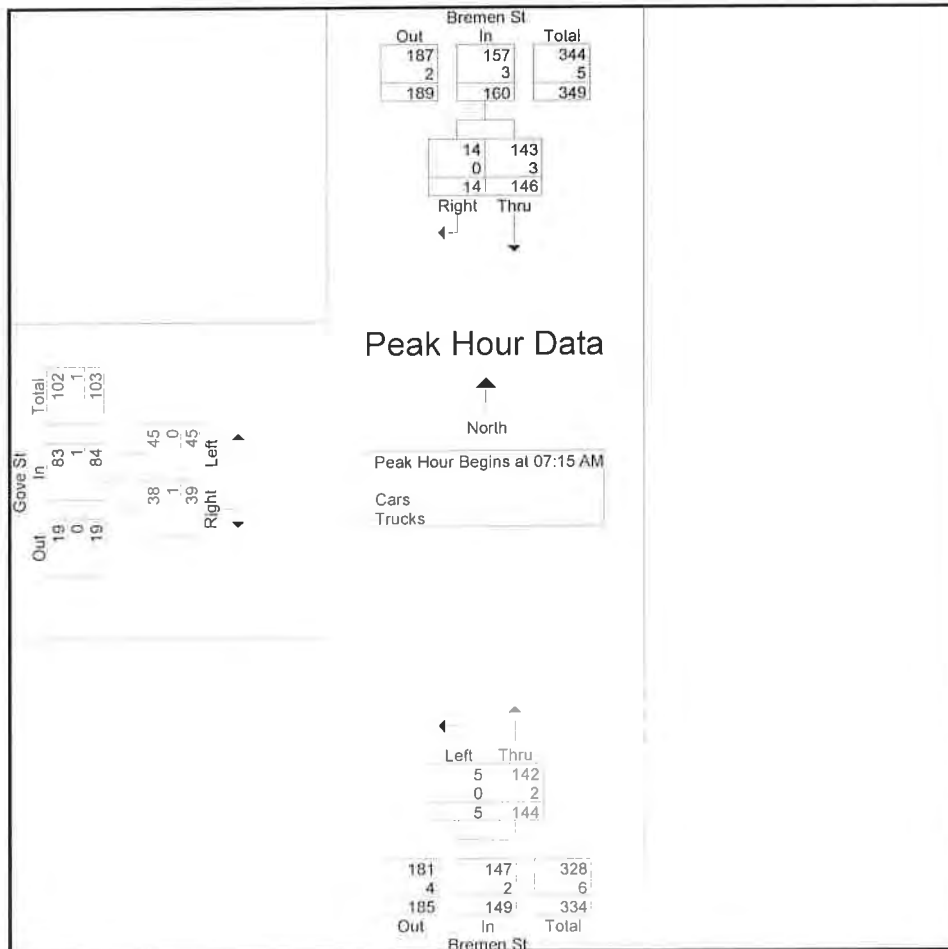
Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	36	3	1	33	4	5	82
07:15 AM	33	6	3	40	8	8	98
07:30 AM	30	3	1	34	13	9	90
07:45 AM	51	4	0	35	13	10	113
Total	150	16	5	142	38	32	383
08:00 AM	32	1	1	35	11	12	92
08:15 AM	32	7	0	37	8	7	91
08:30 AM	24	2	1	38	7	3	75
08:45 AM	25	3	1	25	5	3	62
Total	113	13	3	135	31	25	320
Grand Total	263	29	8	277	69	57	703
Apprch %	90.1	9.9	2.8	97.2	54.8	45.2	
Total %	37.4	4.1	1.1	39.4	9.8	8.1	
Cars	254	29	8	273	69	56	689
% Cars	96.6	100	100	98.6	100	98.2	98
Trucks	9	0	0	4	0	1	14
% Trucks	3.4	0	0	1.4	0	1.8	2

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 2

Start Time	Bremen St From North			Bremen St From South			Gove St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. 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	33	6	39	3	40	43	8	8	16	98
07:30 AM	30	3	33	1	34	35	13	9	22	90
07:45 AM	51	4	55	0	35	35	13	10	23	113
08:00 AM	32	1	33	1	35	36	11	12	23	92
Total Volume	146	14	160	5	144	149	45	39	84	393
% App. Total	91.2	8.8		3.4	96.6		53.6	46.4		
PHF	.716	.583	.727	.417	.900	.866	.865	.813	.913	.869
Cars	143	14	157	5	142	147	45	38	83	387
% Cars	97.9	100	98.1	100	98.6	98.7	100	97.4	98.8	98.5
Trucks	3	0	3	0	2	2	0	1	1	6
% Trucks	2.1	0	1.9	0	1.4	1.3	0	2.6	1.2	1.5



Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 4

Groups Printed- Cars

Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	34	3	1	33	4	5	80
07:15 AM	33	6	3	39	8	8	97
07:30 AM	29	3	1	34	13	9	89
07:45 AM	50	4	0	35	13	10	112
Total	146	16	5	141	38	32	378
08:00 AM	31	1	1	34	11	11	89
08:15 AM	30	7	0	36	8	7	88
08:30 AM	24	2	1	37	7	3	74
08:45 AM	23	3	1	25	5	3	60
Total	108	13	3	132	31	24	311
Grand Total	254	29	8	273	69	56	689
Apprch %	89.8	10.2	2.8	97.2	55.2	44.8	
Total %	36.9	4.2	1.2	39.6	10	8.1	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	2	0	0	0	0	0	2
07:15 AM	0	0	0	1	0	0	1
07:30 AM	1	0	0	0	0	0	1
07:45 AM	1	0	0	0	0	0	1
Total	4	0	0	1	0	0	5
08:00 AM	1	0	0	1	0	1	3
08:15 AM	2	0	0	1	0	0	3
08:30 AM	0	0	0	1	0	0	1
08:45 AM	2	0	0	0	0	0	2
Total	5	0	0	3	0	1	9
Grand Total	9	0	0	4	0	1	14
Apprch %	100	0	0	100	0	100	
Total %	64.3	0	0	28.6	0	7.1	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 10

Groups Printed- Bikes Peds

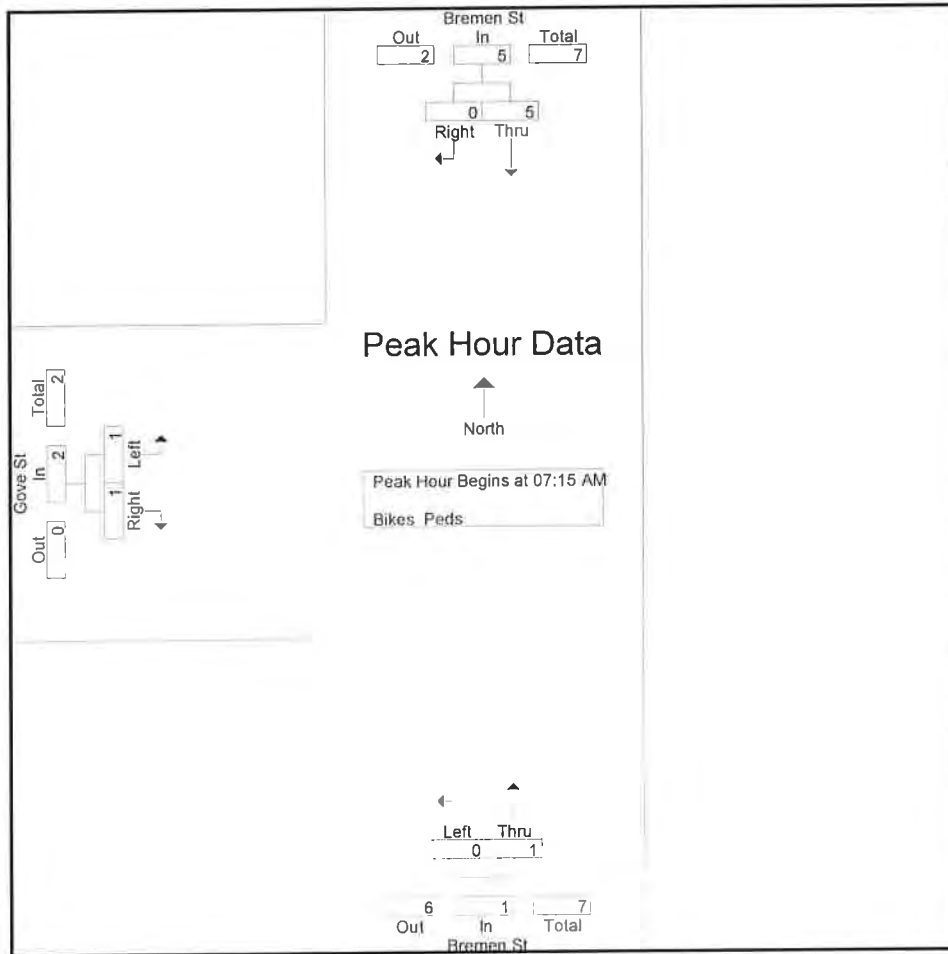
Start Time	Bremen St From North			Bremen St From South			Gove St From West			Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
07:00 AM	0	0	14	0	0	7	0	0	7	28	0	28
07:15 AM	1	0	19	0	0	7	1	0	5	31	2	33
07:30 AM	1	0	19	0	0	3	0	0	10	32	1	33
07:45 AM	1	0	44	0	0	6	0	1	1	51	2	53
Total	3	0	96	0	0	23	1	1	23	142	5	147
08:00 AM	2	0	44	0	1	2	0	0	1	47	3	50
08:15 AM	0	0	30	0	2	7	0	0	0	37	2	39
08:30 AM	0	0	29	0	0	1	0	0	11	41	0	41
08:45 AM	0	0	14	0	0	2	0	0	5	21	0	21
Total	2	0	117	0	3	12	0	0	17	146	5	151
Grand Total	5	0	213	0	3	35	1	1	40	288	10	298
Apprch %	100	0		0	100		50	50				
Total %	50	0		0	30		10	10		96.6	3.4	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 11

Start Time	Bremen St From North			Bremen St From South			Gove St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	1	0	1	0	0	0	1	0	1	2
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	1	0	1	0	0	0	0	1	1	2
08:00 AM	2	0	2	0	1	1	0	0	0	3
Total Volume	5	0	5	0	1	1	1	1	2	8
% App. Total	100	0		0	100		50	50		
PHF	.625	.000	.625	.000	.250	.250	.250	.250	.500	.667



Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	30	4	0	33	9	7	83
04:15 PM	31	4	0	35	7	6	83
04:30 PM	32	2	2	41	12	7	96
04:45 PM	30	2	0	45	10	9	96
Total	123	12	2	154	38	29	358
05:00 PM	35	4	0	49	7	13	108
05:15 PM	33	4	2	33	9	7	88
05:30 PM	39	3	0	39	7	6	94
05:45 PM	30	2	0	25	4	9	70
Total	137	13	2	146	27	35	360
Grand Total	260	25	4	300	65	64	718
Apprch %	91.2	8.8	1.3	98.7	50.4	49.6	
Total %	36.2	3.5	0.6	41.8	9.1	8.9	
Cars	258	25	4	300	64	64	715
% Cars	99.2	100	100	100	98.5	100	99.6
Trucks	2	0	0	0	1	0	3
% Trucks	0.8	0	0	0	1.5	0	0.4

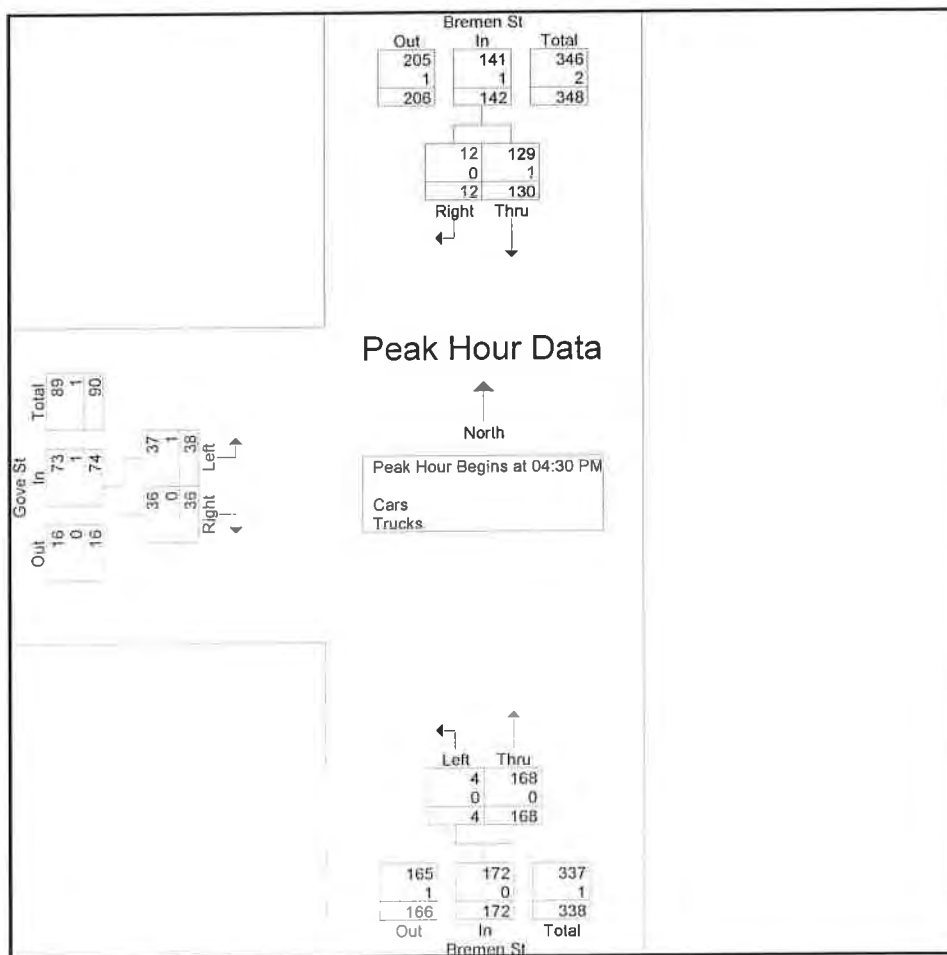
Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860003
 Site Code : 75860003
 Start Date : 1/25/2018
 Page No : 2

Start Time	Bremen St From North			Bremen St From South			Gove St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. 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	32	2	34	2	41	43	12	7	19	96
04:45 PM	30	2	32	0	45	45	10	9	19	96
05:00 PM	35	4	39	0	49	49	7	13	20	108
05:15 PM	33	4	37	2	33	35	9	7	16	88
Total Volume	130	12	142	4	168	172	38	36	74	388
% App. Total	91.5	8.5		2.3	97.7		51.4	48.6		
PHF	.929	.750	.910	.500	.857	.878	.792	.692	.925	.898
Cars	129	12	141	4	168	172	37	36	73	386
% Cars	99.2	100	99.3	100	100	100	97.4	100	98.6	99.5
Trucks	1	0	1	0	0	0	1	0	1	2
% Trucks	0.8	0	0.7	0	0	0	2.6	0	1.4	0.5



Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 4

Groups Printed- Cars

Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	30	4	0	33	9	7	83
04:15 PM	31	4	0	35	7	6	83
04:30 PM	32	2	2	41	12	7	96
04:45 PM	30	2	0	45	10	9	96
Total	123	12	2	154	38	29	358
05:00 PM	35	4	0	49	7	13	108
05:15 PM	32	4	2	33	8	7	86
05:30 PM	38	3	0	39	7	6	93
05:45 PM	30	2	0	25	4	9	70
Total	135	13	2	146	26	35	357
Grand Total	258	25	4	300	64	64	715
Apprch %	91.2	8.8	1.3	98.7	50	50	
Total %	36.1	3.5	0.6	42	9	9	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Bremen St From North		Bremen St From South		Gove St From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	1	0	0	0	1	0	2
05:30 PM	1	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0
Total	2	0	0	0	1	0	3
Grand Total	2	0	0	0	1	0	3
Apprch %	100	0	0	0	100	0	
Total %	66.7	0	0	0	33.3	0	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 10

Groups Printed- Bikes Peds

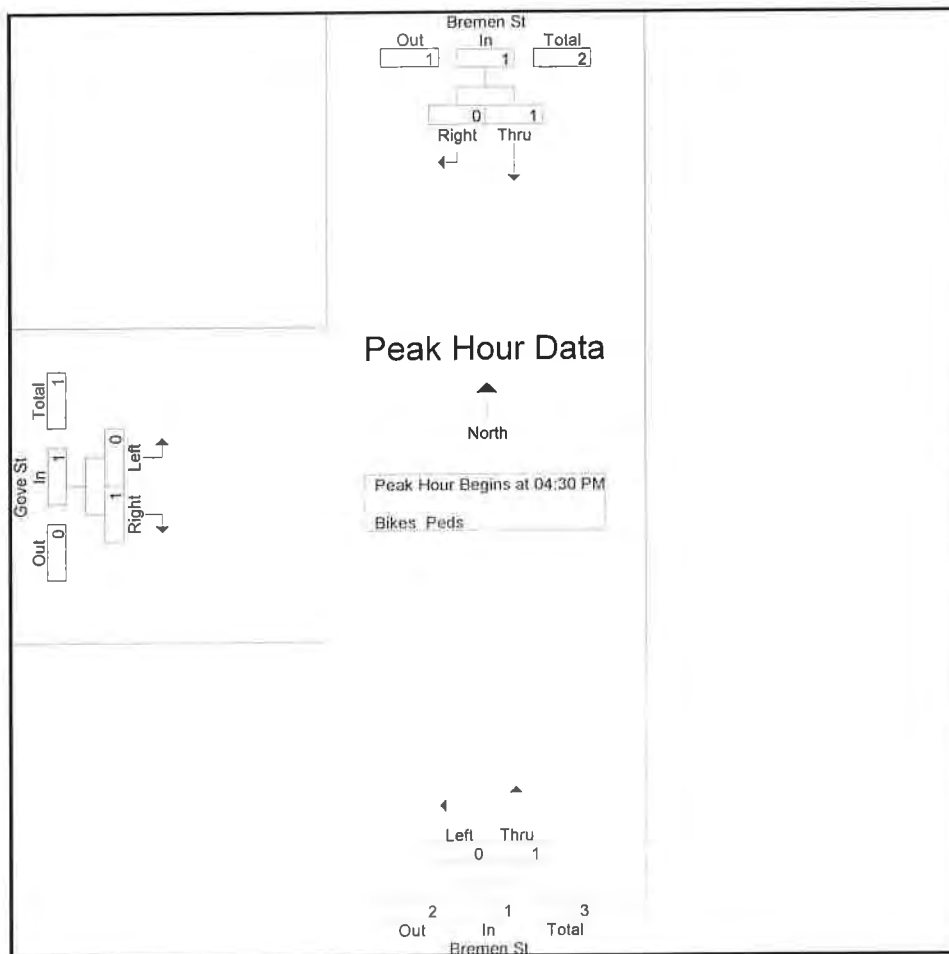
Start Time	Bremen St From North			Bremen St From South			Gove St From West			Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
04:00 PM	0	0	21	0	1	8	0	0	5	34	1	35
04:15 PM	0	0	13	0	0	3	0	0	3	19	0	19
04:30 PM	0	0	23	0	0	5	0	0	5	33	0	33
04:45 PM	0	0	25	0	0	6	0	0	5	36	0	36
Total	0	0	82	0	1	22	0	0	18	122	1	123
05:00 PM	0	0	18	0	1	8	0	0	1	27	1	28
05:15 PM	1	0	31	0	0	4	0	1	5	40	2	42
05:30 PM	0	0	15	0	0	0	0	0	4	19	0	19
05:45 PM	0	0	17	0	0	5	0	0	8	30	0	30
Total	1	0	81	0	1	17	0	1	18	116	3	119
Grand Total	1	0	163	0	2	39	0	1	36	238	4	242
Approch %	100	0		0	100		0	100				
Total %	25	0		0	50		0	25		98.3	1.7	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860003
Site Code : 75860003
Start Date : 1/25/2018
Page No : 11

Start Time	Bremen St From North			Bremen St From South			Gove St From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. 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	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	1	0	0	0	1
05:15 PM	1	0	1	0	0	0	0	1	1	2
Total Volume	1	0	1	0	1	1	0	1	1	3
% App. Total	100	0		0	100		0	100		
PHF	.250	.000	.250	.000	.250	.250	.000	.250	.250	.375



Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860004
Site Code : 75860004
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	36	6	1	4	0	0	0	0	0	0	2	52
07:15 AM	2	31	5	1	5	0	0	0	0	0	5	9	58
07:30 AM	3	43	3	0	6	0	0	0	0	0	1	9	65
07:45 AM	4	64	5	1	1	0	0	0	0	0	0	10	85
Total	12	174	19	3	16	0	0	0	0	0	6	30	260
08:00 AM	4	67	1	0	4	0	0	0	0	0	0	14	90
08:15 AM	3	61	7	0	0	0	0	0	0	0	2	17	90
08:30 AM	1	15	5	0	3	0	0	0	0	0	0	4	28
08:45 AM	3	17	4	1	1	0	0	0	0	0	0	2	28
Total	11	160	17	1	8	0	0	0	0	0	2	37	236
Grand Total	23	334	36	4	24	0	0	0	0	0	8	67	496
Apprch %	5.9	85	9.2	14.3	85.7	0	0	0	0	0	10.7	89.3	
Total %	4.6	67.3	7.3	0.8	4.8	0	0	0	0	0	1.6	13.5	
Cars	23	326	36	4	24	0	0	0	0	0	8	66	487
% Cars	100	97.6	100	100	100	0	0	0	0	0	100	98.5	98.2
Trucks	0	8	0	0	0	0	0	0	0	0	0	1	9
% Trucks	0	2.4	0	0	0	0	0	0	0	0	0	1.5	1.8

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 2

Start Time	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:30 AM	3	43	3	0	6	0	0	0	0	0	1	9	10	65
07:45 AM	4	64	5	1	1	0	0	0	0	0	0	10	10	85
08:00 AM	4	67	1	0	4	0	0	0	0	0	0	14	14	90
08:15 AM	3	61	7	0	0	0	0	0	0	0	2	17	19	90
Total Volume	14	235	16	1	11	0	0	0	0	0	3	50	53	330
% App. Total	5.3	88.7	6	8.3	91.7	0	0	0	0	0	5.7	94.3		
PHF	.875	.877	.571	.250	.458	.000	.500	.000	.000	.000	.375	.735	.697	.917
Cars	14	231	16	1	11	0	12	0	0	0	3	49	52	325
% Cars	100	98.3	100	100	100	0	100	0	0	0	100	98.0	98.1	98.5
Trucks	0	4	0	0	0	0	0	0	0	0	0	1	1	5
% Trucks	0	1.7	0	0	0	0	0	0	0	0	0	2.0	1.9	1.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

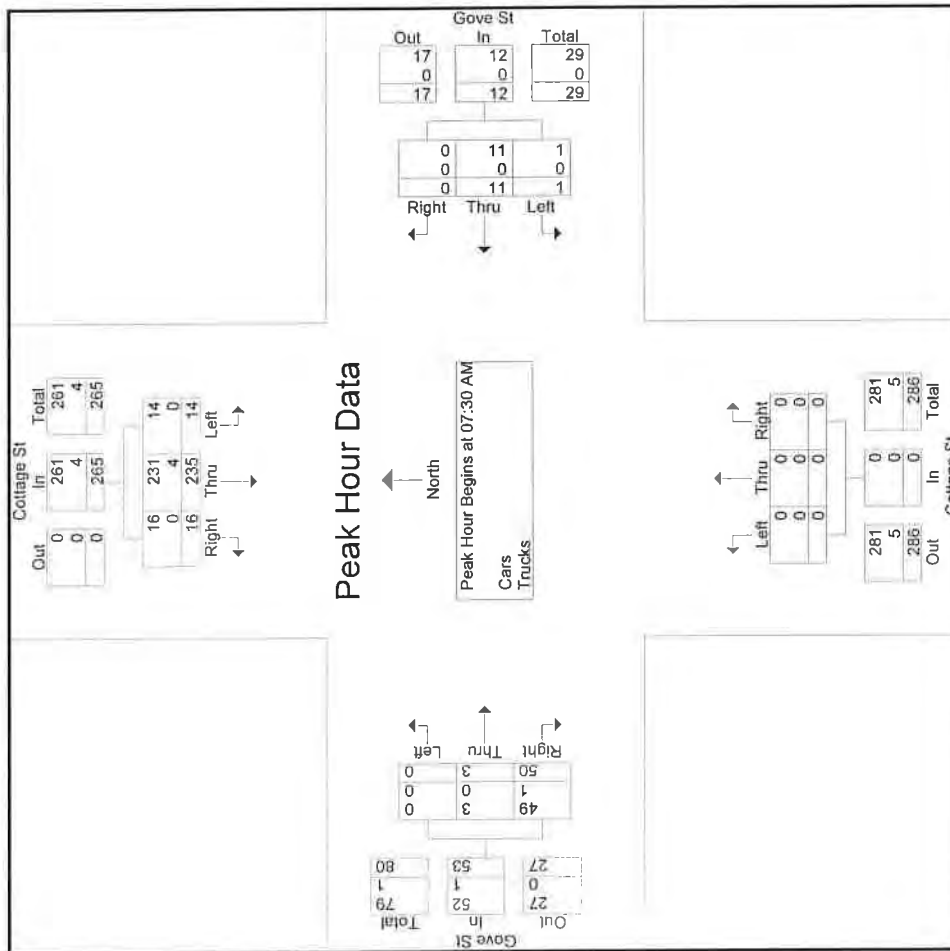
Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:00 AM			07:30 AM							
+0 mins.	3	43	3	49	3	49	4	0	5	0	0	0	0	0	1	9	10
+15 mins.	4	64	5	73	5	73	5	0	6	0	0	0	0	0	0	10	10
+30 mins.	4	67	1	72	0	72	6	0	6	0	0	0	0	0	0	14	14
+45 mins.	3	61	7	71	1	71	1	0	2	0	0	0	0	0	2	17	19
Total Volume	14	235	16	265	3	265	16	0	19	0	0	0	0	0	3	50	53
% App. Total	5.3	88.7	6	15.8	84.2	0	0	0	0	0	0	0	0	0	5.7	94.3	5.7

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

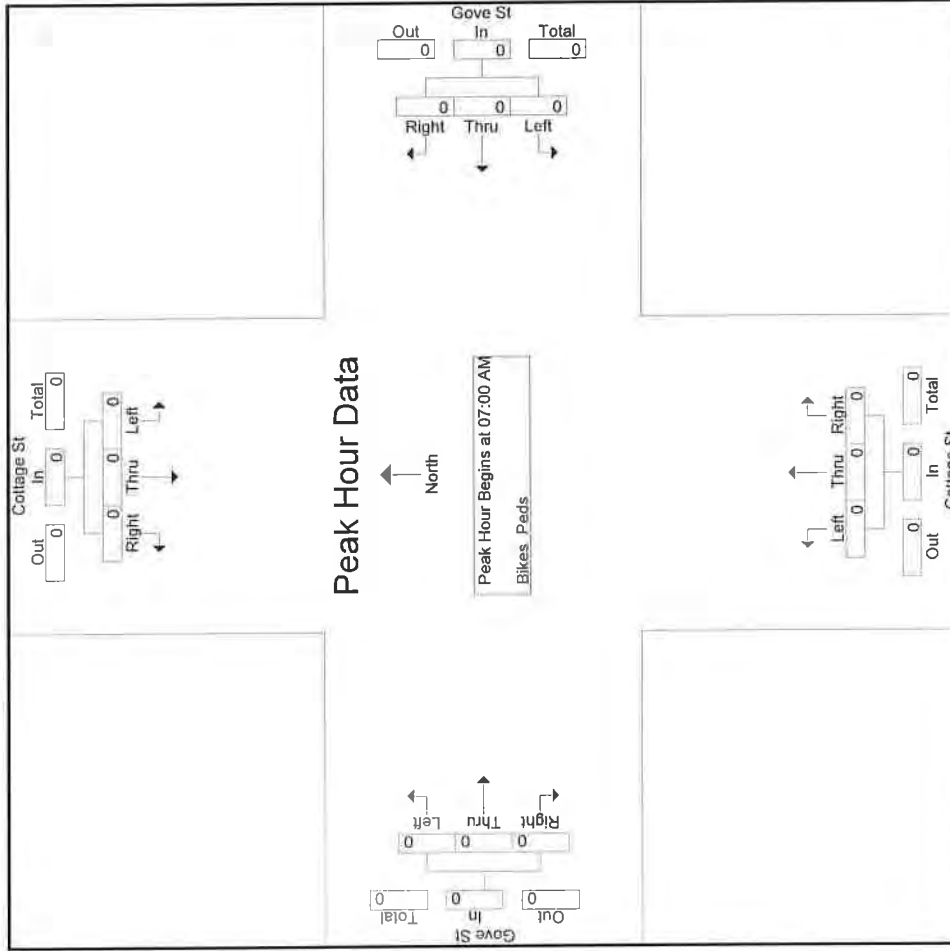
File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 5

Start Time	Groups Printed- Cars												Int. Total	
	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:00 AM	3	33	6	1	4	0	0	0	0	0	0	0	2	49
07:15 AM	2	30	5	1	5	0	0	0	0	0	0	5	9	57
07:30 AM	3	43	3	0	6	0	0	0	0	0	0	1	8	64
07:45 AM	4	63	5	1	1	0	0	0	0	0	0	0	10	84
Total	12	169	19	3	16	0	0	0	0	0	0	6	29	254
08:00 AM	4	65	1	0	4	0	0	0	0	0	0	0	14	88
08:15 AM	3	60	7	0	0	0	0	0	0	0	0	2	17	89
08:30 AM	1	15	5	0	3	0	0	0	0	0	0	0	4	28
08:45 AM	3	17	4	1	1	0	0	0	0	0	0	0	2	28
Total	11	157	17	1	8	0	0	0	0	0	0	2	37	233
Grand Total	23	326	36	4	24	0	0	0	0	0	0	8	66	487
Approch %	6	84.7	9.4	14.3	85.7	0	0	0	0	0	0	10.8	89.2	
Total %	4.7	66.9	7.4	0.8	4.9	0	0	0	0	0	0	1.6	13.6	

Accurate Counts
978-664-2565

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear



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			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	32	4	0	2	0	0	0	0	0	0	1	40
04:15 PM	1	37	3	2	4	0	0	0	0	0	1	7	55
04:30 PM	3	37	6	1	0	0	0	0	0	0	0	7	54
04:45 PM	7	42	5	1	3	0	0	0	0	0	1	3	62
Total	12	148	18	4	9	0	0	0	0	0	2	18	211
05:00 PM	7	39	6	1	2	0	0	0	0	0	1	4	60
05:15 PM	3	27	5	0	4	0	0	0	0	0	2	7	48
05:30 PM	3	32	6	0	1	0	0	0	0	0	1	4	47
05:45 PM	3	35	4	1	3	0	0	0	0	0	0	2	48
Total	16	133	21	2	10	0	0	0	0	0	4	17	203
Grand Total	28	281	39	6	19	0	0	0	0	0	6	35	414
Approch %	8	80.7	11.2	24	76	0	0	0	0	0	14.6	85.4	
Total %	6.8	67.9	9.4	1.4	4.6	0	0	0	0	0	1.4	8.5	
Cars	28	280	39	6	19	0	0	0	0	0	6	34	412
% Cars	100	99.6	100	100	100	0	0	0	0	0	100	97.1	99.5
Trucks	0	1	0	0	0	0	0	0	0	0	0	1	2
% Trucks	0	0.4	0	0	0	0	0	0	0	0	0	2.9	0.5

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 2

Start Time	Cottage St From North				Gove St From East				Cottage St From South				Gove St From West				Int. Total								
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total									
	Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 04:15 PM																									
04:15 PM	1	37	3	41	2	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	8	55
04:30 PM	3	37	6	46	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	54
04:45 PM	7	42	5	54	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	62
05:00 PM	7	39	6	52	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	60
Total Volume	18	155	20	193	5	9	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	24	231
% App. Total	9.3	80.3	10.4		35.7	64.3	0		0	0	0		0	0	0		0	0	0		0	12.5	87.5		
PHF	.643	.923	.833	.894	.625	.563	.000	.583	.000	.000	.000	.000	.000	.750	.750	.750	.000	.750	.750	.750	.750	.750	.750	.931	
Cars	18	154	20	192	5	9	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	24	230
% Cars	100	99.4	100	99.5	100	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	99.6
Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0.6	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	32	4	0	2	0	0	0	0	0	0	1	40
04:15 PM	1	36	3	2	4	0	0	0	0	0	1	7	54
04:30 PM	3	37	6	1	0	0	0	0	0	0	0	7	54
04:45 PM	7	42	5	1	3	0	0	0	0	0	1	3	62
Total	12	147	18	4	9	0	0	0	0	0	2	18	210
05:00 PM	7	39	6	1	2	0	0	0	0	0	1	4	60
05:15 PM	3	27	5	0	4	0	0	0	0	0	2	7	48
05:30 PM	3	32	6	0	1	0	0	0	0	0	1	3	46
05:45 PM	3	35	4	1	3	0	0	0	0	0	0	2	48
Total	16	133	21	2	10	0	0	0	0	0	4	16	202
Grand Total	28	280	39	6	19	0	0	0	0	0	6	34	412
Approch %	8.1	80.7	11.2	24	76	0	0	0	0	0	15	85	
Total %	6.8	68	9.5	1.5	4.6	0	0	0	0	0	1.5	8.3	

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Gove Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860004
 Site Code : 75860004
 Start Date : 1/25/2018
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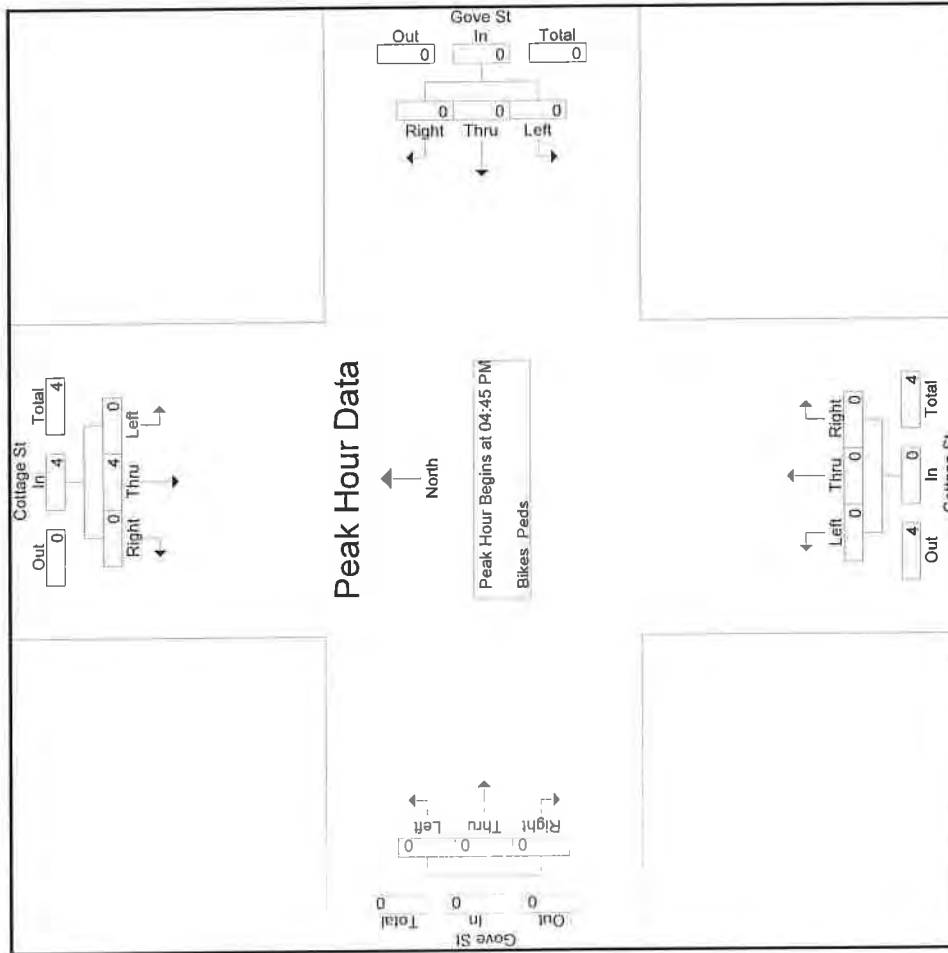
Groups Printed- Bikes Peds

Start Time	Cottage St From North			Gove St From East			Cottage St From South			Gove St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	Peds			Peds			Peds			Peds					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	23	0	23
Total	0	0	0	0	0	0	0	0	0	0	0	0	70	0	70
05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	27	1	28
05:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	29	2	31
05:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	14	1	15
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15
Total	0	4	0	0	0	0	0	0	0	0	0	0	85	4	89
Grand Total	0	4	0	0	0	0	0	0	0	0	0	0	155	4	159
Apprch %	0	100	0	0	0	0	0	0	0	0	0	0	97.5	2.5	
Total %	0	100	0	0	0	0	0	0	0	0	0	0			

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Gove Street
City/State : Boston, MA
Weather : Clear

File Name : 75860004
Site Code : 75860004
Start Date : 1/25/2018
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

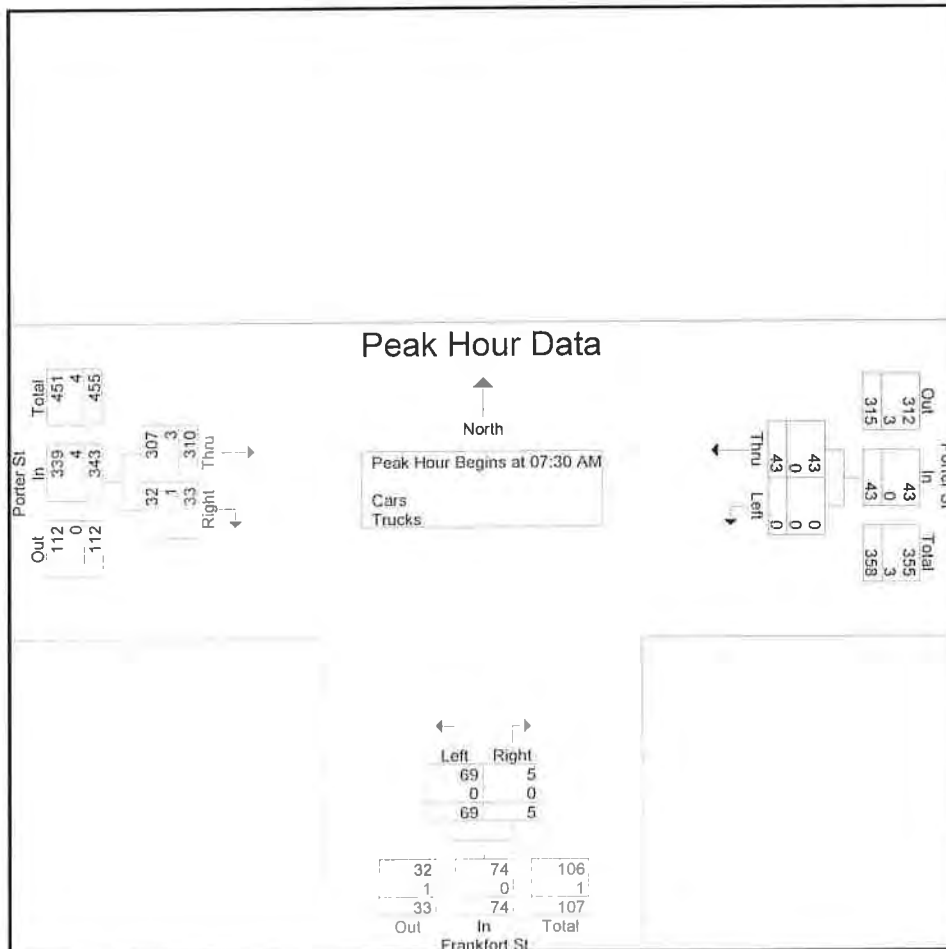
Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	7	17	1	44	6	75
07:15 AM	1	12	13	2	43	6	77
07:30 AM	0	17	12	1	57	8	95
07:45 AM	0	6	15	1	78	5	105
Total	1	42	57	5	222	25	352
08:00 AM	0	10	16	0	91	9	126
08:15 AM	0	10	26	3	84	11	134
08:30 AM	0	12	10	2	21	9	54
08:45 AM	0	8	5	1	17	1	32
Total	0	40	57	6	213	30	346
Grand Total	1	82	114	11	435	55	698
Apprch %	1.2	98.8	91.2	8.8	88.8	11.2	
Total %	0.1	11.7	16.3	1.6	62.3	7.9	
Cars	1	82	114	11	428	54	690
% Cars	100	100	100	100	98.4	98.2	98.9
Trucks	0	0	0	0	7	1	8
% Trucks	0	0	0	0	1.6	1.8	1.1

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 2

Start Time	Porter St From East			Frankfort St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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	17	17	12	1	13	57	8	65	95
07:45 AM	0	6	6	15	1	16	78	5	83	105
08:00 AM	0	10	10	16	0	16	91	9	100	126
08:15 AM	0	10	10	26	3	29	84	11	95	134
Total Volume	0	43	43	69	5	74	310	33	343	460
% App. Total	0	100		93.2	6.8		90.4	9.6		
PHF	.000	.632	.632	.663	.417	.638	.852	.750	.858	.858
Cars	0	43	43	69	5	74	307	32	339	456
% Cars	0	100	100	100	100	100	99.0	97.0	98.8	99.1
Trucks	0	0	0	0	0	0	3	1	4	4
% Trucks	0	0	0	0	0	0	1.0	3.0	1.2	0.9



Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 4

Groups Printed- Cars

Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	7	17	1	41	6	72
07:15 AM	1	12	13	2	42	6	76
07:30 AM	0	17	12	1	57	8	95
07:45 AM	0	6	15	1	78	5	105
Total	1	42	57	5	218	25	348
08:00 AM	0	10	16	0	89	9	124
08:15 AM	0	10	26	3	83	10	132
08:30 AM	0	12	10	2	21	9	54
08:45 AM	0	8	5	1	17	1	32
Total	0	40	57	6	210	29	342
Grand Total	1	82	114	11	428	54	690
Apprch %	1.2	98.8	91.2	8.8	88.8	11.2	
Total %	0.1	11.9	16.5	1.6	62	7.8	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	3	0	3
07:15 AM	0	0	0	0	1	0	1
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	4	0	4
08:00 AM	0	0	0	0	2	0	2
08:15 AM	0	0	0	0	1	1	2
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	3	1	4
Grand Total	0	0	0	0	7	1	8
Apprch %	0	0	0	0	87.5	12.5	
Total %	0	0	0	0	87.5	12.5	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
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Groups Printed- Bikes Peds

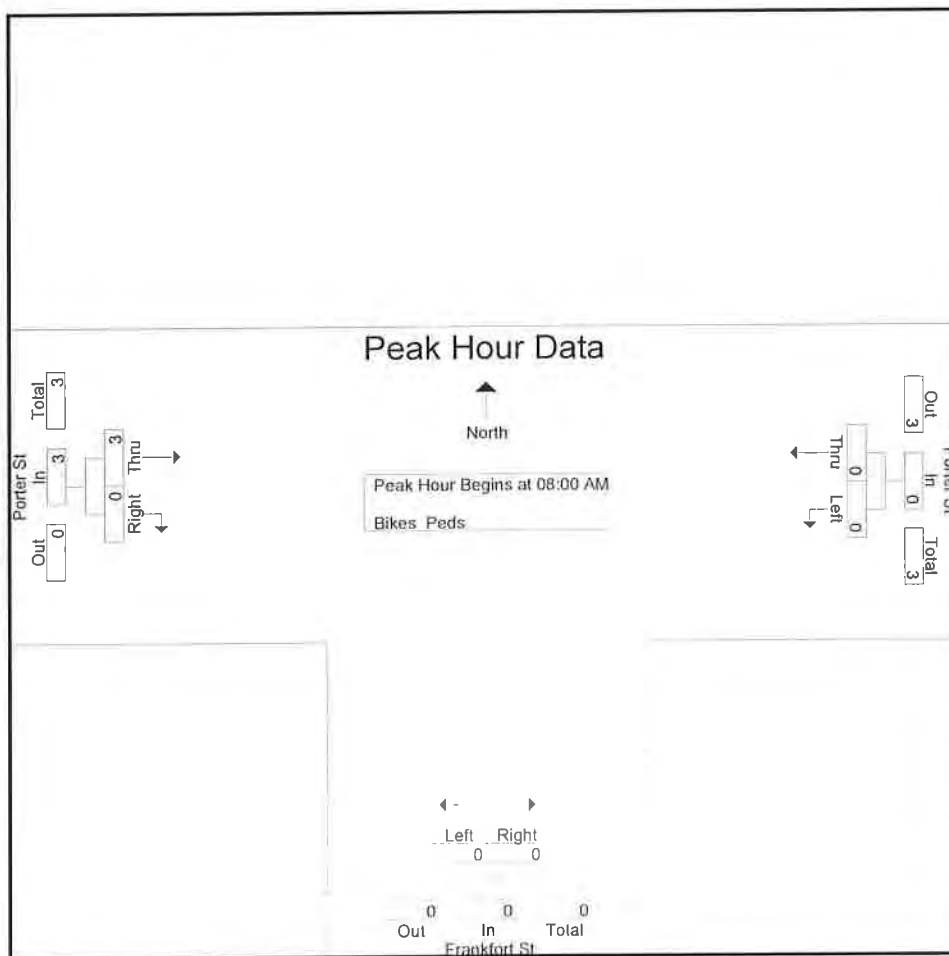
Start Time	Porter St From East			Frankfort St From South			Porter St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	2	0	0	0	2	0	2
07:15 AM	0	0	1	0	0	2	0	0	0	3	0	3
07:30 AM	0	0	1	0	0	2	0	0	1	4	0	4
07:45 AM	0	0	0	0	0	0	0	0	3	3	0	3
Total	0	0	2	0	0	6	0	0	4	12	0	12
08:00 AM	0	0	0	0	0	16	2	0	5	21	2	23
08:15 AM	0	0	3	0	0	13	0	0	4	20	0	20
08:30 AM	0	0	1	0	0	4	0	0	0	5	0	5
08:45 AM	0	0	0	0	0	3	1	0	1	4	1	5
Total	0	0	4	0	0	36	3	0	10	50	3	53
Grand Total	0	0	6	0	0	42	3	0	14	62	3	65
Apprch %	0	0		0	0		100	0				
Total %	0	0		0	0		100	0		95.4	4.6	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 11

Start Time	Porter St From East			Frankfort St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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	0	0	0	2	0	2	2
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	3	0	3	3
% App. Total	0	0	0	0	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.375	.000	.375	.375



Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	5	9	1	47	6	68
04:15 PM	0	4	12	1	48	7	72
04:30 PM	0	1	11	0	56	13	81
04:45 PM	0	12	13	3	59	7	94
Total	0	22	45	5	210	33	315
05:00 PM	1	5	5	2	55	3	71
05:15 PM	2	9	13	1	40	5	70
05:30 PM	0	3	4	2	48	8	65
05:45 PM	0	2	10	1	42	9	64
Total	3	19	32	6	185	25	270
Grand Total	3	41	77	11	395	58	585
Apprch %	6.8	93.2	87.5	12.5	87.2	12.8	
Total %	0.5	7	13.2	1.9	67.5	9.9	
Cars	3	39	77	11	394	58	582
% Cars	100	95.1	100	100	99.7	100	99.5
Trucks	0	2	0	0	1	0	3
% Trucks	0	4.9	0	0	0.3	0	0.5

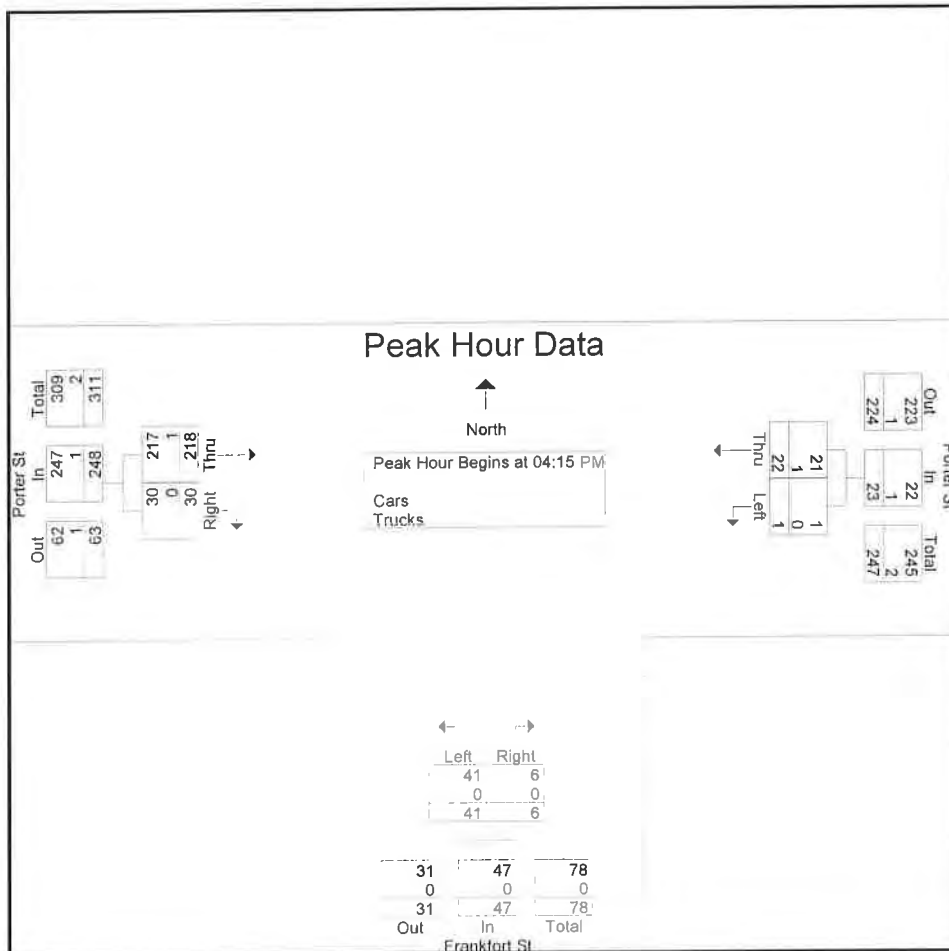
Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860005
 Site Code : 75860005
 Start Date : 1/25/2018
 Page No : 2

Start Time	Porter St From East			Frankfort St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	4	4	12	1	13	48	7	55	72
04:30 PM	0	1	1	11	0	11	56	13	69	81
04:45 PM	0	12	12	13	3	16	59	7	66	94
05:00 PM	1	5	6	5	2	7	55	3	58	71
Total Volume	1	22	23	41	6	47	218	30	248	318
% App. Total	4.3	95.7		87.2	12.8		87.9	12.1		
PHF	.250	.458	.479	.788	.500	.734	.924	.577	.899	.846
Cars	1	21	22	41	6	47	217	30	247	316
% Cars	100	95.5	95.7	100	100	100	99.5	100	99.6	99.4
Trucks	0	1	1	0	0	0	1	0	1	2
% Trucks	0	4.5	4.3	0	0	0	0.5	0	0.4	0.6



Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860005
 Site Code : 75860005
 Start Date : 1/25/2018
 Page No : 4

Groups Printed- Cars

Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	5	9	1	47	6	68
04:15 PM	0	4	12	1	47	7	71
04:30 PM	0	1	11	0	56	13	81
04:45 PM	0	11	13	3	59	7	93
Total	0	21	45	5	209	33	313
05:00 PM	1	5	5	2	55	3	71
05:15 PM	2	9	13	1	40	5	70
05:30 PM	0	2	4	2	48	8	64
05:45 PM	0	2	10	1	42	9	64
Total	3	18	32	6	185	25	269
Grand Total	3	39	77	11	394	58	582
Apprch %	7.1	92.9	87.5	12.5	87.2	12.8	
Total %	0.5	6.7	13.2	1.9	67.7	10	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Porter St From East		Frankfort St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	1	0	0	0	0	1
Total	0	1	0	0	1	0	2
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1
Grand Total	0	2	0	0	1	0	3
Apprch %	0	100	0	0	100	0	
Total %	0	66.7	0	0	33.3	0	

Accurate Counts
978-664-2565

N/S Street : Frankfort Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860005
Site Code : 75860005
Start Date : 1/25/2018
Page No : 10

Groups Printed- Bikes Peds

Start Time	Porter St From East			Frankfort St From South			Porter St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	6	0	0	1	7	0	7
04:15 PM	0	0	1	0	0	3	0	0	0	4	0	4
04:30 PM	0	0	1	0	0	4	0	0	0	5	0	5
04:45 PM	0	0	0	0	0	4	0	0	1	5	0	5
Total	0	0	2	0	0	17	0	0	2	21	0	21
05:00 PM	0	0	1	0	0	3	0	0	0	4	0	4
05:15 PM	0	0	2	0	0	2	0	0	0	4	0	4
05:30 PM	0	1	2	0	0	6	0	0	1	9	1	10
05:45 PM	0	0	0	0	0	1	0	0	1	2	0	2
Total	0	1	5	0	0	12	0	0	2	19	1	20
Grand Total	0	1	7	0	0	29	0	0	4	40	1	41
Apprch %	0	100		0	0		0	0				
Total %	0	100		0	0		0	0		97.6	2.4	

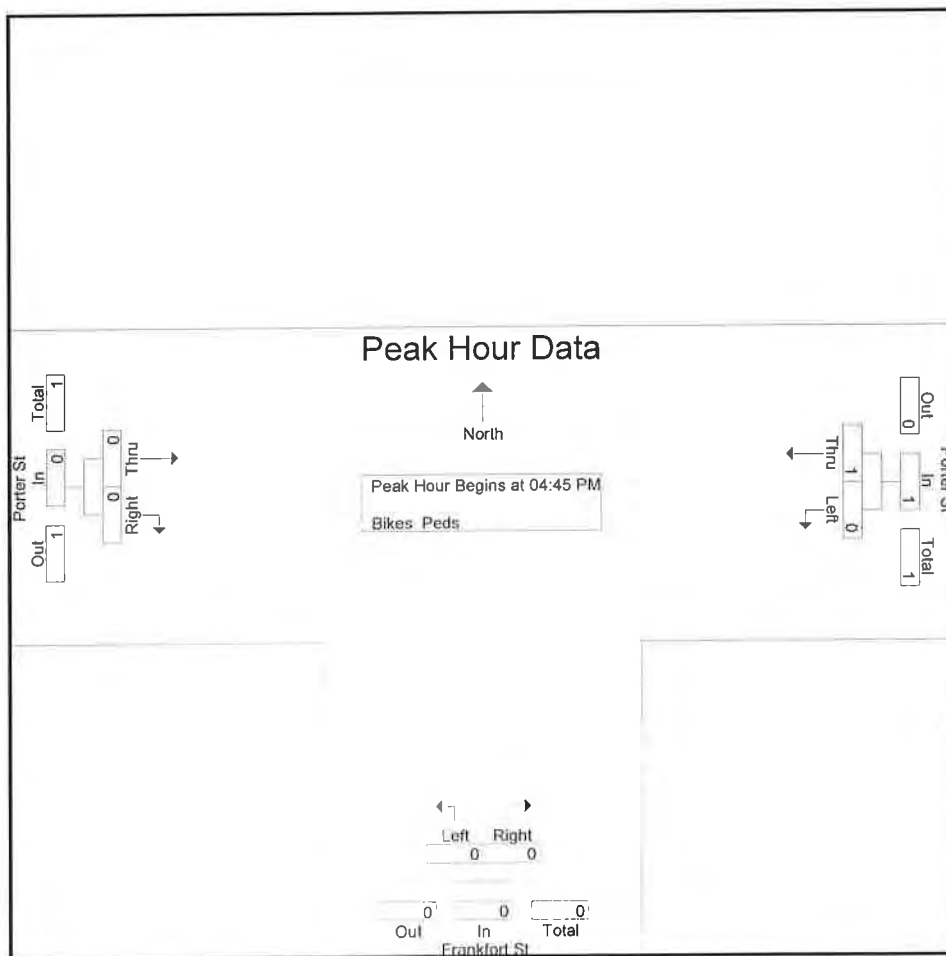
Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860005
 Site Code : 75860005
 Start Date : 1/25/2018
 Page No : 11

Start Time	Porter St From East			Frankfort St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250



Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:00 AM	1	0	1	0	26	0	12	0	0	0	1	48	8	97
07:15 AM	0	1	12	0	32	0	25	1	0	0	0	49	15	135
07:30 AM	1	0	0	0	33	0	28	0	0	0	2	59	13	136
07:45 AM	0	0	0	0	29	0	28	0	0	0	0	88	27	172
Total	2	1	13	0	120	0	93	1	0	0	3	244	63	540
08:00 AM	0	1	1	0	28	0	32	0	1	1	0	97	15	175
08:15 AM	0	0	1	0	40	0	32	1	2	2	1	92	24	193
08:30 AM	0	1	1	2	24	0	19	0	1	1	0	29	24	101
08:45 AM	0	1	1	1	16	0	11	0	0	0	2	21	18	71
Total	0	3	4	3	108	0	94	1	4	4	3	239	81	540
Grand Total	2	4	17	3	228	0	187	2	4	4	6	483	144	1080
Approch %	8.7	17.4	73.9	1.3	98.7	0	96.9	1	2.1	2.1	0.9	76.3	22.7	
Total %	0.2	0.4	1.6	0.3	21.1	0	17.3	0.2	0.4	0.4	0.6	44.7	13.3	
Cars	2	4	17	3	228	0	182	2	4	4	6	474	142	1064
% Cars	100	100	100	100	100	0	97.3	100	100	100	100	98.1	98.6	98.5
Trucks	0	0	0	0	0	0	5	0	0	0	0	9	2	16
% Trucks	0	0	0	0	0	0	2.7	0	0	0	0	1.9	1.4	1.5

Accurate Counts

978-664-2665

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 2

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
07:30 AM	1	0	0	0	33	0	28	0	0	2	59	13	74	136
07:45 AM	0	0	0	0	29	0	28	0	0	0	88	27	115	172
08:00 AM	0	1	1	0	28	0	32	0	1	0	97	15	112	175
08:15 AM	0	0	1	0	40	0	32	1	2	1	92	24	117	193
Total Volume	1	1	2	0	130	0	120	1	3	3	336	79	418	676
% App. Total	25	25	50	0	100	0	96.8	0.8	2.4	0.7	80.4	18.9		
PHF	.250	.250	.500	.000	.813	.000	.938	.250	.375	.375	.866	.731	.893	.876
Cars	1	1	2	0	130	0	116	1	3	3	332	77	412	666
% Cars	100	100	100	0	100	0	96.7	100	100	100	98.8	97.5	98.6	98.5
Trucks	0	0	0	0	0	0	4	0	0	0	4	2	6	10
% Trucks	0	0	0	0	0	0	3.3	0	0	0	1.2	2.5	1.4	1.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

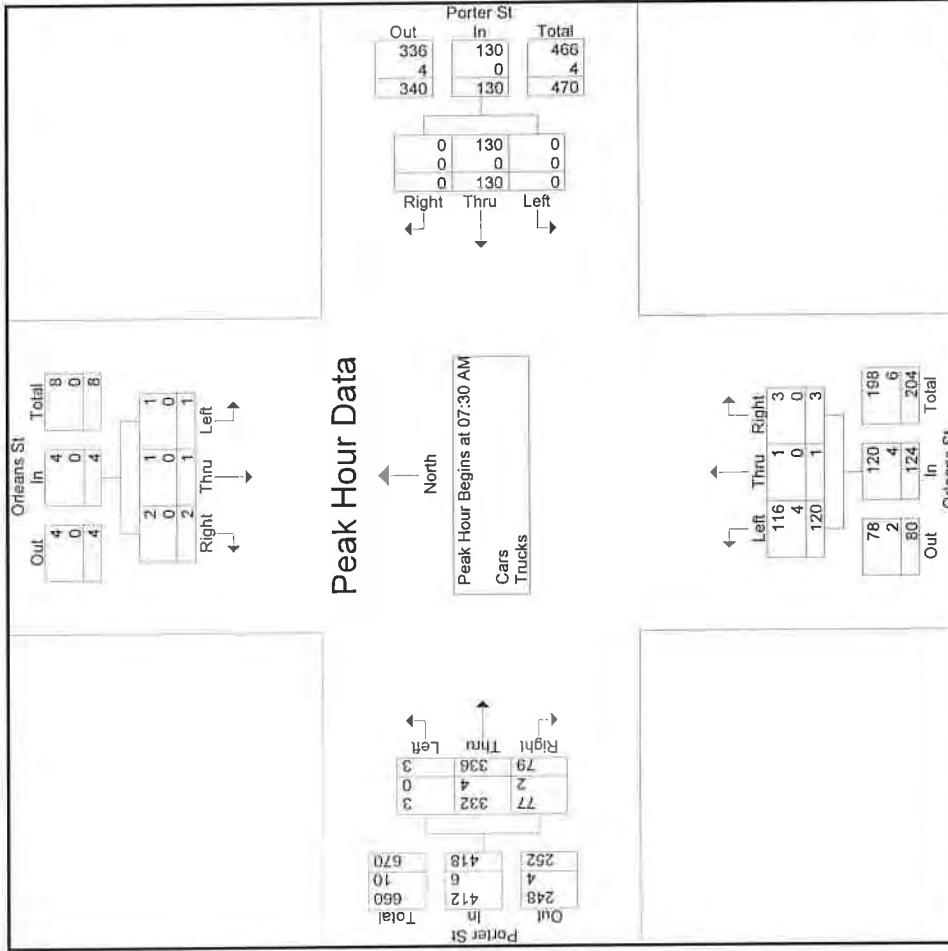
Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 3



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			07:30 AM			07:30 AM										
+0 mins.	1	0	1	2	0	33	0	0	28	0	0	0	0	2	59	13	74
+15 mins.	0	1	12	13	0	29	0	0	28	0	0	0	0	0	88	27	115
+30 mins.	1	0	0	1	0	28	0	0	32	0	0	0	1	0	97	15	112
+45 mins.	0	0	0	0	0	40	0	0	32	1	2	1	2	1	92	24	117
Total Volume	2	1	13	16	0	130	0	130	120	1	3	124	3	336	79	418	
% App. Total	12.5	6.2	81.2			96.8	0.8	2.4	80.4	0.7	18.9						

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:00 AM	1	0	1	0	26	0	12	0	0	0	1	45	8	94
07:15 AM	0	1	12	0	32	0	25	1	0	0	0	48	15	134
07:30 AM	1	0	0	0	33	0	27	0	0	0	2	59	13	135
07:45 AM	0	0	0	0	29	0	28	0	0	0	0	87	26	170
Total	2	1	13	0	120	0	92	1	0	0	3	239	62	533
08:00 AM	0	1	1	0	28	0	32	0	1	1	0	95	14	172
08:15 AM	0	0	1	0	40	0	29	1	2	2	1	91	24	189
08:30 AM	0	1	1	2	24	0	18	0	1	1	0	29	24	100
08:45 AM	0	1	1	1	16	0	11	0	0	0	2	20	18	70
Total	0	3	4	3	108	0	90	1	4	4	3	235	80	531
Grand Total	2	4	17	3	228	0	182	2	4	4	6	474	142	1064
Approch %	8.7	17.4	73.9	1.3	98.7	0	96.8	1.1	2.1	2.1	1	76.2	22.8	
Total %	0.2	0.4	1.6	0.3	21.4	0	17.1	0.2	0.4	0.4	0.6	44.5	13.3	

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 9

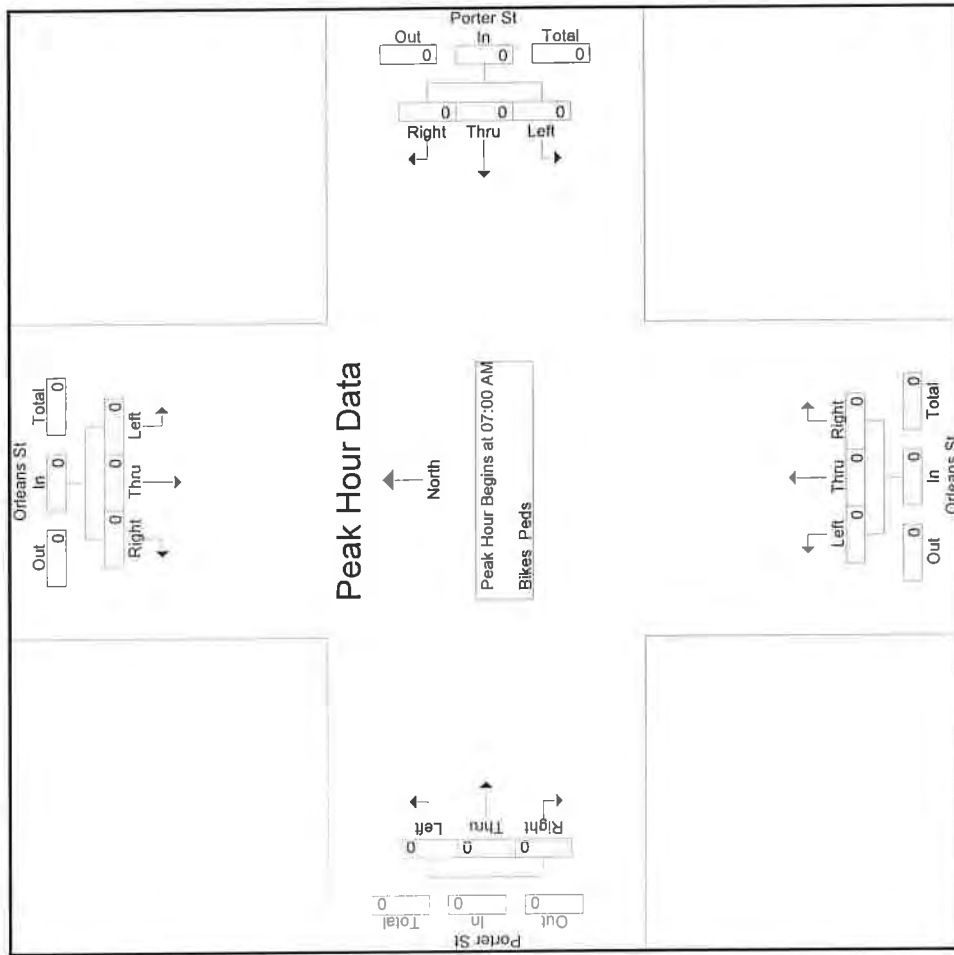
Groups Printed- Trucks

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	1	0	0	0	5	1	7
08:00 AM	0	0	0	0	0	0	0	0	0	0	2	1	3
08:15 AM	0	0	0	0	0	0	3	0	0	0	1	0	4
08:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	4	0	0	0	4	1	9
Grand Total	0	0	0	0	0	0	5	0	0	0	9	2	16
Approch %	0	0	0	0	0	0	100	0	0	0	81.8	18.2	
Total %	0	0	0	0	0	0	31.2	0	0	0	56.2	12.5	

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 15



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	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0	0	0
+15 mins.	0	0	0	0	0
+30 mins.	0	0	0	0	0
+45 mins.	0	0	0	0	0
Total Volume	0	0	0	0	0
% App. Total	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total	
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru		
04:00 PM	1	1	0	1	0	18	0	0	27	0	0	48	8	104
04:15 PM	0	2	0	0	0	17	0	0	26	0	0	56	15	122
04:30 PM	0	0	0	0	0	16	0	0	33	0	0	70	21	140
04:45 PM	0	3	1	1	1	25	1	0	23	1	0	66	17	139
Total	1	6	1	2	1	76	1	0	109	1	0	240	61	505
05:00 PM	0	1	0	0	0	10	0	0	30	0	0	61	19	125
05:15 PM	0	2	0	0	2	19	0	0	24	0	0	46	18	112
05:30 PM	1	1	2	1	0	10	0	1	33	0	1	56	14	122
05:45 PM	0	1	0	0	0	15	2	0	15	2	0	55	20	108
Total	1	5	2	1	2	54	2	1	102	2	1	218	71	467
Grand Total	2	11	3	3	3	130	3	1	211	3	1	458	132	972
Approch %	12.5	68.8		2.2	2.2	95.6	1.4	0.5	98.1	2.5	0.5	75.7	21.8	
Total %	0.2	1.1		0.3	0.3	13.4	0.3	0.1	21.7	1.5	0.1	47.1	13.6	
Cars	2	11	3	3	3	128	3	1	210	15	1	457	131	967
% Cars	100	100		100	100	98.5	100	100	99.5	100	100	99.8	99.2	99.5
Trucks	0	0	0	0	0	2	0	0	1	0	0	1	1	5
% Trucks	0	0	0	0	0	1.5	0	0	0.5	0	0	0.2	0.8	0.5

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 2

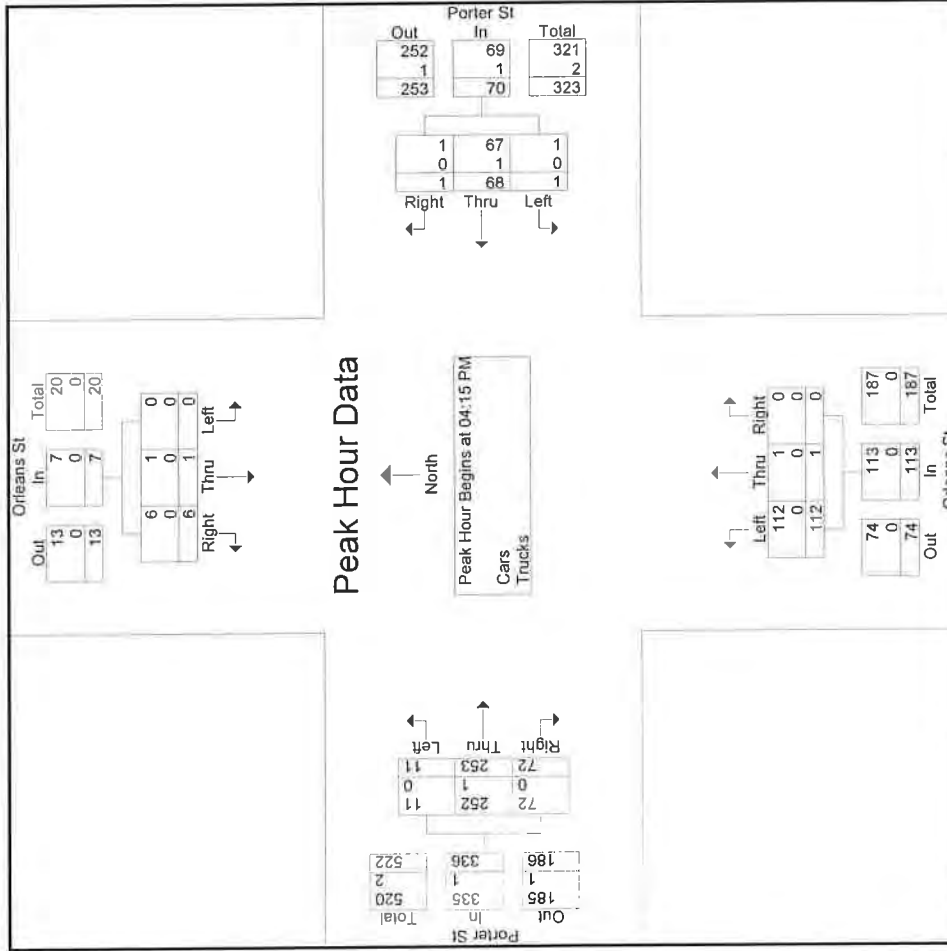
Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right						
	App. Total			App. Total			App. Total			App. Total								
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	0	0	2	0	17	0	17	0	0	0	0	0	26	6	56	15	77	122
04:30 PM	0	0	0	0	16	0	16	0	33	0	0	0	33	0	70	21	91	140
04:45 PM	0	1	3	4	25	1	27	1	23	1	0	0	24	1	66	17	84	139
05:00 PM	0	0	1	1	10	0	10	0	30	0	0	0	30	4	61	19	84	125
Total Volume	0	1	6	7	68	1	70	1	112	1	0	0	113	11	253	72	336	526
% App. Total	0	14.3	85.7	1.4	97.1	1.4		0.9	99.1	0.9	0	0		3.3	75.3	21.4		
PHF	.000	.250	.500	.438	.680	.250	.648	.250	.848	.250	.000	.856	.856	.458	.904	.857	.923	.939
Cars	0	1	6	7	67	1	69	1	112	1	0	0	113	11	252	72	335	524
% Cars	0	100	100	100	98.5	100	98.5	100	100	100	0	0	100	100	99.6	100	99.7	99.6
Trucks	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
% Trucks	0	0	0	0	1.5	0	1.4	0	0	0	0	0	0	0	0.4	0	0.3	0.4

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			04:15 PM			04:15 PM			
+0 mins.	0	1	3	4	1	18	0	19	26	0	6	15	77
+15 mins.	0	0	1	1	0	17	0	17	33	0	0	21	91
+30 mins.	0	0	2	2	0	16	0	16	23	1	0	66	84
+45 mins.	1	2	1	4	1	25	1	27	30	0	0	61	84
Total Volume	1	3	7	11	2	76	1	79	112	1	0	253	336
% App. Total	9.1	27.3	63.6		2.5	96.2	1.3		99.1	0.9	0	75.3	21.4

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	1	0	1	1	18	0	26	0	0	0	48	8	103
04:15 PM	0	0	2	0	17	0	26	0	0	0	55	15	121
04:30 PM	0	0	0	0	16	0	33	0	0	0	70	21	140
04:45 PM	0	1	3	1	24	1	23	1	0	0	66	17	138
Total	1	1	6	2	75	1	108	1	0	0	239	61	502
05:00 PM	0	0	1	0	10	0	30	0	0	0	61	19	125
05:15 PM	0	0	2	0	19	2	24	0	0	0	46	18	112
05:30 PM	1	2	1	1	9	0	33	0	1	1	56	13	120
05:45 PM	0	0	1	0	15	0	15	2	0	0	55	20	108
Total	1	2	5	1	53	2	102	2	1	1	218	70	465
Grand Total	2	3	11	3	128	3	210	3	1	1	457	131	967
Approch %	12.5	18.8	68.8	2.2	95.5	2.2	98.1	1.4	0.5	0.5	75.8	21.7	
Total %	0.2	0.3	1.1	0.3	13.2	0.3	21.7	0.3	0.1	0.1	47.3	13.5	

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	0	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	2	1	0	0	0	0	1	5
Approch %	0	0	0	0	0	100	100	0	0	0	0	50	50
Total %	0	0	0	0	0	40	20	0	0	0	0	20	20

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 13

Groups Printed- Bikes Peds

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1	16
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1	19
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	56	2	58
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	106	2	108
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	98.1	1.9	

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

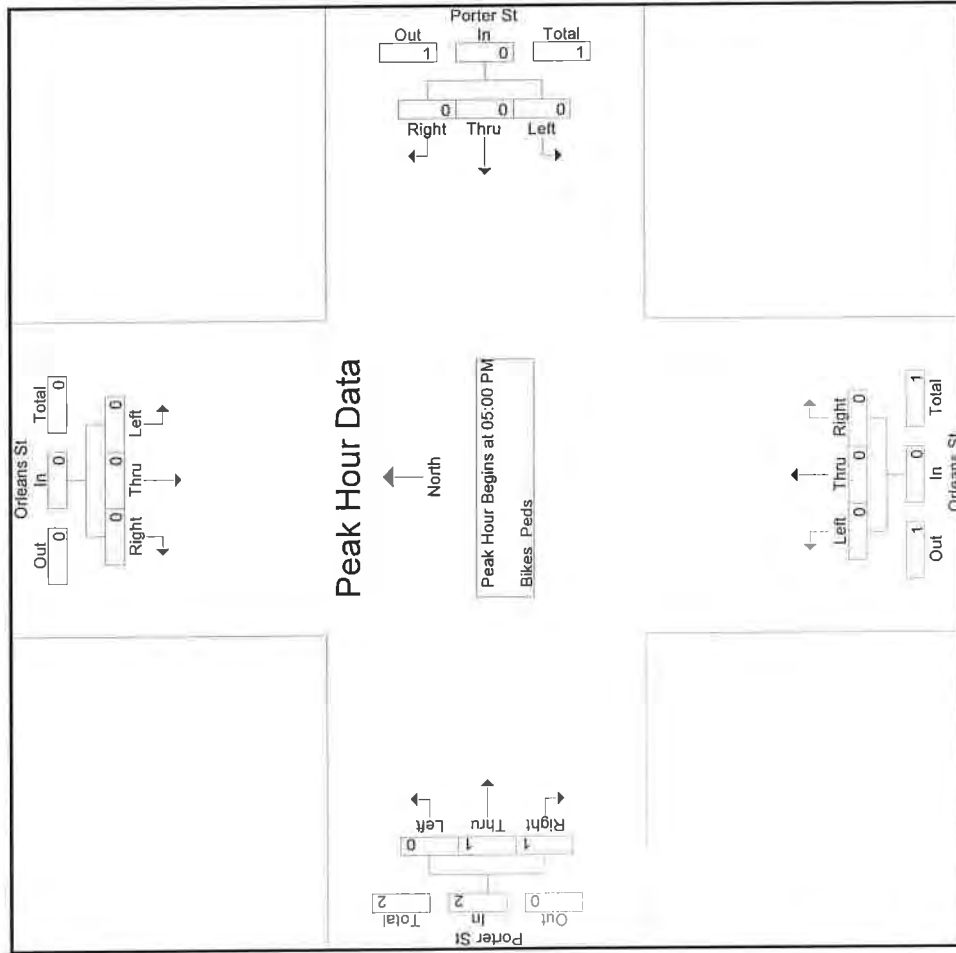
File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 14

Start Time	Orleans St From North			Porter St From East			Orleans St From South			Porter St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. 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	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	2	2
% App. Total	0	0	0	0	0	0	0	0	0	0	50	50	50	50
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.500	.500

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860006
 Site Code : 75860006
 Start Date : 1/25/2018
 Page No : 15



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			04:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	0	50

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 1

Groups Printed - Cars - Trucks

Start Time	Bremen St From North			Porter St From East			Bremen St From South			Porter St From West			Porter Pl From Northwest			Int. Total					
	Left	Thru	Right	HdRt	Left	Thru	Right	Left	Thru	Right	HdLt	Left	Thru	Right	HdLt		BrLt	BrRt	HdRt		
07:00 AM	35	36	0	1	0	0	21	18	4	0	14	20	4	0	8	18	4	0	0	0	179
07:15 AM	35	42	0	0	3	0	32	32	6	0	14	29	6	2	4	22	6	0	0	0	227
07:30 AM	53	42	0	0	0	0	31	28	4	0	20	23	4	1	5	24	6	0	0	0	237
07:45 AM	56	56	0	0	1	0	27	22	3	0	12	14	3	0	1	31	13	0	0	0	236
Total	179	176	0	1	4	0	111	100	17	0	60	86	17	3	18	95	29	0	0	0	879
08:00 AM	60	38	0	0	1	0	24	23	9	0	18	24	9	1	0	26	5	0	0	0	229
08:15 AM	72	28	0	0	2	0	32	38	12	0	10	31	12	0	2	35	9	0	0	0	271
08:30 AM	22	31	0	2	2	0	17	25	9	0	3	22	9	1	1	20	6	0	0	0	161
08:45 AM	26	27	0	1	1	0	17	12	5	0	19	17	5	1	1	11	2	0	0	0	140
Total	180	124	0	3	6	0	90	98	35	0	50	94	35	3	4	92	22	0	0	0	801
Grand Total	359	300	0	4	10	0	201	198	52	0	110	180	52	6	22	187	51	0	0	0	1680
Apprch %	54.1	45.2	0	0.6	2.4	0	49.1	48.4	15.2	0	32.2	52.6	15.2	2.3	8.3	70.3	19.2	0	0	0	
Total %	21.4	17.9	0	0.2	0.6	0	12	11.8	3.1	0	6.5	10.7	3.1	0.4	1.3	11.1	3	0	0	0	
Cars	353	294	0	4	10	0	201	194	52	0	110	176	52	6	22	182	51	0	0	0	1655
% Cars	98.3	98	0	100	100	0	100	98	100	0	100	97.8	100	100	100	97.3	100	0	0	0	98.5
Trucks	6	6	0	0	0	0	0	4	0	0	0	4	0	0	0	5	0	0	0	0	25
% Trucks	1.7	2	0	0	0	0	0	2	0	0	0	2.2	0	0	0	2.7	0	0	0	0	1.5

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860007
Site Code : 75860007
Start Date : 1/25/2018
Page No : 2

Start Time	Bremen St From North				Porter St From East				Bremen St From South				Porter St From West				Porter Pl From Northwest							
	Left	Thru	Right	HdRt	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	HdL	BrL	BrR	HdRt	App. Total	InL Total		
07:30 AM	53	42	0	0	0	0	31	28	59	0	20	23	4	47	1	5	24	6	36	0	0	0	0	237
07:45 AM	56	56	0	0	1	0	27	22	50	0	12	14	3	29	0	1	31	13	45	0	0	0	0	236
08:00 AM	60	38	0	0	1	0	24	23	48	0	18	24	9	51	1	0	26	5	32	0	0	0	0	229
08:15 AM	72	28	0	0	2	0	32	38	72	0	10	31	12	53	0	2	35	9	46	0	0	0	0	271
Total Volume	241	164	0	0	4	0	114	111	229	0	60	92	28	180	2	8	116	33	159	0	0	0	0	973
% App. Total PHF	59.5	40.5	0	0	1.7	0	49.8	48.5		0	33.3	51.1	15.6		1.3	5	73	20.8		0	0	0	0	
	.837	.732	.000	.000	.904	.500	.000	.891	.730	.795	.000	.750	.583	.849	.500	.400	.829	.635	.864	.000	.000	.000	.000	.898
Cars	237	160	0	0	4	0	114	108	226	0	60	90	28	178	2	8	114	33	157	0	0	0	0	958
% Cars	98.3	97.6	0	0	100	0	100	97.3	98.7	0	100	97.8	100	98.9	100	100	98.3	100	98.7	0	0	0	0	98.5
Trucks	4	4	0	0	0	0	0	3	3	0	0	2	0	2	0	0	2	0	2	0	0	0	0	15
% Trucks	1.7	2.4	0	0	0	0	0	2.7	1.3	0	0	2.2	0	1.1	0	0	1.7	0	1.3	0	0	0	0	1.5

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

Accurate Counts
978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Bremen St From North			Porter St From East			Bremen St From South			Porter St From West			Porter Pl From Northwest			Int. Total				
	Left	Thru	Right	HdRt	Left	Thru	Right	HdLl	Left	Thru	Right	HdLl	BrLt	BrRt	HdRt					
07:00 AM	33	36	0	1	0	0	18	4	0	14	20	4	0	8	17	4	0	0	0	176
07:15 AM	35	42	0	0	3	0	32	6	0	14	28	6	2	4	21	6	0	0	0	225
07:30 AM	53	40	0	0	0	0	27	4	0	20	23	4	1	5	24	6	0	0	0	234
07:45 AM	55	55	0	0	1	0	22	3	0	12	14	3	0	1	31	13	0	0	0	234
Total	176	173	0	1	4	0	99	17	0	60	85	17	3	18	93	29	0	0	0	869
08:00 AM	58	38	0	0	1	0	23	9	0	18	24	9	1	0	24	5	0	0	0	225
08:15 AM	71	27	0	0	2	0	36	12	0	10	29	12	0	2	35	9	0	0	0	265
08:30 AM	22	30	0	2	2	0	24	9	0	3	21	9	1	1	19	6	0	0	0	157
08:45 AM	26	26	0	1	1	0	12	5	0	19	17	5	1	1	11	2	0	0	0	139
Total	177	121	0	3	6	0	95	35	0	50	91	35	3	4	89	22	0	0	0	786
Grand Total	353	294	0	4	10	0	194	52	0	110	176	52	6	22	182	51	0	0	0	1655
Apprch %	54.2	45.2	0	0.6	2.5	0	47.9	15.4	0	32.5	52.1	15.4	2.3	8.4	69.7	19.5	0	0	0	0
Total %	21.3	17.8	0	0.2	0.6	0	11.7	3.1	0	6.6	10.6	3.1	0.4	1.3	11	3.1	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 13

Groups Printed- Bikes Peds

Start Time	Bremen St From North						Porter St From East						Bremen St From South						Porter St From West						Porter Pl From Northwest						Exclu. Total	Inclu. Total	Int. Total
	Thru		Right		HdRt		Thru		Right		Peds		Left		BrLt		Thru		Right		Peds		HdLt		BrLt		HdRt		Peds				
	Left	Thru	Right	HdRt	Peds	Left	Thru	BrLt	Right	Peds	Left	Thru	BrLt	Right	Peds	Left	Thru	BrLt	Right	Peds	HdLt	BrLt	HdRt	Peds	HdLt	BrLt	HdRt	Peds					
07:00 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	11	0	11
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	1	0	4	0	0	0	0	4	0	0	0	0	0	7	1	8
07:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	6	0	6
07:45 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	4	0	4
Total	0	0	0	0	2	0	0	0	0	6	0	0	0	0	3	0	0	1	0	17	0	0	0	0	17	0	0	0	0	0	28	1	29
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	6	0	6
08:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	4	1	5
08:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	4	0	4
Total	0	0	0	0	4	0	0	0	0	1	0	0	0	0	2	0	0	1	0	9	0	0	0	0	9	0	0	0	0	0	16	1	17
Grand Total	0	0	0	0	6	0	0	0	0	7	0	0	0	0	5	0	0	2	0	26	0	0	0	0	26	0	0	0	0	0	44	2	46
Approch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0				
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	95.7	4.3		

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

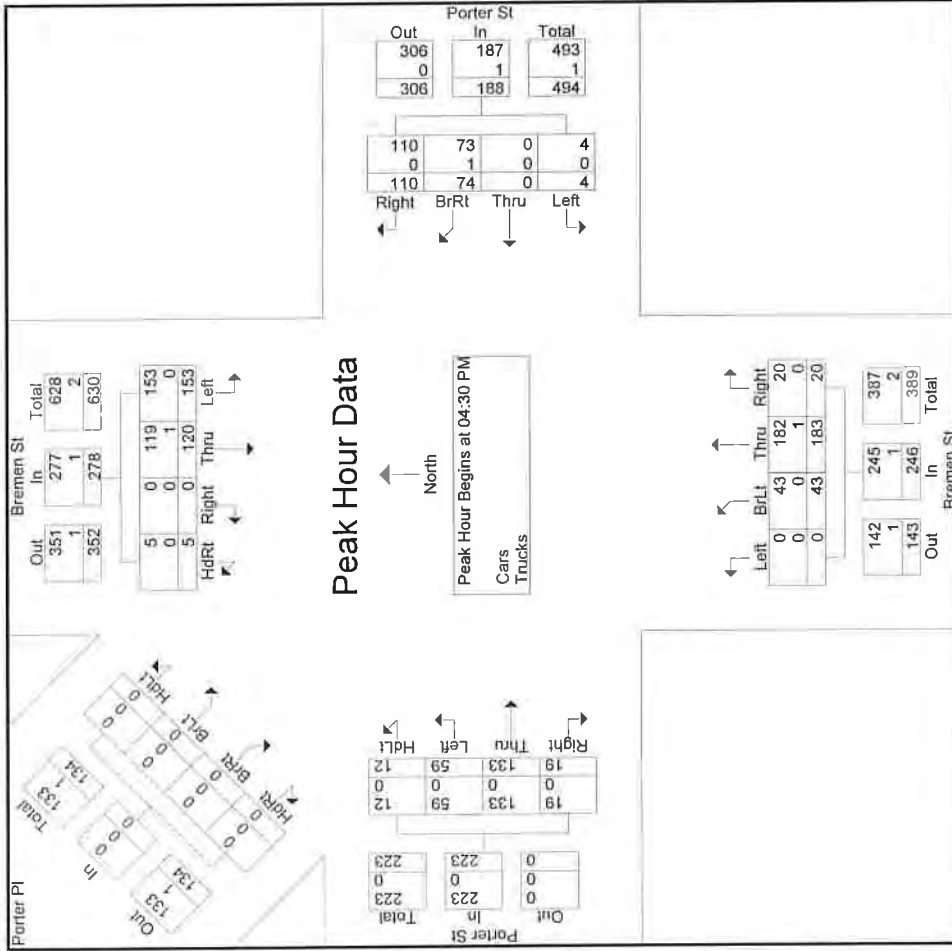
Start Time	Bremen St From North			Porter St From East			Bremen St From South			Porter St From West			Porter Pl From Northwest			Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	HdLt	BrLt	BrRt		HdRt		
04:00 PM	27	25	0	0	0	14	27	0	6	42	4	2	13	21	4	0	0	0	188
04:15 PM	43	40	0	0	0	19	20	0	8	28	6	4	17	23	2	0	0	0	211
04:30 PM	40	24	0	2	0	22	30	0	11	55	7	0	16	35	4	0	0	0	247
04:45 PM	36	33	0	1	2	0	19	28	0	29	6	3	25	38	5	0	0	0	237
Total	146	122	0	3	7	0	74	105	0	37	154	23	9	71	117	0	0	0	883
05:00 PM	45	35	0	0	0	17	24	0	11	57	2	3	8	34	3	0	0	0	239
05:15 PM	32	28	0	2	1	0	16	28	0	42	5	6	10	26	7	0	0	0	212
05:30 PM	38	38	0	1	0	0	17	23	0	31	2	1	12	32	10	0	0	0	217
05:45 PM	37	33	0	1	2	0	11	20	0	19	2	5	8	37	3	0	0	0	189
Total	152	134	0	4	3	0	61	95	0	43	149	11	15	38	129	0	0	0	857
Grand Total	298	256	0	7	10	0	135	200	0	80	303	34	24	109	246	0	0	0	1740
Apprch %	53.1	45.6	0	1.2	2.9	0	39.1	58	0	19.2	72.7	8.2	5.8	26.1	59	9.1	0	0	0
Total %	17.1	14.7	0	0.4	0.6	0	7.8	11.5	0	4.6	17.4	2	1.4	6.3	14.1	2.2	0	0	0
Cars	297	254	0	7	10	0	133	198	0	80	302	34	24	108	245	38	0	0	1730
% Cars	99.7	99.2	0	100	100	0	98.5	99	0	100	99.7	100	100	99.1	99.6	100	0	0	99.4
Trucks	1	2	0	0	0	0	2	2	0	0	1	0	0	1	1	0	0	0	10
% Trucks	0.3	0.8	0	0	0	0	1.5	1	0	0	0.3	0	0	0.9	0.4	0	0	0	0.6

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM		04:30 PM		04:45 PM		05:00 PM		05:15 PM		05:30 PM		05:45 PM											
+0 mins.	43	40	0	0	83	1	0	22	30	53	0	11	55	7	73	0	16	35	4	55	0	0	0	0
+15 mins.	40	24	0	2	66	2	0	19	28	49	0	12	29	6	47	3	25	38	5	71	0	0	0	0
+30 mins.	36	33	0	1	70	0	0	17	24	41	0	11	57	2	70	3	8	34	3	48	0	0	0	0
+45 mins.	45	35	0	0	80	1	0	16	28	45	0	9	42	5	56	6	10	26	7	49	0	0	0	0
Total Volume	164	132	0	3	299	4	0	74	110	188	0	43	183	20	246	12	59	133	19	223	0	0	0	0
% App. Total	54.8	44.1	0	1	2.1	0	0	39.4	58.5	8.1	0	17.5	74.4	8.1	26.5	5.4	26.5	59.6	8.5	8.5	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Bremen St From North			Porter St From East			Bremen St From South			Porter St From West			Porter Pl From Northwest			Int. Total				
	Left	Thru	Right	HdRt	Left	Thru	Right	Left	Thru	Right	HdLt	Left	Thru	Right	HdLt		BrLt	BrRt	HdRt	
04:00 PM	27	25	0	0	3	0	14	26	4	6	42	4	2	12	21	4	0	0	0	186
04:15 PM	43	40	0	0	1	0	19	20	6	8	28	6	4	17	22	2	0	0	0	210
04:30 PM	40	24	0	2	1	0	22	30	7	11	55	7	0	16	35	4	0	0	0	247
04:45 PM	36	33	0	1	2	0	18	28	6	12	29	6	3	25	38	5	0	0	0	236
Total	146	122	0	3	7	0	73	104	23	37	154	23	9	70	116	15	0	0	0	879
05:00 PM	45	35	0	0	0	0	17	24	2	11	57	2	3	8	34	3	0	0	0	239
05:15 PM	32	27	0	2	1	0	16	28	5	9	41	5	6	10	26	7	0	0	0	210
05:30 PM	37	37	0	1	0	0	16	22	2	12	31	2	1	12	32	10	0	0	0	213
05:45 PM	37	33	0	1	2	0	11	20	2	11	19	2	5	8	37	3	0	0	0	189
Total	151	132	0	4	3	0	60	94	11	43	148	11	15	38	129	23	0	0	0	851
Grand Total	297	254	0	7	10	0	133	198	34	80	302	34	24	108	245	38	0	0	0	1730
Apprch %	53.2	45.5	0	1.3	2.9	0	39	58.1	8.2	19.2	72.6	8.2	5.8	26	59	9.2	0	0	0	
Total %	17.2	14.7	0	0.4	0.6	0	7.7	11.4	2	4.6	17.5	2	1.4	6.2	14.2	2.2	0	0	0	

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860007
Site Code : 75860007
Start Date : 1/25/2018
Page No : 9

Groups Printed- Trucks

Start Time	Bremen St From North			Porter St From East			Bremen St From South			Porter St From West			Porter Pl From Northwest			Int. Total				
	Left	Thru	Right	HdRt	Left	Thru	Right	BrRt	Left	Thru	Right	HdLt	Left	Thru	Right		BrLt	BrRt	HdRt	
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
05:30 PM	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	6
Grand Total	1	2	0	0	0	0	2	0	0	1	0	0	0	1	1	0	0	0	0	10
Approch %	33.3	66.7	0	0	0	0	50	0	0	100	0	0	0	50	50	0	0	0	0	
Total %	10	20	0	0	0	0	20	0	0	10	0	0	0	10	10	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 13

Groups Printed- Bikes Peds

Start Time	Bremen St From North						Porter St From East						Bremen St From South						Porter St From West						Porter Pl From Northwest						Exclu. Total	Inclu. Total	Int. Total								
	Left		Thru		Right		HdRt		Peds		Left		Thru		Right		HdLt		Peds		Left		Thru		Right		HdLt		BrLt					BrRt		HdRt		Peds			
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
04:15 PM	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	9
04:30 PM	0	0	0	0	0	2	0	0	0	0	5	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	
04:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14		
Total	0	0	0	0	0	4	0	0	0	0	13	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	1	48		
05:00 PM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12	
05:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	8		
05:30 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	10		
05:45 PM	0	0	0	0	0	3	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11		
Total	0	0	0	0	0	6	0	0	0	0	9	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	2	41		
Grand Total	0	0	0	0	0	10	0	0	0	0	22	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	3	89		
Approch %	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96.6	3.4			
Total %	0	0	0	0	0	0	0	0	0	0	33.3	0	0	0	0	33.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Accurate Counts

978-664-2565

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 14

N/S Street : Bremen Street
 EW Street : Porter Street
 City/State : Boston, MA
 Weather : Clear

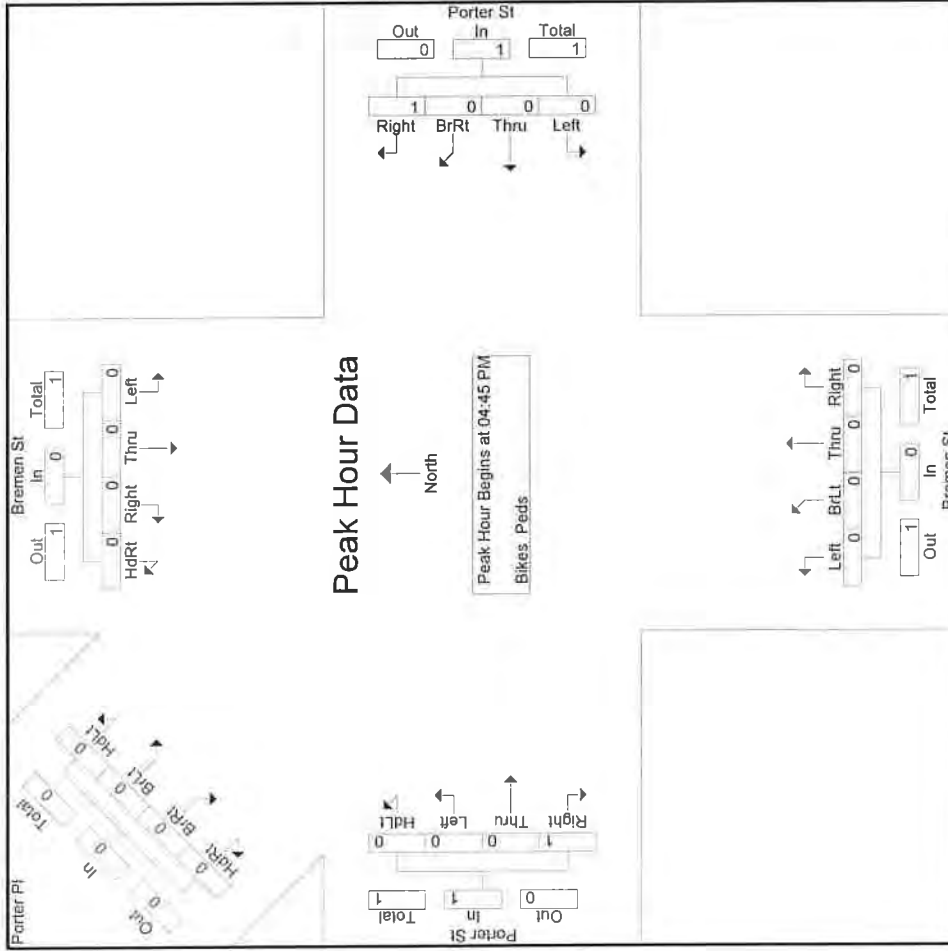
Start Time	Bremen St From North				Porter St From East				Bremen St From South				Porter St From West				Porter PI From Northwest							
	Left	Thru	Right	HdRt	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	HdLl	BtLl	BtRl	HdRt	App. Total	Int. Total		
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.500

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

Accurate Counts
978-664-2565

File Name : 75860007
 Site Code : 75860007
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Bremen Street
 E/W Street : Porter Street
 City/State : Boston, MA
 Weather : Clear



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	04:30 PM	04:45 PM	05:00 PM	05:15 PM	05:30 PM	05:45 PM	Total Volume	% App. Total
+0 mins.	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1	100
Total Volume	0	0	0	0	0	0	0	1	1	100
% App. Total	0	0	0	0	0	0	0	100	100	100

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

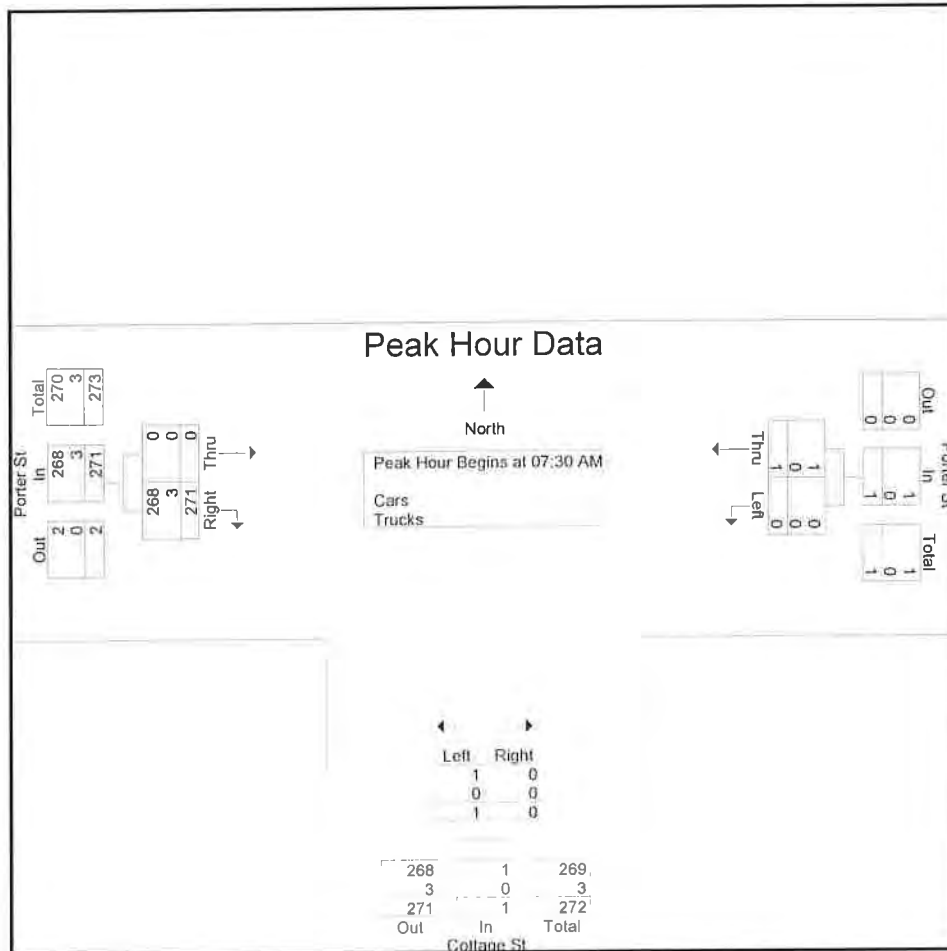
Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	0	40	40
07:15 AM	0	0	0	0	0	40	40
07:30 AM	0	1	1	0	0	50	52
07:45 AM	0	0	0	0	0	73	73
Total	0	1	1	0	0	203	205
08:00 AM	0	0	0	0	0	75	75
08:15 AM	0	0	0	0	0	73	73
08:30 AM	0	0	0	0	0	19	19
08:45 AM	0	0	0	0	0	22	22
Total	0	0	0	0	0	189	189
Grand Total	0	1	1	0	0	392	394
Approch %	0	100	100	0	0	100	
Total %	0	0.3	0.3	0	0	99.5	
Cars	0	1	1	0	0	385	387
% Cars	0	100	100	0	0	98.2	98.2
Trucks	0	0	0	0	0	7	7
% Trucks	0	0	0	0	0	1.8	1.8

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 2

Start Time	Porter St From East			Cottage St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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	1	1	1	0	1	0	50	50	52
07:45 AM	0	0	0	0	0	0	0	73	73	73
08:00 AM	0	0	0	0	0	0	0	75	75	75
08:15 AM	0	0	0	0	0	0	0	73	73	73
Total Volume	0	1	1	1	0	1	0	271	271	273
% App. Total	0	100		100	0		0	100		
PHF	.000	.250	.250	.250	.000	.250	.000	.903	.903	.910
Cars	0	1	1	1	0	1	0	268	268	270
% Cars	0	100	100	100	0	100	0	98.9	98.9	98.9
Trucks	0	0	0	0	0	0	0	3	3	3
% Trucks	0	0	0	0	0	0	0	1.1	1.1	1.1



Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 4

Groups Printed- Cars

Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	0	37	37
07:15 AM	0	0	0	0	0	39	39
07:30 AM	0	1	1	0	0	50	52
07:45 AM	0	0	0	0	0	72	72
Total	0	1	1	0	0	198	200
08:00 AM	0	0	0	0	0	73	73
08:15 AM	0	0	0	0	0	73	73
08:30 AM	0	0	0	0	0	19	19
08:45 AM	0	0	0	0	0	22	22
Total	0	0	0	0	0	187	187
Grand Total	0	1	1	0	0	385	387
Apprch %	0	100	100	0	0	100	
Total %	0	0.3	0.3	0	0	99.5	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	0	3	3
07:15 AM	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	1
Total	0	0	0	0	0	5	5
08:00 AM	0	0	0	0	0	2	2
08:15 AM	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	2
Grand Total	0	0	0	0	0	7	7
Apprch %	0	0	0	0	0	100	
Total %	0	0	0	0	0	100	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 10

Groups Printed- Bikes Peds

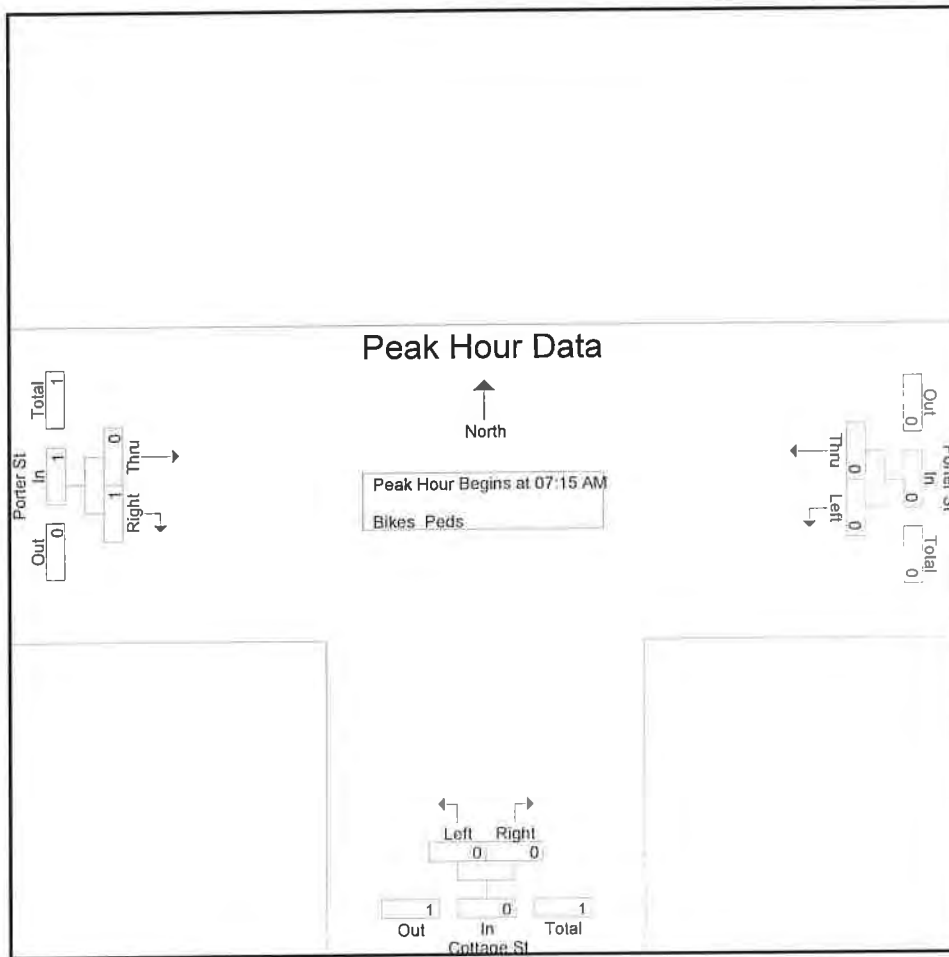
Start Time	Porter St From East			Cottage St From South			Porter St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	6	0	0	4	0	0	1	11	0	11
07:15 AM	0	0	0	0	0	1	0	0	1	2	0	2
07:30 AM	0	0	2	0	0	0	0	0	0	2	0	2
07:45 AM	0	0	3	0	0	5	0	0	0	8	0	8
Total	0	0	11	0	0	10	0	0	2	23	0	23
08:00 AM	0	0	2	0	0	2	0	1	2	6	1	7
08:15 AM	0	0	0	0	0	1	0	0	2	3	0	3
08:30 AM	0	0	0	0	0	4	0	0	1	5	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	0	7	0	1	5	14	1	15
Grand Total	0	0	13	0	0	17	0	1	7	37	1	38
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		97.4	2.6	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 11

Start Time	Porter St From East			Cottage St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0		0	0		0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250



Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 1

Groups Printed- Cars - Trucks

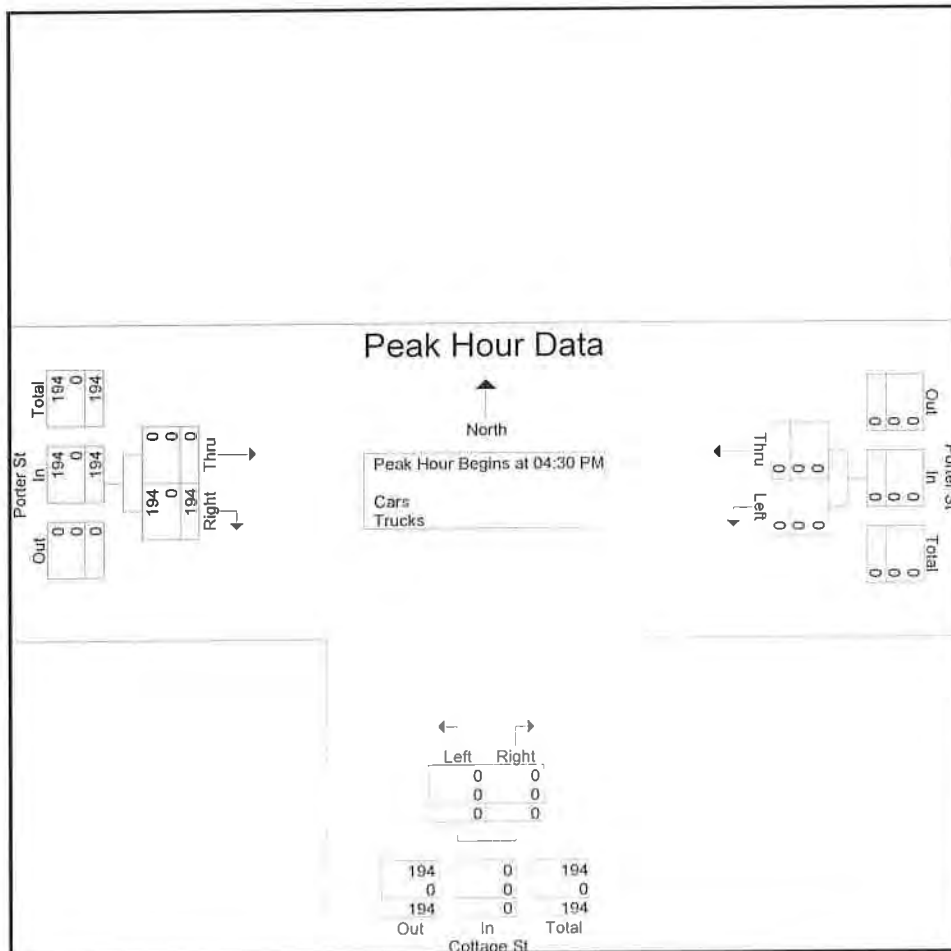
Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	0	0	0	0	41	41
04:15 PM	0	0	0	0	0	39	39
04:30 PM	0	0	0	0	0	52	52
04:45 PM	0	0	0	0	0	51	51
Total	0	0	0	0	0	183	183
05:00 PM	0	0	0	0	0	50	50
05:15 PM	0	0	0	0	0	41	41
05:30 PM	0	0	0	0	0	42	42
05:45 PM	0	0	0	0	0	38	38
Total	0	0	0	0	0	171	171
Grand Total	0	0	0	0	0	354	354
Apprch %	0	0	0	0	0	100	
Total %	0	0	0	0	0	100	
Cars	0	0	0	0	0	353	353
% Cars	0	0	0	0	0	99.7	99.7
Trucks	0	0	0	0	0	1	1
% Trucks	0	0	0	0	0	0.3	0.3

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 2

Start Time	Porter St From East			Cottage St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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	0	52	52	52
04:45 PM	0	0	0	0	0	0	0	51	51	51
05:00 PM	0	0	0	0	0	0	0	50	50	50
05:15 PM	0	0	0	0	0	0	0	41	41	41
Total Volume	0	0	0	0	0	0	0	194	194	194
% App. Total	0	0		0	0		0	100		100
PHF	.000	.000	.000	.000	.000	.000	.000	.933	.933	.933
Cars	0	0	0	0	0	0	0	194	194	194
% Cars	0	0		0	0		0	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0		0	0		0	0	0	0



Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 4

Groups Printed- Cars

Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	0	0	0	0	41	41
04:15 PM	0	0	0	0	0	38	38
04:30 PM	0	0	0	0	0	52	52
04:45 PM	0	0	0	0	0	51	51
Total	0	0	0	0	0	182	182
05:00 PM	0	0	0	0	0	50	50
05:15 PM	0	0	0	0	0	41	41
05:30 PM	0	0	0	0	0	42	42
05:45 PM	0	0	0	0	0	38	38
Total	0	0	0	0	0	171	171
Grand Total	0	0	0	0	0	353	353
Apprch %	0	0	0	0	0	100	
Total %	0	0	0	0	0	100	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 7

Groups Printed- Trucks

Start Time	Porter St From East		Cottage St From South		Porter St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	1
Apprch %	0	0	0	0	0	100	
Total %	0	0	0	0	0	100	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 10

Groups Printed- Bikes Peds

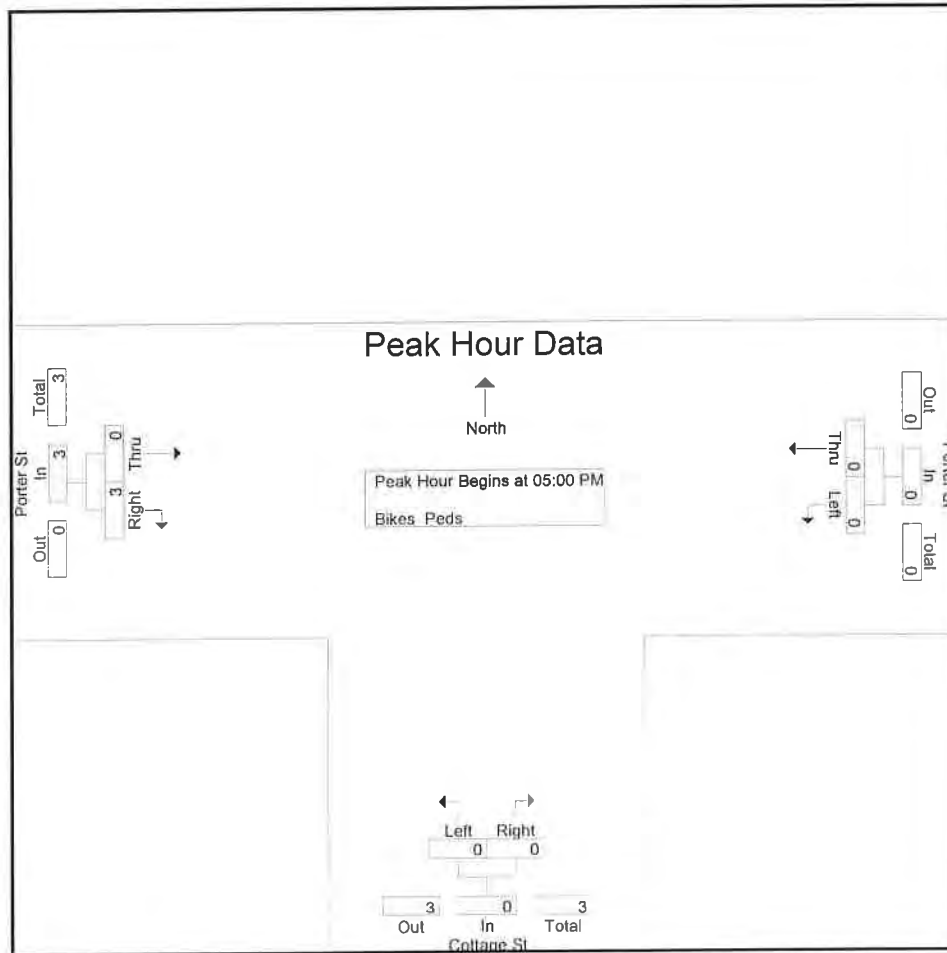
Start Time	Porter St From East			Cottage St From South			Porter St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	7	0	0	0	7	0	7
04:15 PM	0	0	0	0	0	4	0	0	1	5	0	5
04:30 PM	0	0	0	0	0	8	0	0	2	10	0	10
04:45 PM	0	0	0	0	0	1	0	0	2	3	0	3
Total	0	0	0	0	0	20	0	0	5	25	0	25
05:00 PM	0	0	0	0	0	5	0	1	1	6	1	7
05:15 PM	0	0	0	0	0	7	0	0	0	7	0	7
05:30 PM	0	0	0	0	0	4	0	1	0	4	1	5
05:45 PM	0	0	1	0	0	2	0	1	2	5	1	6
Total	0	0	1	0	0	18	0	3	3	22	3	25
Grand Total	0	0	1	0	0	38	0	3	8	47	3	50
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		94	6	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Porter Street
City/State : Boston, MA
Weather : Clear

File Name : 75860008
Site Code : 75860008
Start Date : 1/25/2018
Page No : 11

Start Time	Porter St From East			Cottage St From South			Porter St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. 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	0	1	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	1	1	1
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	3	3	3
% App. Total	0	0	0	0	0	0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.750	.750	.750



Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	2	5	3	51	7	10	4	0	0	0	0	82
07:15 AM	0	7	6	3	63	5	14	23	0	0	0	0	121
07:30 AM	0	7	2	2	56	7	11	17	0	0	0	0	102
07:45 AM	0	7	6	2	62	7	9	14	0	0	0	0	107
Total	0	23	19	10	232	26	44	58	0	0	0	0	412
08:00 AM	0	7	4	5	76	9	7	16	0	0	0	0	124
08:15 AM	0	9	7	2	88	11	6	15	0	0	0	0	138
08:30 AM	0	8	8	2	47	4	4	10	1	0	0	0	84
08:45 AM	0	7	8	1	44	3	10	7	0	0	0	0	80
Total	0	31	27	10	255	27	27	48	1	0	0	0	426
Grand Total	0	54	46	20	487	53	71	106	1	0	0	0	838
Approch %	0	54	46	3.6	87	9.5	39.9	59.6	0.6	0	0	0	
Total %	0	6.4	5.5	2.4	58.1	6.3	8.5	12.6	0.1	0	0	0	
Cars	0	53	44	20	472	51	71	105	1	0	0	0	817
% Cars	0	98.1	95.7	100	96.9	96.2	100	99.1	100	0	0	0	97.5
Trucks	0	1	2	0	15	2	0	1	0	0	0	0	21
% Trucks	0	1.9	4.3	0	3.1	3.8	0	0.9	0	0	0	0	2.5

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 2

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
07:30 AM	0	7	2	2	56	7	11	17	0	0	0	0	0	102
07:45 AM	0	7	6	2	62	7	9	14	0	0	0	0	0	107
08:00 AM	0	7	4	5	76	9	7	16	0	0	0	0	0	124
08:15 AM	0	9	7	2	88	11	6	15	0	0	0	0	0	138
Total Volume	0	30	19	11	282	34	33	62	0	0	0	0	0	471
% App. Total	0	61.2	38.8	3.4	86.2	10.4	34.7	65.3	0	0	0	0	0	
PHF	.000	.833	.679	.550	.801	.773	.750	.912	.000	.000	.000	.000	.848	.853
Cars	0	29	17	11	275	33	33	61	0	0	0	0	94	459
% Cars	0	96.7	89.5	100	97.5	97.1	100	98.4	0	0	0	0	98.9	97.5
Trucks	0	1	2	0	7	1	0	1	0	0	0	0	1	12
% Trucks	0	3.3	10.5	0	2.5	2.9	0	1.6	0	0	0	0	1.1	2.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

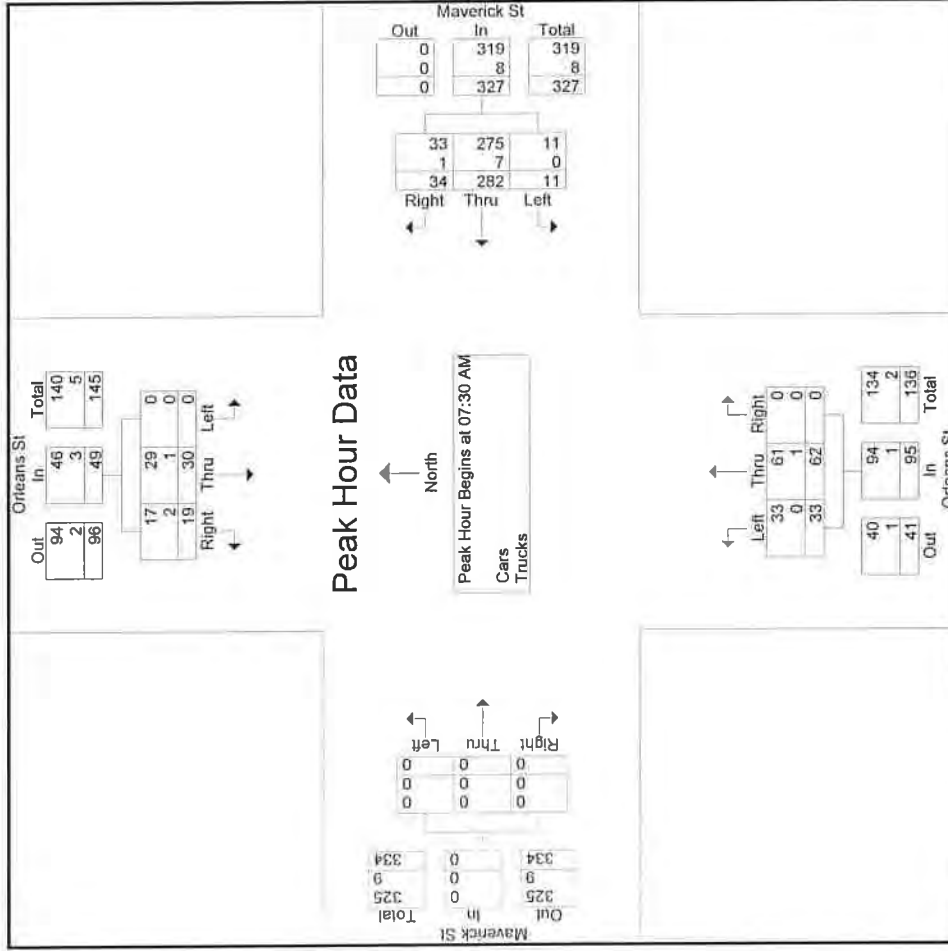
Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 3



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

	08:00 AM	07:30 AM	07:15 AM	07:00 AM
+0 mins.	0	7	4	11
+15 mins.	0	9	7	16
+30 mins.	0	8	8	16
+45 mins.	0	7	8	15
Total Volume	0	31	27	58
% App. Total	0	53.4	46.6	

	07:00 AM	07:15 AM	07:30 AM	07:45 AM
+0 mins.	0	14	7	65
+15 mins.	0	11	7	71
+30 mins.	0	9	9	90
+45 mins.	0	7	11	101
Total Volume	0	41	34	327
% App. Total	0	63.1	10.4	36.9

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	2	5	3	49	7	10	4	0	0	0	0	80
07:15 AM	0	7	6	3	60	5	14	23	0	0	0	0	118
07:30 AM	0	7	2	2	55	6	11	17	0	0	0	0	100
07:45 AM	0	7	5	2	58	7	9	14	0	0	0	0	102
Total	0	23	18	10	222	25	44	58	0	0	0	0	400
08:00 AM	0	6	4	5	75	9	7	16	0	0	0	0	122
08:15 AM	0	9	6	2	87	11	6	14	0	0	0	0	135
08:30 AM	0	8	8	2	46	3	4	10	1	0	0	0	82
08:45 AM	0	7	8	1	42	3	10	7	0	0	0	0	78
Total	0	30	26	10	250	26	27	47	1	0	0	0	417
Grand Total	0	53	44	20	472	51	71	105	1	0	0	0	817
Approch %	0	54.6	45.4	3.7	86.9	9.4	40.1	59.3	0.6	0	0	0	
Total %	0	6.5	5.4	2.4	57.8	6.2	8.7	12.9	0.1	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total	
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru		
07:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	10	1	0	0	0	0	0	0	12
08:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	3
08:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	1	0	0	0	5	1	0	0	1	0	0	0	9
Grand Total	0	1	0	0	0	15	2	0	0	1	0	0	0	21
Approch %	0	33.3	0	0	0	88.2	11.8	0	0	100	0	0	0	0
Total %	0	4.8	0	0	0	71.4	9.5	0	0	4.8	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 13

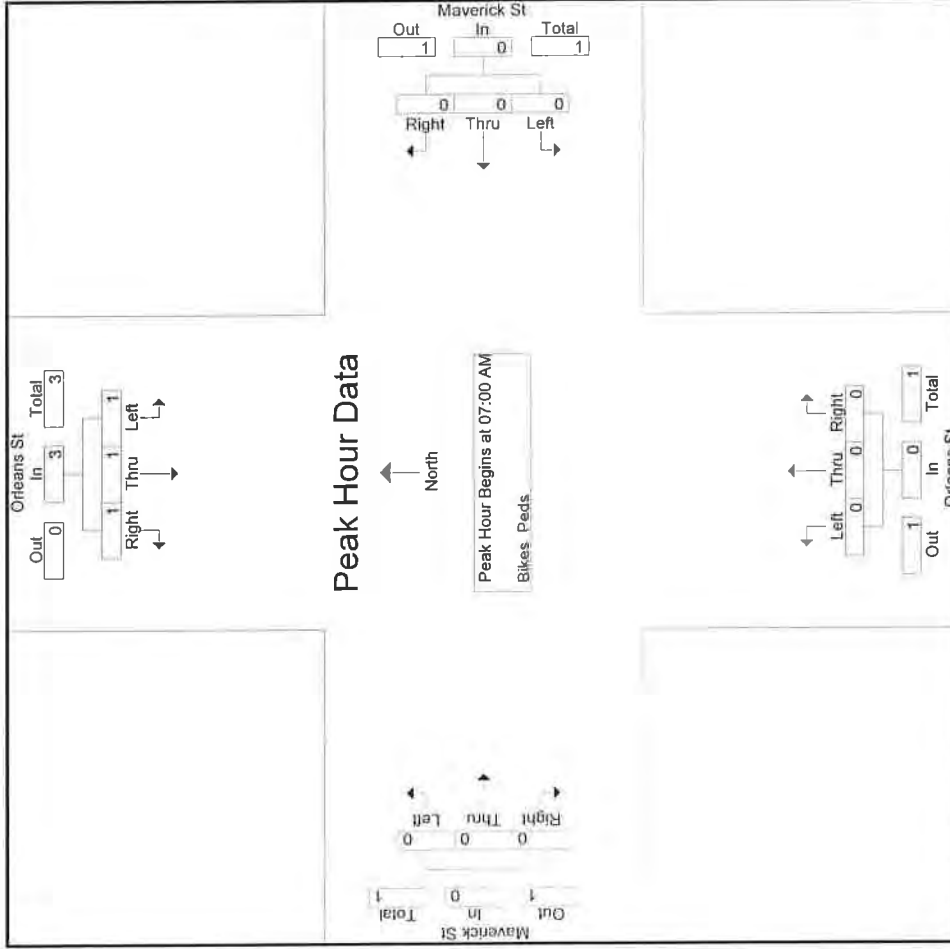
Start Time	Orleans St From North												Maverick St From East						Orleans St From South						Maverick St From West																				
	Left			Thru			Right			Peds			Left			Thru			Right			Peds			Left			Thru			Right			Peds			Exclu. Total			Inclu. Total			Int. Total		
07:00 AM	1	0	0	0	0	10	0	0	0	0	0	7	0	0	0	0	0	24	0	0	0	0	0	5	0	0	0	0	0	46	0	0	1	0	0	47									
07:15 AM	0	0	1	0	0	11	0	0	0	0	0	4	0	0	0	0	0	17	0	0	0	0	0	3	0	0	0	0	0	35	0	0	1	0	0	36									
07:30 AM	0	1	0	0	0	15	0	0	0	0	0	5	0	0	0	0	0	18	0	0	0	0	0	11	0	0	0	0	0	49	0	0	1	0	0	50									
07:45 AM	0	0	0	0	0	23	0	0	0	0	0	7	0	0	0	0	0	30	0	0	0	0	0	8	0	0	0	0	0	68	0	0	0	0	0	68									
Total	1	1	1	0	0	59	0	0	0	0	0	23	0	0	0	0	0	89	0	0	0	0	0	27	0	0	198	0	0	3	0	0	201												
08:00 AM	0	0	0	0	0	28	0	0	0	0	0	5	0	0	0	0	0	27	0	0	0	0	0	11	0	0	0	0	0	71	0	0	1	0	0	72									
08:15 AM	0	0	0	0	0	39	0	0	0	0	0	13	0	0	0	0	0	27	0	0	0	0	0	8	0	0	0	0	0	87	0	0	0	0	0	87									
08:30 AM	0	0	0	0	0	19	0	0	0	0	0	1	0	0	0	0	0	10	0	0	0	0	0	7	0	0	0	0	0	37	0	0	2	0	0	39									
08:45 AM	0	0	0	0	0	15	0	0	0	0	0	5	0	0	0	0	0	13	0	0	0	0	0	7	0	0	0	0	0	40	0	0	0	0	0	40									
Total	0	0	0	0	0	101	0	0	0	0	0	24	0	0	0	0	0	77	0	0	0	0	0	33	0	0	235	0	0	3	0	0	238												
Grand Total	1	1	1	0	0	160	0	0	0	0	0	47	0	0	0	0	0	166	0	0	0	0	0	60	0	0	433	0	0	6	0	0	439												
Approch %	33.3	33.3	33.3	0	0	33.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98.6	0	0	1.4	0	0	1.4												
Total %	16.7	16.7	16.7	0	0	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98.6	0	0	1.4	0	0	1.4												

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 15



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

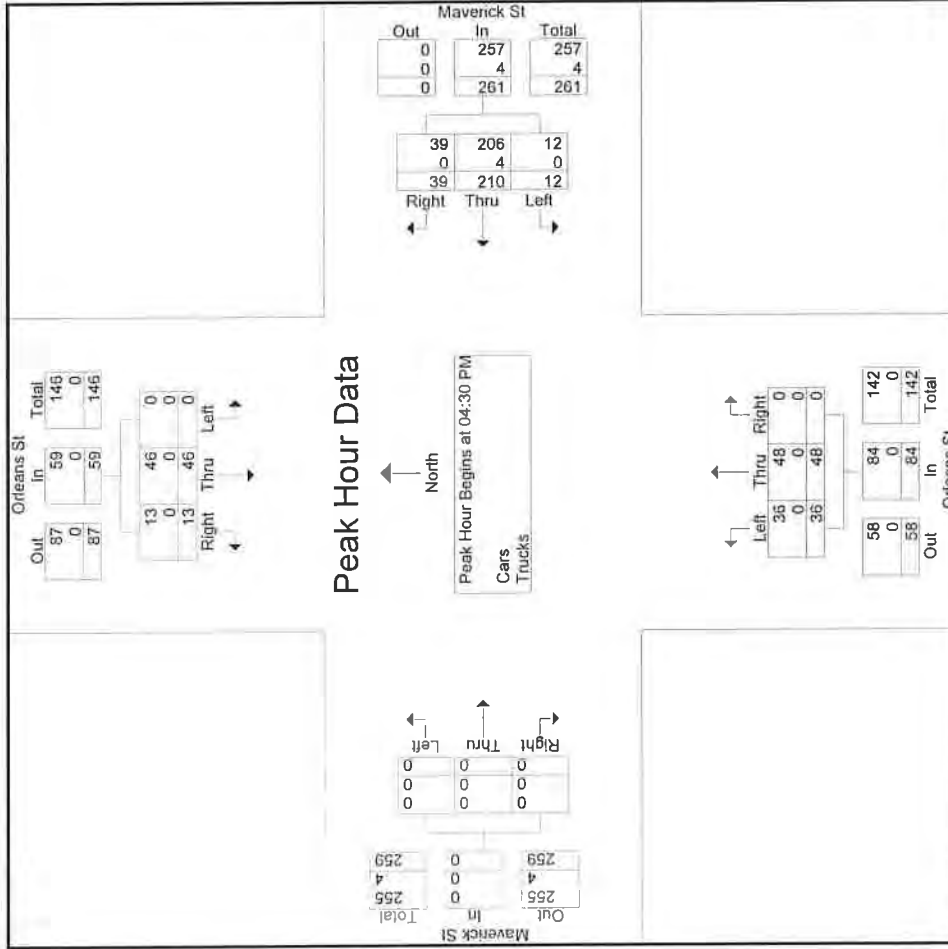
	07:00 AM			07:45 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	0	0	1	0	0	1	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	1	3	0	3	0	0	3	0	0	0
% App. Total	33.3	33.3	33.3	0	0	100	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			04:00 PM						
+0 mins.	0	14	4	18	6	58	13	77	10	16	0	0	0
+15 mins.	0	7	4	11	0	52	7	59	11	12	0	0	0
+30 mins.	0	12	3	15	1	38	12	51	11	15	0	0	0
+45 mins.	0	13	2	15	5	62	7	74	16	8	0	0	0
Total Volume	0	46	13	59	12	210	39	261	48	51	0	0	0
% App. Total	0	78	22		4.6	80.5	14.9		48.5	51.5	0	0	0

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 EW Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	9	6	4	40	7	7	11	0	0	0	0	84
04:15 PM	0	7	4	3	37	6	6	15	0	0	0	0	78
04:30 PM	0	14	4	6	57	13	6	10	0	0	0	0	110
04:45 PM	0	7	4	0	51	7	9	10	0	0	0	0	88
Total	0	37	18	13	185	33	28	46	0	0	0	0	360
05:00 PM	0	12	3	1	37	12	10	16	0	0	0	0	91
05:15 PM	0	13	2	5	61	7	11	12	0	0	0	0	111
05:30 PM	0	10	3	3	40	4	11	15	0	0	0	0	86
05:45 PM	0	10	4	4	47	7	16	8	0	0	0	0	96
Total	0	45	12	13	185	30	48	51	0	0	0	0	384
Grand Total	0	82	30	26	370	63	76	97	0	0	0	0	744
Approch %	0	73.2	26.8	5.7	80.6	13.7	43.9	56.1	0	0	0	0	
Total %	0	11	4	3.5	49.7	8.5	10.2	13	0	0	0	0	

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 13

Groups Printed- Bikes Peds

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				Peds	Peds	Peds
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	40	1	41
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	47	1	48
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	9	57	1	58
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	46	1	47
Total	0	0	0	0	1	2	0	1	0	0	0	0	0	0	24	190	4	194
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	58	0	58
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	72	0	72
05:30 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	0	10	61	3	64
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	54	0	54
Total	0	1	0	0	0	0	1	1	0	0	0	0	0	0	32	245	3	248
Grand Total	0	1	0	0	1	2	1	2	0	0	0	0	0	0	56	435	7	442
Approch %	0	100	0	0	33.3	66.7	33.3	66.7	0	0	0	0	0	0	0	98.4	1.6	
Total %	0	14.3	0	0	14.3	28.6	14.3	28.6	0	0	0	0	0	0	0			

Accurate Counts
978-664-2565

N/S Street : Orleans Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860009
 Site Code : 75860009
 Start Date : 1/25/2018
 Page No : 14

Start Time	Orleans St From North			Maverick St From East			Orleans St From South			Maverick St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. 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	1	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	1	2	0	1	0	1	0	0	0	4
% App. Total	0	0	0	0	33.3	66.7	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.250	.500	.000	.250	.000	.250	.000	.000	.000	1.00

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 2

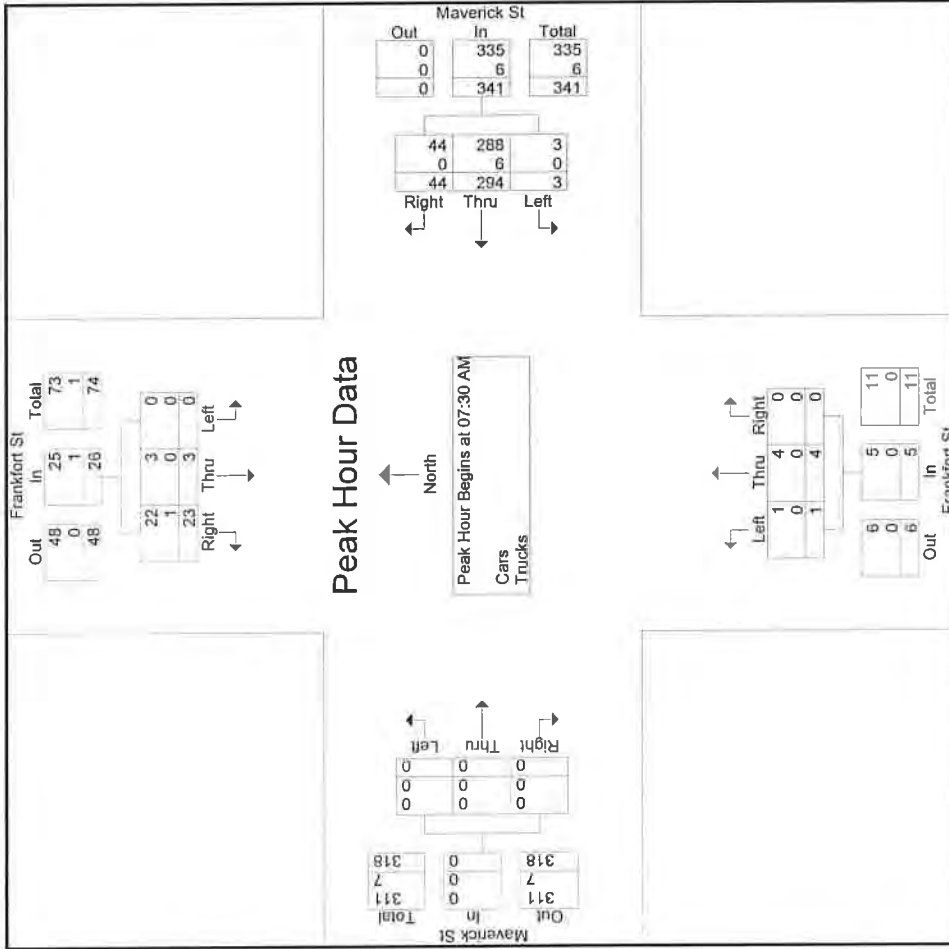
Start Time	Frankfort St From North			Maverick St From East			Frankfort St From South			Maverick St From West			Int. Total					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right						
			App. Total			App. Total			App. Total			App. Total						
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM :	0	1	8	9	61	4	66	66	0	2	0	2	2	0	0	0	0	77
07:45 AM :	0	1	3	4	66	9	76	76	0	0	0	0	0	0	0	0	0	80
08:00 AM :	0	0	8	8	82	14	97	97	1	1	0	2	2	0	0	0	0	107
08:15 AM :	0	1	4	5	85	17	102	102	0	1	0	1	1	0	0	0	0	108
Total Volume	0	3	23	26	294	44	341	341	1	4	0	5	5	0	0	0	0	372
% App. Total	0	11.5	88.5		86.2	12.9			20	80	0			0	0	0	0	
PHF	.000	.750	.719	.722	.865	.647	.836	.836	.250	.500	.000	.625	.625	.000	.000	.000	.000	.861
Cars	0	3	22	25	288	44	335	335	1	4	0	5	5	0	0	0	0	365
% Cars	0	100	95.7	96.2	98.0	100	98.2	98.2	100	100	0	100	100	0	0	0	0	98.1
Trucks	0	0	1	1	6	0	6	6	0	0	0	0	0	0	0	0	0	7
% Trucks	0	0	4.3	3.8	2.0	0	1.8	1.8	0	0	0	0	0	0	0	0	0	1.9

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM		07:30 AM		07:00 AM		07:00 AM	
+0 mins.	0	0	6	6	4	1	2	3
+15 mins.	0	1	9	66	9	76	1	4
+30 mins.	0	1	4	82	14	97	2	2
+45 mins.	0	0	8	85	17	102	0	0
Total Volume	0	2	27	341	44	341	5	9
% App. Total	0	7.4	92.6	86.2	12.9	44.4	55.6	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Frankfort St From North			Maverick St From East			Frankfort St From South			Maverick St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
07:00 AM	0	7	0	1	6	52	1	2	2	0	0	0	69
07:15 AM	0	6	0	1	8	65	3	1	1	0	0	0	84
07:30 AM	0	8	1	1	4	59	0	2	2	0	0	0	75
07:45 AM	0	3	1	1	9	63	0	0	0	0	0	0	77
Total	0	24	2	4	27	239	4	5	5	0	0	0	305
08:00 AM	0	8	0	1	14	81	1	1	1	0	0	0	106
08:15 AM	0	3	1	0	17	85	0	1	1	0	0	0	107
08:30 AM	0	4	0	1	4	46	0	0	0	0	0	0	55
08:45 AM	0	4	1	2	5	37	2	0	0	0	0	0	51
Total	0	19	2	4	40	249	3	2	2	0	0	0	319
Grand Total	0	43	4	8	67	488	7	7	7	0	0	0	624
Approch %	0	91.5	8.5	1.4	11.9	86.7	50	50	50	0	0	0	0
Total %	0	6.9	0.6	1.3	10.7	78.2	1.1	1.1	1.1	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 13

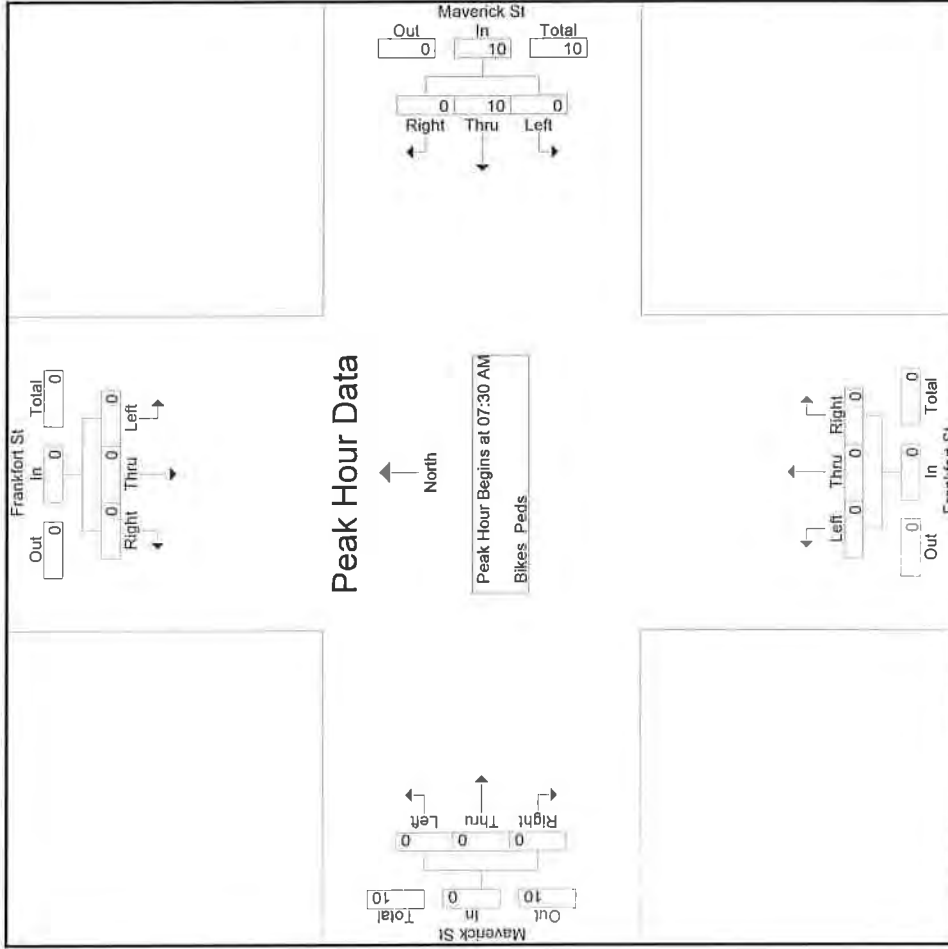
Groups Printed- Bikes, Peds

Start Time	Frankfort St From North			Maverick St From East			Frankfort St From South			Maverick St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	39	1	40
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	78	2	80
Total	0	0	0	3	0	0	0	0	0	0	0	0	167	3	170
08:00 AM	0	0	0	3	0	0	0	0	0	0	0	0	89	3	92
08:15 AM	0	0	0	4	0	0	0	0	0	0	0	0	82	4	86
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	35	0	35
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	25	1	26
Total	0	0	0	8	0	0	0	0	0	0	0	0	231	8	239
Grand Total	0	0	0	11	0	0	0	0	0	0	0	0	398	11	409
Approch %	0	0	0	100	0	0	0	0	0	0	0	0			
Total %	0	0	0	100	0	0	0	0	0	0	0	0	97.3	2.7	

Accurate Counts
978-664-2565

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

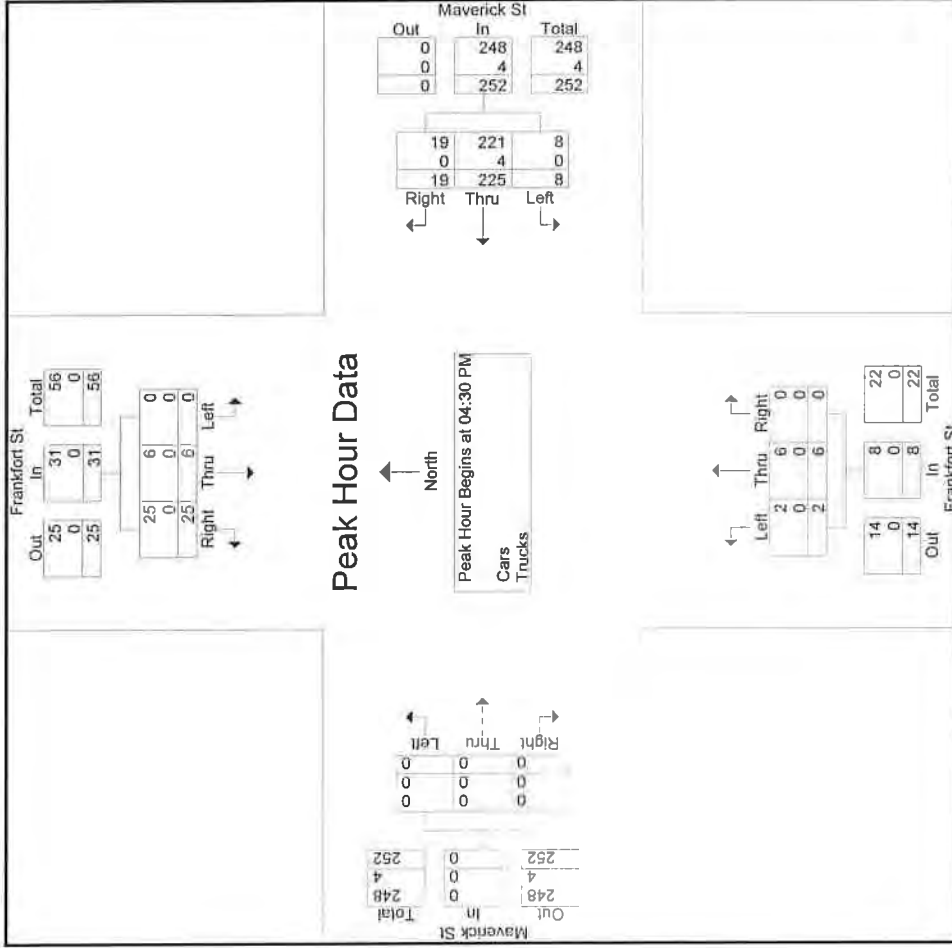
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:00 AM						
+0 mins.	0	0	0	0	0	1	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	3	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	4	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	10	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

File Name : 75860010
Site Code : 75860010
Start Date : 1/25/2018
Page No : 3

N/S Street : Frankfort Street
E/W Street : Maverick Street
City/State : Boston, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:00 PM						
+0 mins.	0	1	5	6	5	78	2	1	0	0	0	0	0
+15 mins.	0	1	8	9	3	52	0	0	0	0	0	0	0
+30 mins.	0	1	6	7	4	54	2	2	0	4	0	0	0
+45 mins.	0	3	6	9	7	68	0	1	0	1	0	0	0
Total Volume	0	6	25	31	8	225	19	4	4	8	0	0	0
% App. Total	0	19.4	80.6	3.2	89.3	7.5	50	50	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Frankfort St From North			Maverick St From East			Frankfort St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	2	3	1	44	2	2	1	0	0	0	0	55
04:15 PM	0	0	3	2	48	6	0	0	0	0	0	0	59
04:30 PM	0	1	5	3	69	5	2	2	0	0	0	0	87
04:45 PM	0	1	8	2	46	3	0	1	0	0	0	0	61
Total	0	4	19	8	207	16	4	4	0	0	0	0	262
05:00 PM	0	1	6	2	47	4	0	0	0	0	0	0	60
05:15 PM	0	3	6	1	59	7	0	3	0	0	0	0	79
05:30 PM	0	1	5	1	46	4	0	3	0	0	0	0	60
05:45 PM	0	0	7	1	49	2	0	2	0	0	0	0	61
Total	0	5	24	5	201	17	0	8	0	0	0	0	260
Grand Total	0	9	43	13	408	33	4	12	0	0	0	0	522
Approch %	0	17.3	82.7	2.9	89.9	7.3	25	75	0	0	0	0	
Total %	0	1.7	8.2	2.5	78.2	6.3	0.8	2.3	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Frankfort Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

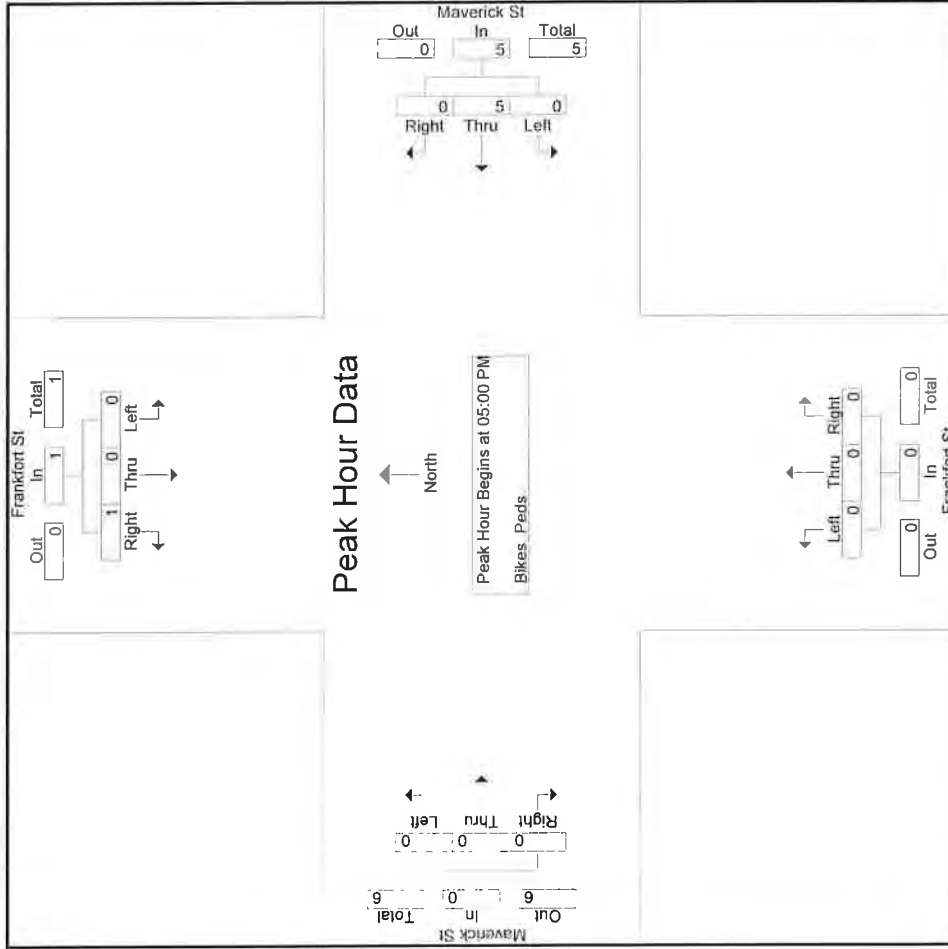
File Name : 75860010
 Site Code : 75860010
 Start Date : 1/25/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds																		
	Frankfort St From North			Maverick St From East			Frankfort St From South			Maverick St From West									
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right							
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	33	0	33
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	32	1	33
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	40	0	40
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	31	0	31
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	26	136	1	137
05:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9	40	1	41
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	47	0	47
05:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	40	1	41
05:45 PM	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	6	28	4	32
Total	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	30	155	6	161
Grand Total	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	56	291	7	298
Apprch %	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0				
Total %	0	0	14.3	0	85.7	0	0	0	0	0	0	0	0	0	0		97.7	2.3	

Accurate Counts
978-664-2565

File Name : 75860010
Site Code : 75860010
Start Date : 1/25/2018
Page No : 15

N/S Street : Frankfort Street
E/W Street : Maverick Street
City/State : Boston, MA
Weather : Clear



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			04:00 PM			04:00 PM					
+0 mins.	0	0	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	0	0	0	0	0
+45 mins.	0	0	1	0	0	3	0	0	0	0	0	0
Total Volume	0	0	1	0	5	0	5	0	0	0	0	0
% App. Total	0	0	100	0	100	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Int. Total
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	
07:00 AM	0	18	22	3	0	45	0	0	0	0	0	0	88
07:15 AM	0	16	31	4	0	69	0	0	0	0	0	0	120
07:30 AM	0	38	17	5	0	50	0	0	0	0	0	0	110
07:45 AM	0	52	15	3	0	51	0	0	0	0	0	0	121
Total	0	124	85	15	0	215	0	0	0	0	0	0	439
08:00 AM	0	70	12	0	0	53	0	0	0	0	0	0	135
08:15 AM	0	80	15	3	0	39	0	0	0	0	0	0	137
08:30 AM	0	15	11	3	0	38	0	0	0	0	0	1	68
08:45 AM	0	11	8	3	0	38	0	0	0	0	0	0	61
Total	0	176	46	9	0	168	0	0	0	0	0	1	401
Grand Total	0	300	131	24	0	383	0	0	0	0	0	1	840
Approch %	0	69.6	30.4	5.9	0	94.1	0	0	0	0	0	100	0
Total %	0	35.7	15.6	2.9	0	45.6	0	0	0	0	0	0.1	0
Cars	0	292	128	24	0	370	0	0	0	0	0	1	815
% Cars	0	97.3	97.7	100	0	96.6	0	0	0	0	0	100	97
Trucks	0	8	3	0	0	13	0	0	0	0	0	0	25
% Trucks	0	2.7	2.3	0	0	3.4	0	0	0	0	0	0	3

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

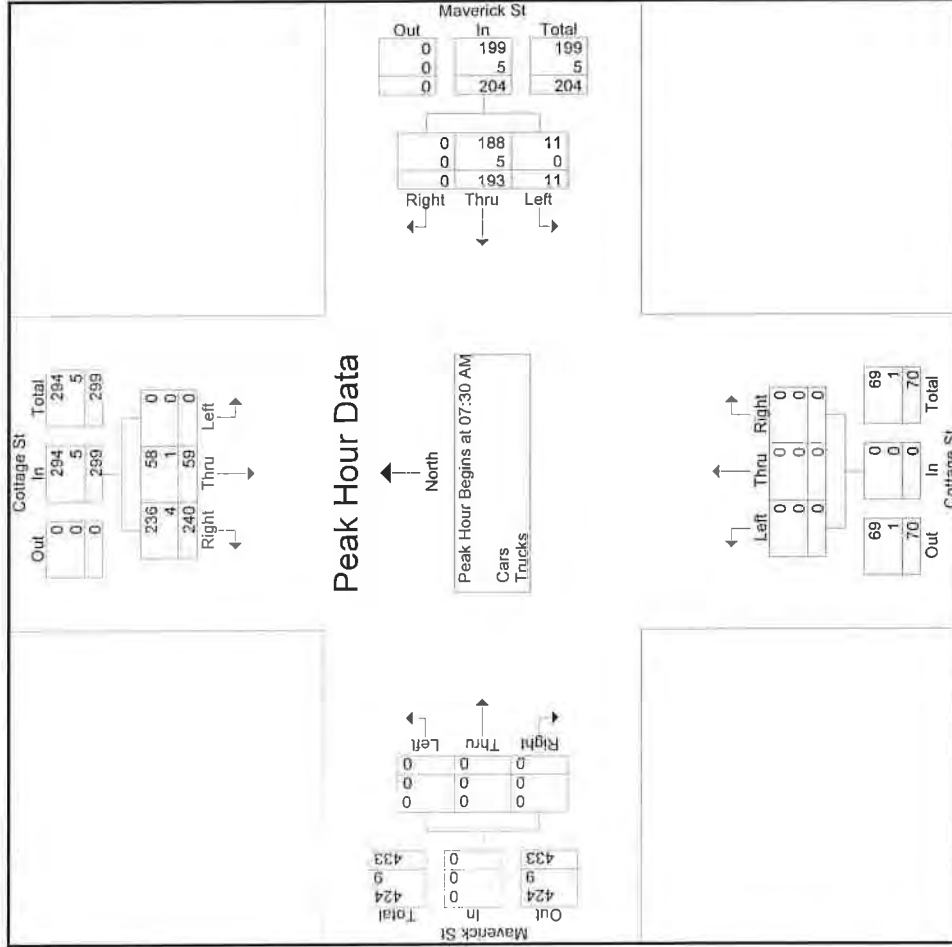
File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 2

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
	App. Total			App. Total			App. Total			App. 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	17	38	5	50	0	55	0	0	0	0	0	0	110
07:45 AM	0	15	52	3	51	0	67	0	0	0	0	0	0	121
08:00 AM	0	12	70	0	53	0	82	0	0	0	0	0	0	135
08:15 AM	0	15	80	3	39	0	95	0	0	0	0	0	0	137
Total Volume	0	59	240	11	193	0	299	0	0	0	0	0	0	503
% App. Total	0	19.7	80.3	5.4	94.6	0		0	0	0	0	0	0	
PHF	.000	.868	.750	.550	.910	.000	.787	.000	.927	.000	.000	.000	.000	.918
Cars	0	58	236	11	188	0	294	0	199	0	0	0	0	493
% Cars	0	98.3	98.3	100	97.4	0	98.3	0	97.5	0	0	0	0	98.0
Trucks	0	1	4	0	5	0	5	0	5	0	0	0	0	10
% Trucks	0	1.7	1.7	0	2.6	0	1.7	0	2.5	0	0	0	0	2.0

Accurate Counts
978-664-2565

N/S Street | Cottage Street
 E/W Street | Maverick Street
 City/State | Boston, MA
 Weather | Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 3



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM	07:30 AM	07:45 AM	08:00 AM	08:15 AM	08:30 AM	08:45 AM
+0 mins.	38	55	4	69	0	73	0
+15 mins.	52	67	5	50	0	55	0
+30 mins.	70	82	3	51	0	54	0
+45 mins.	80	95	0	53	0	53	1
Total Volume	240	299	12	223	0	235	1
% App. Total	80.3	80.3	5.1	94.9	0	100	0

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	21	15	3	44	0	0	0	0	0	0	0	83
07:15 AM	0	31	15	4	67	0	0	0	0	0	0	0	117
07:30 AM	0	17	37	5	49	0	0	0	0	0	0	0	108
07:45 AM	0	14	51	3	48	0	0	0	0	0	0	0	116
Total	0	83	118	15	208	0	0	0	0	0	0	0	424
08:00 AM	0	12	69	0	52	0	0	0	0	0	0	0	133
08:15 AM	0	15	79	3	39	0	0	0	0	0	0	0	136
08:30 AM	0	11	15	3	35	0	0	0	0	0	1	0	65
08:45 AM	0	7	11	3	36	0	0	0	0	0	0	0	57
Total	0	45	174	9	162	0	0	0	0	0	1	0	391
Grand Total	0	128	292	24	370	0	0	0	0	0	1	0	815
Approch %	0	30.5	69.5	6.1	93.9	0	0	0	0	0	100	0	
Total %	0	15.7	35.8	2.9	45.4	0	0	0	0	0	0.1	0	

Accurate Counts
978-664-2565

N/S Street : Cottage Street
E/W Street : Maverick Street
City/State : Boston, MA
Weather : Clear

File Name : 75860011
Site Code : 75860011
Start Date : 1/25/2018
Page No : 9

Groups Printed- Trucks

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	1	3	0	1	0	0	0	0	0	0	0	5
07:15 AM	0	0	1	0	2	0	0	0	0	0	0	0	3
07:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	2
07:45 AM	0	1	1	0	3	0	0	0	0	0	0	0	5
Total	0	2	6	0	7	0	0	0	0	0	0	0	15
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	2
08:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
08:45 AM	0	1	0	0	2	0	1	0	0	0	0	0	4
Total	0	1	2	0	6	0	1	0	0	0	0	0	10
Grand Total :	0	3	8	0	13	0	1	0	0	0	0	0	25
Approch %	0	27.3	72.7	0	100	0	100	0	0	0	0	0	
Total %	0	12	32	0	52	0	4	0	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 13

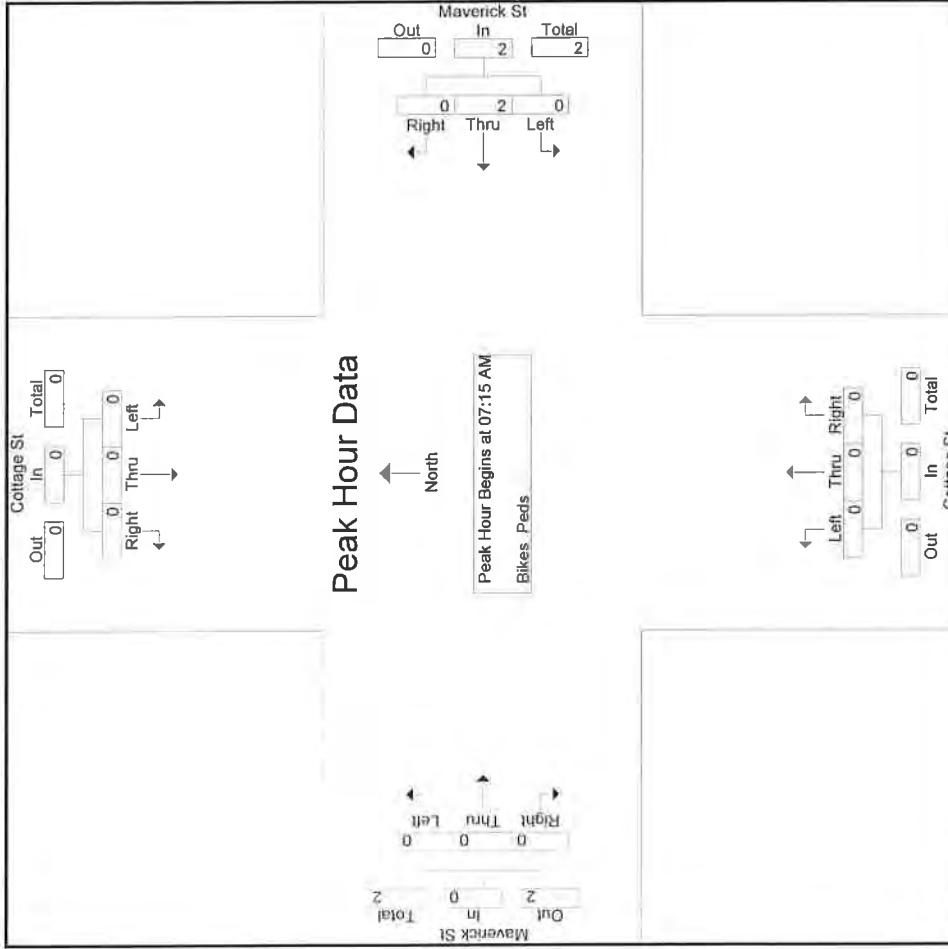
Groups Printed- Bikes, Peds

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14
07:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	50	1	51
Total	0	0	0	0	1	0	0	0	0	0	0	0	99	1	100
08:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	62	1	63
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	81	0	81
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24
Total	0	0	0	0	1	0	0	0	0	0	0	0	199	1	200
Grand Total	0	0	0	0	2	0	0	0	0	0	0	0	298	2	300
Approch %	0	0	0	0	100	0	0	0	0	0	0	0			
Total %	0	0	0	0	100	0	0	0	0	0	0	0	99.3	0.7	

Accurate Counts
978-664-2565

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

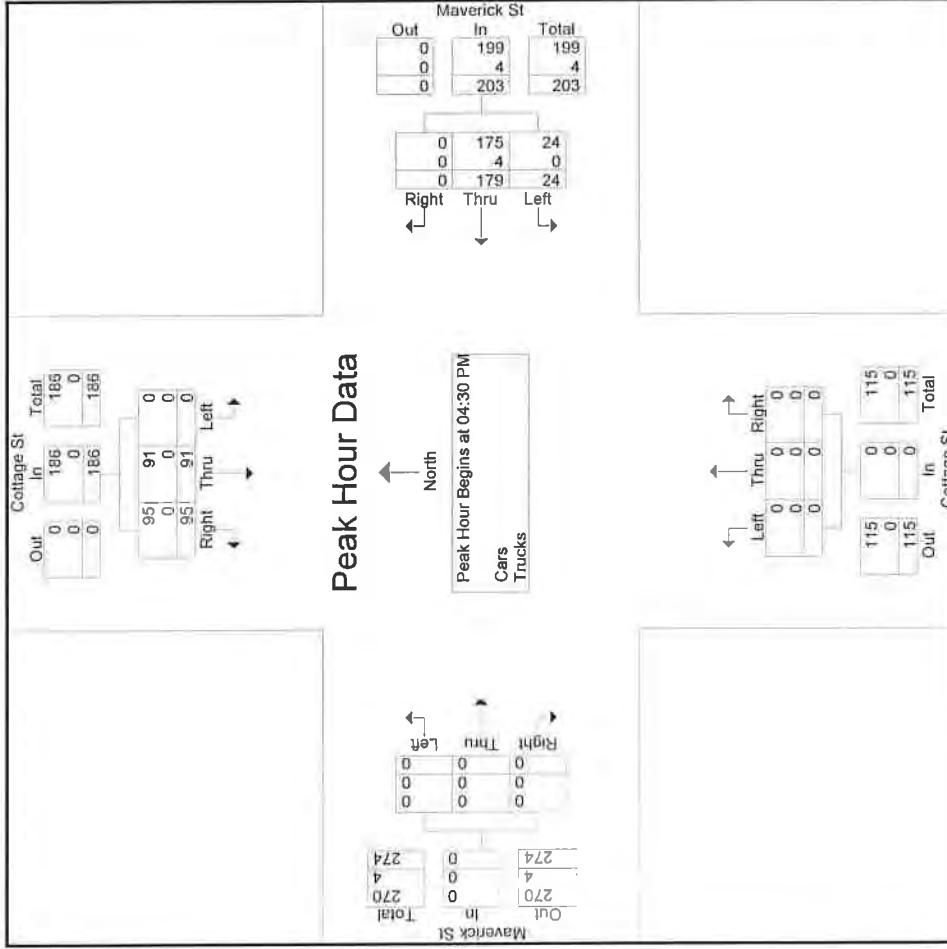
	07:00 AM			07:15 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0

Accurate Counts

978-664-2565

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 3

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM		04:00 PM		04:00 PM		04:00 PM	
+0 mins.	0	24	33	57	3	44	0	47
+15 mins.	0	29	12	41	7	42	0	49
+30 mins.	0	18	14	32	3	58	0	61
+45 mins.	0	20	36	56	6	41	0	47
Total Volume	0	91	95	186	19	185	0	204
% App. Total	0	48.9	51.1	93	90.7	0	0	0

Accurate Counts
978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Cottage St From North		Maverick St From East		Cottage St From South		Maverick St From West		Int. Total
	Left	Right	Left	Right	Left	Right	Left	Right	
04:00 PM	0	0	0	0	0	0	0	0	2
04:15 PM	0	1	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	1
05:30 PM	0	1	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	6
Grand Total	0	2	0	0	0	0	0	0	12
Apprch %	0	100	0	0	0	0	0	0	
Total %	0	16.7	0	0	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 13

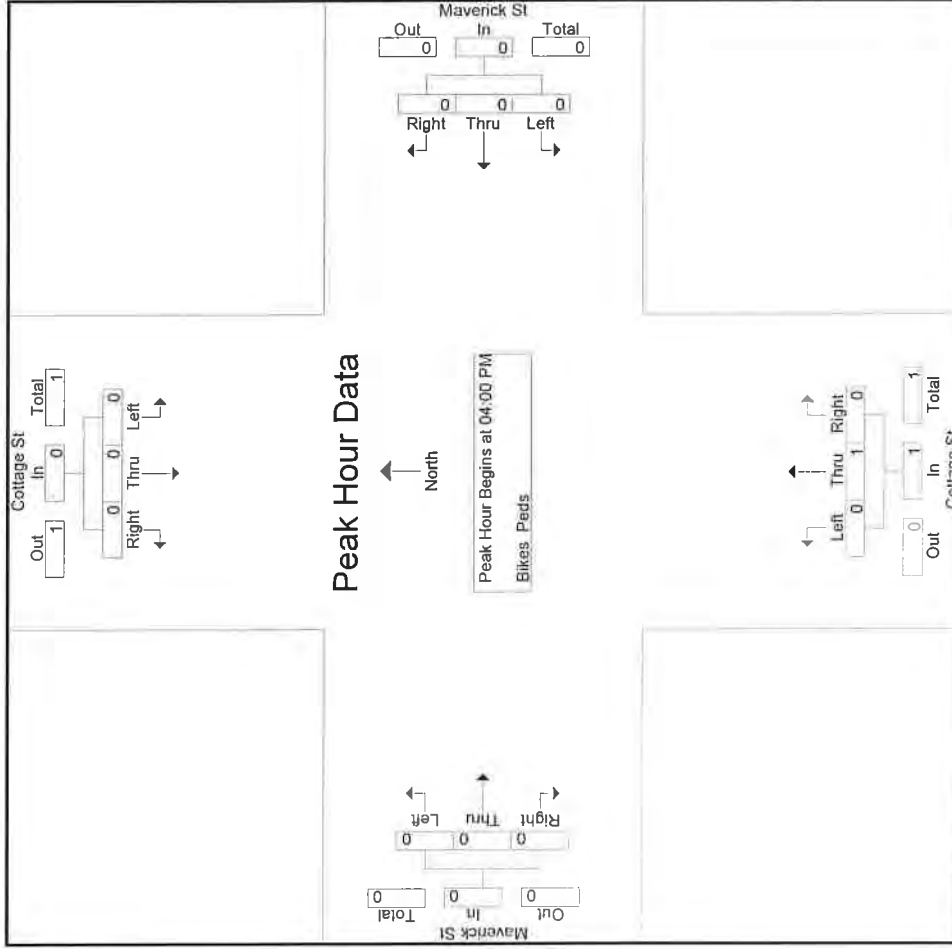
Groups Printed- Bikes- Peds

Start Time	Cottage St From North			Maverick St From East			Cottage St From South			Maverick St From West			Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	26
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	17	1	18
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	84	1	85
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	35	0	35
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	31
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	40
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	134	0	134
Grand Total	0	0	0	0	0	0	0	1	0	0	0	0	0	218	1	219
Apprch %	0	0	0	0	0	0	0	100	0	0	0	0	0	99.5	0.5	
Total %	0	0	0	0	0	0	0	100	0	0	0	0	0	99.5	0.5	

Accurate Counts
978-664-2565

File Name : 75860011
 Site Code : 75860011
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Cottage Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



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			04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	1	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	26	9	2	52	16	8	20	0	0	0	0	133
07:15 AM	0	13	13	3	63	16	8	27	0	0	0	0	143
07:30 AM	0	19	12	2	46	21	11	16	0	0	0	0	127
07:45 AM	0	23	17	1	54	18	3	14	0	0	0	0	130
Total	0	81	51	8	215	71	30	77	0	0	0	0	533
08:00 AM	0	13	21	6	70	14	4	17	0	0	0	0	145
08:15 AM	0	21	4	4	78	16	6	19	0	0	0	0	148
08:30 AM	0	9	11	5	52	7	10	16	0	0	0	0	110
08:45 AM	0	15	18	0	47	13	2	22	0	0	0	0	117
Total	0	58	54	15	247	50	22	74	0	0	0	0	520
Grand Total	0	139	105	23	462	121	52	151	0	0	0	0	1053
Approch %	0	57	43	3.8	76.2	20	25.6	74.4	0	0	0	0	
Total %	0	13.2	10	2.2	43.9	11.5	4.9	14.3	0	0	0	0	
Cars	0	132	103	23	445	120	52	147	0	0	0	0	1022
% Cars	0	95	98.1	100	96.3	99.2	100	97.4	0	0	0	0	97.1
Trucks	0	7	2	0	17	1	0	4	0	0	0	0	31
% Trucks	0	5	1.9	0	3.7	0.8	0	2.6	0	0	0	0	2.9

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 2

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. 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	19	12	31	2	46	21	69	11	16	0	27	0	0	127
07:45 AM	0	23	17	40	1	54	18	73	3	14	0	17	0	0	130
08:00 AM	0	13	21	34	6	70	14	90	4	17	0	21	0	0	145
08:15 AM	0	21	4	25	4	78	16	98	6	19	0	25	0	0	148
Total Volume	0	76	54	130	13	248	69	330	24	66	0	90	0	0	550
% App. Total	0	58.5	41.5	.813	3.9	75.2	20.9	.842	26.7	73.3	0	.833	.000	.000	.929
PHF	.000	.826	.643	.813	.542	.795	.821	.842	.545	.868	.000	.833	.000	.000	.929
Cars	0	72	53	125	13	239	69	321	24	64	0	88	0	0	534
% Cars	0	94.7	98.1	96.2	100	96.4	100	97.3	100	97.0	0	97.8	0	0	97.1
Trucks	0	4	1	5	0	9	0	9	0	2	0	2	0	0	16
% Trucks	0	5.3	1.9	3.8	0	3.6	0	2.7	0	3.0	0	2.2	0	0	2.9

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 5

Groups Printed- Cars

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	24	9	2	50	16	8	19	0	0	0	0	128
07:15 AM	0	13	13	3	60	15	8	27	0	0	0	0	139
07:30 AM	0	18	11	2	45	21	11	16	0	0	0	0	124
07:45 AM	0	23	17	1	50	18	3	14	0	0	0	0	126
Total	0	78	50	8	205	70	30	76	0	0	0	0	517
08:00 AM	0	11	21	6	69	14	4	16	0	0	0	0	141
08:15 AM	0	20	4	4	75	16	6	18	0	0	0	0	143
08:30 AM	0	9	11	5	51	7	10	15	0	0	0	0	108
08:45 AM	0	14	17	0	45	13	2	22	0	0	0	0	113
Total	0	54	53	15	240	50	22	71	0	0	0	0	505
Grand Total	0	132	103	23	445	120	52	147	0	0	0	0	1022
Approch %	0	56.2	43.8	3.9	75.7	20.4	26.1	73.9	0	0	0	0	
Total %	0	12.9	10.1	2.3	43.5	11.7	5.1	14.4	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 9

Groups Printed- Trucks

Start Time	Bremen St From North		Maverick St From East		Bremen St From South		Maverick St From West		Int. Total
	Left	Right	Left	Right	Left	Right	Left	Right	
07:00 AM	0	0	0	0	0	0	0	0	5
07:15 AM	0	0	0	1	0	0	0	0	4
07:30 AM	0	1	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	4
Total	0	1	0	1	0	0	0	0	16
08:00 AM	0	0	0	0	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	0	0	2
08:45 AM	0	1	0	0	0	0	0	0	4
Total	0	1	0	0	0	0	0	0	15
Grand Total	0	2	0	1	0	0	0	0	31
Approch %	0	77.8	0	22.2	0	5.6	0	100	0
Total %	0	22.6	0	6.5	0	3.2	0	12.9	0

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 13

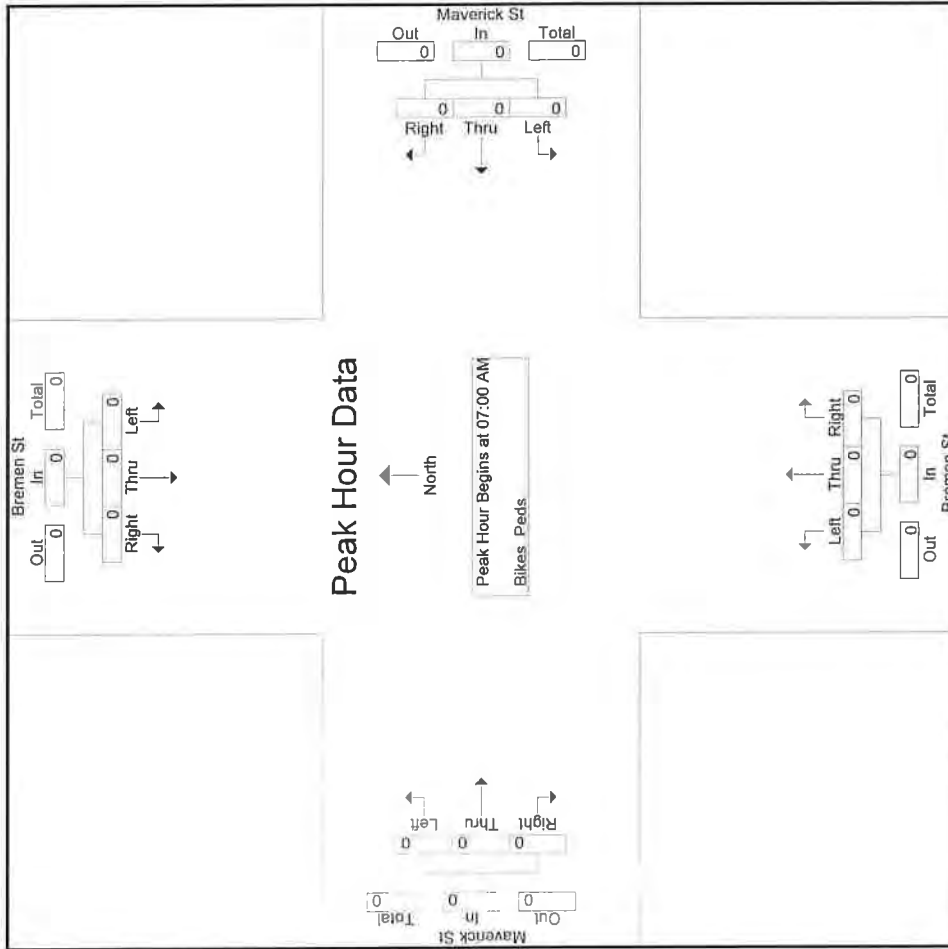
Groups Printed- Bikes Peds

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Exclu. Total	Inclu. Total	Int. Total	
	Left	Right	Peds	Left	Right	Peds	Left	Right	Peds	Left	Right	Peds				
07:00 AM	0	0	16	0	0	3	0	0	0	0	0	0	0	63	0	63
07:15 AM	0	0	23	0	0	0	0	0	0	0	0	0	0	61	0	61
07:30 AM	0	0	20	0	0	1	0	0	0	0	0	0	0	68	0	68
07:45 AM	0	0	28	0	0	3	0	0	0	0	0	0	0	90	0	90
Total	0	0	87	0	0	7	0	0	0	0	0	0	0	282	0	282
08:00 AM	0	0	38	0	0	6	0	0	0	0	0	0	0	115	0	115
08:15 AM	0	0	32	0	0	2	0	0	0	0	0	0	0	103	0	103
08:30 AM	0	0	30	0	0	0	0	0	0	0	0	0	0	82	0	82
08:45 AM	0	0	17	0	0	3	0	0	0	0	0	0	0	60	0	60
Total	0	0	117	0	0	11	0	0	0	0	0	0	0	360	0	360
Grand Total	0	0	204	0	0	18	0	0	0	0	0	0	0	642	0	642
Approch %	0	0		0	0		0	0	0	0	0	0	0			
Total %														100		0

Accurate Counts
978-664-2565

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



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	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0	0	0
+15 mins.	0	0	0	0	0
+30 mins.	0	0	0	0	0
+45 mins.	0	0	0	0	0
Total Volume	0	0	0	0	0
% App. Total	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Bremen Street
E/W Street : Maverick Street
City/State : Boston, MA
Weather : Clear

File Name : 75860012
Site Code : 75860012
Start Date : 1/25/2018
Page No : 2

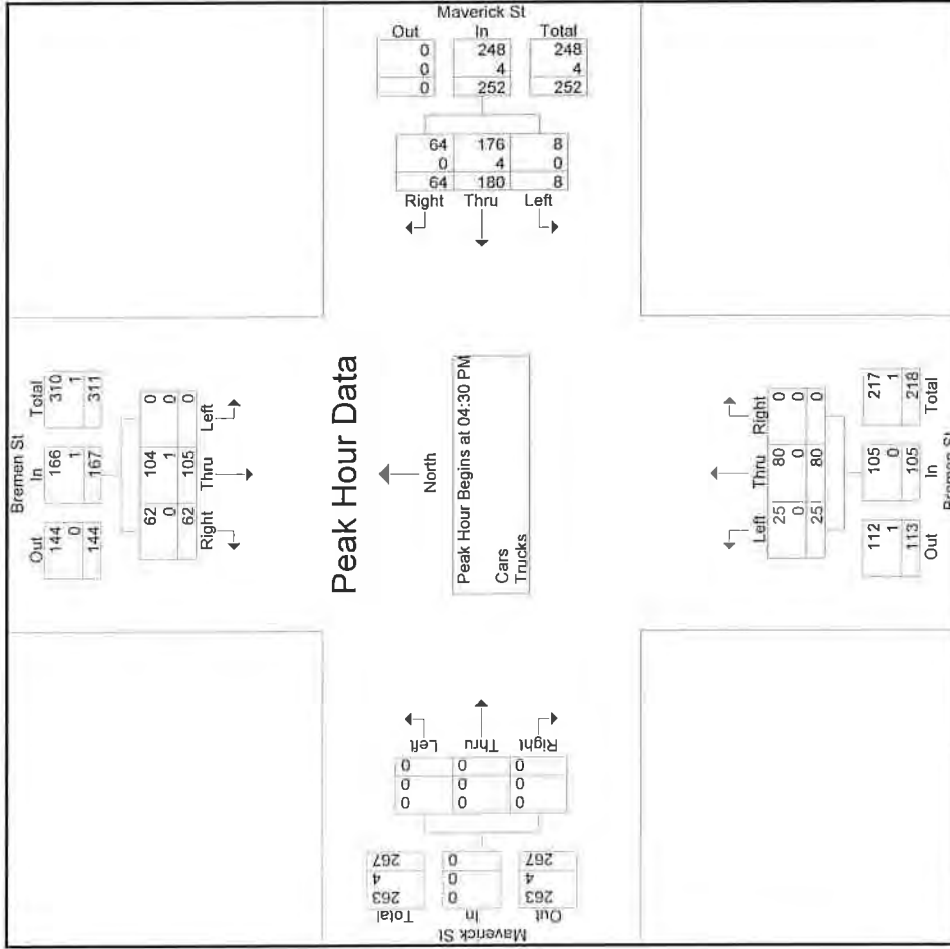
Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 04:30 PM															
04:30 PM	0	23	13	1	51	19	5	26	0	0	0	0	0	0	0
04:45 PM	0	20	14	2	52	11	7	18	0	0	0	0	0	0	0
05:00 PM	0	33	19	2	29	16	5	18	0	0	0	0	0	0	0
05:15 PM	0	29	16	3	48	18	8	18	0	0	0	0	0	0	0
Total Volume	0	105	62	8	180	64	25	80	0	0	0	0	0	0	0
% App. Total	0	62.9	37.1	3.2	71.4	25.4	23.8	76.2	0	0	0	0	0	0	0
PHF	.000	.795	.816	.667	.865	.842	.781	.769	.000	.000	.000	.000	.000	.000	.936
Cars	0	104	62	8	176	64	25	80	0	0	0	0	0	0	519
% Cars	0	99.0	100	100	97.8	100	100	100	0	0	0	0	0	0	99.0
Trucks	0	1	0	0	4	0	0	0	0	0	0	0	0	0	5
% Trucks	0	1.0	0	0	2.2	0	0	0	0	0	0	0	0	0	1.0

Accurate Counts

978-664-2565

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 3

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



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	04:30 PM	04:00 PM
+0 mins.	0	51	0
+15 mins.	0	19	26
+30 mins.	0	11	18
+45 mins.	0	16	18
Total Volume	0	64	80
% App. Total	0	25.4	76.2

Accurate Counts
978-664-2565

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 5

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

Groups Printed- Cars

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	23	12	5	37	11	2	15	0	0	0	0	105
04:15 PM	0	26	18	3	25	14	4	16	0	0	0	0	106
04:30 PM	0	23	13	1	50	19	5	26	0	0	0	0	137
04:45 PM	0	20	14	2	51	11	7	18	0	0	0	0	123
Total	0	92	57	11	163	55	18	75	0	0	0	0	471
05:00 PM	0	33	19	2	28	16	5	18	0	0	0	0	121
05:15 PM	0	28	16	3	47	18	8	18	0	0	0	0	138
05:30 PM	0	31	14	2	39	15	7	17	0	0	0	0	125
05:45 PM	0	28	10	4	48	8	8	16	0	0	0	0	122
Total	0	120	59	11	162	57	28	69	0	0	0	0	506
Grand Total	0	212	116	22	325	112	46	144	0	0	0	0	977
Approch %	0	64.6	35.4	4.8	70.8	24.4	24.2	75.8	0	0	0	0	
Total %	0	21.7	11.9	2.3	33.3	11.5	4.7	14.7	0	0	0	0	

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds																		
	Bremen St From North				Maverick St From East				Bremen St From South				Maverick St From West						
	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	0	0	19	0	0	0	3	0	0	0	26	0	0	0	9	57	0	57
04:15 PM	0	0	0	26	0	0	0	5	0	1	0	42	0	0	0	8	81	1	82
04:30 PM	0	0	1	20	0	0	0	4	0	0	0	36	0	0	0	9	69	1	70
04:45 PM	0	0	0	17	0	0	0	1	0	0	0	34	0	0	0	9	61	0	61
Total	0	0	1	82	0	0	0	13	0	1	0	138	0	0	0	35	268	2	270
05:00 PM	0	1	0	38	0	1	0	6	0	0	0	45	0	0	0	11	100	2	102
05:15 PM	0	0	0	26	0	0	0	3	0	0	0	47	0	0	0	7	83	0	83
05:30 PM	0	0	0	27	0	0	0	2	0	0	0	38	0	0	0	12	79	0	79
05:45 PM	0	0	1	24	0	1	0	4	0	0	0	39	0	0	0	9	76	2	78
Total	0	1	1	115	0	2	0	15	0	0	0	169	0	0	0	39	338	4	342
Grand Total	0	1	2	197	0	2	0	28	0	1	0	307	0	0	0	74	606	6	612
Approch %	0	33.3	66.7		0	100	0		0	100	0		0	0	0				
Total %	0	16.7	33.3		0	33.3	0		0	16.7	0		0	0	0		99	1	

Accurate Counts

978-664-2565

N/S Street : Bremen Street
 EW Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear

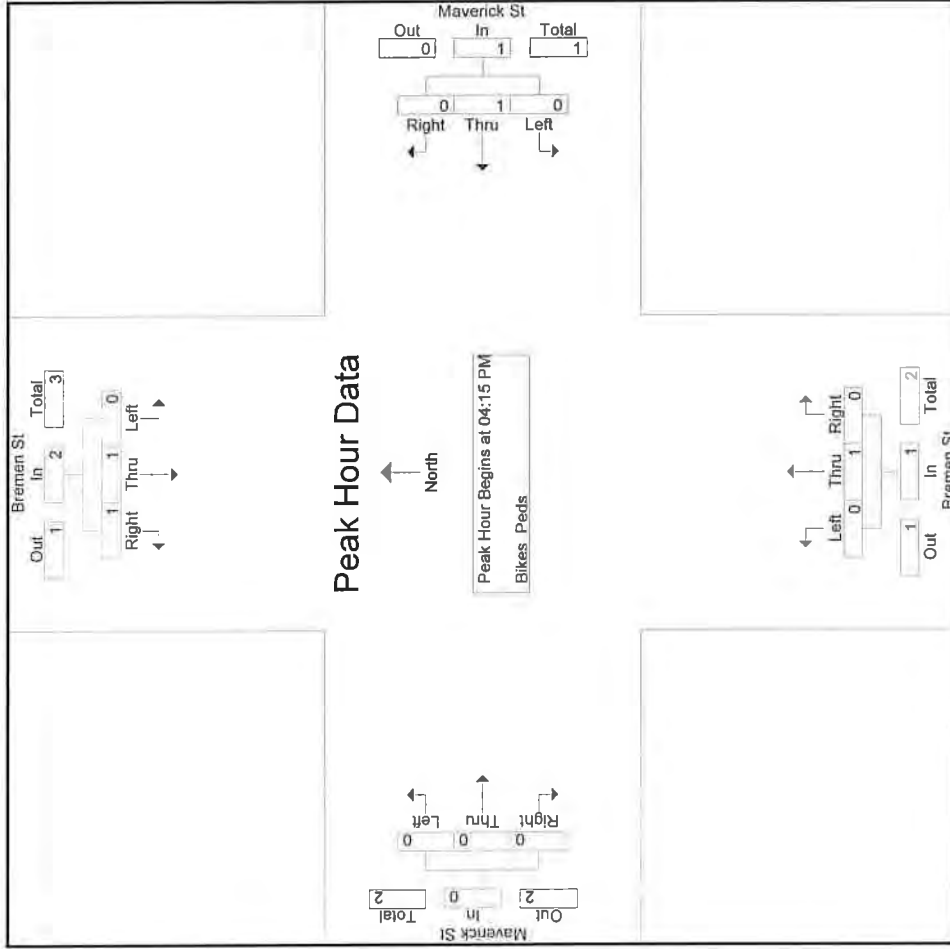
File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 14

Start Time	Bremen St From North			Maverick St From East			Bremen St From South			Maverick St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 04:15 PM														
04:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1
04:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Total Volume	0	1	1	0	1	0	0	1	0	0	0	0	0	4
% App. Total	0	50	50	0	100	0	0	100	0	0	0	0	0	4
PHF	.000	.250	.250	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.500

Accurate Counts
978-664-2565

File Name : 75860012
 Site Code : 75860012
 Start Date : 1/25/2018
 Page No : 15

N/S Street : Bremen Street
 E/W Street : Maverick Street
 City/State : Boston, MA
 Weather : Clear



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

	04:15 PM			05:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	0	0	0	0	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	0	0	0	0	0	0
Total Volume	0	1	1	0	2	0	0	1	1	0	0	0
% App. Total	0	50	50	0	100	0	0	100	0	0	0	0

SEASONAL ADJUSTMENT DATA

Massachusetts Highway Department

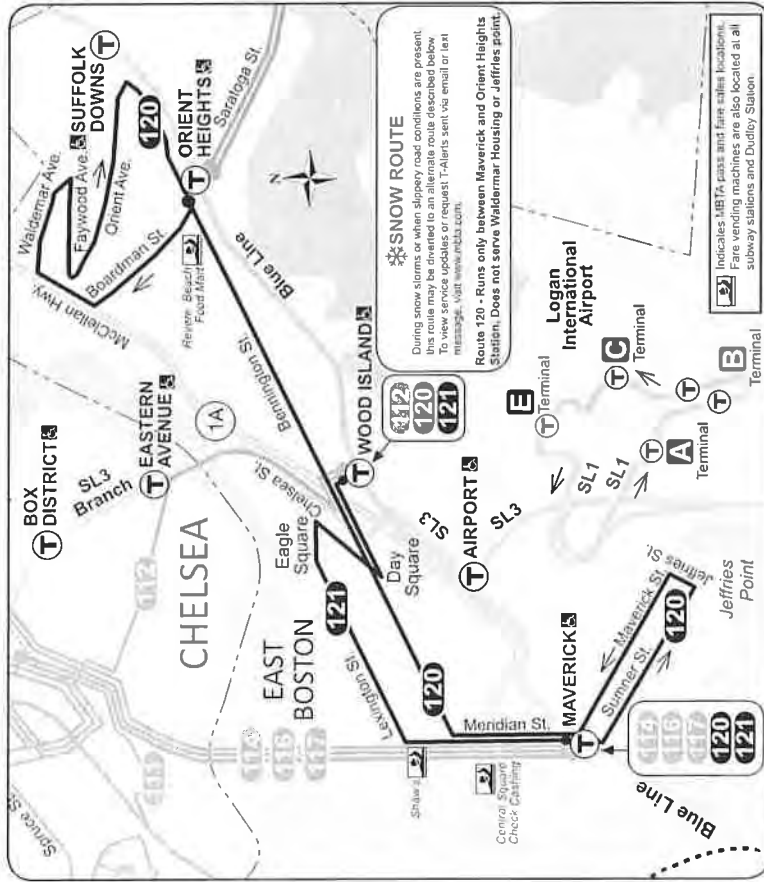
8087: Monthly Hourly Volume for January 2016

Location ID:	Seasonal Factor Group: U3																								TOTAL
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
County:	Daily Factor Group:																								
Functional Class	Axle Factor Group: U3																								
Location:	Growth Factor Group:																								
	LEE BURBANK HIGHWAY																								
1	1629	1605	1307	1308	1014	1030	1133	1200	1190	1439	1862	2290	2641	2669	2917	3064	2964	2648	2498	2234	2018	1686	1542	1304	45192
2	896	691	546	667	928	1275	1507	1642	1874	2264	2832	3112	3287	3366	3419	3635	3386	3263	2946	2554	2261	2080	1906	1562	51899
3	1057	938	779	698	856	1147	1296	1415	1685	2010	2509	2955	3310	3346	3110	3222	3438	3188	2817	2475	2052	1693	1372	1078	48446
4	671	524	451	573	1084	2242	3203	3182	3192	2891	2854	2963	3063	3250	3589	3785	3577	3449	3102	2557	2588	2045	1891	1377	58103
5	1393	766	502	869	1386	2485	3382	3487	3592	3759	3020	2844	3073	3114	3538	3845	3753	3557	3249	2610	2248	1845	1643	1197	61157
6	751	971	453	661	1100	2369	3594	3530	3500	3373	2952	3037	3152	3221	3622	3699	3660	3662	3189	2677	2208	2024	1631	1164	60200
7	696	485	395	531	1025	2032	3226	3280	3347	3099	2937	3115	3140	3330	3574	3817	3763	3574	3244	2700	2245	1990	1691	1295	58531
8	794	565	477	557	971	2042	3100	3291	3282	3064	2969	3091	3200	3330	3819	3892	3698	3237	3242	3005	2439	2197	1978	1590	59830
9	1019	763	658	637	903	1199	1614	1918	2253	2548	2880	3045	3302	3465	3810	3522	3425	3384	2993	2523	2289	2019	1884	1479	53332
10	1190	826	701	692	756	924	1223	1537	1639	2013	2437	2759	2838	3075	3191	3110	3080	2833	2487	2207	1945	1579	1279	1127	45448
11																									
12	705	433	418	517	1176	2470	3358	3374	3537	3220	3045	2910	2927	3167	3580	3795	3604	3511	3137	2512	2135	1848	1560	1220	58159
13	813	515	422	476	1027	2054	3058	3500	3324	3093	2972	2819	3082	3057	3522	3750	3651	3465	3221	2787	2249	2042	1840	1424	58163
14	830	581	444	637	1179	2458	3564	3480	3445	3564	2955	3022	3085	3196	3599	3853	3775	3638	3243	2859	2332	2039	1901	1595	61274
15	939	573	550	622	952	2072	3168	3415	3206	2923	3052	3075	3246	3337	3844	3919	3851	3583	3488	3136	2563	2244	2250	1585	61593
16	1126	799	714	693	848	1123	1597	1960	2152	2469	2808	3060	3234	3335	3497	3725	3083	2623	2514	2167	2526	2117	1944	1594	51608
17	1116	816	728	700	670	896	1111	1392	1685	2227	2722	3085	3448	3420	3519	3488	3356	3104	2730	2192	2132	1704	1506	1208	48955
18	850	643	531	562	893	1680	2391	2299	2215	2378	2677	2969	3185	3318	3439	3549	3227	3350	2838	2459	2194	1888	1964	1264	52763
19	768	552	490	693	1381	2704	3594	3578	3639	3593	3172	3024	3012	3163	3494	3899	3725	3646	3159	2728	2414	2449	1768	1341	61986
20	836	543	411	566	1137	2470	3432	3447	3410	3176	2982	3058	3061	3151	3591	3753	3557	3619	3124	2711	2343	2057	1711	1196	59342
21	910	504	388	504	1041	2431	3521	3338	3629	3356	3004	3109	3115	3342	3615	3790	3751	3772	3448	2775	2566	2219	1935	1400	61463
22	1008	803	521	685	1282	2477	3521	3776	3757	3353	3070	3186	3247	3449	3940	3933	3727	3715	3432	2950	2524	2319	2191	1639	64505
23	1171	823	671	687	825	1189	1489	1776	2090	2462	2740	3056	3076	3161	3044	2957	2702	2126	1954	1708	1527	1421	1322	1196	45173
24	883	664	601	752	855	928	1331	1448	1555	1702	2100	2506	2818	3053	3041	2755	2224	2089	2054	2514	1947	1550	1290	1006	41666
25	689	516	407	522	1120	2206	3250	3334	3389	3066	2860	2840	3014	3280	3477	3687	3624	3486	3129	2469	2045	1761	1396	1074	56641
26	698	460	404	499	998	1997	2967	3179	3141	3159	2916	2885	2963	3083	3634	3646	3337	3353	3025	2594	2223	1929	1594	1115	55789
27	737	431	343	537	938	1993	3070	3199	3194	3058	2929	3014	3035	3044	3526	3726	3644	3548	3062	2664	2321	2066	1691	1219	56989
28	768	462	386	580	968	2053	3258	3401	3268	3086	2974	3171	2973	3142	3706	3711	3694	3691	3276	2905	2400	2177	1621	1179	58850
29	750	497	470	515	972	1989	2963	3195	3267	3016	2948	3084	3365	3568	3955	3829	3734	3592	3463	3057	2536	2218	1986	1520	60489
30	1194	723	656	669	874	1129	1614	1890	2320	2669	3066	3257	3272	3529	3648	3676	3670	3505	2863	2606	2357	2098	1901	1673	54859
31	1226	865	790	655	659	816	1092	1343	1783	2206	2717	3088	3290	3598	3595	3632	3385	3317	3026	2485	2177	1735	1476	1066	50022

Average = 55414.57
 Yearly Average = 59367
 59367/55415 = 1.071

PUBLIC TRANSPORTATION SCHEDULES

Route 120 Orient Heights - Maverick Station
Route 121 Wood Island - Maverick Station



120•121

Effective September 2, 2018

120 Orient Heights-Maverick Station
via Bannington Street

121 Wood Island-Maverick Station
via Lexington Street

Serving

- Waldemar Loop
- Day Square
- Eagle Square
- Central Square, East Boston
- Jeffries Point
- Blue Line



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120

Weekday

121

Weekday

120

Sunday

Inbound		Outbound		Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive
Onent	To Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point	Onent	To: Jeffries Point
Heights	Station	Heights	Station	Heights	Station	Heights	Station	Heights	Station	Heights	Station	Heights	Station	Heights	Station
5:25A	5:40A	5:48A	5:50A	6:00A	6:02A	6:14A	6:14A	6:00A	6:02A	6:10A	6:15A	6:00A	6:14A	6:00A	6:14A
6:00	6:15	6:23	6:25	6:30	6:32	6:45	6:45	6:30	6:32	6:40	6:45	6:30	6:45	6:30	6:45
6:35	6:50	6:58	7:00	7:07	7:09	7:20	7:20	7:00	7:02	7:12	7:15	7:00	7:02	7:00	7:02
7:00	7:15	7:26	7:28	7:37	7:39	7:50	7:50	7:30	7:32	7:40	7:45	7:30	7:32	7:30	7:32
7:25	7:40	7:51	7:53	8:00	8:02	8:10	8:10	8:00	8:02	8:10	8:15	8:00	8:02	8:00	8:02
8:05	8:20	8:31	8:33	8:40	8:42	8:50	8:50	8:30	8:32	8:40	8:45	8:30	8:32	8:30	8:32
8:25	8:40	8:51	8:53	9:00	9:02	9:10	9:10	8:50	8:52	9:00	9:05	8:50	8:52	8:50	8:52
8:45	9:00	9:08	9:10	9:18	9:20	9:30	9:30	9:10	9:12	9:20	9:25	9:10	9:12	9:10	9:12
9:05	9:20	9:28	9:30	9:38	9:40	9:50	9:50	9:30	9:32	9:40	9:45	9:30	9:32	9:30	9:32
9:25	9:40	9:48	9:50	10:00	10:02	10:10	10:10	9:50	9:52	10:00	10:05	9:50	9:52	9:50	9:52
9:45	10:00	10:08	10:10	10:18	10:20	10:30	10:30	10:10	10:12	10:20	10:25	10:10	10:12	10:10	10:12
10:05	10:20	10:28	10:30	10:38	10:40	10:50	10:50	10:30	10:32	10:40	10:45	10:30	10:32	10:30	10:32
10:30	10:44	10:52	10:54	11:00	11:02	11:10	11:10	10:50	10:52	11:00	11:05	10:50	10:52	10:50	10:52
10:55	11:09	11:17	11:19	11:28	11:30	11:40	11:40	11:10	11:12	11:20	11:25	11:10	11:12	11:10	11:12
11:20	11:34	11:42	11:44	11:52	11:54	12:00	12:00	11:40	11:42	11:50	11:55	11:40	11:42	11:40	11:42
11:45	11:59	12:07P	12:09P	12:18P	12:20P	12:30P	12:30P	12:10P	12:12P	12:20P	12:25P	12:10P	12:12P	12:10P	12:12P
12:10P	12:24P	12:32P	12:34P	12:42P	12:44P	12:52P	12:52P	12:45P	12:47P	12:55P	1:00P	12:45P	12:47P	12:45P	12:47P
12:35	12:51	12:59	1:01	1:10	1:12	1:20	1:20	1:15P	1:17P	1:25P	1:30P	1:15P	1:17P	1:15P	1:17P
1:00	1:16	1:24	1:26	1:35	1:37	1:45	1:45	1:30P	1:32P	1:40P	1:45P	1:30P	1:32P	1:30P	1:32P
1:25	1:41	1:49	1:51	2:00	2:02	2:10	2:10	1:45P	1:47P	1:55P	2:00P	1:45P	1:47P	1:45P	1:47P
1:50	2:07	2:15	2:17	2:25	2:27	2:35	2:35	1:55P	1:57P	2:05P	2:10P	1:55P	1:57P	1:55P	1:57P
2:15	2:33	2:41	2:43	2:50	2:52	3:00	3:00	2:15P	2:17P	2:25P	2:30P	2:15P	2:17P	2:15P	2:17P
2:40	2:58	3:06	3:08	3:15	3:17	3:25	3:25	2:30P	2:32P	2:40P	2:45P	2:30P	2:32P	2:30P	2:32P
3:05	3:23	3:31	3:33	3:40	3:42	3:50	3:50	2:45P	2:47P	2:55P	3:00P	2:45P	2:47P	2:45P	2:47P
3:30	3:48	3:56	3:58	4:05	4:07	4:15	4:15	2:55P	2:57P	3:05P	3:10P	2:55P	2:57P	2:55P	2:57P
3:55	4:13	4:21	4:23	4:30	4:32	4:40	4:40	3:05P	3:07P	3:15P	3:20P	3:05P	3:07P	3:05P	3:07P
4:20	4:38	4:46	4:48	4:55	4:57	5:05	5:05	3:15P	3:17P	3:25P	3:30P	3:15P	3:17P	3:15P	3:17P
4:45	5:03	5:11	5:13	5:20	5:22	5:30	5:30	3:25P	3:27P	3:35P	3:40P	3:25P	3:27P	3:25P	3:27P
5:10	5:28	5:36	5:38	5:45	5:47	5:55	5:55	3:35P	3:37P	3:45P	3:50P	3:35P	3:37P	3:35P	3:37P
5:35	5:53	6:01	6:03	6:10	6:12	6:20	6:20	3:45P	3:47P	3:55P	4:00P	3:45P	3:47P	3:45P	3:47P
6:00	6:18	6:26	6:28	6:35	6:37	6:45	6:45	3:55P	3:57P	4:05P	4:10P	3:55P	3:57P	3:55P	3:57P
6:25	6:43	6:51	6:53	7:00	7:02	7:10	7:10	4:05P	4:07P	4:15P	4:20P	4:05P	4:07P	4:05P	4:07P
6:58	7:12	7:20	7:22	7:30	7:32	7:40	7:40	4:15P	4:17P	4:25P	4:30P	4:15P	4:17P	4:15P	4:17P
7:33	7:47	7:55	7:57	8:05	8:07	8:15	8:15	4:25P	4:27P	4:35P	4:40P	4:25P	4:27P	4:25P	4:27P
8:37	8:48	8:55	8:57	9:05	9:07	9:15	9:15	4:35P	4:37P	4:45P	4:50P	4:35P	4:37P	4:35P	4:37P
9:37	9:48	9:55	9:57	10:05	10:07	10:15	10:15	4:45P	4:47P	4:55P	5:00P	4:45P	4:47P	4:45P	4:47P
10:37	10:48	10:55	10:57	11:05	11:07	11:15	11:15	4:55P	4:57P	5:05P	5:10P	4:55P	4:57P	4:55P	4:57P
11:37	11:48	11:55	11:57	12:05	12:07	12:15	12:15	5:05P	5:07P	5:15P	5:20P	5:05P	5:07P	5:05P	5:07P
12:37A	12:48A	12:55A	12:57A	1:05A	1:07A	1:15A	1:15A	5:15P	5:17P	5:25P	5:30P	5:15P	5:17P	5:15P	5:17P

1102018, 12/25/18 (11/19); see Sunday 12/11/19 & 2/16/19; see Saturday

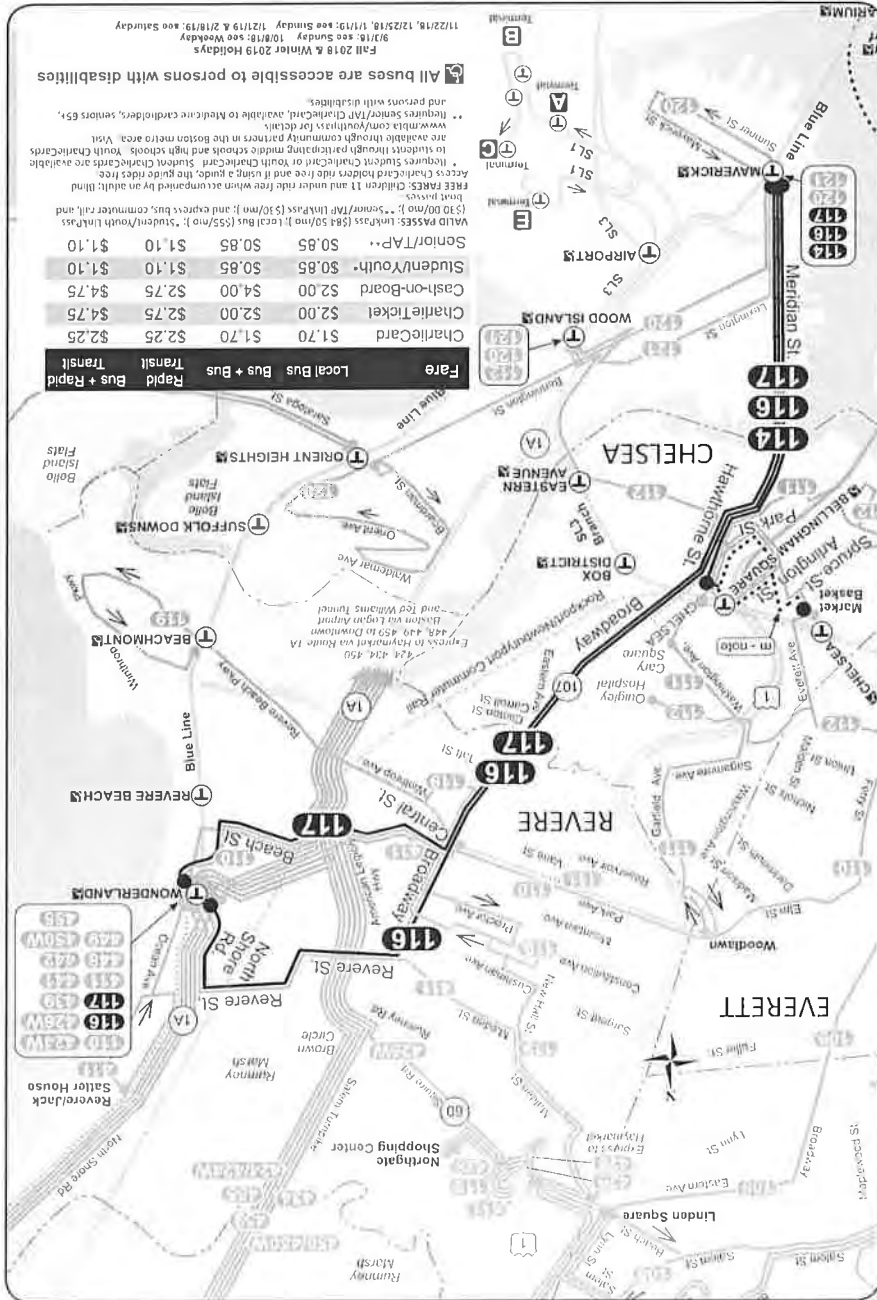
All buses are accessible to persons with disabilities

Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75
Student/Youth*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

VALID PASSES: Un/Pas (\$54.50/mo.), Local Bus (\$33/mo.), *Student/Youth Un/Pas (\$32.00/mo.), **Senior/TAP Un/Pas (\$30/mo.) and express bus, commuter rail, and bus routes.

† - Includes sidekick. Sidekick is not available for use on the following routes: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 85

Route 114 Market Basket - Maverick Station
Route 116 Wonderland Station - Maverick Station via Revere Street
Route 117 Wonderland Station - Maverick Station via Beach Street



114 • **116** • **117** schedule change

Effective September 2, 2018

114 Market Basket-Maverick Station
116 Wonderland Station-Maverick Station
 via Revere Street
117 Wonderland Station-Maverick Station
 via Beach Street

- Serving
 - Bellingham Square
 - Broadway
 - Chelsea Square
 - Market Basket
 - Blue Line

massDOT
 Massachusetts Bay Transportation Authority
 Information 617-222-3200 • 1-800-392-6100
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Rapid Transit

Winter December 31, 2017 - March 31, 2018



Blue Line



Green Line



Orange Line

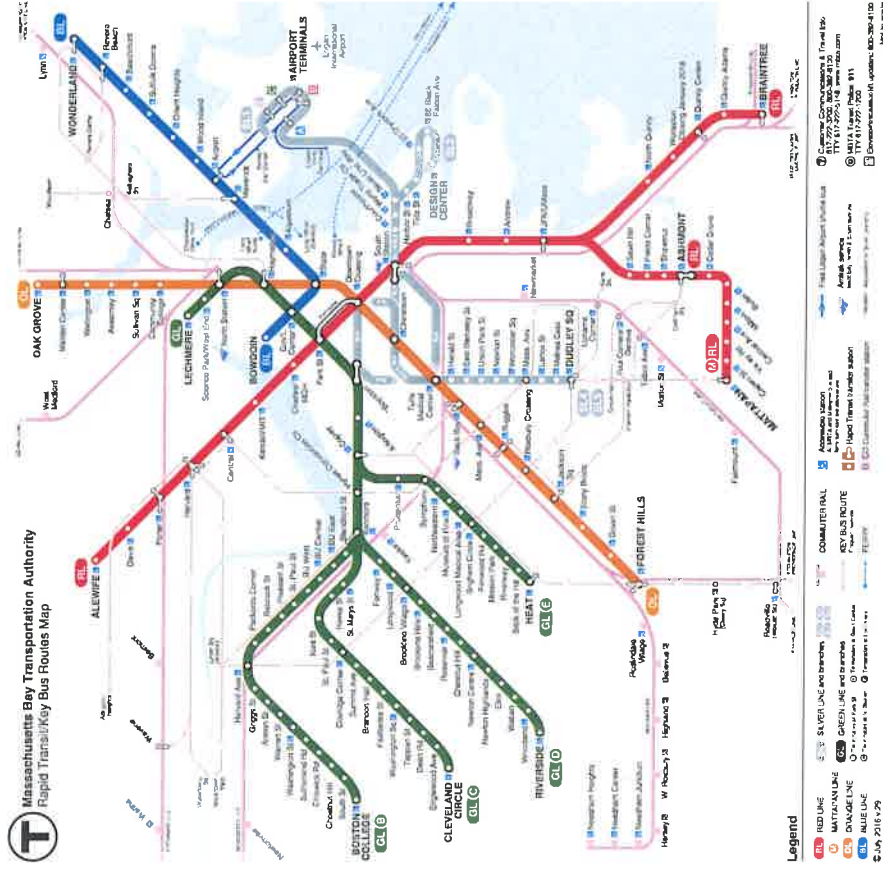


Red Line



Silver Line

Massachusetts Bay Transportation Authority **massDOT**
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 (TTY) 617-222-5146 • www.mbta.com



PRICE PER TRIP	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
	CharlieCard	\$1.70	\$1.50	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75***
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75***
Student*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

UNI-LIMITED TRIP PASSES	
1-Day	\$12.00
7-Day	\$21.25
Monthly	\$55.00
Senior/TAP Monthly\$30.00/month for unlimited travel on Local Bus and Rapid Transit	\$84.50

VALID PASSES: LinkPass (\$84.50/mo.), Student LinkPass* (\$30/mo.), Senior/TAP LinkPass* (\$30/mo.), and express bus, commuter rail, and boat passes.

FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free; if using a guide, the guide rides free

- * Available to students through participating middle schools and high schools.
- ** Available to Medicare cardholders, seniors 65+, and persons with disabilities.
- *** For Silver Line SL4 or SL5, pay \$2.75. Also see "transfers."

TRANSFERS

If paying with a CharlieTicket or CharlieCard, discounted transfers that are available are automatic — just use the same ticket or card throughout your trip. If paying with cash onboard a vehicle, free transfers are only allowed between rapid transit lines and inside paid platform areas at gated stations.

SCHEDULES

Schedules are available at the following stations: Park Street, Airport, Malden, Harvard, Haymarket (Green Line Level), Back Bay, Downtown Crossing (Orange Line Level), and Quincy Center, or ask a Customer Service Agent. Schedules are also available at the State Transportation Building (10 Park Plaza), 45 High St., and online at mbta.com.

Rapid Transit Line	Weekday					Saturday					Sunday						
	First Trip	AM Peak	Midday	PM Peak	Last Trip	First Trip	AM Peak	PM Peak	Evening	Late Night	Last Trip	First Trip	AM Peak	PM Peak	Evening	Late Night	Last Trip
Red Line																	
Blairville	5:24AM	9 min	14 min	9 min	12 min	5:24AM	14 min	14 min	14 min	14 min	12:15AM	6:08AM	15 min	15 min	15 min	16 min	12:15AM
Braintree*	5:15AM	9 min	14 min	9 min	12 min	5:15AM	14 min	14 min	14 min	14 min	12:17AM	6:00AM	15 min	15 min	15 min	16 min	12:17AM
Alewife	5:16AM	9 min	14 min	9 min	12 min	5:16AM	14 min	14 min	14 min	14 min	12:22AM	6:00AM	15 min	15 min	15 min	16 min	12:22AM
Ashmont	5:16AM	9 min	14 min	9 min	12 min	5:16AM	14 min	14 min	14 min	14 min	12:30AM	6:00AM	15 min	15 min	15 min	16 min	12:30AM
"M" Ashmont Mattapan	5:17AM	5 min	8 min	5 min	12 min	5:15AM	26 min	12 min	12 min	26 min	1:05AM	6:03AM	26 min	12 min	12 min	26 min	1:05AM
	5:05AM	5 min	8 min	5 min	12 min	5:05AM	26 min	12 min	12 min	26 min	12:53AM	5:51AM	26 min	12 min	12 min	26 min	12:53AM
Blue Line																	
Wonderland	5:13AM	5 min	9 min	5 min	9 min	5:25AM	9 min	9 min	9 min	13 min	12:28AM	5:58AM	13 min	9 min	9 min	13 min	12:28AM
Orient Heights	5:13AM	5 min	9 min	5 min	9 min	5:13AM	9 min	9 min	9 min	13 min	12:33AM	6:03AM	13 min	9 min	9 min	13 min	12:33AM
Bowdoin	5:29AM	5 min	9 min	5 min	9 min	5:29AM	9 min	9 min	9 min	13 min	1:00AM	6:21AM	13 min	9 min	9 min	13 min	1:00AM
Orange Line																	
Oak Grove	5:16AM	6 min	9 min	6 min	10 min	5:16AM	10 min	9 min	11 min	11 min	12:30AM	6:00AM	13 min	11 min	11 min	11 min	12:30AM
Forest Hills	5:16AM	6 min	9 min	6 min	10 min	5:16AM	10 min	9 min	11 min	11 min	12:28AM	6:00AM	13 min	11 min	11 min	11 min	12:28AM
Green Line																	
B Boston College	5:01AM	6 min	8 min	6 min	8 min	4:45AM ²	11 min	7 min	7 min	11 min	12:09AM	5:20AM ²	12 min	9 min	7 min	10 min	12:10AM
Park Street	5:42AM	6 min	8 min	6 min	8 min	5:40AM ²	11 min	7 min	7 min	11 min	12:52AM	6:12AM ²	12 min	9 min	7 min	10 min	12:52AM
C Cleveland Circle	5:01AM ¹	6 min	9 min	7 min	7 min	4:50AM ²	10 min	9 min	8 min	10 min	12:10AM	5:30AM ²	12 min	11 min	9 min	12 min	12:10AM
North Station	5:55AM	6 min	9 min	7 min	7 min	5:30AM	10 min	9 min	8 min	10 min	12:46AM	6:06AM	12 min	11 min	9 min	12 min	12:46AM
D Riverside	4:56AM	6 min	8 min	6 min	8 min	4:55AM	13 min	9 min	8 min	10 min	12:05AM	5:25AM	13 min	11 min	11 min	11 min	12:05AM
Government Ctr.	5:41AM	6 min	8 min	6 min	8 min	5:38AM	13 min	9 min	8 min	10 min	12:49AM	6:10AM	13 min	11 min	11 min	11 min	12:49AM
E Lechmere	5:01AM	6 min	8 min	6 min	9 min	5:01AM	11 min	9 min	11 min	11 min	12:30AM ³	5:35AM	12 min	12 min	12 min	12 min	12:30AM ³
Heath Street	5:38AM	6 min	8 min	6 min	9 min	5:39AM	11 min	9 min	11 min	11 min	12:47AM ³	6:15AM	12 min	12 min	12 min	12 min	12:47AM ³
Silver Line																	
SL1 Logan Airport	5:38AM	8 min	8 min	10 min	8 min	5:33AM	12 min	12 min	12 min	12 min	12:45AM	5:50AM	12 min	8 min	8 min	8 min	12:45AM
South Station	5:40AM	8 min	8 min	10 min	8 min	5:35AM	12 min	12 min	12 min	12 min	12:30AM	6:12AM	12 min	8 min	8 min	8 min	12:30AM
SL2 Design Center	6:03AM	5 min	10 min	5 min	9 min	6:10AM	15 min	15 min	15 min	15 min	12:35AM	6:50AM	15 min	15 min	15 min	15 min	12:34AM
South Station	5:45AM	5 min	10 min	5 min	9 min	5:50AM	15 min	15 min	15 min	15 min	12:49AM	6:35AM	15 min	15 min	15 min	15 min	12:48AM
Additional Waterfront-only service																	
Silver Line Water	5:28AM	5 min				5:28AM						6:05AM					
South Station	5:35AM	5 min				5:35AM						6:05AM					
SL4 Dudley Station	5:20AM	12 min	16 min	14 min	12 min	5:23AM	15 min	15 min	15 min	20 min	12:20AM	6:02AM	15 min	15 min	15 min	20 min	1:01AM
South Station	5:35AM	12 min	16 min	14 min	12 min	5:40AM	15 min	15 min	15 min	20 min	12:40AM	6:20AM	15 min	15 min	15 min	20 min	12:40AM
SL5 Dudley Station	5:15AM	8 min	10 min	8 min	7 min	5:19AM	10 min	10 min	11 min	11 min	12:53AM	6:00AM	10 min	8 min	9 min	9 min	12:53AM
Downtown Xing	5:32AM	8 min	10 min	8 min	7 min	5:34AM	10 min	10 min	11 min	11 min	1:07AM	6:15AM	10 min	8 min	9 min	9 min	12:47AM

Schedule Periods (approximate):
 AM Rush Hour: 6:30 AM - 9:00 AM
 Midday: 9:00 AM - 3:30 PM
 PM Rush Hour: 3:30 PM - 6:30 PM
 Evening: 6:30 PM - 8:00 PM
 Late Night: 8:00 PM - CLOSE

Red Line Note:
 *Braintree Line:
 Construction on Wollaston Station will begin in January 2018. Wollaston Station will be closed during construction and shuttle buses will operate between Wollaston and North Quincy Stations. Please visit mbta.com/alerts for updated service information.

Mattapan Note:
 Saturday and Sunday before 10:00 AM and after 8:00 PM trips depart every 26 minutes and the rest of the day every 12 minutes. Also, see Mattapan Line Schedule Card.

Green Line Notes:
 1 - The first two C Line AM inbound trips run through to Lechmere Station on weekdays.
 2 - The first B Line and second C Line AM inbound trips run through to Lechmere Station on weekends.
 3 - The 12:32AM trip from Heath St is the last connecting train to other lines downtown. The 12:47AM trip from Heath St runs in service to Lechmere with no guaranteed connections.

f - After exiting Ted Williams Tunnel bus will only service World Trade Center and South Station stops.

w - Last trips wait at some stations, primarily in the Downtown area, for connecting service. Departure times are approximate.

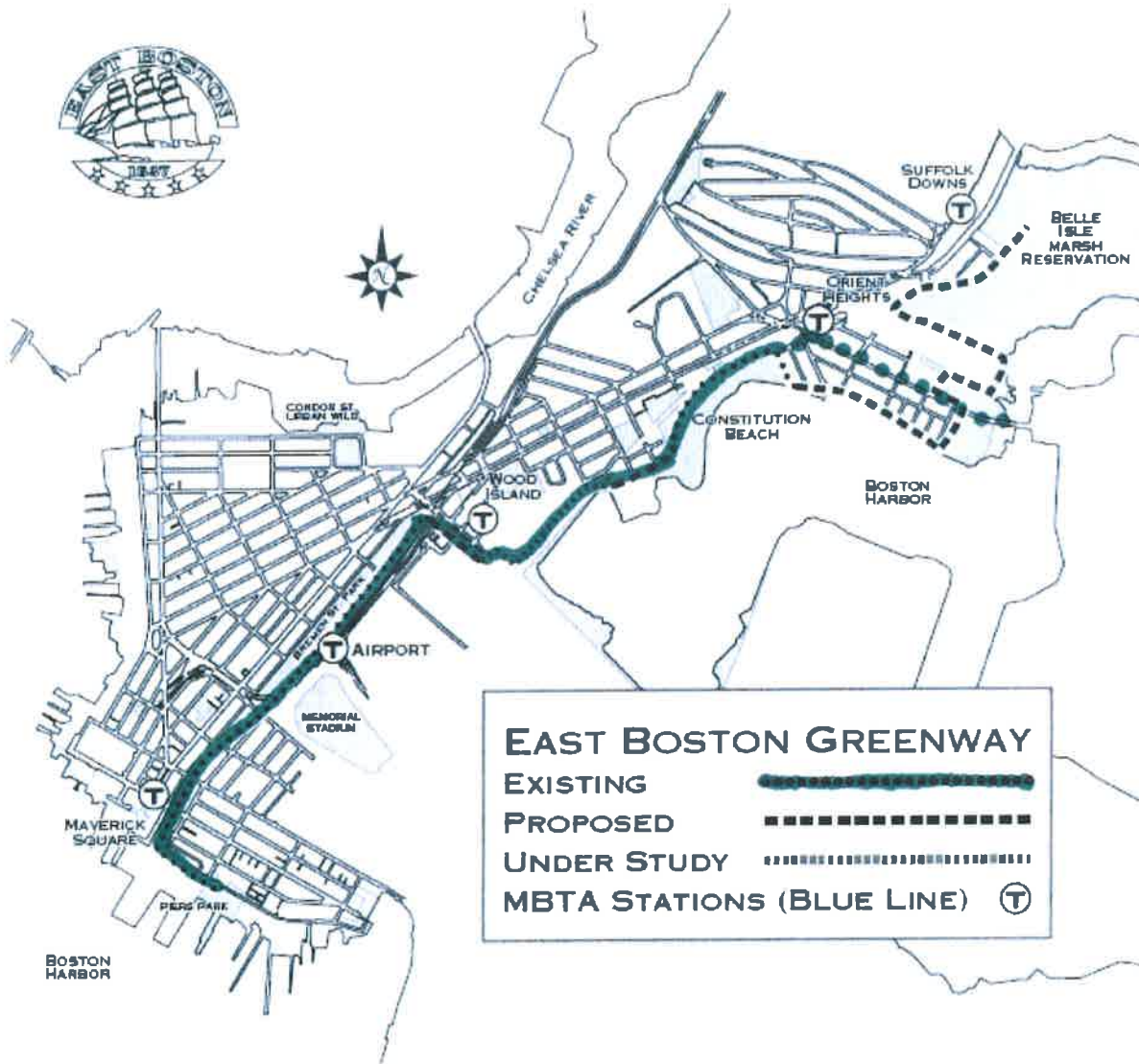
Winter 2018 Holidays
 January 1: see Sunday
 January 15 & February 19: see Saturday
 Silver Line see Weekday

Use SL1/SL2

Use SL1/SL2

Use SL1/SL2

EAST BOSTON GREENWAY LOCATION MAP



EAST BOSTON GREENWAY	
EXISTING	
PROPOSED	
UNDER STUDY	
MBTA STATIONS (BLUE LINE)	

MASSDOT HIGH CRASH LOCATION MAP

Top Crash Locations

Accessible Version



Gove St, East Boston, MA, 02121 X Q

Show search results for Gove St, East ...



Legend

CrashClusters

- Top 200 Intersection Cluster 2013-2015
- 2013-2015 HSIP Cluster
- 2006-2015 HSIP Bicycle Cluster
- 2006-2015 HSIP Pedestrian Cluster

East I



600ft

.71 024 42 376 Degrees

GENERAL BACKGROUND TRAFFIC GROWTH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average Annual
Revere	Route 1A	North of Boston/Revere City Line - Sta. 8087	54,548	56,374	52,319	54,448	55,853	56,942	56,677	53,534	60,689	58,092	59,367	0.92%

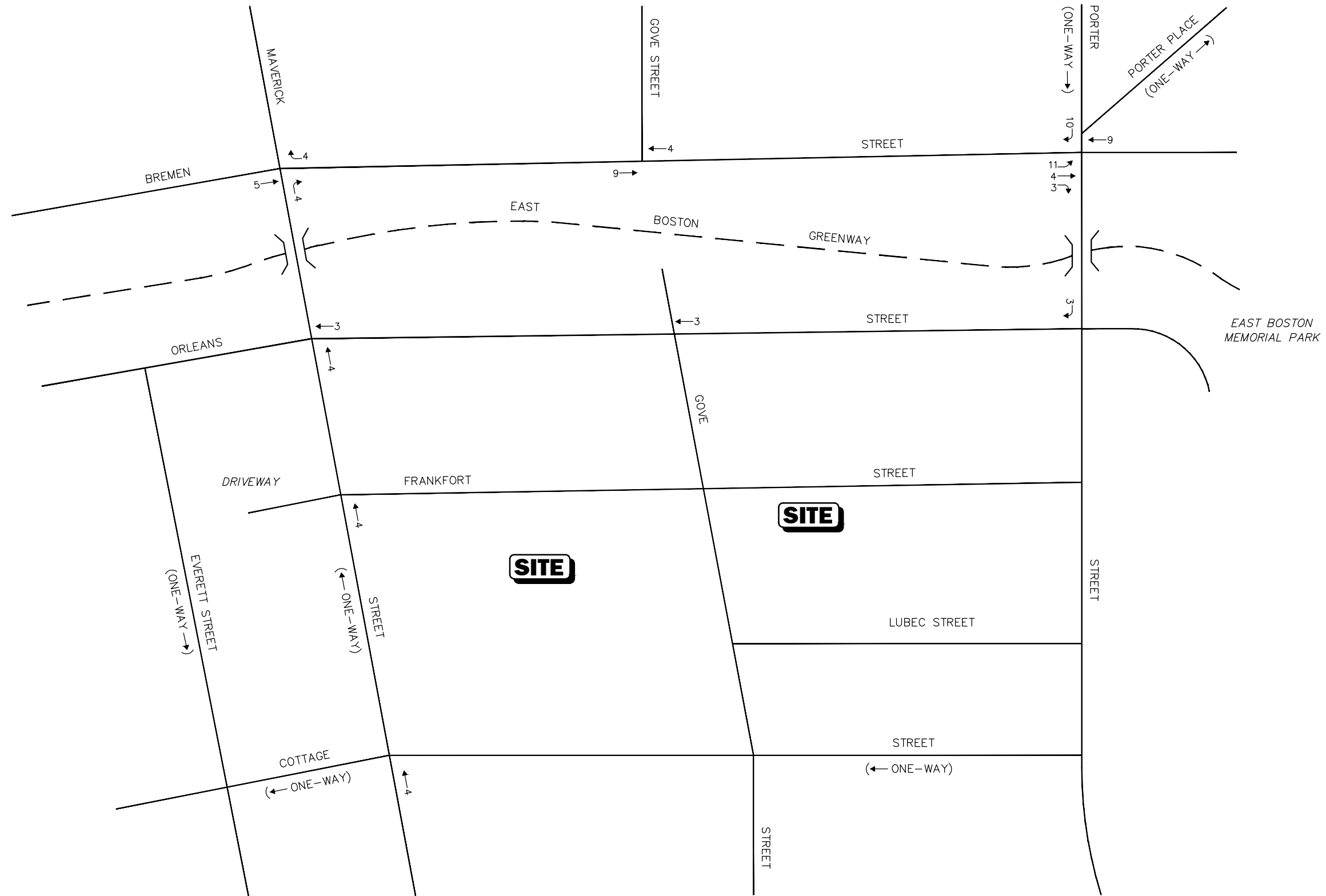
BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-1
135 Bremen Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

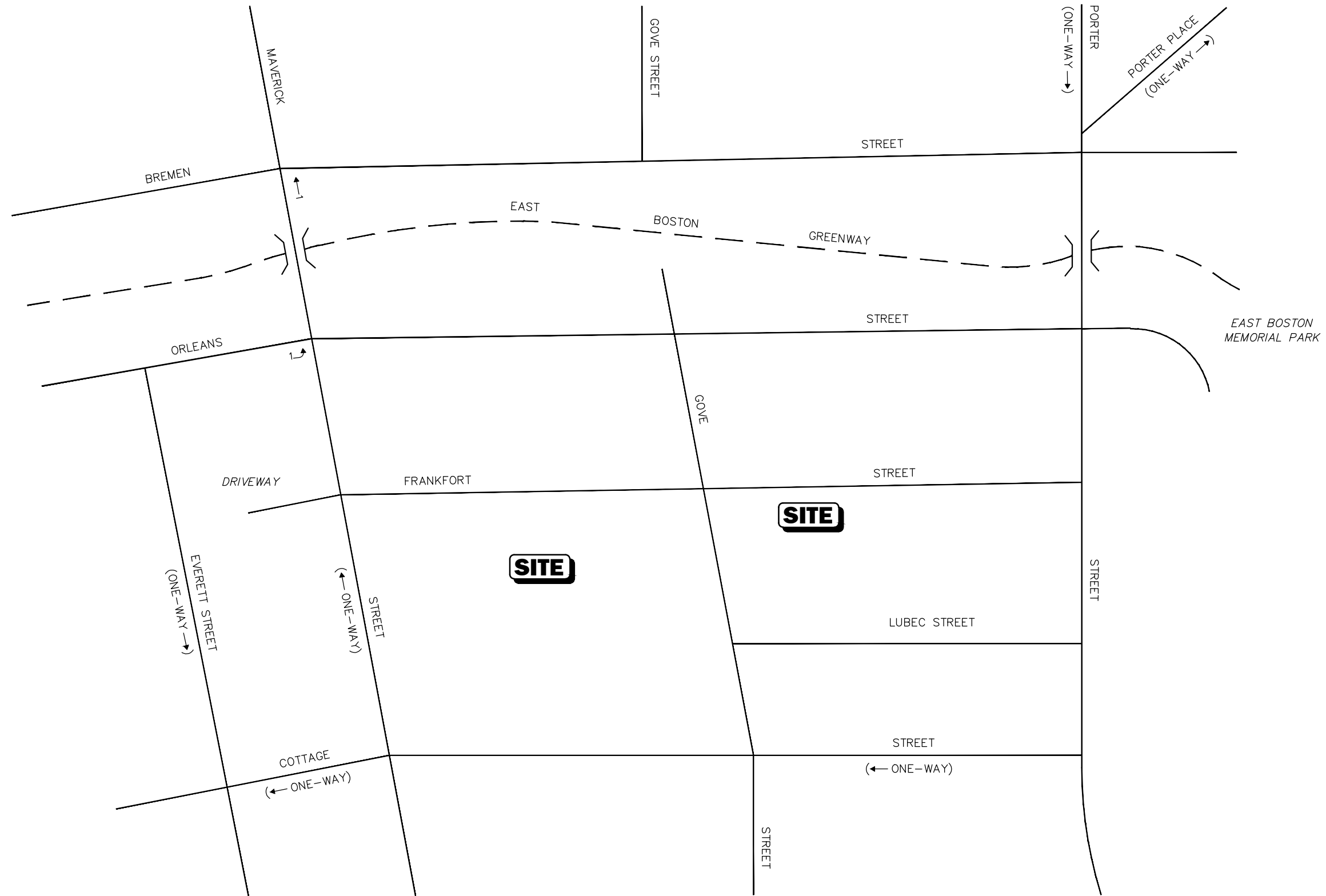


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-2
135 Bremen Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

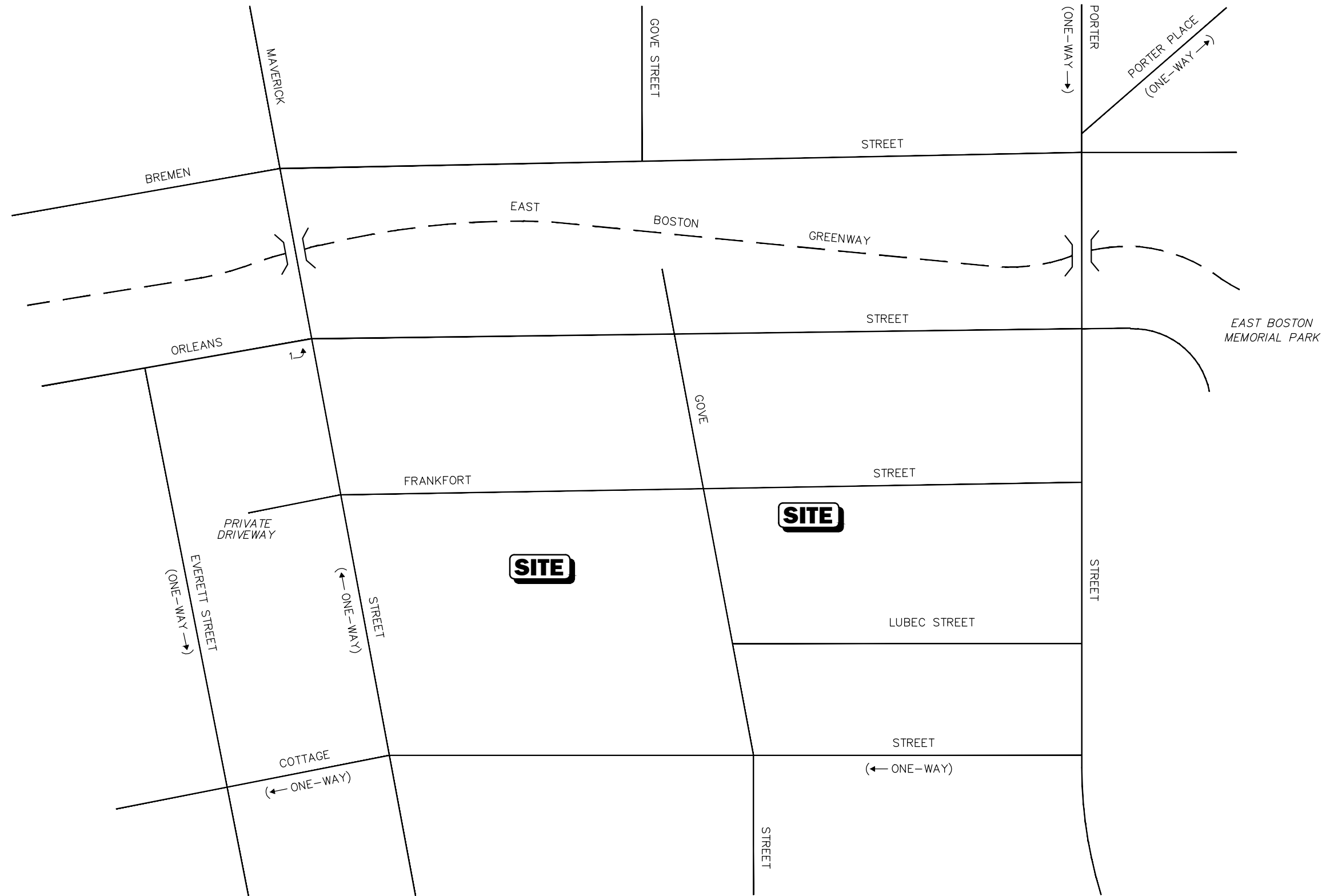
R:\7586\7586nt2.dwg, 3/21/2018 4:59:49 PM



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-3
31 Orleans Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

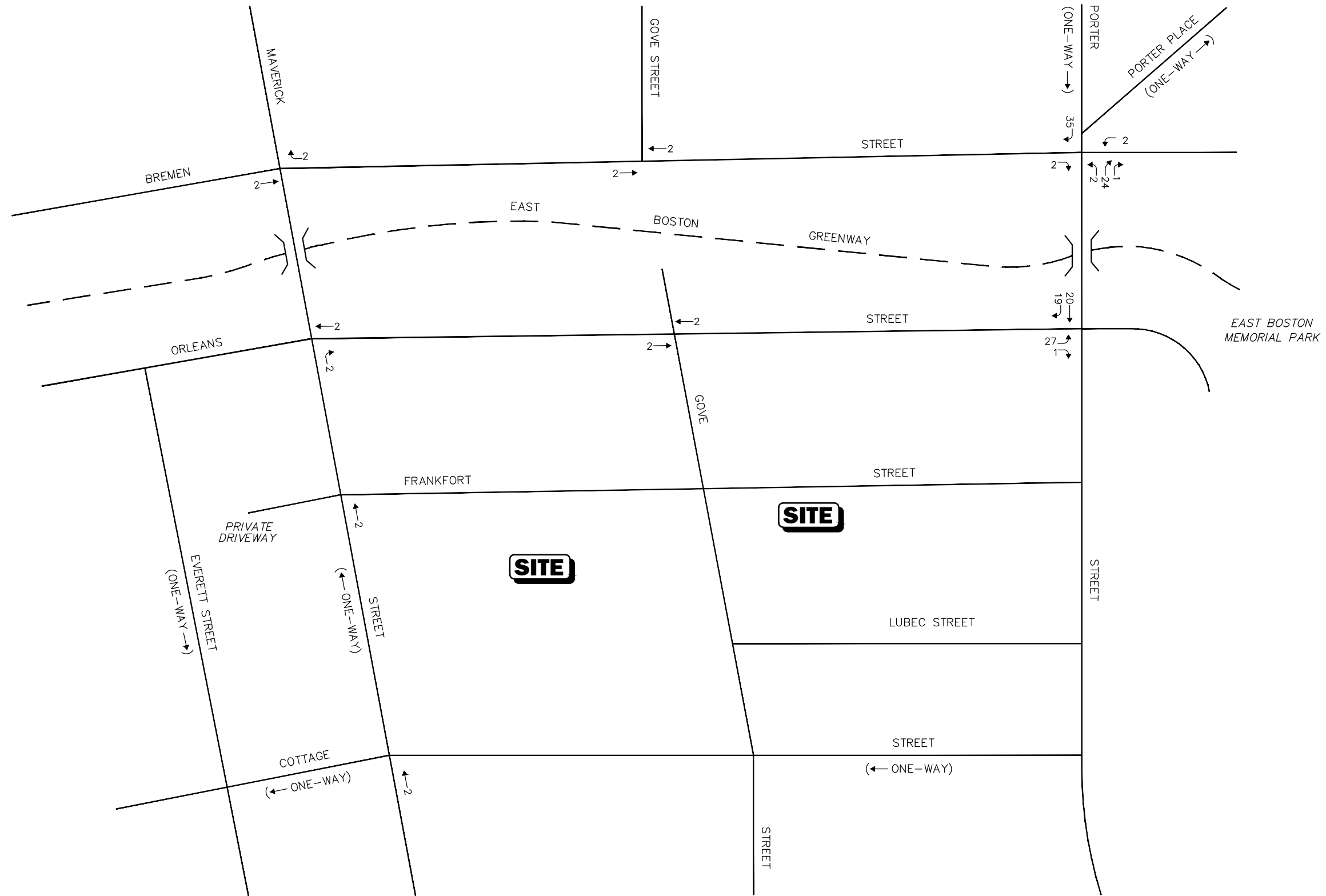


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-4
31 Orleans Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

R:\7586\7586nt4.dwg, 3/21/2018 5:01:41 PM

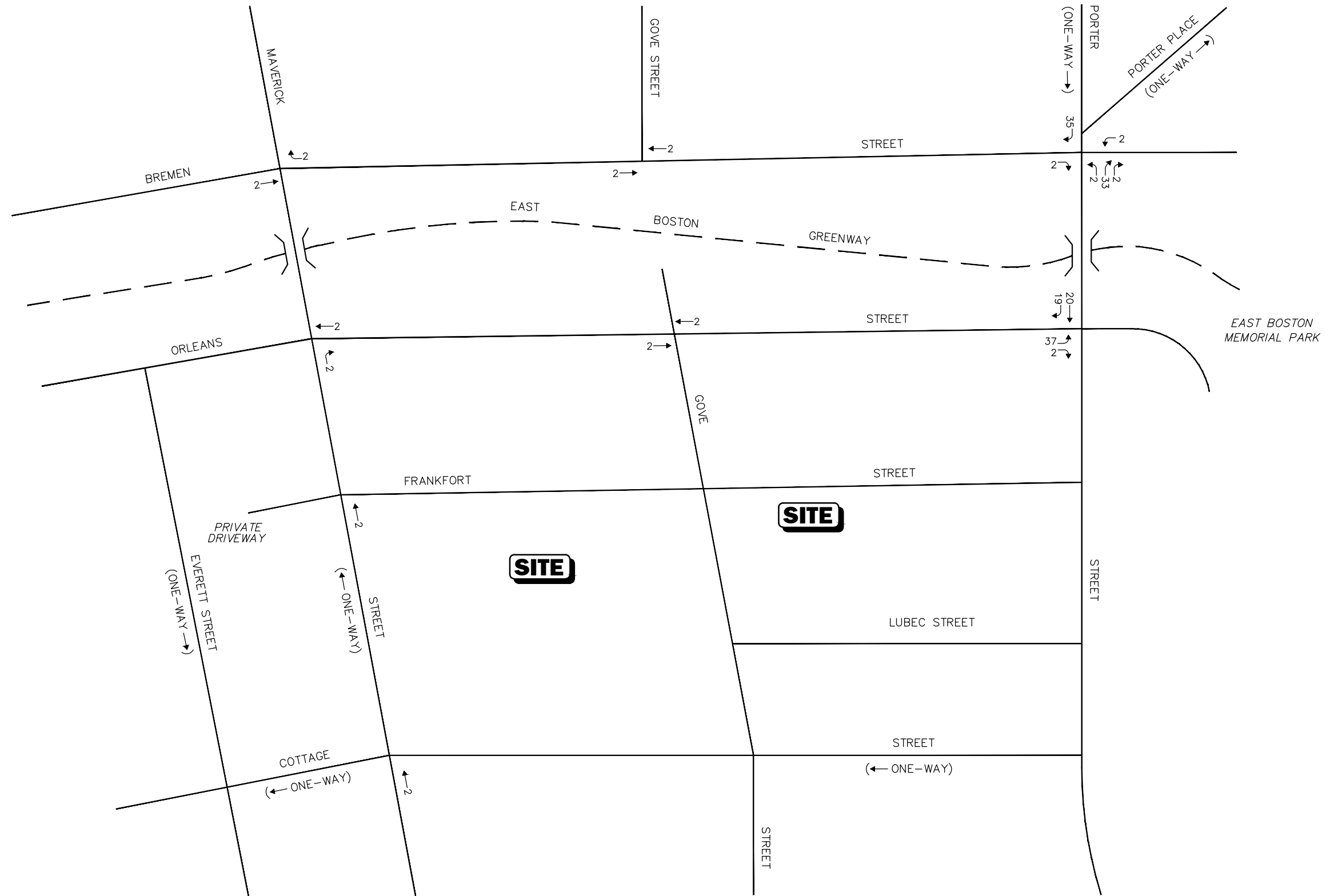


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-5
175 Orleans Street
Boston Loftel
Weekday Morning
Peak Hour Traffic Volumes

R:\7586\7586nt5.dwg, 3/21/2018 5:02:37 PM

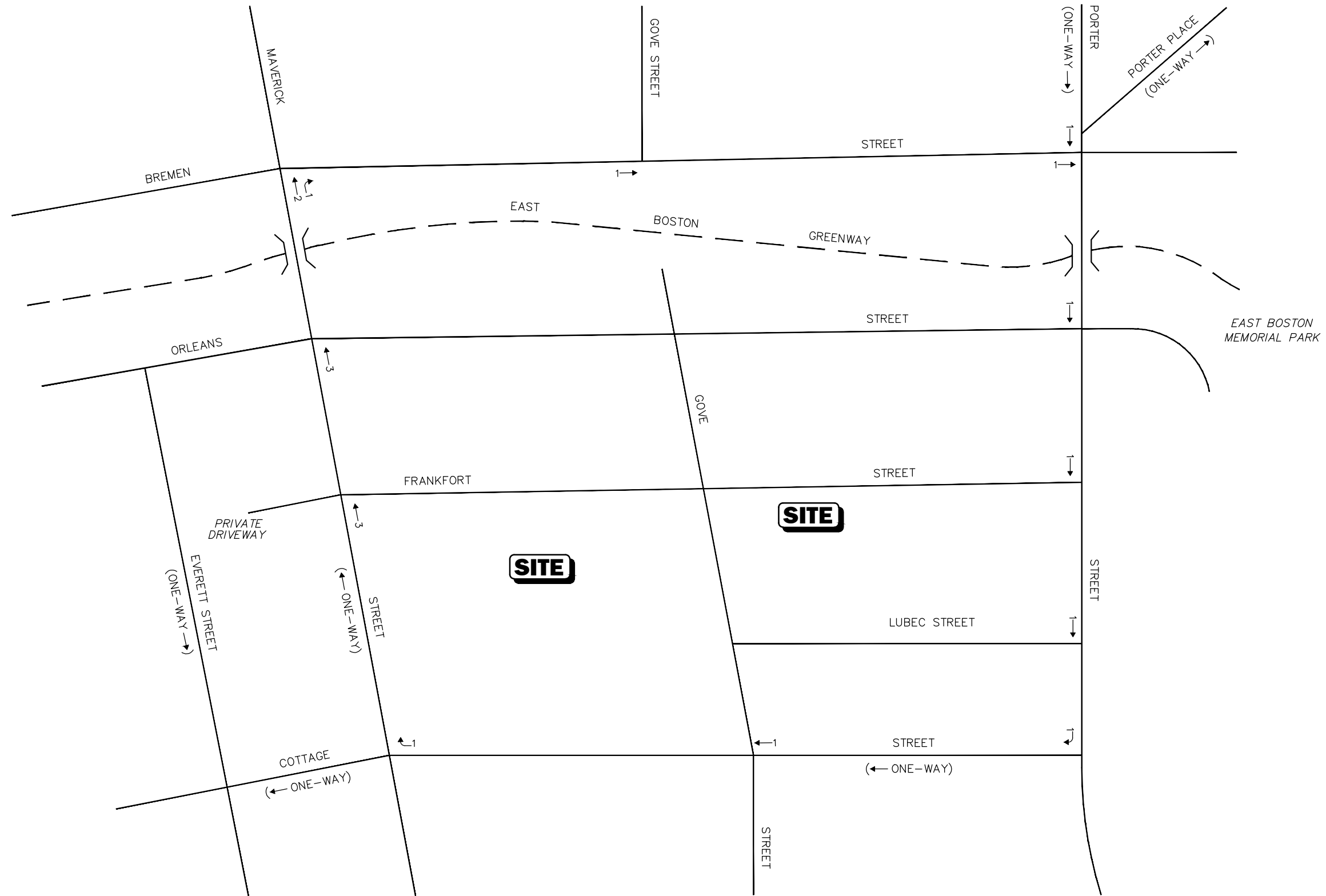


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-6
175 Orleans Street
Boston Loftel
Weekday Evening
Peak Hour Traffic Volumes

R:\7586\7586nt6.dwg, 3/21/2018 5:03:32 PM



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-7
202 Maverick Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

R:\7586\7586nt7.dwg, 3/21/2018 5:04:21 PM

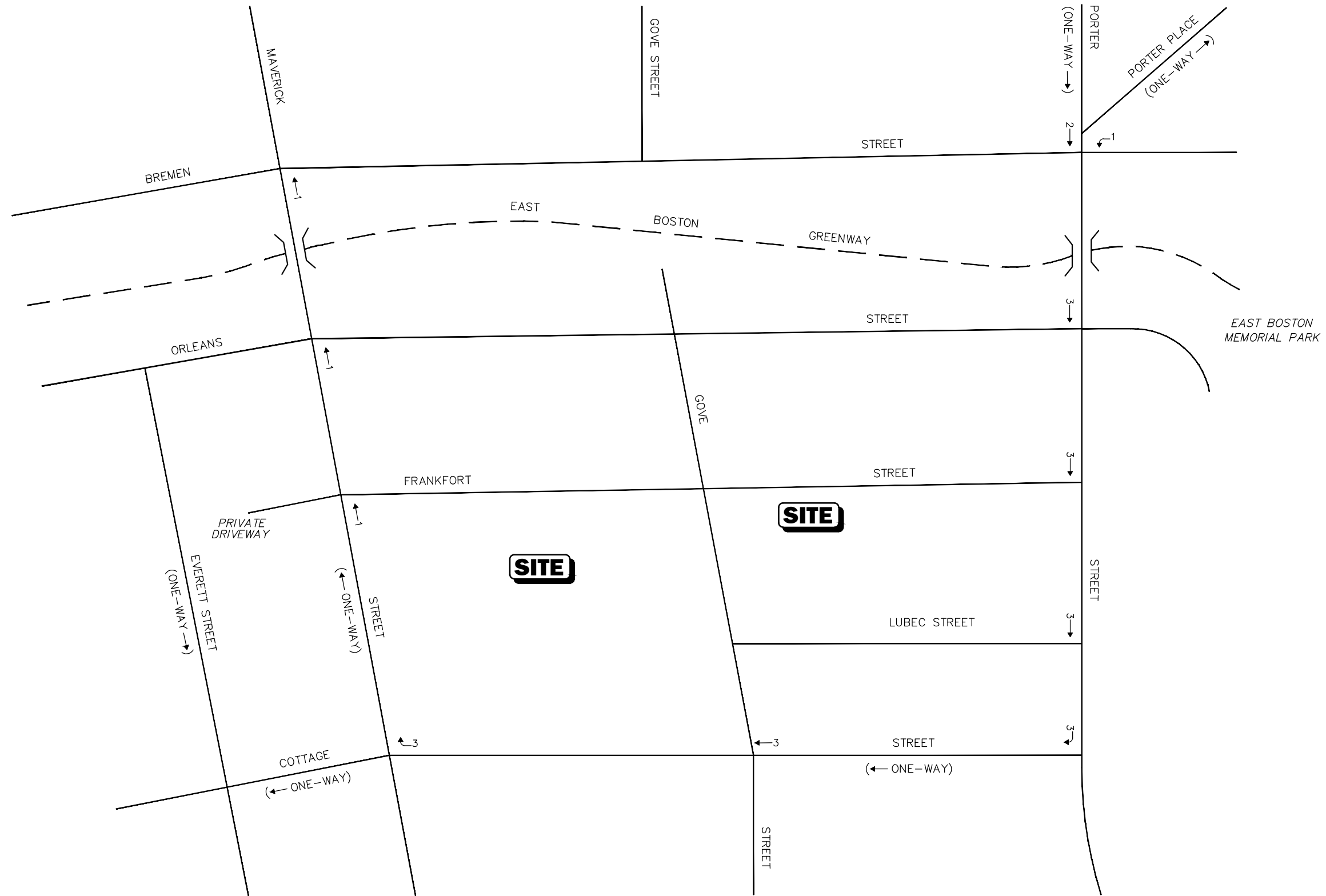
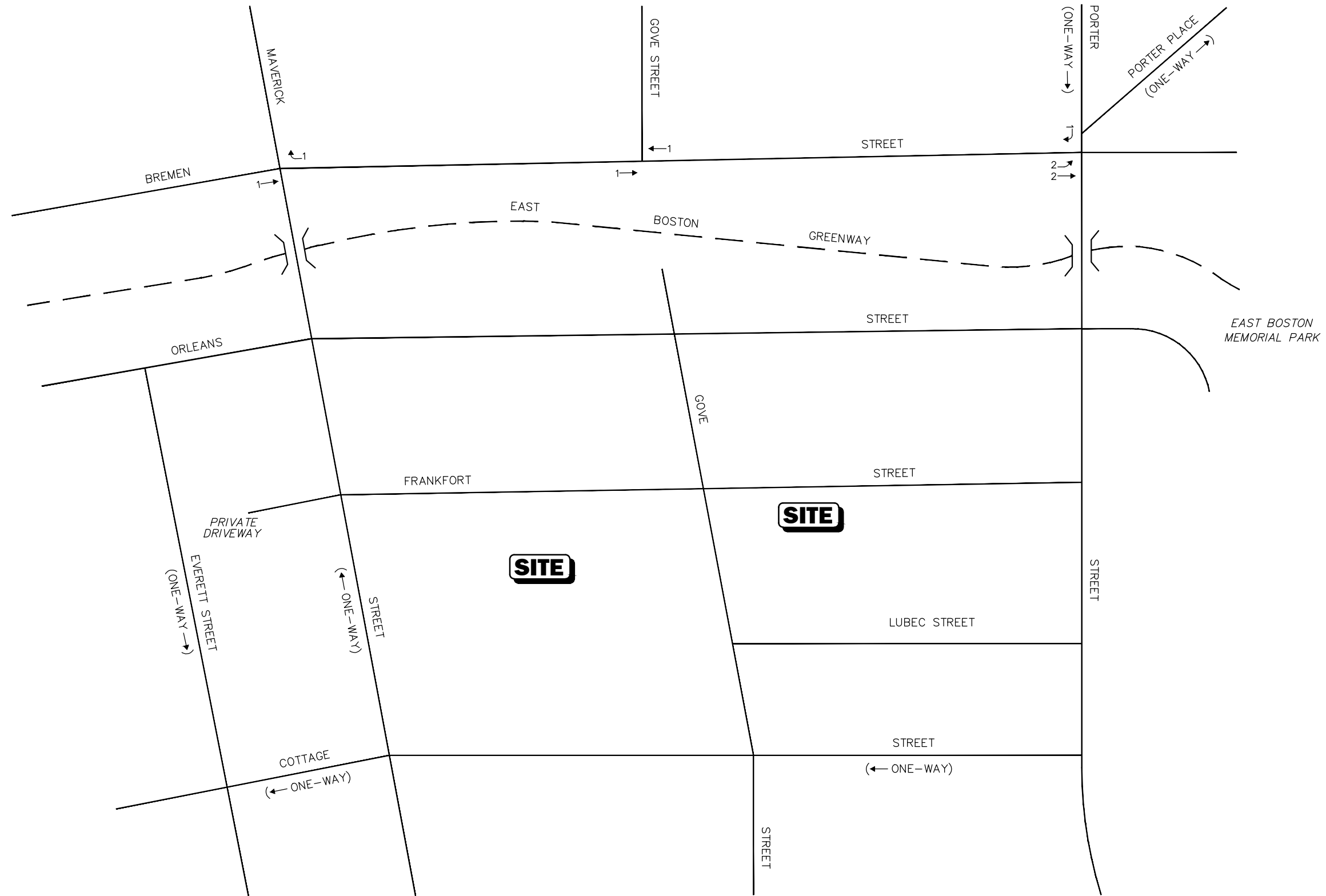


Figure A-8
202 Maverick Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

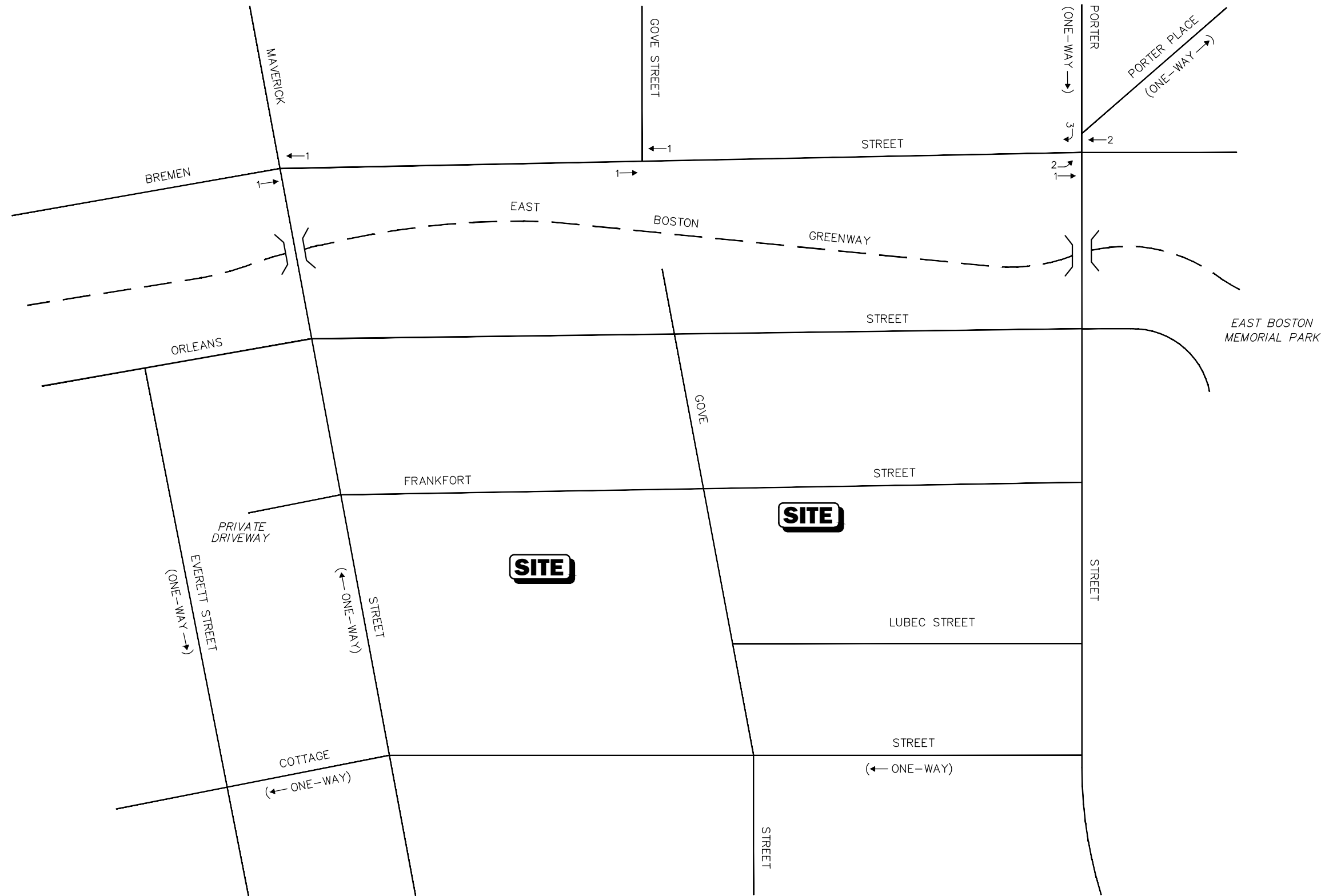


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-9
70 Bremen Street
Mixed-Use Development
Weekday Morning
Peak Hour Traffic Volumes

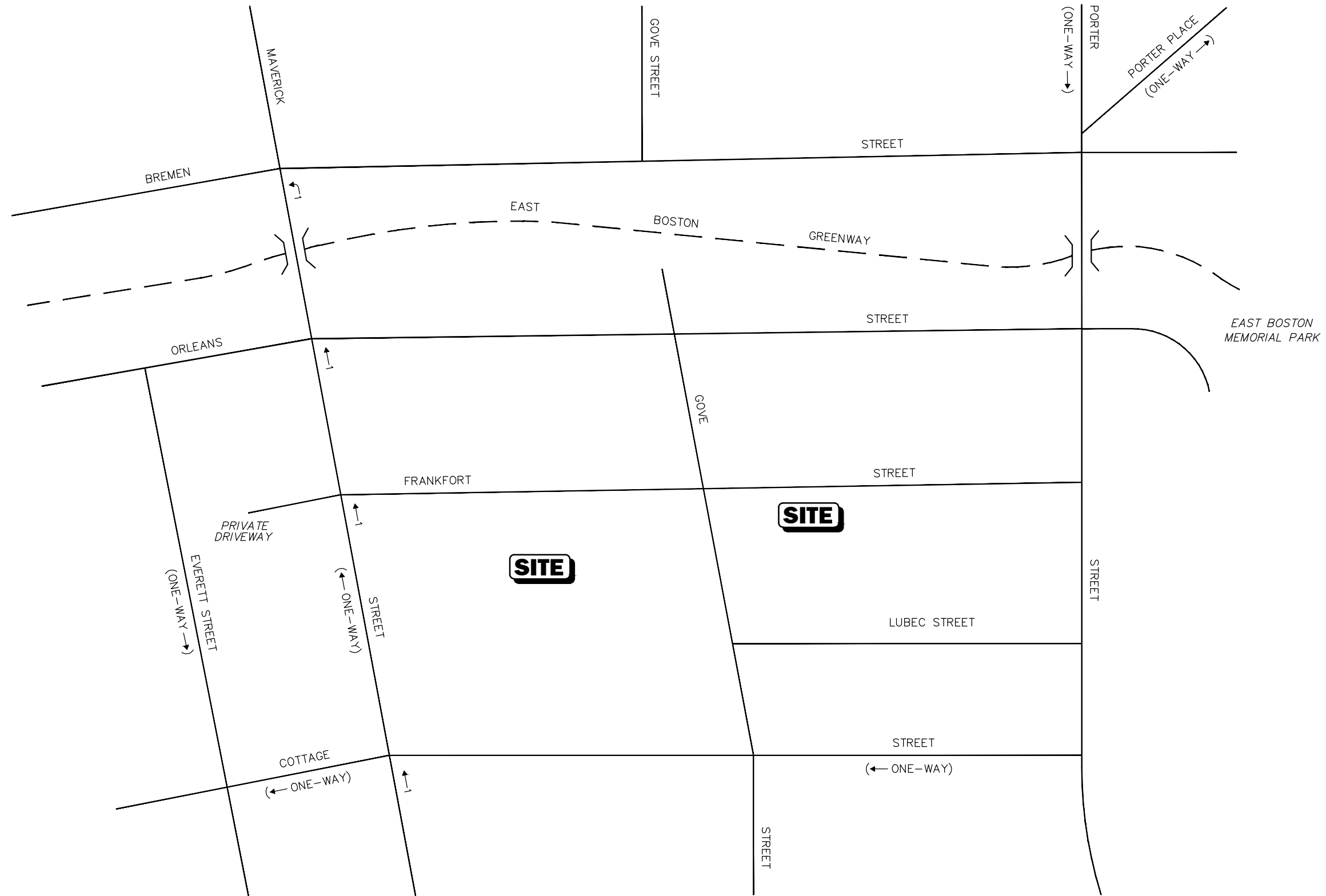
R:\7586\7586nt9.dwg, 3/21/2018 5:05:50 PM



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-10
70 Bremen Street
Mixed-Use Development
Weekday Evening
Peak Hour Traffic Volumes

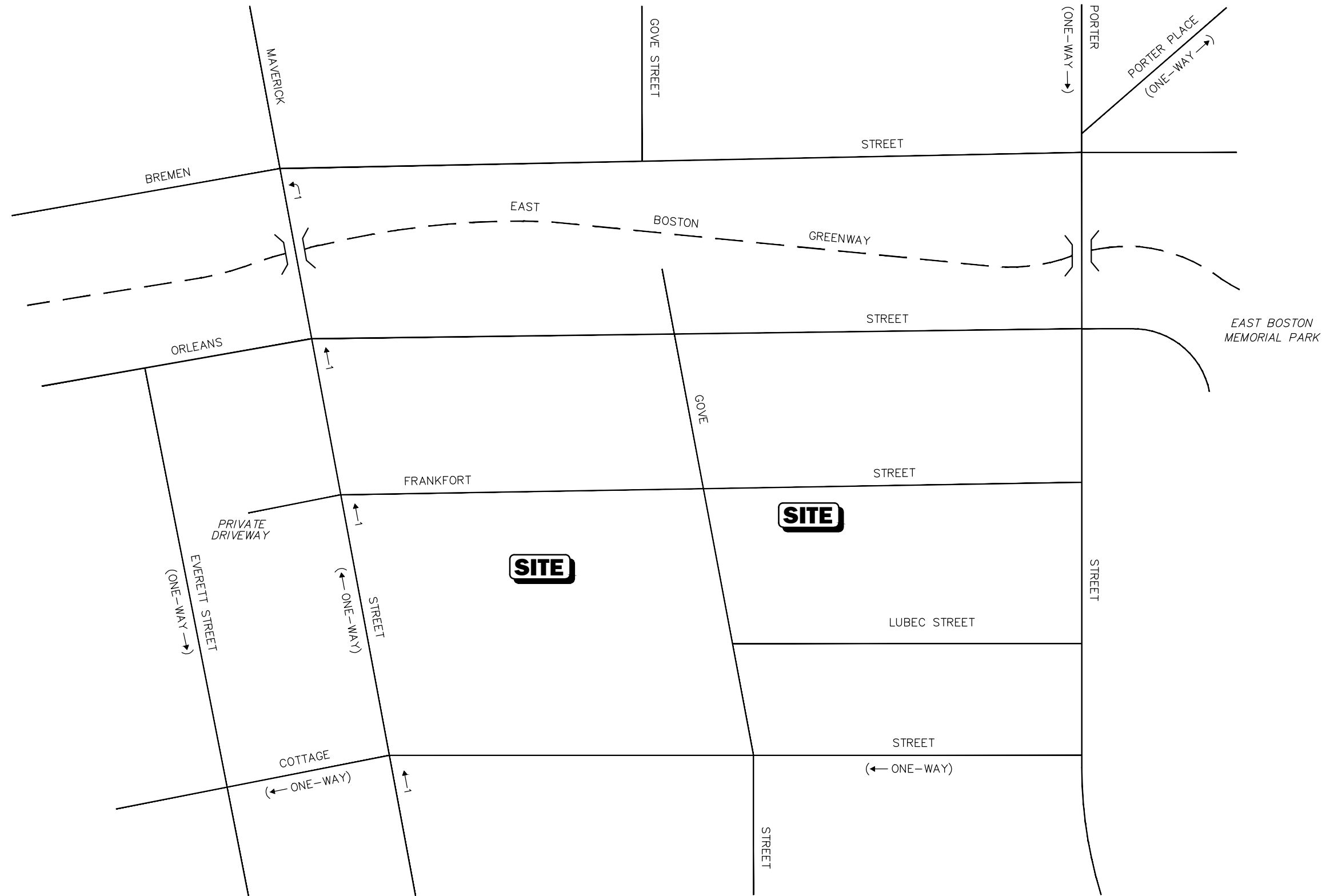


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-11

125 Sumner Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

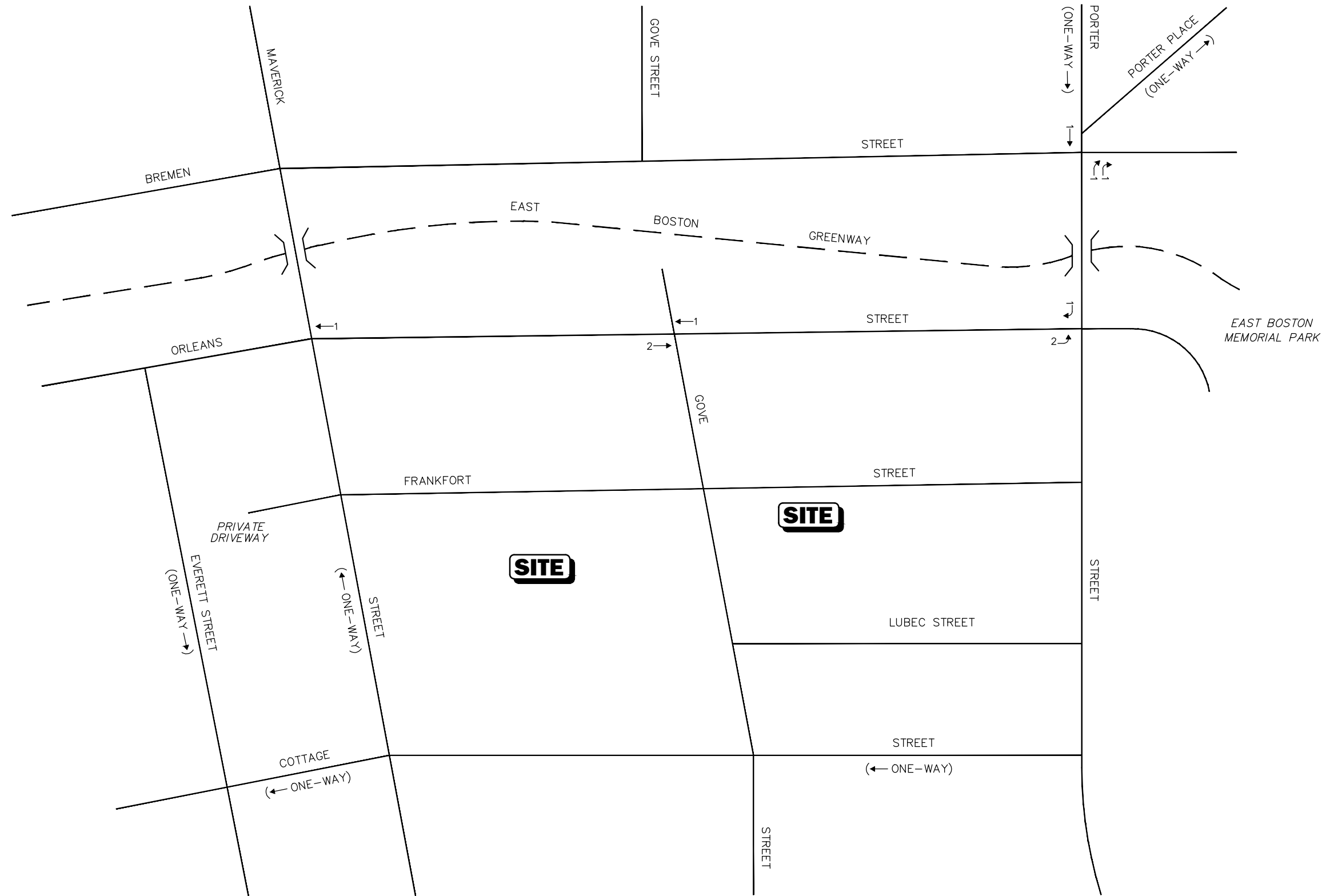


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-12
125 Sumner Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

R:\7586\7586nt12.dwg, 3/21/2018 5:07:55 PM

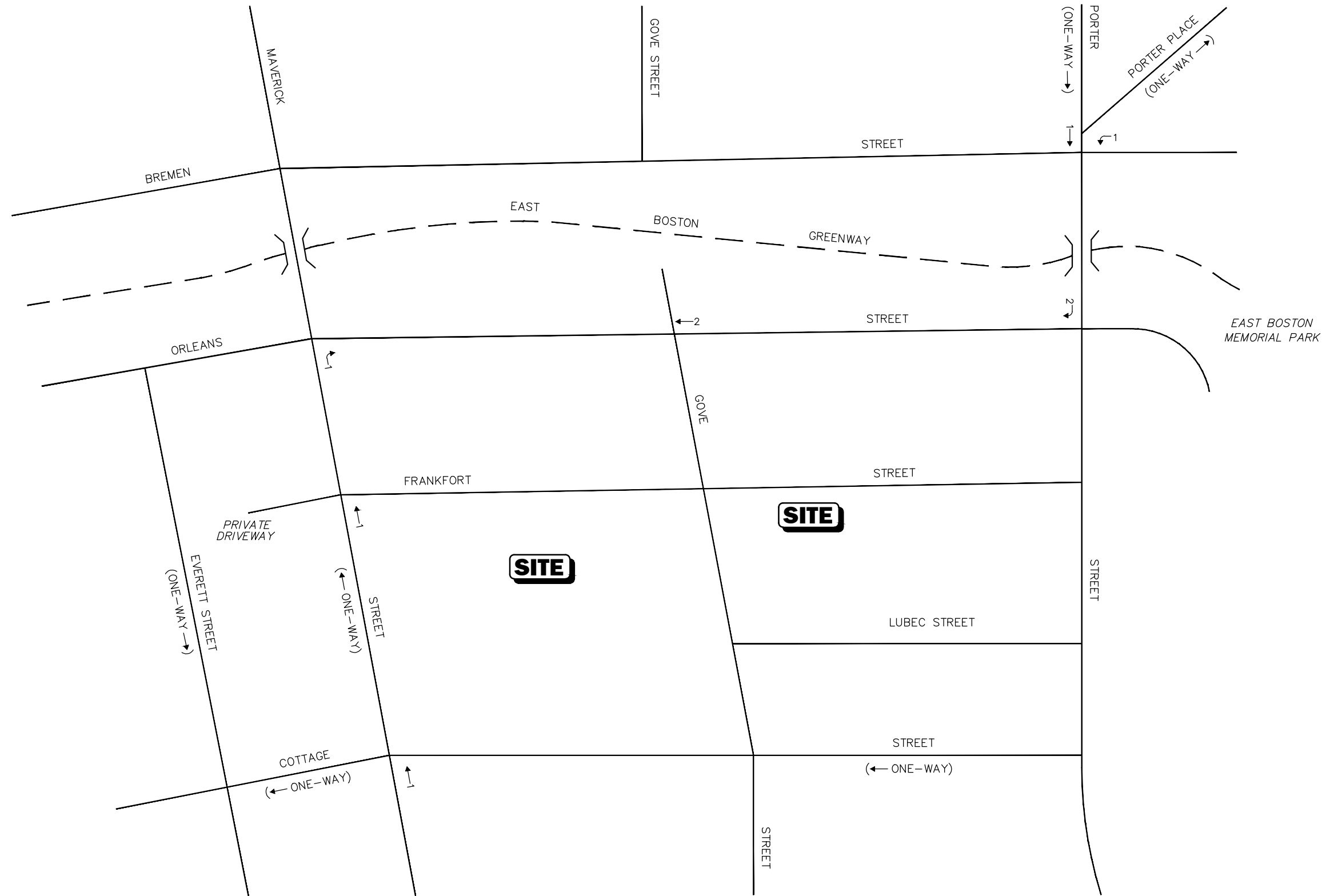


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-13
114 Orleans Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

R:\7586\7586nt13.dwg, 3/21/2018 5:08:55 PM



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

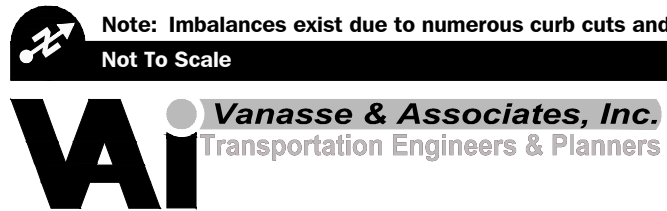
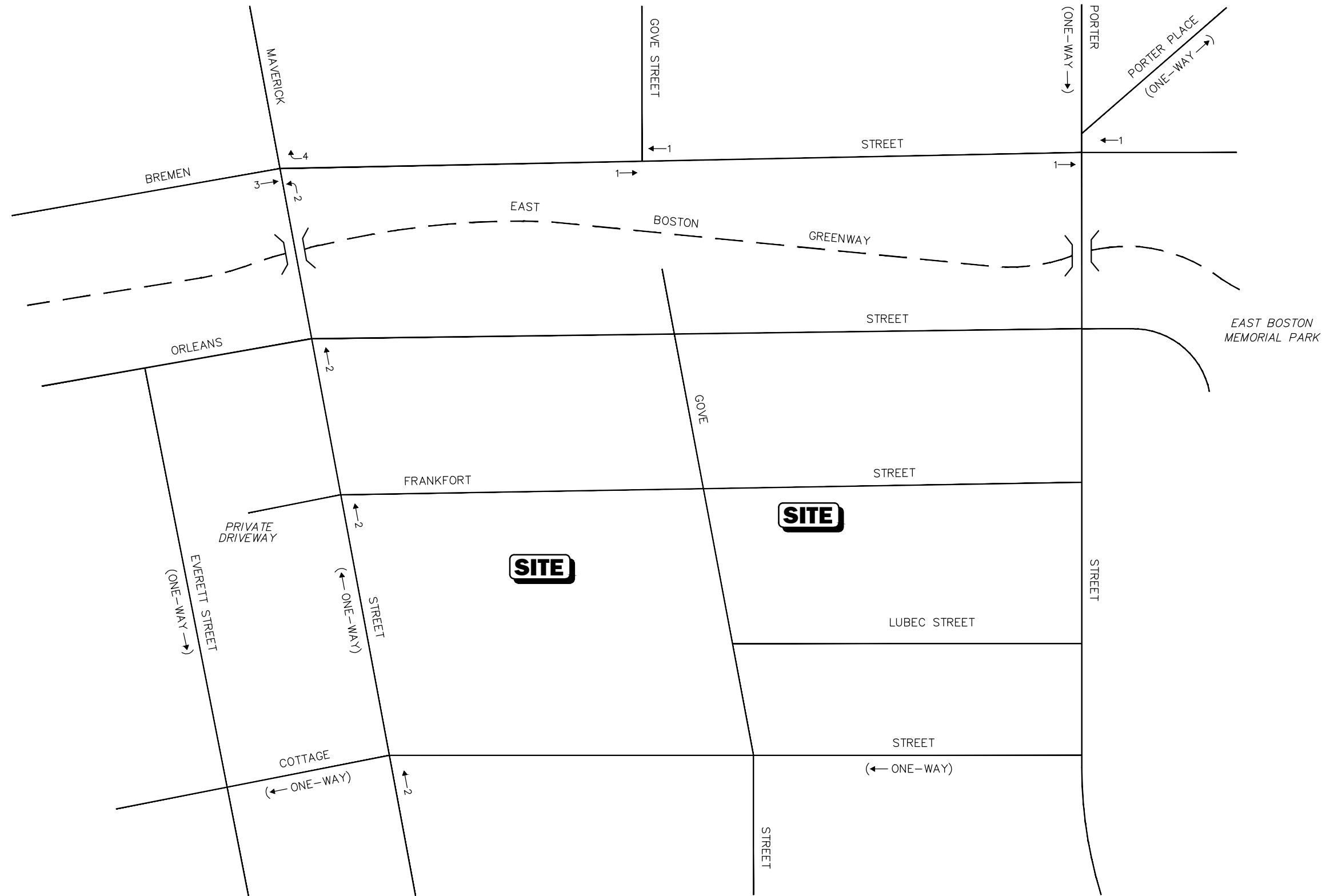


Figure A-14

114 Orleans Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

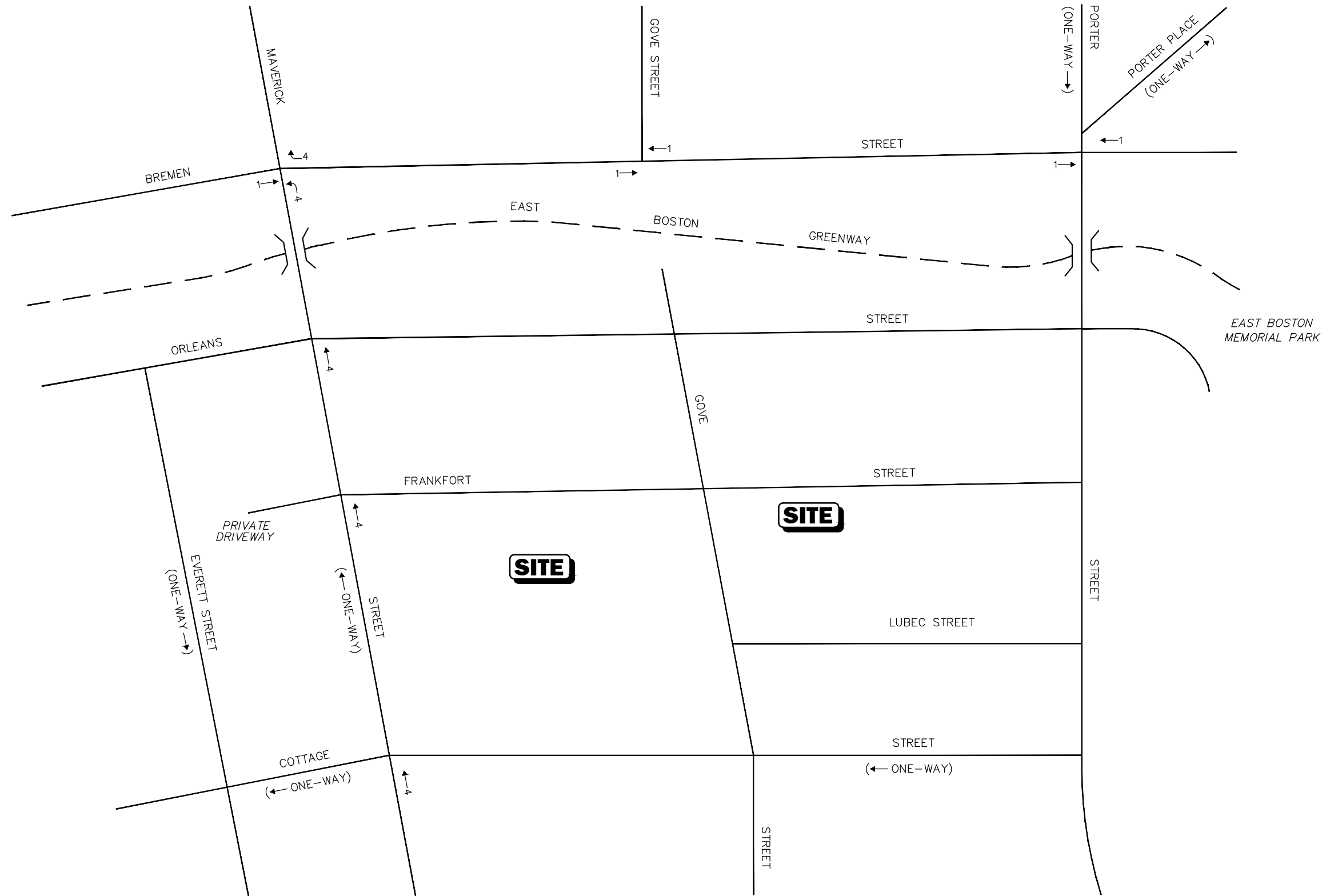


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-15

99-111 Summer Street
Mixed-Use Development
Weekday Morning
Peak Hour Traffic Volumes



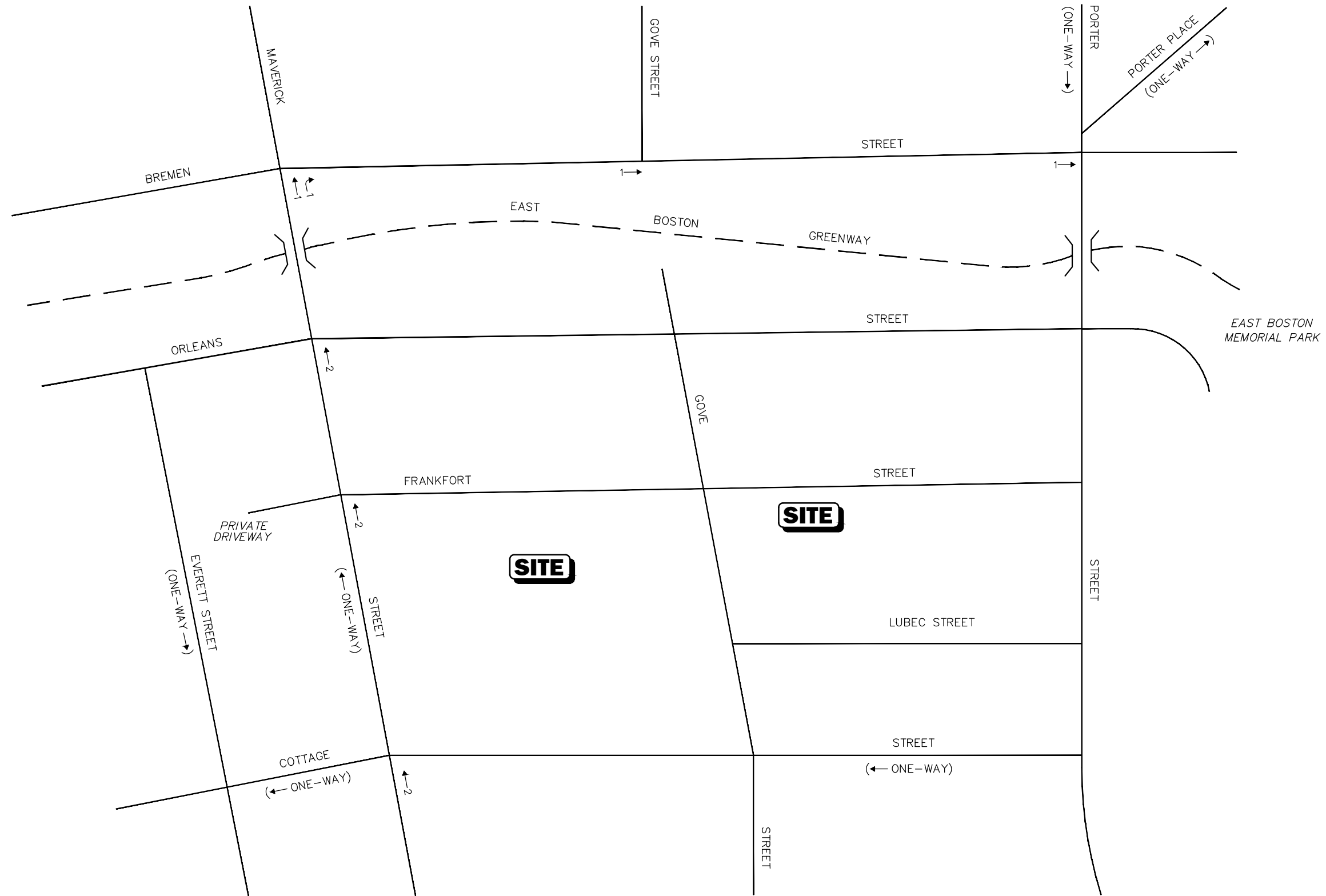
EAST BOSTON MEMORIAL PARK

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-16
99-111 Summer Street
Mixed-Use Development
Weekday Evening
Peak Hour Traffic Volumes

R:\7586\7586nt16.dwg, 3/21/2018 5:11:10 PM

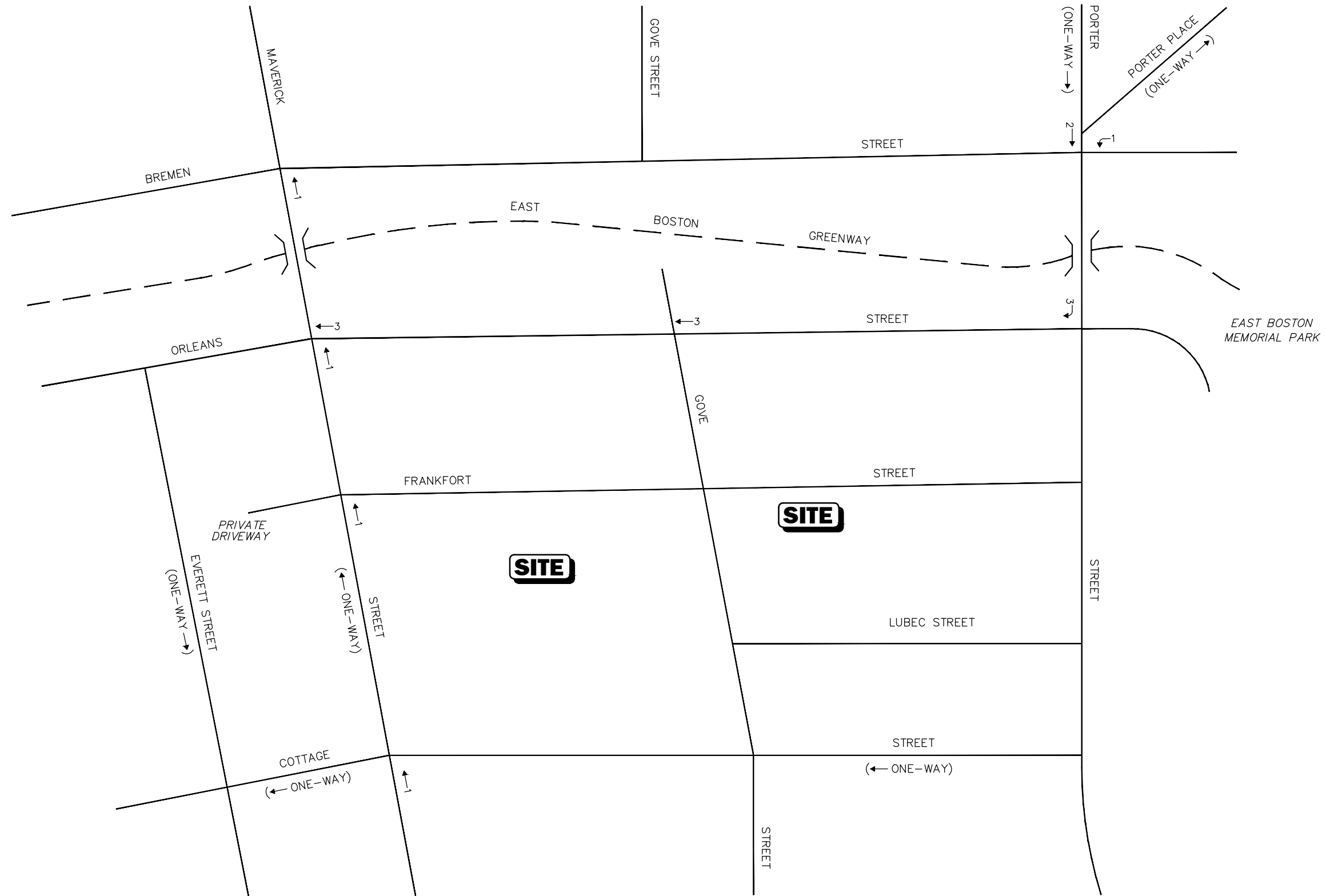


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-17
10-16 Everett Street
Residential Development
Weekday Morning
Peak Hour Traffic Volumes

R:\7586\7586nt17.dwg, 3/21/2018 5:11:50 PM



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.
Not To Scale



Figure A-18
10-16 Everett Street
Residential Development
Weekday Evening
Peak Hour Traffic Volumes

TRIP-GENERATION CALCULATIONS

Multifamily Housing (Mid-Rise) (221)

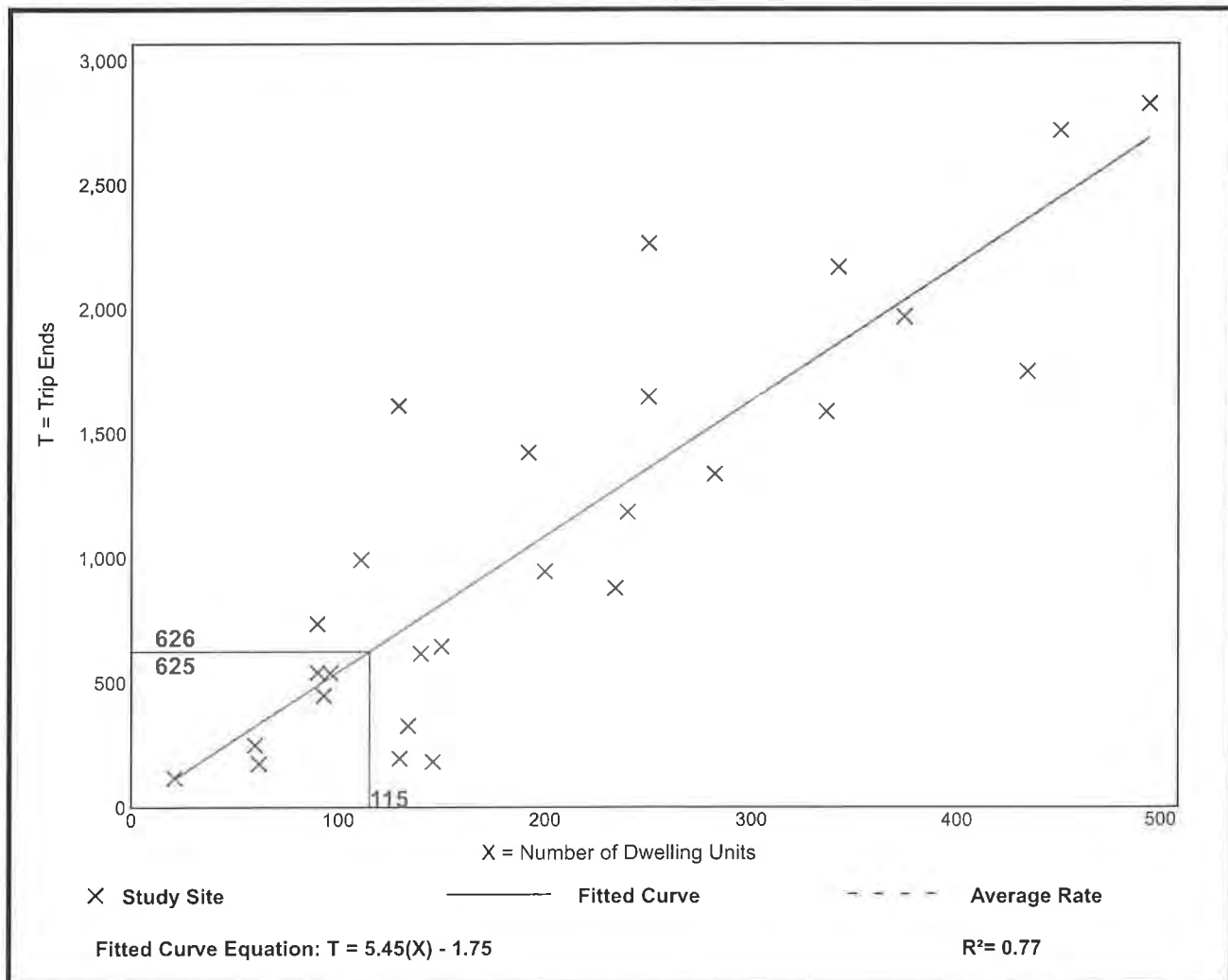
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 27
Avg. Num. of Dwelling Units: 205
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 53

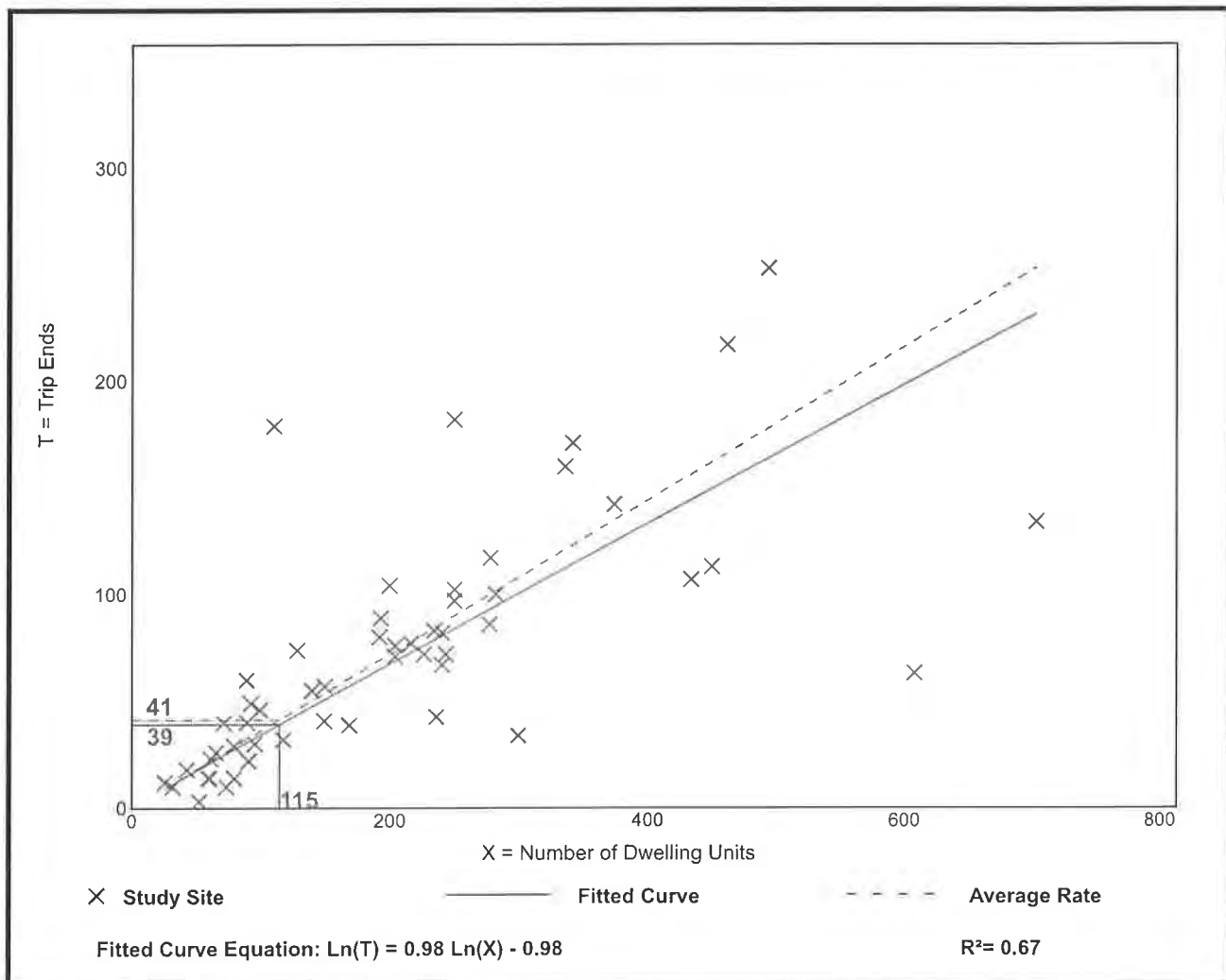
Avg. Num. of Dwelling Units: 207

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 60

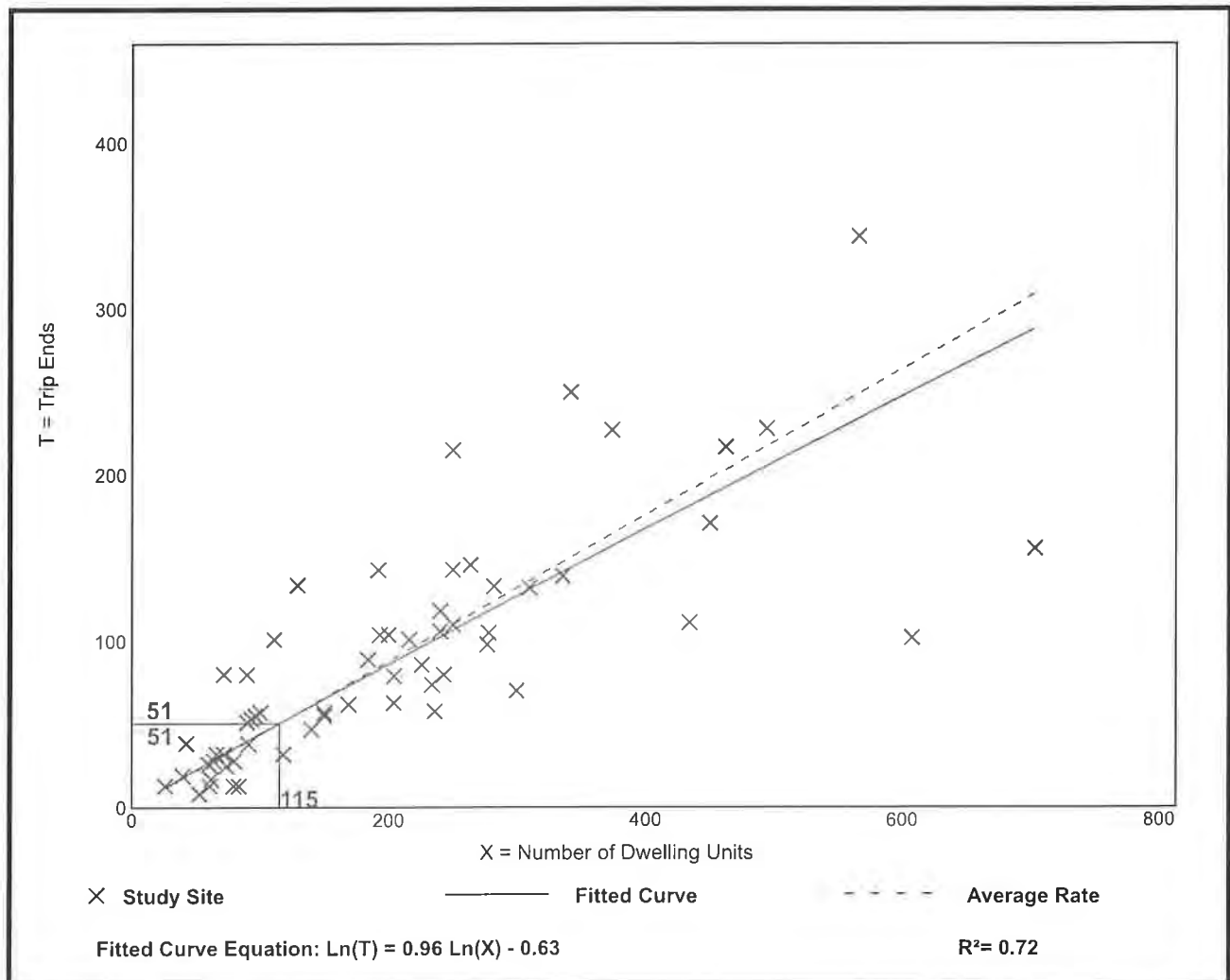
Avg. Num. of Dwelling Units: 208

Directional Distribution: 61% entering, 39% exiting

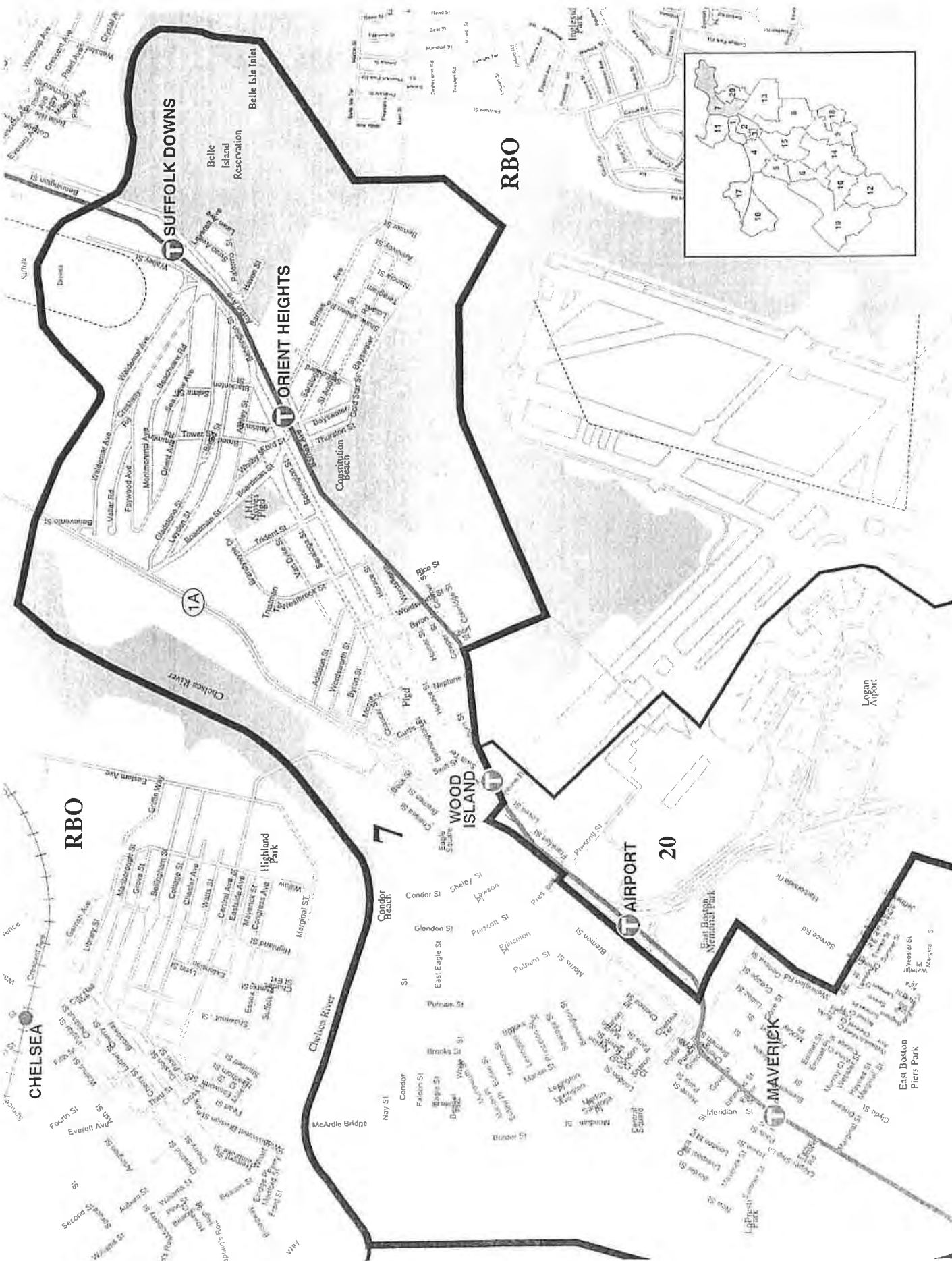
Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



BTD TRIP DISTRIBUTION



Distribution and Mode Share of Daily Trips by Transportation Zone

Daily Trips

Note that the same number of trips are assumed to begin or end in Zone 7

To/From ZONE	Mode Shares			Geographical Distribution of Trips			
	Auto	Transit	Walk	Total	Auto	Transit	Walk
1	48.2	51.8	0.0	1.3	1.2	5.0	0.0
2	21.6	78.4	0.0	4.3	1.8	25.8	0.0
3	27.5	72.5	0.0	0.8	0.3	4.7	0.0
4	39.0	61.0	0.0	2.2	1.7	10.2	0.0
5	44.8	55.2	0.0	0.7	0.6	2.8	0.0
6	63.0	37.0	0.0	0.3	0.3	0.7	0.0
7	25.9	4.4	69.7	50.6	25.3	17.1	100.0
8	80.1	19.9	0.0	0.5	0.8	0.8	0.0
9	85.3	14.7	0.0	0.2	0.4	0.3	0.0
10	76.4	23.6	0.0	0.4	0.6	0.7	0.0
11	78.0	22.0	0.0	0.5	0.7	0.8	0.0
12	96.3	3.7	0.0	0.1	0.1	0.0	0.0
13	83.2	16.8	0.0	0.5	0.8	0.6	0.0
14	62.8	37.2	0.0	0.3	0.3	0.7	0.0
15	62.5	37.5	0.0	0.9	1.1	2.5	0.0
16	60.5	39.5	0.0	0.1	0.1	0.2	0.0
17	81.4	18.6	0.0	0.2	0.4	0.3	0.0
18	85.0	15.0	0.0	0.1	0.2	0.2	0.0
19	82.1	17.9	0.0	0.1	0.2	0.2	0.0
20	97.9	2.1	0.0	4.2	8.1	0.7	0.0
RBO	88.8	11.2	0.0	17.4	29.9	15.0	0.0
RGR	81.0	19.0	0.0	3.8	6.0	5.6	0.0
RCD	74.4	25.6	0.0	1.1	1.6	2.1	0.0
RMR	90.4	9.6	0.0	0.4	0.8	0.3	0.0
BNE	96.3	3.7	0.0	1.9	3.5	0.5	0.0
BNO	97.9	2.1	0.0	0.9	1.8	0.2	0.0
BNW	89.7	10.3	0.0	0.8	1.3	0.6	0.0
CN	98.8	1.2	0.0	2.6	4.9	0.2	0.0
CW	97.1	2.9	0.0	1.3	2.5	0.3	0.0
CSW	90.6	9.4	0.0	0.8	1.4	0.6	0.0
CSE	93.7	6.3	0.0	0.7	1.3	0.3	0.0
TOTAL	51.6	13.1	35.3	100.0	100.0	100.0	100.0

Mode Share by Purpose* and Time of Day

Trips Beginning in Zone 7

<u>Daily avg. mode shares</u>	All Purposes	Home	Work	Other
Auto	52%	54%	74%	42%
Transit	13%	17%	21%	6%
Walk	35%	29%	5%	52%
<u>AM peak mode shares</u>				
Auto	44%	45%	63%	35%
Transit	24%	25%	32%	9%
Walk	32%	30%	5%	56%
<u>Rest of day mode shares</u>				
Auto	54%	60%	75%	42%
Transit	10%	12%	20%	6%
Walk	36%	28%	5%	52%
<u>PM peak mode shares</u>				
Auto	50%	51%	75%	37%
Transit	10%	15%	19%	5%
Walk	40%	34%	6%	58%

Trips Ending in Zone 7

<u>Daily avg. mode shares</u>	All Purposes	Home	Work	Other
Auto	52%	54%	74%	42%
Transit	13%	17%	21%	6%
Walk	35%	29%	5%	52%
<u>AM peak mode shares</u>				
Auto	50%	51%	75%	37%
Transit	10%	15%	19%	5%
Walk	40%	34%	6%	58%
<u>Rest of day mode shares</u>				
Auto	52%	54%	74%	43%
Transit	14%	17%	22%	6%
Walk	34%	29%	4%	51%
<u>PM peak mode shares</u>				
Auto	44%	45%	63%	35%
Transit	24%	25%	32%	9%
Walk	32%	30%	5%	56%

*Purpose refers to the activity that occurs in Zone 7.

CAPACITY ANALYSIS WORKSHEETS













Porter Street at Bremen Street
Porter Street at Orleans Street
Porter Street at Frankfort Street
Porter Street at Cottage Street
Gove Street at Berman Street
Gove Street at Orleans Street
Gove Street at Frankfort Street
Gove Street at Cottage Street
Maverick Street at Berman Street
Maverick Street at Orleans Street
Maverick Street at Frankfort Street
Maverick Street at Cottage Street
Frankfort Street at the Project Site Driveway
Lubec Street at the Project Site Driveway

Porter Street at Berman Street

2018 Existing Wkdy Morning Peak-Hour

2/27/2018

1: Bremen Street & Porter Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	11	135	35	4	135	131	64	99	32	281	176	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1854	0	0	1782	0	0	1683	0	0	1626	0
Flt Permitted		0.997			0.999			0.984			0.970	
Satd. Flow (perm)	0	1854	0	0	1782	0	0	1683	0	0	1626	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%	0%	2%	0%	2%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	0	0	300	0	0	217	0	0	508	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 67.6% ICU Level of Service C
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
1: Bremen Street & Porter Street

2/27/2018

Intersection												
Intersection Delay, s/veh	25.2											
Intersection LOS	D											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	11	135	35	0	4	135	131	0	64	99	32
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	2	0	2	0	0	3	2	0	2	0
Mvmt Flow	0	12	150	39	0	4	150	146	0	71	110	36
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	14.3	16.9	14.3
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	6%	1%	61%
Vol Thru, %	51%	75%	50%	39%
Vol Right, %	16%	19%	49%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	181	270	457
LT Vol	64	11	4	281
Through Vol	99	135	135	176
RT Vol	32	35	131	0
Lane Flow Rate	217	201	300	508
Geometry Grp	1	1	1	1
Degree of Util (X)	0.404	0.386	0.539	0.88
Departure Headway (Hd)	6.708	6.906	6.464	6.241
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	533	517	555	579
Service Time	4.799	4.999	4.544	4.31
HCM Lane V/C Ratio	0.407	0.389	0.541	0.877
HCM Control Delay	14.3	14.3	16.9	39.1
HCM Lane LOS	B	B	C	E
HCM 95th-tile Q	1.9	1.8	3.2	10.1

2018 Existing Wkdy Morning Peak-Hour
 1: Bremen Street & Porter Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	281	176	0
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0
Mvmt Flow	0	312	196	0
Number of Lanes	0	0	1	0

Approach SB













Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	39.1
HCM LOS	E

Lane

2018 Existing Wkdy Evening Peak-Hour

2/27/2018

1: Bremen Street & Porter Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	76	156	20	4	79	118	46	196	24	180	129	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1888	0	0	1745	0	0	1730	0	0	1652	0
Flt Permitted		0.985			0.999			0.991			0.972	
Satd. Flow (perm)	0	1888	0	0	1745	0	0	1730	0	0	1652	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	265	0	0	211	0	0	279	0	0	330	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 76.2% ICU Level of Service D
 Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
1: Bremen Street & Porter Street

2/27/2018

Intersection												
Intersection Delay, s/veh	14.7											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	76	156	20	0	4	79	118	0	46	196	24
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	1	3	2	0	0	0
Mvmt Flow	0	80	164	21	0	4	83	124	0	48	206	25
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	14.5	12.4	14.5
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	30%	2%	57%
Vol Thru, %	74%	62%	39%	41%
Vol Right, %	9%	8%	59%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	266	252	201	314
LT Vol	46	76	4	180
Through Vol	196	156	79	129
RT Vol	24	20	118	5
Lane Flow Rate	280	265	212	331
Geometry Grp	1	1	1	1
Degree of Util (X)	0.472	0.46	0.355	0.558
Departure Headway (Hd)	6.068	6.246	6.036	6.081
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	594	576	595	592
Service Time	4.115	4.295	4.086	4.127
HCM Lane V/C Ratio	0.471	0.46	0.356	0.559
HCM Control Delay	14.5	14.5	12.4	16.6
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	2.5	2.4	1.6	3.4

2018 Existing Wkdy Evening Peak-Hour
 1: Bremen Street & Porter Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	180	129	5
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	189	136	5
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach

NB

Opposing Lanes

1

Conflicting Approach Left

WB

Conflicting Lanes Left

1

Conflicting Approach Right

EB

Conflicting Lanes Right

1

HCM Control Delay

16.6

HCM LOS

C

Lane

2025 No-Build Wkdy Morning Peak-Hour

1: Bremen Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	12	182	44	6	170	142	84	116	39	304	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1857	0	0	1796	0	0	1682	0	0	1626	0
Flt Permitted		0.998			0.999			0.983			0.970	
Satd. Flow (perm)	0	1857	0	0	1796	0	0	1682	0	0	1626	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%	0%	2%	0%	2%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	0	0	354	0	0	265	0	0	552	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 76.4% ICU Level of Service D
 Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
1: Bremen Street & Porter Street

2/27/2018

Intersection												
Intersection Delay, s/veh	40.2											
Intersection LOS	E											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	12	182	44	0	6	170	142	0	84	116	39
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	2	0	2	0	0	3	2	0	2	0
Mvmt Flow	0	13	202	49	0	7	189	158	0	93	129	43
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	20.6	26.8	20.4
HCM LOS	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	5%	2%	61%
Vol Thru, %	49%	76%	53%	39%
Vol Right, %	16%	18%	45%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	239	238	318	497
LT Vol	84	12	6	304
Through Vol	116	182	170	193
RT Vol	39	44	142	0
Lane Flow Rate	266	264	353	552
Geometry Grp	1	1	1	1
Degree of Util (X)	0.567	0.569	0.716	1
Departure Headway (Hd)	7.685	7.74	7.29	7.218
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	467	465	495	503
Service Time	5.76	5.807	5.35	5.31
HCM Lane V/C Ratio	0.57	0.568	0.713	1.097
HCM Control Delay	20.4	20.6	26.8	67.7
HCM Lane LOS	C	C	D	F
HCM 95th-tile Q	3.5	3.5	5.7	13.6

2025 No-Build Wkdy Morning Peak-Hour
 1: Bremen Street & Porter Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	304	193	0
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0
Mvmt Flow	0	338	214	0
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	67.7
HCM LOS	F

Lane

2025 No-Build Wkdy Evening Peak-Hour

1: Bremen Street & Porter Street

2/28/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	82	207	34	6	118	128	62	216	31	198	150	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1888	0	0	1767	0	0	1725	0	0	1653	0
Flt Permitted		0.988			0.999			0.990			0.973	
Satd. Flow (perm)	0	1888	0	0	1767	0	0	1725	0	0	1653	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	265	0	0	325	0	0	371	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 88.6% ICU Level of Service E
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
1: Bremen Street & Porter Street

2/28/2018

Intersection												
Intersection Delay, s/veh	23.7											
Intersection LOS	C											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	82	207	34	0	6	118	128	0	62	216	31
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	1	3	2	0	0	0
Mvmt Flow	0	86	218	36	0	6	124	135	0	65	227	33
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	24.4	18.1	22.7
HCM LOS	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	25%	2%	56%
Vol Thru, %	70%	64%	47%	42%
Vol Right, %	10%	11%	51%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	309	323	252	353
LT Vol	62	82	6	198
Through Vol	216	207	118	150
RT Vol	31	34	128	5
Lane Flow Rate	325	340	265	372
Geometry Grp	1	1	1	1
Degree of Util (X)	0.648	0.68	0.529	0.738
Departure Headway (Hd)	7.176	7.198	7.179	7.154
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	501	500	499	502
Service Time	5.259	5.276	5.265	5.233
HCM Lane V/C Ratio	0.649	0.68	0.531	0.741
HCM Control Delay	22.7	24.4	18.1	27.9
HCM Lane LOS	C	C	C	D
HCM 95th-tile Q	4.6	5.1	3.1	6.1

2025 No-Build Wkdy Evening Peak-Hour
 1: Bremen Street & Porter Street

2/28/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	198	150	5
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	208	158	5
Number of Lanes	0	0	1	0

Approach













SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	27.9
HCM LOS	D

Lane

2025 Build Wkdy Morning Peak-Hour
1: Bremen Street & Porter Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	12	184	44	6	175	146	84	116	39	306	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1857	0	0	1796	0	0	1682	0	0	1626	0
Flt Permitted		0.998			0.999			0.983			0.970	
Satd. Flow (perm)	0	1857	0	0	1796	0	0	1682	0	0	1626	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%	0%	2%	0%	2%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	266	0	0	363	0	0	265	0	0	554	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 77.1% ICU Level of Service D
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
1: Bremen Street & Porter Street

2/27/2018

Intersection

Intersection Delay, s/veh	40.9
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	12	184	44	0	6	175	146	0	84	116	39
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	2	0	2	0	0	3	2	0	2	0
Mvmt Flow	0	13	204	49	0	7	194	162	0	93	129	43
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	21.1	28.5	20.8
HCM LOS	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	5%	2%	61%
Vol Thru, %	49%	77%	54%	39%
Vol Right, %	16%	18%	45%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	239	240	327	499
LT Vol	84	12	6	306
Through Vol	116	184	175	193
RT Vol	39	44	146	0
Lane Flow Rate	266	267	363	554
Geometry Grp	1	1	1	1
Degree of Util (X)	0.573	0.578	0.739	1
Departure Headway (Hd)	7.773	7.804	7.322	7.303
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	462	461	494	493
Service Time	5.84	5.868	5.38	5.389
HCM Lane V/C Ratio	0.576	0.579	0.735	1.124
HCM Control Delay	20.8	21.1	28.5	68.1
HCM Lane LOS	C	C	D	F
HCM 95th-tile Q	3.5	3.6	6.1	13.5

2025 Build Wkdy Morning Peak-Hour
 1: Bremen Street & Porter Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	306	193	0
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	0
Mvmt Flow	0	340	214	0
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach

NB

Opposing Lanes

1

Conflicting Approach Left

WB

Conflicting Lanes Left

1

Conflicting Approach Right

EB

Conflicting Lanes Right

1

HCM Control Delay

68.1

HCM LOS

F

Lane

2025 Build Wkdy Evening Peak-Hour

1: Bremen Street & Porter Street

2/28/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	82	214	34	6	122	132	62	216	31	202	150	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	13	12	12	12	12
Satd. Flow (prot)	0	1888	0	0	1767	0	0	1725	0	0	1652	0
Flt Permitted		0.988			0.999			0.990			0.972	
Satd. Flow (perm)	0	1888	0	0	1767	0	0	1725	0	0	1652	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		397			764			716			461	
Travel Time (s)		9.0			17.4			16.3			10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	347	0	0	273	0	0	325	0	0	376	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 89.7% ICU Level of Service E
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
1: Bremen Street & Porter Street

2/28/2018

Intersection												
Intersection Delay, s/veh	25.3											
Intersection LOS	D											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	82	214	34	0	6	122	132	0	62	216	31
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	1	3	2	0	0	0
Mvmt Flow	0	86	225	36	0	6	128	139	0	65	227	33
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	26.2	19.5	23.8
HCM LOS	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	25%	2%	57%
Vol Thru, %	70%	65%	47%	42%
Vol Right, %	10%	10%	51%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	309	330	260	357
LT Vol	62	82	6	202
Through Vol	216	214	122	150
RT Vol	31	34	132	5
Lane Flow Rate	325	347	274	376
Geometry Grp	1	1	1	1
Degree of Util (X)	0.661	0.705	0.562	0.76
Departure Headway (Hd)	7.43	7.413	7.391	7.384
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	488	490	490	492
Service Time	5.43	5.413	5.391	5.384
HCM Lane V/C Ratio	0.666	0.708	0.559	0.764
HCM Control Delay	23.8	26.2	19.5	30.1
HCM Lane LOS	C	D	C	D
HCM 95th-tile Q	4.8	5.5	3.4	6.6

2025 Build Wkdy Evening Peak-Hour
 1: Bremen Street & Porter Street

2/28/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	202	150	5
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	213	158	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	30.1
HCM LOS	D

Lane

Porter Street at Orleans Street












2018 Existing Wkdy Morning Peak-Hour
2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	3	360	85	0	139	0	129	1	3	1	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1643	0	0	1710	0	0	1738	0	0	1732	0
Flt Permitted		0.998						0.729			0.923	
Satd. Flow (perm)	0	1640	0	0	1710	0	0	1328	0	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35						2			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			713			700			308	
Travel Time (s)		17.4			16.2			15.9			7.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	3%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	509	0	0	158	0	0	151	0	0	4	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		18.8			17.9			11.2			11.0	
Actuated g/C Ratio		0.56			0.54			0.34			0.33	
v/c Ratio		0.54			0.17			0.34			0.01	
Control Delay		8.6			5.9			15.0			10.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.6			5.9			15.0			10.5	
LOS		A			A			B			B	
Approach Delay		8.6			5.9			15.0			10.5	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		52			14			22			0	
Queue Length 95th (ft)		147			43			77			6	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1500			1560			725			883	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2018 Existing Wkdy Morning Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.34			0.10			0.21			0.00	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 33.3
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 9.2
 Intersection Capacity Utilization 51.1%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Orleans Street & Porter Street

 p2	 p4
20 s	40 s
 p6	 p8
20 s	40 s

2018 Existing Wkdy Evening Peak-Hour
2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	12	271	77	1	75	1	120	1	0	0	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1657	0	0	1688	0	0	1793	0	0	1663	0
Flt Permitted		0.990			0.994			0.885				
Satd. Flow (perm)	0	1644	0	0	1680	0	0	1665	0	0	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			1						6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			713			700			308	
Travel Time (s)		17.4			16.2			15.9			7.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	383	0	0	82	0	0	129	0	0	7	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		15.5			15.0			9.2			8.7	
Actuated g/C Ratio		0.60			0.58			0.36			0.34	
v/c Ratio		0.38			0.08			0.22			0.01	
Control Delay		6.0			4.9			10.1			7.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.0			4.9			10.1			7.0	
LOS		A			A			B			A	
Approach Delay		6.0			4.9			10.1			7.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		30			6			14			0	
Queue Length 95th (ft)		89			22			52			6	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1603			1637			1148			1148	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2018 Existing Wkdy Evening Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.24			0.05			0.11			0.01	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 25.8
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.38
 Intersection Signal Delay: 6.8
 Intersection Capacity Utilization 49.2%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 2: Orleans Street & Porter Street

p2	p4
20 s	40 s
p6	p8
20 s	40 s

2025 No-Build Wkdy Morning Peak-Hour
2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	3	409	118	0	149	0	167	1	4	1	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1635	0	0	1710	0	0	1739	0	0	1732	0
Flt Permitted		0.999						0.730			0.925	
Satd. Flow (perm)	0	1634	0	0	1710	0	0	1330	0	0	1622	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43						2			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			713			700			308	
Travel Time (s)		17.4			16.2			15.9			7.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	3%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	602	0	0	169	0	0	196	0	0	4	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		25.2			25.2			12.1			11.6	
Actuated g/C Ratio		0.63			0.63			0.30			0.29	
v/c Ratio		0.57			0.16			0.48			0.01	
Control Delay		9.1			5.7			19.9			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.1			5.7			19.9			12.8	
LOS		A			A			B			B	
Approach Delay		9.1			5.7			19.9			12.8	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		78			17			36			0	
Queue Length 95th (ft)		185			45			115			6	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1416			1476			657			801	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2025 No-Build Wkdy Morning Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.43			0.11			0.30			0.00	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 39.7
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 10.7
 Intersection Capacity Utilization 58.6%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 2: Orleans Street & Porter Street

02	04
20 s	40 s
06	08
20 s	40 s

2025 No-Build Wkdy Evening Peak-Hour
2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	13	313	110	1	80	1	166	1	2	0	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1649	0	0	1688	0	0	1789	0	0	1663	0
Flt Permitted		0.991			0.994			0.725				
Satd. Flow (perm)	0	1637	0	0	1680	0	0	1361	0	0	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			1			1			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			713			700			308	
Travel Time (s)		17.4			16.2			15.9			7.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	464	0	0	87	0	0	180	0	0	7	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		17.2			16.4			11.4			11.2	
Actuated g/C Ratio		0.54			0.51			0.36			0.35	
v/c Ratio		0.51			0.10			0.37			0.01	
Control Delay		8.4			5.9			14.0			8.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.4			5.9			14.0			8.0	
LOS		A			A			B			A	
Approach Delay		8.4			5.9			14.0			8.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		44			7			24			0	
Queue Length 95th (ft)		134			27			85			7	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1519			1555			759			931	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2025 No-Build Wkdy Evening Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.31			0.06			0.24			0.01	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 32
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 9.5
 Intersection Capacity Utilization 57.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: Orleans Street & Porter Street

↑ p2	→ p4
20 s	40 s
↓ p6	← p8
20 s	40 s

2025 Build Wkdy Morning Peak-Hour
2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	3	411	120	0	158	0	167	1	4	1	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1635	0	0	1710	0	0	1739	0	0	1732	0
Flt Permitted		0.999						0.730			0.925	
Satd. Flow (perm)	0	1633	0	0	1710	0	0	1330	0	0	1622	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43						2			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			713			700			308	
Travel Time (s)		17.4			16.2			15.9			7.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	3%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	606	0	0	180	0	0	196	0	0	4	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		25.4			25.4			12.1			11.6	
Actuated g/C Ratio		0.64			0.64			0.30			0.29	
v/c Ratio		0.58			0.17			0.48			0.01	
Control Delay		9.1			5.7			20.0			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.1			5.7			20.0			12.8	
LOS		A			A			B			B	
Approach Delay		9.1			5.7			20.0			12.8	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		79			18			36			0	
Queue Length 95th (ft)		187			47			115			6	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1381			1439			655			799	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2025 Build Wkdy Morning Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.44			0.13			0.30			0.01	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 39.9
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 10.7
 Intersection Capacity Utilization 58.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 2: Orleans Street & Porter Street

ø2 20 s	ø4 40 s
ø6 20 s	ø8 40 s

2025 Build Wkdy Evening Peak-Hour

2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	13	319	115	1	80	1	166	1	2	0	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	15	12	12	15	12
Satd. Flow (prot)	0	1648	0	0	1688	0	0	1789	0	0	1663	0
Flt Permitted		0.992			0.994			0.725				
Satd. Flow (perm)	0	1637	0	0	1680	0	0	1361	0	0	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			1			1				6
Link Speed (mph)		30			30			30				30
Link Distance (ft)		764			713			700				308
Travel Time (s)		17.4			16.2			15.9				7.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	475	0	0	87	0	0	180	0	0	7	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		20.0	20.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		17.8			16.9			11.5			11.3	
Actuated g/C Ratio		0.55			0.52			0.35			0.35	
v/c Ratio		0.52			0.10			0.37			0.01	
Control Delay		8.4			5.8			14.4			8.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.4			5.8			14.4			8.1	
LOS		A			A			B			A	
Approach Delay		8.4			5.8			14.4			8.1	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		47			7			26			0	
Queue Length 95th (ft)		138			27			87			7	
Internal Link Dist (ft)		684			633			620			228	
Turn Bay Length (ft)												
Base Capacity (vph)		1544			1581			750			919	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2025 Build Wkdy Evening Peak-Hour
 2: Orleans Street & Porter Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.31			0.06			0.24			0.01	

Intersection Summary

Area Type: CBD
 Cycle Length: 60
 Actuated Cycle Length: 32.6
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 9.5
 Intersection Capacity Utilization 57.6%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 2: Orleans Street & Porter Street

02	04
20 s	40 s
06	08
20 s	40 s

Porter Street at Frankfort Street

2018 Existing Wkdy Morning Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕	↕	
Volume (vph)	332	35	0	46	74	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1673	0	0	1710	1618	0
Flt Permitted					0.955	
Satd. Flow (perm)	1673	0	0	1710	1618	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	427	0	0	53	92	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 33.3% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	332	35	0	46	74	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	0	0	0	0
Mvmt Flow	386	41	0	53	86	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	427
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1143
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1143
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	569	-	-	1143	-
HCM Lane V/C Ratio	0.161	-	-	-	-
HCM Control Delay (s)	12.5	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

2018 Existing Wkdy Evening Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↖	↖	
Volume (vph)	233	32	1	24	44	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1683	0	0	1628	1612	0
Flt Permitted				0.998	0.958	
Satd. Flow (perm)	1683	0	0	1628	1612	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	5%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	312	0	0	29	59	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 25.8% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	233	32	1	24	44	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	274	38	1	28	52	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	312	0	324	293
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1260	-	674	751
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1260	-	673	751
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	996	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	681	-	-	1260	-
HCM Lane V/C Ratio	0.086	-	-	0.001	-
HCM Control Delay (s)	10.8	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

2025 No-Build Wkdy Morning Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↖	↖	
Volume (vph)	357	38	0	49	79	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1673	0	0	1710	1620	0
Flt Permitted					0.955	
Satd. Flow (perm)	1673	0	0	1710	1620	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	0	0	57	98	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 35.3%

ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	357	38	0	49	79	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length:	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	0	0	0	0
Mvmt Flow	415	44	0	57	92	6

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	459	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1113	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1113	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	1113	-
HCM Lane V/C Ratio	0.18	-	-	-	-
HCM Control Delay (s)	13.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

2025 No-Build Wkdy Evening Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Volume (vph)	253	34	1	26	47	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1683	0	0	1628	1614	0
Flt Permitted				0.998	0.958	
Satd. Flow (perm)	1683	0	0	1628	1614	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	5%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	338	0	0	32	62	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.1% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	253	34	1	26	47	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	298	40	1	31	55	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	338	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1232	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1232	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	657	-	-	1232	-
HCM Lane V/C Ratio	0.095	-	-	0.001	-
HCM Control Delay (s)	11.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

2025 Build Wkdy Morning Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Volume (vph)	357	40	0	50	87	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1671	0	0	1710	1620	0
Flt Permitted					0.955	
Satd. Flow (perm)	1671	0	0	1710	1620	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	462	0	0	58	107	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 35.9% ICU Level of Service A

Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	357	40	0	50	87	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	0	0	0	0
Mvmt Flow	415	47	0	58	101	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	462	0	496	438
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	58	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1110	-	537	623
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1110	-	537	623
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	970	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	541	-	-	1110	-
HCM Lane V/C Ratio	0.198	-	-	-	-
HCM Control Delay (s)	13.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

2025 Build Wkdy Evening Peak-Hour
 3: Frankfort Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↖	↘	
Volume (vph)	254	39	1	27	54	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1679	0	0	1628	1615	0
Flt Permitted				0.998	0.957	
Satd. Flow (perm)	1679	0	0	1628	1615	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	713			898	694	
Travel Time (s)	16.2			20.4	15.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	5%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	345	0	0	33	71	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.9% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
3: Frankfort Street & Porter Street

2/27/2018

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	254	39	1	27	54	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	299	46	1	32	64	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	345	0	356	322
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1225	-	646	724
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1225	-	645	724
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	993	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	652	-	-	1225	-
HCM Lane V/C Ratio	0.108	-	-	0.001	-
HCM Control Delay (s)	11.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Porter Street at Cottage Street

2018 Existing Wkdy Morning Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↑
Volume (vph)	0	290	0	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1465	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1465	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	319	0	0	1	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 23.3% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	290	0	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	0	319	0	1	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	319	160
Stage 1	-	-	159
Stage 2	-	-	1
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	1252	836
Stage 1	-	-	875
Stage 2	-	-	1028
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1252	836
Mov Cap-2 Maneuver	-	-	836
Stage 1	-	-	875
Stage 2	-	-	1028

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1252	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2018 Existing Wkdy Evening Peak-Hour
 4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↓		↑
Volume (vph)	0	208	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1479	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1479	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	224	0	0	0	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 17.6% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	208	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	224	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	224	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1357	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1357	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1357	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2025 No-Build Wkdy Morning Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖		↗
Volume (vph)	0	312	0	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1465	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1465	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	0	0	1	0	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	24.8%
Analysis Period (min)	15
	ICU Level of Service A

2025 No-Build Wkdy Morning Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	312	0	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	0	343	0	1	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	343	0	172	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1227	-	823	878
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	1028	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1227	-	823	878
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	1028	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1227	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2025 No-Build Wkdy Evening Peak-Hour
 4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↓		↑
Volume (vph)	0	226	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1479	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1479	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	243	0	0	0	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 18.9% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	226	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	243	0	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	243	122
Stage 1	-	-	122
Stage 2	-	-	0
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	1335	878
Stage 1	-	-	908
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1335	878
Mov Cap-2 Maneuver	-	-	878
Stage 1	-	-	908
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1335	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2025 Build Wkdy Morning Peak-Hour
 4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖		↗
Volume (vph)	0	312	0	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1465	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1465	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	0	0	1	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 24.8% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	312	0	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	0	343	0	1	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	343	0	172	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1227	-	823	878
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	1028	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1227	-	823	878
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	1028	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1227	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2025 Build Wkdy Evening Peak-Hour
 4: Cottage Street & Porter Street

2/27/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖		↗
Volume (vph)	0	226	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	12	12
Satd. Flow (prot)	1479	0	0	1881	0	1710
Flt Permitted						
Satd. Flow (perm)	1479	0	0	1881	0	1710
Link Speed (mph)	30			30	30	
Link Distance (ft)	898			337	677	
Travel Time (s)	20.4			7.7	15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	243	0	0	0	0	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	18.9% ICU Level of Service A
Analysis Period (min)	15

2025 Build Wkdy Evening Peak-Hour
4: Cottage Street & Porter Street

2/27/2018

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	226	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	243	0	0	0	0










Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	243	0	122	122
Stage 1	-	-	-	-	122	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1335	-	878	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1335	-	878	935
Mov Cap-2 Maneuver	-	-	-	-	878	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1335	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2018 Existing Wkdy Morning Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	48	42	5	154	156	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1590	0	0	1690	1659	0
Flt Permitted	0.974			0.998		
Satd. Flow (perm)	1590	0	0	1690	1659	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	183	196	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 26.0% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

Intersection									
Intersection Delay, s/veh	8.6								
Intersection LOS	A								
Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	48	42	0	5	154	0	156	15
Peak Hour Factor	0.92	0.87	0.87	0.92	0.87	0.87	0.92	0.87	0.87
Heavy Vehicles, %	2	0	3	2	0	1	2	2	0
Mvmt Flow	0	55	48	0	6	177	0	179	17
Number of Lanes	0	1	0	0	0	1	0	1	0










Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	53%	0%
Vol Thru, %	97%	0%	91%
Vol Right, %	0%	47%	9%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	159	90	171
LT Vol	5	48	0
Through Vol	154	0	156
RT Vol	0	42	15
Lane Flow Rate	183	103	197
Geometry Grp	1	1	1
Degree of Util (X)	0.221	0.131	0.236
Departure Headway (Hd)	4.357	4.561	4.318
Convergence, Y/N	Yes	Yes	Yes
Cap	826	787	833
Service Time	2.374	2.582	2.336
HCM Lane V/C Ratio	0.222	0.131	0.236
HCM Control Delay	8.6	8.3	8.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.4	0.9

Gove Street at Berman Street

2018 Existing Wkdy Evening Peak-Hour
 5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	41	39	4	180	139	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1586	0	0	1708	1690	0
Flt Permitted	0.975			0.999		
Satd. Flow (perm)	1586	0	0	1708	1690	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	204	156	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 25.9% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
5: Bremen Street & Gove Street

2/27/2018










Intersection									
Intersection Delay, s/veh	8.4								
Intersection LOS	A								
Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	41	39	0	4	180	0	139	2
Peak Hour Factor	0.92	0.90	0.90	0.92	0.90	0.90	0.92	0.90	0.90
Heavy Vehicles, %	2	3	0	2	0	0	2	1	0
Mvmt Flow	0	46	43	0	4	200	0	154	2
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	8.6	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	2%	51%	0%
Vol Thru, %	98%	0%	99%
Vol Right, %	0%	49%	1%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	184	80	141
LT Vol	4	41	0
Through Vol	180	0	139
RT Vol	0	39	2
Lane Flow Rate	204	89	157
Geometry Grp	1	1	1
Degree of Util (X)	0.237	0.112	0.188
Departure Headway (Hd)	4.291	4.553	4.33
Convergence, Y/N	Yes	Yes	Yes
Cap	842	791	832
Service Time	2.291	2.56	2.338
HCM Lane V/C Ratio	0.242	0.113	0.189
HCM Control Delay	8.6	8.1	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.4	0.7

2025 No-Build Wkdy Morning Peak-Hour
 5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	51	45	5	176	175	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1590	0	0	1692	1661	0
Flt Permitted	0.974			0.999		
Satd. Flow (perm)	1590	0	0	1692	1661	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	208	219	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.6% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh 8.9
Intersection LOS A










Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	51	45	0	5	176	0	175	16
Peak Hour Factor	0.92	0.87	0.87	0.92	0.87	0.87	0.92	0.87	0.87
Heavy Vehicles, %	2	0	3	2	0	1	2	2	0
Mvmt Flow	0	59	52	0	6	202	0	201	18
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.9	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	53%	0%
Vol Thru, %	97%	0%	92%
Vol Right, %	0%	47%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	181	96	191
LT Vol	5	51	0
Through Vol	176	0	175
RT Vol	0	45	16
Lane Flow Rate	208	110	220
Geometry Grp	1	1	1
Degree of Util (X)	0.255	0.143	0.267
Departure Headway (Hd)	4.404	4.668	4.372
Convergence, Y/N	Yes	Yes	Yes
Cap	816	768	823
Service Time	2.426	2.697	2.394
HCM Lane V/C Ratio	0.255	0.143	0.267
HCM Control Delay	8.9	8.5	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.5	1.1

2025 No-Build Wkdy Evening Peak-Hour
 5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	44	42	4	206	157	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1585	0	0	1708	1690	0
Flt Permitted	0.975			0.999		
Satd. Flow (perm)	1585	0	0	1708	1690	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	0	233	176	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 27.8%

ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

Intersection










Intersection Delay, s/veh	8.7								
Intersection LOS	A								
Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	44	42	0	4	206	0	157	2
Peak Hour Factor	0.92	0.90	0.90	0.92	0.90	0.90	0.92	0.90	0.90
Heavy Vehicles, %	2	3	0	2	0	0	2	1	0
Mvmt Flow	0	49	47	0	4	229	0	174	2
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	9	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	2%	51%	0%
Vol Thru, %	98%	0%	99%
Vol Right, %	0%	49%	1%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	210	86	159
LT Vol	4	44	0
Through Vol	206	0	157
RT Vol	0	42	2
Lane Flow Rate	233	96	177
Geometry Grp	1	1	1
Degree of Util (X)	0.28	0.124	0.215
Departure Headway (Hd)	4.321	4.662	4.383
Convergence, Y/N	Yes	Yes	Yes
Cap	833	770	820
Service Time	2.339	2.685	2.402
HCM Lane V/C Ratio	0.28	0.125	0.216
HCM Control Delay	9	8.3	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.4	0.8

2025 Build Wkdy Morning Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	51	45	5	176	175	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1590	0	0	1692	1661	0
Flt Permitted	0.974			0.999		
Satd. Flow (perm)	1590	0	0	1692	1661	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	208	219	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.6% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
5: Bremen Street & Gove Street

2/27/2018







Intersection									
Intersection Delay, s/veh	8.9								
Intersection LOS	A								
Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	51	45	0	5	176	0	175	16
Peak Hour Factor	0.92	0.87	0.87	0.92	0.87	0.87	0.92	0.87	0.87
Heavy Vehicles, %	2	0	3	2	0	1	2	2	0
Mvmt Flow	0	59	52	0	6	202	0	201	18
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.9	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	53%	0%
Vol Thru, %	97%	0%	92%
Vol Right, %	0%	47%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	181	96	191
LT Vol	5	51	0
Through Vol	176	0	175
RT Vol	0	45	16
Lane Flow Rate	208	110	220
Geometry Grp	1	1	1
Degree of Util (X)	0.255	0.143	0.267
Departure Headway (Hd)	4.404	4.668	4.372
Convergence, Y/N	Yes	Yes	Yes
Cap	816	768	823
Service Time	2.426	2.697	2.394
HCM Lane V/C Ratio	0.255	0.143	0.267
HCM Control Delay	8.9	8.5	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.5	1.1

2025 Build Wkdy Evening Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↗			↕	↕	
Volume (vph)	44	42	4	206	157	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	12	12
Satd. Flow (prot)	1585	0	0	1708	1690	0
Flt Permitted	0.975			0.999		
Satd. Flow (perm)	1585	0	0	1708	1690	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	292			750	716	
Travel Time (s)	6.6			17.0	16.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	0	233	176	0
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.8% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
5: Bremen Street & Gove Street

2/27/2018

Intersection									
Intersection Delay, s/veh	8.7								
Intersection LOS	A								
Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Vol, veh/h	0	44	42	0	4	206	0	157	2
Peak Hour Factor	0.92	0.90	0.90	0.92	0.90	0.90	0.92	0.90	0.90
Heavy Vehicles, %	2	3	0	2	0	0	2	1	0
Mvmt Flow	0	49	47	0	4	229	0	174	2
Number of Lanes	0	1	0	0	0	1	0	1	0













Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	9	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	2%	51%	0%
Vol Thru, %	98%	0%	99%
Vol Right, %	0%	49%	1%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	210	86	159
LT Vol	4	44	0
Through Vol	206	0	157
RT Vol	0	42	2
Lane Flow Rate	233	96	177
Geometry Grp	1	1	1
Degree of Util (X)	0.28	0.124	0.215
Departure Headway (Hd)	4.321	4.662	4.383
Convergence, Y/N	Yes	Yes	Yes
Cap	833	770	820
Service Time	2.339	2.685	2.402
HCM Lane V/C Ratio	0.28	0.125	0.216
HCM Control Delay	9	8.3	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.4	0.8

Gove Street at Orleans Street

2018 Existing Wkdy Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	0	0	0	17	0	33	0	100	20	15	51	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1881	0	0	1646	0	0	1753	0	0	1750	0
Flt Permitted					0.983						0.989	
Satd. Flow (perm)	0	1881	0	0	1646	0	0	1753	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	7%	0%	0%	0%	2%	0%	0%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	55	0	0	132	0	0	72	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 20.6% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	17	0	33	0	100	20	15	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	7	0	0	0	2	0	0	4	0
Mvmt Flow	0	0	0	19	0	36	0	110	22	16	56	0













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	228	221	56	210	210	121	56	0	0	132	0	0
Stage 1	89	89	-	121	121	-	-	-	-	-	-	-
Stage 2	139	132	-	89	89	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.17	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.563	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	731	681	1016	737	691	936	1562	-	-	1466	-	-
Stage 1	923	825	-	871	800	-	-	-	-	-	-	-
Stage 2	869	791	-	906	825	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	697	674	1016	731	683	936	1562	-	-	1466	-	-
Mov Cap-2 Maneuver	697	674	-	731	683	-	-	-	-	-	-	-
Stage 1	923	816	-	871	800	-	-	-	-	-	-	-
Stage 2	835	791	-	896	816	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.5	0	1.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	-	855	1466	-	-
HCM Lane V/C Ratio	-	-	-	-	0.064	0.011	-	-
HCM Control Delay (s)	0	-	-	0	9.5	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

2018 Existing Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	0	0	1	0	24	1	81	16	11	73	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1787	0	0	1633	0	0	1769	0	0	1813	0
Flt Permitted		0.950			0.998						0.994	
Satd. Flow (perm)	0	1787	0	0	1633	0	0	1769	0	0	1813	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	28	0	0	109	0	0	93	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 21.6% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	0	1	0	24	1	81	16	11	73	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	1	0	0	1	0	27	1	90	18	12	81	0













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	220	216	81	207	207	99	81	0	0	108	0	0
Stage 1	106	106	-	101	101	-	-	-	-	-	-	-
Stage 2	114	110	-	106	106	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	740	685	985	755	693	962	1529	-	-	1495	-	-
Stage 1	905	811	-	910	815	-	-	-	-	-	-	-
Stage 2	896	808	-	905	811	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	715	679	985	750	687	962	1529	-	-	1495	-	-
Mov Cap-2 Maneuver	715	679	-	750	687	-	-	-	-	-	-	-
Stage 1	904	805	-	909	814	-	-	-	-	-	-	-
Stage 2	870	807	-	898	805	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	8.9	0.1	1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1529	-	-	715	951	1495	-	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.029	0.008	-	-
HCM Control Delay (s)	7.4	0	-	10	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

2025 No-Build Wkdy Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	0	0	0	18	0	35	0	111	21	16	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1881	0	0	1647	0	0	1756	0	0	1751	0
Flt Permitted					0.983						0.990	
Satd. Flow (perm)	0	1881	0	0	1647	0	0	1756	0	0	1751	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	7%	0%	0%	0%	2%	0%	0%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	58	0	0	145	0	0	85	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 26.0% ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkly Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	18	0	35	0	111	21	16	61	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	7	0	0	0	2	0	0	4	0
Mvmt Flow	0	0	0	20	0	38	0	122	23	18	67	0













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	255	247	67	236	236	134	67	0	0	145	0	0
Stage 1	102	102	-	134	134	-	-	-	-	-	-	-
Stage 2	153	145	-	102	102	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.17	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.563	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	702	659	1002	708	668	920	1547	-	-	1450	-	-
Stage 1	909	815	-	857	789	-	-	-	-	-	-	-
Stage 2	854	781	-	892	815	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	666	650	1002	701	659	920	1547	-	-	1450	-	-
Mov Cap-2 Maneuver	666	650	-	701	659	-	-	-	-	-	-	-
Stage 1	909	804	-	857	789	-	-	-	-	-	-	-
Stage 2	818	781	-	880	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.7	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	-	832	1450	-	-
HCM Lane V/C Ratio	-	-	-	-	0.07	0.012	-	-
HCM Control Delay (s)	0	-	-	0	9.7	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

2025 No-Build Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	0	0	1	0	26	1	109	17	12	88	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1787	0	0	1631	0	0	1776	0	0	1813	0
Flt Permitted		0.950			0.998						0.994	
Satd. Flow (perm)	0	1787	0	0	1631	0	0	1776	0	0	1813	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	30	0	0	141	0	0	111	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary
 Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 24.4% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	0	1	0	26	1	109	17	12	88	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	1	0	0	1	0	29	1	121	19	13	98	0













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	271	266	98	257	257	131	98	0	0	140	0	0
Stage 1	124	124	-	133	133	-	-	-	-	-	-	-
Stage 2	147	142	-	124	124	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	686	643	963	700	651	924	1508	-	-	1456	-	-
Stage 1	885	797	-	875	790	-	-	-	-	-	-	-
Stage 2	860	783	-	885	797	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	659	637	963	695	644	924	1508	-	-	1456	-	-
Mov Cap-2 Maneuver	659	637	-	695	644	-	-	-	-	-	-	-
Stage 1	884	790	-	874	789	-	-	-	-	-	-	-
Stage 2	832	782	-	877	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	9.1	0.1	0.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	659	913	1456	-	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.033	0.009	-	-
HCM Control Delay (s)	7.4	0	-	10.5	9.1	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

2025 Build Wkdy Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	0	0	0	18	0	35	0	111	21	18	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1881	0	0	1647	0	0	1756	0	0	1750	0
Flt Permitted					0.983						0.989	
Satd. Flow (perm)	0	1881	0	0	1647	0	0	1756	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	7%	0%	0%	0%	2%	0%	0%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	58	0	0	145	0	0	87	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 26.1% ICU Level of Service A

Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection												
Int Delay, s/veh	2.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	18	0	35	0	111	21	18	61	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	7	0	0	0	2	0	0	4	0
Mvmt Flow	0	0	0	20	0	38	0	122	23	20	67	0

















Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	260	252	67	241	241	134	67	0	0	145	0	0
Stage 1	107	107	-	134	134	-	-	-	-	-	-	-
Stage 2	153	145	-	107	107	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.17	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.563	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	697	655	1002	703	664	920	1547	-	-	1450	-	-
Stage 1	903	811	-	857	789	-	-	-	-	-	-	-
Stage 2	854	781	-	886	811	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	661	646	1002	695	655	920	1547	-	-	1450	-	-
Mov Cap-2 Maneuver	661	646	-	695	655	-	-	-	-	-	-	-
Stage 1	903	800	-	857	789	-	-	-	-	-	-	-
Stage 2	818	781	-	874	800	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.7	0	1.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	-	829	1450	-	-
HCM Lane V/C Ratio	-	-	-	-	0.07	0.014	-	-
HCM Control Delay (s)	0	-	-	0	9.7	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

2025 Build Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	0	0	1	0	26	1	109	17	17	88	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	15	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1787	0	0	1631	0	0	1776	0	0	1809	0
Flt Permitted		0.950			0.998						0.992	
Satd. Flow (perm)	0	1787	0	0	1631	0	0	1776	0	0	1809	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			700			704			700	
Travel Time (s)		4.9			15.9			16.0			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	30	0	0	141	0	0	117	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.1% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
6: Orleans Street & Gove Street

2/27/2018

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	0	1	0	26	1	109	17	17	88	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	1	0	0	1	0	29	1	121	19	19	98	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	283	278	98	269	269	131	98	0	0	140	0	0
Stage 1	136	136	-	133	133	-	-	-	-	-	-	-
Stage 2	147	142	-	136	136	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	673	633	963	688	641	924	1508	-	-	1456	-	-
Stage 1	872	788	-	875	790	-	-	-	-	-	-	-
Stage 2	860	783	-	872	788	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	645	624	963	680	631	924	1508	-	-	1456	-	-
Mov Cap-2 Maneuver	645	624	-	680	631	-	-	-	-	-	-	-
Stage 1	871	777	-	874	789	-	-	-	-	-	-	-
Stage 2	832	782	-	860	777	-	-	-	-	-	-	-













Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	9.1	0.1	1.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	645	912	1456	-	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.033	0.013	-	-
HCM Control Delay (s)	7.4	0	-	10.6	9.1	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Gove Street at Frankfort Street

2018 Existing Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	28	3	7	41	28	5	43	7	29	14	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1793	0	0	1654	0	0	1784	0	0	1709	0
Flt Permitted		0.995			0.996			0.995			0.970	
Satd. Flow (perm)	0	1793	0	0	1654	0	0	1784	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			888			651			694	
Travel Time (s)		15.9			20.2			14.8			15.8	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	8%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	100	0	0	73	0	0	61	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 22.1%

ICU Level of Service A

Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	7.6											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	4	28	3	0	7	41	28	0	5	43	7
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	0	0	2	0	8	0	2	0	0	0
Mvmt Flow	0	5	37	4	0	9	54	37	0	7	57	9
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.5	7.5	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	11%	9%	62%
Vol Thru, %	78%	80%	54%	30%
Vol Right, %	13%	9%	37%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	35	76	47
LT Vol	5	4	7	29
Through Vol	43	28	41	14
RT Vol	7	3	28	4
Lane Flow Rate	72	46	100	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.053	0.11	0.074
Departure Headway (Hd)	4.143	4.181	3.964	4.282
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	843	891	826
Service Time	2.224	2.275	2.048	2.364
HCM Lane V/C Ratio	0.084	0.055	0.112	0.075
HCM Control Delay	7.6	7.5	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.2

2018 Existing Wkdy Morning Peak-Hour
 7: Frankfort Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	29	14	4
Peak Hour Factor	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	8	0
Mvmt Flow	0	38	18	5
Number of Lanes	0	0	1	0













Approach

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.7
HCM LOS	A

Lane

2018 Existing Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	7	18	2	9	18	29	2	17	6	5	25	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1786	0	0	1683	0	0	1760	0	0	1777	0
Flt Permitted		0.987			0.992			0.997			0.993	
Satd. Flow (perm)	0	1786	0	0	1683	0	0	1760	0	0	1777	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			888			651			694	
Travel Time (s)		15.9			20.2			14.8			15.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	69	0	0	30	0	0	43	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	14.2%
Analysis Period (min)	15
	ICU Level of Service A

2018 Existing Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	7.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	7	18	2	0	9	18	29	0	2	17	6
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	9	22	2	0	11	22	36	0	2	21	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.3	7.1	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	26%	16%	14%
Vol Thru, %	68%	67%	32%	71%
Vol Right, %	24%	7%	52%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	27	56	35
LT Vol	2	7	9	5
Through Vol	17	18	18	25
RT Vol	6	2	29	5
Lane Flow Rate	31	33	69	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.034	0.038	0.072	0.049
Departure Headway (Hd)	3.982	4.087	3.774	4.043
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	894	872	944	882
Service Time	2.029	2.132	1.816	2.086
HCM Lane V/C Ratio	0.035	0.038	0.073	0.049
HCM Control Delay	7.2	7.3	7.1	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.2

2018 Existing Wkdy Evening Peak-Hour
 7: Frankfort Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS













Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	25	5
Peak Hour Factor	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	6	31	6
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.3
HCM LOS	A

Lane

2025 No-Build Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	30	3	7	44	30	5	46	8	31	15	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1795	0	0	1653	0	0	1782	0	0	1710	0
Flt Permitted		0.995			0.996			0.996			0.970	
Satd. Flow (perm)	0	1795	0	0	1653	0	0	1782	0	0	1710	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			888			651			694	
Travel Time (s)		15.9			20.2			14.8			15.8	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	8%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	106	0	0	79	0	0	66	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	22.7%
Analysis Period (min)	15
	ICU Level of Service A

2025 No-Build Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	7.7											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	4	30	3	0	7	44	30	0	5	46	8
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	0	0	2	0	8	0	2	0	0	0
Mvmt Flow	0	5	39	4	0	9	58	39	0	7	61	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.6	7.6	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	11%	9%	62%
Vol Thru, %	78%	81%	54%	30%
Vol Right, %	14%	8%	37%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	37	81	50
LT Vol	5	4	7	31
Through Vol	46	30	44	15
RT Vol	8	3	30	4
Lane Flow Rate	78	49	107	66
Geometry Grp	1	1	1	1
Degree of Util (X)	0.09	0.058	0.118	0.079
Departure Headway (Hd)	4.155	4.307	3.979	4.306
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	849	836	886	819
Service Time	2.248	2.307	2.074	2.399
HCM Lane V/C Ratio	0.092	0.059	0.121	0.081
HCM Control Delay	7.7	7.6	7.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.3

2025 No-Build Wkdy Morning Peak-Hour
 7: Frankfort Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS













Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	31	15	4
Peak Hour Factor	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	8	0
Mvmt Flow	0	41	20	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

2025 No-Build Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	8	19	2	10	19	31	2	18	6	5	27	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1784	0	0	1683	0	0	1764	0	0	1779	0
Flt Permitted		0.986			0.992			0.997			0.993	
Satd. Flow (perm)	0	1784	0	0	1683	0	0	1764	0	0	1779	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			888			651			694	
Travel Time (s)		15.9			20.2			14.8			15.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	73	0	0	31	0	0	45	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 14.6%

ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh	7.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	19	2	0	10	19	31	0	2	18	6
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	23	2	0	12	23	38	0	2	22	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.3	7.2	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	28%	17%	14%
Vol Thru, %	69%	66%	32%	73%
Vol Right, %	23%	7%	52%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	29	60	37
LT Vol	2	8	10	5
Through Vol	18	19	19	27
RT Vol	6	2	31	5
Lane Flow Rate	32	36	74	46
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0.041	0.078	0.052
Departure Headway (Hd)	4.003	4.107	3.787	4.062
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	888	867	941	877
Service Time	2.054	2.153	1.83	2.109
HCM Lane V/C Ratio	0.036	0.042	0.079	0.052
HCM Control Delay	7.2	7.3	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.3	0.2

2025 No-Build Wkdy Evening Peak-Hour
 7: Frankfort Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	27	5
Peak Hour Factor	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	6	33	6
Number of Lanes	0	0	1	0













Approach

	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.3
HCM LOS	A

Lane

2025 Build Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

3/21/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	4	30	5	7	44	30	5	54	8	31	17	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1780	0	0	1653	0	0	1786	0	0	1709	0
Flt Permitted		0.995			0.996			0.996			0.971	
Satd. Flow (perm)	0	1780	0	0	1653	0	0	1786	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			437			211			694	
Travel Time (s)		15.9			9.9			4.8			15.8	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	8%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	106	0	0	89	0	0	68	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 22.9% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
7: Frankfort Street & Gove Street

3/21/2018

Intersection

Intersection Delay, s/veh	7.7											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	4	30	5	0	7	44	30	0	5	54	8
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	0	0	2	0	8	0	2	0	0	0
Mvmt Flow	0	5	39	7	0	9	58	39	0	7	71	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.6	7.7	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	10%	9%	60%
Vol Thru, %	81%	77%	54%	33%
Vol Right, %	12%	13%	37%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	39	81	52
LT Vol	5	4	7	31
Through Vol	54	30	44	17
RT Vol	8	5	30	4
Lane Flow Rate	88	51	107	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.102	0.061	0.119	0.082
Departure Headway (Hd)	4.171	4.308	4.105	4.317
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	836	878	816
Service Time	2.266	2.308	2.105	2.415
HCM Lane V/C Ratio	0.104	0.061	0.122	0.083
HCM Control Delay	7.7	7.6	7.7	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.3

2025 Build Wkdy Morning Peak-Hour
 7: Frankfort Street & Gove Street

3/21/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS













Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	31	17	4
Peak Hour Factor	0.92	0.76	0.76	0.76
Heavy Vehicles, %	2	0	8	0
Mvmt Flow	0	41	22	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

2025 Build Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

3/21/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	8	19	7	10	19	31	2	25	6	5	32	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	14	12	12	14	12
Satd. Flow (prot)	0	1750	0	0	1683	0	0	1777	0	0	1784	0
Flt Permitted		0.988			0.992			0.998			0.994	
Satd. Flow (perm)	0	1750	0	0	1683	0	0	1777	0	0	1784	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			450			211			694	
Travel Time (s)		15.9			10.2			4.8			15.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	73	0	0	40	0	0	52	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 15.3% ICU Level of Service A

Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
7: Frankfort Street & Gove Street

3/21/2018

Intersection

Intersection Delay, s/veh	7.3											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	19	7	0	10	19	31	0	2	25	6
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	23	9	0	12	23	38	0	2	31	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.3	7.2	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	24%	17%	12%
Vol Thru, %	76%	56%	32%	76%
Vol Right, %	18%	21%	52%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	34	60	42
LT Vol	2	8	10	5
Through Vol	25	19	19	32
RT Vol	6	7	31	5
Lane Flow Rate	41	42	74	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.047	0.078	0.059
Departure Headway (Hd)	4.043	4.04	3.815	4.084
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	879	879	932	871
Service Time	2.098	2.096	1.868	2.136
HCM Lane V/C Ratio	0.047	0.048	0.079	0.06
HCM Control Delay	7.3	7.3	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.3	0.2

2025 Build Wkdy Evening Peak-Hour
 7: Frankfort Street & Gove Street

3/21/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	32	5
Peak Hour Factor	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	6	40	6
Number of Lanes	0	0	1	0

Approach
















	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.4
HCM LOS	A

Lane

Gove Street at Cottage Street

2018 Existing Wkdy Morning Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	54	1	12	0	0	0	0	15	252	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12
Satd. Flow (prot)	0	1561	0	0	1817	0	0	0	0	0	1788	0
Flt Permitted					0.996						0.997	
Satd. Flow (perm)	0	1561	0	0	1817	0	0	0	0	0	1788	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		888			309			587			677	
Travel Time (s)		20.2			7.0			13.3			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	2%	2%	2%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	14	0	0	0	0	0	308	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 27.4%

ICU Level of Service A

Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh 8.8
Intersection LOS A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	54	0	1	12	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	2	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	59	0	1	13	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7.3	7.7
HCM LOS	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	8%	5%
Vol Thru, %	5%	92%	89%
Vol Right, %	95%	0%	6%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	57	13	284
LT Vol	0	1	15
Through Vol	3	12	252
RT Vol	54	0	17
Lane Flow Rate	62	14	309
Geometry Grp	1	1	1
Degree of Util (X)	0.069	0.018	0.344
Departure Headway (Hd)	4.024	4.66	4.007
Convergence, Y/N	Yes	Yes	Yes
Cap	895	772	895
Service Time	2.024	2.662	2.044
HCM Lane V/C Ratio	0.069	0.018	0.345
HCM Control Delay	7.3	7.7	9.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	1.5

2018 Existing Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	15	252	17
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	16	274	18
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left WB

Conflicting Lanes Left 1

Conflicting Approach Right EB

Conflicting Lanes Right 1

















HCM Control Delay 9.1

HCM LOS A

Lane

2018 Existing Wkdy Evening Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	0	3	22	5	10	0	0	0	0	19	166	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12	
Satd. Flow (prot)	0	1605	0	0	1797	0	0	0	0	0	1775	0	
Flt Permitted					0.985						0.995		
Satd. Flow (perm)	0	1605	0	0	1797	0	0	0	0	0	1775	0	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		888			309			587			677		
Travel Time (s)		20.2			7.0			13.3			15.4		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	1%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	27	0	0	16	0	0	0	0	0	221	0	
Sign Control		Stop			Stop			Stop			Stop		

Intersection Summary

Area Type: CBD
Control Type: Unsignalized
Intersection Capacity Utilization 24.5% ICU Level of Service A
Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh 8
Intersection LOS A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	22	0	5	10	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	24	0	5	11	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach

	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7	7.6
HCM LOS	A	A

Lane

	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	33%	9%
Vol Thru, %	12%	67%	81%
Vol Right, %	88%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	25	15	206
LT Vol	0	5	19
Through Vol	3	10	166
RT Vol	22	0	21
Lane Flow Rate	27	16	222
Geometry Grp	1	1	1
Degree of Util (X)	0.028	0.02	0.242
Departure Headway (Hd)	3.771	4.377	3.931
Convergence, Y/N	Yes	Yes	Yes
Cap	932	806	915
Service Time	1.865	2.47	1.951
HCM Lane V/C Ratio	0.029	0.02	0.243
HCM Control Delay	7	7.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.1	0.9

2018 Existing Wkdy Evening Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	19	166	21
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	20	178	23
Number of Lanes	0	0	1	0
















Approach SB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.2
HCM LOS	A

Lane

2025 No-Build Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	58	1	13	0	0	0	0	16	271	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12
Satd. Flow (prot)	0	1559	0	0	1819	0	0	0	0	0	1788	0
Flt Permitted					0.997						0.997	
Satd. Flow (perm)	0	1559	0	0	1819	0	0	0	0	0	1788	0
Link Speed (mph)		30			30					30		30
Link Distance (ft)		888			309					587		677
Travel Time (s)		20.2			7.0					13.3		15.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	2%	2%	2%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	15	0	0	0	0	0	332	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 28.9% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	58	0	1	13	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	2	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	63	0	1	14	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7.4	7.8
HCM LOS	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	7%	5%
Vol Thru, %	5%	93%	89%
Vol Right, %	95%	0%	6%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	61	14	305
LT Vol	0	1	16
Through Vol	3	13	271
RT Vol	58	0	18
Lane Flow Rate	66	15	332
Geometry Grp	1	1	1
Degree of Util (X)	0.075	0.02	0.37
Departure Headway (Hd)	4.074	4.715	4.017
Convergence, Y/N	Yes	Yes	Yes
Cap	885	763	892
Service Time	2.075	2.718	2.06
HCM Lane V/C Ratio	0.075	0.02	0.372
HCM Control Delay	7.4	7.8	9.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	1.7

2025 No-Build Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	16	271	18
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	17	295	20
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left WB

Conflicting Lanes Left 1

Conflicting Approach Right EB

Conflicting Lanes Right 1
















HCM Control Delay 9.4

HCM LOS A

Lane

2025 No-Build Wkdy Evening Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	24	5	11	0	0	0	0	20	181	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12
Satd. Flow (prot)	0	1603	0	0	1798	0	0	0	0	0	1775	0
Flt Permitted					0.986						0.995	
Satd. Flow (perm)	0	1603	0	0	1798	0	0	0	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		888			309			587			677	
Travel Time (s)		20.2			7.0			13.3			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	0	17	0	0	0	0	0	242	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 25.6% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	24	0	5	11	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	26	0	5	12	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7	7.6
HCM LOS	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	31%	9%
Vol Thru, %	11%	69%	81%
Vol Right, %	89%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	27	16	224
LT Vol	0	5	20
Through Vol	3	11	181
RT Vol	24	0	23
Lane Flow Rate	29	17	241
Geometry Grp	1	1	1
Degree of Util (X)	0.031	0.022	0.263
Departure Headway (Hd)	3.902	4.511	3.936
Convergence, Y/N	Yes	Yes	Yes
Cap	923	798	913
Service Time	1.903	2.511	1.959
HCM Lane V/C Ratio	0.031	0.021	0.264
HCM Control Delay	7	7.6	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.1	1.1

2025 No-Build Wkdy Evening Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	181	23
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	22	195	25
Number of Lanes	0	0	1	0
















Approach SB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.4
HCM LOS	A

Lane

2025 Build Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	58	1	13	0	0	0	0	16	271	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12
Satd. Flow (prot)	0	1559	0	0	1819	0	0	0	0	0	1788	0
Flt Permitted					0.997						0.997	
Satd. Flow (perm)	0	1559	0	0	1819	0	0	0	0	0	1788	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		451			309			587			677	
Travel Time (s)		10.3			7.0			13.3			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	2%	2%	2%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	15	0	0	0	0	0	332	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 28.9%

ICU Level of Service A

Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	58	0	1	13	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	2	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	63	0	1	14	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7.4	7.8
HCM LOS	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	7%	5%
Vol Thru, %	5%	93%	89%
Vol Right, %	95%	0%	6%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	61	14	305
LT Vol	0	1	16
Through Vol	3	13	271
RT Vol	58	0	18
Lane Flow Rate	66	15	332
Geometry Grp	1	1	1
Degree of Util (X)	0.075	0.02	0.37
Departure Headway (Hd)	4.074	4.715	4.017
Convergence, Y/N	Yes	Yes	Yes
Cap	885	763	892
Service Time	2.075	2.718	2.06
HCM Lane V/C Ratio	0.075	0.02	0.372
HCM Control Delay	7.4	7.8	9.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	1.7

2025 Build Wkdy Morning Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection:

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	16	271	18
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	17	295	20
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left WB

Conflicting Lanes Left 1

Conflicting Approach Right EB

Conflicting Lanes Right 1
















HCM Control Delay 9.4

HCM LOS A

Lane

2025 Build Wkdy Evening Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	24	5	11	0	0	0	0	20	181	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	12	12	12	14	12
Satd. Flow (prot)	0	1603	0	0	1798	0	0	0	0	0	1775	0
Flt Permitted					0.986						0.995	
Satd. Flow (perm)	0	1603	0	0	1798	0	0	0	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		439			309			587			677	
Travel Time (s)		10.0			7.0			13.3			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	0	17	0	0	0	0	0	242	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 25.6% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
8: Cottage Street & Gove Street

2/27/2018

Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	3	24	0	5	11	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	2	2	2
Mvmt Flow	0	0	3	26	0	5	12	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left	SB	
Conflicting Lanes Left	1	0
Conflicting Approach Right		SB
Conflicting Lanes Right	0	1
HCM Control Delay	7	7.6
HCM LOS	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	31%	9%
Vol Thru, %	11%	69%	81%
Vol Right, %	89%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	27	16	224
LT Vol	0	5	20
Through Vol	3	11	181
RT Vol	24	0	23
Lane Flow Rate	29	17	241
Geometry Grp	1	1	1
Degree of Util (X)	0.031	0.022	0.263
Departure Headway (Hd)	3.902	4.511	3.936
Convergence, Y/N	Yes	Yes	Yes
Cap	923	798	913
Service Time	1.903	2.511	1.959
HCM Lane V/C Ratio	0.031	0.021	0.264
HCM Control Delay	7	7.6	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.1	1.1

2025 Build Wkdy Evening Peak-Hour
 8: Cottage Street & Gove Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	181	23
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	1	0
Mvmt Flow	0	22	195	25
Number of Lanes	0	0	1	0













Approach	SB
Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.4
HCM LOS	A

Lane

Maverick Street at Berman Street

2018 Existing Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	14	269	74	26	71	0	0	81	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1718	0	0	1817	0	0	1556	0
Flt Permitted					0.998			0.987				
Satd. Flow (perm)	0	0	0	0	1718	0	0	1817	0	0	1556	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	0%	4%	0%	0%	3%	0%	0%	5%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	384	0	0	104	0	0	149	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 46.0% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection												
Intersection Delay, s/veh	10.4											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	14	269	74	0	26	71	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	0	4	0	2	0	3	0
Mvmt Flow	0	0	0	0	0	15	289	80	0	28	76	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	11.3	9
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	27%	4%	0%
Vol Thru, %	73%	75%	58%
Vol Right, %	0%	21%	42%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	97	357	139
LT Vol	26	14	0
Through Vol	71	269	81
RT Vol	0	74	58
Lane Flow Rate	104	384	149
Geometry Grp	1	1	1
Degree of Util (X)	0.146	0.469	0.198
Departure Headway (Hd)	5.033	4.4	4.762
Convergence, Y/N	Yes	Yes	Yes
Cap	709	818	750
Service Time	3.084	2.435	2.809
HCM Lane V/C Ratio	0.147	0.469	0.199
HCM Control Delay	9	11.3	9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.5	2.5	0.7

2018 Existing Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS













Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	81	58
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	5	2
Mvmt Flow	0	0	87	62
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9
HCM LOS	A

Lane

2018 Existing Wkdy Evening Peak-Hour
9: Maverick Street & Bremen Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	9	200	69	27	86	0	0	112	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1735	0	0	1858	0	0	1624	0
Flt Permitted					0.998			0.988				
Satd. Flow (perm)	0	0	0	0	1735	0	0	1858	0	0	1624	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	296	0	0	120	0	0	189	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 44.6%

ICU Level of Service A

Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9.5											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	9	200	69	0	27	86	0
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	10	213	73	0	29	91	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.1	8.9
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	24%	3%	0%
Vol Thru, %	76%	72%	63%
Vol Right, %	0%	25%	37%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	113	278	178
LT Vol	27	9	0
Through Vol	86	200	112
RT Vol	0	69	66
Lane Flow Rate	120	296	189
Geometry Grp	1	1	1
Degree of Util (X)	0.162	0.368	0.238
Departure Headway (Hd)	4.865	4.475	4.521
Convergence, Y/N	Yes	Yes	Yes
Cap	735	801	792
Service Time	2.91	2.512	2.562
HCM Lane V/C Ratio	0.163	0.37	0.239
HCM Control Delay	8.9	10.1	9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.6	1.7	0.9

2018 Existing Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	112	66
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	119	70
Number of Lanes	0	0	1	0

Approach













SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9
HCM LOS	A

Lane

2025 No-Build Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	18	292	81	28	80	0	0	88	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1718	0	0	1816	0	0	1552	0
Flt Permitted					0.998			0.987				
Satd. Flow (perm)	0	0	0	0	1718	0	0	1816	0	0	1552	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	0%	4%	0%	0%	3%	0%	0%	5%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	420	0	0	116	0	0	169	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 49.9% ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	18	292	81	0	28	80	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	0	4	0	2	0	3	0
Mvmt Flow	0	0	0	0	0	19	314	87	0	30	86	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	12.4	9.3
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	26%	5%	0%
Vol Thru, %	74%	75%	56%
Vol Right, %	0%	21%	44%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	108	391	157
LT Vol	28	18	0
Through Vol	80	292	88
RT Vol	0	81	69
Lane Flow Rate	116	420	169
Geometry Grp	1	1	1
Degree of Util (X)	0.166	0.524	0.228
Departure Headway (Hd)	5.158	4.484	4.864
Convergence, Y/N	Yes	Yes	Yes
Cap	691	803	733
Service Time	3.227	2.528	2.928
HCM Lane V/C Ratio	0.168	0.523	0.231
HCM Control Delay	9.3	12.4	9.4
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.6	3.1	0.9

2025 No-Build Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	88	69
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	5	2
Mvmt Flow	0	0	95	74
Number of Lanes	0	0	1	0
















Approach

	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.4
HCM LOS	A

Lane

2025 No-Build Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	15	216	78	29	101	0	0	122	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1734	0	0	1860	0	0	1621	0
Flt Permitted					0.998			0.989				
Satd. Flow (perm)	0	0	0	0	1734	0	0	1860	0	0	1621	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	329	0	0	138	0	0	212	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 48.9% ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh	10.1											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	15	216	78	0	29	101	0
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	16	230	83	0	31	107	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.9	9.2
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	22%	5%	0%
Vol Thru, %	78%	70%	61%
Vol Right, %	0%	25%	39%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	130	309	199
LT Vol	29	15	0
Through Vol	101	216	122
RT Vol	0	78	77
Lane Flow Rate	138	329	212
Geometry Grp	1	1	1
Degree of Util (X)	0.192	0.418	0.272
Departure Headway (Hd)	4.985	4.579	4.63
Convergence, Y/N	Yes	Yes	Yes
Cap	716	782	773
Service Time	3.044	2.628	2.684
HCM Lane V/C Ratio	0.193	0.421	0.274
HCM Control Delay	9.2	10.9	9.4
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.7	2.1	1.1

2025 No-Build Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	122	77
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	130	82
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.4
HCM LOS	A

Lane

2025 Build Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	18	294	81	28	80	0	0	88	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1718	0	0	1816	0	0	1552	0
Flt Permitted					0.998			0.987				
Satd. Flow (perm)	0	0	0	0	1718	0	0	1816	0	0	1552	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	0%	4%	0%	0%	3%	0%	0%	5%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	422	0	0	116	0	0	169	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	50.0%
Analysis Period (min)	15
	ICU Level of Service A

2025 Build Wkdy Morning Peak-Hour
9: Maverick Street & Bremen Street

2/27/2018

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	18	294	81	0	28	80	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	0	4	0	2	0	3	0
Mvmt Flow	0	0	0	0	0	19	316	87	0	30	86	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	12.4	9.3
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	26%	5%	0%
Vol Thru, %	74%	75%	56%
Vol Right, %	0%	21%	44%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	108	393	157
LT Vol	28	18	0
Through Vol	80	294	88
RT Vol	0	81	69
Lane Flow Rate	116	423	169
Geometry Grp	1	1	1
Degree of Util (X)	0.167	0.526	0.228
Departure Headway (Hd)	5.164	4.485	4.871
Convergence, Y/N	Yes	Yes	Yes
Cap	690	803	733
Service Time	3.231	2.53	2.933
HCM Lane V/C Ratio	0.168	0.527	0.231
HCM Control Delay	9.3	12.4	9.4
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.6	3.1	0.9

2025 Build Wkdy Morning Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS
















Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	88	69
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	5	2
Mvmt Flow	0	0	95	74
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.4
HCM LOS	A

Lane

2025 Build Wkdy Evening Peak-Hour
 9: Maverick Street & Bremen Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	15	217	78	29	101	0	0	122	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12	12	15	12	12	12	12
Satd. Flow (prot)	0	0	0	0	1734	0	0	1860	0	0	1621	0
Flt Permitted					0.998			0.989				
Satd. Flow (perm)	0	0	0	0	1734	0	0	1860	0	0	1621	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			751			343			750	
Travel Time (s)		11.2			17.1			7.8			17.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	330	0	0	138	0	0	212	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 48.9% ICU Level of Service A
 Analysis Period (min): 15

2025 Build Wkdy Evening Peak-Hour
9: Maverick Street & Bremen Street

2/27/2018

Intersection												
Intersection Delay, s/veh	10.1											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	15	217	78	0	29	101	0
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	16	231	83	0	31	107	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.9	9.2
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	22%	5%	0%
Vol Thru, %	78%	70%	61%
Vol Right, %	0%	25%	39%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	130	310	199
LT Vol	29	15	0
Through Vol	101	217	122
RT Vol	0	78	77
Lane Flow Rate	138	330	212
Geometry Grp	1	1	1
Degree of Util (X)	0.192	0.42	0.272
Departure Headway (Hd)	4.988	4.581	4.632
Convergence, Y/N	Yes	Yes	Yes
Cap	715	782	771
Service Time	3.049	2.628	2.688
HCM Lane V/C Ratio	0.193	0.422	0.275
HCM Control Delay	9.2	10.9	9.4
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.7	2.1	1.1

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	122	77
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	130	82
Number of Lanes	0	0	1	0

Approach













	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.4
HCM LOS	A

Lane

Maverick Street at Orleans Street

2018 Existing Wkdy Morning Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↑			↓	
Volume (vph)	0	0	0	12	302	36	35	66	0	0	32	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1704	0	0	1714	0	0	1630	0
Flt Permitted					0.998			0.983				
Satd. Flow (perm)	0	0	0	0	1704	0	0	1714	0	0	1630	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	0%	2%	3%	0%	2%	0%	0%	3%	11%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	411	0	0	119	0	0	62	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 40.2% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection												
Intersection Delay, s/veh	10.6											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	12	302	36	0	35	66	0
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	0	2	3	2	0	2	0
Mvmt Flow	0	0	0	0	0	14	355	42	0	41	78	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	11.4	9
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	35%	3%	0%
Vol Thru, %	65%	86%	62%
Vol Right, %	0%	10%	38%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	101	350	52
LT Vol	35	12	0
Through Vol	66	302	32
RT Vol	0	36	20
Lane Flow Rate	119	412	61
Geometry Grp	1	1	1
Degree of Util (X)	0.165	0.491	0.082
Departure Headway (Hd)	4.987	4.294	4.818
Convergence, Y/N	Yes	Yes	Yes
Cap	719	840	742
Service Time	3.024	2.318	2.859
HCM Lane V/C Ratio	0.166	0.49	0.082
HCM Control Delay	9	11.4	8.3
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.6	2.8	0.3

2018 Existing Wkdy Morning Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	32	20
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	0	3	11
Mvmt Flow	0	0	38	24
Number of Lanes	0	0	1	0













Approach

	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.3
HCM LOS	A

Lane

2018 Existing Wkdy Evening Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Volume (vph)	0	0	0	13	225	42	39	51	0	0	49	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1701	0	0	1730	0	0	1767	0
Flt Permitted					0.998			0.979				
Satd. Flow (perm)	0	0	0	0	1701	0	0	1730	0	0	1767	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	311	0	0	100	0	0	70	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 35.5%

ICU Level of Service A

Analysis Period (min) 15

2018 Existing Wkdy Evening Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	13	225	42	0	39	51	0
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	14	250	47	0	43	57	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	9.7	8.5
HCM LOS	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	43%	5%	0%
Vol Thru, %	57%	80%	78%
Vol Right, %	0%	15%	22%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	90	280	63
LT Vol	39	13	0
Through Vol	51	225	49
RT Vol	0	42	14
Lane Flow Rate	100	311	70
Geometry Grp	1	1	1
Degree of Util (X)	0.133	0.365	0.089
Departure Headway (Hd)	4.771	4.228	4.592
Convergence, Y/N	Yes	Yes	Yes
Cap	752	852	781
Service Time	2.795	2.245	2.617
HCM Lane V/C Ratio	0.133	0.365	0.09
HCM Control Delay	8.5	9.7	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	1.7	0.3

2018 Existing Wkdy Evening Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	49	14
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	54	16
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach

NB

Opposing Lanes

1

Conflicting Approach Left

WB

Conflicting Lanes Left

1

Conflicting Approach Right

Conflicting Lanes Right

0

HCM Control Delay

8.1













HCM LOS

A

Lane

2025 No-Build Wkdy Morning Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	13	332	42	38	71	0	0	38	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1702	0	0	1715	0	0	1640	0
Flt Permitted					0.998			0.983				
Satd. Flow (perm)	0	0	0	0	1702	0	0	1715	0	0	1640	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	0%	2%	3%	0%	2%	0%	0%	3%	11%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	455	0	0	129	0	0	70	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 42.9%

ICU Level of Service A

Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh	11.5											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol. veh/h	0	0	0	0	0	13	332	42	0	38	71	0
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	0	2	3	2	0	2	0
Mvmt Flow	0	0	0	0	0	15	391	49	0	45	84	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	12.6	9.3
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	35%	3%	0%
Vol Thru, %	65%	86%	64%
Vol Right, %	0%	11%	36%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	109	387	59
LT Vol	38	13	0
Through Vol	71	332	38
RT Vol	0	42	21
Lane Flow Rate	128	455	69
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.549	0.096
Departure Headway (Hd)	5.109	4.342	4.961
Convergence, Y/N	Yes	Yes	Yes
Cap	700	829	719
Service Time	3.156	2.372	3.012
HCM Lane V/C Ratio	0.183	0.549	0.096
HCM Control Delay	9.3	12.6	8.5
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.7	3.4	0.3

2025 No-Build Wkdy Morning Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	38	21
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	0	3	11
Mvmt Flow	0	0	45	25
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach

NB

Opposing Lanes

1

Conflicting Approach Left

WB

Conflicting Lanes Left

1

Conflicting Approach Right

Conflicting Lanes Right

0

HCM Control Delay

8.5

HCM LOS

A

Lane

2025 No-Build Wkdy Evening Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↑			↓	
Volume (vph)	0	0	0	14	252	48	43	55	0	0	61	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1699	0	0	1728	0	0	1775	0
Flt Permitted					0.998			0.978				
Satd. Flow (perm)	0	0	0	0	1699	0	0	1728	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	349	0	0	109	0	0	85	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 38.0% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9.7											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	14	252	48	0	43	55	0
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	16	280	53	0	48	61	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.3	8.8
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	44%	4%	0%
Vol Thru, %	56%	80%	80%
Vol Right, %	0%	15%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	98	314	76
LT Vol	43	14	0
Through Vol	55	252	61
RT Vol	0	48	15
Lane Flow Rate	109	349	84
Geometry Grp	1	1	1
Degree of Util (X)	0.148	0.415	0.111
Departure Headway (Hd)	4.887	4.287	4.715
Convergence, Y/N	Yes	Yes	Yes
Cap	734	841	759
Service Time	2.919	2.311	2.748
HCM Lane V/C Ratio	0.149	0.415	0.111
HCM Control Delay	8.8	10.3	8.3
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.5	2.1	0.4

2025 No-Build Wkdy Evening Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	61	15
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	68	17
Number of Lanes	0	0	1	0













Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.3
HCM LOS	A

Lane

2025 Build Wkdy Morning Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	15	334	42	38	71	0	0	38	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1704	0	0	1715	0	0	1640	0
Flt Permitted					0.998			0.983				
Satd. Flow (perm)	0	0	0	0	1704	0	0	1715	0	0	1640	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	0%	2%	3%	0%	2%	0%	0%	3%	11%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	460	0	0	129	0	0	70	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 43.1% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection												
Intersection Delay, s/veh	11.6											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	15	334	42	0	38	71	0
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	0	2	3	2	0	2	0
Mvmt Flow	0	0	0	0	0	18	393	49	0	45	84	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	12.7	9.3
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	35%	4%	0%
Vol Thru, %	65%	85%	64%
Vol Right, %	0%	11%	36%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	109	391	59
LT Vol	38	15	0
Through Vol	71	334	38
RT Vol	0	42	21
Lane Flow Rate	128	460	69
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.555	0.096
Departure Headway (Hd)	5.119	4.344	4.971
Convergence, Y/N	Yes	Yes	Yes
Cap	699	828	718
Service Time	3.168	2.374	3.025
HCM Lane V/C Ratio	0.183	0.556	0.096
HCM Control Delay	9.3	12.7	8.6
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.7	3.5	0.3

2025 Build Wkdy Morning Peak-Hour
 10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	38	21
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	0	3	11
Mvmt Flow	0	0	45	25
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.6
HCM LOS	A

Lane:

2025 Build Wkdy Evening Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↑			↓	
Volume (vph)	0	0	0	16	253	48	43	55	0	0	61	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	13	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1699	0	0	1728	0	0	1775	0
Flt Permitted					0.997			0.978				
Satd. Flow (perm)	0	0	0	0	1699	0	0	1728	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		751			688			285			704	
Travel Time (s)		17.1			15.6			6.5			16.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	352	0	0	109	0	0	85	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 38.2% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
10: Maverick Street & Orleans Street

2/27/2018

Intersection

Intersection Delay, s/veh 9.8
Intersection LOS A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	16	253	48	0	43	55	0
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	0	0	0
Mvmt Flow	0	0	0	0	0	18	281	53	0	48	61	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.4	8.8
HCM LOS	B	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	44%	5%	0%
Vol Thru, %	56%	80%	80%
Vol Right, %	0%	15%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	98	317	76
LT Vol	43	16	0
Through Vol	55	253	61
RT Vol	0	48	15
Lane Flow Rate	109	352	84
Geometry Grp	1	1	1
Degree of Util (X)	0.148	0.42	0.111
Departure Headway (Hd)	4.895	4.289	4.723
Convergence, Y/N	Yes	Yes	Yes
Cap	732	838	757
Service Time	2.929	2.314	2.759
HCM Lane V/C Ratio	0.149	0.42	0.111
HCM Control Delay	8.8	10.4	8.4
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.5	2.1	0.4

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	61	15
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	68	17
Number of Lanes	0	0	1	0

Approach













	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	8.4
HCM LOS	A

Lane

Maverick Street at Frankfort Street

2018 Existing Wkdy Morning Peak-Hour
 11: Maverick Street & Frankfort Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	3	324	47	1	4	0	0	3	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1707	0	0	1696	0	0	1545	0
Flt Permitted								0.992				
Satd. Flow (perm)	0	0	0	0	1707	0	0	1696	0	0	1545	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			881			230			651	
Travel Time (s)		15.6			20.0			5.2			14.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	435	0	0	6	0	0	32	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	32.3%
Analysis Period (min)	15
	ICU Level of Service A

3 Existing Wkdy Morning Peak-Hour
Maverick Street & Frankfort Street

2/27/2018

Section												
Delay, s/veh	0.7											

Element	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
veh/h	0	0	0	3	324	47	1	4	0	0	3	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Time in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	4
Volume Flow	0	0	0	3	377	55	1	5	0	0	3	29













Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	427	438	0	413	411	404
Stage 1	-	-	-	0	0	-	411	411	-
Stage 2	-	-	-	427	438	-	2	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.336
Pot Cap-1 Maneuver	-	-	-	588	515	-	599	534	642
Stage 1	-	-	-	-	-	-	674	598	-
Stage 2	-	-	-	662	582	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	588	0	-	599	0	642
Mov Cap-2 Maneuver	-	-	-	588	0	-	599	0	-
Stage 1	-	-	-	-	0	-	674	0	-
Stage 2	-	-	-	662	0	-	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s			10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	642
HCM Lane V/C Ratio	-	-	-	-	0.051
HCM Control Delay (s)	-	-	-	-	10.9
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

2018 Existing Wkdy Evening Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↑			↑	
Volume (vph)	0	0	0	9	251	20	2	6	0	0	6	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1715	0	0	1691	0	0	1622	0
Flt Permitted					0.998			0.989				
Satd. Flow (perm)	0	0	0	0	1715	0	0	1691	0	0	1622	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			881			230			651	
Travel Time (s)		15.6			20.0			5.2			14.8	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	337	0	0	9	0	0	40	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

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

2018 Existing Wkdy Evening Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	9	251	20	2	6	0	0	6	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	302	24	2	7	0	0	7	33

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	356	348	0	340	336	314
Stage 1	-	-	-	0	0	-	336	336	-
Stage 2	-	-	-	356	348	-	4	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.3
Pot Cap-1 Maneuver	-	-	-	646	579	-	660	588	731
Stage 1	-	-	-	-	-	-	728	645	-
Stage 2	-	-	-	713	638	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	646	0	-	660	0	731
Mov Cap-2 Maneuver	-	-	-	646	0	-	660	0	-
Stage 1	-	-	-	-	0	-	728	0	-
Stage 2	-	-	-	713	0	-	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s			10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	731
HCM Lane V/C Ratio	-	-	-	-	0.054
HCM Control Delay (s)	-	-	-	-	10.2
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

2025 No-Build Wkdy Morning Peak-Hour
 11: Maverick Street & Frankfort Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	3	359	50	1	4	0	0	3	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1709	0	0	1696	0	0	1543	0
Flt Permitted								0.992				
Satd. Flow (perm)	0	0	0	0	1709	0	0	1696	0	0	1543	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			881			230			651	
Travel Time (s)		15.6			20.0			5.2			14.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	478	0	0	6	0	0	34	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.5% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	3	359	50	1	4	0	0	3	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	4
Mvmt Flow	0	0	0	3	417	58	1	5	0	0	3	31













Major/Minor	Major2	Minor1	Minor2						
Conflicting Flow All	0	0	0	471	483	0	455	453	447
Stage 1	-	-	-	0	0	-	453	453	-
Stage 2	-	-	-	471	483	-	2	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.336
Pot Cap-1 Maneuver	-	-	-	555	486	-	567	506	607
Stage 1	-	-	-	-	-	-	645	573	-
Stage 2	-	-	-	632	556	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	555	0	-	567	0	607
Mov Cap-2 Maneuver	-	-	-	555	0	-	567	0	-
Stage 1	-	-	-	-	0	-	645	0	-
Stage 2	-	-	-	632	0	-	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s			11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	607
HCM Lane V/C Ratio	-	-	-	-	0.057
HCM Control Delay (s)	-	-	-	-	11.3
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

2025 No-Build Wkdy Evening Peak-Hour
 11: Maverick Street & Frankfort Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Volume (vph)	0	0	0	9	283	21	2	6	0	0	6	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1718	0	0	1691	0	0	1618	0
Flt Permitted					0.999			0.989				
Satd. Flow (perm)	0	0	0	0	1718	0	0	1691	0	0	1618	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			881			230			651	
Travel Time (s)		15.6			20.0			5.2			14.8	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	377	0	0	9	0	0	42	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 28.5% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	9	283	21	2	6	0	0	6	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	341	25	2	7	0	0	7	35

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	396	388	0	379	375	354
Stage 1	-	-	-	0	0	-	375	375	-
Stage 2	-	-	-	396	388	-	4	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.3
Pot Cap-1 Maneuver	-	-	-	613	550	-	627	559	694
Stage 1	-	-	-	-	-	-	699	621	-
Stage 2	-	-	-	684	612	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	613	0	-	627	0	694
Mov Cap-2 Maneuver	-	-	-	613	0	-	627	0	-
Stage 1	-	-	-	-	0	-	699	0	-
Stage 2	-	-	-	684	0	-	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s			10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	694
HCM Lane V/C Ratio	-	-	-	-	0.061
HCM Control Delay (s)	-	-	-	-	10.5
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

2025 Build Wkdy Morning Peak-Hour
 11: Maverick Street & Frankfort Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↑			↓	
Volume (vph)	0	0	0	3	359	51	1	4	0	0	3	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1707	0	0	1696	0	0	1539	0
Flt Permitted								0.992				
Satd. Flow (perm)	0	0	0	0	1707	0	0	1696	0	0	1539	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			881			230			440	
Travel Time (s)		15.6			20.0			5.2			10.0	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	479	0	0	6	0	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.6% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

Intersection												
Int Delay, s/veh	0.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	3	359	51	1	4	0	0	3	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	4
Mvmt Flow	0	0	0	3	417	59	1	5	0	0	3	36














Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	474	484	0	456	454	447
Stage 1	-	-	-	0	0	-	454	454	-
Stage 2	-	-	-	474	484	-	2	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.336
Pot Cap-1 Maneuver	-	-	-	553	486	-	566	505	607
Stage 1	-	-	-	-	-	-	644	573	-
Stage 2	-	-	-	630	555	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	553	0	-	566	0	607
Mov Cap-2 Maneuver	-	-	-	553	0	-	566	0	-
Stage 1	-	-	-	-	0	-	644	0	-
Stage 2	-	-	-	630	0	-	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s			11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	607
HCM Lane V/C Ratio	-	-	-	-	0.065
HCM Control Delay (s)	-	-	-	-	11.3
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

2025 Build Wkdy Evening Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↕			↑			↓		
Volume (vph)	0	0	0	9	283	24	2	6	0	0	6	32	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12	
Satd. Flow (prot)	0	0	0	0	1717	0	0	1691	0	0	1616	0	
Flt Permitted					0.999			0.989					
Satd. Flow (perm)	0	0	0	0	1717	0	0	1691	0	0	1616	0	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		688			881			230			440		
Travel Time (s)		15.6			20.0			5.2			10.0		
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	0	381	0	0	9	0	0	46	0	
Sign Control		Free			Free			Stop			Stop		

Intersection Summary	
Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	28.7%
Analysis Period (min)	15
	ICU Level of Service A

2025 Build Wkdy Evening Peak-Hour
11: Maverick Street & Frankfort Street

2/27/2018

Intersection												
Int Delay, s/veh	1.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	9	283	24	2	6	0	0	6	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	341	29	2	7	0	0	7	39

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	400	392	0	381	377	355
Stage 1	-	-	-	0	0	-	377	377	-
Stage 2	-	-	-	400	392	-	4	0	-
Critical Hdwy	-	-	-	6.4	6.5	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	5.4	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	3.5	4	3.3
Pot Cap-1 Maneuver	-	-	-	610	547	-	625	558	693
Stage 1	-	-	-	-	-	-	698	619	-
Stage 2	-	-	-	681	610	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	610	0	-	625	0	693
Mov Cap-2 Maneuver	-	-	-	610	0	-	625	0	-
Stage 1	-	-	-	-	0	-	698	0	-
Stage 2	-	-	-	681	0	-	-	0	-













Approach	WB	NB	SB
HCM Control Delay, s			10.6
HCM LOS		-	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-	693
HCM Lane V/C Ratio	-	-	-	-	0.066
HCM Control Delay (s)	-	-	-	-	10.6
HCM Lane LOS	-	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	-	0.2

Maverick Street at Cottage Street

2018 Existing Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔						↔	
Volume (vph)	0	0	0	12	207	0	0	0	0	0	63	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1713	0	0	0	0	0	1593	0
Flt Permitted					0.997							
Satd. Flow (perm)	0	0	0	0	1713	0	0	0	0	0	1593	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	0%	3%	0%	2%	2%	2%	0%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	238	0	0	0	0	0	347	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 40.8% ICU Level of Service A
 Analysis Period (min) 15

2018 Existing Wkdy Morning Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh 9.6
Intersection LOS A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	12	207	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	0	3	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	13	225	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach

WB

Opposing Approach
Opposing Lanes 0
Conflicting Approach Left
Conflicting Lanes Left 0
Conflicting Approach Right SB
Conflicting Lanes Right 1
HCM Control Delay 9.7
HCM LOS A

Lane	WBLn1	SBLn1
Vol Left, %	5%	0%
Vol Thru, %	95%	20%
Vol Right, %	0%	80%
Sign Control	Stop	Stop
Traffic Vol by Lane	219	320
LT Vol	12	0
Through Vol	207	63
RT Vol	0	257
Lane Flow Rate	238	348
Geometry Grp	1	1
Degree of Util (X)	0.307	0.39
Departure Headway (Hd)	4.646	4.037
Convergence, Y/N	Yes	Yes
Cap	774	894
Service Time	2.678	2.053
HCM Lane V/C Ratio	0.307	0.389
HCM Control Delay	9.7	9.6
HCM Lane LOS	A	A
HCM 95th-tile Q	1.3	1.9

2018 Existing Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	63	257
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	2	2
Mvmt Flow	0	0	68	279
Number of Lanes	0	0	1	0













Approach SB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.6
HCM LOS	A

Lane

2018 Existing Wkdy Evening Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔							↔
Volume (vph)	0	0	0	26	192	0	0	0	0	0	97	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1726	0	0	0	0	0	1698	0
Flt Permitted					0.994							
Satd. Flow (perm)	0	0	0	0	1726	0	0	0	0	0	1698	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	266	0	0	0	0	0	242	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

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

2018 Existing Wkdy Evening Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	26	192	0	0	0	0	0
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	32	234	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach		WB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		
Conflicting Lanes Left		0
Conflicting Approach Right		SB
Conflicting Lanes Right		1
HCM Control Delay		9.7
HCM LOS		A

Lane	WBLn1	SBLn1
Vol Left, %	12%	0%
Vol Thru, %	88%	49%
Vol Right, %	0%	51%
Sign Control	Stop	Stop
Traffic Vol by Lane	218	199
LT Vol	26	0
Through Vol	192	97
RT Vol	0	102
Lane Flow Rate	266	243
Geometry Grp	1	1
Degree of Util (X)	0.329	0.285
Departure Headway (Hd)	4.461	4.222
Convergence, Y/N	Yes	Yes
Cap	806	854
Service Time	2.484	2.237
HCM Lane V/C Ratio	0.33	0.285
HCM Control Delay	9.7	8.9
HCM Lane LOS	A	A
HCM 95th-tile Q	1.4	1.2

2018 Existing Wkdy Evening Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	97	102
Peak Hour Factor	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	118	124
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left WB

Conflicting Lanes Left 1

Conflicting Approach Right

Conflicting Lanes Right 0













HCM Control Delay 8.9

HCM LOS A

Lane

2025 No-Build Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔						↔	
Volume (vph)	0	0	0	13	231	0	0	0	0	0	67	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1713	0	0	0	0	0	1593	0
Flt Permitted					0.997							
Satd. Flow (perm)	0	0	0	0	1713	0	0	0	0	0	1593	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	0%	3%	0%	2%	2%	2%	0%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	265	0	0	0	0	0	374	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 43.9% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh	10.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	13	231	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	0	3	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	14	251	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach

WB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	SB
Conflicting Lanes Right	1
HCM Control Delay	10.3
HCM LOS	B

Lane

WBLn1 SBLn1

Vol Left, %	5%	0%
Vol Thru, %	95%	19%
Vol Right, %	0%	81%
Sign Control	Stop	Stop
Traffic Vol by Lane	244	344
LT Vol	13	0
Through Vol	231	67
RT Vol	0	277
Lane Flow Rate	265	374
Geometry Grp	1	1
Degree of Util (X)	0.347	0.427
Departure Headway (Hd)	4.709	4.109
Convergence, Y/N	Yes	Yes
Cap	761	879
Service Time	2.75	2.13
HCM Lane V/C Ratio	0.348	0.425
HCM Control Delay	10.3	10.2
HCM Lane LOS	B	B
HCM 95th-tile Q	1.6	2.2

2025 No-Build Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	67	277
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	2	2
Mvmt Flow	0	0	73	301
Number of Lanes	0	0	1	0















Approach SB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	10.2
HCM LOS	B

Lane

2025 No-Build Wkdy Evening Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	28	219	0	0	0	0	0	104	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1726	0	0	0	0	0	1696	0
Flt Permitted					0.994							
Satd. Flow (perm)	0	0	0	0	1726	0	0	0	0	0	1696	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	301	0	0	0	0	0	264	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.9% ICU Level of Service A
 Analysis Period (min) 15

2025 No-Build Wkdy Evening Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh 9.8
Intersection LOS A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	28	219	0	0	0	0	0
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	34	267	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach

WB

Opposing Approach
Opposing Lanes 0
Conflicting Approach Left
Conflicting Lanes Left 0
Conflicting Approach Right SB
Conflicting Lanes Right 1
HCM Control Delay 10.3
HCM LOS B

Lane	WBLn1	SBLn1
Vol Left, %	11%	0%
Vol Thru, %	89%	48%
Vol Right, %	0%	52%
Sign Control	Stop	Stop
Traffic Vol by Lane	247	216
LT Vol	28	0
Through Vol	219	104
RT Vol	0	112
Lane Flow Rate	301	263
Geometry Grp	1	1
Degree of Util (X)	0.378	0.315
Departure Headway (Hd)	4.514	4.308
Convergence, Y/N	Yes	Yes
Cap	798	835
Service Time	2.542	2.33
HCM Lane V/C Ratio	0.377	0.315
HCM Control Delay	10.3	9.3
HCM Lane LOS	B	A
HCM 95th-tile Q	1.8	1.4

2025 No-Build Wkdy Evening Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	104	112
Peak Hour Factor	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	127	137
Number of Lanes	0	0	1	0













Approach SB

Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9.3
HCM LOS	A

Lane

2025 Build Wkdy Morning Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕						↕	
Volume (vph)	0	0	0	13	232	0	0	0	0	0	67	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1713	0	0	0	0	0	1593	0
Flt Permitted					0.997							
Satd. Flow (perm)	0	0	0	0	1713	0	0	0	0	0	1593	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	0%	3%	0%	2%	2%	2%	0%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	266	0	0	0	0	0	374	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD

Control Type: Unsignalized

Intersection Capacity Utilization 43.9%

ICU Level of Service A

Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Intersection												
Intersection Delay, s/veh	10.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	13	232	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	0	3	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	14	252	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach		WB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		
Conflicting Lanes Left		0
Conflicting Approach Right		SB
Conflicting Lanes Right		1
HCM Control Delay		10.3
HCM LOS		B

Lane	WBLn1	SBLn1
Vol Left, %	5%	0%
Vol Thru, %	95%	19%
Vol Right, %	0%	81%
Sign Control	Stop	Stop
Traffic Vol by Lane	245	344
LT Vol	13	0
Through Vol	232	67
RT Vol	0	277
Lane Flow Rate	266	374
Geometry Grp	1	1
Degree of Util (X)	0.348	0.427
Departure Headway (Hd)	4.711	4.113
Convergence, Y/N	Yes	Yes
Cap	762	879
Service Time	2.75	2.132
HCM Lane V/C Ratio	0.349	0.425
HCM Control Delay	10.3	10.2
HCM Lane LOS	B	B
HCM 95th-tile Q	1.6	2.2

2025 Build Wkdy Morning Peak-Hour
 12: Maverick Street & Cottage Street

2/27/2018

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	67	277
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	2	2
Mvmt Flow	0	0	73	301
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	
Opposing Lanes	0
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	10.2
HCM LOS	B

Lane

2025 Build Wkdy Evening Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	28	222	0	0	0	0	0	104	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	14	12
Satd. Flow (prot)	0	0	0	0	1726	0	0	0	0	0	1696	0
Flt Permitted					0.994							
Satd. Flow (perm)	0	0	0	0	1726	0	0	0	0	0	1696	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		881			297			136			587	
Travel Time (s)		20.0			6.8			3.1			13.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	305	0	0	0	0	0	264	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 35.1% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
12: Maverick Street & Cottage Street

2/27/2018

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	28	222	0	0	0	0	0
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	0	2	0	2	2	2	2
Mvmt Flow	0	0	0	0	0	34	271	0	0	0	0	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	0	0

Approach		WB
Opposing Approach		
Opposing Lanes	0	
Conflicting Approach Left		
Conflicting Lanes Left	0	
Conflicting Approach Right	SB	
Conflicting Lanes Right	1	
HCM Control Delay	10.3	
HCM LOS	B	

Lane	WBLn1	SBLn1
Vol Left, %	11%	0%
Vol Thru, %	89%	48%
Vol Right, %	0%	52%
Sign Control	Stop	Stop
Traffic Vol by Lane	250	216
LT Vol	28	0
Through Vol	222	104
RT Vol	0	112
Lane Flow Rate	305	263
Geometry Grp	1	1
Degree of Util (X)	0.382	0.316
Departure Headway (Hd)	4.514	4.316
Convergence, Y/N	Yes	Yes
Cap	796	835
Service Time	2.544	2.338
HCM Lane V/C Ratio	0.383	0.315
HCM Control Delay	10.3	9.3
HCM Lane LOS	B	A
HCM 95th-tile Q	1.8	1.4

2025 Build Wkdy Evening Peak-Hour
 12: Maverick Street & Cottage Street










2/27/2018

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	104	112
Peak Hour Factor	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	127	137
Number of Lanes	0	0	1	0
Approach		SB		
Opposing Approach				
Opposing Lanes		0		
Conflicting Approach Left		WB		
Conflicting Lanes Left		1		
Conflicting Approach Right				
Conflicting Lanes Right		0		
HCM Control Delay		9.3		
HCM LOS		A		
Lane				

Frankfort Street at the Project Site Driveway

2025 Build Wkdy Morning Peak-Hour
 14: Frankfort Street & Site Drive

3/21/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	4	8	59	1	4	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1498	0	1673	0	0	1666
Flt Permitted	0.985					0.994
Satd. Flow (perm)	1498	0	1673	0	0	1666
Link Speed (mph)	30		30			30
Link Distance (ft)	88		440			211
Travel Time (s)	2.0		10.0			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	65	0	0	31
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: CBD
 Control Type: Unsignalized
 Intersection Capacity Utilization 15.2% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Morning Peak-Hour
14: Frankfort Street & Site Drive

3/21/2018

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	4	8	59	1	4	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	9	64	1	4	27










Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	101	65	0	0	65	0
Stage 1	65	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	898	999	-	-	1537	-
Stage 1	958	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	895	999	-	-	1537	-
Mov Cap-2 Maneuver	895	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	962	1537	-
HCM Lane V/C Ratio	-	-	0.014	0.003	-
HCM Control Delay (s)	-	-	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

2025 Build Wkdy Evening Peak-Hour
 14: Frankfort Street & Site Drive

3/21/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	3	7	26	3	10	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prof)	1658	0	1839	0	0	1844
Flt Permitted	0.987					0.990
Satd. Flow (perm)	1658	0	1839	0	0	1844
Link Speed (mph)	30		30			30
Link Distance (ft)	123		440			211
Travel Time (s)	2.8		10.0			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	31	0	0	53
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 19.3% ICU Level of Service A
 Analysis Period (min) 15

2025 Build Wkdy Evening Peak-Hour
14: Frankfort Street & Site Drive

3/21/2018

Intersection

Int Delay, s/veh 1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	7	26	3	10	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	8	28	3	11	42

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	94	30	0	0	32	0
Stage 1	30	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	906	1044	-	-	1580	-
Stage 1	993	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	900	1044	-	-	1580	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	952	-	-	-	-	-










Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	996	1580	-
HCM Lane V/C Ratio	-	-	0.011	0.007	-
HCM Control Delay (s)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lubec Street at the Project Site Driveway

2025 Build Wkdy Morning Peak-Hour
 15: Lubec Street & Site Drive

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	1	0	0	8	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1593	0	0	1676	1676	0
Flt Permitted	0.950					
Satd. Flow (perm)	1593	0	0	1676	1676	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	87			175	304	
Travel Time (s)	2.0			4.0	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	9	54	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

2025 Build Wkdy Morning Peak-Hour
15: Lubec Street & Site Drive

2/27/2018

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	0	0	8	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	9	54	0










Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	63	54	54
Stage 1	54	-	-
Stage 2	9	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	943	1013	1551
Stage 1	969	-	-
Stage 2	1014	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	943	1013	1551
Mov Cap-2 Maneuver	943	-	-
Stage 1	969	-	-
Stage 2	1014	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1551	-	943	-	-
HCM Lane V/C Ratio	-	-	0.001	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2025 Build Wkdy Evening Peak-Hour
 15: Lubec Street & Site Drive

2/27/2018

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	1	0	0	3	26	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1770	0	0	1863	1853	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1863	1853	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	122			194	215	
Travel Time (s)	2.8			4.4	4.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	3	29	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

2025 Build Wkdy Evening Peak-Hour
15: Lubec Street & Site Drive

2/27/2018

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	0	0	3	26	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	3	28	1

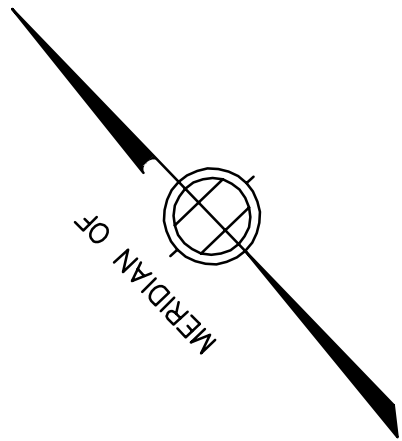
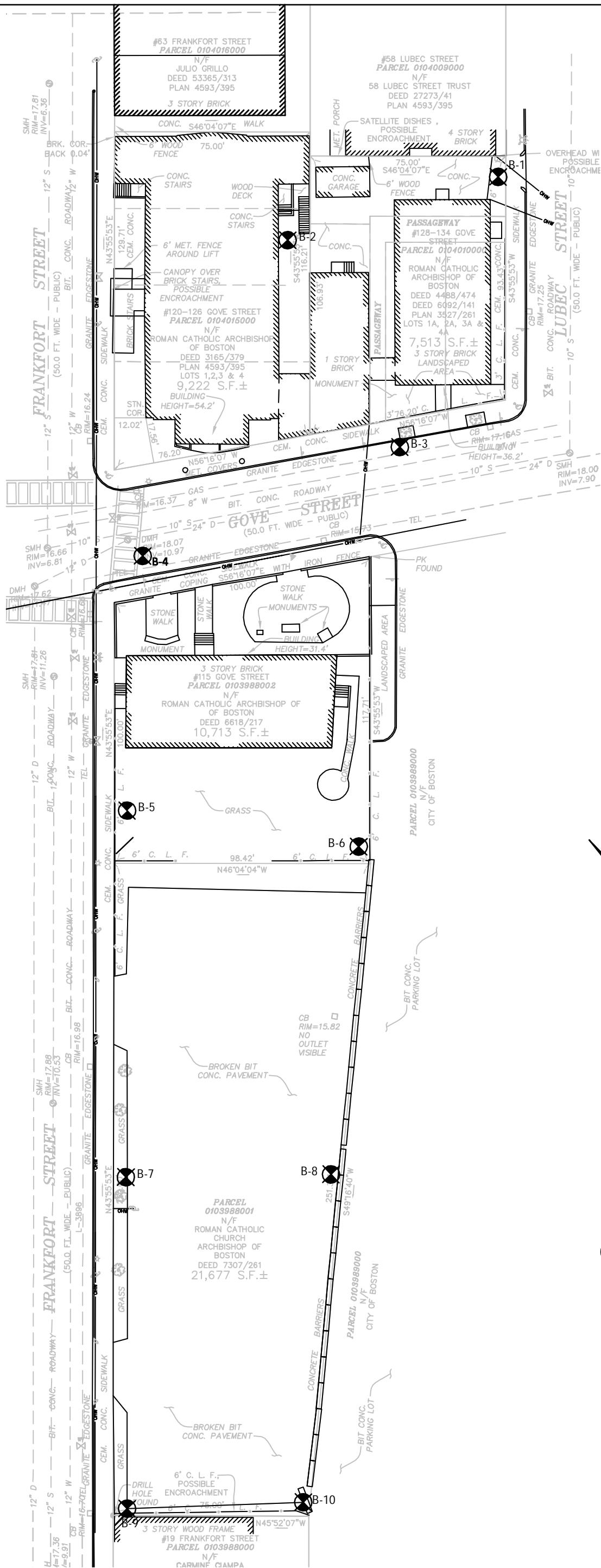
Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	32	29	0
Stage 1	29	-	-
Stage 2	3	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	982	1046	1584
Stage 1	994	-	-
Stage 2	1020	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	982	1046	1584
Mov Cap-2 Maneuver	982	-	-
Stage 1	994	-	-
Stage 2	1020	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1584	-	982	-	-
HCM Lane V/C Ratio	-	-	0.001	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Attachment C

Geotechnical Information



LEGEND:

 BORING LOCATION



SCALE in FEET
1"=40'

NOTES:

- 1) BASE PLAN AND SURVEY INFORMATION BASED ON "ALTA/ACSM LAND TITLE SURVEY, 120-134 GOVE STREET, BOSTON, MASSACHUSETTS, (EAST BOSTON DISTRICT)" DATED FEBRUARY 25, 2015 COMPLETED BY GREATER BOSTON SURVEYING AND ENGINEERING OF WEYMOUTH, MA.

Figure 2
BORING LOCATION PLAN
 115-128 GOVE STREET, 21-43 FRANKFORT STREET
 EAST BOSTON, MA
Design Consultants, Inc.
 CIVIL ENGINEERS and LAND SURVEYORS
SOMERVILLE - NEWBURYPORT - QUINCY

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 15'+ Weather: RAINY, 50's Performed By: PJS Date: 4/21/17 Checked By: PGC Date: 4/26/17	 <p style="margin: 0;">DESIGN CONSULTANTS, INC.</p>	Boring No: B-1 Location: See Plan Approx. Ground Elevation: 18± Approx. Groundwater Elevation: 9± Date/Time of Groundwater Elevation: 7:30 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
					.3'	CONCRETE	(1)
1	S-1	2	24"/6"	S-1, SAND, Some Silt, Little Gravel, Little Glass, Trace Coal, Ash, Brick, Black, Dry, Very Dense		FILL	
2		38					
3		16					
4		5					
5	S-2	3	24"/1"	S-2, SAND, Some Silt, Little Gravel, Little Glass, Trace Coal, Ash, Brick, Black, Dry, Loose		FILL	
6		4					
7		4					
8		3					
9					8.5'		
10	S-3	1/12"	24"/12"	S-3, CLAY, Trace Sand, Trace Gravel, Grey, Wet, Soft		CLAY	(2)
11		1					
12		2					
13	S-4	1	24"/12"	S-4, Similar to S-3, No Gravel, Medium Stiff		CLAY	
14		2					
15		2			15'		
16	S-5	1	24"/24"	S-5, Top 12" Similar to S-4, Trace Seashells, Next 11", SILT, Some Organics, Little Sand, Grey, Wet, Medium Stiff, Bottom 1", PEAT, Brown, Wet, Soft		ORGANIC CLAY W/ SEASHELLS	
17		2				ORGANIC SILT	
18	S-6	3	24"/12"	S-6, SILT, Some Clay, Little Sand, Grey, Wet, Medium Stiff to Stiff		PEAT	
19		4				CLAYEY SILT	
20	5				19'	PEAT	
	S-7	3-6	24"/24"	S-7, Top 1" Gravel, Next 3" PEAT		PEAT	
		5-14		Bottom 20" See Page 2		CLAYEY SILT	

<p>NOTES:</p> <p>(1) 3-INCHES OF CONCRETE</p> <p>(2) WATER AT 10' BELOW GROUND SURFACE</p>	<p>LEGEND</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff</td> <td>>30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> <td></td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	
S - Split Spoon Sample	O/A - Sample Collected Off the Augers																		
UT - Undisturbed Tube Sample																			
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%																		
Little - Approximately 10 to 20%	And - Approximately 35 to 50%																		
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4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																		

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 10'+ Weather: RAINY, 40's Performed By: PJS Date: 4/21/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-2 Location: See Plan Approx. Ground Elevation: 18± Approx. Groundwater Elevation: 8± Date/Time of Groundwater Elevation: 11:00 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
					.3'	CONCRETE	(1)
1	S-1	2	24"/13"	S-1, SAND And Silt, Little Gravel, Trace Coal, Ash, Black, Dry, Loose		FILL	
2		3					
3		3					
4		4					
5	S-2	1	24"/13"	S-2, Top 9" Similar to S-1, Little Asphalt Bottom 4", SILT, Little Clay, Trace Sand, Olive, Moist, Soft		CLAYEY SILT	(2)
6		2					
7		1					
8		1					
9	S-3	1	24"/19"	S-3, SILT, Little Clay, Little Silt, Trace Gravel, Olive-Grey, Wet, Soft - Med. Stiff 1" SAND and Gravel seam at 15"		CLAYEY SILT	
10		2					
11		2					
12		2					
13	S-4	1	24"/12"	S-4, SILT, Little Clay, Little Sand, Trace Seashells, Trace Organics, Grey, Wet Soft		ORGANIC SILT W/ SEASHELLS	
14		2					
15		1					
16		2					
17	S-5	3	24"/24"	S-5, Top 16" Similar to S-4, Next 4" PEAT, Brown, Wet, Medium Stiff Bottom 4" SILT, Little Clay, Little Sand, Grey, Wet, Medium Stiff		CLAYEY SILT	
18		6					
19		4					
20		4					

<p><u>NOTES:</u></p> (1) 3" OF CONCRETE (2) WATER AT 10' BELOW GROUND SURFACE	<p><u>LEGEND</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff
S - Split Spoon Sample	O/A - Sample Collected Off the Augers																
UT - Undisturbed Tube Sample																	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%																
Little - Approximately 10 to 20%	And - Approximately 35 to 50%																
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense																
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0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard																
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 10'+ Weather: RAINY, 40's Performed By: PJS Date: 4/21/17 Checked By: PGC Date: 4/26/17		Boring No: B-2 Location: See Plan Approx. Ground Elevation: 18± Approx. Groundwater Elevation: 8± Date/Time of Groundwater Elevation: 11:00 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.	
21	S-6	5 9 15 18	24"/24"	S-6, SILT, Some Clay, Some Fine Sand, Olive & Grey, Wet, Very Stiff	32'	CLAYEY SILT		
22								
23								
24								
25								
26	S-7	6 6 6 8	24"/22"	S-7, SILT, Some Clay, Little Fine Sand, Grey, Wet, Stiff				
27								
28								
29								
30								
31	S-8	3 4 5 7	24"/24"	S-8, Similar to S-7				
32				BOTTOM OF BORING AT 32' BGS				
33								
34								
35								
36								
37								
38								
39								
40								

NOTES:	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: PARTLY CLOUDY, 50's Performed By: PJS Date: 4/20/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-3 Location: See Plan Approx. Ground Elevation: 17± Approx. Groundwater Elevation: 7± Date/Time of Groundwater Elevation: 12:45 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	6	24"/10"	S-1, Top 5" SAND, Some Silt, Some Gravel, Brown, Wet, Medium Dense Bottom 5" Similar to Top 5", Black	.5'	ASPHALT	(1)
2		7			7		
3		5					
4							
5	S-2	1	24"/10"	S-2, SAND, Some Silt, Little Gravel, Trace Brick, Coal, Ash, Brown, Wet, Loose		FILL	
6		1					
7		2					
8		2					
9							
10	S-3	1	24"/24"	S-3, SILT, Some Sand, Little Organics, Little Gravel, Little Clay, Grey-Brown, Wet, Medium Stiff	10'		(2)
11		2					
12		3					
13	S-4	3	24"/5"	S-4, SAND, Some Silt, Trace Seashells, Grey, Wet, Loose	12'	SAND W/ SEASHELLS	
14		2					
15	S-5	2	24"/4"	S-5, Top 3" SILT, Some Clay, Little Sand, Trace Organics, Trace Seashells, Grey, Wet, Soft, Bottom 1" PEAT, Brown, Wet, Soft to Medium Stiff	14'		
16		2					
17	S-6	6	24"/16"	S-6, Top 6" Similar to Bottom of S-5, Next 6", SAND, Some Silt, Trace Organics, Grey, Wet, Medium Dense, Bottom 4" CLAY, Some Silt, Little Sand, Trace Gravel, Trace Organics, Grey, Wet, Stiff	14.5'	ORGANIC SILT W/ SEASHELLS	
18		5					
19		6					
20		5			16.5'	PEAT	
					17'	ORGANIC SAND	
						CLAY	

NOTES: (1) 5" OF ASPHALT (2) WATER AT 10' BELOW GROUND SURFACE	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: PARTLY CLOUDY, 50's Performed By: PJS Date: 4/20/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-3 Location: See Plan Approx. Ground Elevation: 17± Approx. Groundwater Elevation: 7± Date/Time of Groundwater Elevation: 12:45 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-7	9	24"/18"	S-7, CLAY, Little Fine Sand, Grey, Wet, Very Stiff		CLAY	
22		6					
23		13					
24		13					
25							
26	S-8	8	24"/18"	S-8, Similar to S-7			
27		10					
28	S-9	13	24"/12"	S-9, Top 10" Similar to S-8, Bottom 2" SAND, Some Silt, Grey, Wet, Medium Dense		SAND	
29		15					
30		10					
31		9			28.7'		
32		9			29'		
33		8		BOTTOM OF BORING AT 29' BGS			
34							
35							
36							
37							
38							
39							
40							

NOTES: (This section is currently blank)	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: CLOUDY, 50's Performed By: PJS Date: 4/20/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-4 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 9:30 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	11	24"/10"	S-1, SAND, Some Silt, Trace Gravel, Brick, Ash, Coal, Light Brown to Black, Dry, Medium Dense	.5'	ASPHALT	(1)
2		16					
3	S-2	13	24"/12"	S-2, Similar to S-1, Trace Ceramic, Moist, Loose to Medium Dense	10.5'	FILL	(2)
4		10					
5		14					
6		7					
7	S-3	3	24"/12"	S-3, Top 6" Similar to S-2 Bottom 6", ORGANICS, Some Silt, Little Sand, Black, Wet, Soft	12.3'	ORGANICS	(3)
8		4					
9		2					
10	S-4	1	23"/12"	S-4, Top 3" Similar to S-3 Bottom 9", SILT, Some Sand, Trace Organics, Brown and Orange, Wet, 2" of Wood in spoon tip, Stiff	14'	FILL	
11		2					
12	S-5	1	24"/18"	S-5, Top 9", SILT, Some Clay, Little Sand, Trace Seashell, Grey, Wet, Medium Stiff, Next 3" PEAT, Brown, Wet, Medium Stiff, Bottom 6" SAND, Little Silt, Trace Organics, Grey, Wet, Med. Dense	14.5'	WOOD	
13		5			15.5'	ORGANIC SILT	
14		7			16'	PEAT	
15		70/5"			18'	SILTY SAND	
16		2				CLAY	
17	2						
18	5						
19	6						
20							

NOTES: (1) 6" OF ASPHALT (2) WATER AT 10' BELOW GROUND SURFACE (3) STRONG ODOR IN S-4 WEAKER ODOR IN S-5	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET
 Location: EAST BOSTON, MA
 Client: EBI CONSULTING, INC.
 Driller: CARR-DEE CORPORATION
 Drilling Methods: HSA/D&W 20'+
 Weather: CLOUDY, 50's
 Performed By: PJS Date: 4/20/17
 Checked By: PGC Date: 4/26/17




Boring No: B-4
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 7.5±
 Date/Time of Groundwater Elevation: 9:30 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-6	6	24"/21"	S-6, CLAY, Some Silt, Little Sand, Grey, Wet, Very Stiff		CLAY	
22		7					
23		10					
24		11					
25							
26	S-7	4	24"/21"	S-7, Similar to S-6, Trace Sand, Stiff			
27		6					
28	S-8	8	24"/18"	S-8, Top 9" Similar to S-7, Very Stiff Bottom 9", SAND, Some Silt, Grey, Wet, Medium Dense	28'		
29		13			29'	SAND	
30		9		BOTTOM OF BORING AT 29' BGS			
31		8					
32							
33							
34							
35							
36							
37							
38							
39							
40							

<u>NOTES:</u>	<u>LEGEND</u>	
	S - Split Spoon Sample	O/A - Sample Collected Off the Augers
	UT - Undisturbed Tube Sample	
	Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
	Little - Approximately 10 to 20%	And - Approximately 35 to 50%
	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 15'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/24/17 Checked By: PGC Date: 4/26/17	 <p style="margin: 0;">DESIGN CONSULTANTS, INC.</p>	Boring No: B-5 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 8.5± Date/Time of Groundwater Elevation: 10:10 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	3	24"/12"	S-1, Top 4" Topsoil Bottom 8", SAND, Some Silt, Trace Brick and Coal, Brown to Black, Dry, Medium Dense	.3'	TOPSOIL	(1)
2		5					
3		6					
4		4					
5		6	24"/8"	S-2, Similar to bottom of S-1, Little Gravel, Dry, Black, Loose		FILL	(2)
6	S-2	5					
7		3					
8		4					
9							
10		2	24"/3"	S-3, Similar to above, Red Brick Pieces, Wet, Loose			
11	S-3	4					
12		4					
13	S-4	3	24"/2"	S-4, Top 1" Brick Bottom 1" SAND, Some Silt, Brown to Black, Wet, Wood in spoon tip, Loose			
14		3					
15		2					
16	S-5	3	24"/17"	S-5, CLAY, Some Silt, Little Sand, Trace Organics, Trace Seashells, Grey, Wet, Medium Stiff		ORGANIC CLAY W/ SEASHELLS	
17		1					
18	S-6	2	24"/24"	S-6, Top 15" Similar to S-5, Stiff Next 2" PEAT, Brown, Wet, Stiff Bottom 7" CLAY and Silt, Little Fine Sand, Grey w/ Olive Streaks, Wet, Stiff		PEAT	
19		5					
20		8					

<p>NOTES:</p> (1) MOVED BORING 5' NE DUE TO BRANCHES (2) WATER AT 9' BELOW GROUND SURFACE	<p>LEGEND</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff
S - Split Spoon Sample	O/A - Sample Collected Off the Augers																
UT - Undisturbed Tube Sample																	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%																
Little - Approximately 10 to 20%	And - Approximately 35 to 50%																
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense																
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense																
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard																
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																

BORING LOG

Project: 120 GOVE STREET
 Location: EAST BOSTON, MA
 Client: EBI CONSULTING, INC.
 Driller: CARR-DEE CORPORATION
 Drilling Methods: HSA/D&W 15'+
 Weather: SUNNY, 50's
 Performed By: PJS Date: 4/24/17
 Checked By: PGC Date: 4/26/17



Boring No: B-5
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 8.5±
 Date/Time of Groundwater Elevation: 10:10 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-7	10	24"/24"	S-7, CLAY, Some Silt, Trace Sand, Grey, Wet, Very Stiff			(3)
22		10					
23		14					
24		19					
25		2	S-8, Top 12" Similar to S-7, Med. Stiff Next 4" SAND, Little Clay, Grey, Wet Bottom 8" CLAY and Sand, Grey, Wet, Medium Stiff	26'			
26	S-8	4					
27		3					
28		4					
29			S-9, Top 6" CLAY, Some Sand, Grey, Wet, Stiff Bottom 10" SAND, Little Clay, Grey, Wet, Medium Dense	31'			
30		5					
31	S-9	4					
32		8					
33		8	S-10, SAND, Little Clay and Silt, Grey, Wet, Medium Dense	37'			
34							
35		11					
36	S-10	11					
37		8					
38		9					
39							
40							
				BOTTOM OF BORING AT 37' BGS			

NOTES:

(3) COUPLE OF INCHES OF GRAVEL AT 23' BGS

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 15'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/24/17 Checked By: PGC Date: 4/26/17	 <p style="margin: 0;">DESIGN CONSULTANTS, INC.</p>	Boring No: B-6 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 8.5± Date/Time of Groundwater Elevation: 7:00 AM Datum: BOSTON CITY BASE Project No: 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	2	24"/11"	S-1, Top 4" Topsoil Next 7", SAND, Little Silt, Trace Brick, Coal, Drown, Dry, Loose	.3'	TOPSOIL	(1)
2		1					
3		8					
4		7					
5							
6	S-2	2	24"/14"	S-2, SILT and SAND, Little Ash, Trace Wood, Coal, Black, Dry, Loose to Medium Stiff	14.5'	FILL	
7		2					
8		3					
9		3					
10							
11	S-3	2	24"/6"	S-3, Similar to S-2, Wet, Loose to Soft	14.5'	PEAT	
12		1					
13	S-4	2	24"/10"	S-4, SAND, Some Silt, Trace Wood, Trace Ash, Black, Wet, Loose	18.5'	ORGANIC SILTY SAND W/ SEASHELLS	
14		1					
15		1					
16	S-5	1/12"	24"/18"	S-5, Top 12" PEAT, Brown, Wet, Soft, Next 2" SAND And Silt, Trace Organics, Trace Seashells, Grey, Wet, Med. Stiff, Next 2" Cobble, Bottom 2" Similar to Middle 2"	18.5'	CLAY	
17		5					
18		13					
19							
20							

NOTES: (1) WATER AT 9' BELOW GROUND SURFACE	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG


Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 15'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/24/17 Checked By: PGC Date: 4/26/17	 <p style="margin: 0;">DESIGN CONSULTANTS, INC.</p>	Boring No: B-6 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 8.5± Date/Time of Groundwater Elevation: 7:00 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-6	10	24"/12"	S-6, CLAY, Some Silt, Little Fine Sand, Grey, Wet, Very Stiff		CLAY W/ ALTERNATING SAND SEAMS	
22		15					
23		21					
24		25					
25							
26	S-7	3	24"/16"	S-7, Top 6" CLAY, Little Fine Sand, Grey, Wet, Medium Stiff, Next 2", SAND, Little Clay, Grey, Wet Next 4" Similar to Top 6" Bottom 1" Similar to Middle 2"			
27		2					
28		4					
29		4					
30							
31	S-8	5	24"/15"	S-8, Top 4" Similar to Top 6" of S-7 Next 9", Similar to Middle 2" of S-7, Medium Stiff Bottom 2" similar to Top 4"			
32		5					
33		6					
34		7			34'		
35							
36	S-9	6	24"/16"	S-9, SAND, Little Silt, Grey, Wet, Medium Dense		SAND	
37		6					
38		8					
39		10			37'		
40				BOTTOM OF BORING AT 37' BGS			

NOTES:	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: CLOUDY, 50's Performed By: PJS Date: 4/20/17 Checked By: PGC Date: 4/26/17	 <p style="font-weight: bold; margin-top: 5px;">DESIGN CONSULTANTS, INC.</p>	Boring No: B-7 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 7:15 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	9	24"/6"	S-1, Top 2" Topsoil	.2'	TOPSOIL	 (1)
2		5		Next 2" SAND, Little Silt, Light Brown, Dry, Loose			
3		3	S-2, Similar to bottom of S-1, Little Gravel, Trace Brick, Trace Ceramic, Black, Dry, Medium Dense				
4		3					
5							
6	S-2	11	24"/16"	S-2, Similar to bottom of S-1, Little Gravel, Trace Brick, Trace Ceramic, Black, Dry, Medium Dense		FILL	
7		8					
8		9					
9		6					
10		1/12"	24"/16"	S-3, SAND, Some Silt, Little Gravel, Trace Coal, Grey, Wet, Loose			
11	S-3	1/12"					
12		1	24"/13"	S-4, Top 7" Similar to S-3, Bottom 6" PEAT, Olive, Wet, Soft	12.5'		
13	S-4	1					
14		1	24"/17"	S-5, Similar to S-4, Grey, Trace Seashells, Soft		PEAT	
15	S-5	1					
16		2	24"/18"	S-6, Top 15" similar to S-5, Bottom 3", SILT, Some Clay, Some Sand, Trace Organics, Grey, Wet, Soft to Medium Stiff			
17	S-6	2					
18		3					
19		3			18'	ORGANIC SILT	
20							

<p><u>NOTES:</u></p> <p>(1) WATER AT 10' BELOW GROUND SURFACE</p>	<p><u>LEGEND</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff
S - Split Spoon Sample	O/A - Sample Collected Off the Augers																
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4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																

BORING LOG

Project: 120 GOVE STREET
 Location: EAST BOSTON, MA
 Client: EBI CONSULTING, INC.
 Driller: CARR-DEE CORPORATION
 Drilling Methods: HSA/D&W 20'+
 Weather: CLOUDY, 50's
 Performed By: PJS Date: 4/20/17
 Checked By: PGC Date: 4/26/17



Boring No: B-7
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 7.5±
 Date/Time of Groundwater Elevation: 7:15 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-7	3	24"/24"	S-7, CLAY, Little Silt, Little Sand, Trace Organics, Wet, Grey, Stiff	23.5'	CLAY	
22		5					
23		6					
24		8					
25	S-8	13	24"/15"	S-8 SAND, Some Silt, Grey, Wet, Medium Dense	29'	SAND	
26		10					
27		15					
28	S-9	21	24"/24"	S-9, Similar to S-8, Little Silt, Dense			
29		18					
30		26					
31		18					
				BOTTOM OF BORING AT 29' BGS			
32							
33							
34							
35							
36							
37							
38							
39							
40							

<p><u>NOTES:</u></p>	<p><u>LEGEND</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff</td> <td>>30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> <td></td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	
S - Split Spoon Sample	O/A - Sample Collected Off the Augers																		
UT - Undisturbed Tube Sample																			
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%																		
Little - Approximately 10 to 20%	And - Approximately 35 to 50%																		
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense																		
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0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard																	
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																		

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 10'+ Weather: PARTLY CLOUDY, 50's Performed By: PJS Date: 4/19/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-8 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 7:30 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	6	24"/11"	S-1, SAND and SILT, Little Gravel, Black and Grey, Dry, Medium Dense	.2'	ASPHALT	(1)
2		5					
3		11					
4		8					
5		4	24"/8"	S-2, SILT and SAND, Trace Wood, Coal, Ash, Black, Moist, Loose	10'	FILL	(2)
6	S-2	1					
7		1					
8		1					
9							
10		5	24"/5"	S-3, Top 2" Similar to S-2, Bottom 3" SILT, Little Sand, Gry, Wet, Medium Stiff to Soft	14'	SILT	
11	S-3	3					
12		1					
13		3					
14							
15		2	24"/3"	S-4, PEAT, Some Silt, Little Sand, Trace Wood, Olive, Wet, Medium Stiff	18.5'	PEAT	
16	S-4	3					
17		4					
18		5					
19							
20						CLAY	

NOTES: (1) 2.5-INCHES OF ASPHALT (2) WATER AT 10' BELOW GROUND SURFACE	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET
 Location: EAST BOSTON, MA
 Client: EBI CONSULTING, INC.
 Driller: CARR-DEE CORPORATION
 Drilling Methods: HSA/D&W 10'+
 Weather: PARTLY CLOUDY, 50's
 Performed By: PJS Date: 4/19/17
 Checked By: PGC Date: 4/26/17



Boring No: B-8
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 7.5±
 Date/Time of Groundwater Elevation: 7:30 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-5A S-5B	10 8 8 8	24"/18"	S-5, Top 5" CLAY, Little Gravel, Grey, Wet, Stiff Bottom 13", SAND, Trace Silt, Grey, Wet, Medium Dense	20.5'	CLAY	(3)
22					23'	SAND	
23							(4)
24							
25	S-6	5 5 5 9	24"/17"	S-6, CLAY, Little Sand, Grey, Wet, Stiff		CLAY	
26							
27							(5)
28							
29					29'		
30	S-7	6 5 10 5	24"/14"	S-7, SAND, Trace Clay, Grey, Wet, Medium Dense		SAND	
31					32'		
32				BOTTOM OF BORING AT 32' BGS			
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:
 (3) TWO 1/4-INCH CLAY BANDS IN SAND
 (4) TWO 1/2-INCH BANDS OF SAND
 (5) 1-INCH CLAY BAND THREE INCHES INTO S-7

LEGEND	
S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/19/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-9 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 11:45 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	6	24"/14"	S-1, SAND, Some Silt, Trace Gravel, Trace Coal, Trace Ash, Dark Brown, Dry, Loose	.2'	ASPHALT	(1)
2		4					
3		4					
4		2					
5							
6	S-2	8	24"/18"	S-2, Similar to S-1, Grey, Medium Dense		FILL	
7		7					
8		7					
9		8					
10							
11	S-3	2	24"/6"	S-3, Top 3" Similar to S-2 Bottom 3" PEAT, Some Silt, Little Sand, Little Organics, Wet, Soft	11'		(2)
12		2					
13	S-4	1	24"/4"	S-4, Similar to S-3, Soft to Med. Stiff			
14		2					
15	S-5	2	24"/24"	S-5, Top 10" Similar to S-4, Bottom 14" Similar to S-4, Some Organics, Brown, Medium Stiff		PEAT	
16		3					
17	S-6	3	24"/24"	S-6, Top 23" Similar to top of S-5, Bottom 1", SAND, Trace Silt, Grey, Wet, Medium Dense	18'		
18		3					
19		5					
20						SAND	

NOTES: (1) 2 INCHES OF ASPHALT (2) WATER AT 10' BELOW GROUND SURFACE	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/19/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-9 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 11:45 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-7	4	24"/13"	S-7, SAND, Little Silt, Grey, Wet, Medium Dense	23'	SAND	
22		6					
23		10					
24		13					
25		4	24"/12"	S-8, SAND and CLAY, Grey, Wet, Loose to Medium Stiff	35.5'	CLAYEY SAND	
26	S-8	4					
27		4					
28		8					
29			24"/10"	S-9, Similar to S-9	35.5'	CLAY	
30		6					
31	S-9	2					
32		6					
33			24"/16"	S-10, Top 4" SAND and CLAY, Grey, Wet, Medium Dense, Next 2" CLAY, Grey, Wet, Medium Stiff Next 4" Same as Top 4" Next 4" Same as Middle 2" Bottom 2" Same as Top 4"	35.5'	CLAY	
34		7					
35	S-10	3					
36		4					
37		5					
38							
39							
40							

NOTES:	LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff
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BORING LOG

Project: 120 GOVE STREET
 Location: EAST BOSTON, MA
 Client: EBI CONSULTING, INC.
 Driller: CARR-DEE CORPORATION
 Drilling Methods: HSA/D&W 20'+
 Weather: SUNNY, 50's
 Performed By: PJS Date: 4/19/17
 Checked By: PGC Date: 4/26/17



Boring No: B-9
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 7.5±
 Date/Time of Groundwater Elevation: 11:45 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
41	S-11	3 3 4 4	24"/20"	S-11, Top " CLAY, Some Sand, Grey, Wet, Medium Stiff; Middle 5" SAND And Clay, Grey, Wet; Bottom 10" CLAY, Grey, Wet, Medium Stiff	42'	CLAY	
42				BOTTOM OF BORING AT 42' BGS			
43							
44							
45							
46							
47							
48							
49							
50							
51							
52							
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58							
59							
60							

<p><u>NOTES:</u></p>	<p><u>LEGEND</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff</td> </tr> <tr> <td></td> <td>>30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff		>30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff
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4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff																		

BORING LOG

Project: 120 GOVE STREET Location: EAST BOSTON, MA Client: EBI CONSULTING, INC. Driller: CARR-DEE CORPORATION Drilling Methods: HSA/D&W 20'+ Weather: SUNNY, 50's Performed By: PJS Date: 4/19/17 Checked By: PGC Date: 4/26/17	 <p>DESIGN CONSULTANTS, INC.</p>	Boring No: B-10 Location: See Plan Approx. Ground Elevation: 17.5± Approx. Groundwater Elevation: 7.5± Date/Time of Groundwater Elevation: 9:30 AM Datum: BOSTON CITY BASE Project No. 2017-032
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Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	11	24"/8"	S-1, Top 1" ASPHALT Bottom 23" SAND, Little Silt, Little Gravel, Trace Coal, Dark Brown, Dry, Medium Dense	.1'	ASPHALT	(1), (2)
2		12					
3		7					
4		2					
5							
6	S-2	3	24"/8"	S-2, Top 3" SAND And Silt, Olive, Dry, Medium Dense Bottom 5" similar to Top 3", Trace Coal, Black, Dry, Medium Dense		FILL	
7		9					
8		8					
9		6					
10		1					
11	S-3	1/10"	24"/10"	S-3, Top 8" Similar to Bottom of S-2, Bottom 2" PEAT, Some Silt, Little Sand, Little Organics, Olive, Wet, Very Soft	10.5'		(3)
12		1/8"					
13	S-4	1/18"	24"/18"	S-4, Similar to bottom of S-3		PEAT	
14		1					
15	S-5	1	24"/24"	S-5, Similar to S-4, Brown, Soft			
16		1					
17	S-6	1					
18		6	24"/15"	S-6, Top 10" Similar to S-5 Bottom 5" SAND, Little Silt, Grey, Wet, Medium Dense	17'	SAND	
19		10					
20							

<p><u>NOTES:</u></p> (1) MOVED BORING 15' NE DUE TO WIRES (2) 1-INCH OF ASPHALT (3) WATER AT 10' BELOW GROUND SURFACE	<p><u>LEGEND</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">S - Split Spoon Sample</td> <td>O/A - Sample Collected Off the Augers</td> </tr> <tr> <td>UT - Undisturbed Tube Sample</td> <td></td> </tr> <tr> <td>Trace - Approximately 0 to 10%</td> <td>Some - Approximately 20 to 35%</td> </tr> <tr> <td>Little - Approximately 10 to 20%</td> <td>And - Approximately 35 to 50%</td> </tr> <tr> <td>0-10 Coarse Soil N Value - Loose</td> <td>30-50 Coarse Soil N Value - Dense</td> </tr> <tr> <td>10-30 Coarse Soil N Value - Medium Dense</td> <td>>50 Coarse Soil N Value - Very Dense</td> </tr> <tr> <td>0-4 Fine Soil N Value - Soft</td> <td>8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard</td> </tr> <tr> <td>4-8 Fine Soil N Value - Medium Stiff</td> <td>15-30 Fine Soil N Value - Very Stiff</td> </tr> </table>	S - Split Spoon Sample	O/A - Sample Collected Off the Augers	UT - Undisturbed Tube Sample		Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	Little - Approximately 10 to 20%	And - Approximately 35 to 50%	0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard	4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff
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BORING LOG

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 Performed By: PJS Date: 4/19/17
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Boring No: B-10
 Location: See Plan
 Approx. Ground Elevation: 17.5±
 Approx. Groundwater Elevation: 7.5±
 Date/Time of Groundwater Elevation: 9:30 AM
 Datum: BOSTON CITY BASE
 Project No. 2017-032

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-7	5	24"/17"	S-7, SAND, Some Clay, Grey, Wet, Medium Dense Two 1/4" CLAY lenses in S-7	32'	CLAYEY SAND	
22		7					
23		7					
24		9					
25	S-8	5	24"/16"	S-8, Top 10" Similar to S-7, Little Clay Middle 1" CLAY, Grey, Wet, Very Stiff Bottom 5" Similar to Top 10"	32'	CLAYEY SAND	
26		5					
27		9					
28		10			32'	CLAYEY SAND	
29							
30							
31	S-9	7	24"/11"	S-9, SAND, Some Clay, Grey, Wet, Medium Dense	32'	CLAYEY SAND	
32		11					
33		12					
34		11			32'	CLAYEY SAND	
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
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Attachment D

Climate Change Checklist

Boston Planning & Development Agency Climate Resiliency Report Summary



Submitted: 10/02/2018 12:47:43

A.1 - Project Information

Project Name:	Frankfort Gove Street Housing Project		
Project Address:	115 Gove Street, 120 Gove Street, 128-134 Gove Street, 21-43 Frankfort Street		
Filing Type:	Initial (PNF, EPNF, NPC or other substantial filing)		
Filing Contact:	Fiona Vardy	Epsilon Associates, Inc.	fvardy@epsilonassociates.com 9784616243
Is MEPA approval required?	No	MEPA date:	

A.2 - Project Team

Owner / Developer:	Frankfort Gove LLC
Architect:	Bruner-Cott & Associates
Engineer:	BSC Group
Sustainability / LEED:	Bruner-Cott & Associates
Permitting:	Epsilon Associates
Construction Management:	Cranshaw Construction

A.3 - Project Description and Design Conditions

List the principal Building Uses:	Residential Multifamily, Assembly
List the First Floor Uses:	Residential Multifamily, Storage, Mechanical
List any Critical Site Infrastructure and or Building Uses:	N/A

Site and Building:

Site Area (SF):	49140	Building Area (SF):	120430
Building Height (Ft):	65	Building Height (Stories):	6
Existing Site Elevation – Low (Ft BCB):	16.46	Existing Site Elevation – High (Ft BCB):	16.46
Proposed Site Elevation – Low (Ft BCB):	16.46	Proposed Site Elevation – High (Ft BCB):	19.50
Proposed First Floor Elevation (Ft BCB):	19.50	Below grade spaces/levels (#):	1

Article 37 Green Building:

Boston Planning & Development Agency Climate Resiliency Report Summary



LEED Version - Rating System:	v4 BD+C New Construction and Major Renovation	LEED Certification:	No
Proposed LEED rating:	Silver	Proposed LEED point score (Pts.):	Minimum of 40 pts

Building Envelope:

When reporting R values, differentiate between R discontinuous and R continuous. For example, use “R13” to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	30ci	Exposed Floor:	30
Foundation Wall:	7.5ci	Slab Edge (at or below grade):	10
Vertical Above-grade Assemblies (%’s are of total vertical area and together should total 100%):			
Area of Opaque Curtain Wall & Spandrel Assembly:	4	Wall & Spandrel Assembly Value:	0.38
Area of Framed & Insulated / Standard Wall:	75	Wall Value:	R20 and R7.5ci
Area of Vision Window:	16	Window Glazing Assembly Value:	varies per table, C402.4
		Window Glazing SHGC:	0.40 for S, E, W facing, 0.53 for N facing only (SHGC)
Area of Doors:	5	Door Assembly Value:	Opaque 0.37, 0.77 entry door

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined

Peak Loads and performance were calculated based on prior modeled projects with similar building envelope, orientation, size and systems, where Carrier Hourly Analysis Program (HAP) was used for simulation.

Annual Electric (kWh):	630000	Peak Electric (kW):	175
Annual Heating (MMbtu/hr):	1200	Peak Heating (MMbtu):	1.2
Annual Cooling (Tons/hr):	900	Peak Cooling (Tons):	95
Energy Use - Below ASHRAE 90.1 - 2013 (%):	23	Have the local utilities reviewed the building energy performance?:	No
Energy Use - Below Mass. Code (%):	23	Energy Use Intensity (kBtu/SF):	25

Back-up / Emergency Power System

Electrical Generation Output (kW):	80	Number of Power Units:	1
System Type (kW):	combustion engine	Fuel Source:	natural gas

Emergency and Critical System Loads (in the event of a service interruption)

Electric (kW):	60	Heating (MMbtu/hr):	0.04
		Cooling (Tons/hr):	3

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing greenhouse gas emissions is critical to avoiding more extreme climate change conditions. To achieve the City’s goal of carbon-neutrality by 2050 the performance of new buildings will need to progressively improve to carbon net zero and net positive.

B.1 – GHG Emissions - Design Conditions

For this filing - Annual Building GHG Emissions (Tons): 2200

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

High performance building envelope, high-efficiency mechanical and lighting systems, and EnergyStar labeled appliances will be incorporated into the project to reduce the overall building energy usage.

Describe building specific passive energy efficiency measures including orientation, massing, building envelop, and systems:

High-performance building envelope will be provided for the project to reduce the heating and cooling loads of the buildings.

Describe building specific active energy efficiency measures including high performance equipment, controls, fixtures, and systems:

High-efficiency mechanical systems, light fixtures with high efficacy LED/CFL bulbs, and EnergyStar labeled appliances will be provided for the project to reduce the building energy usage. Provisions for PV panels will be provided for future integration (PV ready)

Describe building specific load reduction strategies including on-site renewable energy, clean energy, and storage systems:

Provisions for PV panels will be provided for future integration (PV ready)

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

N/A

Describe any energy efficiency assistance or support provided or to be provided to the project:

The project will participate in the MassSave New Construction Program for incentives related to the installation of efficiency equipment.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

Provisions for PV panels will be provided for future integration (PV ready) to further reduce the carbon footprint of the project.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2° F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low (Deg.):	7	Temperature Range - High (Deg.):	91
Annual Heating Degree Days:	5512	Annual Cooling Degree Days	776

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90° (#):	5	Days - Above 100° (#):	2
Number of Heatwaves / Year (#):	5	Average Duration of Heatwave (Days):	3

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

Design intent aims to include a combination of white roof areas, green roofs, low-reflective paved surfaces, and an expanded green space at the corner of Lubec and Gove streets.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

Design intent aims to meet/exceed current Boston building energy efficiency code requirements, investigate various passive strategies, and improve the buildings' passive survivability performance.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

Mechanicals will be set at or above base floor elevation (19.5 BCB)

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

What is the project design precipitation level? (In. / 24 Hours)

5.25

Describe all building and site measures for reducing storm water run-off:

Design intent will be the 10-year, 24-hour design storm (5.25" - 6") through infiltration and retention strategies.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

Design intent includes utilization of green roof space, expanded landscape area on the corner of Gove and Lubec streets, and further investigation of increased infiltration strategies across the site including rainwater harvesting.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, the sea level in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA Special Flood Hazard Area?

No

What Zone:

What is the current FEMA SFHA Zone Base Flood Elevation for the site (Ft BCB)?

19.3

Is any portion of the site in the BPDA Sea Level Rise Flood Hazard Area (see [SLR-FHA online map](#))?

Yes

If you answered YES to either of the above questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented by the Sea Level Rise Flood Hazard Area (SLR-FHA), which includes 3.2’ of sea level rise above 2013 tide levels, an additional 2.5” to account for subsidence, and the 1% Annual Chance Flood. After using the SLR-FHA to identify a project’s Sea Level Rise Base Flood Elevation, proponents should calculate the Sea Level Rise Design Flood Elevation by adding 12” of freeboard for buildings, and 24” of freeboard for critical facilities and infrastructure and any ground floor residential units.

What is the Sea Level Rise - Base Flood Elevation for the site (Ft BCB)?	19.30		
What is the Sea Level Rise - Design Flood Elevation for the site (Ft BCB)?	21.30	First Floor Elevation (Ft BCB):	19.50
What are the Site Elevations at Building (Ft BCB)?	16.46	What is the Accessible Route Elevation (Ft BCB)?	19.50

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Design intent aims to investigate various building level mitigation strategies as described by the requirements, as well as work with landscape architecture and civil engineering to explore site level mitigation strategies.

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

Design intent aims to explore several methods of floor protection methods including a flood proof door to mechanical rooms, possible flood gate strategies, and consideration of elevating crucial building facilities.

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Design intent includes investigating first aid and emergency supplies stored onsite in public common areas, tenant education program, preparedness coordination by property management, emergency generator for common area refrigeration and limited emergency power.

Describe any strategies that would support rapid recovery after a weather event:

Design intent aims to explore the use of hard surfaces where possible on ground floor elevations to facilitate quick cleanup as well as protecting building mechanical and electrical equipment from flood damage by raising equipment elevations.

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Boston Planning & Development Agency Climate Resiliency Report Summary



Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The project is investigating stormwater infiltration system strategies to promote significant groundwater infiltration now and in the future.

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

Design intent includes potential future adaptation of the access and amenity space to be located off of Frankfort Street including possible retrofit of the common area access.

Thank you for completing the Boston Climate Change Checklist!

For questions or comments about this checklist or Climate Change best practices, please contact:

John.Dalzell@boston.gov

Attachment E

Accessibility Checklist

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA) Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BPDA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
http://www.ada.gov/2010ADASTandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
<http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html>
3. Massachusetts State Building Code 780 CMR
<http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html>
4. Massachusetts Office of Disability – Disabled Parking Regulations
<http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf>
5. MBTA Fixed Route Accessible Transit Stations
http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
<http://bostoncompletestreets.org/>
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
http://www.cityofboston.gov/images_documents/sidewalk%20policy%2020114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. **Accessible Route** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. **Accessible Group 2 Units** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. **Accessible Guestrooms** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. **Inclusionary Development Policy (IDP)** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: <http://www.bostonplans.org/housing/overview>
5. **Public Improvement Commission (PIC)** – The regulatory body in charge of managing the public right of way. For more information visit: <https://www.boston.gov/pic>
6. **Visitability** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.

Article 80 | ACCESSIBILITY CHECKLIST

1. Project Information: <i>If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.</i>			
Project Name:	Frankfort + Gove Street Housing Project		
Primary Project Address:	115 Gove Street, 120 Gove Street, 128 Gove Street, 21-43 Frankfort Street		
Total Number of Phases/Buildings:	2		
Primary Contact (Name / Title / Company / Email / Phone):	Richard Egan/Frankfort Gove LLC /regan9999@gmail.com / 617-422-7000		
Owner / Developer:	Frankfort Gove, LLC		
Architect:	Bruner-Cott		
Civil Engineer:	BSC Group		
Landscape Architect:	Klopfer Martin Design Group		
Permitting:	Epsilon Associates, Inc.		
Construction Management:	Cranshaw Construction		
At what stage is the project at time of this questionnaire? Select below:			
	PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:
Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? <i>If yes</i> , identify and explain.	No		
2. Building Classification and Description: <i>This section identifies preliminary construction information about the project including size and uses.</i>			
What are the dimensions of the project?			
Site Area:	49,140 GSF	Building Area:	120,430 GSF
Building Height:	Up to 65 FT.	Number of Stories:	Up to 6 Flrs.
First Floor Elevation:	19.5 Ft BCB	Is there below grade space:	Yes – Parking
What is the Construction Type? (Select most appropriate type)			

Article 80 | ACCESSIBILITY CHECKLIST

	Wood Frame	Masonry	Steel Frame	Concrete
What are the principal building uses? (IBC definitions are below – select all appropriate that apply)				
	Residential – One - Three Unit	Residential - Multi-unit, Four +	Institutional	Educational
	Business	Mercantile	Factory	Hospitality
	Laboratory / Medical	Storage, Utility and Other		
List street-level uses of the building:	<i>Residential units, amenity space, mechanical, storage</i>			
<p>3. Assessment of Existing Infrastructure for Accessibility:</p> <p><i>This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.</i></p>				
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	<p>The area surrounding the Project site includes a mix of residential, commercial and institutional uses. Existing residences are located to the north, west and south of the site. These residences are generally three-stories with brick facades, typical of East Boston. Maverick Square, located within a half mile from the Project site, includes numerous restaurants, shops, access to public transportation, parks and open spaces. Open spaces in the area include Lombardi Memorial Park, Lewis Mall, East Boston Greenway, Piers Park Sailing Center, Brophy Park, and Sumner and Lamson Street Playground. The Project site is located within one half mile from the Maverick MBTA Blue Line station and is along the routes of multiple major bus lines. The Project site is also approximately two miles from Boston Logan International Airport. The proximity to public transit makes the area an ideal location for transit-oriented development.</p>			
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	<p>The Project site is located within a half mile of Maverick Square, a major MBTA for subway (blue line) and bus access. The Project site is situated along the paths of multiple major bus lines and approximately two miles from Logan airport.</p>			
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	<p>The Donald McKay School and East Boston Early Education Center, East Boston Neighborhood Health Center, Paris Street Community Center, Theodore Lyman School, East Boston Meditation Center</p>			
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	<p>East Boston Memorial Park, East Boston Memorial Stadium, East Boston Greenway, Maverick Square, Lombardi Memorial Park, Lewis Mall, Piers Park Sailing Center, Brophy Park, Sumner and Lamson Street Playground, Golden Stairs Park, East Boston Social Centers Playlot, Jeffries Point Neighborhood Association, Paris Street Pool</p>			

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<p>4. Surrounding Site Conditions – Existing: <i>This section identifies current condition of the sidewalks and pedestrian ramps at the development site.</i></p>	
<p>Is the development site within a historic district? <i>If yes</i>, identify which district:</p>	<p>No</p>
<p>Are there sidewalks and pedestrian ramps existing at the development site? <i>If yes</i>, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:</p>	<p>At Gove/Frankfort eastern ramp is a non-compliant apex ramp, western ramp is compliant in eastern direction (tactile warning is gray not yellow) and northern direction is encumbered by utility pole and catch basin, and has no ramp. At Gove/Lubec, the ramp is non-compliant.</p>
<p>Are the sidewalks and pedestrian ramps existing-to-remain? <i>If yes</i>, have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? <i>If yes</i>, provide description and photos:</p>	<p>Sidewalks are frequently not compliant and will likely be rebuilt to accommodate street tree planting and repair pavement. No compliant tactile warning tiles are present.</p>
<p>5. Surrounding Site Conditions – Proposed <i>This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.</i></p>	
<p>Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? <i>If yes</i>, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.</p>	<p>The project falls into the Neighborhood Residential category of the Complete Streets guidelines, and are consistent with those guidelines.</p>
<p>What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:</p>	<p>They will have a 1.5% cross slope generally, and 2% maximum where necessary. Sidewalk width minimum is 7 feet.</p>

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<p>List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?</p>	<p>Precast concrete pavers are proposed in the furniture/landscape zone only, on Gove street, with broom finish concrete in all other sidewalk areas and to allow accessibility per Boston standards.</p>
<p>Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? <i>If yes</i>, what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?</p>	<p>No furnishings are planned for sidewalk areas.</p>
<p>If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?</p>	<p>Pedestrian ROW is all on public ROW.</p>
<p>Will any portion of the Project be going through the PIC? <i>If yes</i>, identify PIC actions and provide details.</p>	<p>Pavers, handicap ramps, and street tree planting will require PIC approval and permitting.</p>
<p>6. Accessible Parking: <i>See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations.</i></p>	
<p>What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?</p>	<p><i>Total project will include 84 parking spaces – 13 surface spaces located off of Lubec Street adjacent to the Church Building, and 71 located in the below-grade parking garage.</i></p>
<p>What is the total number of accessible spaces provided at the development site? How many of these are “Van Accessible” spaces with an 8 foot access aisle?</p>	<p><i>1 located at the Church Building surface parking lot. 3 located below-grade in the Frankfort Street garage. The design will incorporate an 8-foot access aisle.</i></p>
<p>Will any on-street accessible parking spaces be required? <i>If yes</i>, has the proponent contacted the Commission for Persons with Disabilities regarding this need?</p>	<p><i>Requirement will be determined after review with the Commission for Persons with Disabilities.</i></p>
<p>Where is the accessible visitor parking located?</p>	<p><i>Requirement will be determined after review with Commission for Persons with Disabilities.</i></p>
<p>Has a drop-off area been identified? <i>If yes</i>, will it be</p>	<p><i>Drop-off locations have not yet been identified, but they</i></p>

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accessible?	will be accessible.
<p>7. Circulation and Accessible Routes: <i>The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors.</i></p>	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	<p>Church renovation: There will be a flush entry to the stairs and an accessible ramp.</p> <p>Frankfort main entrance: Stairs and accessible ramp to flush entry.</p> <p>Frankfort street entrance: Flush entry to stairs and lift</p>
Are the accessible entrances and standard entrance integrated? <i>If yes, describe. If no, what is the reason?</i>	Yes, they are located together at the main entrances. One at the Church renovation, and two at the Frankfort Street building.
<i>If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.</i>	Large project review. Accessible routes across the project will be provided from the primary entrances to the main accessible elevator access points. Signage compliant with 521 CMR will be provided for residents and visitors for clear way-finding.
<p>8. Accessible Units (Group 2) and Guestrooms: (If applicable) <i>In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.</i></p>	
What is the total number of proposed housing units or hotel rooms for the development?	112 units.
<i>If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?</i>	All units will be condominiums for sale. 13% of the units will be IDP (15 units)
<i>If a residential development, how many accessible Group 2 units are being proposed?</i>	Project will meet the requirement for Group 2 units.
<i>If a residential development, how many accessible Group 2 units will also be IDP units? If none, describe reason.</i>	Will meet the BPDA requested 5% of Group 2.
<i>If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? If yes, provide amount and location of equipment.</i>	Not applicable.

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<p>Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. <i>If yes</i>, provide reason.</p>	<p>First floor units along Frankfort street have two entry points. One is a stoop with stairs and landing on Frankfort street. The other is an accessible entry off the accessible route to the accessibly building entrances and elevator.</p>
<p>Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? <i>If yes</i>, describe:</p>	<p>There will be an accessible ramp and a lift located at the first floor of the new building along Frankfort st. to provide access from grade to first floor and main elevators. The church renovation will provide a ramp at the main entry to access the lower level and main elevator.</p>
<p>9. Community Impact: <i>Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.</i></p>	
<p>Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?</p>	<p>The Project is proposing additional street trees along Frankfort, Gove, and Lubec streets. the project will also create a green space on the corner of Gove and Lubec streets.</p>
<p>What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?</p>	<p>All common and social spaces will be accessible.</p>
<p>Are any restrooms planned in common public spaces? <i>If yes</i>, will any be single-stall, ADA compliant and designated as “Family”/ “Companion” restrooms? <i>If no</i>, explain why not.</p>	<p>Yes, there will be single stall, unisex accessible restrooms.</p>
<p>Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? <i>If yes</i>, did they approve? <i>If no</i>, what were their comments?</p>	<p>The Project has not been reviewed with the Disability Commissioner or the Architectural staff.</p>
<p>Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? <i>If no</i>, what recommendations did the Advisory</p>	<p>The Project has not been presented to the disability advisory board.</p>

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<p>Board give to make this project more accessible?</p>	<p>The Project has not been presented to the disability advisory board.</p>
<p>10. Attachments <i>Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.</i></p>	
<p>Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances.</p>	
<p>Provide a diagram of the accessible route connections through the site, including distances.</p>	
<p>Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)</p>	
<p>Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.</p>	
<p>Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.</p> <ul style="list-style-type: none"> • • • • 	

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

For questions or comments about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or our office:

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The Mayor's Commission for Persons with Disabilities
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SCALE - 1" = 40'-0"

Accessibility Diagram

Bruner/Cott
ARCHITECTS

FRANKFORT/GOVE LLC
SEPTEMBER 13, 2018

DEVELOPMENT
EAST BOSTON