PROJECT NOTIFICATION FORM

125 AMORY STREET

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

Submitted by:
Amory Street Partners
c/o The Community Builders
185 Dartmouth Street
Boston, MA 02116

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

In Association with:
ICON Architecture
Klein Hornig LLP
Howard Stein Hudson
Nitsch Engineering
Copley Wolff Design Group

September 19, 2017

Epsilon
ASSOCIATES INC.

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Chapter 1.0

Project Information

1.0 PROJECT INFORMATION

1.1 Introduction

Amory Street Partners LLC (the "Proponent"), a partnership between The Community Builders, Jamaica Plain Neighborhood Development Corporation, and Urban Edge, was selected by the Boston Housing Authority (BHA) to improve the site located at 125 Amory Street in the Jamaica Plain neighborhood of Boston (the "Project site"). The Project site includes an existing apartment building (Amory Street Apartments) and a building housing the Program of All-Inclusive Care for Elders (PACE), known as the PACE Senior Center.

The proposed development includes renovation of the Amory Street Apartments building and partial demolition of portions of the building, construction of three new residential buildings, and extensive site improvements, including new roadways, landscaping and open space (the "Project"). The existing residential units will continue to serve low-income seniors, while a significant portion of the new residential units will be affordable to those making less than 70% of the area median income (AMI). The PACE Senior Center building will remain as is, with improvements limited to the site around the building.

The Proponent is a partnership of three accomplished non-profit Boston-based development organizations with deep experience and success in developing vibrant mixed-income communities in the Jamaica Plain and Roxbury neighborhoods:

- The Community Builders, Inc., a national non-profit developer of affordable and mixed income housing with more than 50 years of history developing communities in Boston and throughout Massachusetts.
- The Jamaica Plain Neighborhood Development Corporation (JPNDC), a 40-year old community development corporation with a mission to promote equitable development and equal opportunity in Jamaica Plain and adjacent neighborhoods.
- Urban Edge, a 40-year old community development corporation based in Roxbury that is dedicated to strengthening communities and families by building affordable housing and vibrant, prosperous neighborhoods.

The BHA issued a request for proposals for the 125 Amory Street property in July, 2015. The request for proposals sought to preserve the existing 199 units at 125 Amory Street, and also provide new housing on the adjacent vacant land.

The Proponent submitted a proposal in September 2015, and the Proponent was designated by the BHA in November, 2015. Since that time, the Proponent has been working closely with the BHA, residents of 125 Amory Street, and the surrounding community to develop and refine the Project, as presented in this Project Notification Form (PNF).

This PNF is being submitted to the Boston Redevelopment Authority (BRA) doing business as the 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.

1.2 Project Description

1.2.1 Project Site

The Project site is located at 125 Amory Street, an approximately six acre (261,695 square foot [sf]) site currently owned by the BHA, and bounded by Amory Terrace to the north, Amory Street to the east, Atherton Street and residences to the south and the Massachusetts Bay Transportation Authority (MBTA) Orange Line tracks to the west (see Figure 1-1). The Project site is currently occupied by Amory Street Apartments, the PACE Senior Center, and several smaller buildings used for BHA services. Surface parking (153 spaces) and landscaping make up the remainder of the site.

The Amory Street Apartments is a six-story, approximately 177,000 sf building constructed in 1914 and converted to apartments in 1974. The building, along with two additions known as Building #9 and Building #11, include approximately 187 units of affordable senior housing along with associated community areas, as well as 12 residential units operated by Upham's Elder Service in conjunction with PACE. The BHA also uses approximately 12,000 sf of the building for office and facilities maintenance functions. Smaller buildings on the site are used for storage and for housing the BHA Police.

The PACE Senior Center, addressed as 125A Amory Street, is a two-story building with approximately 2,200 sf containing adult daycare and health services, along with medical and administrative offices. PACE provides daytime programs for seniors who live in Amory Street Apartments as well as across the city.

The survey is included in Appendix A.

1.2.2 Area Context

The Project site is located on the eastern edge of Jamaica Plain at its border with Roxbury. The area to the north of the site consists of a mix of low- and mid-rise commercial and light industrial buildings as well as residential apartment buildings, and to the south and west are multifamily residential buildings. Directly to the east of the site across Columbus Avenue is the Dimock Center. The site, located within a short walk from the Jackson Square MBTA station, provides access to the Orange Line, as well as several bus routes.

To the north of the Project site is Jackson Square, approximately 11.2 acres of land that went through a planning process in the 2000s which proposed the redevelopment of the site with residential, retail, community and office/institutional uses. The master plan for the area was approved by the BPDA in 2007, and is currently being completed through multiple phases.

125 Amory Street Boston, Massachusetts

E-ICON ARCHITECTURE

Figure 1-1
Context Plan

1.2.3 Proposed Project

The Project includes three main components: 1) renovation; 2) new construction; and 3) open space. Table 1-1 provides a summary of the Project program. Figure 1-2 includes a site plan, and Figure 1-3 includes an aerial view of the Project. Figures 1-4 to 1-9 include floor plans, sections and elevations.

Table 1-1 Project Program

Building	Approx. sf	Residential Units	Parking		Height
			Under Buildings	Surface	
Renovation					
Amory Street Apts	177,000	209[1]	-	54	80 feet 7 stories (Existing)
New Construction					
Building A	126,500	147	57	30[2]	70 feet 6 stories
Building B	112,200	140	58	26	70 feet 6 stories
Building C	70,250	63	-	32	55 feet 5 stories
Total	**485,950**	**559**	**257**		
Total Net New	***308,950***	***360***	***104***		

[1] The existing building includes 199 residential units (12 of which are operated by Upham's Elder Service in conjunction with PACE). The renovation will add approximately 10 new residential units.

[2] Eight surface parking spaces may be shared with PACE.

1.2.3.1 Renovation

The renovation portion of the Project includes the preservation of Amory Street Apartments, including new windows, high-efficiency mechanical systems, accessibility improvements, reprogrammed and improved common spaces for residents, façade repairs, and interior unit upgrades. Existing additions to the building will be demolished, and improvements will be made for parking and open space around the site. The building will include up to 209 units of affordable senior housing, including an additional ten units that will be constructed in areas currently used by the BHA, which will be relocated offsite. Common program spaces will be upgraded within the building, and residential parking will be re-organized with replacement spaces adjacent to the building.

1.2.3.2 New Construction

The Project includes construction of three new residential buildings totaling approximately 308,950 sf. The new buildings will include approximately 350 residential rental units—approximately 135 of which will be restricted as affordable. Specifically, the buildings, as shown on Figure 1-2, include:

- Building A: A six story building over parking with approximately 147 rental apartments, including approximately 37 apartments affordable to households earning up to 70 percent of the Area Median Income (AMI). Approximately 25 percent of the units will be two-bedroom or larger units sized for families. The building will include approximately 57 below-grade parking spaces.

- Building B: A six story building over parking with approximately 140 rental apartments, including approximately 35 apartments affordable to households earning up to 70 percent of the AMI. Approximately 25 percent of the units will be two-bedroom or larger units sized for families. The building will include approximately 58 below-grade parking spaces.

- Building C: A four and five story building with approximately 63 affordable rental apartments, with approximately 76 percent sized for families. At least eight units will be set aside for residents earning under 30 percent of the AMI, with the remainder for residents up to 60 percent of the AMI.

Through the new construction and redesign of the Project site, 257 parking spaces will be created, an increase from the 153 existing spaces on the Project site. Approximately 115 spaces are expected to be structured parking on the first level of Buildings A and B, as mentioned above. There will be approximately 142 surface parking spaces. The parking spaces will be shared among the buildings, with 54 spaces serving existing residents of the Amory Street Apartments, and additional spaces set aside to serve the residents and employees of the PACE program. The Project will explore the use of shared parking between employees of PACE and Amory Street Apartments residents and new residential households on the site.

The site design will also result in three new private roadways to allow access through the site (see Figure 1-2). Two roadways will be created by extending the existing driveways north and south of Amory Street Apartments through the site, and a third north-south roadway will be added at the rear of the property, intended to connect to the private way in front of the abutting 75 Amory Avenue.

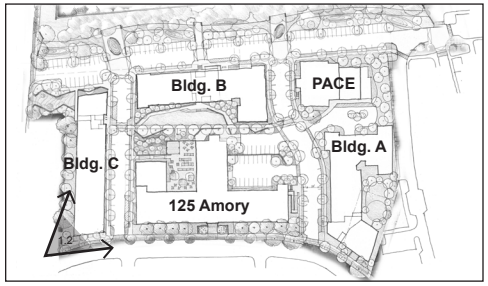
MBTA Right of Reversion

Approximately 55 surface parking spaces on the Project site are located, wholly or in part, on land that will be acquired from the MBTA through a surface easement.

It is expected that the easement and use agreement negotiated with the MBTA will include a right of reversion to the MBTA in the event of expansion of the railway or other transportation related need. In the unlikely event that this right is exercised, the Proponent would work with the MBTA and adjacent property owners to identify parking locations to replace the spaces lost.

125 Amory Street Boston, Massachusetts

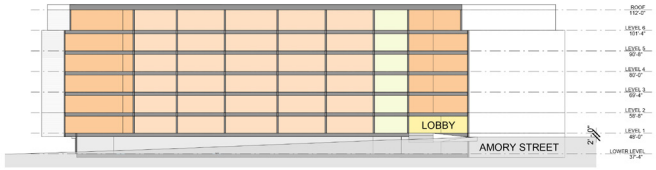
Figure 1-2
Site Plan



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 1-3
Aerial View



6 BUILDING A SECTION
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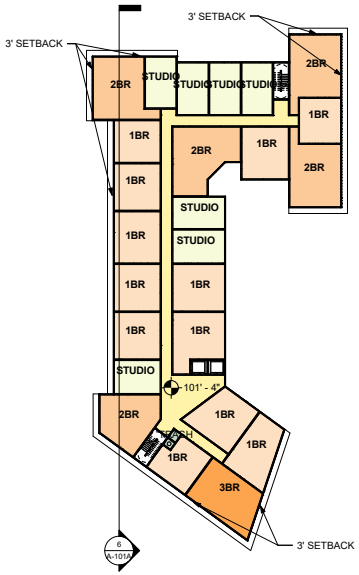

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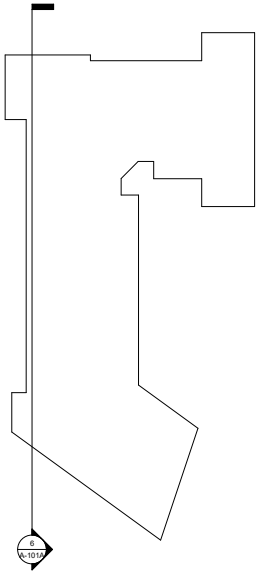
1" = 30'-0"



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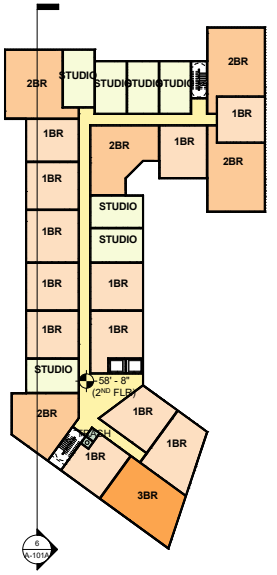

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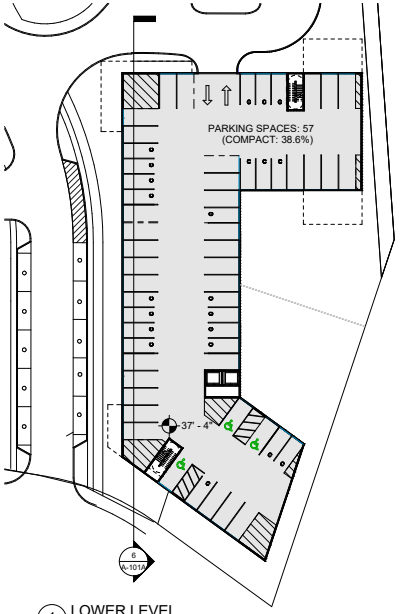

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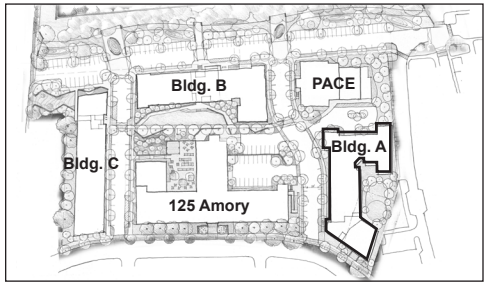


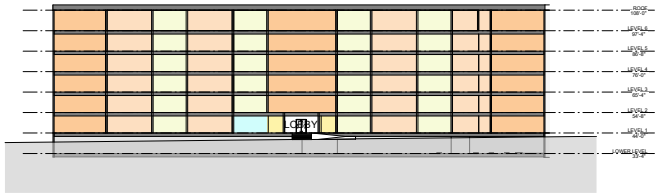
N

0' 30'

125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 1-4
Building A Section and Floor Plans



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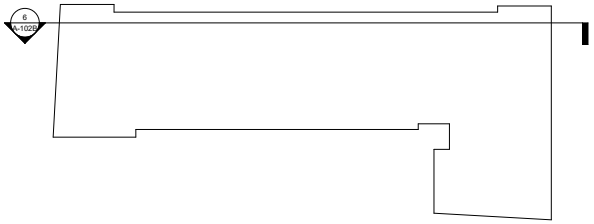

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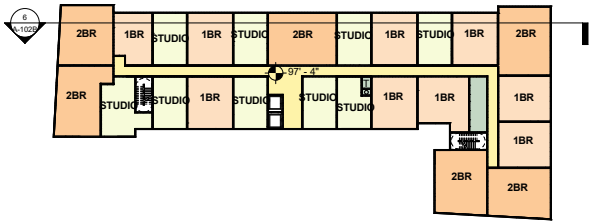

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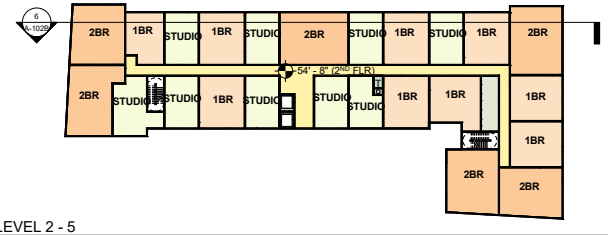

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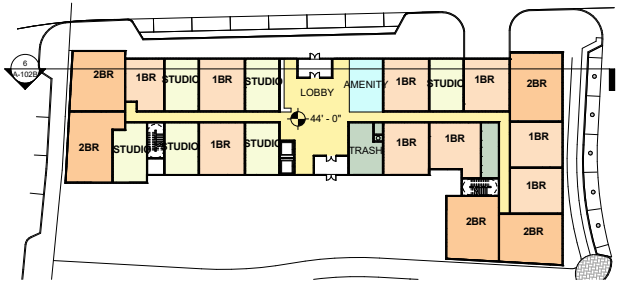

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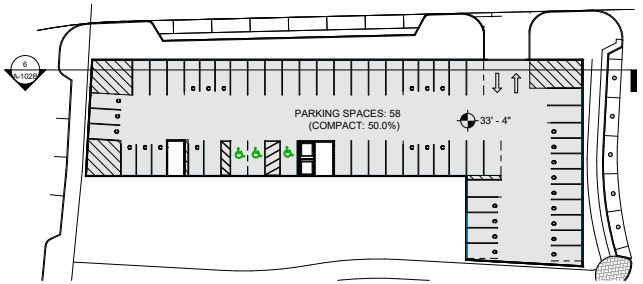

1 LOWER LEVEL
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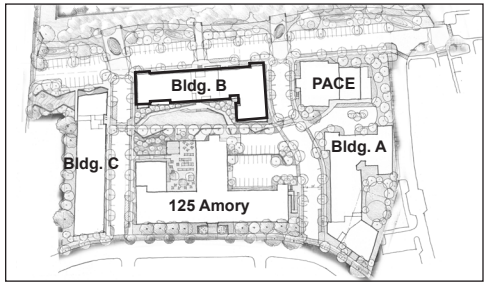
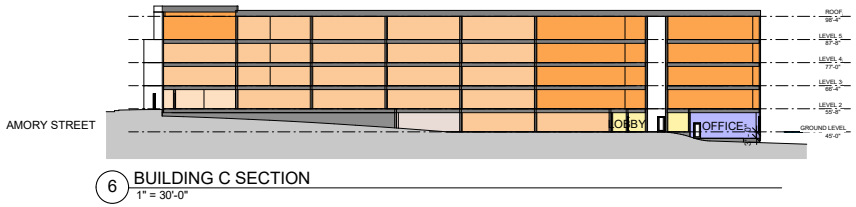


125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 1-5
Building B Section and Floor Plans



6 BUILDING C SECTION
1" = 30'-0"

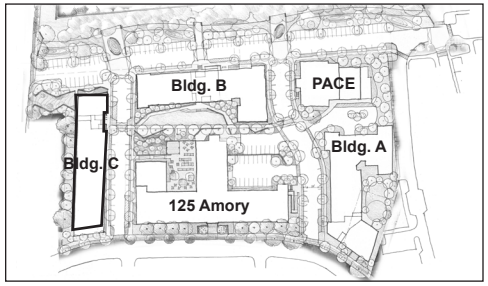
5 FIFTH LEVEL
1" = 30'-0"

4 FOURTH LEVEL
1" = 30'-0"

3 THIRD LEVEL
1" = 30'-0"

2 SECOND LEVEL
1" = 30'-0"

1 GROUND LEVEL
1" = 30'-0"



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

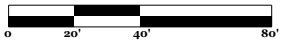
Figure 1-6
Building C Section and Floor Plans

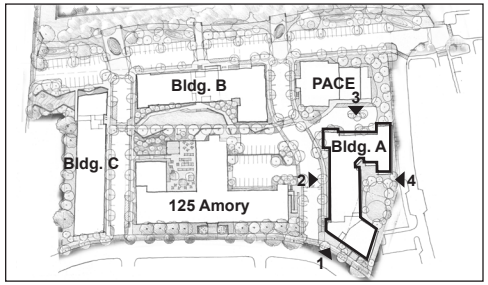
A/4 Bldg. A Northeast

A/3 Bldg. A Northwest

A/2 Bldg. A Southwest

A/1 Bldg. A Southeast (Amory St.)





125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

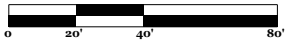
Figure 1-7
Building A Elevations

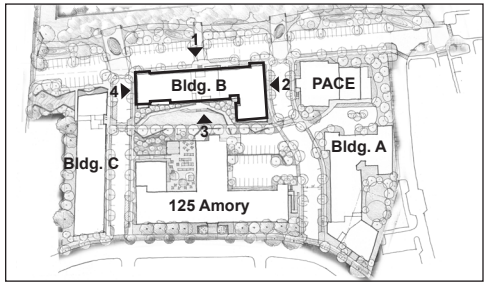
B/4 Bldg. B Southwest

B/3 Bldg. B Southeast

B/2 Bldg. B Northeast

B/1 Bldg. B Northwest





125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

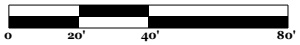
Figure 1-8
Building B Elevations

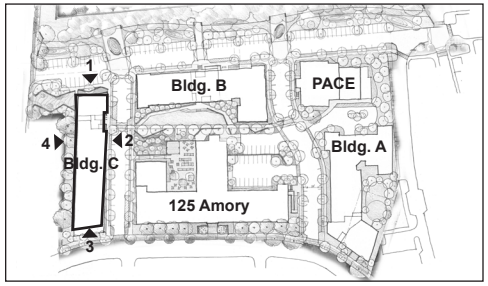
C/4 Bldg. C Southwest

C/3 Bldg. C Northwest

C/2 Bldg. C Northeast

C/1 Bldg. C Southeast (Amory St.)





125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 1-9
Building C Elevations

1.2.3.3 Open Space and Landscaping

The Project includes significant new open space for public use as well as for the Project's residents, ranging from walkways to inviting and lushly landscaped green spaces between and surrounding the new and existing buildings. The site design characterizes the open spaces into three categories: 1) Streetscapes; 2) Amory Street Apartments Front Door; and 3) Internal Active and Passive Spaces.

Streetscapes – Three new private roadways will be created that support pedestrian, bicycle, and vehicular circulation through the site, and provide access for fire trucks and emergency vehicles. Two of the roadway connections will be extensions of the existing curb cuts on Amory Street, linking east and west. The third roadway will run north and south, aligned with the MBTA Orange Line tracks, connecting Atherton Street to Amory Terrace. The streetscape improvements include:

- Complete Street Standards – Even though they are private roadways, the new streets will be designed to meet City standards for Complete Streets, to the extent feasible. The current plan includes wide sidewalks, planting strips, street trees, and a furniture zone next to parallel parking.

- Traffic-Calming Elements - Raised crosswalks and curb extensions will provide safe pedestrian crossings at intersections and mid-block crossings, slowing down vehicles and making pedestrians more visible.

- Amory Street Improvements – The existing, narrow sidewalk on the west side of Amory Street will be widened with a planted buffer zone between the sidewalk and existing parallel parking. New trees, lighting, and street furniture will be located within the buffer zone.

Amory Street Apartments Front Door – Currently, the building entrance is cramped and unwelcoming. An enlarged front "stoop" will provide a new and gracious entrance to the residential building. Stepped seat walls under shade trees will provide flexible seating options for small gatherings of residents to enjoy.

Internal Active and Passive Spaces – The existing site will be transformed into a cohesive and green community with shade trees lining the roadways and accessible walkways linking the buildings and open spaces. Planted areas will include native and adaptive trees, shrubs, perennials, and grasses that provide year-round interest. Trees and planting beds will be used to create a sense of arrival and give each building an individual identity. The improvements will include:

- Amory Street Apartments Patio – Located adjacent to the resident's common room, the existing outdoor amenity space will be improved and expanded with attractive, durable materials and a reconfigured layout of raised and accessible garden beds,

picnic benches and dining tables, and a trellis above an outdoor kitchen. This space will continue to host the annual barbeque party. A perimeter fence and gate will ensure security and access for the residents, while still encouraging visual and social engagement with the Central Green.

- Central Green – In the center of the site, there will be a long, open lawn with amphitheater seating and a swooping walkway on the west side, providing an accessible connection to Building B (see Figure 1-10). On the east side of the lawn, a multiuse path with biofiltration gardens will create a central spine. The spine will connect the PACE Senior Center and Building A to the lawn between Amory Street Apartments and Building B, and then will open up to a raised crossing at the entrance to Building C. Short-term bike racks will be located near entrances to each building.

- Play Space - A play space for children will be located outside the community room on the west end of Building C, allowing indoor activities to spill outside. Fencing, topography, or vegetation will be used on the other three sides of the play space to buffer it from the adjacent streetscape for safety.

- Stony Brook Greenway – Located on the MBTA easement adjacent to the MBTA Orange Line tracks, this area will create a critical green link between Atherton Street and Jackson Square. A wide, multiuse path will weave through the green space with seating nooks, attractive lighting, and other furniture.

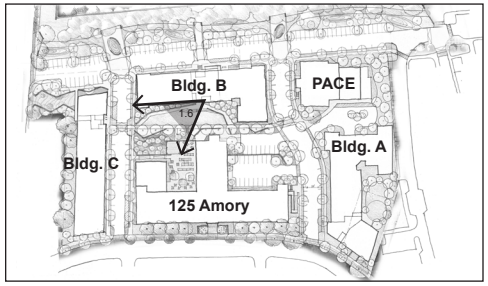
1.2.4 Consistency with Plan: JP/ROX

The Project furthers the framework outlined in Plan: JP/ROX. Its streetscapes, site layout, open space, and building massing incorporate the Plan's Urban Design Guidelines to the extent feasible. The Project works to prevent displacement of low- and moderate-income residents though new affordable housing opportunities and seeks to add to the neighborhood's overall housing supply.

1.2.4.1 Streetscapes and Site Layout

The width and design of sidewalks and setbacks along Amory Street are generally consistent with the Plan: JP/Rox guidelines for Neighborhood Main streets, with total frontage zones of 16′-6″. The interior sidewalks and setbacks are consistent with the guidelines for Neighborhood Residential streets to the extent feasible under existing site conditions, with minimum frontage zones of 10′-6″ in most locations.

The site layout creates a network of interior streets, sidewalks, and green spaces that provide pedestrian connections, sight lines and view corridors. The Project also orients entrances towards the street edge: Buildings A and C provide glazed corner entries off of Amory Street, offering greater transparency and permeability at the ground level.



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 1-10
View of Central Green

1.2.4.2 Open Space and Setbacks

The Project provides a variety of open spaces, including patios, lawn, landscaped areas, and space oriented to families and children. Existing trees primarily are located around the perimeter of the site and will be retained wherever possible. The majority of the Project's surface parking is located below-grade or at the rear of the site, and thoughtful landscaping and placement of trees are integrated wherever possible.

The Project provides open space consistent with Plan: JP/ROX, which sets 50 sf per dwelling unit as its goal, or 28,150 sf for the Project. The Project site provides approximately 27,900 sf of open space and also includes plans to improve the adjacent MBTA property. The development footprint on each parcel of the Project site ranges from 40% to 47% coverage, which meets the Plan: JP/ROX goal of lot coverage—not to exceed 85%.

The proposed site plan incorporates new roadways and creates new front yards/ frontage for the proposed residential buildings. The Plan: JP/Rox setbacks are similar to those for Article 55.

1.2.4.3 Building Heights and Stepbacks

The Project site spans two Eligible Density Bonus Areas, with the proposed Building C in one area, and the remaining buildings in another. Building C is located in the DBA – 55' area and will be approximately 55 feet (five stories) in height. Due to the sloping grade on the site, the building will present itself as four stories along Amory Street, and five stories at the rear of the Project site. On one side, Building C abuts a 3F residential district, and over 80% of that façade incorporates five foot stepbacks on the fourth and fifth floors. The remainder of the existing and new construction buildings are located in the DBA – 65' area, and will be consistent with the intent of the Plan: JP/Rox. Buildings A and B will be six stories; although these two buildings will be approximately 70 feet in height, they will match the number of stories of the existing Amory Streets Apartment building, and be shorter in height than Amory Street Apartments.

Plan: JP/Rox includes provisions for building step-backs designed primarily to reduce the perception of building height along Public Streets and abutting Residential Districts. Along the southern edge of the site, where Building C abuts a 3F residential district, Building C will step back above the third floor, and will also step back for portions of the façade along Amory Street. Building B does not abut a public way. Building A is designed to visually step back above the fourth floor level around the building perimeter.

1.2.4.4 Affordable Housing

The Project significantly advances neighborhood affordable housing goals through rehabilitation and new construction. The redevelopment of the Project site will improve physical conditions in the 199 existing senior apartments, which are affordable to

households earning up to 30% AMI, and add another 10 apartments in the existing building, which will be affordable to households earning up to 50% AMI. The Project's new construction will include approximately 135 affordable units out of the approximate total of 350 new units, with a minimum of eight units affordable to households earning up to 30% AMI, approximately 55 units affordable to households earning up to 60% AMI, and approximately 72 units affordable to households earning up to 70% AMI.

Under this housing program, approximately 62% of all units on the Project site will be affordable, and approximately 39% of all units in newly constructed buildings will be affordable. Throughout the Project site, the average affordable unit will be affordable to households earning up to 44% AMI. These affordability levels far surpass the requirements of the Inclusionary Development Policy and the Plan: JP/ROX density bonus incentive, which together would require only approximately 75 affordable units. The density bonus calculations are included in Appendix B.

1.2.5 Evolution of Design

Over the last year and a half, the design for the Project site has evolved to reflect the input received from the current Amory Street Apartment residents, the broader community, the BHA, and the BPDA.

In the RFP response prepared in September 2015, the Proponent proposed the creation of 294 new mixed-income units, in addition to the rehabilitation of Amory Street Apartments. The proposal included five new buildings of four to five stories each, located around the perimeter of the site. This initial design approach included the extension of the existing east-west street pattern, along with a new north-south connection of Atherton Street to Amory Terrace, which would provide an opportunity to continue the Southwest Corridor, adjacent to the MBTA Orange Line tracks, and encourage bicycle and pedestrian use.

A range of feedback was heard from the community. Many residents spoke about the importance of creating new mixed-income housing opportunities. Other feedback on the original proposal included that there was inadequate green space, and an interest in maximizing parking, but minimizing the number of surface spaces. The number of new buildings was also a concern to some residents.

In the summer of 2016, the Proponent presented two revised drafts of the master plan design to the residents and the community. These revised plans reduced the number of proposed new buildings from five to three, provided increased green space, and reduced surface parking areas. New landscaping was included along roadways, sidewalks and parking, and the outdoor community spaces for existing residents were enhanced. Multiple site entrances were added to minimize traffic pinch points on Amory Street, as well as improve circulation.

The two options presented provided alternatives for the orientation of Building C to Amory Street, the location of green spaces throughout the Project site, the relocation of parking for Amory Street Apartments residents, and the number of east-west streets. Comments on these two options have resulted in the proposed Project.

1.3 Public Benefits

The Project will generate significant benefits for the City of Boston and the neighborhood, including improvements to the Project site, new open spaces, renovation of an existing building, and new affordable housing units. The details of these benefits are described below.

1.3.1 Neighborhood Revitalization

The Project will develop an underutilized site and will contribute to the continued revitalization of the neighborhood. The added housing and open space uses will further energize and enliven the neighborhood as a desirable place to live, and improve the quality of life for neighboring residents. The Project provides new mixed-income housing in proximity to existing public transit and amenities.

1.3.2 Affordable Housing

The Project will help advance the city's housing production goals by creating a diverse housing mix, including approximately 360 new housing units at a range of income levels. Approximately 135 of the units in the new construction will be affordable and will be protected by long term affordability restrictions. The new market rate units will help ease pressure on neighborhood demand, and be targeted at lower rents than new developments in other high-cost neighborhoods.

1.3.3 Smart Growth/Transit-Oriented Development

Residents will have easy access to public transit. The Project is located 0.3 miles from the Stonybrook Station on the MBTA Orange Line, and 0.4 miles from the Jackson Square MBTA Station. The Project will also generate fewer vehicle trips than the traditional mixed-use development. The proximity to bus, subway, and Centre Street and Egleston Square shopping areas will encourage walking as a means of transport, and support sustainable design and Transit-Oriented Development/Smart Growth objectives.

1.3.4 Sustainable Design/Green Building

The Project will seek to employ the most sustainable measures feasible for the Project. Each building will seek to be Leadership in Energy and Environmental Design (LEED) certifiable at the Silver level. The buildings will incorporate efficient building envelopes and energy efficient mechanical equipment to meet LEED requirements, as well as the requirements of the current State Building Code. The site design will incorporate native

plants, new landscaping, and areas for passive and active recreation to improve the lives of residents, minimize the use of potable water, and maximize stormwater retention to the maximum extent practicable.

1.3.5 Increased Employment

The Project will create approximately 364 full-time equivalent construction jobs and approximately 15 permanent jobs. The permanent jobs will result from maintenance and management of the multifamily properties.

1.3.6 Open Space

The Project includes improved open spaces throughout the site, covering approximately 36% of the Project site. These spaces include areas designed for passive and active uses, and a play area for young children. Further, the Proponent is proposing a linear multi-use path located adjacent to the MBTA Orange Line tracks. This linear multi-use path would connect Atherton Street to the linear multi-use path in development from Jackson Square south.

Overall, the new open spaces will improve the site aesthetically and physically, providing a pleasant scene from Amory Street and outdoor options for residents.

1.3.7 Improved Pedestrian Environment

The Project will include improved sidewalks along Amory Street and the internal roadways, providing well lit, safe and comfortable walking routes around the buildings. Raised pedestrian crossings and bump-outs will facilitate crossing new roadways, especially important to senior and disabled residents on the site and in the surrounding neighborhood.

The linear multi-use path will also include a walking path, providing more direct access to Jackson Square Station for residents of the Project, Amory Street neighbors, and the broader neighborhood.

1.3.8 Improved Bicycling Resources to Encourage Cycling

The Project will include a mixed-use path adjacent to the MBTA Orange Line tracks. This cycling route will provide a safe route to connect riders from Atherton Street and the west side of the MBTA Orange Line to the Southwest Corridor Park and downtown Boston. The buildings will include secure bicycle storage, and public bicycle racks will be available in the linear multi-use path and outside of the buildings for visitors.

1.4 Legal Information

1.4.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments or pending actions against the proposed Project.

1.4.2 History of Tax Arrears on Property

The Proponent does not own any property in Boston on which the property taxes are in arrears.

1.4.3 Site Control

On November 6, 2015, the BHA designated the Proponent as the developer for the Amory development project.

1.4.4 Public Easements

The Project proposes using the parcel of land west of the Project site between 125 Amory Street and the MBTA Orange Line tracks. This land is owned by the MBTA—pending negotiations— and will be granted to the Proponent under a surface easement agreement. The City of Boston has a 10-foot wide sewer easement on the western side of the Project site, parallel to the MBTA Orange Line tracks.

1.5 Zoning

1.5.1 Existing Zoning

The Project site will be subdivided into individual development parcels, one for each building. These parcels and buildings are each described below in relation to the Boston Zoning Code, Article 55, Jamaica Plain Neighborhood District.

Zoning District - This site is zoned as a Multifamily Residential Subdistrict (MFR), with a Greenbelt Protection Overlay District (GPOD) along the MBTA parcel edge. To the north, the site is bounded by Amory Terrace, which is also zoned MFR, and the site is bounded to the south by a cluster of homes that are zoned 3F-4000. Across Amory Street to the east, a mix of zones faces the length of the site, including from 2F-4000, MFR and IDA.

Permitted Uses - The Project's primary use, multifamily housing , is generally allowed as-of-right on the site. A permit for ancillary parking may be required as some parking for each building may be located wholly or partially on adjacent parcels.

Dimensional Requirements - The entire site is subject to a 35' and three-story height limit. Proposed buildings range in height from 55 feet to 70 feet and in number of stories from five to six, and each new building will require a variance for this requirement.

Floor Area Ratio - The maximum ratio of building area to lot area is 1.0 in this district. The proposed (and existing) residential buildings exceed the allowed FAR; each new building will require a variance from this requirement.

Minimum Lot Area - Minimum lot area is calculated based on the proposed number of dwelling units – 4,000 sf for the first three units and 1,000 sf for each additional unit. Each of the proposed lots will require a variance from this requirement.

Minimum Usable Open Space – One hundred and fifty (150) square feet of usable open space is required for each residential unit. Open space to meet this requirement must generally be not less than 10 feet by 10 feet in size and 25% of the required open space may be met by unenclosed porches, balconies or roof decks. Each proposed parcel for the Project meets this requirement with ground level open space.

Minimum Lot Width and Minimum Lot Frontage - Required minimum lot width and lot frontage are both 40 feet. The parcels for Buildings A and C and the existing Amory Street Apartments front onto Amory Street, with sufficient width and frontage dimension. Building B will face west, onto the new roadway and will exceed minimum width and frontage requirements.

Frontage - The proposed site plan incorporates new roadways and creates new front yards/ frontage for the proposed residential buildings.

- Building A will front onto Amory Street, with the main residential entry at the corner, while also facing the new roadway. Additionally, this building will have a notable façade along Amory Terrace—a private way.

- Building B will face the new multi-use linear path on the new north/south roadway. A glassy lobby space will link through this building to the Central Green in the middle of the Project site.

- Building C will face directly onto Amory Street, featuring a covered entry. Further into the Project site, facing a new roadway, a second residential entry will face the Central Green. The Building C resident community room will be located at the west end of Building C, facing the new north/south roadway and the multi-use linear path.

- 125 Amory Street will maintain the existing front entry on Amory Street (which will be improved), and also maintain the side entrance which will be located on the new roadway along the southern side of the building.

Setbacks - The Project currently complies generally with dimensions for front, side, and rear yard setbacks. Building B may require a variance for front and side yard setbacks, depending on the final design for the new roadways. The subdivision may also require setback variances for the renovation of the existing Amory Street Apartments building.

Greenway Protection Overlay District – Portions of the Project site (Buildings B and C) will require a conditional use permit and will be subject to the Site Plan component of Article 80 review, as more than 2,000 sf of paved area is proposed within the GPOD.

Screening and Buffering - The site will incorporate screening and buffering components, specifically along edges that adjoin residential uses. The screening and buffering components described below are intended to meet the requirements of Article 55 – 38, which would otherwise be applicable outside of the Article 80 context.

- Along the new roadways, trees in planting pits, parallel parking spaces, and shrub plantings at the base of the buildings will demarcate the separations between vehicle and pedestrian paths, and will buffer buildings from the roadways. All buildings are expected to have a planting buffer at the rear of the sidewalk.
- At the sides of all buildings, trees and/or shrubs (deciduous and/or evergreen) will buffer the building from adjacent and abutting properties.
- The parking lot will have a six inch solid curb around its perimeter to separate the parking area from the landscaping.
- Roof mounted mechanical equipment will be screened from view.
- Landscaping will be maintained by experienced personnel contracted by the Property Management Agent hired by the Proponent.

Off Street Parking and Loading - Parking requirements will be determined through the Large Project Review process, in accordance with Article 80. Parking and loading requirements are also subject to review through the zoning approval process. The Project's proposed off-street parking and loading facilities are described in Sections 2.4.2 and 2.4.3. A total of 257 parking spaces are proposed for the Project site.

1.6 Anticipated Permits and Approvals

Table 1-2 presents 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 1-2 Anticipated Permits and Approvals

Agency	Approval
Local	
Boston Civic Design Commission	Design Review
Boston Committee on Licenses	Parking Garage Permit and Fuel Storage License
Boston Employment Commission	Construction Employment Plan
Boston Fire Department	Approval of Fire Safety Equipment; Fuel Oil Storage Permit (if required)
Boston Housing Authority	Property Conveyance, Access, and Easement
Boston Inspectional Services Department	Building Permit; Other construction-related permits; Certificates of Occupancy
Boston Landmarks Commission	Article 85 Demolition Delay Review
Boston Parks and Recreation	Approval of Construction Within 100 feet of a Park
Boston Planning and Development Agency	Article 80B Large Project Review; Cooperation Agreement; Affordable Housing Agreement
Boston Public Works Department	Curb Cut Permit(s); Sidewalk Occupancy Permit (as required)
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Agreement
Boston Water and Sewer Commission	Site Plan Review
Office of Jobs and Community Services	Permanent Employment Agreement (as required)
Public Improvement Commission	Specific Repair Plan
Zoning Board of Appeals	Variances and Conditional Use Permits
State	
Department of Environmental Protection	Notification of Demolition and Construction
Massachusetts Bay Transportation Authority	Access and Easement
Massachusetts Historic Commission	State Register Review
Federal	
Environmental Protection Agency	NPDES General Construction Permit
Department of Housing and Urban Development	Land Disposition, Rental Assistance Demonstration Approval

1.7 Public Participation

The Project team has conducted extensive outreach regarding the Project, including meetings with elected officials, city agencies, abutters, community groups and residents of the Amory Street Apartments. The Proponent has conducted door-knocking to engage abutters of the Project site, held presentations for several local community groups, held three community meetings to present alternatives and discuss the Project, and provided a walking tour to interested parties.

The most extensive outreach has been to the residents of Amory Street Apartments. The Proponent has promoted several different opportunities for residents in the building to participate in the planning process, ask questions, and provide feedback on the master plan, and renovations of the existing building. Since January 2016, the Proponent has been hosting coffee hours and social events for the residents in the building, and met with the Tenant Task-Force, including:

- **51 Coffee hours:** Individual coffee hours from March 2016 to August 2017, to present updates, answer questions, and collect feedback in small groups about the RFP, and the design of the master plan and rehab of existing building.

- **Community Building Events:** Individual events including Bingo Night, Movie Night, and an Ice Cream Social with the goal to bring residents together, and offer additional opportunities to provide feedback on the Project.

- **Tenant Task-Force Meetings:** The Proponent has attended the past 18 monthly meetings organized by resident leaders, to present general updates, different versions of the master plan, answer questions and collect feedback.

- **Resident Signature Collection:** The Project team has been visiting each resident, accompanied by members of the Tenant Task Force to provide more information on the Project, receive feedback, and collect signatures of supporting residents.

1.8 Schedule

The Project is expected to proceed in four stages, beginning with the renovations of the Amory Street Apartments building in 2018, followed by the construction of the three new buildings. The phasing of the new construction is designed to be flexible. Building A or Building C can proceed independently, anticipated to begin in 2019, depending on the availability of financing. Building B would proceed next in 2020, and would include extending the north-south connection from Building A and 75 Amory Avenue, connecting through to Atherton Street, along with associated surface parking and landscaping between Building B and Amory Street Apartments.

The Proponent expects to start with Building A on Amory Street on the north side of the site. Infrastructure connected to this building would include the adjacent east-west street; a through connection to Amory Terrace and 75 Amory Avenue; and surface parking along both connections.

Building B would proceed following Building A, and would include extending the north-south connection from Building A and 75 Amory Avenue, connecting through to Atherton Street, along with associated surface parking and landscaping between Building B and Amory Street Apartments.

Building C is expected to proceed as soon as funding is secured, and is not tied to Buildings A and B. Construction of the adjacent east-west street and surface parking would be completed at the same time as the Building C construction.

Surface and covered parking will proceed in tandem with the building construction described above. It is expected that roadway work will proceed with each building, and that surface parking lots will be completed simultaneously.

1.9 Project Identification and Team

Address/Location:	125 Amory Street, Jamaica Plain
Proponent:	Amory Street Partners c/o The Community Builders 185 Dartmouth Street Boston, MA 02116 Eliza Datta
Architect:	ICON Architecture 101 Summer Street Boston, MA 02110 (617) 120-3333 Kendra Halliwell
Legal Counsel:	Klein Hornig LLP 101 Arch Street, Suite 1101 Boston, MA 02110 (617) 224-0600 Joseph Lieber
Permitting Consultants:	Epsilon Associates, Inc. 3 Mill & Main Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Geoff Starsiak
Transportation Consultant:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Brian Beisel

Civil Engineer:	Nitsch Engineering 2 Center Plaza, Suite 430 Boston, MA 02108 (617) 338-0063 John Schmid

Chapter 2.0

Transportation

2.0 TRANSPORTATION

The Proponent engaged Howard Stein Hudson (HSH) to conduct an evaluation of the transportation impacts of the Project in the Jamaica Plain neighborhood of Boston, Massachusetts. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and BPDA Article 80 Large Project Review process. This study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian activity.

2.1 Project Description

The Project site is owned by the BHA and is bounded by Atherton Street to the southwest, Amory Street to the southeast, Amory Terrace to the northeast and the MBTA railroad tracks to the northwest. The Project site includes two existing buildings, 125 Amory Street, the Senior Housing Center consisting of 199 total units, including 187 residential units operated by the BHA and 12 residential units operated by Upham's Elder Service in conjunction with the Program of All-Inclusive Care for Elders (PACE), which is located in the PACE building at 125A Amory Street.

The Project will introduce three new residential buildings, as well as a modernization of the existing building at 125 Amory Street, that will provide approximately 360 new apartment units. Building A will include approximately 147 new mixed-income residential units, Building B will include approximately 140 new mixed-income residential units, and Building C will include approximately 63 new affordable residential units. The existing building at 125 Amory Street will be modernized and include the addition of approximately 10 new residential units. To enhance the flow within the Project site, there will be three new roadways providing access to all three buildings, on-street parking, and two underground parking garages. Approximately 57 parking spaces will be provided under Building A, approximately 58 parking spaces will be provided under Building B, and new roadways and surface lots will include approximately 142 on-street parking spaces throughout the Project site. The new roadway connections will include one north-south connection between Atherton Street and Amory Terrace parallel to the MBTA railroad tracks, and two east-west connections between Amory Street and the new north-south connection located on each side of the existing 125 Amory Street building. The Project will also include an extension of the multi-use path along the west side of the MBTA railroad tracks as well as landscaping, renovations to the existing PACE Building, a new drop-off area, and a play area.

2.1.1 Study Area

The transportation study area runs along the Amory Street corridor, bounded by Lamartine Street to the west, Dimock Street to the north, Columbus Avenue to the east, and Atherton Street to the south. The study area consists of the following seven intersections in the vicinity of the Project site, also shown on Figure 2-1:

- Columbus Avenue/Dimock Street (signalized);
- Amory Street/Atherton Street (signalized);
- Amory Street/Dimock Street (unsignalized);
- Amory Street/North BHA Driveway (unsignalized);
- Amory Street/Bragdon Street(unsignalized);
- Amory Street/W. Walnut Park/South BHA Driveway (unsignalized); and
- Lamartine Street/Atherton Street/Mozart Street (unsignalized).

2.1.2 Study Methodology

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

The Existing (2016) Condition analysis includes an inventory of the existing transportation conditions that was undertaken in the fall of 2016 such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2023, based on a seven-year horizon from the year of the filing of this traffic study.

The No-Build (2023) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project site.

The Build (2023) Condition analysis includes a net increase in traffic volume due to the addition of Project-generated trip estimates, to the traffic volumes developed as part of the No-Build (2023) Condition analysis. The transportation study identified expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities and deficiencies.

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

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

125 Amory Street Boston, Massachusetts

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Figure 2-1
Study Area Intersections

2.2 Existing Condition

This section includes descriptions of existing study area roadway geometries, intersection traffic control, peak-hour vehicular and pedestrian volumes, average daily traffic volumes, public transportation availability, parking, curb usage, and loading conditions.

2.2.1 Existing Roadway Conditions

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

Columbus Avenue is a two-way, four lane roadway located to the east of the Project site. Columbus Avenue runs in a predominately north-south direction between Park Plaza in downtown Boston to the north and Franklin Park to the south. Columbus Avenue is classified as an urban principal arterial roadway under BTD jurisdiction. In the vicinity of the Project site, on-street parking and sidewalks are provided along both sides of the roadway.

Amory Street is a two-way, two lane roadway located on the east side, adjacent to the Project site. Amory Street runs in a predominately north-south direction between Jackson Square to the north and English High School to the south. Amory Street is classified as an urban collector roadway under BTD jurisdiction. In the vicinity of the Project site, on-street parking is provided along the east side of the roadway, and sidewalks are provided along both sides of the roadway.

Dimock Street is a two-way, two lane roadway to the west of Columbus Avenue, and a one-way eastbound one lane roadway to the east of Columbus Avenue, located to the east of the Project site. Dimock Street runs in a predominately east-west direction between Amory Street to the west and Washington Street to the east. Dimock Street is classified as a local roadway under BTD jurisdiction. In the vicinity of the Project site, on-street parking is restricted along both sides of the roadway, and sidewalks are provided along both sides of the roadway.

Lamartine Street is a two-way, two lane roadway located to the west of the Project site. Lamartine Street runs in a predominately north-south direction between Centre Street to the north and Green Street to the south. Lamartine Street is classified as an urban collector under BTD jurisdiction. In the vicinity of the Project site, on-street parking is provided along the west side of the roadway, and sidewalks are provided along both sides of the roadway. Additionally, the Southwest Corridor Path runs parallel to Lamartine Street along the east side of the roadway.

Atherton Street is a one-way westbound, one lane roadway located on the south side, adjacent to of the Project site. Atherton Street runs in a predominately east-west direction between Washington Street to the east and Lamartine Street to the west. Atherton Street is classified as a local roadway under BTD jurisdiction. In the vicinity of the Project site, on-street parking and sidewalks are provided along both sides of the roadway.

2.2.2 Existing Intersection Conditions

Existing conditions at the study area intersections are described below.

Columbus Avenue/Dimock Street is a four-leg, signalized intersection with three approaches. The Dimock Street eastbound approach consists of one shared left-turn/through/right-turn lane. The Columbus Avenue northbound approach consists of two lanes, one shared left-turn/through lane and one shared through/right-turn lane. The Columbus Avenue southbound approach consists of two lanes, one shared left-turn/through lane and one shared through/right-turn lane. Sidewalks, crosswalks, wheelchair ramps, and pedestrian signal equipment are provided at all approaches to the intersection. MBTA bus stops are provided to the south of the intersection along both sides of Columbus Avenue.

Amory Street/Atherton Street is a four-leg, signalized intersection with three approaches. The Atherton Street westbound approach is one-way westbound, and consists of one shared left-turn/through/right-turn lane. The Amory Street northbound approach consists of one shared left-turn/through lane. The Amory Street southbound approach consists of one shared through/right-turn lane. Sidewalks, crosswalks, wheelchair ramps, and pedestrian signal equipment are provided at all approaches to the intersection.

Amory Street/Dimock Street is a three-leg, stop-controlled intersection. The Amory Street eastbound approach operates under stop control and consists of one shared left-turn/through lane. The Dimock Street westbound approach operates under free control and consists of one shared through/right-turn lane. The Amory Street southbound approach operates under stop control and consists of one shared left-turn/right-turn lane. Sidewalks are provided along all approaches to the intersection. A crosswalk is provided across the eastbound approach to the intersection.

Amory Street/North BHA Driveway is a three-leg, unsignalized intersection. The North BHA Driveway eastbound approach operates under stop control and consists of one shared left-turn/right-turn lane. The Amory Street southbound approach operates under free control and consists of one shared through/right-turn lane. Sidewalks are provided along Amory Street, and a curb cut is provided for access to the North BHA Driveway.

Amory Street/Bragdon Street is a three-leg, unsignalized intersection. The one-way westbound Bragdon Street westbound approach operates under stop control and consists of one shared left-turn/right-turn lane. The Amory Street northbound and southbound

approach operates under free control and consists of one through only lane. Sidewalks are provided along all approaches to the intersection. Crosswalks are provided across the westbound and southbound approaches to the intersection.

Amory Street/W. Walnut Park/South BHA Driveway is a four-leg, unsignalized intersection with three approaches. The South BHA Driveway eastbound approach operates under stop control and consists of one shared left-turn/through/right-turn lane. The Amory Street northbound and southbound approaches operate under free control and consist of one shared left-turn/through/right-turn lane. Sidewalks are provided along Amory Street and W. Walnut Park. No crosswalks are provided at this intersection; however, a curb cut is provided for access to the South BHA Driveway.

Lamartine Street/Atherton Street/Mozart Street is a four-leg, unsignalized intersection with three approaches. The one-way westbound Atherton Street westbound approach operates under stop control and consists of one shared left-turn/through/right-turn lane. The Lamartine Street northbound approach operates under free control and consists of one shared left-turn/through lane. The Lamartine Street southbound approach operates under free control and consists of one shared through/right-turn lane. Sidewalks and crosswalks are provided at all approaches to the intersection.

2.2.3 Existing Parking

An inventory of the existing on-street parking in the vicinity of the Project was collected. On-street parking surrounding the Project site consists of predominately unrestricted parking. The on-street parking regulations within the study area are shown in Figure 2-2.

2.2.3.1 Car Sharing Services

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

Zipcar is the primary company in the Boston car sharing market. There are currently five Zipcar locations within close proximity to the Project site. The nearby car sharing locations are shown in Figure 2-3.

2.2.4 Existing Traffic Data

Traffic volume data was collected at the seven study area intersections on September 13, 2016. Turning Movement Counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. peak period and the weekday p.m. peak period (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively). The traffic classification counts included car, heavy vehicle, pedestrian, and bicycle movements. The detailed traffic counts are provided in Appendix C.

125 Amory Street Boston, Massachusetts

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Figure 2-2
On-Street Parking

125 Amory Street Boston, Massachusetts

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Figure 2-3
Zip Car Locations

2.2.4.1 Seasonal Adjustment

To account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT was reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the September 2016 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6) is 0.93. This indicates that average month traffic volumes are approximately seven percent less than the traffic volumes that were collected. Therefore, the traffic counts were not adjusted downward to reflect average month conditions, and provide a conservatively high analysis consistent with the peak season traffic volumes. The MassDOT 2011 Weekday Seasonal Factors table is provided in Appendix C.

2.2.4.2 Existing Vehicular Traffic Volumes

The existing traffic volumes that were collected in September 2016 were balanced through the network, and then used to develop the Existing (2016) Condition traffic volumes. The Existing (2016) weekday a.m. Peak Hour and weekday p.m. Peak Hour traffic volumes are shown in Figures 2-4 and Figure 2-5, respectively.

2.2.5 Existing Bicycle Volumes and Accommodations

In recent years, bicycle use has increased dramatically throughout the City of Boston. The Project site is conveniently located in close proximity to several bicycle facilities. Most significantly, the Southwest Corridor Park is a major bicycle corridor providing an off-street bicycle facility between Forest Hills and Ruggles Station.

Bicycle counts were conducted concurrent with the vehicular TMCs and are presented in Figure 2-6. As shown in the figure, bicycle volumes are heaviest along the Southwest Corridor Park during the peak periods.

2.2.5.1 Bicycle Sharing Services

The site is also located in proximity to bicycle sharing stations provided by Hubway. Hubway is the bicycle sharing system in the Boston area, which was launched in 2011 and consists of over 185 stations and 1,600 bicycles in four municipalities. There are two Hubway locations within close proximity of the Project site, as shown in Figure 2-7.

2.2.6 Existing Pedestrian Volumes and Accommodations

In general, sidewalks are provided along all roadways and are generally in good condition, with the exception of the sidewalk along Dimock Street between Amory Street and Columbus Avenue. The sidewalk at this location does not provide pedestrian protection with vertical granite curbing, and it is paved with asphalt instead of concrete. Crosswalks are provided at all crossings at the two signalized study area intersections. Pedestrian signal equipment is also provided at the two signalized study area intersections. At the Amory

Street/Dimock Street intersection, the Amory Street/Bragdon Street intersection, and the Lamartine Street/Atherton Street intersections, at least one crosswalk is provided.

To determine the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs at the study area intersections and are presented in Figure 2-8. As shown in the figure, pedestrian activity is heaviest along the Southwest Corridor Park and Columbus Avenue.

2.2.7 Existing Public Transportation Services

The Project site is located in Boston's Jamaica Plain neighborhood with several different public transportation opportunities. The MBTA Orange Line and several MBTA bus lines provide access across the city. The Project site is equidistant to the MBTA Orange Line stations at Jackson Square and Stony Brook, both located less than one-quarter mile away.

The MBTA operates five bus routes in close proximity to the Project. Figure 2-9 maps all of the public transportation service located in close proximity of the Project site, and Table 2-1 provides a brief summary of all routes.

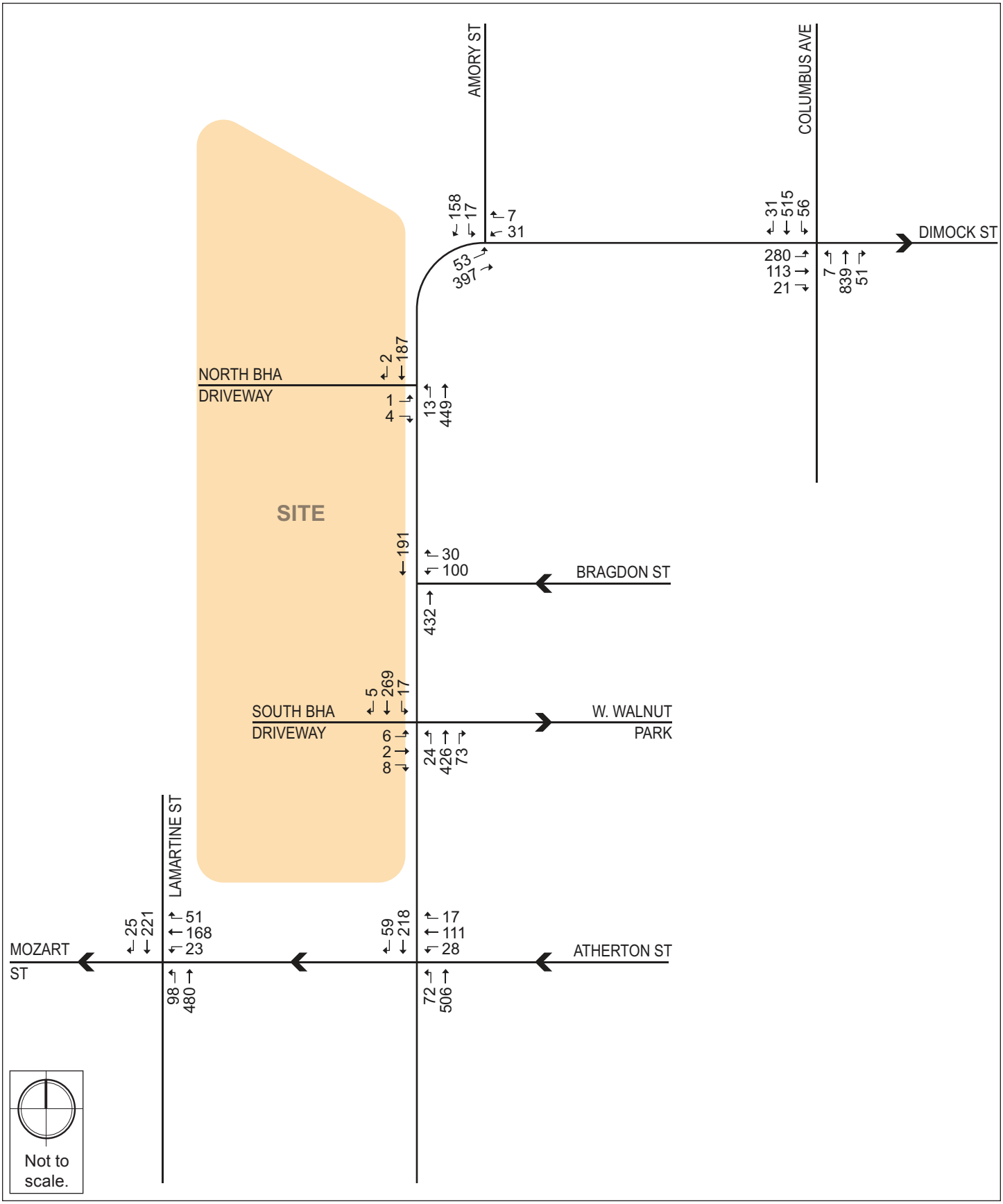
Table 2-1 Existing Public Transportation Service Summary

Transit Service	Description	Rush-hour Headway (in minutes)*
Subway		
Orange Line	Forrest Hills Station – Oak Grove Station	5
Bus Routes		
22	Ashmont Station – Ruggles Station via Talbot Avenue & Jackson Square	8
29	Mattapan Station – Jackson Square Station via Seaver Street & Columbus Avenue	16
41	Centre & Eliot Streets – JFK/UMass Station via Dudley Station, Centre Street & Jackson Square Station	20
42	Forrest Hills Station – Dudley Station via Washington Street	12
44	Jackson Square Station – Ruggles Station via Seaver Street & Humboldt Avenue	12

* Headway is the time between buses.

2.2.8 Existing (2016) Condition Traffic Operations Analysis

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay experienced by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM).



125 Amory Street Boston, Massachusetts

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Figure 2-4

Existing (2016) Condition Traffic Volumes, a.m. Peak Hour

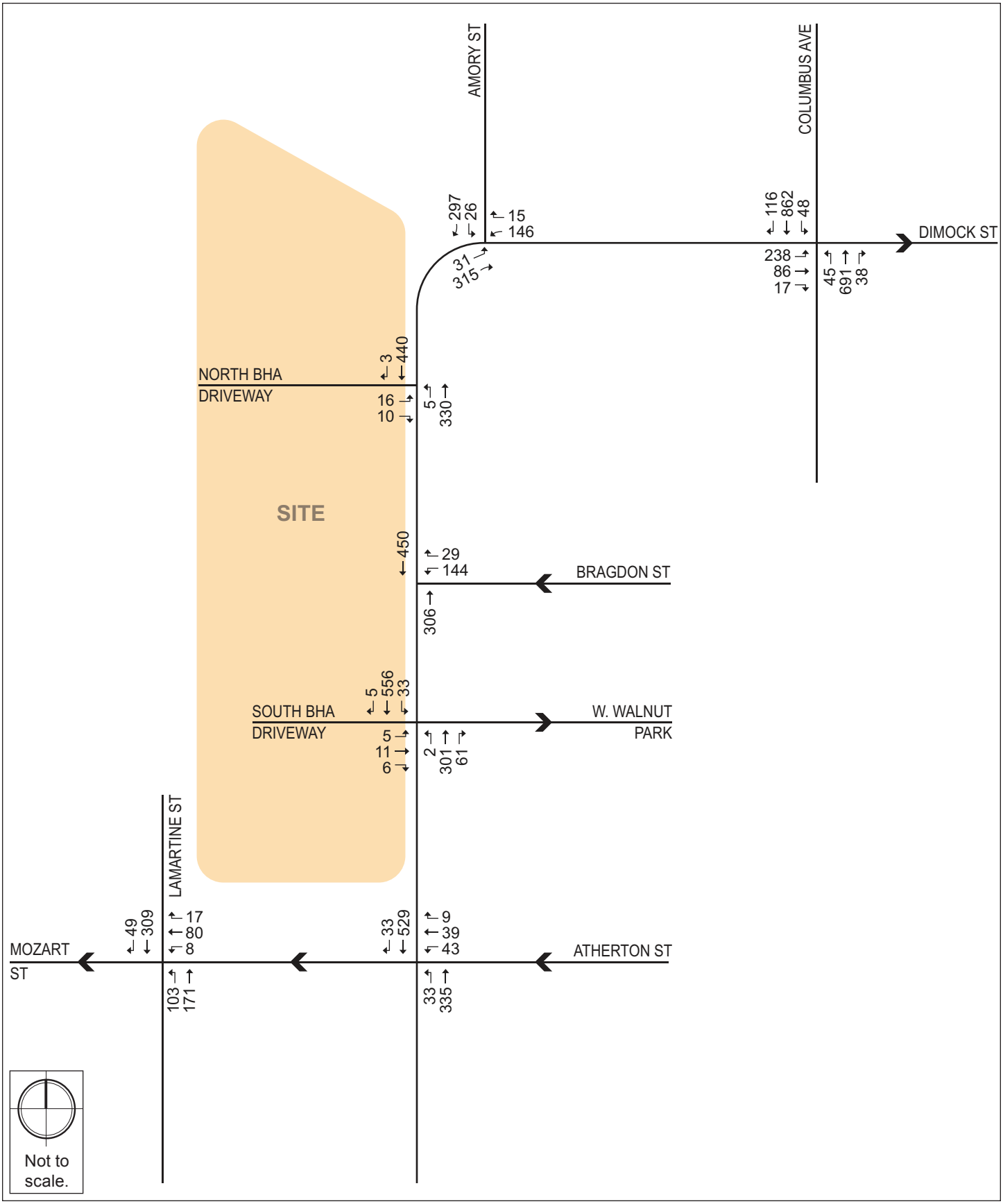

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Figure 2-5

Existing (2016) Condition Traffic Volumes, p.m. Peak Hour

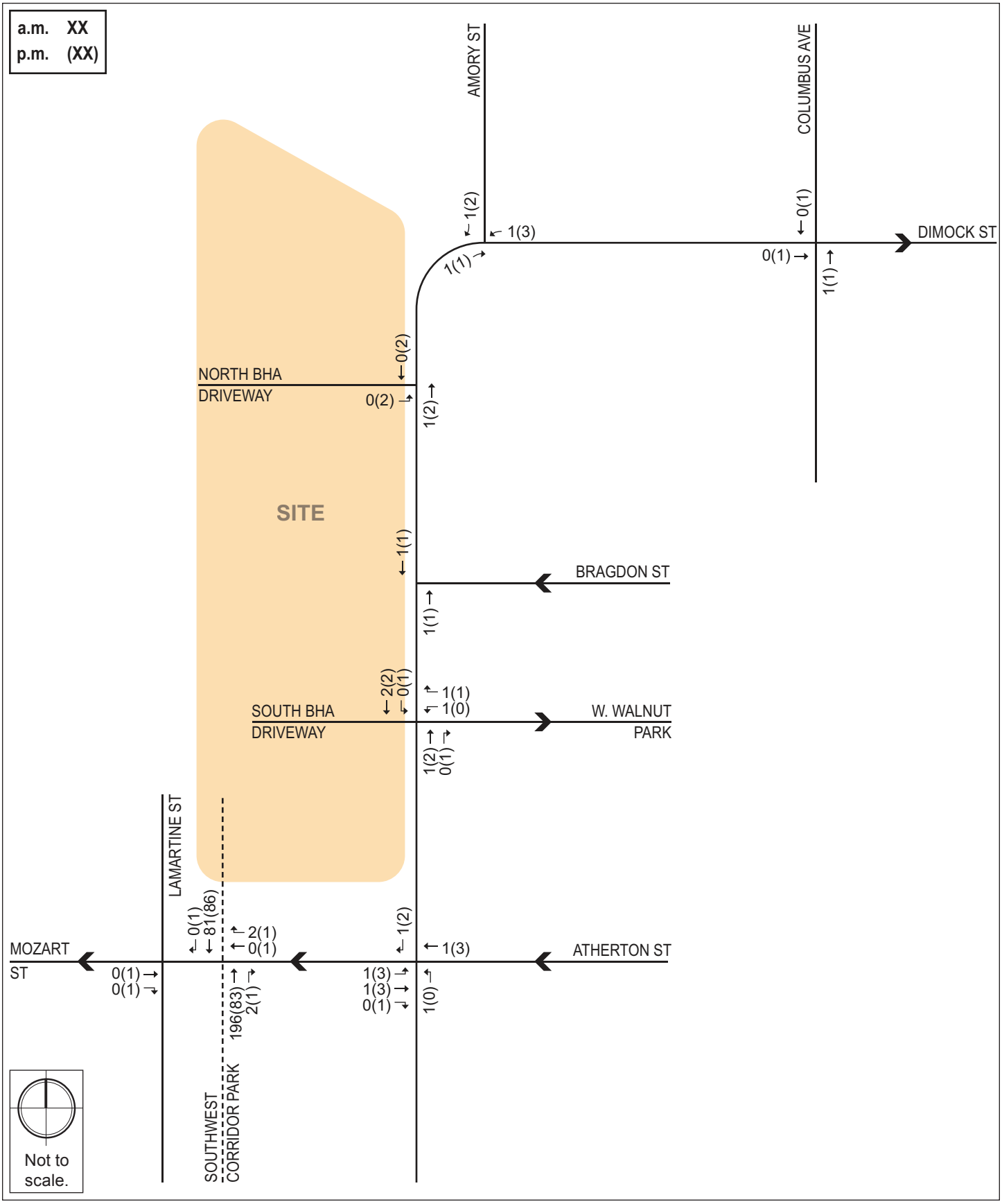

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Figure 2-6

Existing (2016) Condition Bicycle Volumes, p.m. and a.m. Peak Hours

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Figure 2-7
Hubway Loacations

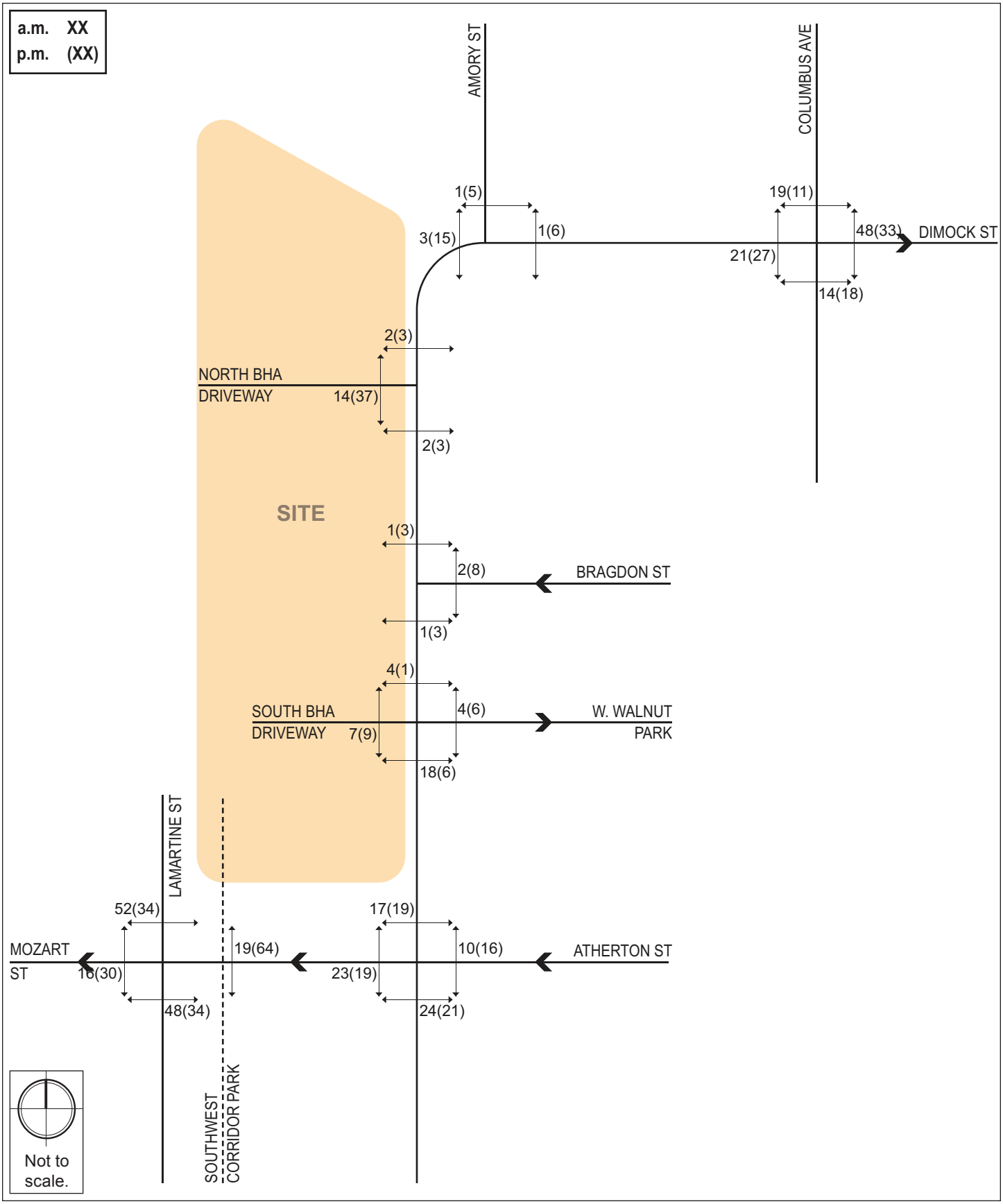

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Figure 2-8
Existing (2016) Condition Pedestrian Volumes, a.m. and p.m. Peak Hours

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Figure 2-9
Public Transportation

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table 2-2 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered desirable during the peak hours of traffic in urban and suburban settings.

Table 2-2 Vehicle Level of Service Criteria

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

Source: 2000 Highway Capacity Manual, Transportation Research Board.

In addition to delay and LOS, the operational capacity and vehicular queues are calculated and used to further quantify traffic operations at intersections. The following describes these other calculated measures.

The volume-to-capacity ratio (v/c ratio) is a measure of congestion at an intersection approach. A v/c ratio below one indicates that the intersection approach has adequate capacity to process the arriving traffic volumes over the course of an hour. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

The 95th percentile queue, measured in feet, denotes the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line. This maximum queue occurs five percent, or less, of the time during the peak hour, and typically does not develop during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" condition. Queues at an intersection are generally below the 95th percentile length throughout most of the peak hour. It is also unlikely that 95th percentile queues for each approach to an intersection occur simultaneously.

Table 2-3 and Table 2-4 summarize the Existing (2016) Condition capacity analysis for the study area intersection during the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix C.

Table 2-3 Existing (2016) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Columbus Avenue/Dimock Street	**C**	**24.1**	**-**	**-**	**-**
Dimock Street EB left/thru/right	D	43.4	0.76	313	434
Columbus Avenue NB left/thru | thru/right	B	18.8	0.55	224	297
Columbus Avenue SB left/thru | thru/right	B	17.8	0.48	144	203
Amory Street/Atherton Street	**C**	**20.3**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	14.2	0.39	33	69
Amory Street NB left/thru	C	27.3	0.87	133	#307
Amory Street SB thru/right	A	9.1	0.43	39	84
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	B	13.8	0.592	-	100
Dimock Street WB thru/right	A	8.3	0.071	-	5
Amory Street SB left/right	A	9.2	0.255	-	25
Amory Street/North BHA Driveway	**-**	**-**	**-**	**-**	**-**
North BHA Driveway EB left/right	B	10.4	0.02	-	1
Amory Street NB left/thru	A	0.3	0.01	-	1
Amory Street SB thru/right	A	0.0	0.12	-	0
Amory Street/Bragdon Street	**-**	**-**	**-**	**-**	**-**
Bragdon Street WB left/right	C	16.0	0.31	-	33
Amory Street NB thru	A	0.0	0.27	-	0
Amory Street SB thru	A	0.0	0.13	-	0
Amory Street/South BHA Driveway/W Walnut Park	**-**	**-**	**-**	**-**	**-**
South BHA Driveway EB left/thru/right	C	15.1	0.06	-	4
Amory Street NB left/thru/right	A	0.6	0.02	-	2
Amory Street SB left/thru/right	A	0.7	0.02	-	1
Lamartine Street/Atherton Street/Mozart Street	**-**	**-**	-	-	-
Atherton Street WB left/thru/right	F	>50	1.08	-	269
Lamartine Street NB left/thru	A	2.2	0.08	-	7
Lamartine Street SB thru/right	A	0.0	0.16	-	0

Grey Shading indicates LOS E or F.

95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.

Table 2-4 Existing (2016) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Columbus Avenue/Dimock Street	**C**	**20.6**	**-**	**-**	**-**
Dimock Street EB left/thru/right	D	54.7	0.81	258	358
Columbus Avenue NB left/thru | thru/right	B	13.0	0.49	164	237
Columbus Avenue SB left/thru | thru/right	B	14.8	0.60	234	332
Amory Street/Atherton Street	**B**	**18.3**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	12.2	0.23	18	43
Amory Street NB left/thru	B	13.6	0.62	80	141
Amory Street SB thru/right	C	23.1	0.82	117	#281
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	B	13.8	0.529	-	80
Dimock Street WB thru/right	B	10.4	0.288	-	30
Amory Street SB left/right	B	11.9	0.455	-	60
Amory Street/North BHA Driveway	**-**	**-**	**-**	**-**	**-**
North BHA Driveway EB left/right	C	15.7	0.09	-	7
Amory Street NB left/thru	A	0.2	0.00	-	0
Amory Street SB thru/right	A	0.0	0.28	-	0
Amory Street/Bragdon Street	**-**	**-**	**-**	**-**	**-**
Bragdon Street WB left/right	D	31.0	0.63	-	103
Amory Street NB thru	A	0.0	0.22	-	0
Amory Street SB thru	A	0.0	0.29	-	0
Amory Street/South BHA Driveway/W Walnut Park	**-**	**-**	**-**	**-**	**-**
South BHA Driveway EB left/thru/right	C	22.7	0.12	-	10
Amory Street NB left/thru/right	A	0.1	0.00	-	0
Amory Street SB left/thru/right	A	0.8	0.03	-	2
Lamartine Street/Atherton Street/Mozart Street	**-**	**-**	-	-	-
Atherton Street WB left/thru/right	C	22.8	0.37	-	41
Lamartine Street NB left/thru	A	3.7	0.10	-	8
Lamartine Street SB thru/right	A	0.0	0.22	-	0

As shown in Table 2-3 and Table 2-4, the majority of intersections and approaches have acceptable operations (LOS D or better) under the Existing (2016) Condition with the following exception:

- At the unsignalized intersection of **Lamartine Street/Atherton Street/Mozart Street**, the Atherton Street westbound stop-controlled approach operates at LOS F during the a.m. peak hour. This is likely due to the high number of pedestrians and cyclists using the Southwest Corridor Park.

2.3 No-Build (2023) Condition

The No-Build (2023) Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with background traffic growth independent of any specific project, traffic associated with other planned specific developments, and planned infrastructure improvements that will affect travel patterns throughout the study area. These infrastructure improvements include roadway, public transportation, pedestrian and bicycle improvements.

2.3.1 Background Traffic Growth

The methodology to account for generic future background traffic growth, independent of this Project, may be affected by changes in demographics, smaller scale development projects, or projects unforeseen at this time. Based on a review of recent and historic traffic data collected recently and to account for any additional unforeseen traffic growth, a traffic growth rate of one-half percent per year, compounded annually, was used.

2.3.2 Specific Development Traffic Growth

Traffic volumes associated with known development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Three such projects were specifically accounted for in the traffic volumes for future scenarios, while others were included in the general background traffic growth. The site-specific background projects are mapped on Figure 2-10. The three specific development projects are summarized below:

75 Amory Avenue – This project, under construction at the time of this study, consists of 39 affordable residential units and surface parking for 28 vehicles.

Jackson Square Site III – This project calls for the construction of two buildings, 250 Centre Street and 25 Amory Street. 250 Centre Street will consist of 99 apartment units, approximately 2,300 sf of ground floor retail space, and 80 parking spaces. 25 Amory Street will consist of 44 apartment units and 22 parking spaces. This project has been approved by the BPDA under Large Project Review and has received all necessary zoning relief from the Board of Appeals.

Watermark Horizon – This project located at 1785 Columbus Avenue will consist of the demolition of the two existing buildings and the construction of a six story social services building consisting of 136,350 sf. The project will primarily consist of the Horizons for

Homeless Children day care center and supplemental office space, but will also include other social services office space. The Project will include a small retail component under 2,000 sf and 157 underground parking spaces.

2.3.3 Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby improvement projects in the vicinity of the study area. The proposed infrastructure improvements are listed below:

Dimock Street – Dimock Street is currently a two-way roadway with one lane in each direction between Amory Street to the west and Columbus Avenue to the east. This change would convert the two-way section of Dimock Street into a one-way eastbound with two lanes. This change increases the capacity of the signalized intersection of Columbus Avenue/Dimock Street by adding a left-turn lane to the Dimock Street eastbound approach. Additionally, the all-way stop controlled intersection of Amory Street/Dimock Street would be changed to give Amory Street eastbound a free movement and maintain the Amory Street southbound stop control. The initial plan for Dimock Street to become one-way originated from community meetings about the Jackson Square master plan from 2007. This change will be independent of this project.

Plan JP/ROX – In March 2017, the BPDA adopted the Plan: JP/ROX study. The plan provides recommendations and strategies around affordable housing, jobs and businesses, guidelines for urban design, and suggestions for improvements to transportation, connections, open space, sustainability, and the public realm. The Project site is included within the planning area.

2.3.4 No-Build (2023) Condition Traffic Volumes

The one-half percent per year annual growth rate, compounded annually, was applied to the Existing (2016) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above were added to develop the No-Build (2023) Condition traffic volumes. The No-Build (2023) weekday a.m. peak hour and p.m. peak hour traffic volumes are shown on Figures 2-11 and Figure 2-12, respectively.

2.3.5 No-Build (2023) Condition Traffic Operations Analysis

The No-Build (2023) Condition analysis uses the same methodology as the Existing (2016) Condition capacity analysis. Tables 2-5 and Table 2-6 present the No-Build (2023) Condition operations analysis for the a.m. and p.m. peak hours, respectively. The shaded cells in the tables indicate a decrease in LOS between the Existing (2016) Condition and the No-Build (2023) Condition to an LOS below LOS D. The detailed analysis sheets are provided in Appendix C.

125 Amory Street Boston, Massachusetts

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Figure 2-10
Area Background Projects

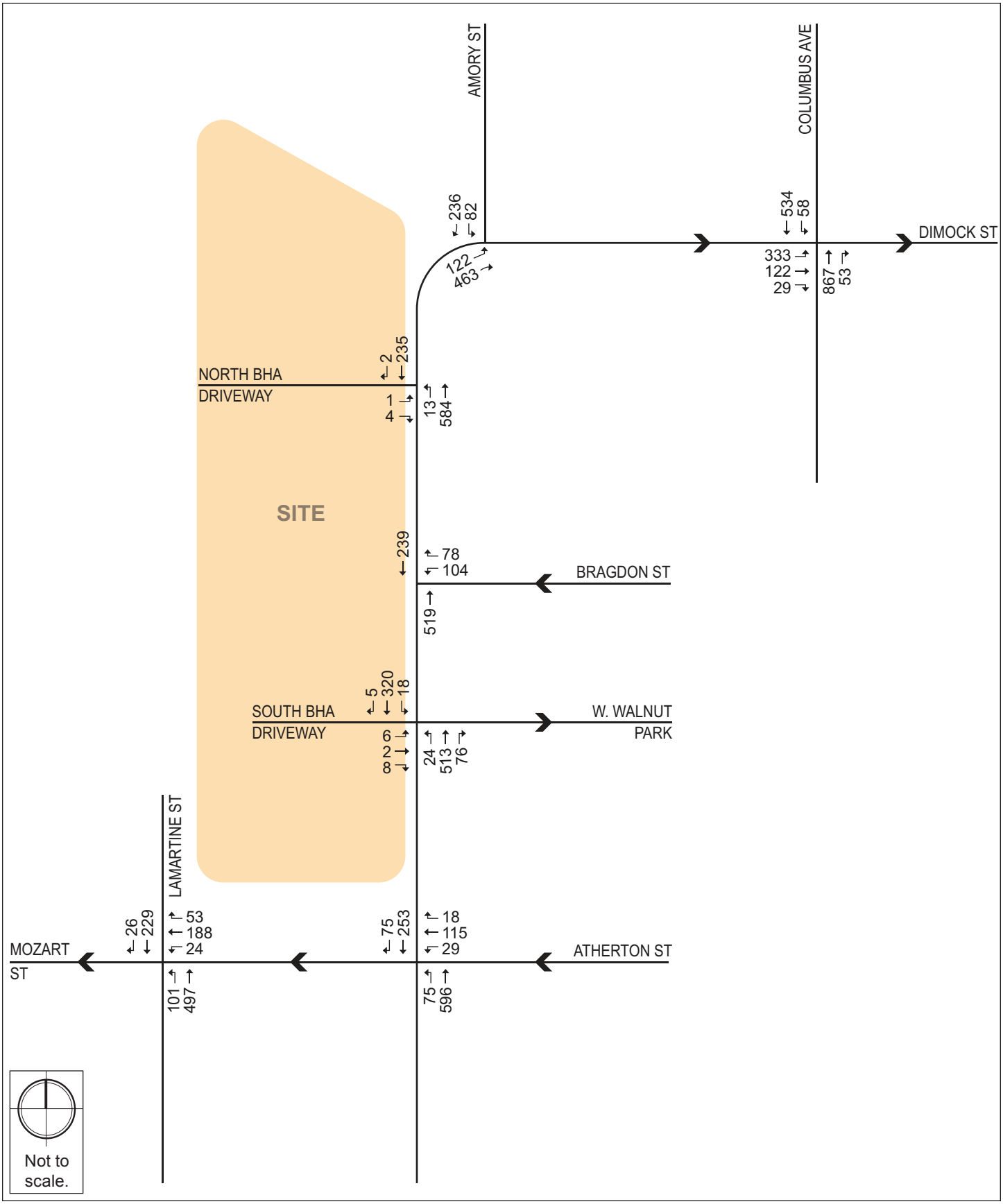

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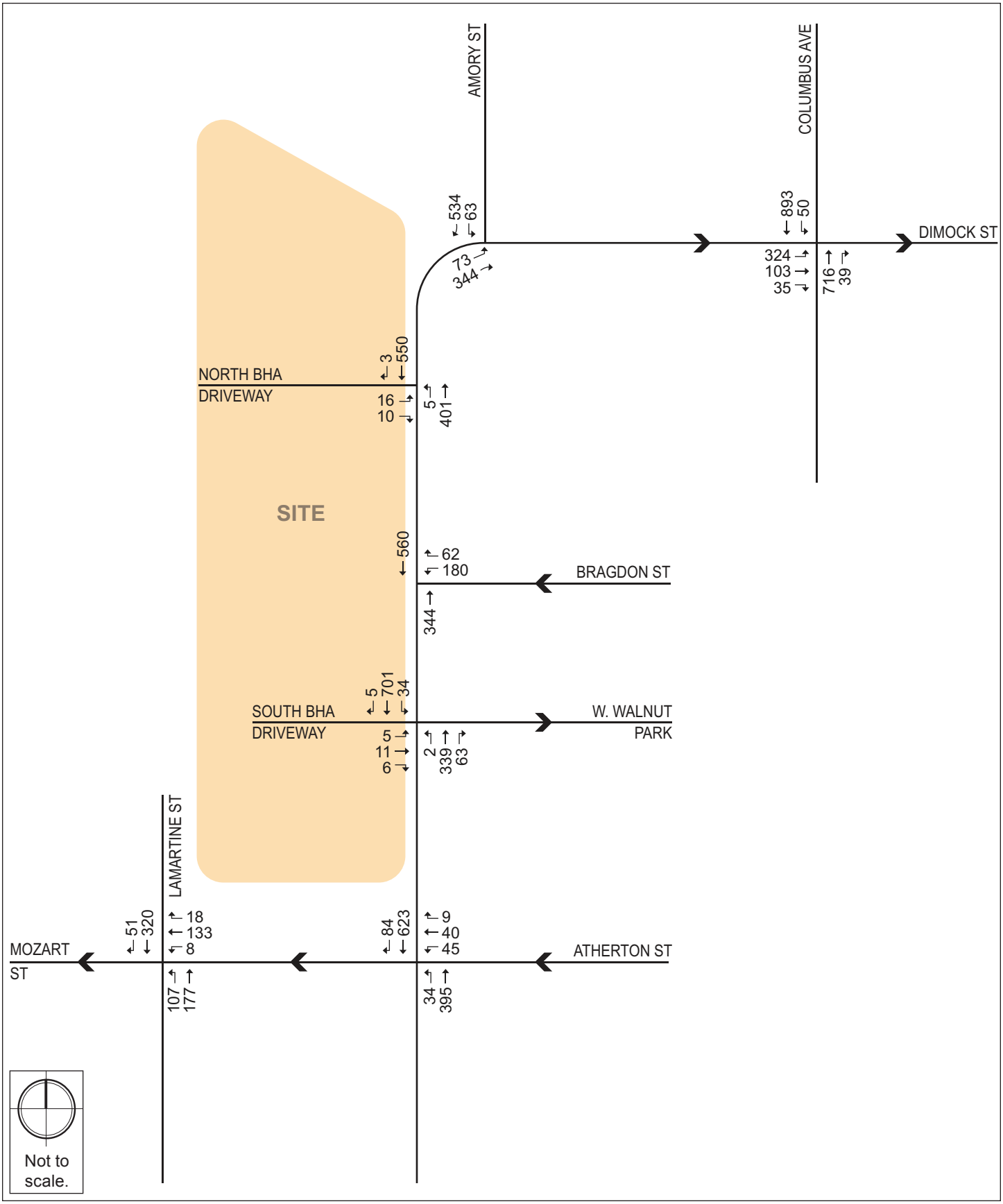
Figure 2-11

No-Build (2023) Condition Traffic Volumes, a.m. Peak Hour



125 Amory Street Boston, Massachusetts

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Figure 2-12

Table 2-5 No-Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Columbus Avenue/Dimock Street	**D**	**36.7**	**-**	**-**	**-**
Dimock Street EB left	E	75.8	0.93	273	#445
Dimock Street EB thru/right	D	38.6	0.41	100	166
Columbus Avenue NB thru | thru/right	C	27.2	0.64	294	367
Columbus Avenue SB left/thru | thru	C	27.7	0.61	190	255
Amory Street/Atherton Street	**D**	**35.1**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	14.3	0.40	34	71
Amory Street NB left/thru	D	52.5	1.01	~177	#374
Amory Street SB thru/right	B	10.3	0.50	50	105
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	A	2.2	0.08	-	6
Amory Street SB left/right	C	15.3	0.51	-	73
Amory Street/North BHA Driveway	**-**	**-**	**-**	**-**	**-**
North BHA Driveway EB left/right	B	11.2	0.02	-	2
Amory Street NB left/thru	A	0.3	0.01	-	1
Amory Street SB thru/right	A	0.0	0.16	-	0
Amory Street/Bragdon Street	**-**	**-**	**-**	**-**	**-**
Bragdon Street WB left/right	C	20.5	0.47	-	62
Amory Street NB thru	A	0.0	0.32	-	0
Amory Street SB thru	A	0.0	0.16	-	0
Amory Street/South BHA Driveway/W Walnut Park	**-**	**-**	**-**	**-**	**-**
South BHA Driveway EB left/thru/right	C	18.4	0.07	-	6
Amory Street NB left/thru/right	A	0.6	0.02	-	2
Amory Street SB left/thru/right	A	0.7	0.02	-	2
Lamartine Street/Atherton Street/Mozart Street	**-**	**-**	-	-	-
Atherton Street WB left/thru/right	F	>50	1.25	-	348
Lamartine Street NB left/thru	A	2.2	0.09	-	7
Lamartine Street SB thru/right	A	0.0	0.17	-	0

Grey Shading indicates a degradation to LOS E or F.
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles

Table 2-6 No-Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	*LOS*	*Delay (s)*	*V/C Ratio*	*50th Percentile Queue (ft)*	*95th Percentile Queue (ft)*
Signalized Intersections					
Columbus Avenue/Dimock Street	**D**	**36.2**	**-**	**-**	**-**
Dimock Street EB left	F	82.0	0.95	262	#441
Dimock Street EB thru/right	D	38.8	0.39	87	150
Columbus Avenue NB left/thru | thru/right	C	23.0	0.52	221	281
Columbus Avenue SB left/thru | thru/right	C	30.5	0.76	320	409
Amory Street/Atherton Street	**D**	**45.7**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	12.4	0.24	19	44
Amory Street NB left/thru	C	32.2	0.88	107	#241
Amory Street SB thru/right	E	59.8	1.03	~188	#384
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	A	1.7	0.05	-	4
Amory Street SB left/right	C	16.7	0.68	-	138
Amory Street/North BHA Driveway	**-**	**-**	**-**	**-**	**-**
North BHA Driveway EB left/right	C	19.0	0.11	-	9
Amory Street NB left/thru	A	0.2	0.01	-	0
Amory Street SB thru/right	A	0.0	0.35	-	0
Amory Street/Bragdon Street	**-**	**-**	**-**	**-**	**-**
Bragdon Street WB left/right	F	>50	1.05	-	297
Amory Street NB thru	A	0.0	0.25	-	0
Amory Street SB thru	A	0.0	0.36	-	0
Amory Street/South BHA Driveway/W Walnut Park	**-**	**-**	**-**	**-**	**-**
South BHA Driveway EB left/thru/right	D	31.7	0.17	-	15
Amory Street NB left/thru/right	A	0.1	0.00	-	0
Amory Street SB left/thru/right	A	0.9	0.03	-	3
Lamartine Street/Atherton Street/Mozart Street	**-**	**-**	-	-	-
Atherton Street WB left/thru/right	D	34.0	0.60	-	90
Lamartine Street NB left/thru	A	3.8	0.10	-	8
Lamartine Street SB thru/right	A	0.0	0.23	-	0

As shown in Table 2-5 and Table 2-6, the following traffic operations impacts are expected under the No-Build (2023) Condition:

- The signalized intersection of **Columbus Avenue/Dimock Street** decreases from LOS C to LOS D during both the a.m. and p.m. peak hours under the No-Build (2023) Condition. The Dimock Street eastbound left turn lane degrades from LOS D to LOS E during the a.m. peak hour. The Dimock Street eastbound left turn lane degrades from LOS D to LOS F during the p.m. peak hour. This degradation in service is likely due to a large number of vehicle trips generated from the background projects and general growth rate.

- The signalized intersection of **Amory Street/Atherton Street** decreases from LOS C to LOS D during the a.m. peak hour and from LOS B to LOS D during the p.m. peak hour. The Amory Street southbound approach degrades from LOS C to LOS E during the p.m. peak hour. This degradation in service is likely due to a large number of vehicle trips generated from the background projects and general growth rate.

- At the unsignalized intersection of **Amory Street/Bragdon Street,** the Bragdon Street westbound stop-controlled approach decreases from LOS D to LOS F during the p.m. peak hour. This is likely due to the rerouting of vehicle trips from the infrastructure improvement of Dimock Street into a one-way roadway.

2.4 Build (2023) Condition

As previously mentioned, the Project will introduce three new residential buildings, as well as a modernization of the existing building at 125 Amory Street, and will provide approximately 360 new apartment units. Building A will include approximately 147 new mixed-income residential units, Building B will include approximately 140 new mixed-income residential units, and Building C will include approximately 63 new affordable residential units. The existing building at 125 Amory Street will be modernized and include the addition of approximately 10 new residential units. To enhance the flow within the Project site, there will be three new roadways providing access to all three buildings, on-street parking, and two underground parking garages. Approximately 57 parking spaces will be provided under Building A, approximately 58 parking spaces will be provided under Building B, and new roadways and surface lots will include approximately 142 on-street parking spaces throughout the site. The Project will also include an extension of the multi-use path along the west side of the MBTA railroad tracks, as well as landscaping, renovations to the existing PACE Building, a new drop-off area, and a play area.

2.4.1 Site Access and Vehicle Circulation

Vehicular access for the Project will include three new roadways for site circulation and access to parking. The new roadway connections will include one north-south connection between Atherton Street and Amory Terrace parallel to the MBTA railroad tracks, and two

east-west connections between Amory Street and the new north-south connection located on each side of the existing 125 Amory Street building. Parallel on-street parking will be provided on both east-west roadways, and perpendicular parking will be provided along the north-south roadway adjacent to the multi-use path. The site access plan is shown in Figure 2-13.

2.4.2 Project Parking

The parking goals developed by the BTD for this section of Jamaica Plain are a maximum of 0.75 to 1.25 parking spaces per residential unit within a ten minute walk of an MBTA station.

The Project site has an existing parking supply of 64 spaces for 199 residential units (0.32 ratio), and the Proponent is planning to construct an additional 193 parking spaces in connection with the 360 new residential units (0.54 ratio), for a total of 257 parking spaces for 559 residential units. The final parking ratio on the Project site will be approximately 0.46 parking spaces per residential unit, which is under the allowable maximum required by BTD.

2.4.3 Loading and Service Accommodations

Residential units primarily generate delivery trips related to small packages and prepared food on a daily basis. Move-in/move-out activity is also related to residential units, although less frequent. Loading and service operations will occur along the internal roadways in designated loading zones. This space will accommodate all deliveries, trash pick-up, and residential move-in/move-out activity.

2.4.4 Trip Generation Methodology

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

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

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

125 Amory Street Boston, Massachusetts

Figure 2-13
Site Plan

To estimate the unadjusted number of vehicular trips for the Project, the following ITE land use code (LUC) was used:

Land Use Code 220 – Apartment. The apartment land use includes rental dwelling units located within the same building with at least three other dwelling units. Calculations of the number of trips use ITE's average rate per residential unit.

2.4.5 Mode Share

BTD provides vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located in Area 6 – Jamaica Plain. The daily residential mode shares were based on US Census Journey to Work data. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[2]. The person trips were then distributed to different modes according to the mode shares shown in Table 2-7.

Table 2-7 Travel Mode Share

Land Use		Walk/Bicycle Share	Transit Share	Auto Share	Vehicle Occupancy
Daily					
Residential	In	14%	25%	61%	1.13
	Out	14%	25%	61%	1.13
a.m. Peak					
Residential	In	18%	26%	56%	1.13
	Out	12%	44%	44%	1.13
p.m. Peak					
Residential	In	12%	44%	44%	1.13
	Out	18%	26%	56%	1.13

2.4.6 Existing Trip Generation

Based on ITE estimates and BTD mode share percentages, the existing site, consisting of approximately 199 residential units, generates approximately 808 daily vehicle trips with 48 vehicle trips during the weekday a.m. peak hour, and 64 vehicle trips during the weekday p.m. peak hour. The existing site also generates approximately 374 daily transit trips with 46 transit trips during the weekday a.m. peak hour, and 45 transit trips during the weekday p.m. peak hour. Lastly, the existing site generates approximately 210 daily pedestrian and bicycle trips with 15 pedestrian and bicycle trips during the weekday a.m. peak hour, and 22 pedestrian and bicycle trips during the weekday p.m. peak hour.

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

2.4.7 Project Trip Generation

The mode share percentages shown in Table 2-7 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. The trip generation for the Project by mode is shown in Table 2-8. The detailed trip generation information is provided in Appendix C.

Table 2-8 Project Trip Generation

Land Use		Walk/Bicycle Trips	Transit Trips	Vehicle Trips
Daily				
Residential[1]	In	189	338	731
	Out	189	338	731
	Total	378	676	1,462
a.m. Peak Hour				
Residential[1]	In	8	11	20
	Out	20	73	65
	Total	28	84	85
p.m. Peak Hour				
Residential[1]	In	30	43	81
	Out	11	39	34
	Total	41	82	115

1. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), 360 units.

As shown in Table 2-8, there is expected to be 378 new pedestrian/bicycle trips, 676 new transit trips, and 1,462 new vehicle trips throughout the day. During the a.m. peak hour, there is expected to be 28 pedestrian trips (8 entering and 20 exiting), 84 transit trips (11 boarding and 73 alighting), and 85 vehicle trips (20 entering and 65 exiting). During the p.m. peak hour, there is expected to be 41 pedestrian trips (30 entering and 11 exiting), 82 transit trips (43 alighting and 39 boarding), and 115 vehicle trips (81 entering and 34 existing).

2.4.8 Trip Distribution

The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 6 – Jamaica Plain, and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in Figure 2-14.

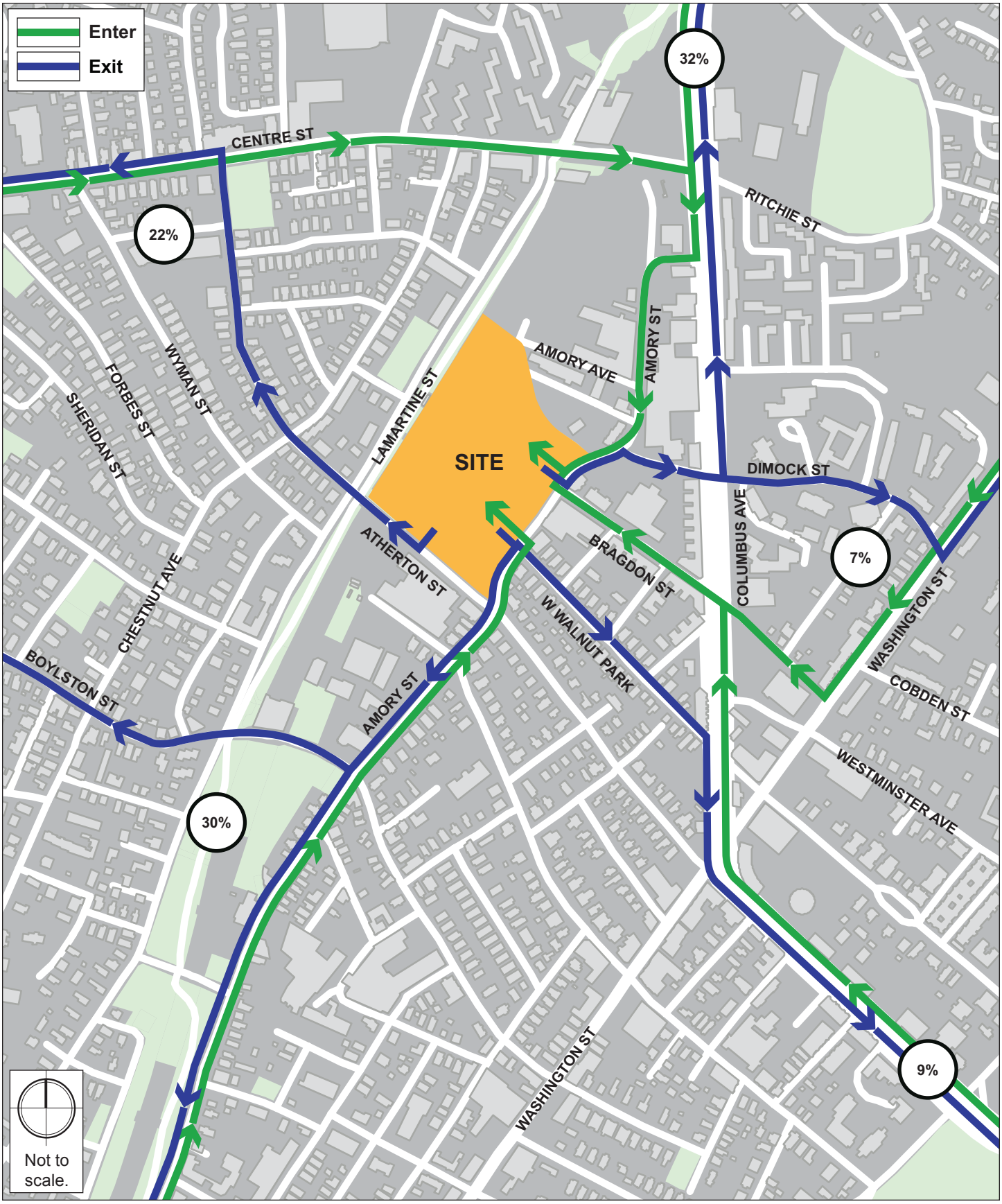

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Figure 2-14
Trip Distribution

2.4.9 Build Traffic Volumes

The vehicle trips were distributed through the study area. The Project-generated trips for the a.m. and p.m. peak hours are shown in Figure 2-15 and Figure 2-16, respectively. The trip assignments were added to the No-Build (2023) Condition vehicular traffic volumes to develop the Build (2023) Condition vehicular traffic volumes. The Build (2023) Condition a.m. and p.m. peak hour traffic volumes are shown on Figure 2-17 and Figure 2-18, respectively.

2.4.10 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure bicycle parking for residents and short-term bicycle racks for visitors. Based on BTD guidelines, the Project will supply 1:1 indoor secure bicycle parking/storage spaces within the Project site for new construction units, as well as an appropriate number of bicycle parking spaces for the Amory Street Apartments. The Project also will supply five outdoor public bicycle racks, each of which accommodate two bicycles, will be installed per building, to accommodate a total of 40 bicycles throughout the Project site for guests and visitors.

2.4.11 Build Condition Traffic Operations Analysis

The Build (2023) Condition analysis uses the same methodology as the Existing (2016) Condition analysis and No-Build (2023) Condition analysis. Table 2-9 and Table 2-10 present the Build (2023) Condition capacity analysis for the a.m. and p.m. peak hours, respectively. The shaded cells in the tables indicate a worsening in LOS between the No-Build (2023) Condition and the Build (2023) Condition. The detailed analysis sheets are provided in Appendix C.

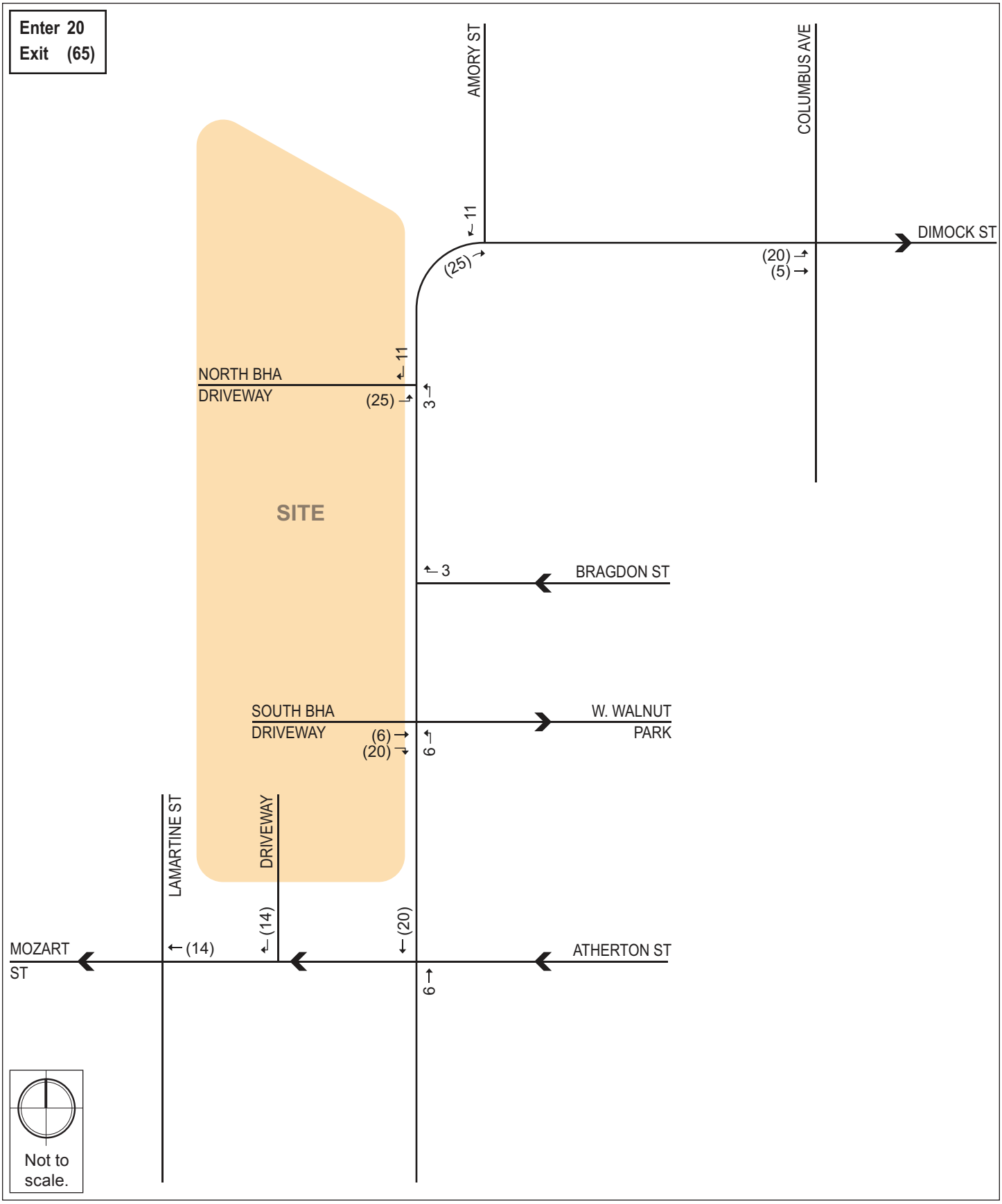

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Figure 2-15
Project-Generated Trips, a.m. Peak Hour

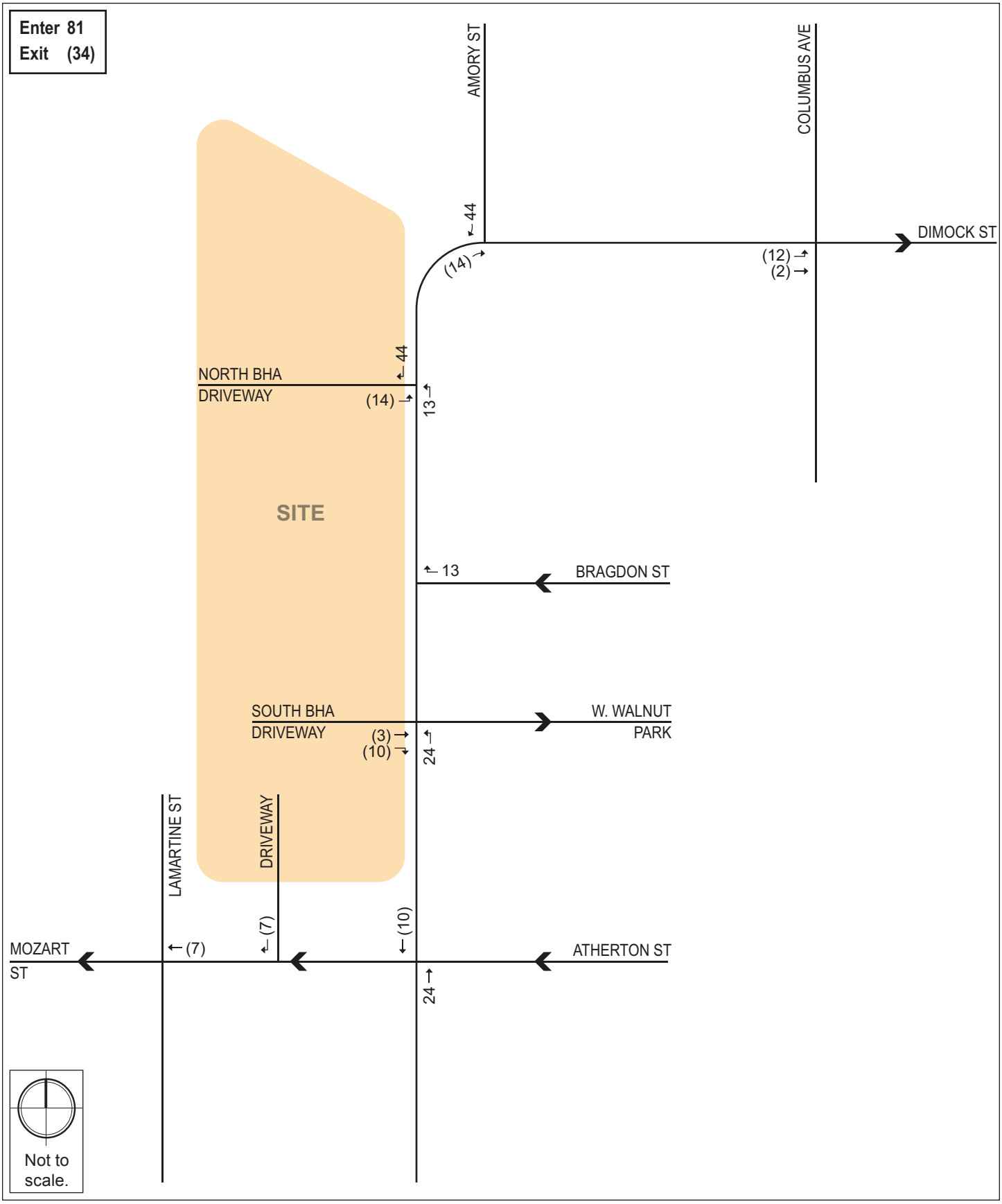

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Figure 2-16
Project-Generated Trips, p.m. Peak Hour

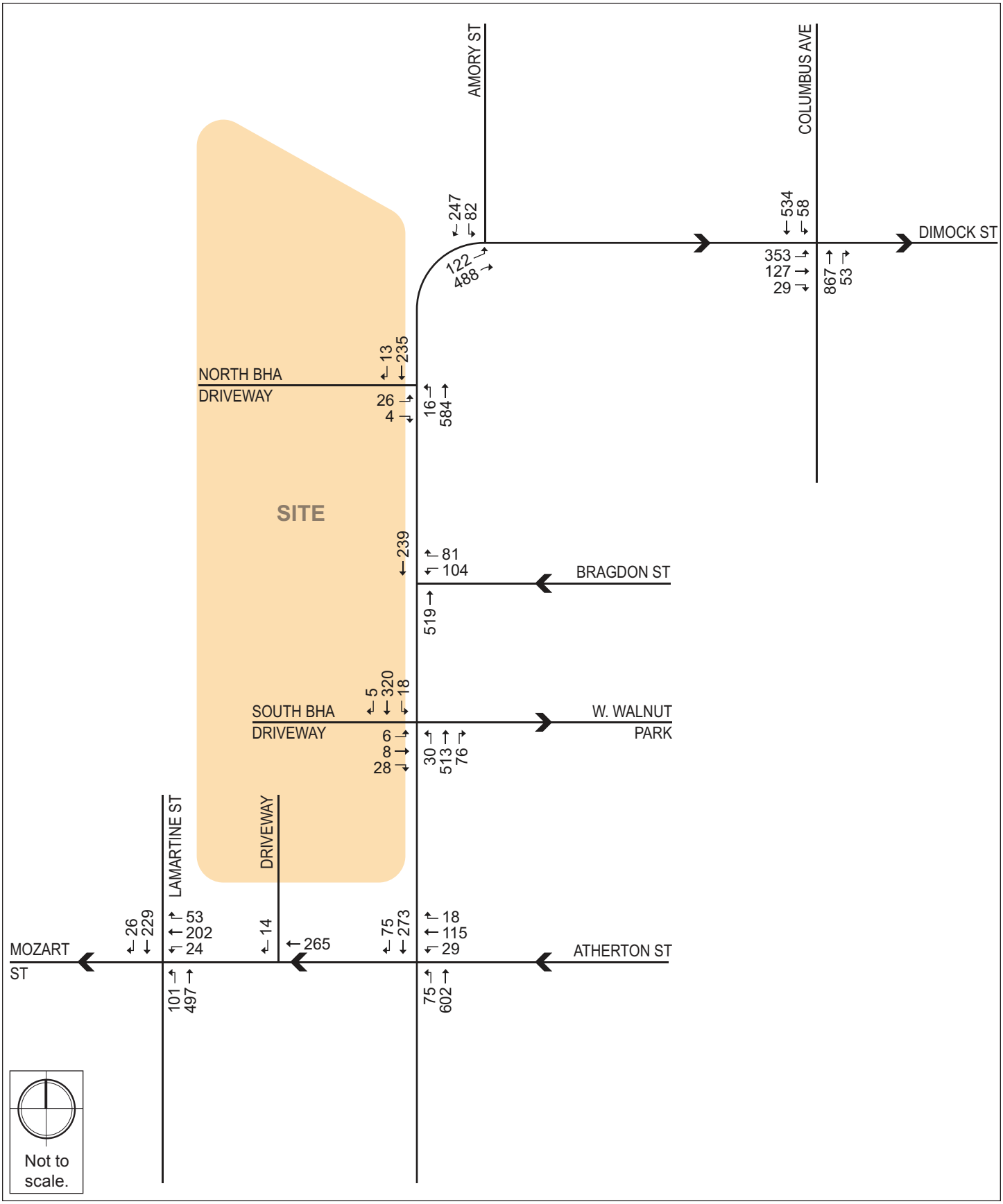

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Figure 2-17

Build (2023) Condition Traffic Volumes, a.m. Peak Hour

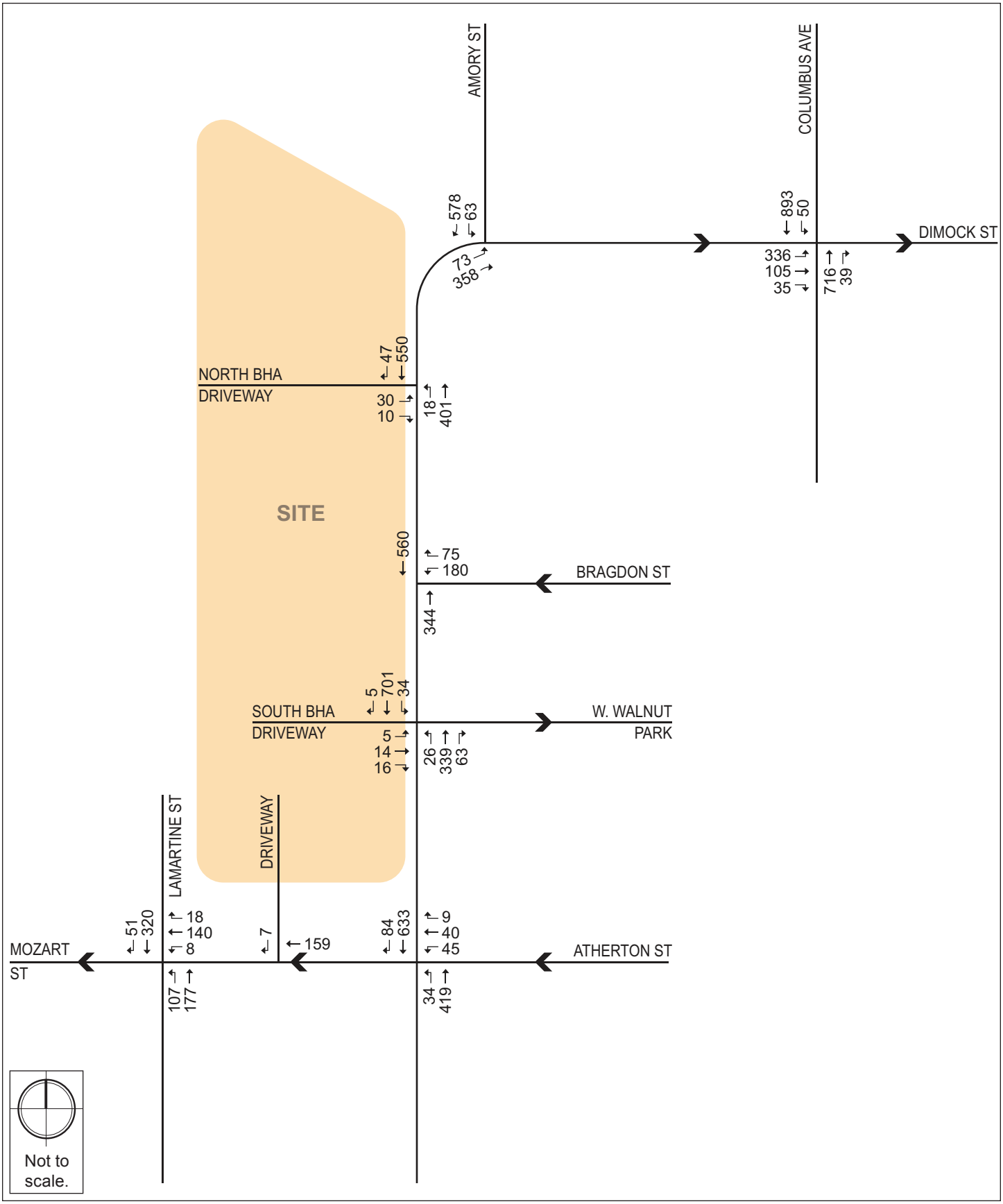

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Figure 2-18

Build (2023) Condition Traffic Volumes, a.m. Peak Hour

Table 2-9 Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Columbus Avenue/Dimock Street	**D**	**38.4**	**-**	**-**	**-**
Dimock Street EB left	F	80.1	0.96	295	#486
Dimock Street EB thru/right	D	38.6	0.41	105	173
Columbus Avenue NB thru | thru/right	C	27.8	0.65	294	367
Columbus Avenue SB left/thru | thru	C	28.4	0.62	190	256
Amory Street/Atherton Street	**D**	**37.0**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	14.3	0.40	34	71
Amory Street NB left/thru	E	55.9	1.02	~185	#380
Amory Street SB thru/right	B	11.0	0.54	55	115
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	A	2.2	0.08	-	6
Amory Street SB left/right	C	16.0	0.54	-	81
Amory Street/North BHA Driveway	-	-	-	-	-
North BHA Driveway EB left/right	C	20.4	0.24	-	22
Amory Street NB left/thru	A	0.4	0.01	-	1
Amory Street SB thru/right	A	0.0	0.16	-	0
Amory Street/Bragdon Street	-	-	-	-	-
Bragdon Street WB left/right	**C**	**20.5**	**0.48**	**-**	**63**
Amory Street NB thru	A	0.0	0.32	-	0
Amory Street SB thru	A	0.0	0.16	-	0
Amory Street/South BHA Driveway/W Walnut Park	-	-	-	-	-
South BHA Driveway EB left/thru/right	**C**	**17.1**	**0.15**	**-**	**13**
Amory Street NB left/thru/right	A	0.7	0.03	-	2
Amory Street SB left/thru/right	A	0.7	0.02	-	2
Lamartine Street/Atherton Street/Mozart Street	-	-	-	-	-
Atherton Street WB left/thru/right	**F**	**>50**	1.32	-	386
Lamartine Street NB left/thru	A	2.2	0.09	-	7
Lamartine Street SB thru/right	A	0.0	0.17	-	0
Atherton Street/ Site Driveway	-	-	-	-	-
Atherton Street WB thru/right	A	0.0	0.17	-	0
Site Driveway SB right	A	9.9	0.02	-	2

Table 2-10 Build (2016) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Columbus Avenue/Dimock Street	**D**	**37.2**	**-**	**-**	**-**
Dimock Street EB left	F	84.9	0.97	274	#466
Dimock Street EB thru/right	D	38.8	0.39	89	153
Columbus Avenue NB thru | thru/right	C	23.2	0.53	221	281
Columbus Avenue SB left/thru | thru	C	31.0	0.77	320	410
Amory Street/Atherton Street	**D**	**52.7**	**-**	**-**	**-**
Atherton Street WB left/thru/right	B	12.4	0.24	19	44
Amory Street NB left/thru	D	42.9	0.94	119	#262
Amory Street SB thru/right	E	64.1	1.05	~200	#391
Unsignalized Intersections					
Amory Street/Dimock Street	**-**	**-**	**-**	**-**	**-**
Amory Street EB left/thru	A	1.6	0.05	-	4
Amory Street SB left/right	C	18.4	0.73	-	164
Amory Street/North BHA Driveway	-	-	-	-	-
North BHA Driveway EB left/right	**C**	**23.2**	**0.20**	**-**	**18**
Amory Street NB left/thru	A	0.7	0.02	-	2
Amory Street SB thru/right	A	0.0	0.37	-	0
Amory Street/Bragdon Street	-	-	-	-	-
Bragdon Street WB left/right	**F**	**>50**	**1.08**	**-**	**318**
Amory Street NB thru	A	0.0	0.25	-	0
Amory Street SB thru	A	0.0	0.36	-	0
Amory Street/South BHA Driveway/W Walnut Park	-	-	-	-	-
South BHA Driveway EB left/thru/right	**D**	**33.6**	**0.26**	**-**	**25**
Amory Street NB left/thru/right	A	1.0	0.03	-	3
Amory Street SB left/thru/right	A	0.9	0.03	-	3
Lamartine Street/Atherton Street/Mozart Street	-	-	-	-	-
Atherton Street WB left/thru/right	**E**	**36.0**	0.63	-	98
Lamartine Street NB left/thru	A	3.8	0.10	-	8
Lamartine Street SB thru/right	A	0.0	0.23	-	0
Atherton Street/ Site Driveway	-	-	-	-	-
Atherton Street WB thru/right	A	0.0	0.10	-	0
Site Driveway SB right	A	9.2	0.01	-	1

As shown in Table 2-9 and Table 2-10, the following impacts to traffic operations are expected under the Build (2023) Condition:

- The signalized intersection of **Columbus Avenue/Dimock Street** continues to operate at LOS D during both the a.m. and p.m. peak hours; however, the Dimock Street eastbound left turn lane degrades from LOS E to LOS F during the a.m. peak hour.

- The signalized intersection of **Amory Street/Atherton Street** continues to operate at LOS D during both the a.m. and p.m. peak hour; however, the Amory Street northbound approach degrades from LOS D to LOS E during the p.m. peak hour.

- At the unsignalized intersection of **Amory Street/Bragdon Street,** the Bragdon Street westbound stop-controlled approach decreases from LOS D to LOS F during the p.m. peak hour.

- At the unsignalized intersection of **Lamartine Street/Atherton Street/ Mozart Street**, the Atherton Street westbound stop controlled approach decreases from LOS D to LOS E during the p.m. peak hour.

2.5 Transportation Demand Management

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

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

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

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

- Orientation Packets: The Proponent will provide orientation packets to new residents containing information on available transportation choices, including transit routes/schedules and nearby vehicle sharing and bicycle sharing locations. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals.

- Provide an annual (or more frequent) newsletter or bulletin summarizing transit, ridesharing, bicycling, and other travel options.

- Transportation Coordinator: The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries, and will work with residents as they move in to raise awareness of public transportation, bicycling, and walking opportunities.

- Website: Provide information on travel alternatives for employees and visitors via the Internet and in the building lobby.

- Electric Vehicle Charging: The Proponent will explore the feasibility of providing electric vehicle charging station(s) within the garages or elsewhere on the Project site.

- Vehicle Sharing Program: The Proponent will explore the feasibility of providing spaces in the garages or elsewhere on the Project site for a car sharing service.

Bicycle Accommodation: The Proponent will provide bicycle storage in secure, sheltered areas for residents. Subject to necessary approvals, public use bicycle racks for visitors will be placed near building entrances.

2.6 Transportation Mitigation Measures

Although the traffic impacts associated with the new trips are minimal (generating one to two vehicle trips per minute during the peak hours), the Proponent will continue to work with the City of Boston so that the Project efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the technical analysis, it must be executed after these other processes have been completed.

The Project expects to contribute to mitigation measures to improve the existing transportation conditions in the area. Potential additional mitigation measures that could be appropriate for a Project with this level of impact include:

- Pedestrian improvements in the area;

- Design and construction for the extension of the multi-use path along the south side of the MBTA Orange Line; and/or

- Traffic signal infrastructure improvements in the area.

Further mitigation measures will be discussed with BTD as the Project moves through the permitting process. All mitigation measures will be detailed in the TAPA.

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

2.7 Evaluation of Short-term Construction Impacts

Most construction activities will be accommodated within the current Project site boundaries. Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a CMP to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

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

- Limited construction worker parking on-site;
- Encouragement of worker carpooling;
- Consideration of a subsidy for MBTA passes for full-time employees; and
- Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

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

Chapter 3.0

Environmental Review Component

3.0 ENVIRONMENTAL REVIEW COMPONENT

3.1 Wind

Major buildings, especially those that protrude above their surroundings, often 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 proposed buildings and existing Amory Street Apartments are similar heights, and the Project site will include significant landscaping. These characteristics are anticipated to minimize pedestrian level wind impacts around the Project site.

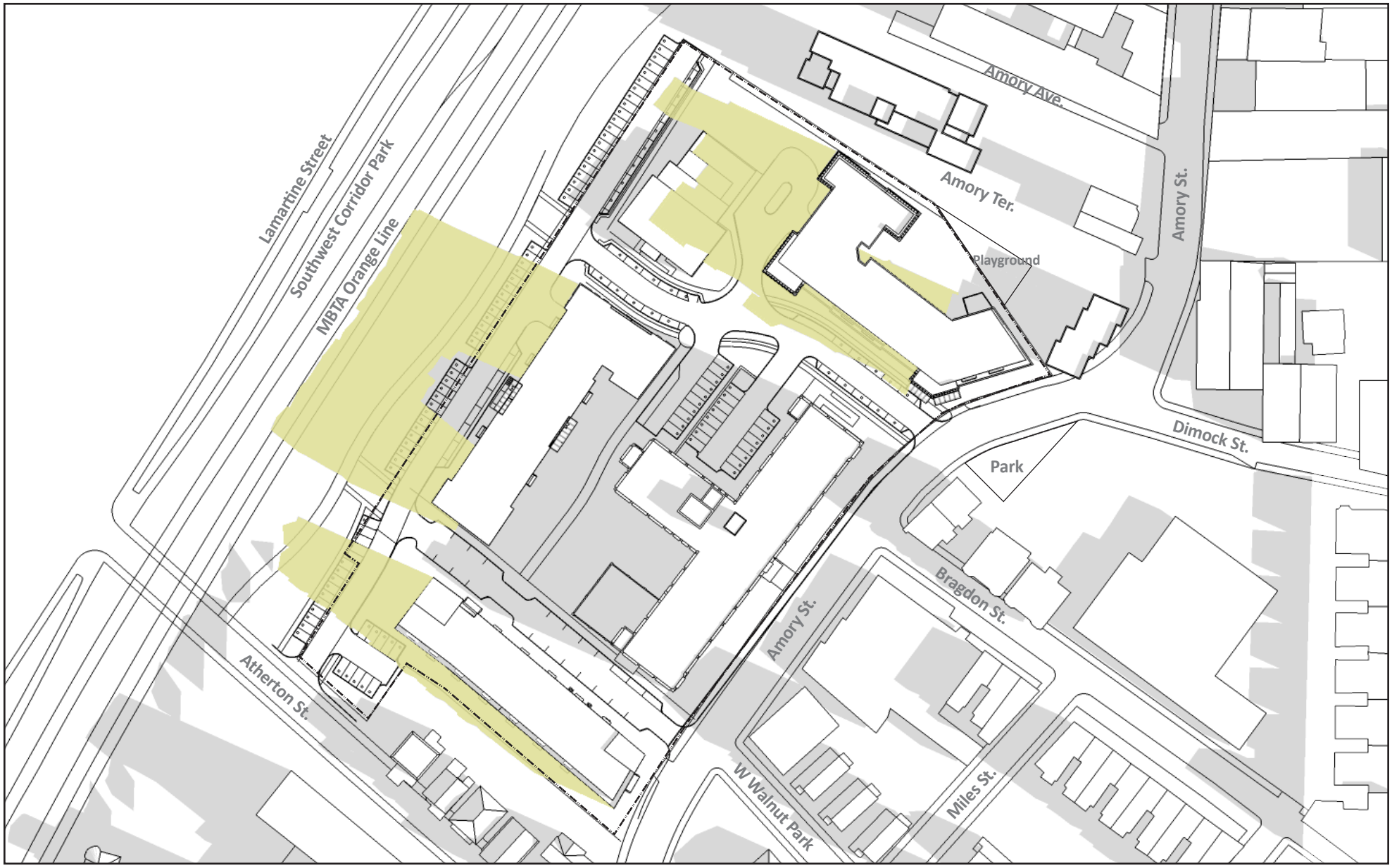
3.2 Shadow

3.2.1 Introduction and Methodology

As typically required by the BPDA, 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 analysis presents the existing shadow and new shadow that would be created by the proposed Project, illustrating the incremental impact of the Project. The analysis focuses on nearby open spaces, sidewalks and bus stops adjacent to and in the vicinity of the Project site. It should be noted that the shadow graphics do not account for existing or proposed trees. 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 3-1 to 3-14.

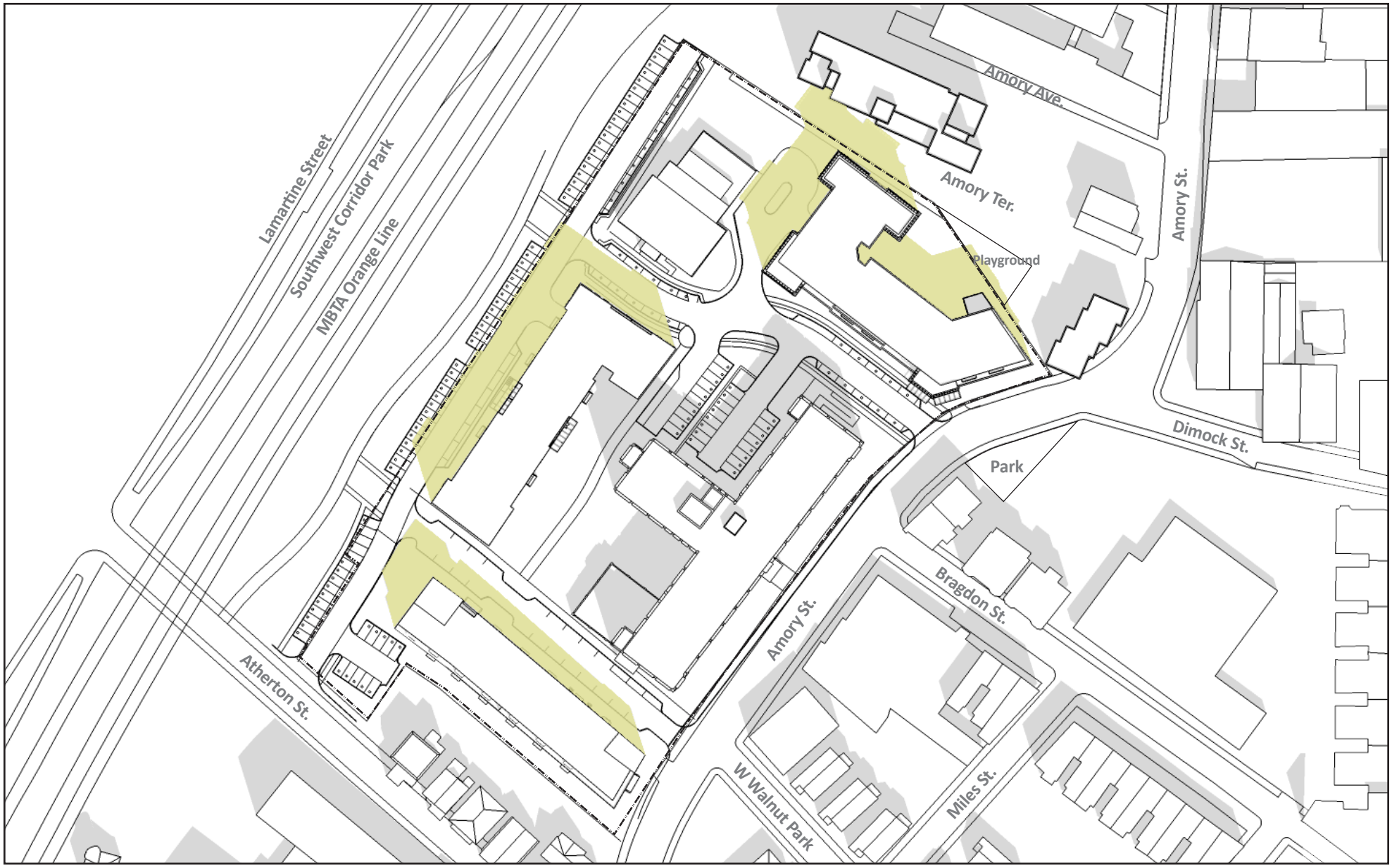
The analysis shows that the Project's impacts will generally be limited to the Project site, with minor impacts on surrounding streets and open spaces. New shadow will be cast onto the proposed multi-use path on the eastern edge of the Project site during the morning hours, and on the playground on Amory Terrace during the afternoon hours, which is under shadow most of the year in the existing condition from adjacent trees.



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 3-1
Shadow Study: March 21, 9:00 AM



125 Amory Street Boston, Massachusetts

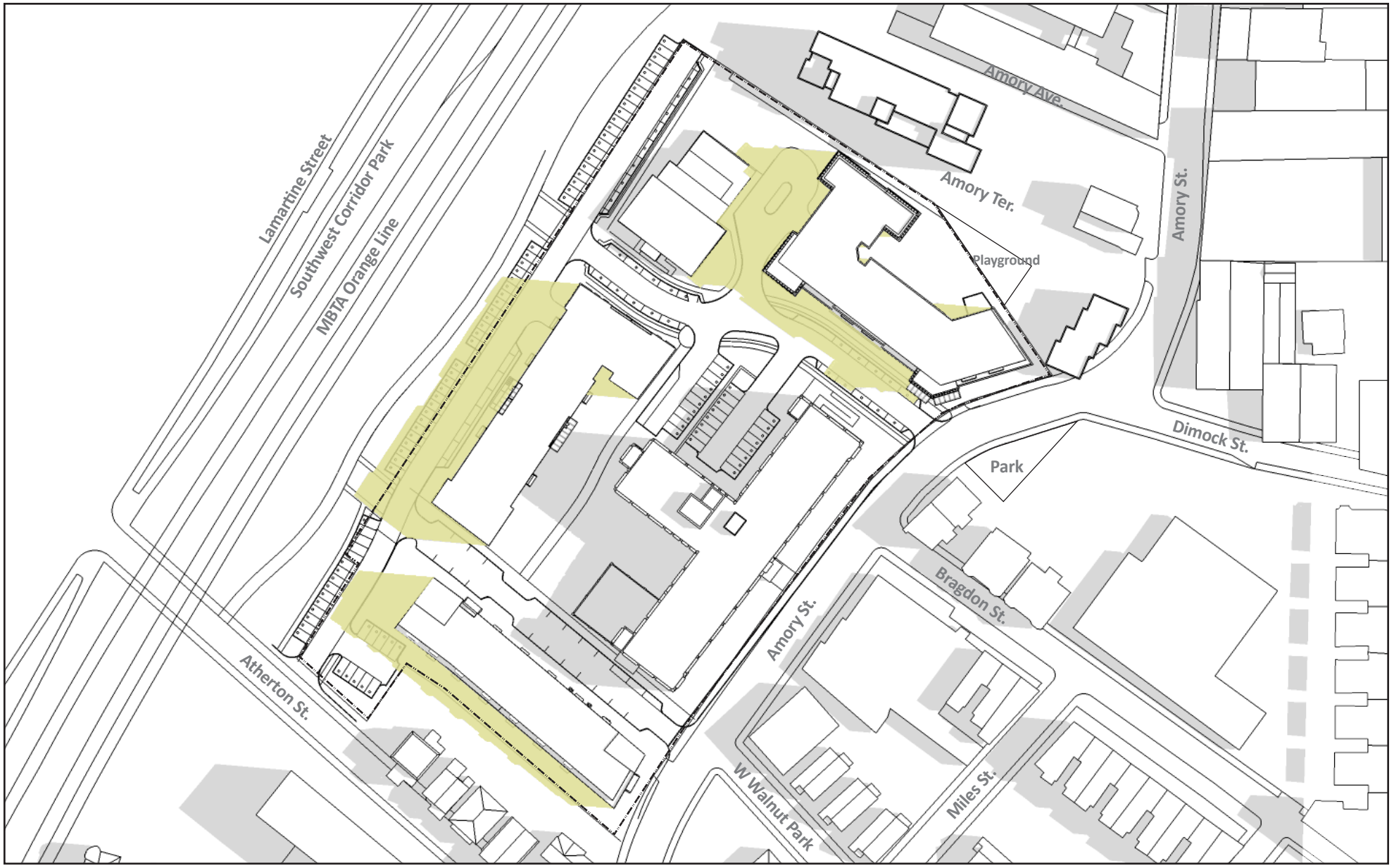
E- ICON ARCHITECTURE

Figure 3-2
Shadow Study: March 21, 12:00 PM

125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

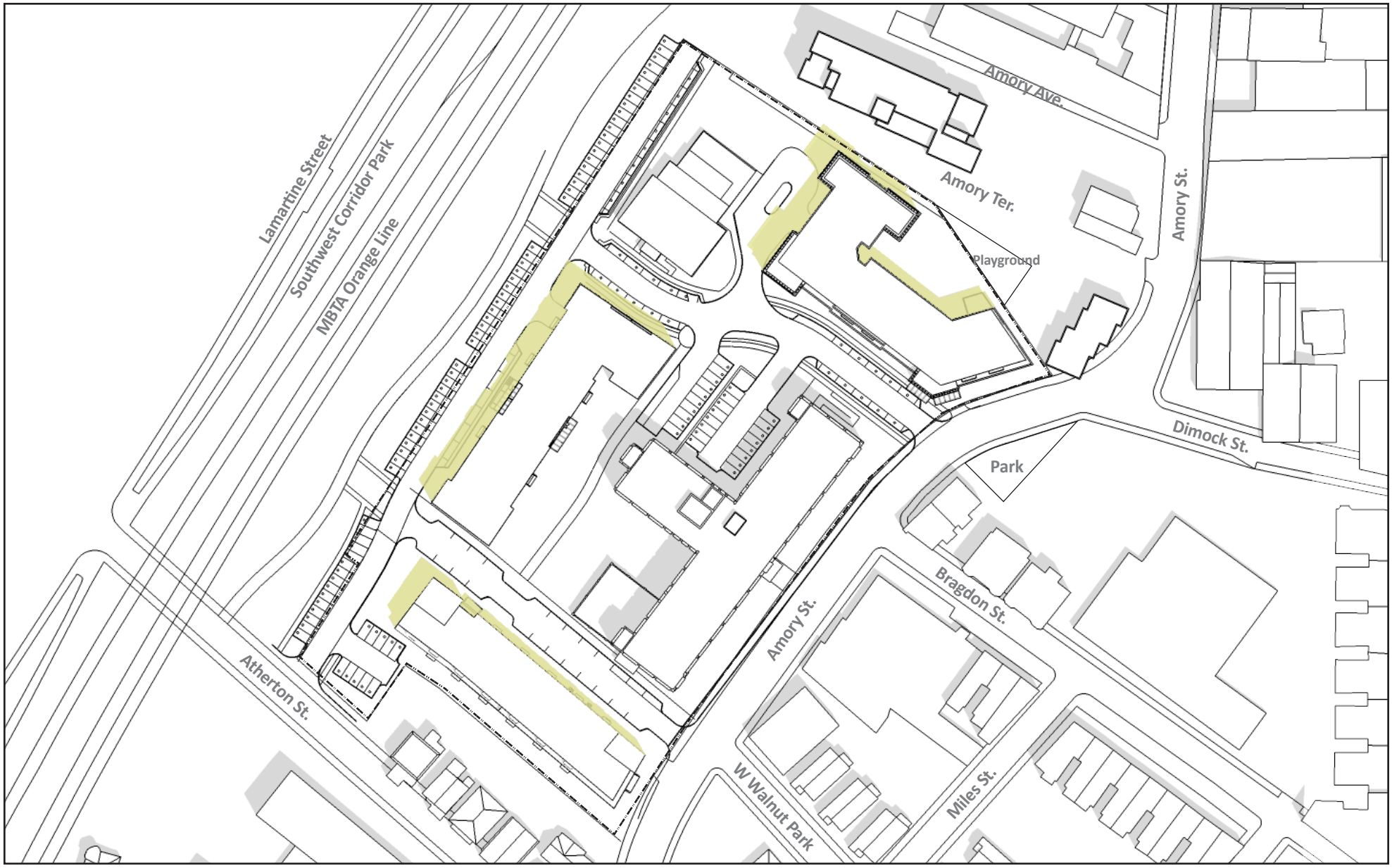
Figure 3-3
Shadow Study: March 21, 3:00 PM



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 3-4
Shadow Study: June 21, 9:00 AM



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 3-5
Shadow Study: June 21, 12:00 PM

125 Amory Street Boston, Massachusetts

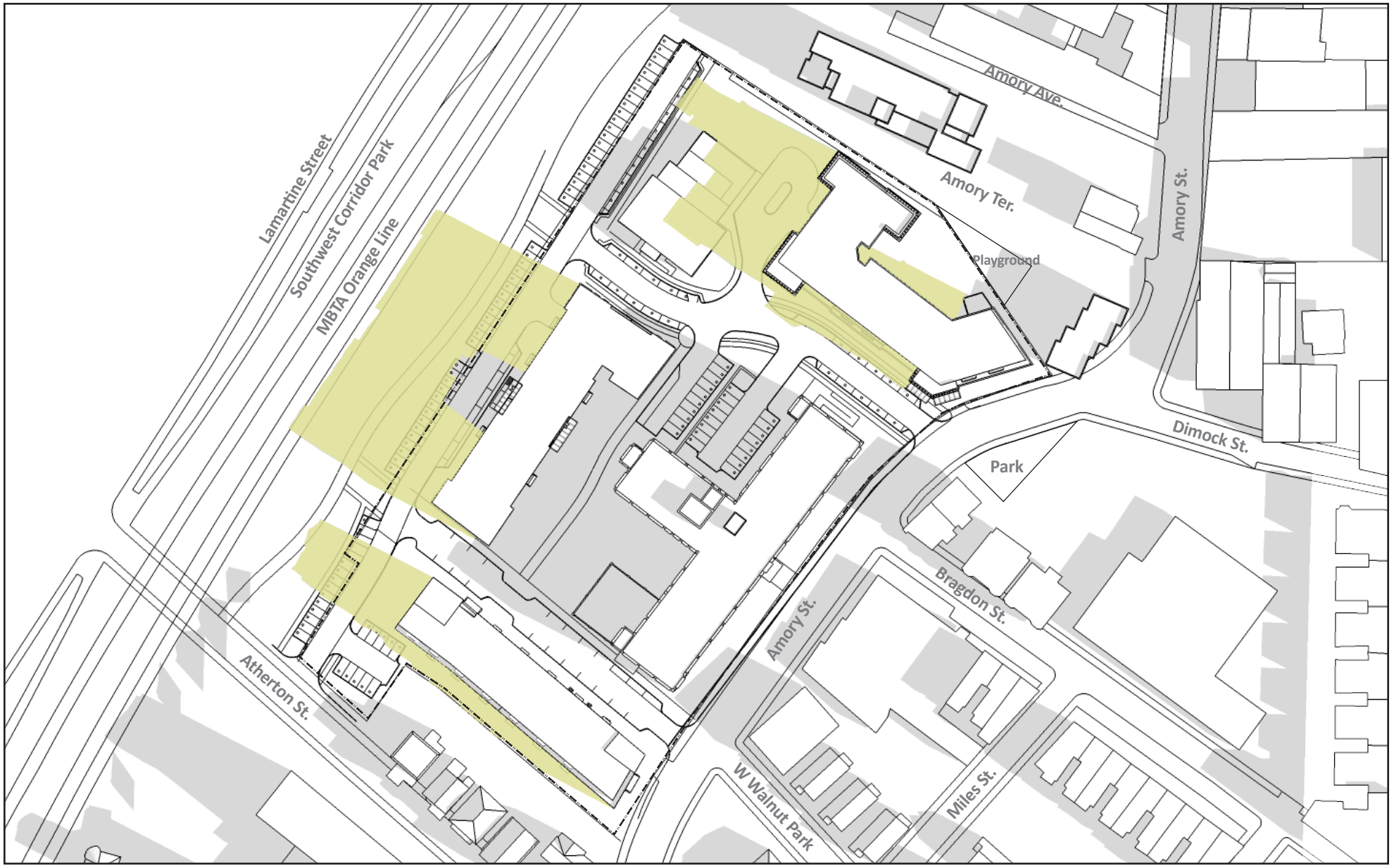
E- ICON ARCHITECTURE

Figure 3-6
Shadow Study: June 21, 3:00 PM

125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

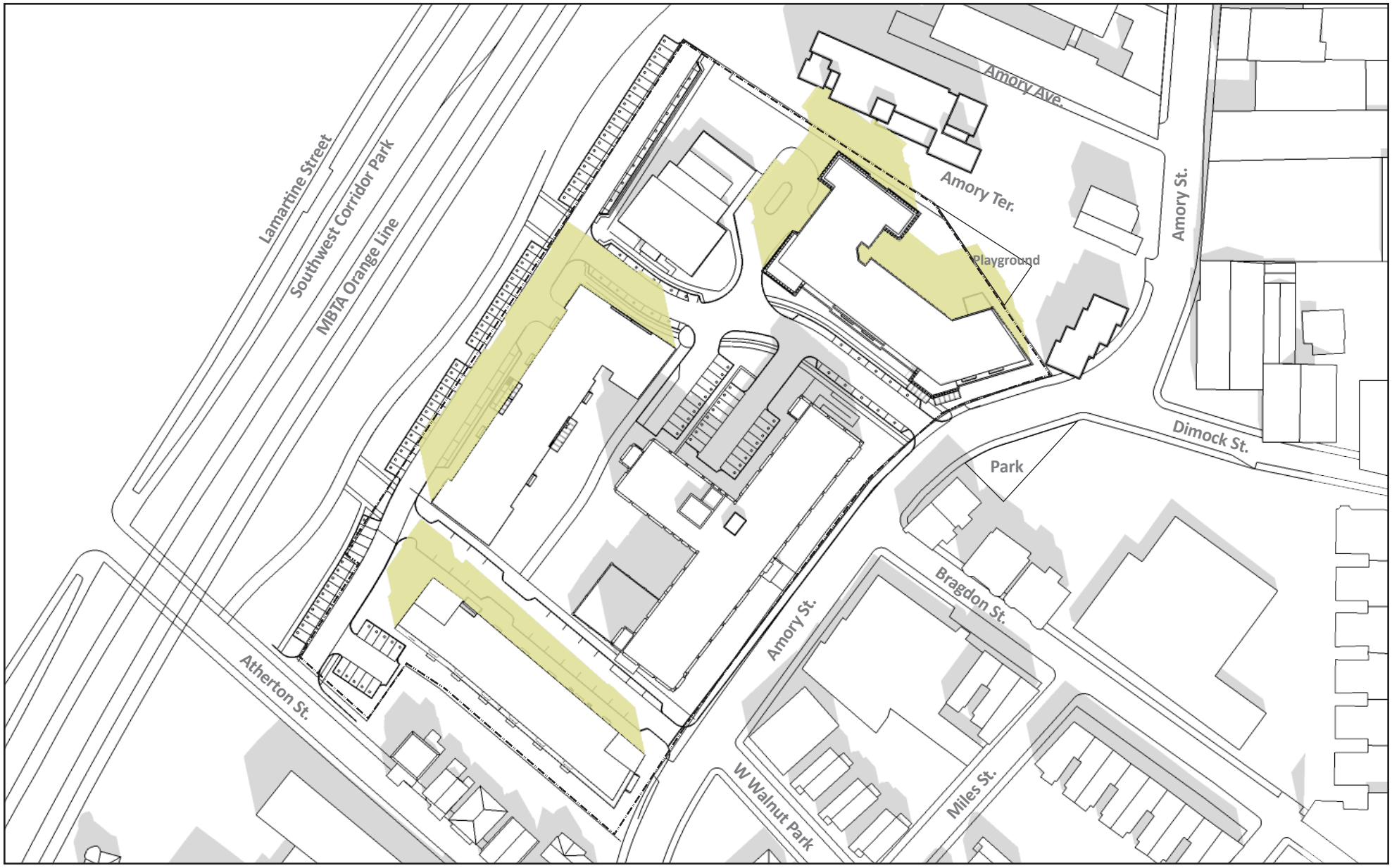
Figure 3-7
Shadow Study: June 21, 6:00 PM



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 3-8
Shadow Study: September 21, 9:00 AM



125 Amory Street Boston, Massachusetts

E- ICON ARCHITECTURE

Figure 3-9
Shadow Study: September 21, 12:00 PM

125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 3-10
Shadow Study: September 21, 3:00 PM

125 Amory Street Boston, Massachusetts

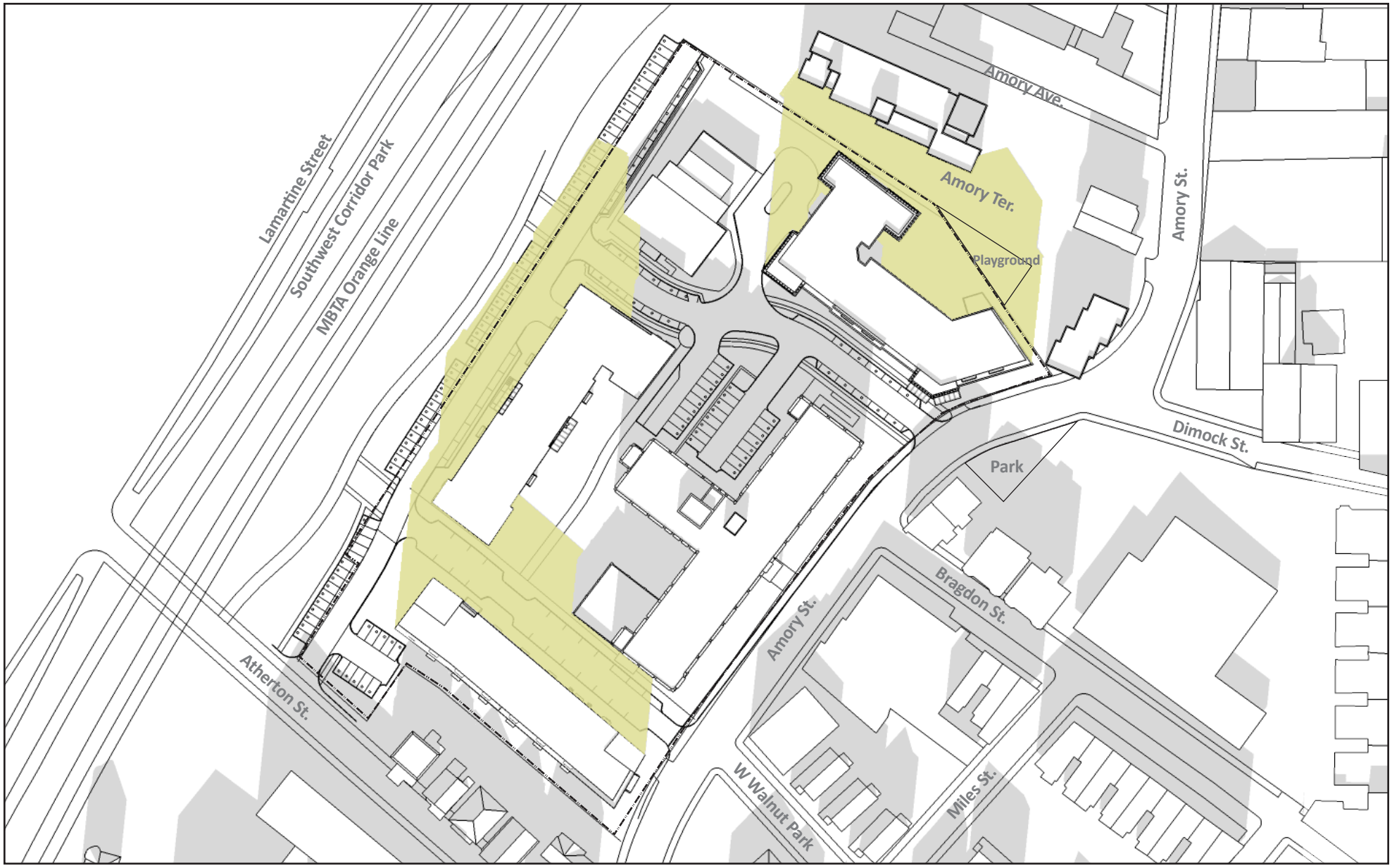
ICON ARCHITECTURE

Figure 3-11
Shadow Study: September 21, 6:00 PM

125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

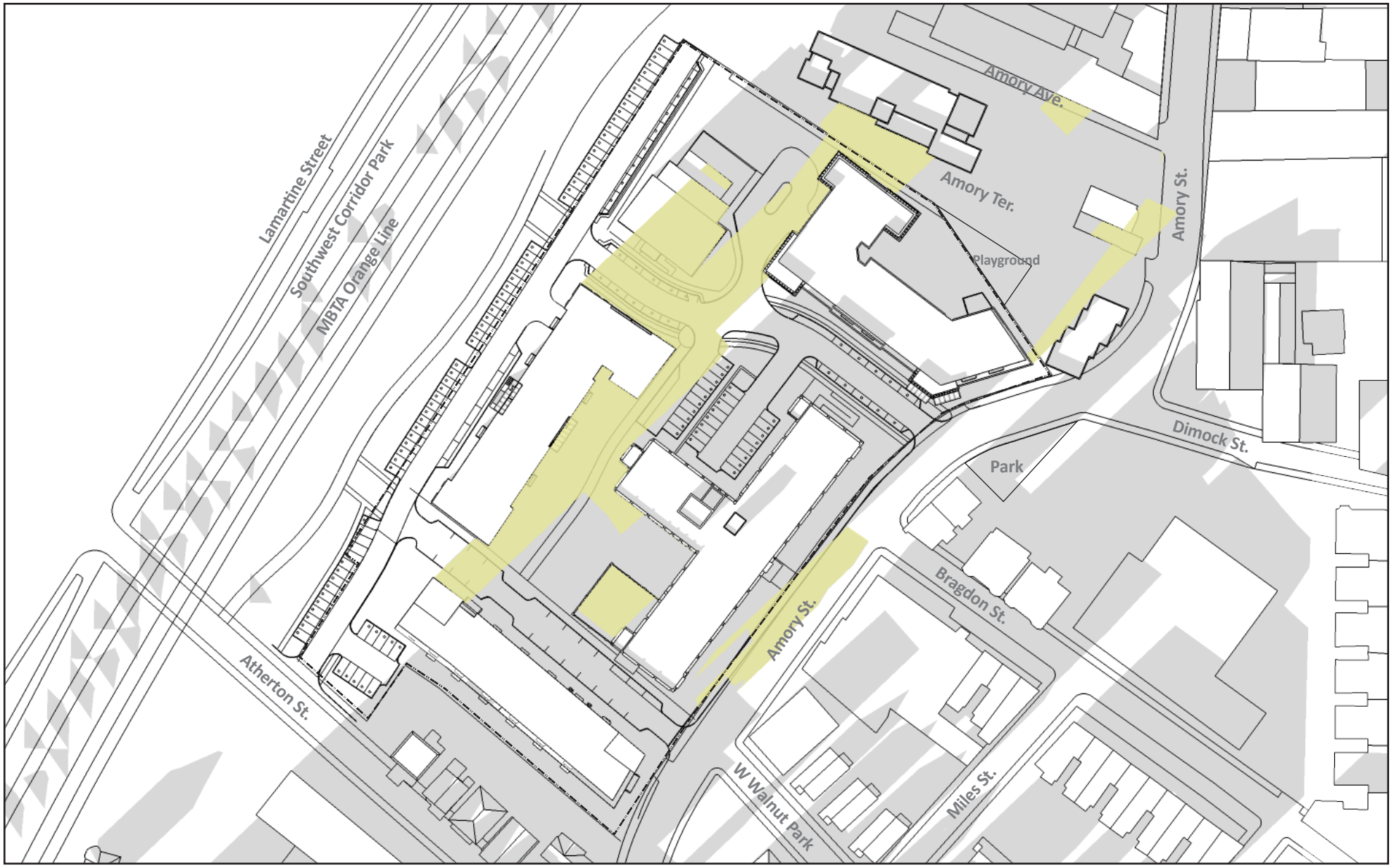
Figure 3-12
Shadow Study: December 21, 9:00 AM



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 3-13
Shadow Study: December 21, 12:00 PM



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 3-14
Shadow Study: December 21, 3:00 PM

3.2.2 Vernal Equinox (March 21)

At 9:00 a.m. during the vernal equinox, new shadow will be cast to the west onto the Project site and its proposed new roadways and open spaces, as well as the proposed multi-use path on the eastern edge of the Project site.

At 12:00 p.m., new shadow will be cast to the north across portions of the Project's new roadways and open spaces, as well as Amory Terrace and a minor portion of the playground on Amory Terrace.

At 3:00 p.m., new shadow will be cast to the northeast over the Project's new roadways and open spaces, Amory Terrace, and a portion of the playground on Amory Terrace.

3.2.3 Summer Solstice (June 21)

At 9:00 a.m. during the summer solstice, new shadow will be cast to the west onto the Project site and its proposed new roadways and open spaces, as well as a minor portion of the proposed multi-use path on the eastern edge of the Project site.

At 12:00 p.m., new shadow will be cast to the north across minor portions of the Project's new roadways and open spaces.

At 3:00 p.m., new shadow will be cast to the northeast over the Project's new roadways and open spaces, Amory Terrace and a minor portion of the playground on Amory Terrace.

At 6:00 p.m., new shadow will be cast to the east across portions of the Project's new roadways and open spaces, as well as portions of Amory Terrace, Amory Street and its sidewalks, a minor portion of W. Walnut Park and its southern sidewalk, and a minor portion of Dimock Street and its southern sidewalk. New shadow will also be cast across the playground on Amory Terrace.

3.2.4 Autumnal Equinox (September 21)

At 9:00 a.m. during the autumnal equinox, new shadow will be cast to the west onto the Project site and its proposed new roadways and open spaces, as well as a portion of the proposed multi-use path on the eastern edge of the Project site.

At 12:00 p.m., new shadow will be cast to the north across portions of the Project's new roadways and open spaces, and a minor portion of the playground on Amory Street.

At 3:00 p.m., new shadow will be cast to the northeast over the Project's new roadways and open spaces, Amory Terrace and a portion of the playground on Amory Terrace.

At 6:00 p.m., new shadow will be cast to the east across portions of the Project's new roadways and open spaces, as well as portions of Amory Street and its sidewalks and Amory Terrace. New shadow will also be cast across the playground on Amory Terrace.

3.2.5 Winter Solstice (December 21)

At 9:00 a.m. during the winter solstice, new shadow will be cast to the northwest across the Project's new roadways and open spaces, as well as a portion of the proposed multi-use path on the eastern edge of the Project site and Amory Terrace.

At 12:00 p.m., new shadow will be cast to the north across the Project's new roadways and open spaces, as well as a minor portion of the proposed multi-use path on the eastern edge of the Project site, Amory Terrace and the playground on Amory Terrace.

At 3:00 p.m., new shadow will be cast to the northeast across the Project's new roadways and open spaces, as well as minor portions of Amory Street and its western sidewalk, Amory Terrace and Amory Avenue.

3.2.6 Conclusions

The Project will result in new shadow on the Project site and on immediately surrounding streets. New shadow will be cast onto the portion of the proposed multi-use path on the eastern edge of the Project site. New shadow will also be cast onto the playground on Amory Terrace in the afternoon and evening. As noted, this analysis does not include trees which currently cast a shadow on the playground during the afternoon and evening hours throughout most of the year.

3.3 Daylight Analysis

The Project site is adjacent to one public roadway, Amory Street, and conditions along Amory Street will be similar to the existing condition in regard to views of the sky and daylight (i.e., no impacts to daylight). Two of the new buildings will be located along the north and south sides of Amory Street Apartments, but will be separated from Amory Street Apartments by new roadways and open spaces allowing for views of the sky. Within the Project site, the new buildings will be separated by the new roadways and open spaces, allowing for views of the sky throughout the Project site. The proposed site plan will be similar to the surrounding area, with buildings separated by open spaces and roadways, and the heights of the buildings will be similar to the new buildings in the area; therefore, daylight impacts are anticipated to be similar to the area context.

3.4 Solar Glare

The Project site is not located adjacent to roadways with heavy traffic, and the buildings are not anticipated to incorporate large areas of reflective glass or materials that could create solar glare issues in the surrounding area.

3.5 Air Quality

An air quality analysis was conducted to determine the impact of pollutant emissions from mobile sources generated by the Project. A microscale analysis was performed to evaluate the potential air quality impacts of carbon monoxide (CO) due to traffic flow around the Project area. Any new stationary sources will be reviewed by the Massachusetts Department of Environmental Protection (MassDEP) during permitting under the Environmental Results Program (ERP), if required.

3.5.1 Background Air Quality and Health Standards

Background air quality concentrations and federal air quality standards were utilized to conduct the air quality impact analysis, and are described below.

3.5.1.1 National Ambient Air Quality Standards and Attainment Status

Federal National Ambient Air Quality Standards (NAAQS) were developed by the U.S. Environmental Protection Agency (EPA) to protect human health against adverse health effects with a margin of safety, in response to the Clean Air Act passed by the U.S. Congress in 1970. One of the basic goals of federal and state air regulations is to ensure that ambient air quality, including the impact of background, existing sources, and new sources, is in compliance with ambient standards. Toward this end, all areas of the country have been classified as in "attainment," "nonattainment", or "unclassified" for a particular contaminant.

As required by the Clean Air Act, EPA promulgated NAAQS for six air contaminants, known as criteria pollutants, for the protection of public health and welfare. These criteria pollutants are Sulfur Dioxide (SO_2); particulate matter having an aerodynamic diameter of 10 micrometers or less (PM10); particulate matter having an aerodynamic diameter of 2.5 micrometers or less (PM2.5); nitrogen dioxide (NO_2); carbon monoxide (CO); ozone (O_3); and lead (Pb). The NAAQS are listed in Table 3-1. Massachusetts Ambient Air Quality Standards (MAAQS) are typically identical to NAAQS (differences are highlighted in **bold** in Table 3-1). The Massachusetts air permitting process, among other things, assures new emission sources do not cause or contribute to an exceedance of the NAAQS or MAAQS.

Table 3-1 National (NAAQS) and Massachusetts (MAAQS) Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu g/m^3$) Primary	NAAQS ($\mu g/m^3$) Secondary	MAAQS ($\mu g/m^3$) Primary	MAAQS ($\mu g/m^3$) 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

Table 3-1 National (NAAQS) and Massachusetts (MAAQS) Ambient Air Quality Standards (Continued)

Pollutant	Averaging Period	NAAQS ($\mu g/m^3$) Primary	NAAQS ($\mu g/m^3$) Secondary	MAAQS ($\mu g/m^3$) Primary	MAAQS ($\mu g/m^3$) Secondary
PM2.5	Annual(1)	12	15	None	None
	24-hour(5)	35	Same	None	None
PM10	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)(10)(11)	1.5	Same	1.5	Same

Standards for NO_2, SO_2, CO and Ozone are codified in parts per million (ppm) or parts per billion (ppb). Converted to $\mu g/m^3$ for modeling purposes.
(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 PM10 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 SO_2 NAAQS in 2010. However, they remain in effect until one year after the area's initial attainment designation, unless designated as "nonattainment".
(10) Rolling three-month averaging period for NAAQS, Calendar quarter for MAAQS.
(11) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu g/m^3$ as a calendar quarter average) also remain in effect.

Source: https://www.epa.gov/criteria-air-pollutants/naaqs-table and 310 CMR 6.04

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 are applied when determining compliance.

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. The probabilistic short-term periods are based on percentiles and averages over multiple years, and are not to be exceeded. Long-term periods refer to limits that cannot be exceeded for exposure averaged over three months or longer.

3.5.1.2 Background Concentrations

To estimate background pollutant levels representative of the area, the most recent air quality monitor data reported by the MassDEP to EPA was obtained for 2014 to 2016. Data for the 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 non-probabilistic CO and SO_2 short-term NAAQS per year. The highest second-high accounts for the one exceedance. Annual NAAQS are never to be exceeded. The 24-hour PM10 standard is not to be exceeded more than once per year on average over three years. To attain the 24-hour PM2.5 standard, the three-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu g/m^3$. For annual PM2.5, the annual mean, averaged over three years is not to be exceeded. To attain the one-hour NO_2 standard, the three-year average of the 98th percentile of the maximum daily one-hour concentrations must not exceed 188 $\mu g/m^3$. Similarly, to attain the one-hour SO_2 standard, the three-year average of the 99th percentile of the maximum daily one-hour concentrations must not exceed 196 $\mu g/m^3$. For the remaining annual averages, the annual mean is not to be exceeded.

Background concentrations were determined from the closest available monitoring stations to the Project site. The closest monitor is at Harrison Avenue in Boston, roughly 1.4 miles northeast of the Project site. This site samples for all pollutants. A summary of the background air quality concentrations are presented in Table 3-2.

Table 3-2 Observed Ambient Air Quality Concentrations and Selected Background Levels

POLL.	Avg. Time	Form	2014	2015	2016	Background Concentration ($\mu g/m^3$)	NAAQS	Percent of NAAQS
SO_2[1][6]	1-Hour [5]	99th %	32.2	24.6	12.3	23.1	196.0	12%
	3-Hour	H2H	56.3	22.8	13.4	56.3	1300.0	4%
	24-Hour	H2H	13.4	11.3	5.0	13.4	365.0	4%
	Annual	H	2.8	2.1	1.2	2.8	80.0	3%
PM10	24-Hour	H2H	61.0	28.0	29.0	61.0	150.0	41%
	Annual	H	14.0	12.4	11.8	14.0	50.0	28%
PM2.5	24-Hour [5]	98th %	17.6	19.0	16.3	17.6	35.0	50%
	Annual [5]	H	8.0	8.8	6.2	7.7	12.0	64%
NO_2[3]	1-Hour [5]	98th %	95.9	99.6	92.1	95.9	188.0	51%
	Annual	H	29.6	28.1	24.8	29.6	100.0	30%
CO[2]	1-Hour	H2H	1963.1	1560.9	2760.7	2760.7	40000.0	7%
	8-Hour	H2H	1489.8	1031.4	2062.8	2062.8	10000.0	21%
Ozone[4]	8-Hour	H4H	106.0	109.9	113.9	113.9	147.0	77%
Lead	3-Month	H	0.014	0.016	0.017	0.017	0.15	12%

Notes:
From 2014-2016 EPA's AirData Website

[1] SO_2 reported ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 2.62 $\mu g/m^3$.

[2] CO reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1146 $\mu g/m^3$.

[3] NO_2 reported in ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 1.88 $\mu g/m^3$.

[4] O_3 reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1963 $\mu g/m^3$.

[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 and MAAQS.

3.5.1.3 Attainment Status

The City of Boston, in Suffolk County, is presently designated as unclassified (treated as attainment) or attainment for NO_2, SO_2, CO, PM10, PM2.5, and Pb. The entire Commonwealth of Massachusetts, including Suffolk County, was formerly classified as moderate nonattainment for Ozone (O_3) (1997 eight-hour standard of 0.08 ppm). This standard was replaced with a standard of 0.075 ppm effective May 28, 2008, and the 1997 standard was officially revoked effective on April 6, 2015. The entire Commonwealth (except for Dukes County on Martha's Vineyard) is classified as being in attainment with the 2008 eight-hour O_3 standard. Effective December 28, 2015, the eight-hour O_3 standard was further reduced to 0.07 ppm. Attainment designations for this standard have not yet been published by EPA.

3.5.2 Mobile Sources

Mobile sources of air pollution include emissions from vehicle traffic associated with the Project.

3.5.2.1 BPDA Air Quality Analysis Requirements

BPDA guidelines[1] 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)*

[1] Boston Redevelopment Authority, BRA Development Review Guidelines, 2006.

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 affects two intersections currently operating at LOS D or worse, or projected to operate at LOS D or worse for future cases. Therefore a microscale analysis has been completed.

3.5.2.2 Microscale Analysis Methodology

The microscale analysis involves modeling of CO emissions from vehicles idling at and traveling through signaled intersections. Predicted ambient concentrations of CO for the Build and No-Build cases are compared with federal (and state) ambient air quality standards for CO.

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

The modeling methodology was developed in accordance with the latest MassDEP modeling policies and Federal modeling guidelines.[2],[3] The microscale analysis has been conducted using the latest versions of EPA's MOVES and CAL3QHC programs to estimate CO concentrations at sidewalk receptor locations.

Baseline (2016) and future year (2023) emission factor data calculated from the MOVES model, along with traffic data, were input into the CAL3QHC program to determine CO concentrations due to traffic flowing through the selected intersections.

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

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

Existing background values of CO at the nearest monitor location at Harrison Avenue were obtained from MassDEP. CAL3QHC results were then added to background CO values of 2.4 ppm (one-hour) and 1.8 ppm (eight-hour), as provided by MassDEP, to determine total air quality impacts due to the Project. These values were compared to the NAAQS for CO of 35 ppm (one-hour) and 9 ppm (eight-hour).

Modeling assumptions and backup data for results presented in this section are provided in Appendix D.

Intersection Selection

Two signalized intersections included in the traffic study meet the conditions for a microscale analysis as described in Section 3.5.2.1 (see Chapter 2). The traffic volumes and LOS calculations provided in Chapter 2 form the basis of evaluating the traffic data versus the microscale thresholds. The intersections found to meet the criteria are:

- intersection of Columbus Avenue and Dimock Street; and,
- intersection of Armory Street and Atherton Street.

Microscale modeling was performed for the intersections based on the aforementioned methodology. The 2016 Existing Conditions, and the 2023 No-Build and Build conditions were each evaluated for both morning (a.m.) and afternoon (p.m.) peak.

Emissions Calculations (MOVES)

The EPA MOVES computer program was used to estimate motor vehicle emission factors on the roadway network. Emission factors calculated by the MOVES model are based on motor vehicle operations typical of daily periods. The Commonwealth's statewide annual Inspection and Maintenance program was included, as well as the county specific vehicle age registration distribution, fleet mix, meteorology, and other inputs. The inputs for MOVES for the Existing (2016) and Build year (2023) were provided by MassDEP.

All link types for the modeled intersections were input into MOVES. Idle emission factors are obtained from factors for a link average speed of 0 miles per hour (mph). Moving emissions are calculated based on speeds at which free-flowing vehicles travel through the intersection as stated in traffic modeling (SYNCHRO) reports. A speed of 25 mph is used for all free-flow traffic. Speeds of 10 and 15 mph were used for right (and U-turns, if necessary) and left turns, respectively. Roadway emissions factors were obtained from MOVES using EPA guidance.[4]

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[4] U.S. EPA, 2010. Using MOVES in Project-Level Carbon Monoxide Analyses. EPA-420-B-10-041.

Winter CO emission factors are typically higher than summer. Therefore, January weekday emission factors were conservatively used in the microscale analyses.

Receptors & Meteorology Inputs

Up to 153 receptors were placed in the vicinity of the modeled intersections. Receptors extended approximately 300 feet on the sidewalks along the roadways approaching the intersections. The roadway links and receptor locations of the modeled intersection are presented in Figures 3-15 and 3-16.

For the CAL3QHC model, limited meteorological inputs are required. Following EPA guidance[5], a wind speed of one meter per second, stability class D (4), and a mixing height of 1,000 meters were used. To account for the intersection geometry, wind directions from 0° to 350°, every 10° were selected. A surface roughness length of 371 centimeters was selected.[6]

Impact Calculations (CAL3QHC)

The CAL3QHC model predicts one-hour concentrations using queue-links at intersections, worst-case meteorological conditions, and traffic input data. The one-hour concentrations were scaled by a factor of 0.9 to estimate eight-hour concentrations.[7] The CAL3QHC methodology was based on EPA CO modeling guidance. Signal timings were provided directly from the traffic modeling outputs.

For use in the microscale analysis, background concentrations of CO in ppm were required. The corresponding maximum background concentrations in ppm were 2.4 ppm (2,761 $\mu g/m^3$) for one-hour and 1.8 ppm (2,063 $\mu g/m^3$) for eight-hour CO.

3.5.4.3 Air Quality Results

The results of the maximum one-hour predicted CO concentrations from CAL3QHC are provided in Tables 3-3 through 3-5 for the 2016 and 2023 scenarios. Eight-hour average concentrations are calculated by multiplying the maximum one-hour concentrations by a factor of 0.9.[8]

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

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

7 U.S. EPA, AERSCREEN User's Guide; EPA-454/B-11-001, March 2011.

8 U.S. EPA, AERSCREEN User's Guide; EPA-454/B-11-001, March 2011.

125 Amory Street Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 3-15

Intersection of Columbus Ave. and Dimock Street

125 Amory Street Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 3-16

Intersection of Armory Street and Atherton Street

The results of the one-hour and eight-hour maximum modeled CO ground-level concentrations from CAL3QHC were added to EPA supplied background levels for comparison to the NAAQS. These values represent the highest potential concentrations at the intersection as they are predicted during the simultaneous occurrence of "defined" worst case meteorology. The highest one-hour traffic-related concentration predicted in the area of the Project for the modeled conditions (0.4 ppm) plus background (2.4 ppm) is 2.8 ppm. The highest eight-hour traffic-related concentration predicted in the area of the Project for the modeled conditions (0.4 ppm) plus background (1.8 ppm) is 2.2 ppm. All concentrations are well below the one-hour NAAQS of 35 ppm and the eight-hour NAAQS of 9 ppm.

3.5.4.4 Conclusions

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

Table 3-3 Summary of Microscale Modeling Analysis (Existing 2016)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Columbus Avenue & Dimock Street	AM	0.3	2.4	2.7	35
	PM	0.4	2.4	2.8	35
Armory Street and Atherton Street	AM	0.3	2.4	2.7	35
	PM	0.3	2.4	2.7	35
8-Hour					
Columbus Avenue & Dimock Street	AM	0.3	1.8	2.1	9
	PM	0.4	1.8	2.2	9
Armory Street and Atherton Street	AM	0.3	1.8	2.1	9
	PM	0.3	1.8	2.1	9

Notes: CAL3QHC eight-hour impacts were conservatively obtained by multiplying one-hour impacts by a screening factor of 0.9.

Table 3-4 Summary of Microscale Modeling Analysis (No-Build 2023)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Columbus Avenue & Dimock Street	AM	0.2	2.4	2.6	35
	PM	0.2	2.4	2.6	35
Armory Street and Atherton Street	AM	0.2	2.4	2.6	35
	PM	0.2	2.4	2.6	35
8-Hour					
Columbus Avenue & Dimock Street	AM	0.2	1.8	2.0	9
	PM	0.2	1.8	2.0	9
Armory Street and Atherton Street	AM	0.2	1.8	2.0	9
	PM	0.2	1.8	2.0	9
Notes: CAL3QHC eight-hour impacts were conservatively obtained by multiplying one-hour impacts by a screening factor of 0.9.					

Table 3-5 Summary of Microscale Modeling Analysis (Build 2023)

Intersection	Peak	CAL3QHC Modeled CO Impacts (ppm)	Monitored Background Concentration (ppm)	Total CO Impacts (ppm)	NAAQS (ppm)
1-Hour					
Columbus Avenue & Dimock Street	AM	0.2	2.4	2.6	35
	PM	0.2	2.4	2.6	35
Armory Street and Atherton Street	AM	0.2	2.4	2.6	35
	PM	0.2	2.4	2.6	35
8-Hour					
Columbus Avenue & Dimock Street	AM	0.2	1.8	2.0	9
	PM	0.2	1.8	2.0	9
Armory Street and Atherton Street	AM	0.2	1.8	2.0	9
	PM	0.2	1.8	2.0	9
Notes: CAL3QHC eight-hour impacts were conservatively obtained by multiplying one-hour impacts by a screening factor of 0.9.					

3.6 Stormwater/Water Quality

Stormwater and water quality are discussed in Chapter 7.

3.7 Flood Hazard Zones / Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) for the site – Community Panel Number 25025C0078G – effective September 25, 2009 indicates the FEMA Flood Zone Designations for this site area. The FIRMs show that the Project is outside of the 500-year flood zone.

The site is developed and does not contain wetlands.

3.8 Geotechnical Impacts

McPhail Associates, LLC completed subsurface investigations of the site in 2016. The ground surface on the site is underlain by a 5 to 10 foot thickness of granular fill material. The fill material generally consists of a loose to compact brown sand and gravel with some silt and varying amounts of asphalt, brick, and concrete. The fill material is anticipated to be underlain by a dense glacial outwash deposit consisting of brown sand and gravel with trace silt. Groundwater would be anticipated at a depth range of 5 to 10 feet below ground surface. Based on an adjacent building nearing completion, it is anticipated that the proposed new buildings would be founded on rammed aggregate piers supporting concrete footings under the steel columns and the slab-on-grade at the parking. The CMU walls of the elevator shaft and stairwell walls, as well as any other walls at the lowest level, would also be supported on rammed aggregate piers.

3.9 Solid and Hazardous Waste

3.9.1 Hazardous Waste

McPhail Associates, LLC completed a Phase I Environmental Site Assessment (ESA) and Phase II ESA in 2016 on the Project site. The following three Historical Recognized Environmental Conditions (HRECs) were identified in connection with the Project site. Specifically, the HRECs are related to the three releases identified under Release Track Numbers (RTNs) 3-01804, 3-18806 and 3-20175 which are associated with petroleum releases from formerly operating underground storage tanks (USTs), and elevated concentration of polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), lead, and volatile organic compounds (VOCs) in soil at the Project site. Response actions have been conducted in relation to these release sites, which achieved a condition of No Significant Risk under Class A-2 and B-1 Response Action Outcomes (RAOs).

The Phase II subsurface exploration program consisted of seven borings, which were completed as groundwater observation wells. Select soil samples were collected from the borings and analyzed for the presence of extractable petroleum hydrocarbons (EPH) with

target analytes and/or VOCs. In addition, a total of five soil gas samples were collected from below the concrete slab of the Amory Street Apartments building and the PACE Senior Center. The soil gas samples were analyzed for the presence of air-phase petroleum hydrocarbons (APH) and total organic 15 volatile compounds (TO-15 SIM).

The analytical testing indicated the presence of trichloroethylene (TCE) at a concentration above the reporting standard in one soil sample. Note that elevated levels of CVOCs (including TCE) have been previously detected in soil at the subject site and reported to MassDEP (RTN 3-20175). The RTN 3-20175 release site achieved closure under a B-1 RAO. Although the Massachusetts Contingency Plan (MCP) provisions for the presence of CVOCs have been modified since the time this release site achieved closure, the recently detected TCE concentration in soil is considered exempt from notification since the contaminant was previously reported. The remaining detected petroleum hydrocarbons and CVOCs in soil were below the applicable RCS-1 reporting thresholds.

The soil gas samples collected from below the Amory Street Apartments building indicated concentrations of carbon tetrachloride, TCE, tetrachloroethene (PCE), and C9-C12 aliphatics above the MassDEP subslab soil gas screening values for residential buildings. The samples obtained from below the PACE Senior Center exhibited concentrations of cis-1,2-Dichloroethene and TCE above the MassDEP subslab soil gas screening values for industrial/commercial buildings. PCE was also detected below the PACE Senior Center building at a concentration above the residential subslab screening value, but below the commercial/industrial subslab screening value.

Per MCP section 40.0313 (4)(f)(1), the soil gas levels detected below the Amory Street Apartments building were considered a condition of Substantial Release Mitigation (SRM), which triggered a 72-hour release condition. The BHA was informed of the test results. GEI Consultants, Inc. notified MassDEP on behalf of the BHA of this release condition on September 23, 2016, to which RTN 3-33835 was assigned.

Based on the results of indoor sampling conducted by GEI to further assess the site, a Critical Exposure Pathway (CEP) was determined to exist within several residential units and in the residential common room of the Amory Street Apartments building. Air purification units (APUs) have been installed as a temporary measure in each of the 12 residential units and residential common room on the first floor of the Amory Street Apartments building to mitigate the identified CEP.

Although an indoor air sample collected from the Central Stores Warehouse office indicated the presence of PCE and TCE above the applicable MassDEP commercial threshold values, GEI concluded that a CEP did not exist in the Central Stores Warehouse since it was used as a commercial space. An APU was installed in the office of the Central Stores Warehouse.

Additional indoor air sampling will be conducted to evaluate the effectiveness of the installed APUs.

To permanently mitigate the contaminants in indoor air, a vapor membrane and subslab depressurization system will be installed under the lowest level slab as part of renovation activities.

3.9.2 Operation Solid Waste and Recycling

The Project will generate solid waste typical of residential uses. Solid waste is expected to include wastepaper, cardboard, glass bottles and food. Recyclable materials will be recycled through a program implemented by building management. The new portions of the Project will generate approximately 369 tons of solid waste per year.

With the exception of household hazardous wastes typical of residential and commercial developments (e.g., cleaning fluids and paint), the Project will not involve the generation, use, transportation, storage, release, or disposal of potentially hazardous materials.

A dedicated recyclables storage and collection program will facilitate the reduction of waste generated by buildings' occupants that is hauled to and disposed of in landfills.

3.10 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 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 property line of the receiving property. Zoning District Noise Standards are presented below in Table 3-6.

Table 3-6 City of Boston Zoning District Noise Standards, Maximum Allowable Sound Pressure Levels

Octave-band Center Frequency (Hz)	Residential Zoning District		Residential-Industrial Zoning District		Business Zoning District Anytime	Industrial Zoning District Anytime
	Daytime (dB)	All Other Times (dB)	Daytime (dB)	All Other Times (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 L_{90} ambient sound level measured at the Project property line and at the nearest residences. The MassDEP policy further prohibits "pure tone" conditions where the sound pressure level in one octave-band is 3 dB or more than the sound levels in each of two adjacent bands.

While the details of the mechanical equipment associated with the Project have not yet been precisely determined, steady operational noise from stationary sources will primarily involve heating, cooling, and ventilation equipment.

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

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

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

3.11 Construction Impacts

3.11.1 Introduction

A Construction Management Plan (CMP) in compliance with the City's Construction Management Program will be submitted to the 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 as appropriate. 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 Project's construction phases, 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.

3.11.2 Construction Methodology/Public Safety

Construction methodologies that ensure public safety and protect nearby businesses and residents 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 BTD for approval prior to the commencement of construction work.

3.11.3 Construction Schedule

Renovations of Amory Street Apartments is anticipated to commence in 2018, followed by either Building A or C, followed by Building B.

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 in advance. 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.

3.11.4 Construction Staging/Access

Access to the 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 site. Construction procedures will be designed to meet all Occupational Safety and Health Administration (OSHA) safety standards for specific site construction activities.

3.11.5 Construction Mitigation

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

"Don't Dump - Drains to Charles River" plaques will be installed at storm drains that are replaced or installed as part of the Project.

3.11.6 Construction Employment and Worker Transportation

The number of workers required during the construction period will vary. It is anticipated that approximately 364 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.

To reduce vehicle trips to and from the construction site, minimal construction worker parking will be available at the site, and 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 site each day.

3.11.7 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period, depending on the activity. The construction team will manage deliveries to the 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 site for contractor personnel, supplies, materials, and removal of excavations required for the development will be coordinated with BTD. Traffic logistics and routing will be planned to minimize community impacts. Truck access during construction will be determined by the BTD as part of the CMP. These routes will

be mandated as a part of all subcontractors' contracts for the development. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity.

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

3.11.8 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected during demolition, excavation and the early phases of construction. Plans for controlling fugitive dust during demolition, excavation and construction are anticipated to include mechanical street sweeping, wetting portions of the 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. These measures are expected to include:

- Using wetting agents on areas of exposed soil on a scheduled basis;
- Using covered trucks;
- Minimizing spoils 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 site; and
- Periodic street and sidewalk cleaning with water to minimize dust accumulations.

3.11.9 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.

3.11.10 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.

3.11.11 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 Massachusetts Water Resources Authority, Boston Water and Sewer Commission (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.

3.12 Rodent Control

A rodent extermination certificate will be filed with the 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.

3.13 Wildlife Habitat

The Project site is in an established urban neighborhood. There are no wildlife habitats in or adjacent to the Project site.

Chapter 4.0

Sustainable Design and Climate Change Adaptation

4.0 SUSTAINABILITY AND CLIMATE CHANGE ADAPTATION

4.1 Green Building

4.1.1 Introduction

The Project team has focused on designing a site plan that improves the site conditions as well as provides an environment that welcomes residents and improves the quality of life in the area. The site itself meets many sustainability goals: it allows for dense development that does not overwhelm the neighborhood, is close to high-capacity public transportation, is close to a bicycle network, and is within one-half mile walking distance of many shops and restaurants on Centre Street. The site design will encourage alternative transportation with walking paths and bicycle racks throughout the site, as well as a reduced number of parking spaces, and will also improve the environmental conditions of the site by including new shade trees and landscaping that will promote stormwater infiltration and reduced potable water use.

The proposed buildings will also be designed and constructed in a manner to improve their energy efficiency and limit their impact on the environment to the extent economically feasible. The buildings will be designed to have a high-efficiency envelope, and will be combined with high-efficiency mechanical equipment to meet the energy requirements of the State Building Code and Stretch (Energy) Code, which the City of Boston has elected to include in its building requirements. The energy efficiency requirements (based on ASHRAE 90.1-2013) are more efficient than requirements under the Leadership in Energy and Environmental Design (LEED) v4 rating system which uses ASHRAE 90.1-2010. The buildings will also be designed to provide a healthy indoor environment through the use of low-emitting materials, systems to effectively control lighting and thermal conditions, and natural lighting and views.

The Project team has used LEED v4 for BD+C for the renovation of the Amory Street Apartments and for the new buildings, with a goal of achieving the Silver level for each building. The Proponent is not currently considering certifying the buildings. Below is a description of the potential credits that the Project team is targeting to show that the buildings will be LEED certifiable, as required by Article 37 of the Code. The LEED Checklists are included at the end of this section.

4.1.2 Amory Street Apartments Renovation

Location and Transportation

Sensitive Land Protection: The Project site is a previously developed site.

High Priority Site: The Project site is a brownfields site. As discussed in Section 3.9.1, remediation actions will take place as part of the renovation.

Surrounding Density and Diverse Uses: The site is within 1/2 mile of at least 8 basic services, including restaurants, banks, community spaces, and other local retail. The area around the site is also densely developed.

Access to Quality Transit: The site is located within 1/3 mile of Jackson Square and Stony Brook stations on the MBTA Orange Line. In addition the site is within 1/4 mile of four MBTA bus lines: #22, #29, #41 and #44.

Bicycle Facilities: The owner will work with BTD to determine the appropriate number of bicycle storage spaces for the elderly residents of 125 Amory, as well as short term bicycle racks for visitors. The Project is also located close to the Southwest Corridor Park which provides a bike path that connects to at least 10 diverse uses within three miles of the site.

Green Vehicles: The Proponent will provide preferred parking for green vehicles totaling 5% of the total spaces, including alternative fueling stations, and an additional 10% of the parking will be adaptable for electric vehicles.

Sustainable Sites

Construction Activity Pollution Prevention (Prerequisite): An Erosion and Sedimentation Control Plan will be established to control erosion, waterway sedimentation and airborne dust generation during construction.

Rainwater Management: The Proponent aims to implement a stormwater plan that reduces impervious cover, promotes infiltration and captures and treats the stormwater runoff from 95% of the average annual rainfall using acceptable best management practice.

Heat Island Reduction: The area around the building will include landscaped areas, and the hardscape will have as high of a SRI as feasible. The building rooftop has a high SRI material and includes solar PV panels.

Water Efficiency

Outdoor Water Use Reduction (Prerequisite): The Project's landscape will be designed to reduce water usage by 50%, calculated from the site's baseline peak watering month.

Indoor Water Use Reduction (Prerequisite): The building will achieve a minimum reduction of 20% of water consumption from the baseline.

Building-Level Water Metering (Prerequisite): Water meters will be installed on systems supporting at least 80% of indoor plumbing fixtures and fittings. In addition, meters will be installed on boilers to record water flow.

Outdoor Water Use Reduction: The landscaping will be designed to reduce potable water for irrigation by 50% from a calculated midsummer baseline case.

Indoor Water Use Reduction: An additional reduction to 30% will be achieved with 1.28 gpf toilets, 1.0 gpm lavatories and 1.75 gpm showers.

Energy and Atmosphere

Fundamental Commissioning and Verification (Prerequisite): The Project will not be certified through USGBC, but the Proponent intends to designate a Commissioning Authority to review and oversee commissioning. Similarly, the Proponent intends to complete commissioning for HVAC, Lighting and Daylighting, Domestic Hot Water or renewable energy systems.

Minimum Energy Performance (Prerequisite): Through a Whole Building Energy Simulation, the Proponent will demonstrate at least a 3% improvement in the proposed building performance rating, compared with the baseline building performance rating. The baseline building performance rating will be calculated according to Appendix G of ASHRAE 90.1-2010 using a computer simulation model for the whole building project. It is anticipated that the Project will exceed this building performance rating since the State Building Code is more stringent than the LEED requirement.

Building-Level Energy Metering (Prerequisite): Energy meters will be installed to measure total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass).

Fundamental Refrigerant Management (Prerequisite): It is the intent of this Project to use zero CFC-based refrigerants in the new base building heating, ventilating, and air conditioning and refrigeration systems.

Enhanced Commissioning: The development will have systems in place that make commissioning possible of the building and building envelope. The Proponent will not be certifying through USGBC but the Project intends to designate a commissioning authority.

Optimize Energy Performance: The Project will strive to optimize energy performance and realize energy cost savings of 12% compared with ASHRAE 90.1-2010. Documentation will be produced via Whole Building Energy Simulation, which also provides for EA Prerequisite 2.

Materials and Resources

Storage and Collection of Recyclables (Prerequisite): An easily accessible area will be provided for the collection and storage of materials for recycling for the entire building. Materials will include paper, corrugated cardboard, glass, plastics and metals.

Construction and Demolition Waste Management Planning (Prerequisite): The construction team will institute a Construction Waste Management Plan, including investigation of local options for waste diversion and documentation of diversion rate for construction waste.

Building Life-Cycle Impact Reduction: The Proponent intends for a small percentage of the existing building to be demolished. The part of the building used for residences will remain. The current structural system, demising partitions, floors, applicable exterior elements, and any components deemed functional will also be used. The team expects a minimum of 50% of the existing building's surface area will be reused.

Building Product Disclosure and Optimization – Sourcing of Raw Materials: The Project team intends to encourage the usage of products that have been verified to be extracted and sourced in a responsible manner. It is the intent of this Project to install no tropical wood, to install FSC certified wood products and to provide suppliers with a notice of preference for FSC products and to request the country of manufacture for each product.

Construction and Demolition Waste Management: The Project team intends to divert at least 75 percent of waste with at least four material streams.

Indoor Environmental Quality

Minimum Indoor Air Quality Performance (Prerequisite): The Project will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2010, Ventilation for Acceptable Air Quality. Mechanically ventilated spaces must be designed using the ventilation rate procedure of the applicable local code, whichever is more stringent. Naturally ventilated buildings must comply with ASHRAE Standard 62.1-2010.

Environmental Tobacco Smoke Control (Prerequisite): It is the intent of this Project to prohibit smoking within living units, in common areas, exterior areas on the property that are within 25 feet from entries, air intakes and windows and to communicate these prohibitions through lease agreements, CC&Rs and signage.

Low-Emitting Materials: Low-VOC materials will be specified in the construction documents. All adhesives and sealants used on the interior of the building will comply with the South Coast Air Quality Management District Rule #1168. All Aerosol Adhesives will comply with Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000. Low VOC paints and coatings will be specified in the construction documents. All flooring will comply with this requirement.

Construction Indoor Air Quality Management Plan: The Proponent will develop and implement an IAQ management plan for the construction and pre-occupancy phase of the building.

Thermal Comfort: All dwelling units will be provided with individual heating and cooling equipment that can be controlled by residents. In this way, residents will have control to adjust thermal conditions for a more comfortable environment. Dwelling units will be equipped with operable windows for natural ventilation purposes. All windows are equipped with blinds to accommodate local control of light and solar exposure.

Interior Lighting: The Project will be designed to comply with the standard by providing individual lighting controls for at least 90% of the occupants. All lighting within the dwelling units will be provided with high-efficiency lamps. Permanently installed fixtures will be located in kitchen areas, hallways and bathrooms with individual light switch control. All living rooms and bedrooms will be provided with individual switched duplex receptacles for table lamp fixtures. Corridors, stairs, public lobbies and spaces where automatic shut-off would endanger occupant safety will not be provided with local control.

Daylight: The Project team anticipates that the Project will achieve this credit.

Quality Views: The Project intends to provide a direct line of sight via glazing between 30 and 90 inches above the floor for building occupants in 90% of all regularly occupied spaces.

Innovation

Innovation: The Project intends to achieve innovation credits for the following: Housing types and affordability, Compact Development – Density, Educate Occupants on Green Building, Innovation and Design – TOD: Exemplary Performance.

LEED Accredited Professional: A LEED Accredited Professional is part of the team. Nancy Ludwig, FAIA, LEED AP is the principal-in-charge.

Regional Priority

The Project anticipates receiving a Regional Priority Credit for Rainwater Management.

4.1.3 Buildings A and B

The LEED Checklists for these two new buildings are included at the end of Section 4.1. It is currently assumed that Buildings A and B will target the same credits, and therefore, the narrative below is for both buildings.

Location and Transportation

Sensitive Land Protection: The Project site is a previously developed site.

High Priority Site: The Project site likely qualifies as a brownfields site.

Surrounding Density and Diverse Uses: The site is within 1/2 mile of at least 8 basic services, including restaurants, banks, community spaces, and other local retail. The area around the site is also densely developed.

Access to Quality Transit: The site is located within 1/3 mile of Jackson Square and Stony Brook stations on the MBTA Orange Line. In addition the site is within 1/4 mile of four MBTA bus lines: #22, #29, #41 and #44.

Bicycle Facilities: The Project will provide one bicycle storage space for each residential unit, as required by BTD's Bicycle Parking Guidelines, as well as short-term bicycle racks for visitors. The Project is also located close to the Southwest Corridor Park which provides a bike path that connects to at least 10 diverse uses within three miles of the site.

Green Vehicles: The Proponent will provide preferred parking for green vehicles totaling 5% of the total spaces, including alternative fueling stations, and an additional 10% of the parking will be adaptable for electric vehicles.

Sustainable Sites

Construction Activity Pollution Prevention (Prerequisite): An Erosion and Sedimentation Control Plan will be established to control erosion, waterway sedimentation and airborne dust generation during construction.

Rainwater Management: The Proponent aims to implement a stormwater plan that reduces impervious cover, promotes infiltration and captures and treats the stormwater runoff from 95% of the average annual rainfall using acceptable best management practice.

Heat Island Reduction: The area around the building will include landscaped areas, and the hardscape will have as high of a SRI as feasible. The building rooftops will have high SRIs, and the inclusion of solar PV is being studied.

Water Efficiency

Outdoor Water Use Reduction (Prerequisite): The Project's landscape will be designed to reduce water usage by 50%, calculated from the site's baseline peak watering month.

Indoor Water Use Reduction (Prerequisite): The building will achieve a minimum reduction of 20% of water consumption from the baseline.

Building-Level Water Metering (Prerequisite): Water meters will be installed on systems supporting at least 80% of indoor plumbing fixtures and fittings. In addition, meters will be installed on boilers to record water flow.

Outdoor Water Use Reduction: The landscaping will be designed to reduce potable water for irrigation by 50% from a calculated midsummer baseline case.

Indoor Water Use Reduction: An additional reduction of 30% will be achieved with 1.28 gpf toilets, 1.0 gpm lavatories and 1.75 gpm showers.

Energy and Atmosphere

Fundamental Commissioning and Verification (Prerequisite): The Project will not be certified through USGBC, but the Proponent intends to designate a Commissioning

Authority to review and oversee commissioning. Similarly, the Proponent intends to complete commissioning for HVAC, Lighting and Daylighting, Domestic Hot Water or renewable energy systems.

Minimum Energy Performance (Prerequisite): Through a Whole Building Energy Simulation, the Proponent will demonstrate at least a 5% improvement in the proposed building performance rating, compared with the baseline building performance rating for each building. The baseline building performance rating will be calculated according to Appendix G of ASHRAE 90.1-2010 using a computer simulation model for each building, or one model to represent each building. It is anticipated that the Project will exceed this building performance rating since the State Building Code is more stringent than the LEED requirement.

Building-Level Energy Metering (Prerequisite): Energy meters will be installed to measure total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass).

Fundamental Refrigerant Management (Prerequisite): It is the intent of this Project to use zero CFC-based refrigerants in the heating, ventilating, and air conditioning and refrigeration systems for each building.

Enhanced Commissioning: The development will have systems in place that make commissioning possible of the building and building envelope. The Proponent will not be certifying through USGBC, but the Proponent intends to designate a commissioning authority.

Optimize Energy Performance: The Project will strive to optimize energy performance and realize energy cost savings of 12% compared with ASHRAE 90.1-2010 for each new building. Documentation will be produced via Whole Building Energy Simulation, which also provides for EA Prerequisite 2.

Materials and Resources

Storage and Collection of Recyclables (Prerequisite): An easily accessible area will be provided for the collection and storage of materials for recycling for each building. Materials will include paper, corrugated cardboard, glass, plastics and metals.

Construction and Demolition Waste Management Planning (Prerequisite): The construction team will institute a Construction Waste Management Plan, including investigation of local options for waste diversion and documentation of diversion rate for construction waste.

Building Product Disclosure and Optimization – Sourcing of Raw Materials: The Project team intends to encourage the usage of products that have been verified to be extracted and sourced in a responsible manner. It is the intent of this Project to install no tropical wood,

to install FSC certified wood products and to provide suppliers with a notice of preference for FSC products and to request the country of manufacture for each product.

Construction and Demolition Waste Management: The Project team intends to divert at least 75 percent of waste with at least 4 material streams.

Indoor Environmental Quality

Minimum Indoor Air Quality Performance (Prerequisite): The Project will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2010, Ventilation for Acceptable Air Quality. Mechanically ventilated spaces must be designed using the ventilation rate procedure of the applicable local code, whichever is more stringent. Naturally ventilated buildings must comply with ASHRAE Standard 62.1-2010.

Environmental Tobacco Smoke Control (Prerequisite): It is the intent of this Project to prohibit smoking within living units, in common areas, exterior areas on the property that are within 25 feet from entries, air intakes and windows and to communicate these prohibitions through lease agreements, CC&Rs and signage.

Low-Emitting Materials: Low-VOC materials will be specified in the construction documents. All adhesives and sealants used on the interior of the building will comply with the South Coast Air Quality Management District Rule #1168. All Aerosol Adhesives will comply with Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000. Low VOC paints and coatings will be specified in the construction documents. All flooring will comply with this requirement.

Construction Indoor Air Quality Management Plan: The Proponent will develop and implement an IAQ management plan for the construction and pre-occupancy phase of the building.

Thermal Comfort: All dwelling units will be provided with individual heating and cooling equipment that can be controlled by residents. In this way, residents will have control to adjust thermal conditions for a more comfortable environment. Dwelling units will be equipped with operable windows for natural ventilation purposes. All windows will be equipped with blinds to accommodate local control of light and solar exposure.

Interior Lighting: The Project will be designed to comply with the standard by providing individual lighting controls for at least 90% of the occupants. All lighting within the dwelling units will be provided with high-efficiency lamps. Permanently installed fixtures will be located in kitchen areas, hallways and bathrooms with individual light switch control. All living rooms and bedrooms will be provided with individual switched duplex receptacles for table lamp fixtures. Corridors, stairs, public lobbies and spaces where automatic shut-off would endanger occupant safety will not be provided with local control.

Daylight: The Project team anticipates that the Project will achieve this credit.

Quality Views: The Project intends to provide a direct line of sight via glazing between 30 and 90 inches above the floor for building occupants in 90% of all regularly occupied spaces.

Innovation

Innovation: The Project intends to achieve innovation credits for the following: Housing types and affordability, Compact Development – Density, Educate Occupants on Green Building, Innovation and Design – TOD: Exemplary Performance.

LEED Accredited Professional: A LEED Accredited Professional is part of the team. Nancy Ludwig, FAIA, LEED AP is the principal-in-charge.

Regional Priority

The Project anticipates receiving two Regional Priority Credits for High Priority Site and Rainwater Management.

4.1.4 Building C

The LEED Checklist for the Building C is included at the end of Section 4.1.

Location and Transportation

Sensitive Land Protection: The Project site is a previously developed site.

Surrounding Density and Diverse Uses: The site is within 1/2 mile of at least eight basic services, including restaurants, banks, community spaces, and other local retail. The area around the site is also densely developed.

Access to Quality Transit: The site is located within 1/3 mile of Jackson Square and Stony Brook stations on the MBTA Orange Line. In addition the site is within 1/4 mile of four MBTA bus lines: #22, #29, #41 and #44.

Bicycle Facilities: The Project will provide one bicycle storage space for each residential unit, as required by BTD's Bicycle Parking Guidelines, as well as short-term bicycle racks for visitors. The Project is also located close to the Southwest Corridor Park which provides a bike path that connects to at least 10 diverse uses within three miles of the site.

Reduced Parking Footprint: Zoning does not have a minimum parking requirement. The number of parking spaces will be at least 40% less than the baseline calculated under LEED requirements. The Project will provide a ratio of 0.6 or fewer parking spaces per dwelling unit for each building.

Green Vehicles: Over the entire Project, the Proponent will provide preferred parking for green vehicles totaling 5% of the total spaces, including alternative fueling stations, and an

additional 10% of the parking will be adaptable for electric vehicles. The allocation of spaces among the buildings is still to be determined.

Sustainable Sites

Construction Activity Pollution Prevention (Prerequisite): An Erosion and Sedimentation Control Plan will be established to control erosion, waterway sedimentation and airborne dust generation during construction.

Rainwater Management: The Proponent aims to implement a stormwater plan that reduces impervious cover, promotes infiltration and captures and treats the stormwater runoff from 95% of the average annual rainfall using acceptable best management practice.

Heat Island Reduction: The area around the building will include landscaped areas, and the hardscape will have as high of a SRI as feasible. The building rooftops will have high SRIs, and the inclusion of solar PV is being studied.

Water Efficiency

Outdoor Water Use Reduction (Prerequisite): The Project's landscape will be designed to reduce water usage by 50%, calculated from the site's baseline peak watering month.

Indoor Water Use Reduction (Prerequisite): The building will achieve a minimum reduction of 20% of water consumption from the baseline.

Building-Level Water Metering (Prerequisite): Water meters will be installed on systems supporting at least 80% of indoor plumbing fixtures and fittings. In addition, meters will be installed on boilers to record water flow.

Outdoor Water Use Reduction: The landscaping will be designed to reduce potable water for irrigation by 50% from a calculated midsummer baseline case.

Indoor Water Use Reduction: An additional reduction of 30% will be achieved with 1.28 gpf toilets, 1.0 gpm lavatories and 1.75 gpm showers.

Energy and Atmosphere

Fundamental Commissioning and Verification (Prerequisite): The Project will not be certified through USGBC, but the Proponent intends to designate a Commissioning Authority to review and oversee commissioning. Similarly, the Proponent intends to complete commissioning for HVAC, Lighting and Daylighting, Domestic Hot Water or renewable energy systems.

Minimum Energy Performance (Prerequisite): Through a Whole Building Energy Simulation, the Proponent will demonstrate at least a 5% improvement in the proposed

building performance rating, compared with the baseline building performance rating for the building. The baseline building performance rating will be calculated according to Appendix G of ASHRAE 90.1-2010 using a computer simulation model. It is anticipated that Building C will exceed this building performance rating since the State Building Code is more stringent than the LEED requirement.

Building-Level Energy Metering (Prerequisite): Energy meters will be installed to measure total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass).

Fundamental Refrigerant Management (Prerequisite): It is the intent of this Project to use zero CFC-based refrigerants in the heating, ventilating, and air conditioning and refrigeration systems for each building.

Enhanced Commissioning: The development will have systems in place that make commissioning possible of the building and building envelope. The Proponent will not be certifying through USGBC, but the Proponent intends to designate a commissioning authority.

Optimize Energy Performance: The Project will strive to optimize energy performance and realize energy cost savings of 12% compared with ASHRAE 90.1-2010 for the building. Documentation will be produced via Whole Building Energy Simulation, which also provides for EA Prerequisite 2.

Materials and Resources

Storage and Collection of Recyclables (Prerequisite): An easily accessible area will be provided for the collection and storage of materials for recycling for the building. Materials will include paper, corrugated cardboard, glass, plastics and metals.

Construction and Demolition Waste Management Planning (Prerequisite): The construction team will institute a Construction Waste Management Plan, including investigation of local options for waste diversion and documentation of diversion rate for construction waste.

Building Product Disclosure and Optimization – Sourcing of Raw Materials: The Project team intends to encourage the usage of products that have been verified to be extracted and sourced in a responsible manner. It is the intent of this Project to install no tropical wood, to install FSC certified wood products and to provide suppliers with a notice of preference for FSC products and to request the country of manufacture for each product.

Construction and Demolition Waste Management: The Project team intends to divert at least 75 percent of waste with at least four material streams.

Indoor Environmental Quality

Minimum Indoor Air Quality Performance (Prerequisite): The Project will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2010, Ventilation for Acceptable Air Quality. Mechanically ventilated spaces must be designed using the ventilation rate procedure of the applicable local code, whichever is more stringent. Naturally ventilated buildings must comply with ASHRAE Standard 62.1-2010.

Environmental Tobacco Smoke Control (Prerequisite): It is the intent of this Project to prohibit smoking within living units, in common areas, exterior areas on the property that are within 25 feet from entries, air intakes and windows, and to communicate these prohibitions through lease agreements, CC&Rs and signage.

Low-Emitting Materials: Low-VOC materials will be specified in the construction documents. All adhesives and sealants used on the interior of the building will comply with the South Coast Air Quality Management District Rule #1168. All Aerosol Adhesives will comply with Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000. Low VOC paints and coatings will be specified in the construction documents. All flooring will comply with this requirement.

Construction Indoor Air Quality Management Plan: The Proponent will develop and implement an IAQ management plan for the construction and pre-occupancy phase of the building.

Thermal Comfort: All dwelling units will be provided with individual heating and cooling equipment that can be controlled by residents. In this way, residents will have control to adjust thermal conditions for a more comfortable environment. Dwelling units will be equipped with operable windows for natural ventilation purposes. All windows will be equipped with blinds to accommodate local control of light and solar exposure.

Interior Lighting: The Project will be designed to comply with the standard by providing individual lighting controls for at least 90% of the occupants. All lighting within the dwelling units will be provided with high-efficiency lamps. Permanently installed fixtures will be located in kitchen areas, hallways and bathrooms with individual light switch control. All living rooms and bedrooms will be provided with individual switched duplex receptacles for table lamp fixtures. Corridors, stairs, public lobbies and spaces where automatic shut-off would endanger occupant safety will not be provided with local control.

Daylight: The Project team anticipates that the Project will achieve this credit.

Quality Views: The Project intends to provide a direct line of sight via glazing between 30 and 90 inches above the floor for building occupants in 90% of all regularly occupied spaces.

Innovation

Innovation: The Project intends to achieve innovation credits for the following: Housing types and affordability, Compact Development – Density, Educate Occupants on Green Building, Innovation and Design – TOD: Exemplary Performance.

LEED Accredited Professional: A LEED Accredited Professional is part of the team. Nancy Ludwig, FAIA, LEED AP is the principal-in-charge.

Regional Priority

The Project anticipates receiving two Regional Priority Credits for Rainwater Management and Optimize Energy Performance.

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

Project Checklist

Project Name: Amory Street Apartments Renovation
Date:

Y	?	N			
		1	Credit	Integrative Process	1

14	2	0	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
4	1		Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

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

3	0	8	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1		1	Credit	Outdoor Water Use Reduction	2
2		4	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
		1	Credit	Water Metering	1

11	1	21	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
5		13	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

7	2	4	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
3		2	Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
2			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		2	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

6	0	0	**Innovation**		6
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	0	2	**Regional Priority**		4
1			Credit	Regional Priority: Rainwater Management	1
1			Credit	Regional Priority: High Priority Site	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

56	9	45	**TOTALS**	Possible Points:	110

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

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

Project Checklist

Project Name: Amory Street - Building A
Date:

Y	?	N			
		1	Credit	Integrative Process	1

14	2	0	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
4	1		Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

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

3	0	8	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1		1	Credit	Outdoor Water Use Reduction	2
2		4	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
		1	Credit	Water Metering	1

10	1	22	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
4		14	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

4	2	7	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
2			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		2	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

6	0	0	**Innovation**		6
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	0	2	**Regional Priority**		4
1			Credit	Regional Priority: ! High Priority Site	1
1			Credit	Regional Priority: ! Rainwater Management	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

52	9	49	**TOTALS**	Possible Points:	110

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

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

Project Checklist

Project Name: Amory Street - Building B
Date:

Y	?	N			
		1	Credit	Integrative Process	1

14	2	0	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
4	1		Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

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

3	0	8	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1		1	Credit	Outdoor Water Use Reduction	2
2		4	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
		1	Credit	Water Metering	1

10	1	22	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
4		14	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

4	2	7	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
2			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		2	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

6	0	0	**Innovation**		6
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	0	2	**Regional Priority**		4
1			Credit	Regional Priority: ! High Priority Site	1
1			Credit	Regional Priority: ! Rainwater Management	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

52	9	49	**TOTALS**	Possible Points:	110

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

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

Project Checklist

Project Name: Amory Street - Building C
Date:

Y	?	N			
		1	Credit	Integrative Process	1

11	5	0	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
	2		Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
3	2		Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1

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

3	0	8	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1		1	Credit	Outdoor Water Use Reduction	2
2		4	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
		1	Credit	Water Metering	1

14	1	18	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
8		10	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

4	2	7	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
2			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		2	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

6	0	0	**Innovation**		6
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	1	1	**Regional Priority**		4
	1		Credit	Regional Priority: ‹ High Priority Site	1
1			Credit	Regional Priority: Rainwater Management	1
1			Credit	Regional Priority: ‹ Optimize Energy Performance	1
		1	Credit	Regional Priority: Specific Credit	1

53	12	45	**TOTALS**	Possible Points:	**110**

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

4.2 Climate Change Resilience

4.2.1 Introduction

The Proponent has analyzed the potential climate conditions approximately 50 years into the future in order to evaluate the potential impact to the Project from climate change. Climate change conditions considered include higher maximum and mean temperatures, more frequent and longer extreme heat events, more frequent and longer droughts, more severe rainfall events, and increased wind events. A copy of the completed checklist is included in Appendix E. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses.

4.2.2 Extreme Heat Events

According to "Climate Ready Boston," the City of Boston can expect that the number of days with temperatures greater than 90°F will increase from the current 11 days annually experienced between 1971 and 2000, to between 25 and 90 days annually by 2070, depending on the extent of greenhouse gas emissions over the next several decades.[1] Extreme heat can have serious negative impacts on human health and infrastructure, both of which will affect quality of life. The Project design will incorporate a number of measures to minimize the impact of high temperature events, including:

- New landscaping and trees to minimize the heat island effect and create shade around the Project site, especially on roadways and parking areas;
- Operable windows to allow for natural ventilation; and
- High-albedo roofing and paving materials to minimize the heat island effect.

The Proponent will evaluate the feasibility of a "safe room" providing water, bathrooms, and climate control for common areas attached to emergency power.

4.2.3 Rain Events

As a result of climate change, the Northeast is expected to experience more frequent and intense storms. The Project plans to minimize the creation of impervious surfaces by only increasing impervious surfaces by approximately eight percent compared to current conditions. The Project's site design includes new landscaped areas that will reduce runoff from the Project site and promote infiltration that captures and treats stormwater.

[1] Climate Ready Boston, December 7, 2016.

4.2.4 Drought Conditions

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. The Project will approach potential drought impacts by reducing the amount of water used both within the buildings and across the site for irrigation. The Project will include low-flow fixtures and water conserving appliances to the extent feasible to minimize the amount of water used by residents. The landscaping will include native and drought tolerant plants, to the extent feasible, to minimize the need for irrigation.

4.3 Renewable Energy

The Proponent will evaluate the potential for roof-mounted solar (PV) systems, and the availability of grants and renewables funding. Any new PV systems will be in addition to the existing solar hot water array on the Amory Street Apartments that will be retained. The feasibility of installing PV systems will depend on the incentives at the time of construction, as well as the amount of space available on the rooftops once mechanical equipment is sized and located. Based on current information, the potential for roof-mounted PV systems for Buildings A, B and C are described below.

Building A

With approximately 24,930 sf of available roof area, approximately 12,465 sf could potentially be devoted to rooftop mechanical space. Additionally, approximately 60% of the remaining space could potentially be set aside for space around the panels, between panels, etc. if solar PV panels are installed. This leaves approximately 7,479 sf available for rooftop solar. Assuming 12 watts per square foot, this allows for an approximately 90 kW array.

Building B

With approximately 19,695 sf of available roof area, approximately 9,848 sf could potentially be devoted to rooftop mechanical space. Additionally, approximately 60% of the remaining space could potentially be set aside for space around the panels, between panels, etc. if solar PV panels are installed. This leaves approximately 5,909 sf available for rooftop solar. Assuming 12 watts per square foot, this allows for an approximately 71 kW array.

Building C

With approximately 16,616 sf of available roof area, approximately 8,308 sf could potentially be devoted to rooftop mechanical space. Additionally, approximately 60% of the remaining space could potentially be set aside for space around the panels, between

panels, etc. if solar PV panels are installed. This leaves approximately 4,985 sf available for rooftop solar. Assuming 12 watts per square foot, this allows for an approximately 60 kW array.

In total, the installation of solar arrays on Buildings A, B and C could potentially equal an annual generation of approximately 291 MW hours.

Chapter 5.0

Urban Design

5.0 URBAN DESIGN

5.1 Site and Context

The Project includes the reintegration of an underutilized BHA property into the surrounding residential community. New connecting roadways will provide "complete streets," attractive for pedestrians, bikes and cars, and the linear Stony Brook Greenway will provide a green multi-use path along the adjacent MBTA Orange Line tracks with access to the nearby Jackson Square and Stony Brook stations (see Figure 5-1). Approximately 350 new mixed-income apartments in three buildings, as well as 10 new residential units in the existing Amory Street Apartments, will join the existing buildings, arrayed around a lushly landscaped Central Green, maximizing views, access, and open space for residents and visitors to enjoy.

The neighboring site context consists of industrial buildings and residential buildings, ranging in height from two-and-a-half stories (approximately 35 feet) to approximately six stories and approximately 80 feet. Centered on Amory Street, the existing Amory Street Apartments dominates the street front, at approximately 81 feet tall. Facing the residential building, a mix of various uses, from a church to residential buildings, line the street. Directly to the north, Amory Terrace is a recently-built six-story residential building. To the south, low-rise multifamily homes line Atherton Street and back up to the site. The site slopes significantly from Amory Street toward the MBTA tracks—approximately eight to ten feet.

The proposed new buildings and roadway connections are crafted to suit the scale and texture of the surrounding neighborhood, while also creating an attractive place to live and visit. New building facades and entrances will face onto Amory Street, framing the existing building, and moderating the scale of the large existing building along the streetscape (see Figure 5-2). Making the most of the sloped site, the new buildings step down the hill, allowing parking underneath, and extra height towards the rear of the site while limiting the height along Amory Street (see Figure 5-3). New buildings will face onto new and existing roadways, with porches and active building entries located on primary facades. All site features and amenities will be fully accessible and connected in a way that is safe and legible for people of all abilities.

5.2 Character and Scale of Proposed Buildings:

Three new multifamily buildings will be integrated into the site, and two existing buildings will remain—Amory Street Apartments and the PACE Senior Center. The proposed site plan aims to improve circulation across the site.

Improvements to the Existing Context

Amory Street Residences - Improvements to this six story building include mostly interior improvements, as well as new windows and improvements to entrances. The front door will be improved with an expanded patio (see Figure 5-4). Service access will be maintained at the rear of the "T". The southern entrance provides access to common spaces and is a drop-off/pick-up area for the residents. This entrance will be improved with a clear short-term pull-off area for vehicles.

PACE Senior Center – The Project will create street frontage for the PACE Senior Center, while also delineating a clear drop-off/pick-up area for the vans that provide transportation.

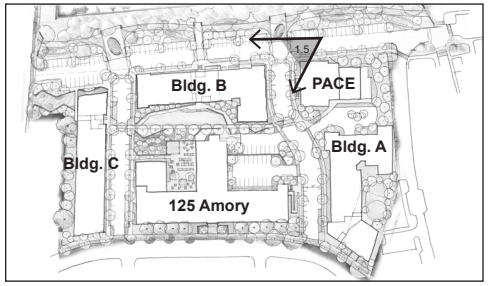
Enhancements Through New Construction

The three new buildings will be located to prioritize open space, site permeability and access. Buildings A and C face onto Amory Street, while Building B aligns along the length of the proposed Stony Brook Greenway along the MBTA Orange Line tracks.

Building A – Located at the corner of Amory Street and the new northern roadway, this building's main entrance will face Amory Street to the south (see Figure 5-5). Parking will be accessed on the western end of the building, at the lowest elevation, and will tuck into the sloped site. Inspired by nearby industrial buildings and large windows, the façade will consist of masonry and utilize large bays to mark corners and step-backs.

Building B – Situated internal on the site, the main entrance to Building B will face the proposed Stony Brook Greenway (see Figure 5-1). A gracious front porch and glassy lobby will connect visually through the building, linking Stony Brook Greenway to the Central Green. Utilizing warm toned materials at building corners and an inset entrance with covered trellis at the front stoop, the building massing will read as a series of volumes. Tall private decks will track a rhythm across the façade, engaging residents along this new "green" way. The top floor will offer a change of materials, and a break in materials will set up a traditional base, middle and top.

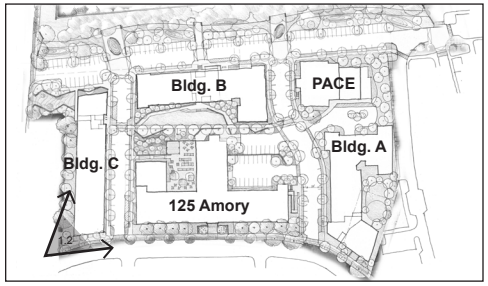
Building C – Stepping down the slope of the site, Building C will be four stories at Amory Street and five stories at the bottom of the slope. With an entrance on Amory Street and entrance facing the Central Green, the building circulation connects residents to the interior of the site and the surrounding neighborhood. The reduced scale is consistent with DBA height limits from Plan: JP/ROX and provides a transition between the larger Amory Street Apartments and surrounding neighborhood.



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

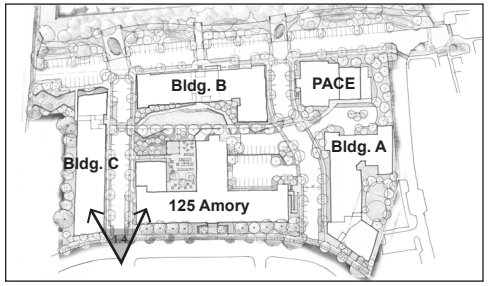
Figure 5-1
View of Building B and Stony Brook Greenway



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

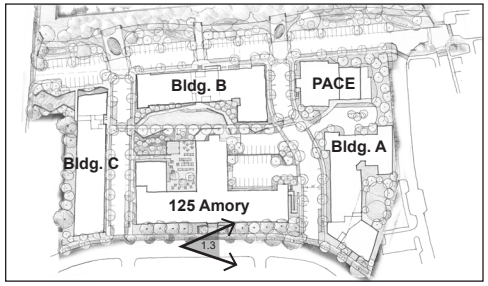
Figure 5-2
Aerial View



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

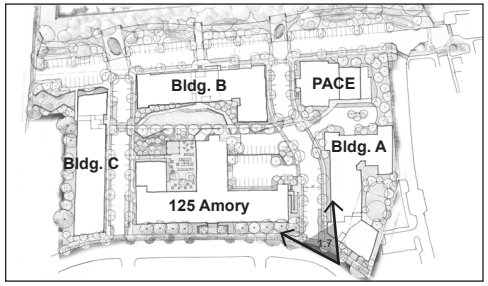
Figure 5-3
View of Building C and Amory Street Apartments



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 5-4
View of Amory Street Apartments and Building A



125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

Figure 5-5
View of Building A and Amory Street Apartments

Chapter 6.0

Historic and Archaeological Resources

6.0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

6.1 Introduction

This section describes the historic and archaeological resources within and in the vicinity of the Project site.

6.2 Historic Resources in the Project Vicinity

6.2.1 Historic Resources on the Project Site

The Project site (125 Amory Street) consists of approximately six acres located in Boston's Jamaica Plain neighborhood. The Project site is developed with industrial buildings historically part of the Holtzer-Cabot Electric Company. Additionally, there are paved parking areas and an ornamental fence along Amory Street. The Project site is bounded by Amory Terrace to the north, Amory Street to the east, Atherton Street and residences to the south and the MBTA line to the west. The area surrounding the site includes single and multi-family residences and commercial and industrial buildings largely dating to the early 20th century.

Initially constructed in 1914, the Project site presently consists of five buildings: the 1914 six-story Building #1 (with later additions), the 1921 Building #7, the 1950 Garage and the 2002 Police Station and 2002 Storage Building. Holtzer-Cabot Electric Company operated here from 1915 (after construction completed) until 1972 when it was closed. The property was subsequently taken over by the BHA and Building #1 was converted into 233 residential units and ancillary support areas. Subsequently, other buildings except Building #7 and the Garage were removed. Additionally, the BHA Police Station and Storage Building were constructed in 2002 as support buildings for this complex. As the former Holtzer-Cabot Electric Company is not listed in the State or National Registers of Historic Places, there are no historic properties within the Project site.

6.2.2 Historic Resources in the Vicinity of the Project Site

The Project site is located in the vicinity of several historic resources listed in the State and National Registers of Historic Places. Table 6-1 identifies these resources and corresponds to resources depicted in Figure 6-1.

Table 6-1 Historic Resources in the Vicinity of the Project Site

No.	Historic Resource	Address	Designation*
A	New England Hospital for Women Historic District	Roughly bounded by Academy Road, Columbus Avenue, Notre Dame Street and Bragdon Street	NHL, NRDIS
B	Haffenreffer Brewery	Germania Street	NRIND
C	Boston Elevated Railway	3025 Washington Street	NRIND

*Designation Legend

NRIND	Individually listed on the National Register of Historic Places
NRDIS	National Register of Historic Places historic district
NHL	National Historic Landmark

6.3 Archaeological Resources Within the Project Site

The Project site is located within a densely developed urban setting. The majority of the Project site is either occupied by buildings or paved parking. According to a review of Massachusetts Historical Commission's MACRIS MAPS 2.0 on June 27, 2017, no known archaeological sites are within the Project site. Given the disturbance that has already occurred through the construction of the buildings and site changes, as well as the lack of documented sites, no impacts to archaeological resources are anticipated as a result of the proposed Project.

6.4 Impacts to Historic Resources

The proposed Project will retain Building #7 and Building #1 with the removal of later additions and the renovation of existing residential units. Additionally, the proposed Project will include new construction and site work related to the creation of additional residential units in new free-standing buildings. The proposed new construction will be in relative height and scale to the existing Building #7.

No historic properties are likely to be affected by the proposed Project. The Project site consists of former industrial buildings, which are not listed on the State or National Registers; therefore there are no historic properties onsite to be affected. Given the distance and existing surrounding buildings creating visual obstructions, the proposed new construction will not affect the viewshed of nearby historic resources.

6.5 Status of Project Reviews with Historical Agencies

6.5.1 Boston Landmarks Commission Article 85 Review

The proposed Project includes the demolition of the 1950 Garage and later portions of Building #1. Both buildings are over 50 years of age, and the proposed demolition and partial demolition of these buildings is subject to review by the Boston Landmarks Commission (BLC) under Article 85 of the Code. The Article 85 application will be submitted at the appropriate time.

6.5.2 Massachusetts Historical Commission

The Project anticipates using state and federal funding requiring review by the MHC in compliance with State Register Review (950 CMR 61.00) and Section 106 of the National Historic Preservation Act (36 CFR 800). A Project Notification Form was submitted to the MHC on January 10, 2017. In its February 10, 2017 response MHC determined the Project is unlikely to affect significant historic or archaeological resources.

125 Amory Street Boston, Massachusetts

Epsilon Associates Inc.

Figure 6-1
Historic Resources

Chapter 7.0

Infrastructure

7.0 INFRASTRUCTURE

7.1 Introduction

The following chapter outlines the existing utilities surrounding the Project site, the connections required to provide service to the Project, and any impacts on the existing utility systems that may result from the construction of the Project. The following utility systems are discussed herein:

- Sewer
- Domestic water
- Fire protection
- Drainage
- Natural gas
- Electricity
- Telecommunications

The Project site is approximately six acres and is bounded by the MBTA Orange Line track to the west, Amory Street to the east, Atherton Street to the south, and Amory Terrace to the north. The existing site is comprised of five buildings, paved parking areas, paved walkways and landscaped areas. The Project includes the demolition of three of the existing buildings, renovations to the existing residential building, construction of new private ways and construction of two new six-story residential buildings and one new five-story residential building.

7.2 Wastewater Infrastructure

7.2.1 Existing Sewer System

The Boston Water and Sewer Commission (BWSC) owns and maintains the sewer system that services the City of Boston. The BWSC sewer system connects to the Massachusetts Water Resources Authority (MWRA) interceptors for conveyance, treatment, and disposal through the MWRA Deer Island Wastewater Treatment Plant. There are existing BWSC sanitary sewer mains near the Project site.

There is a 48-inch by 60-inch BWSC combined sewer main known as the Stony Brook Valley Sewer running through the Project site. There is also a 10-inch BWSC sanitary sewer main in Atherton Street, which begins just southwest of the southern property line.

Additionally, there is a 12-inch BWSC sanitary sewer main in Amory Street just east of the Project site.

The 10-inch BWSC sanitary sewer main in Atherton Street which increases to a 12-inch main, flows northeasterly and combines with the Stony Brook Valley Sewer onsite. The Stony Brook Valley Sewer flows northerly, and increases to a 48-inch by 108-inch main near the intersection of Amory Street, Centre Street and Columbus Avenue. The 48-inch by 108-inch main in Columbus Avenue flows north and increases to a 186-inch by 204-inch main known as the Stony Brook Conduit. The Stony Brook Conduit is ultimately directed to Deer Island Wastewater Treatment Plant for treatment and disposal.

The 12-inch BWSC sanitary sewer main in Amory Street which increases to a 15-inch main flows northerly and joins the 24-inch by 42-inch main known as the West Roxbury Low Level Sewer in Columbus Avenue. The West Roxbury Low Level Sewer continues flowing northerly and increases to a 30-inch main, and then a 24-inch by 36-inch shortly after. The West Roxbury Low Level Sewer then becomes the Roxbury Low Level Sewer and is ultimately directed to Deer Island Wastewater Treatment Plant for treatment and disposal. The existing BWSC sanitary sewer system is shown in Figure 7-1.

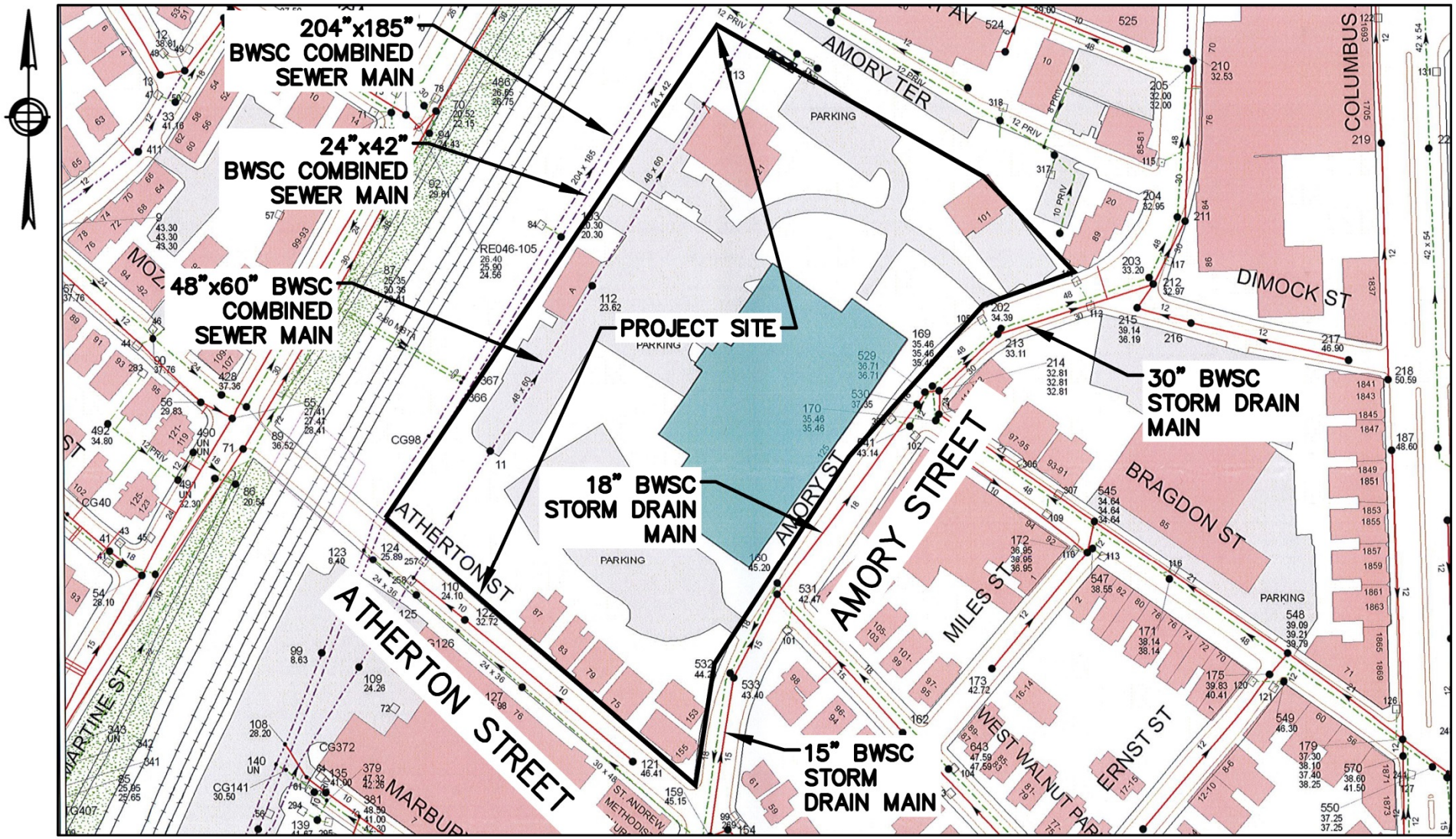
Record plans do not indicate existing buildings' sewer services; however, the likely destination of the existing building sewer services is the 48-inch x 60-inch BWSC combined sewer main in the Project site.

The Project's existing sanitary flows were estimated using 310 CMR 15.203 for residential and office uses. 310 CMR 15.203 lists typical sewage generation values by the building use, and are conservative values for estimating the sewage flows from buildings. The 310 CMR 15.203 values are used to evaluate new sewage flows, or to estimate existing sewer flows to determine the approximate increase in sewer flows due to the Project.

There are five existing buildings on site with approximately 22,000 sf of office space and 199 apartments (212 bedrooms). The existing average daily sewage generation is estimated to be approximately 27,113 gallons per day (gpd). This number was taken from an average of the 2014, 2015 and 2016 annual flows.

7.2.2 Projected Sanitary Sewer Flow

The Project will consist of the construction of three new residential buildings and renovations to the existing building. The development will include approximately 559 apartments (701 bedrooms). The development will also include approximately 18,600 sf of Amenity/Office/Community space.



NOT TO SCALE

125 Armory Street Boston, Massachusetts

Nitsch Engineering

Figure 7-1

Existing BWSC Sewer and Drain System

Estimated Sewage flows calculated with 310 CMR 15.203 values and the proposed development program are summarized in Table 7-1. The total estimated proposed sewage flow for the Project is approximately 78,505 gallons per day (gpd), or an increase of approximately 51,392 gpd compared to the existing condition.

Table 7-1 Estimated Sewage Flows

Proposed Use	Units/Size	Design Flow Rate (GDP/unit)	Proposed Sanitary Flows (GDP)
Residential	701 bedrooms	110/bedroom	77,110
Office	18,600 sf	75/1,000 sf	1,395
TOTAL PROPOSED SANITARY FLOW			78,505
TOTAL EXISTING SANITARY FLOW			27,113
TOTAL INCREASE IN SEWER FLOWS			51,392

7.2.3 Sewage Capacity and Impacts

The Project's impact on the existing BWSC 48-inch by 60-inch combined sewer main on the site was analyzed. The existing sewer system capacity calculations are presented in Table 7-2.

Table 7-2 Sewer Hydraulic Capacity Analysis

BWSC Sewer Manhole[2]	Slope (%)[1]	Diameter (inches)	Manning's Number	Flow Capacity (cfs)[3]	Flow Capacity (MGD)
48x60					
109 to 112	0.1%	48x60	0.013	69.83	45.13
112 to 115	0.1%	48x60	0.013	60.17	38.89
Minimum Flow Analyzed				60.17	38.89

1. Manhole numbers and inverts taken from BWSC Sewer Map received 05/09/2017 prepared by Nitsch Engineering.
2. Flow calculations based on Manning's Equation.

7.2.3.1 Proposed Conditions

The proposed building will require new building sewer services and two new sewer mains. The new sewer services for the Project will connect to the proposed sewer mains in the proposed private ways, which will then connect to the existing 48-inch by 60-inch combined sewer main on site.

Improvements to and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts. Coordination with BWSC will include review and approval of the design, capacity, connections, and flow increase resulting from the proposed discharges to the sanitary sewer system. In total, the complete Project sewer generation is expected to increase wastewater flows by approximately 54,692 gpd. Approval for the increase in sanitary flow will come from BWSC.

7.2.3.2 Proposed Impacts

Table 7-2 indicates the flow (hydraulic) capacity of the 48-inch by 60-inch combined sewer main on-site. The minimum flow capacity is 38.89 million gallons per day (MGD) or 60.17 cubic feet per second (cfs).

As previously stated, the approximate proposed increase in sewage flow is 51,392 gpd, or 0.052 MGD. Based on an increase in average daily flow of 0.052 MGD; and with a factor of safety of 10 (total estimate = 0.052 MGD x 10 = 0.52 MGD), no capacity problems are expected for the existing combined sewer mains on site.

7.3 Water System

7.3.1 Existing Water System

Water for the Project will be provided by BWSC. BWSC is supplied water by the MWRA system.

There are five water systems within the City of Boston, and these provide service to portions of the City based on ground surface elevation. The five systems are the southern low (SL), southern high (SH), southern extra high (SEH), northern low (NL), and northern high (NH). Water mains are labeled by their system, pipe size, year installed, pipe material, and year cement lined (CL), if applicable.

There is a 12-inch BWSC southern high main in Atherton Street (SL 12 DI 1980) adjacent the Project site. There is also an existing 16-inch BWSC southern high main in Amory Street (SH 16 PCI 1889) adjacent to the Project site.

There are existing water services at the existing site. The existing BWSC water system is shown in Figure 7-2.

7.3.1.1 Existing Water Capacity

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project site was requested by the Proponent. Recent hydrant flow data was not available near the Project site. As the design progresses, the Proponent will request hydrant flows be conducted by BWSC adjacent to the Project, as hydrant flow test data must be less than one year old when used for design.

7.3.2 Anticipated Water Consumption

The Project's water demand estimate for the domestic services is based on the Project's estimated sewage generation, described in the previous section. A conservative factor of 1.1 (10%) is applied to the estimated daily sewage flows, calculated in Table 7-1, to account for consumption system losses and other usages to estimate an average daily water demand. The estimated proposed domestic water demand is approximately 86,356 gpd.

7.3.3 Proposed Water Service

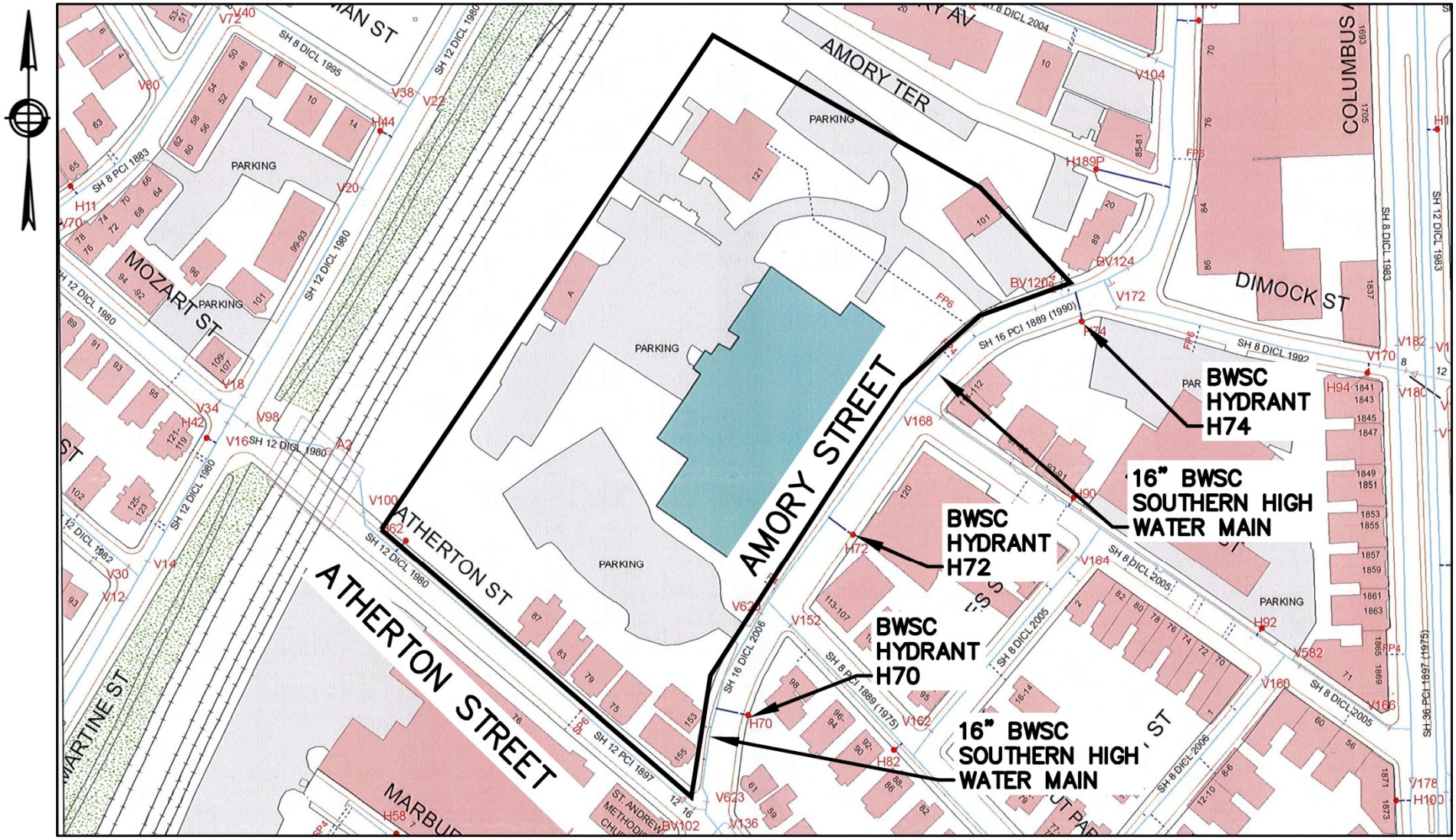
The Project will require a new water main in the private ways, domestic water services and fire protection services. The domestic water and fire protection services for the Project will connect to the proposed water main in the proposed private ways which ultimately connect to the water main in Amory Street.

The domestic water and fire protection service connections required for the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connection will be reviewed as part of BWSC's Site Plan Review process. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

7.3.4 Water Supply Conservation and Mitigation Measures

Water capacity problems are not anticipated within the BWSC water system as a result of the Project's construction.

Efforts to reduce water consumption will be made. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated-faucets and toilets will be installed.



NOT TO SCALE

125 Armory Street Boston, Massachusetts

Nitsch Engineering

Figure 7-2

Existing BWSC Water System

New water services will be installed in accordance with the latest local, state, and federal codes and standards. Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units (MTU's) as part of the BWSC's Automatic Meter Reading (AMR) system.

7.4 Storm Drainage Infrastructure

7.4.1 Existing Storm Drainage System

The existing site is comprised of five existing buildings, paved walkways and parking lots, and landscaped areas. The existing site is approximately 63-percent impervious.

There are existing BWSC storm drain mains adjacent to the Project site. There is an existing BWSC 27-inch by 36-inch storm drain main in Atherton Street which flows northerly in Atherton Street to the West Roxbury Low Level Sewer, which, as described previously, is ultimately directed to Deer Island Wastewater Treatment Plant for treatment and disposal. There is also an existing BWSC 30-inch by 36-inch combined sewer main in Amory Street which flows northerly in Amory Street to the West Roxbury Low Level Sewer, then to Deer Island Wastewater Treatment Plant. Finally, there is a 48-inch by 60-inch BWSC combined sewer main known as the Stony Brook Valley Sewer running through the Project site. The Stony Brook Valley Sewer, as described above is also ultimately directed to Deer Island Wastewater Treatment Plant for treatment and disposal.

Currently, stormwater runoff is collected by existing catch basins located around the site. The survey indicates an existing closed drainage system, but it is not certain where the system discharges to, though it likely connects to the Stony Brook Valley Sewer.

The existing BWSC Storm Drainage System is shown in Figure 7-1.

7.4.2 Proposed Drainage Conditions

The proposed design will be approximately 71-percent impervious, or an increase of approximately 8-percent compared to the existing condition. The proposed impervious area will consist mostly of building roof and paved pedestrian sidewalks, parking lots and private ways. The Project will evaluate the incorporation of additional landscape areas onto the site if possible. The Project will be designed to meet or reduce stormwater runoff peak rates and volumes, and to minimize the loss of annual stormwater recharge to groundwater through the use of on-site infiltration measures to the greatest extent practicable.

The Project is not located within the Groundwater Conservation Overlay District; however, the Project will be designed to capture and recharge one-inch of stormwater from the impervious site areas. In order to meet the BWSC stormwater quality and stormwater recharge requirements, the Project's design will include a private closed drainage system that will be adequately sized for the site's expected stormwater flows, and will direct

stormwater to the on-site infiltration system for groundwater recharge prior to overflow to the BWSC systems. Overflow connections to the BWSC storm drain mains will be provided for greater stormwater flows.

Overflow drain connections will connect to either the Stony Brook Valley combined sewer onsite, the 27-inch by 36-inch storm drain main in Atherton Street, or the 30-inch by 36-inch combined sewer main in Amory Street. The proposed stormwater management system, overflow drain connections, and any potential improvements to the BWSC infrastructure will be evaluated as part of the BWSC Site Plan Review process.

7.4.3 Mitigation Measures

The Project will not affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins 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.

All necessary dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies, as described below.

7.4.4 MassDEP Stormwater Management Policy Standards

In March 1997, Massachusetts Department of Environmental Protection (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 description of the Project's anticipated compliance with the Standards is outlined 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 not propose new stormwater conveyances, 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. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

Compliance: The proposed design will comply with this Standard to the maximum extent practicable. The existing peak discharge rate will be met or will be decreased as a result of the improvements associated with the Project.

Standard #3: 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. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will comply with this standard. The stormwater system will be designed to capture and infiltrate one-inch of stormwater from the impervious site's areas.

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 site, there will be mostly roof, paved roadways, and paved pedestrian walkways. 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 or area drains and treated before discharging into the BWSC system.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with 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 proposed design will include source control, pollution prevention and pretreatment practices, as necessary.

Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Compliance: Not Applicable. The proposed Project is not within an outstanding resource area.

Standard #7: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

Compliance: The proposed design will comply with this Standard. A plan to control temporary construction-related impacts including erosion, sedimentation, and other pollutant sources during construction and land disturbing activities will be developed and implemented.

Standard #8: 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 BMPs operation requirements will be prepared for the Project and will assure proper maintenance and functioning of the stormwater management system.

Standard #9: All illicit discharges to the stormwater management system are prohibited.

Compliance: The Project will comply with this Standard. There will be no illicit connections associated with the Project. Temporary construction dewatering will be conducted in accordance with applicable BWSC and MWRA requirements, as necessary.

7.5 Utility Protection During Construction

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

Chapter 8.0

Coordination With Other Governmental Agencies

8.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

8.1 Architectural Access Board Requirements

The Project will comply with the requirements of the Architectural Access Board and the standards of the Americans with Disabilities Act. The Accessibility Checklist is included in Appendix F.

8.2 Massachusetts Environmental Policy Act

The Project will require review by the Massachusetts Environmental Policy Act (MEPA) Office of the Massachusetts Executive Office of Energy and Environmental Affairs. The Project may receive state funding from the Department of Housing and Community Development to support the affordable housing development, and will undergo MEPA review in coordination with that funding.

8.3 Massachusetts Historical Commission

A Project Notification Form was submitted to the MHC on January 10, 2017. In its February 10, 2017 response MHC determined the Project is unlikely to affect significant historic or archaeological resources.

8.4 Boston Landmarks Commission

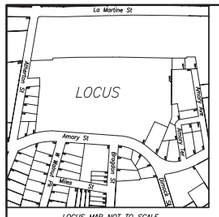
The proposed Project includes the demolition of the 1950 Garage and later portions of Building #1, as described in Chapter 6. Both buildings are over 50-years of age and the proposed demolition and partial demolition of these buildings is subject to review by the Boston Landmarks Commission under Article 85 of the Code. The Article 85 application will be submitted at the appropriate time.

8.5 Boston Department of Parks and Recreation

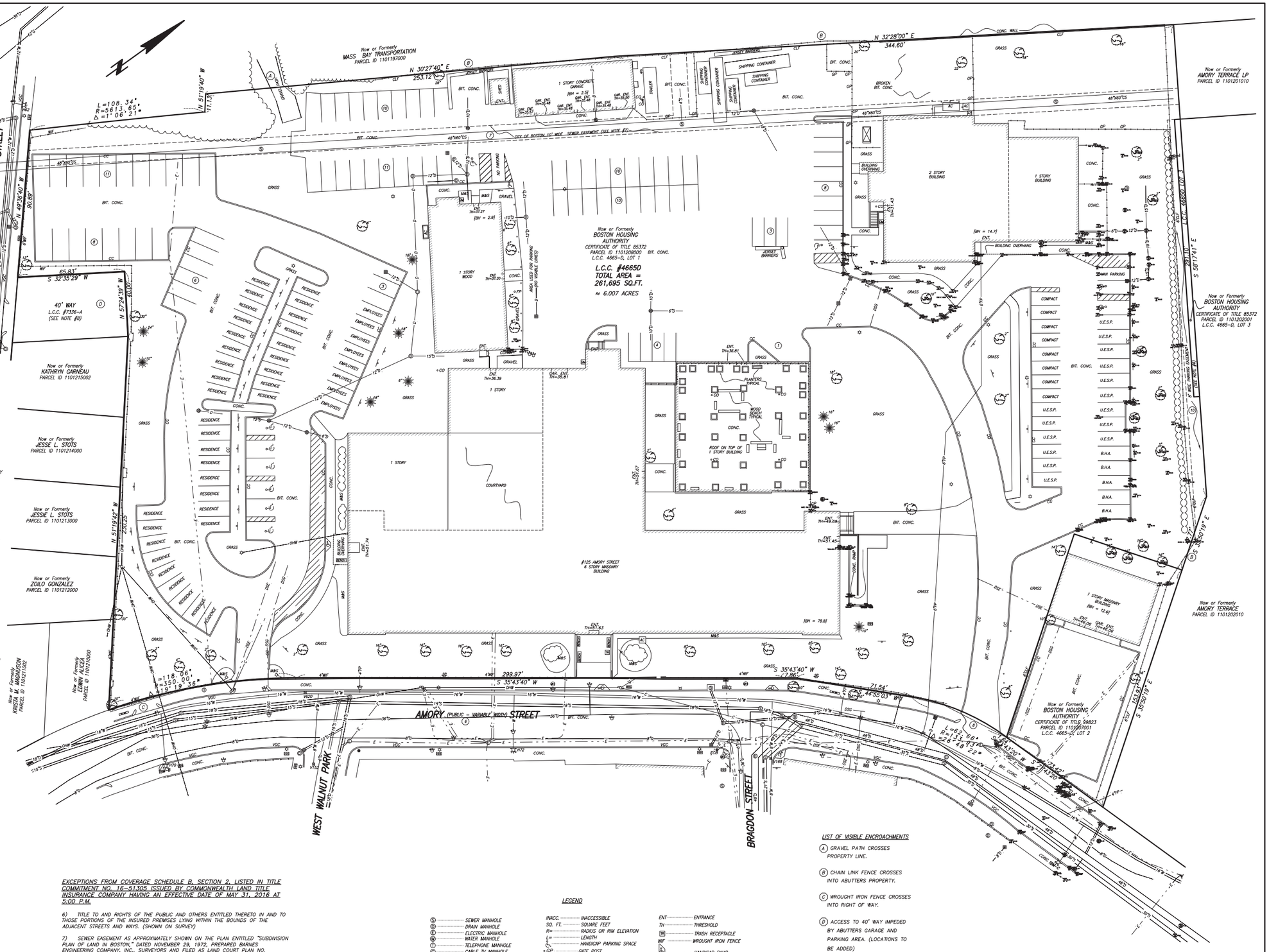
The proposed Project is within 100 feet of a publicly owned park. The project will submit for a review of the impact on parks and open space by the Boston Department of Parks and Recreation.

Appendix A

Site Survey



LOCUS MAP NOT TO SCALE



<u>BOUNDARY DESCRIPTIONS PER COMMITMENT NO. 16-51305 ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF MAY 31, 2016 AT 5:00 P.M.</u>

<u>LOTS 1 AND 3:</u>

THAT CERTAIN PARCEL OF LAND SITUATED IN THAT PART OF BOSTON FORMERLY ROXBURY IN THE COUNTY OF SUFFOLK AND COMMONWEALTH OF MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

SOUTHEASTERLY BY THE NORTHWESTERLY LINE OF AMORY STREET, ONE HUNDRED FORTY-THREE AND 70/100 (143.70) FEET;

SOUTHEASTERLY BY SAID AMORY STREET, FOUR HUNDRED EIGHTEEN AND 03/100 (418.03) FEET;

SOUTHWESTERLY BY LANDS OF SUNDRY ADJOINING OWNERS AND BY THE END OF A WAY AS SHOWN ON A PLAN HEREINAFTER MENTIONED, TWO HUNDRED SEVENTY AND 25/100 (270.25) FEET;

SOUTHEASTERLY BY SAID WAY AS SHOWN ON SAID PLAN, SIXTY-FIVE AND 83/100 (65.83) FEET; SOUTHWESTERLY BY THE NORTHEASTERLY LINE OF ATHERTON STREET, NINETY AND 89/100 (90.89) FEET;

NORTHWESTERLY BY LAND NOW OR FORMERLY OF OLD COLONY RAILROAD COMPANY, ONE HUNDRED EIGHT AND 30/100 (108.30) FEET;

SOUTHWESTERLY BY LAND NOW OR FORMERLY OF SAID COMPANY, ELEVEN AND 13/100 (11.13) FEET; NORTHWESTERLY BY LAND NOW OR FORMERLY OF SAID COMPANY, FIVE HUNDRED NINETY-SEVEN AND 72/100 (597.72) FEET;

NORTHEASTERLY BY LANDS OF SUNDRY ADJOINING OWNERS, THREE HUNDRED THIRTY-EIGHT AND 87/100 (338.87) FEET;

SOUTHEASTERLY BY LOT 2 AS SHOWN ON SAID PLAN, SEVENTY (70) FEET; AND

NORTHEASTERLY BY SAID LOT 2 AS SHOWN ON SAID PLAN, ONE HUNDRED THIRTY-ONE AND 78/100 (131.78) FEET.

SAID LAND IS SHOWN AS LOTS 1 AND 3 ON A SUBDIVISION PLAN DRAWN BY BARNES ENGINEERING COMPANY, INC., SURVEYORS, DATED NOVEMBER 29, 1972, AS APPROVED BY THE COURT, FILED IN THE LAND REGISTRATION OFFICE AS PLAN NO. 4665-D, A COPY OF A PORTION OF WHICH IS FILED WITH CERTIFICATE OF TITLE NO. 83848.

<u>LOT 2:</u>

THAT CERTAIN PARCEL OF LAND SITUATED IN THAT PART OF BOSTON FORMERLY ROXBURY, IN THE COUNTY OF SUFFOLK AND COMMONWEALTH OF MASSACHUSETTS, SITUATED ON AMORY STREET. SAID LAND IS SHOWN AS LOT TWO (2) ON A SUBDIVISION PLAN DRAWN BY BARNES ENGINEERING COMPANY, INC., SURVEYORS, DATED NOVEMBER 29, 1972, AS APPROVED BY THE COURT, FILED IN THE LAND REGISTRATION OFFICE AS PLAN NO. 4665-D, A COPY OF A PORTION OF WHICH IS FILED WITH CERTIFICATE OF TITLE NO. 83848.

<u>NOTES:</u>

1) BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0078G, CITY OF BOSTON COMMUNITY NUMBER 250286, PANEL NUMBER 0078G, HAVING AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.

2) UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFOREMENTIONED RECORD PLANS AND ARE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS. SINCE SUBSURFACE UTILITIES CANNOT BE VISIBLY VERIFIED, BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL, TOLL FREE, THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION.

3) 8' WIDE PARKING EASEMENT SHOWN HEREON FOR THE BENEFIT OF AMORY TERRACE LIMITED PARTNERSHIP, RECORDED AS DOCUMENT #681858 AT SUFFOLK COUNTY REGISTRY OF DEEDS.

4) 10' WIDE SEWER EASEMENT SHOWN HEREON FOR THE BENEFIT OF THE CITY OF BOSTON, RECORDED IN BOOK 414, PAGE 60 AT SUFFOLK COUNTY REGISTRY OF DEEDS.

5) THE SUBJECT PREMISES HAVE APPURTENANT RIGHTS TO USE THE 40' WAY AS SET FORTH IN CERTIFICATE OF TITLE #11447.

6) THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF FELDMAN LAND SURVEYORS ISSUED TO OUR CLIENT FOR PURPOSES RELATED DIRECTLY AND SOLELY TO FELDMAN LAND SURVEYORS' SCOPE OF SERVICES UNDER CONTRACT TO OUR CLIENT FOR THIS PROJECT. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN CONSENT IS PROVIDED BY FELDMAN LAND SURVEYORS.

7) ONSITE RECORD SUBSURFACE UTILITY PLANS HAVE NOT YET BEEN RECEIVED.

8) NO DELINEATED WETLANDS WERE OBSERVED ON SITE.

<u>EXCEPTIONS FROM COVERAGE SCHEDULE B, SECTION 2, LISTED IN TITLE COMMITMENT NO. 16-51305 ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF MAY 31, 2016 AT 5:00 P.M.</u>

6) TITLE TO AND RIGHTS OF THE PUBLIC AND OTHERS ENTITLED THERETO IN AND TO THOSE PORTIONS OF THE INSURED PREMISES LYING WITHIN THE BOUNDS OF THE ADJACENT STREETS AND WAYS. (SHOWN ON SURVEY)

7) SEWER EASEMENT AS APPROXIMATELY SHOWN ON THE PLAN ENTITLED "SUBDIVISION PLAN OF LAND IN BOSTON," DATED NOVEMBER 29, 1972, PREPARED BARNES ENGINEERING COMPANY, INC., SURVEYORS AND FILED AS LAND COURT PLAN NO. 4665-D; AS CONFIRMED BY A DEED FROM WILLARD QUINCY PHILLIPS TO THE CITY OF BOSTON DATED APRIL 1, 1878 AND RECORDED IN BOOK 1414, PAGE 60. (AFFECTS LOTS 1 AND 3 ONLY.) (SHOWN ON SURVEY)

8) EASEMENT FOR THE WIDENING OF AMORY STREET FROM HOLTZER CABOT ELECTRIC COMPANY TO THE CITY OF BOSTON DATED APRIL27, 1915 AND FILED AS DOCUMENT NO. 18941 AND SHOWN ON STREET PLAN 904. (AFFECTS LOTS 1 AND 2 ONLY.) (SHOWN ON SURVEY)

9) RIGHTS OF POSSIBLE LESSEES AS SET FORTH IN A DEED FROM FRANK C. CAMPBELL TO HOLCAB REALTY CORP DATED FEBRUARY 23, 1950 AND FILED AS DOCUMENT NO. 190843 AND NOTED ON CERTIFICATE OF TITLE NOS. 85372 AND 126142. (NOT PLOTTABLE)

10) TERMS AND PROVISIONS OF AN EASEMENT AGREEMENT BY AND BETWEEN THE BOSTON HOUSING AUTHORITY AND AMORY TERRACE LIMITED PARTNERSHIP DATED APRIL 15, 2004 AND FILED AS DOCUMENT NO. 681858. (AFFECTS LOTS 1 AND 3 ONLY). (SHOWN ON SURVEY)

11) THE FOLLOWING MATTERS AS DISCLOSED BY PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 125 AMORY STREET, BOSTON, MASS.", DATED JUNE 7, 2016 AND PREPARED BY FELDMAN LAND SURVEYORS (JOB NO. 15143). (THE "SURVEY")

<u>PARKING SUMMARY</u>

85 REGULAR SPACES
8 EMPLOYEE SPACES
35 RESIDENCE SPACES
5 B.H.A. SPACES
15 U.E.S.P. SPACES
8 COMPACT SPACES
1 HANDICAP VAN SPACE
<u>10 HANDICAP SPACES</u>
167 TOTAL SPACES

<u>LEGEND</u>

- SEWER MANHOLE
- DRAIN MANHOLE
- ELECTRIC MANHOLE
- WATER MANHOLE
- TELEPHONE MANHOLE
- CABLE TV MANHOLE
- MANHOLE
- UTILITY POLE
- HYDRANT
- SPIGOT
- MAIL BOX
- BOSTON WATER VALVE
- CATCH BASIN
- TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL
- LIGHT POLE
- ELECTRIC HANDHOLE
- BOLLARD
- SIGN
- CLEAN OUT
- CONIFEROUS TREE
- INACC. INACCESSIBLE
- SQ. FT. SQUARE FEET
- R= RADIUS OR RIM ELEVATION
- L= LENGTH
- HANDICAP PARKING SPACE
- GP GATE POST
- GM GAS METER
- EM ELECTRIC METER
- AC AIR CONDITIONING UNIT
- TBM TEMPORARY BENCH MARK
- REC RECORD
- CALC CALCULATED
- VGC VERTICAL GRANITE CURB
- BIT BITUMINOUS
- CONC CONCRETE
- TC TOP OF CURB
- BC BOTTOM OF CURB
- CC CONCRETE CURB
- I= INVERT ELEVATION
- TT= TOP OF TRAP
- TR= CENTERLINE OF TROUGH
- EL ELEVATION
- NVP NO VISIBLE PIPES
- DECIDUOUS TREE
- ENT ENTRANCE
- TH THRESHOLD
- TR TRASH RECEPTACLE
- WF WROUGHT IRON FENCE
- HANDICAP RAMP
- CURB RETURN
- P POST
- SHRUBS
- EDGE OF WOODS
- X X METAL FENCE
- S SEWER
- D DRAIN
- CS COMBINED SEWER
- W WATER
- G GAS
- E ELECTRIC
- T TELEPHONE
- C CABLE TELEVISION
- DSE DIGSAFE ELECTRIC
- DSG DIGSAFE GAS
- B.H.A. BOSTON HOUSING AUTHORITY
- U.E.S.P. UPHAM ELDER SERVICE PLAN

<u>LIST OF VISIBLE ENCROACHMENTS</u>

(A) GRAVEL PATH CROSSES PROPERTY LINE.

(B) CHAIN LINK FENCE CROSSES INTO ABUTTERS PROPERTY.

(C) WROUGHT IRON FENCE CROSSES INTO RIGHT OF WAY.

(D) ACCESS TO 40' WAY IMPEDED BY ABUTTERS GARAGE AND PARKING AREA. (LOCATIONS TO BE ADDED)

DRAFT FOR REVIEW

ALTA/NSPS LAND TITLE SURVEY
125 AMORY STREET
BOSTON, MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118
PHONE: (617)357-9740
www.feldmansurveyors.com

JUNE 7, 2016

TO: BOSTON HOUSING AUTHORITY, COMMONWEALTH LAND TITLE INSURANCE COMPANY;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 7(a), 7(b)(1), 7(c), 8, 9, 11, 13, 14, 16, 17, 19, AND 20 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON JUNE 7, 2016.

FELDMAN LAND SURVEYORS

KARL A. MCCARTHY, PLS (MA# 38714) — DATE
karm@feldmansurveyors.com

FELDMAN LAND SURVEYORS

20 0 10 20 40 80
SCALE: 1"=20'

RESEARCH	FIELD CHIEF JW	PROJ MGR MDS	APPROVED	SHEET NO. 1 OF 1
CALC	CADD CAB	FIELD CHECKED	CRD FILE15143-EC	JOB NO. 15143

FILENAME: S:\PROJECTS\15100s\15143\DWG\15143-ALTA.dwg

Appendix B

Density Bonus Calculations

Density Bonus Zoning Analysis

Square Footage

Max MFR under Article 55	1.0
Lot Area	276,443
Allowed SF	276,443
Existing SF	179,200
Allowed New SF	97,243
New SF	308,950
Extra New SF	211,707

Units

New Units	360
SF per Unit	883
Allowed New Units	110
Extra New Units	250
Existing Affordable Units	199
New Affordable Units	145
@30% AMI	8
@50% AMI	10
@60% AMI	55
@70% AMI	72
Avg. AMI of New + Existing Aff. Units	44%

IDP Requirement

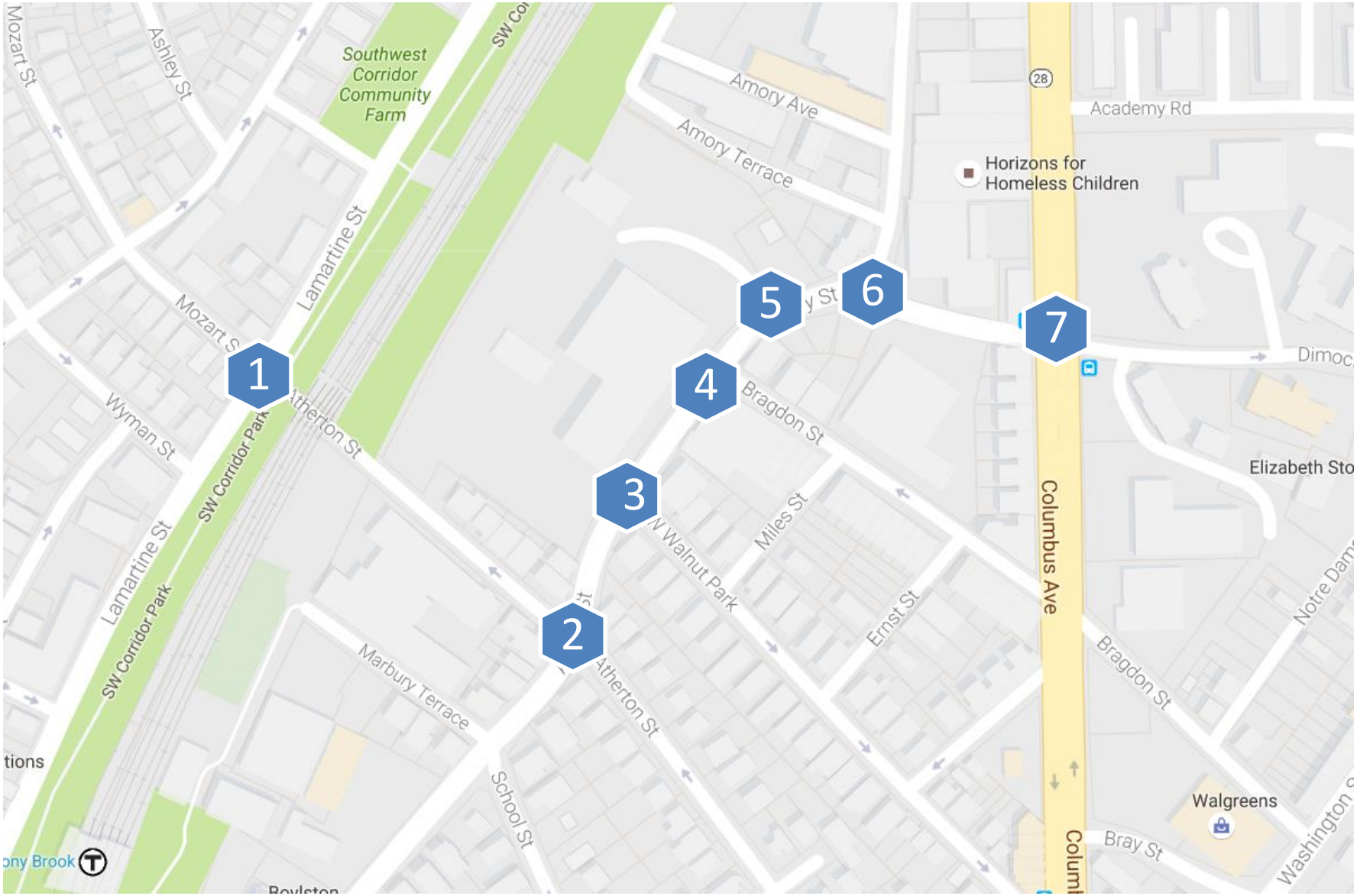
IDP	13%
IDP Units	14

Density Bonus Requirement

Density Bonus	30%
Density Bonus Units	75
Aff. Units Beyond Requirement	56

Appendix C

Transportation



Map Credit: Google.com

BOSTON TRAFFIC DATA	BTD ID: 0006_HSH	Jamaica Plain, MA	# of TMC's: 07	Client: Howard Stein Hudson
		Collected on Sept 13, 2016	# of ATR's: 00	Contact: Michael Littman

Client:	M. Littman
Project #:	Location 1
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Lamartine St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	23	80	0	0	0	31	5	0	0	0	0	0	1	23	10
7:15 AM	0	32	107	0	0	0	35	4	0	0	0	0	0	5	39	12
7:30 AM	0	38	123	0	0	0	35	3	0	0	0	0	0	8	52	13
7:45 AM	0	34	116	0	0	0	40	8	0	0	0	0	0	8	50	11
8:00 AM	0	27	97	0	0	0	42	12	0	0	0	0	0	8	44	8
8:15 AM	0	26	119	0	0	0	54	7	0	0	0	0	0	6	44	12
8:30 AM	0	22	129	0	0	0	61	2	0	0	0	0	0	4	39	15
8:45 AM	0	23	135	0	0	0	64	4	0	0	0	0	0	5	41	16

	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	15	41	0	0	0	84	6	0	0	0	0	0	4	17	8
4:15 PM	0	19	42	0	0	0	86	8	0	0	0	0	0	3	18	5
4:30 PM	0	21	39	0	0	0	79	9	0	0	0	0	0	2	18	2
4:45 PM	0	27	44	0	0	0	80	12	0	0	0	0	0	2	21	4
5:00 PM	0	31	44	0	0	0	74	14	0	0	0	0	0	2	22	5
5:15 PM	0	24	44	0	0	0	76	14	0	0	0	0	0	2	19	6
5:30 PM	0	15	39	0	0	0	71	13	0	0	0	0	0	1	15	6
5:45 PM	0	16	41	0	0	0	75	14	0	0	0	0	0	1	16	3

AM PEAK HOUR 8:00 AM to 9:00 AM	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**98**	**480**	**0**	**0**	**0**	**221**	**25**	**0**	**0**	**0**	**0**	**0**	**23**	**168**	**51**
PHF	**0.91**				**0.90**				**0.00**				**0.98**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**103**	**171**	**0**	**0**	**0**	**309**	**49**	**0**	**0**	**0**	**0**	**0**	**8**	**80**	**17**
PHF	**0.91**				**0.97**				**0.00**				**0.91**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 1
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Lamartine St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

TRUCKS

	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
PHF	**0.25**				**0.00**				**0.00**				**0.25**			

PM PEAK HOUR 4:30 PM to 5:30 PM	Lamartine St Northbound				Lamartine St Southbound				Mozart St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.75**				**0.00**				**0.00**			

Client:	M. Littman
Project #:	Location 1
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Lamartine St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
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www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

	Lamartine St Northbound					Lamartine St Southbound					Mozart St Eastbound					Atherton St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	25	0	2		0	5	0	4		0	0	0	1		0	0	2	8	
7:15 AM	0	29	0	7		0	12	0	5		0	0	1	6		0	0	0	6	
7:30 AM	1	39	0	8		0	9	0	9		0	0	0	0		0	0	1	4	
7:45 AM	0	45	0	11		0	14	0	12		1	0	0	2		0	0	1	9	
8:00 AM	0	50	1	15		0	20	0	15		0	0	0	4		0	0	0	5	
8:15 AM	0	57	1	13		0	23	0	16		0	0	0	3		0	0	0	4	
8:30 AM	0	47	0	11		0	20	0	9		0	0	0	8		0	0	2	7	
8:45 AM	0	42	0	9		0	18	0	12		0	0	0	1		0	0	0	3	

	Lamartine St Northbound					Lamartine St Southbound					Mozart St Eastbound					Atherton St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	8	0	21		0	12	0	5		0	0	0	19		0	0	0	11	
4:15 PM	0	12	0	15		1	14	0	9		0	0	0	9		1	0	0	15	
4:30 PM	0	17	0	12		0	19	0	12		0	1	0	13		0	0	1	13	
4:45 PM	0	22	1	7		0	25	0	7		0	0	0	6		0	0	0	19	
5:00 PM	0	25	0	10		0	25	1	11		0	0	1	5		0	0	0	21	
5:15 PM	0	19	0	5		0	17	0	4		0	0	0	6		0	1	0	16	
5:30 PM	0	13	1	13		0	21	0	9		0	0	0	8		0	0	1	19	
5:45 PM	0	18	0	4		0	18	0	5		0	0	0	4		0	0	0	12	

AM PEAK HOUR[1]	Lamartine St Northbound					Lamartine St Southbound					Mozart St Eastbound					Atherton St Westbound				
8:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
9:00 AM	0	196	2	48		0	81	0	52		0	0	0	16		0	0	2	19	

PM PEAK HOUR[1]	Lamartine St Northbound					Lamartine St Southbound					Mozart St Eastbound					Atherton St Westbound				
4:30 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:30 PM	0	83	1	34		0	86	1	34		0	1	1	30		0	1	1	69	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 2
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	12	119	0	0	0	40	7	0	0	0	0	0	3	17	6
7:15 AM	0	18	130	0	0	0	42	9	0	0	0	0	0	3	35	5
7:30 AM	0	22	128	0	0	0	40	10	0	0	0	0	0	3	49	4
7:45 AM	0	20	123	0	0	0	46	12	0	0	0	0	0	7	41	5
8:00 AM	0	16	106	0	0	0	48	12	0	0	0	0	0	10	30	5
8:15 AM	0	18	125	0	0	0	55	13	0	0	0	0	0	8	29	4
8:30 AM	0	18	130	0	0	0	56	13	0	0	0	0	0	6	25	3
8:45 AM	0	20	137	0	0	0	59	14	0	0	0	0	0	4	26	5

	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	15	80	0	0	0	112	8	0	0	0	0	0	7	4	1
4:15 PM	0	13	92	0	0	0	117	10	0	0	0	0	0	6	4	1
4:30 PM	0	9	96	0	0	0	110	11	0	0	0	0	0	5	3	1
4:45 PM	0	9	84	0	0	0	130	12	0	0	0	0	0	9	7	2
5:00 PM	0	9	64	0	0	0	138	11	0	0	0	0	0	12	11	3
5:15 PM	0	8	69	0	0	0	142	10	0	0	0	0	0	12	11	2
5:30 PM	0	7	68	0	0	0	133	8	0	0	0	0	0	10	10	0
5:45 PM	0	9	71	0	0	0	140	9	0	0	0	0	0	8	12	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**72**	**498**	**0**	**0**	**0**	**218**	**52**	**0**	**0**	**0**	**0**	**0**	**28**	**110**	**17**
PHF		**0.91**				**0.92**				**0.00**				**0.86**		
HV %	**0.0%**	**0.0%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:45 PM to 5:45 PM	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**33**	**285**	**0**	**0**	**0**	**543**	**41**	**0**	**0**	**0**	**0**	**0**	**43**	**39**	**7**
PHF		**0.85**				**0.96**				**0.00**				**0.86**		
HV %	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 2
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
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TRUCKS

	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
7:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR	Amory St Northbound				Amory St Southbound				Atherton St Eastbound				Atherton St Westbound			
4:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.25**				**0.00**				**0.00**			

Client:	M. Littman
Project #:	Location 2
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Atherton St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Amory St Northbound					Amory St Southbound					Atherton St Eastbound					Atherton St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	1	0	3		0	0	0	2		0	0	0	10		0	2	0	0	
7:15 AM	1	0	0	11		0	0	0	7		0	0	1	7		0	0	0	2	
7:30 AM	0	1	0	9		0	0	1	3		1	0	0	8		0	0	0	7	
7:45 AM	0	0	0	7		0	0	0	7		0	1	0	11		0	2	0	4	
8:00 AM	1	0	0	5		0	0	1	5		1	0	0	10		0	0	0	3	
8:15 AM	0	0	0	9		0	0	0	4		0	1	0	4		0	1	0	0	
8:30 AM	0	0	0	4		0	0	0	5		0	0	0	7		0	0	0	5	
8:45 AM	0	0	0	6		0	0	0	3		0	0	0	2		0	0	0	2	

	Amory St Northbound					Amory St Southbound					Atherton St Eastbound					Atherton St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	1	0	0	5		0	0	1	5		0	0	0	5		0	0	0	0	
4:15 PM	0	0	0	9		0	0	0	9		0	1	0	2		0	1	0	4	
4:30 PM	0	0	0	6		0	0	2	4		1	0	0	8		0	0	0	7	
4:45 PM	0	0	0	5		0	0	0	3		0	0	0	3		0	0	0	1	
5:00 PM	0	0	0	4		0	0	2	6		0	0	1	5		0	2	0	4	
5:15 PM	0	0	0	8		0	0	0	4		1	1	0	5		0	0	0	3	
5:30 PM	0	0	0	4		0	0	0	6		0	2	0	6		0	1	0	8	
5:45 PM	0	0	0	6		0	0	1	5		0	0	0	3		0	0	0	4	

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Amory St Northbound					Amory St Southbound					Atherton St Eastbound					Atherton St Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	1	0	0	24		0	0	1	17		1	1	0	23		0	1	0	10	

PM PEAK HOUR[1] 4:45 PM to 5:45 PM	Amory St Northbound					Amory St Southbound					Atherton St Eastbound					Atherton St Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	21		0	0	2	19		1	3	1	19		0	3	0	16	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 3
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Driveway/W Walnut Park
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TOTAL (CARS & TRUCKS)

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	110	13	0	7	48	2	0	2	0	0	0	0	0	0
7:15 AM	0	3	118	16	0	6	47	3	0	1	1	2	0	0	0	0
7:30 AM	0	3	115	18	0	5	42	1	0	0	0	3	0	0	0	0
7:45 AM	0	2	111	15	0	4	53	2	0	1	1	3	0	0	0	0
8:00 AM	0	5	97	11	0	3	58	2	0	2	0	3	0	0	0	0
8:15 AM	0	7	108	17	0	5	66	1	0	2	0	2	0	0	0	0
8:30 AM	0	7	108	22	0	6	67	2	0	1	1	1	0	0	0	0
8:45 AM	0	5	113	23	0	3	70	0	0	1	1	2	0	0	0	0

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	70	18	0	11	125	0	0	1	5	1	0	0	0	0
4:15 PM	0	1	81	17	0	9	126	1	0	2	3	2	0	0	0	0
4:30 PM	0	1	85	15	0	6	115	2	0	1	1	2	0	0	0	0
4:45 PM	0	0	76	11	0	7	141	2	0	1	2	1	0	0	0	0
5:00 PM	0	1	60	5	0	7	154	2	0	0	2	0	0	0	0	0
5:15 PM	0	2	60	8	0	5	155	0	0	0	1	2	0	0	0	0
5:30 PM	0	0	54	10	0	5	141	2	0	0	0	1	0	0	0	0
5:45 PM	0	0	57	11	0	4	148	1	0	0	0	1	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**24**	**426**	**73**	**0**	**17**	**261**	**5**	**0**	**6**	**2**	**8**	**0**	**0**	**0**	**0**
PHF		**0.93**				**0.94**				**0.80**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**312**	**61**	**0**	**33**	**507**	**5**	**0**	**5**	**11**	**6**	**0**	**0**	**0**	**0**
PHF		**0.93**				**0.91**				**0.79**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 3
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Driveway/W Walnut Park
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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TRUCKS

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.50**				**0.00**				**0.00**			

PM PEAK HOUR 4:45 PM to 5:45 PM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				W Walnut Park Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.50**				**0.00**				**0.00**			

Client:	M. Littman
Project #:	Location 3
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Amory St
Street 2:	Driveway/W Walnut Park
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PEDESTRIANS & BICYCLES

	Amory St Northbound					Amory St Southbound					Driveway Eastbound					W Walnut Park Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	2		0	0	0	0		0	0	0	1		1	0	0	1	
7:15 AM	0	1	0	4		0	0	0	1		0	0	0	2		0	0	0	1	
7:30 AM	0	0	0	3		0	1	0	1		0	0	0	1		0	0	0	0	
7:45 AM	0	0	0	5		0	0	0	0		0	0	0	0		0	0	0	1	
8:00 AM	0	1	0	4		0	1	0	1		0	0	0	3		0	0	1	2	
8:15 AM	0	0	0	7		0	0	0	2		0	0	0	2		1	0	0	1	
8:30 AM	0	0	0	3		0	0	0	0		0	0	0	1		0	0	0	0	
8:45 AM	0	0	0	4		0	1	0	1		0	0	0	1		0	0	0	1	

	Amory St Northbound					Amory St Southbound					Driveway Eastbound					W Walnut Park Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	2		0	1	0	0		0	0	0	4		0	0	0	2	
4:15 PM	0	1	0	3		0	0	0	0		0	0	0	0		0	0	0	3	
4:30 PM	0	0	1	0		1	1	0	1		0	0	0	2		0	0	1	0	
4:45 PM	0	1	0	1		0	0	0	0		0	0	0	3		0	0	0	1	
5:00 PM	0	2	1	0		1	2	0	0		0	0	0	3		0	0	0	2	
5:15 PM	0	0	0	4		0	0	0	2		0	0	0	0		0	0	0	0	
5:30 PM	0	1	0	1		0	1	0	0		0	0	0	1		0	0	0	1	
5:45 PM	0	0	0	2		0	1	0	0		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Amory St Northbound					Amory St Southbound					Driveway Eastbound					W Walnut Park Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	1	0	18		0	2	0	4		0	0	0	7		1	0	1	4	

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	Amory St Northbound					Amory St Southbound					Driveway Eastbound					W Walnut Park Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	2	1	6		1	2	0	1		0	0	0	9		0	0	1	6	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 4
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Bragdon St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TOTAL (CARS & TRUCKS)

	Amory St Northbound				Amory St Southbound				- Eastbound				Bragdon St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	112	0	0	0	41	0	0	0	0	0	0	16	0	10
7:15 AM	0	0	119	0	0	0	36	0	0	0	0	0	0	20	0	8
7:30 AM	0	0	115	0	0	0	25	0	0	0	0	0	0	23	0	6
7:45 AM	0	0	112	0	0	0	33	0	0	0	0	0	0	26	0	8
8:00 AM	0	0	99	0	0	0	36	0	0	0	0	0	0	27	0	10
8:15 AM	0	0	110	0	0	0	46	0	0	0	0	0	0	26	0	8
8:30 AM	0	0	109	0	0	0	52	0	0	0	0	0	0	23	0	5
8:45 AM	0	0	114	0	0	0	49	0	0	0	0	0	0	24	0	7

	Amory St Northbound				Amory St Southbound				- Eastbound				Bragdon St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	71	0	0	0	92	0	0	0	0	0	0	44	0	12
4:15 PM	0	0	82	0	0	0	101	0	0	0	0	0	0	35	0	9
4:30 PM	0	0	86	0	0	0	100	0	0	0	0	0	0	23	0	5
4:45 PM	0	0	77	0	0	0	113	0	0	0	0	0	0	37	0	7
5:00 PM	0	0	60	0	0	0	116	0	0	0	0	0	0	47	0	9
5:15 PM	0	0	60	0	0	0	123	0	0	0	0	0	0	37	0	8
5:30 PM	0	0	54	0	0	0	124	0	0	0	0	0	0	24	0	7
5:45 PM	0	0	57	0	0	0	128	0	0	0	0	0	0	25	0	7

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				- Eastbound				Bragdon St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**432**	**0**	**0**	**0**	**183**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**0**	**30**
PHF		**0.95**				**0.88**				**0.00**				**0.88**		
HV %	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Amory St Northbound				Amory St Southbound				- Eastbound				Bragdon St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**283**	**0**	**0**	**0**	**452**	**0**	**0**	**0**	**0**	**0**	**0**	**144**	**0**	**29**
PHF		**0.82**				**0.92**				**0.00**				**0.77**		
HV %	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 4
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Bragdon St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TRUCKS

	Amory St Northbound				Amory St Southbound				Eastbound				Bragdon St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

	Amory St Northbound				Amory St Southbound				Eastbound				Bragdon St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				Eastbound				Bragdon St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR 4:15 PM to 5:15 PM	Amory St Northbound				Amory St Southbound				Eastbound				Bragdon St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.50**				**0.00**				**0.00**			

Client:	M. Littman
Project #:	Location 4
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Bragdon St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PEDESTRIANS & BICYCLES

	Amory St Northbound					Amory St Southbound					Eastbound					Bragdon St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
7:15 AM	0	0	0	1		0	1	0	1		0	0	0	0		0	0	0	1	
7:30 AM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
7:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:00 AM	0	1	0	1		0	0	0	1		0	0	0	0		0	0	0	1	
8:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	0		0	1	0	0		0	0	0	0		0	0	0	1	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

	Amory St Northbound					Amory St Southbound					Eastbound					Bragdon St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	1		0	0	0	1		0	0	0	0		0	0	0	2	
4:15 PM	0	0	0	0		0	1	0	2		0	0	0	0		0	0	1	0	
4:30 PM	0	1	0	1		0	0	0	0		0	0	0	0		0	0	0	2	
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
5:00 PM	0	0	0	2		0	1	0	3		0	0	0	0		0	0	0	4	
5:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
5:30 PM	0	1	0	0		0	0	0	1		0	0	0	0		1	0	0	1	
5:45 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1]	Amory St Northbound					Amory St Southbound					Eastbound					Bragdon St Westbound				
8:00 AM to 9:00 AM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	1	0	1		0	1	0	1		0	0	0	0		0	0	0	2	

PM PEAK HOUR[1]	Amory St Northbound					Amory St Southbound					Eastbound					Bragdon St Westbound				
4:30 PM to 5:30 PM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	1	0	3		0	1	0	3		0	0	0	0		0	0	0	8	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 5
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Driveway
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TOTAL (CARS & TRUCKS)

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	5	117	0	0	0	41	1	0	0	0	0	0	0	0	0
7:15 AM	0	4	123	0	0	0	38	2	0	1	0	2	0	0	0	0
7:30 AM	0	2	119	0	0	0	28	2	0	1	0	3	0	0	0	0
7:45 AM	0	5	115	0	0	0	35	2	0	1	0	2	0	0	0	0
8:00 AM	0	7	102	0	0	0	36	1	0	0	0	0	0	0	0	0
8:15 AM	0	4	114	0	0	0	47	1	0	0	0	1	0	0	0	0
8:30 AM	0	0	114	0	0	0	53	0	0	0	0	1	0	0	0	0
8:45 AM	0	2	119	0	0	0	51	0	0	1	0	2	0	0	0	0

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	82	0	0	0	93	1	0	4	0	1	0	0	0	0
4:15 PM	0	2	89	0	0	0	103	1	0	5	0	2	0	0	0	0
4:30 PM	0	2	89	0	0	0	103	1	0	5	0	3	0	0	0	0
4:45 PM	0	1	83	0	0	0	116	1	0	4	0	3	0	0	0	0
5:00 PM	0	0	69	0	0	0	118	0	0	2	0	2	0	0	0	0
5:15 PM	0	1	67	0	0	0	125	0	0	1	0	2	0	0	0	0
5:30 PM	0	0	61	0	0	0	125	0	0	0	0	1	0	0	0	0
5:45 PM	0	0	64	0	0	0	130	0	0	1	0	2	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**13**	**449**	**0**	**0**	**0**	**187**	**2**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**
PHF	**0.95**				**0.89**				**0.42**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**330**	**0**	**0**	**0**	**440**	**3**	**0**	**16**	**0**	**10**	**0**	**0**	**0**	**0**
PHF	**0.92**				**0.94**				**0.81**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 5
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Driveway
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TRUCKS

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Amory St Northbound				Amory St Southbound				Driveway Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.50**				**0.00**				**0.00**			

Client:	M. Littman
Project #:	Location 5
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Driveway
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PEDESTRIANS & BICYCLES

	Amory St Northbound					Amory St Southbound					Driveway Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	1	0	0		0	1	0	0		0	0	0	3		0	0	0	0	
7:15 AM	0	0	0	0		0	0	0	0		0	0	0	5		0	0	0	0	
7:30 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
7:45 AM	0	1	0	0		0	0	0	0		0	0	0	3		0	0	0	0	
8:00 AM	0	1	0	1		0	0	0	1		0	0	0	8		0	0	0	0	
8:15 AM	0	0	0	0		0	0	0	1		0	0	0	2		0	0	0	0	
8:30 AM	0	0	0	1		0	0	0	0		0	0	0	3		0	0	0	0	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	1		0	0	0	0	

	Amory St Northbound					Amory St Southbound					Driveway Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	1	0	1		0	0	0	0		0	0	0	8		0	0	0	0	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	5		0	0	0	0	
4:30 PM	0	0	0	1		0	1	0	2		0	0	0	3		0	0	0	0	
4:45 PM	0	2	0	0		0	0	0	0		0	0	0	11		0	0	0	0	
5:00 PM	0	0	0	2		0	1	0	1		2	0	0	18		0	0	0	0	
5:15 PM	0	1	0	0		0	0	0	0		0	0	0	6		0	0	0	0	
5:30 PM	0	0	0	0		0	2	0	0		0	0	0	9		0	0	0	0	
5:45 PM	0	0	0	0		0	1	0	0		0	0	0	7		0	0	0	0	

AM PEAK HOUR[1]	Amory St Northbound					Amory St Southbound					Driveway Eastbound					Westbound				
8:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
9:00 AM	0	1	0	2		0	0	0	2		0	0	0	14		0	0	0	0	

PM PEAK HOUR[1]	Amory St Northbound					Amory St Southbound					Driveway Eastbound					Westbound				
4:15 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:15 PM	0	2	0	3		0	2	0	3		2	0	0	37		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 6
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TOTAL (CARS & TRUCKS)

	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	2	0	33	0	13	104	0	0	0	9	2
7:15 AM	0	0	0	0	0	3	0	31	0	13	111	0	0	0	9	1
7:30 AM	0	0	0	0	0	3	0	26	0	11	109	0	0	0	4	0
7:45 AM	0	0	0	0	0	3	0	30	0	13	103	0	0	0	7	1
8:00 AM	0	0	0	0	0	2	0	31	0	14	88	0	0	0	6	1
8:15 AM	0	0	0	0	0	4	0	39	0	14	100	0	0	0	9	2
8:30 AM	0	0	0	0	0	6	0	43	0	12	102	0	0	0	10	3
8:45 AM	0	0	0	0	0	5	0	45	0	13	107	0	0	0	6	1

	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	10	0	76	0	7	79	0	0	0	18	2
4:15 PM	0	0	0	0	0	8	0	77	0	7	87	0	0	0	27	3
4:30 PM	0	0	0	0	0	6	0	70	0	7	87	0	0	0	34	3
4:45 PM	0	0	0	0	0	6	0	76	0	8	79	0	0	0	41	4
5:00 PM	0	0	0	0	0	6	0	74	0	9	62	0	0	0	44	5
5:15 PM	0	0	0	0	0	5	0	90	0	6	62	0	0	0	35	4
5:30 PM	0	0	0	0	0	3	0	97	0	3	58	0	0	0	28	2
5:45 PM	0	0	0	0	0	5	0	102	0	4	61	0	0	0	28	4

AM PEAK HOUR 8:00 AM to 9:00 AM	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**17**	**0**	**158**	**0**	**53**	**397**	**0**	**0**	**0**	**31**	**7**
PHF		**0.00**				**0.88**				**0.94**				**0.73**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.5%**	**0.0%**	**0.0%**	**0.8%**	**0.0%**	**0.0%**	**0.0%**	**3.2%**	**0.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**26**	**0**	**297**	**0**	**31**	**315**	**0**	**0**	**0**	**146**	**15**
PHF		**0.00**				**0.95**				**0.92**				**0.82**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**1.9%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**

Client:	M. Littman
Project #:	Location 6
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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www.BostonTrafficData.com

TRUCKS

	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	1	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**0**
PHF	**0.00**				**0.50**				**0.63**				**0.25**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Northbound				Amory St Southbound				Amory St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**
PHF	**0.00**				**0.38**				**0.75**				**0.50**			

Client:	M. Littman
Project #:	Location 6
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Amory St
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PEDESTRIANS & BICYCLES

	Northbound					Amory St Southbound					Amory St Eastbound					Dimock St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	1	1		0	0	0	4		0	1	0	0	
7:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
7:30 AM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	0	1	
7:45 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
8:00 AM	0	0	0	0		0	0	0	1		0	1	0	3		0	0	0	1	
8:15 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	1	0	0	
8:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

	Northbound					Amory St Southbound					Amory St Eastbound					Dimock St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	0		0	0	0	2		0	0	0	8		0	0	0	1	
4:15 PM	0	0	0	0		0	0	1	0		0	0	0	3		0	0	0	3	
4:30 PM	0	0	0	1		0	0	0	3		0	2	0	2		0	1	0	0	
4:45 PM	0	0	0	0		0	0	1	0		0	0	0	5		0	0	0	1	
5:00 PM	0	1	0	0		0	0	0	2		0	1	0	5		0	0	0	2	
5:15 PM	0	0	0	2		0	0	0	0		0	0	0	2		0	3	0	0	
5:30 PM	0	0	0	0		0	0	0	1		0	0	0	1		0	1	0	1	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	3		0	0	0	0	

AM PEAK HOUR[1]	Northbound					Amory St Southbound					Amory St Eastbound					Dimock St Westbound				
8:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
9:00 AM	0	0	0	0		0	0	1	1		0	1	0	3		0	1	0	1	

PM PEAK HOUR[1]	Northbound					Amory St Southbound					Amory St Eastbound					Dimock St Westbound				
4:15 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:15 PM	0	1	0	1		0	0	2	5		0	3	0	15		0	1	0	6	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	M. Littman
Project #:	Location 7
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Columbus Ave
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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TOTAL (CARS & TRUCKS)

	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	3	207	9	0	7	106	4	0	70	30	3	0	0	0	0
7:15 AM	0	2	216	8	0	8	133	5	0	81	26	3	0	0	0	0
7:30 AM	0	0	204	7	0	8	147	5	0	84	19	2	0	0	0	0
7:45 AM	0	0	217	8	0	7	143	5	0	74	22	3	0	0	0	0
8:00 AM	0	0	209	8	0	6	125	4	0	57	23	3	0	0	0	0
8:15 AM	0	2	216	12	0	13	132	6	0	70	27	5	0	0	0	0
8:30 AM	0	1	202	15	0	18	126	7	0	70	29	6	0	0	0	0
8:45 AM	0	2	212	16	0	19	132	6	0	74	30	6	0	0	0	0

	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	4	167	9	0	14	227	13	0	58	18	3	0	0	0	0
4:15 PM	0	4	183	11	0	12	223	19	0	59	22	7	0	0	0	0
4:30 PM	0	9	182	11	0	9	198	22	0	57	23	3	0	0	0	0
4:45 PM	0	13	159	7	0	13	214	24	0	57	21	4	0	0	0	0
5:00 PM	0	13	121	3	0	15	210	29	0	52	17	4	0	0	0	0
5:15 PM	0	11	159	5	0	11	219	23	0	55	15	5	0	0	0	0
5:30 PM	0	9	182	3	0	6	207	14	0	53	11	6	0	0	0	0
5:45 PM	0	8	191	4	0	8	217	15	0	56	12	5	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**839**	**51**	**0**	**56**	**515**	**23**	**0**	**271**	**109**	**20**	**0**	**0**	**0**	**0**
PHF		**0.97**				**0.95**				**0.91**				**0.00**		
HV %	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**1.7%**	**0.0%**	**0.0%**	**1.1%**	**1.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**30**	**691**	**38**	**0**	**48**	**862**	**78**	**0**	**231**	**84**	**17**	**0**	**0**	**0**	**0**
PHF		**0.94**				**0.97**				**0.94**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	M. Littman
Project #:	Location 7
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Columbus Ave
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

BOSTON TRAFFIC DATA
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TRUCKS

	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	4	0	0	0	2	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	3	0	0	0	3	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	4	0	0	0	2	0	0	1	0	0	0	0	0	0
8:30 AM	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	3	0	0	1	1	0	0	0	0	0

	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**12**	**0**	**0**	**0**	**8**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.67**				**0.50**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Columbus Ave Northbound				Columbus Ave Southbound				Dimock St Eastbound				Dimock St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.63**				**0.50**				**0.00**			

Client:	M. Littman
Project #:	Location 7
BTD #:	0006_HSH
Location:	Jamaica Plain (Boston), MA
Street 1:	Dimock St
Street 2:	Columbus Ave
Count Date:	9/14/2016
Day of Week:	Tuesday
Weather:	Clear, 84 F

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PEDESTRIANS & BICYCLES

	Columbus Ave Northbound					Columbus Ave Southbound					Dimock St Eastbound					Dimock St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	3		0	1	0	2		0	0	0	5		0	0	0	4	
7:15 AM	0	0	0	1		0	0	0	1		0	0	0	3		0	0	0	3	
7:30 AM	0	1	0	2		0	0	0	2		0	0	0	3		0	0	0	5	
7:45 AM	0	0	0	4		0	1	0	3		0	0	0	5		0	0	0	15	
8:00 AM	0	0	0	3		0	0	0	5		0	0	0	3		0	0	0	9	
8:15 AM	0	1	0	5		0	0	0	5		0	0	0	7		0	0	0	19	
8:30 AM	0	0	0	2		0	0	0	6		0	0	0	3		0	0	0	11	
8:45 AM	0	0	0	4		0	0	0	3		0	0	0	8		0	0	0	9	

	Columbus Ave Northbound					Columbus Ave Southbound					Dimock St Eastbound					Dimock St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	7		0	0	0	3		0	0	0	11		0	0	0	15	
4:15 PM	0	1	0	2		0	0	0	1		0	0	0	8		0	0	0	2	
4:30 PM	0	0	0	5		0	0	0	4		0	1	0	6		0	0	0	9	
4:45 PM	0	0	0	4		0	1	0	3		0	0	0	2		0	0	0	7	
5:00 PM	0	1	0	6		0	0	0	4		0	0	0	6		0	1	0	9	
5:15 PM	0	0	0	2		0	0	0	2		0	0	0	7		0	0	0	8	
5:30 PM	0	0	0	5		0	0	0	1		0	0	0	4		0	1	0	3	
5:45 PM	0	0	0	3		0	0	0	3		0	0	0	6		0	0	0	3	

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Columbus Ave Northbound					Columbus Ave Southbound					Dimock St Eastbound					Dimock St Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	1	0	14		0	0	0	19		0	0	0	21		0	0	0	48	

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	Columbus Ave Northbound					Columbus Ave Southbound					Dimock St Eastbound					Dimock St Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	1	0	18		0	1	0	11		0	1	0	27		0	0	0	33	

[1] *Peak hours corresponds to vehicular peak hours.*

MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

2011 WEEKDAY SEASONAL FACTORS *

* Note: These are weekday factors. The average of the factors for the year will not equal 1, as weekend data are not considered.

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
GROUP 1 - WEST INTERSTATE	0.98	0.93	0.90	0.89	0.90	0.88	0.91	0.90	0.89	0.89	0.93	0.95
Use group 2 for R5, R6, & R0 GROUP 2 - **RURAL MAJOR COLLECTOR (R-5)**	1.12	1.12	1.07	0.99	0.91	0.90	0.86	0.86	0.92	0.93	1.01	1.05
GROUP 3A - RECREATIONAL **(1-4) See below	1.26	1.25	1.20	1.06	0.96	0.89	0.76	0.76	0.92	0.99	1.08	1.14
GROUP 3B - RECREATIONAL ***(5) See below	1.22	1.26	1.22	1.06	0.96	0.90	0.72	0.74	0.97	1.02	1.14	1.15
GROUP 4 - I-495 INTERSTATE	1.02	1.00	1.00	0.96	0.92	0.89	0.85	0.83	0.93	0.96	1.01	1.03
GROUP 5 - EAST INTERSTATE	1.04	1.00	0.96	0.93	0.92	0.91	0.91	0.89	0.93	0.93	0.96	1.01
GROUP 6: Use group 6 for U2, U3, U5, U6, U0, R2, & R3 **URBAN ARTERIALS, COLLECTORS & RURAL ARTERIALS (R-2, R-3)**	1.03	1.01	0.96	0.92	0.91	0.90	0.92	0.92	0.93	0.92	0.97	0.97
GROUP 7 - I-84 PROXIMITY (STA. 17, 3921)	1.24	1.24	1.15	1.04	0.99	1.00	0.93	0.89	1.05	1.05	1.05	1.12
GROUP 8 - I-295 PROXIMITY (STA. 6590)	1.00	0.99	0.95	0.92	0.94	0.91	0.93	0.92	0.95	0.94	0.97	0.95
GROUP 9 - I-195 PROXIMITY (STA. 7)	1.13	1.05	1.03	0.95	0.89	0.87	0.86	0.79	0.88	0.91	0.99	1.03

RECREATIONAL: (ALL YEARS)

**GROUP 3A:

1. CAPE COD (ALL TOWNS)

2.PLYMOUTH(SOUTH OF RTE.3A)

7014, 7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108,7178

3.MARTHA'S VINEYARD

4.NANTUCKET

***GROUP 3B:

5.PERMANENTS 2 & 189

1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,

1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,

1105,1106,1107,1108,1113,1114,1116,2196,2197,2198

2011 AXLE CORRECTION FACTORS

ROAD INVENTORY FUNCTIONAL CLASSIFICATION	AXLE CORRECTION FACTOR
RURAL	
1	0.95
2	0.97
3	0.98
0,5,6	0.98
URBAN	
1	0.96
2,3	0.98
5	0.98
0,6	0.99
I-84	0.90

ROUND OFF

0 - 999.....10

> 1,000.....100

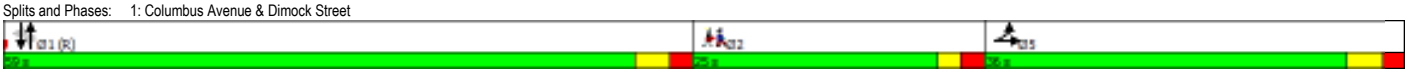
Apply I-84 factor to stations:

3290, 3921, 3929

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	280	113	21	0	0	0	7	839	51	56	515	31	
Future Volume (vph)	280	113	21	0	0	0	7	839	51	56	515	31	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor								1.00					
Frt		0.993						0.991			0.992		
Flt Protected		0.967									0.995		
Satd. Flow (prot)	0	1622	0	0	0	0	0	3186	0	0	3153	0	
Flt Permitted		0.967						0.950			0.751		
Satd. Flow (perm)	0	1622	0	0	0	0	0	3027	0	0	2380	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2						7			6		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		309			635			345			834		
Travel Time (s)		7.0			14.4			7.8			19.0		
Confl. Bikes (#/hr)									1				
Peak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.97	0.97	0.97	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	
Adj. Flow (vph)	308	124	23	0	0	0	7	865	53	59	542	33	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	455	0	0	0	0	0	925	0	0	634	0	
Turn Type	Split	NA					Perm	NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases							1			1			
Detector Phase	5	5					1	1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0					8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0					13.0	13.0		13.0	13.0		25.0
Total Split (s)	36.0	36.0					59.0	59.0		59.0	59.0		25.0
Total Split (%)	30.0%	30.0%					49.2%	49.2%		49.2%	49.2%		21%
Maximum Green (s)	31.0	31.0					54.0	54.0		54.0	54.0		21.0
Yellow Time (s)	3.0	3.0					3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0		2.0
Lost Time Adjust (s)		0.0						0.0			0.0		
Total Lost Time (s)		5.0						5.0			5.0		
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0					2.0	2.0		2.0	2.0		0.2
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)		44.0						66.0			66.0		
Actuated g/C Ratio		0.37						0.55			0.55		
v/c Ratio		0.76						0.55			0.48		
Control Delay		43.4						18.8			17.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		43.4						18.8			17.8		
LOS		D						B			B		
Approach Delay		43.4						18.8			17.8		
Approach LOS		D						B			B		
Queue Length 50th (ft)		313						224			144		
Queue Length 95th (ft)		434						297			203		
Internal Link Dist (ft)		229			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)		595						1668			1312		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.76						0.55			0.48		

Intersection Summary			
Area Type:	CBD		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 43 (36%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 24.1		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Columbus Avenue & Dimock Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	28	111	17	72	506	0	0	218	59
Future Volume (vph)	0	0	0	28	111	17	72	506	0	0	218	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99			1.00			0.99	
Frt					0.985						0.971	
Flt Protected					0.991			0.994				
Satd. Flow (prot)	0	0	0	0	1494	0	0	1700	0	0	1468	0
Flt Permitted					0.991			0.920				
Satd. Flow (perm)	0	0	0	0	1483	0	0	1570	0	0	1468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					14						41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			746			618			281	
Travel Time (s)		15.6			17.0			14.0			6.4	
Confl. Peds. (#/hr)				24		17	23					23
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	33	129	20	79	556	0	0	237	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	182	0	0	635	0	0	301	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.39			0.87			0.43	
Control Delay					14.2			27.3			9.1	
Queue Delay					0.0			0.0			0.0	
Total Delay					14.2			27.3			9.1	
LOS					B			C			A	
Approach Delay					14.2			27.3			9.1	
Approach LOS					B			C			A	
Queue Length 50th (ft)					33			133			39	
Queue Length 95th (ft)					69			#307			84	
Internal Link Dist (ft)		605			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					471			732			706	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.39			0.87			0.43	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Amory Street & Atherton Street

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations									
Traffic Vol, veh/h	0	53	397	0	31	7	0	17	158
Future Vol, veh/h	0	53	397	0	31	7	0	17	158
Peak Hour Factor	0.92	0.94	0.94	0.92	0.73	0.73	0.92	0.88	0.88
Heavy Vehicles, %	2	0	1	2	3	0	2	0	3
Mvmt Flow	0	56	422	0	42	10	0	19	180
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	13.8	8.3	9.2
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	0%	10%
Vol Thru, %	88%	82%	0%
Vol Right, %	0%	18%	90%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	450	38	175
LT Vol	53	0	17
Through Vol	397	31	0
RT Vol	0	7	158
Lane Flow Rate	479	52	199
Geometry Grp	1	1	1
Degree of Util (X)	0.592	0.07	0.254
Departure Headway (Hd)	4.453	4.843	4.597
Convergence, Y/N	Yes	Yes	Yes
Cap	809	736	780
Service Time	2.491	2.898	2.637
HCM Lane V/C Ratio	0.592	0.071	0.255
HCM Control Delay	13.8	8.3	9.2
HCM Lane LOS	B	A	A
HCM 95th-tile Q	4	0.2	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	4	13	449	187	2
Future Volume (Veh/h)	1	4	13	449	187	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	2	10	14	473	210	2
Pedestrians	14			2	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673		
pX, platoon unblocked	0.89					
vC, conflicting volume	728	227	226			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	628	227	226			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	388	805	1336			

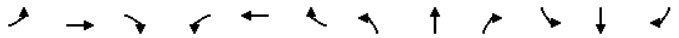
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	12	487	212
Volume Left	2	14	0
Volume Right	10	0	2
cSH	683	1336	1700
Volume to Capacity	0.02	0.01	0.12
Queue Length 95th (ft)	1	1	0
Control Delay (s)	10.4	0.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	0.3	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		48.5%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	30	432	0	0	191
Future Volume (Veh/h)	100	30	432	0	0	191
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	114	34	455	0	0	217
Pedestrians	2		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	675	458			457	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519	261			260	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	95			100	
cM capacity (veh/h)	437	656			1105	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	148	455	217
Volume Left	114	0	0
Volume Right	34	0	0
cSH	473	1700	1700
Volume to Capacity	0.31	0.27	0.13
Queue Length 95th (ft)	33	0	0
Control Delay (s)	16.0	0.0	0.0
Lane LOS	C		
Approach Delay (s)	16.0	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Volume (veh/h)	6	2	8	0	0	0	24	426	73	17	269	5
Future Volume (Veh/h)	6	2	8	0	0	0	24	426	73	17	269	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	8	3	10	0	0	0	26	458	78	18	286	5
Pedestrians		7			4			18			4	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281				
pX, platoon unblocked	0.71	0.71		0.71	0.71	0.71				0.71		
vC, conflicting volume	884	924	314	907	887	505	298			540		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	629	684	314	661	632	92	298			141		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	99	100	100	100	98			98		
cM capacity (veh/h)	269	252	714	248	270	684	1266			1027		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	21	562	309
Volume Left	8	26	18
Volume Right	10	78	5
cSH	377	1266	1027
Volume to Capacity	0.06	0.02	0.02
Queue Length 95th (ft)	4	2	1
Control Delay (s)	15.1	0.6	0.7
Lane LOS	C	A	A
Approach Delay (s)	15.1	0.6	0.7
Approach LOS	C		

Intersection Summary					
Average Delay		1.0			
Intersection Capacity Utilization		55.2%	ICU Level of Service	B	
Analysis Period (min)		15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	23	168	51	98	480	0	0	221	25
Future Volume (Veh/h)	0	0	0	23	168	51	98	480	0	0	221	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	23	171	52	108	527	0	0	246	28
Pedestrians		16			19			48			52	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			2			5			5	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1208	1038	324	1070	1052	598	290			546		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1208	1038	324	1070	1052	598	290			546		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	17	89	92			100		
cM capacity (veh/h)	39	209	689	173	205	472	1283			1015		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	246	635	274
Volume Left	23	108	0
Volume Right	52	0	28
cSH	229	1283	1700
Volume to Capacity	1.08	0.08	0.16
Queue Length 95th (ft)	269	7	0
Control Delay (s)	126.6	2.2	0.0
Lane LOS	F	A	
Approach Delay (s)	126.6	2.2	0.0
Approach LOS	F		

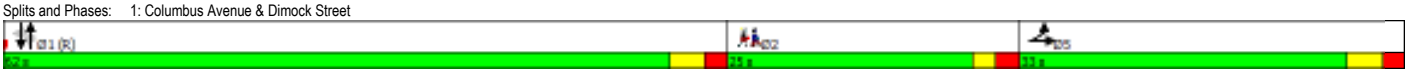
Intersection Summary					
Average Delay		28.2			
Intersection Capacity Utilization		74.4%	ICU Level of Service	D	
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	238	86	17	0	0	0	45	691	38	48	862	116	
Future Volume (vph)	238	86	17	0	0	0	45	691	38	48	862	116	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00						1.00			1.00		
Frt		0.993						0.993			0.983		
Flt Protected		0.966						0.997			0.998		
Satd. Flow (prot)	0	1628	0	0	0	0	0	3185	0	0	3153	0	
Flt Permitted		0.966						0.813			0.862		
Satd. Flow (perm)	0	1628	0	0	0	0	0	2597	0	0	2724	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2						6			16		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		292			635			345			834		
Travel Time (s)		6.6			14.4			7.8			19.0		
Confl. Bikes (#/hr)			1						1			1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.94	0.94	0.94	0.97	0.97	0.97	
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	
Adj. Flow (vph)	253	91	18	0	0	0	48	735	40	49	889	120	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	362	0	0	0	0	0	823	0	0	1058	0	
Turn Type	Split	NA					Perm	NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases							1			1			
Detector Phase	5	5					1	1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0					8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0					13.0	13.0		13.0	13.0		25.0
Total Split (s)	33.0	33.0					62.0	62.0		62.0	62.0		25.0
Total Split (%)	27.5%	27.5%					51.7%	51.7%		51.7%	51.7%		21%
Maximum Green (s)	28.0	28.0					57.0	57.0		57.0	57.0		21.0
Yellow Time (s)	3.0	3.0					3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0		2.0
Lost Time Adjust (s)		0.0						0.0			0.0		
Total Lost Time (s)		5.0						5.0			5.0		
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0					2.0	2.0		2.0	2.0		0.2
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)		32.9						77.1			77.1		
Actuated g/C Ratio		0.27						0.64			0.64		
v/c Ratio		0.81						0.49			0.60		
Control Delay		54.7						13.0			14.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		54.7						13.0			14.8		
LOS		D						B			B		
Approach Delay		54.7						13.0			14.8		
Approach LOS		D						B			B		
Queue Length 50th (ft)		258						164			234		
Queue Length 95th (ft)		358						237			332		
Internal Link Dist (ft)		212			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)		453						1670			1755		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.80						0.49			0.60		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 20.6 Intersection LOS: C
Intersection Capacity Utilization 89.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Columbus Avenue & Dimock Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	43	39	9	33	355	0	0	529	33
Future Volume (vph)	0	0	0	43	39	9	33	355	0	0	529	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98			1.00			1.00	
Frt					0.987						0.992	
Flt Protected					0.977			0.996				
Satd. Flow (prot)	0	0	0	0	1476	0	0	1703	0	0	1523	0
Flt Permitted					0.977			0.925				
Satd. Flow (perm)	0	0	0	0	1451	0	0	1581	0	0	1523	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10						9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			746			618			281	
Travel Time (s)		15.9			17.0			14.0			6.4	
Confl. Peds. (#/hr)				21		19	19					19
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	50	45	10	39	418	0	0	551	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	105	0	0	457	0	0	585	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.23			0.62			0.82	
Control Delay					12.2			13.6			23.1	
Queue Delay					0.0			0.0			0.0	
Total Delay					12.2			13.6			23.1	
LOS					B			B			C	
Approach Delay					12.2			13.6			23.1	
Approach LOS					B			B			C	
Queue Length 50th (ft)					18			80			117	
Queue Length 95th (ft)					43			141			#281	
Internal Link Dist (ft)		620			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					458			737			715	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.23			0.62			0.82	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Amory Street & Atherton Street

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations									
Traffic Vol, veh/h	0	31	315	0	146	15	0	26	297
Future Vol, veh/h	0	31	315	0	146	15	0	26	297
Peak Hour Factor	0.92	0.92	0.92	0.92	0.82	0.82	0.92	0.95	0.95
Heavy Vehicles, %	2	0	2	2	1	0	2	0	1
Mvmt Flow	0	34	342	0	178	18	0	27	313
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	13.8	10.4	11.9
HCM LOS	B	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	0%	8%
Vol Thru, %	91%	91%	0%
Vol Right, %	0%	9%	92%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	346	161	323
LT Vol	31	0	26
Through Vol	315	146	0
RT Vol	0	15	297
Lane Flow Rate	376	196	340
Geometry Grp	1	1	1
Degree of Util (X)	0.531	0.288	0.458
Departure Headway (Hd)	5.087	5.275	4.853
Convergence, Y/N	Yes	Yes	Yes
Cap	711	681	748
Service Time	3.117	3.31	2.853
HCM Lane V/C Ratio	0.529	0.288	0.455
HCM Control Delay	13.8	10.4	11.9
HCM Lane LOS	B	B	B
HCM 95th-tile Q	3.2	1.2	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	10	5	330	440	3
Future Volume (Veh/h)	16	10	5	330	440	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	20	12	5	359	468	3
Pedestrians	37			3	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	4			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673		
pX, platoon unblocked						
vC, conflicting volume	878	510	508			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878	510	508			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	98	100			
cM capacity (veh/h)	307	546	1030			

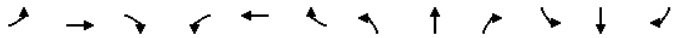
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	32	364	471
Volume Left	20	5	0
Volume Right	12	0	3
cSH	367	1030	1700
Volume to Capacity	0.09	0.00	0.28
Queue Length 95th (ft)	7	0	0
Control Delay (s)	15.7	0.2	0.0
Lane LOS	C	A	
Approach Delay (s)	15.7	0.2	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	144	29	306	0	0	450
Future Volume (Veh/h)	144	29	306	0	0	450
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.77	0.77	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	187	38	373	0	0	489
Pedestrians			3			3
Lane Width (ft)			12.0			12.0
Walking Speed (ft/s)			3.5			3.5
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	865	376			373	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	841	334			331	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	42	94			100	
cM capacity (veh/h)	324	685			1195	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	225	373	489
Volume Left	187	0	0
Volume Right	38	0	0
cSH	356	1700	1700
Volume to Capacity	0.63	0.22	0.29
Queue Length 95th (ft)	103	0	0
Control Delay (s)	31.0	0.0	0.0
Lane LOS	D		
Approach Delay (s)	31.0	0.0	0.0
Approach LOS	D		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	11	6	0	0	0	2	301	61	33	556	5
Future Volume (Veh/h)	5	11	6	0	0	0	2	301	61	33	556	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	6	14	8	0	0	0	2	324	66	36	611	5
Pedestrians		9			6			6			1	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1056	1094	628	1074	1064	364	625			396		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	972	1018	628	993	981	149	625			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	93	98	100	100	100	100			97		
cM capacity (veh/h)	188	193	479	170	203	759	958			1177		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	392	652
Volume Left	6	2	36
Volume Right	8	66	5
cSH	231	958	1177
Volume to Capacity	0.12	0.00	0.03
Queue Length 95th (ft)	10	0	2
Control Delay (s)	22.7	0.1	0.8
Lane LOS	C	A	A
Approach Delay (s)	22.7	0.1	0.8
Approach LOS	C		

Intersection Summary					
Average Delay	1.1				
Intersection Capacity Utilization	70.6%	ICU Level of Service		C	
Analysis Period (min)	15				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	8	80	17	103	171	0	0	309	49
Future Volume (Veh/h)	0	0	0	8	80	17	103	171	0	0	309	49
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	9	88	19	113	188	0	0	319	51
Pedestrians		30						34			34	
Lane Width (ft)		0.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						3			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	886	788	408	792	814	222	400			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	886	788	408	792	814	222	400			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	69	98	90			100		
cM capacity (veh/h)	179	294	626	277	284	796	1170			1398		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	116	301	370
Volume Left	9	113	0
Volume Right	19	0	51
cSH	317	1170	1700
Volume to Capacity	0.37	0.10	0.22
Queue Length 95th (ft)	41	8	0
Control Delay (s)	22.8	3.7	0.0
Lane LOS	C	A	
Approach Delay (s)	22.8	3.7	0.0
Approach LOS	C		

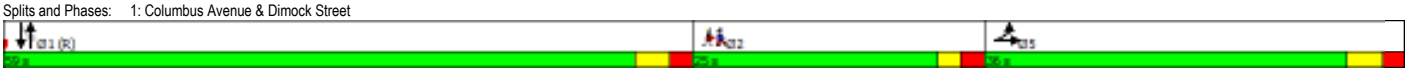
Intersection Summary					
Average Delay		4.8			
Intersection Capacity Utilization		59.3%	ICU Level of Service	B	
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	333	122	29	0	0	0	0	867	53	58	534	0	
Future Volume (vph)	333	122	29	0	0	0	0	867	53	58	534	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	
Ped Bike Factor								1.00					
Frt		0.971						0.991					
Flt Protected	0.950										0.995		
Satd. Flow (prot)	1608	1634	0	0	0	0	0	3186	0	0	3175	0	
Flt Permitted	0.950										0.691		
Satd. Flow (perm)	1608	1634	0	0	0	0	0	3186	0	0	2205	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10						7					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		309			635			345			834		
Travel Time (s)		7.0			14.4			7.8			19.0		
Confl. Bikes (#/hr)									1				
Peak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.97	0.97	0.97	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	
Adj. Flow (vph)	366	134	32	0	0	0	0	894	55	61	562	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	366	166	0	0	0	0	0	949	0	0	623	0	
Turn Type	Split	NA						NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases										1			
Detector Phase	5	5						1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0						8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0						13.0		13.0	13.0		25.0
Total Split (s)	36.0	36.0						59.0		59.0	59.0		25.0
Total Split (%)	30.0%	30.0%						49.2%		49.2%	49.2%		21%
Maximum Green (s)	31.0	31.0						54.0		54.0	54.0		21.0
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0		
Total Lost Time (s)	5.0	5.0						5.0			5.0		
Lead/Lag								Lead		Lead	Lead		Lag
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0						2.0		2.0	2.0		0.2
Recall Mode	None	None						C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													102
Act Effct Green (s)	29.3	29.3						55.7			55.7		
Actuated g/C Ratio	0.24	0.24						0.46			0.46		
v/c Ratio	0.93	0.41						0.64			0.61		
Control Delay	75.8	38.6						27.2			27.7		
Queue Delay	0.0	0.0						0.0			0.0		
Total Delay	75.8	38.6						27.2			27.7		
LOS	E	D						C			C		
Approach Delay		64.2						27.2			27.7		
Approach LOS		E						C			C		
Queue Length 50th (ft)	273	100						294			190		
Queue Length 95th (ft)	#445	166						367			255		
Internal Link Dist (ft)		229			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)	415	429						1481			1023		
Starvation Cap Reductn	0	0						0			0		
Spillback Cap Reductn	0	0						0			0		
Storage Cap Reductn	0	0						0			0		
Reduced v/c Ratio	0.88	0.39						0.64			0.61		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 43 (36%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

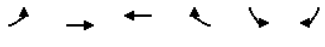
Splits and Phases: 1: Columbus Avenue & Dimock Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	29	115	18	75	596	0	0	253	75
Future Volume (vph)	0	0	0	29	115	18	75	596	0	0	253	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99			1.00			0.99	
Frt					0.985						0.969	
Flt Protected					0.991			0.994				
Satd. Flow (prot)	0	0	0	0	1494	0	0	1700	0	0	1464	0
Flt Permitted					0.991			0.918				
Satd. Flow (perm)	0	0	0	0	1483	0	0	1567	0	0	1464	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15						45	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		685			746			618			281	
Travel Time (s)		15.6			17.0			14.0			6.4	
Confl. Peds. (#/hr)				24		17	23					23
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	34	134	21	82	655	0	0	275	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	189	0	0	737	0	0	357	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.40			1.01			0.50	
Control Delay					14.3			52.5			10.3	
Queue Delay					0.0			0.0			0.0	
Total Delay					14.3			52.5			10.3	
LOS					B			D			B	
Approach Delay					14.3			52.5			10.3	
Approach LOS					B			D			B	
Queue Length 50th (ft)					34			~177			50	
Queue Length 95th (ft)					71			#374			105	
Internal Link Dist (ft)		605			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					471			731			707	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.40			1.01			0.50	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

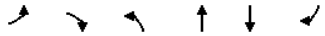
Splits and Phases: 2: Amory Street & Atherton Street



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	122	463	0	0	82	236
Future Volume (Veh/h)	122	463	0	0	82	236
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.73	0.73	0.88	0.88
Hourly flow rate (vph)	130	493	0	0	93	268
Pedestrians		3	1		1	
Lane Width (ft)		12.0	0.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		814	309			
pX, platoon unblocked					0.82	
vC, conflicting volume	1				755	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				586	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				74	75
cM capacity (veh/h)	1633				357	1072

Direction, Lane #	EB 1	SB 1
Volume Total	623	361
Volume Left	130	93
Volume Right	0	268
cSH	1633	707
Volume to Capacity	0.08	0.51
Queue Length 95th (ft)	6	73
Control Delay (s)	2.2	15.3
Lane LOS	A	C
Approach Delay (s)	2.2	15.3
Approach LOS		C

Intersection Summary				
Average Delay		7.0		
Intersection Capacity Utilization		69.1%	ICU Level of Service	C
Analysis Period (min)		15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	4	13	584	235	2
Future Volume (Veh/h)	1	4	13	584	235	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	2	10	14	615	264	2
Pedestrians	14			2	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673	450	
pX, platoon unblocked	0.76					
vC, conflicting volume	924	281	280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740	281	280			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	286	751	1277			

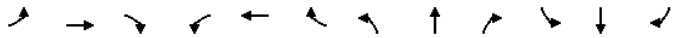
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	12	629	266
Volume Left	2	14	0
Volume Right	10	0	2
cSH	591	1277	1700
Volume to Capacity	0.02	0.01	0.16
Queue Length 95th (ft)	2	1	0
Control Delay (s)	11.2	0.3	0.0
Lane LOS	B	A	
Approach Delay (s)	11.2	0.3	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		56.4%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	104	78	519	0	0	239
Future Volume (Veh/h)	104	78	519	0	0	239
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	118	89	546	0	0	272
Pedestrians	2		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			588
pX, platoon unblocked	0.72	0.72			0.72	
vC, conflicting volume	821	549			548	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556	177			176	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	67	86			100	
cM capacity (veh/h)	355	624			1014	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	207	546	272
Volume Left	118	0	0
Volume Right	89	0	0
cSH	436	1700	1700
Volume to Capacity	0.47	0.32	0.16
Queue Length 95th (ft)	62	0	0
Control Delay (s)	20.5	0.0	0.0
Lane LOS	C		
Approach Delay (s)	20.5	0.0	0.0
Approach LOS	C		

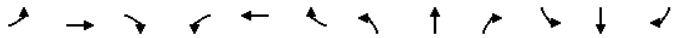
Intersection Summary				
Average Delay		4.1		
Intersection Capacity Utilization		48.8%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	2	8	0	0	0	24	513	76	18	320	5
Future Volume (Veh/h)	6	2	8	0	0	0	24	513	76	18	320	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	8	3	10	0	0	0	26	552	82	19	340	5
Pedestrians		7			4			18			4	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281			842	
pX, platoon unblocked	0.61	0.61		0.61	0.61	0.61				0.61		
vC, conflicting volume	1036	1078	368	1059	1039	601	352			638		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	736	804	368	773	740	18	352			79		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	98	98	100	100	100	98			98		
cM capacity (veh/h)	195	184	666	178	200	644	1210			929		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	21	660	364
Volume Left	8	26	19
Volume Right	10	82	5
cSH	290	1210	929
Volume to Capacity	0.07	0.02	0.02
Queue Length 95th (ft)	6	2	2
Control Delay (s)	18.4	0.6	0.7
Lane LOS	C	A	A
Approach Delay (s)	18.4	0.6	0.7
Approach LOS	C		

Intersection Summary					
Average Delay		1.0			
Intersection Capacity Utilization		61.0%	ICU Level of Service	B	
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	188	53	101	497	0	0	229	26
Future Volume (Veh/h)	0	0	0	24	188	53	101	497	0	0	229	26
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	24	192	54	111	546	0	0	254	29
Pedestrians		16			19			48			52	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			2			5			5	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1254	1072	332	1104	1086	617	299			565		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1254	1072	332	1104	1086	617	299			565		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	2	88	91			100		
cM capacity (veh/h)	10	199	681	164	195	461	1274			998		

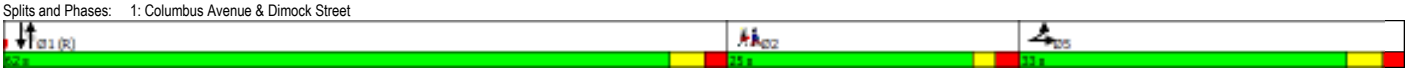
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	270	657	283
Volume Left	24	111	0
Volume Right	54	0	29
cSH	217	1274	1700
Volume to Capacity	1.25	0.09	0.17
Queue Length 95th (ft)	348	7	0
Control Delay (s)	188.1	2.2	0.0
Lane LOS	F	A	
Approach Delay (s)	188.1	2.2	0.0
Approach LOS	F		

Intersection Summary					
Average Delay		43.2			
Intersection Capacity Utilization		77.4%	ICU Level of Service	D	
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	324	103	35	0	0	0	0	716	39	50	893	0	
Future Volume (vph)	324	103	35	0	0	0	0	716	39	50	893	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	
Ped Bike Factor		1.00						1.00					
Frt		0.962						0.992					
Flt Protected	0.950										0.997		
Satd. Flow (prot)	1608	1640	0	0	0	0	0	3189	0	0	3209	0	
Flt Permitted	0.950										0.825		
Satd. Flow (perm)	1608	1640	0	0	0	0	0	3189	0	0	2655	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		13						6					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		292			635			345			834		
Travel Time (s)		6.6			14.4			7.8			19.0		
Confl. Bikes (#/hr)			1						1			1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.94	0.94	0.94	0.97	0.97	0.97	
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	
Adj. Flow (vph)	345	110	37	0	0	0	0	762	41	52	921	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	345	147	0	0	0	0	0	803	0	0	973	0	
Turn Type	Split	NA						NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases										1			
Detector Phase	5	5						1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0						8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0						13.0		13.0	13.0		25.0
Total Split (s)	33.0	33.0						62.0		62.0	62.0		25.0
Total Split (%)	27.5%	27.5%						51.7%		51.7%	51.7%		21%
Maximum Green (s)	28.0	28.0						57.0		57.0	57.0		21.0
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0		
Total Lost Time (s)	5.0	5.0						5.0			5.0		
Lead/Lag								Lead		Lead	Lead		Lag
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0						2.0		2.0	2.0		0.2
Recall Mode	None	None						C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													89
Act Effct Green (s)	27.2	27.2						57.8			57.8		
Actuated g/C Ratio	0.23	0.23						0.48			0.48		
v/c Ratio	0.95	0.39						0.52			0.76		
Control Delay	82.0	38.8						23.0			30.5		
Queue Delay	0.0	0.0						0.0			0.0		
Total Delay	82.0	38.8						23.0			30.5		
LOS	F	D						C			C		
Approach Delay		69.1						23.0			30.5		
Approach LOS		E						C			C		
Queue Length 50th (ft)	262	87						221			320		
Queue Length 95th (ft)	#441	150						281			409		
Internal Link Dist (ft)		212			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)	375	392						1539			1280		
Starvation Cap Reductn	0	0						0			0		
Spillback Cap Reductn	0	0						0			0		
Storage Cap Reductn	0	0						0			0		
Reduced v/c Ratio	0.92	0.38						0.52			0.76		

Intersection Summary			
Area Type:	CBD		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 18 (15%), Referenced to phase 1:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 36.2		Intersection LOS: D	
Intersection Capacity Utilization 84.9%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

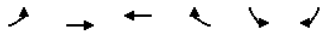
Splits and Phases: 1: Columbus Avenue & Dimock Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	45	40	9	34	395	0	0	623	84
Future Volume (vph)	0	0	0	45	40	9	34	395	0	0	623	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98			1.00			1.00	
Frt					0.988						0.984	
Flt Protected					0.977			0.996				
Satd. Flow (prot)	0	0	0	0	1478	0	0	1703	0	0	1507	0
Flt Permitted					0.977			0.723				
Satd. Flow (perm)	0	0	0	0	1452	0	0	1236	0	0	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10						20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		700			746			618			281	
Travel Time (s)		15.9			17.0			14.0			6.4	
Confl. Peds. (#/hr)				21		19	19					19
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	52	47	10	40	465	0	0	649	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	109	0	0	505	0	0	737	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.24			0.88			1.03	
Control Delay					12.4			32.2			59.8	
Queue Delay					0.0			0.0			0.0	
Total Delay					12.4			32.2			59.8	
LOS					B			C			E	
Approach Delay					12.4			32.2			59.8	
Approach LOS					B			C			E	
Queue Length 50th (ft)					19			107			~188	
Queue Length 95th (ft)					44			#241			#384	
Internal Link Dist (ft)		620			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					458			576			713	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.24			0.88			1.03	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 45.7		Intersection LOS: D	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Amory Street & Atherton Street



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	344	0	0	63	534
Future Volume (Veh/h)	73	344	0	0	63	534
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.82	0.82	0.95	0.95
Hourly flow rate (vph)	79	374	0	0	66	562
Pedestrians		15	6		5	
Lane Width (ft)		12.0	0.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		818	292			
pX, platoon unblocked						
vC, conflicting volume	5				543	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				543	20
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				86	46
cM capacity (veh/h)	1622				477	1041

Direction, Lane #	EB 1	SB 1
Volume Total	453	628
Volume Left	79	66
Volume Right	0	562
cSH	1622	926
Volume to Capacity	0.05	0.68
Queue Length 95th (ft)	4	138
Control Delay (s)	1.7	16.7
Lane LOS	A	C
Approach Delay (s)	1.7	16.7
Approach LOS		C

Intersection Summary				
Average Delay		10.4		
Intersection Capacity Utilization		78.5%	ICU Level of Service	D
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	10	5	401	550	3
Future Volume (Veh/h)	16	10	5	401	550	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	20	12	5	436	585	3
Pedestrians	37			3	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	4			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673	437	
pX, platoon unblocked						
vC, conflicting volume	1072	626	625			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1072	626	625			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	97	99			
cM capacity (veh/h)	235	469	932			

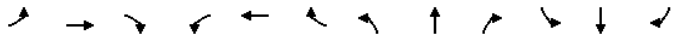
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	32	441	588
Volume Left	20	5	0
Volume Right	12	0	3
cSH	290	932	1700
Volume to Capacity	0.11	0.01	0.35
Queue Length 95th (ft)	9	0	0
Control Delay (s)	19.0	0.2	0.0
Lane LOS	C	A	
Approach Delay (s)	19.0	0.2	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	180	62	344	0	0	560
Future Volume (Veh/h)	180	62	344	0	0	560
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.77	0.77	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	234	81	420	0	0	609
Pedestrians			3			3
Lane Width (ft)			12.0			12.0
Walking Speed (ft/s)			3.5			3.5
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			575
pX, platoon unblocked	0.92	0.92			0.92	
vC, conflicting volume	1032	423			420	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	990	326			323	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	7	88			100	
cM capacity (veh/h)	252	659			1145	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	315	420	609
Volume Left	234	0	0
Volume Right	81	0	0
cSH	300	1700	1700
Volume to Capacity	1.05	0.25	0.36
Queue Length 95th (ft)	297	0	0
Control Delay (s)	104.8	0.0	0.0
Lane LOS	F		
Approach Delay (s)	104.8	0.0	0.0
Approach LOS	F		

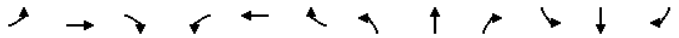
Intersection Summary				
Average Delay		24.6		
Intersection Capacity Utilization		54.8%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	11	6	0	0	0	2	339	63	34	701	5
Future Volume (Veh/h)	5	11	6	0	0	0	2	339	63	34	701	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	6	14	8	0	0	0	2	365	68	37	770	5
Pedestrians		9			6			6			1	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281			829	
pX, platoon unblocked	0.81	0.81		0.81	0.81	0.81				0.81		
vC, conflicting volume	1260	1298	788	1276	1267	406	784			439		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1202	1251	788	1223	1212	146	784			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	90	98	100	100	100	100			97		
cM capacity (veh/h)	126	135	389	110	142	732	836			1131		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	435	812
Volume Left	6	2	37
Volume Right	8	68	5
cSH	163	836	1131
Volume to Capacity	0.17	0.00	0.03
Queue Length 95th (ft)	15	0	3
Control Delay (s)	31.7	0.1	0.9
Lane LOS	D	A	A
Approach Delay (s)	31.7	0.1	0.9
Approach LOS	D		

Intersection Summary					
Average Delay		1.3			
Intersection Capacity Utilization		80.1%	ICU Level of Service	D	
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	8	133	18	107	177	0	0	320	51
Future Volume (Veh/h)	0	0	0	8	133	18	107	177	0	0	320	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	9	146	20	118	195	0	0	330	53
Pedestrians		30						34			34	
Lane Width (ft)		0.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						3			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	944	818	420	822	844	229	413			195		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	944	818	420	822	844	229	413			195		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	46	97	90			100		
cM capacity (veh/h)	123	281	617	264	271	789	1157			1390		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	175	313	383
Volume Left	9	118	0
Volume Right	20	0	53
cSH	293	1157	1700
Volume to Capacity	0.60	0.10	0.23
Queue Length 95th (ft)	90	8	0
Control Delay (s)	34.0	3.8	0.0
Lane LOS	D	A	
Approach Delay (s)	34.0	3.8	0.0
Approach LOS	D		

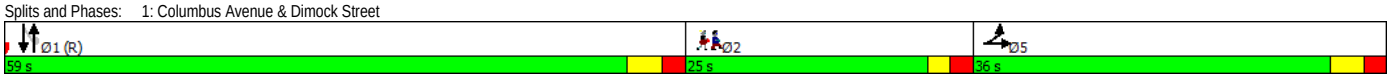
Intersection Summary					
Average Delay		8.2			
Intersection Capacity Utilization		61.7%	ICU Level of Service	B	
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	353	127	29	0	0	0	0	867	53	58	534	0	
Future Volume (vph)	353	127	29	0	0	0	0	867	53	58	534	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	
Ped Bike Factor								1.00					
Frt		0.972						0.991					
Flt Protected	0.950										0.995		
Satd. Flow (prot)	1608	1635	0	0	0	0	0	3186	0	0	3175	0	
Flt Permitted	0.950										0.687		
Satd. Flow (perm)	1608	1635	0	0	0	0	0	3186	0	0	2193	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		9						7					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		309			635			345			834		
Travel Time (s)		7.0			14.4			7.8			19.0		
Confl. Bikes (#/hr)									1				
Peak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.97	0.97	0.97	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	
Adj. Flow (vph)	388	140	32	0	0	0	0	894	55	61	562	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	388	172	0	0	0	0	0	949	0	0	623	0	
Turn Type	Split	NA						NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases										1			
Detector Phase	5	5						1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0						8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0						13.0		13.0	13.0		25.0
Total Split (s)	36.0	36.0						59.0		59.0	59.0		25.0
Total Split (%)	30.0%	30.0%						49.2%		49.2%	49.2%		21%
Maximum Green (s)	31.0	31.0						54.0		54.0	54.0		21.0
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0		
Total Lost Time (s)	5.0	5.0						5.0			5.0		
Lead/Lag								Lead		Lead	Lead		Lag
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0						2.0		2.0	2.0		0.2
Recall Mode	None	None						C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													102
Act Effct Green (s)	30.2	30.2						54.8			54.8		
Actuated g/C Ratio	0.25	0.25						0.46			0.46		
v/c Ratio	0.96	0.41						0.65			0.62		
Control Delay	80.1	38.6						27.8			28.4		
Queue Delay	0.0	0.0						0.0			0.0		
Total Delay	80.1	38.6						27.8			28.4		
LOS	F	D						C			C		
Approach Delay		67.3						27.8			28.4		
Approach LOS		E						C			C		
Queue Length 50th (ft)	295	105						294			190		
Queue Length 95th (ft)	#486	173						367			256		
Internal Link Dist (ft)		229			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)	415	429						1457			1000		
Starvation Cap Reductn	0	0						0			0		
Spillback Cap Reductn	0	0						0			0		
Storage Cap Reductn	0	0						0			0		
Reduced v/c Ratio	0.93	0.40						0.65			0.62		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 43 (36%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 38.4 Intersection LOS: D
Intersection Capacity Utilization 81.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Columbus Avenue & Dimock Street

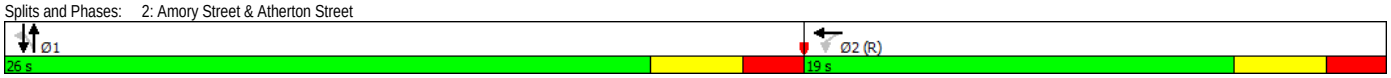


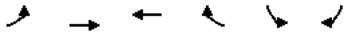
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	29	115	18	75	602	0	0	273	75
Future Volume (vph)	0	0	0	29	115	18	75	602	0	0	273	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99			1.00			0.99	
Frt					0.985						0.971	
Flt Protected					0.991			0.995				
Satd. Flow (prot)	0	0	0	0	1494	0	0	1701	0	0	1468	0
Flt Permitted					0.991			0.916				
Satd. Flow (perm)	0	0	0	0	1483	0	0	1564	0	0	1468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15						41	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		433			746			618			281	
Travel Time (s)		9.8			17.0			14.0			6.4	
Confl. Peds. (#/hr)				24		17	23					23
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	34	134	21	82	662	0	0	297	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	189	0	0	744	0	0	379	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.40			1.02			0.54	
Control Delay					14.3			55.9			11.0	
Queue Delay					0.0			0.0			0.0	
Total Delay					14.3			55.9			11.0	
LOS					B			E			B	
Approach Delay					14.3			55.9			11.0	
Approach LOS					B			E			B	
Queue Length 50th (ft)					34			~185			55	
Queue Length 95th (ft)					71			#380			115	
Internal Link Dist (ft)		353			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					471			729			706	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.40			1.02			0.54	

Intersection Summary

Area Type: CBD
Cycle Length: 45
Actuated Cycle Length: 45
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 37.0 Intersection LOS: D
Intersection Capacity Utilization 84.6% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Amory Street & Atherton Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	122	488	0	0	82	247
Future Volume (Veh/h)	122	488	0	0	82	247
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.73	0.73	0.88	0.88
Hourly flow rate (vph)	130	519	0	0	93	281
Pedestrians		3	1		1	
Lane Width (ft)		12.0	0.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		814	309			
pX, platoon unblocked					0.88	
vC, conflicting volume	1				781	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				680	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				73	74
cM capacity (veh/h)	1633				338	1072

Direction, Lane #	EB 1	SB 1
Volume Total	649	374
Volume Left	130	93
Volume Right	0	281
cSH	1633	697
Volume to Capacity	0.08	0.54
Queue Length 95th (ft)	6	81
Control Delay (s)	2.2	16.0
Lane LOS	A	C
Approach Delay (s)	2.2	16.0
Approach LOS		C

Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	71.3%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	4	16	584	235	13
Future Volume (Veh/h)	26	4	16	584	235	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	62	10	17	615	264	15
Pedestrians	14			2	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673	450	
pX, platoon unblocked	0.76					
vC, conflicting volume	936	288	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	756	288	293			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	99	99			
cM capacity (veh/h)	279	745	1263			

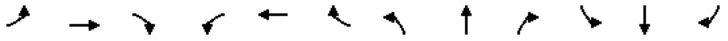
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	72	632	279
Volume Left	62	17	0
Volume Right	10	0	15
cSH	305	1263	1700
Volume to Capacity	0.24	0.01	0.16
Queue Length 95th (ft)	22	1	0
Control Delay (s)	20.4	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	20.4	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		59.1%	ICU Level of Service B
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	104	81	519	0	0	239
Future Volume (Veh/h)	104	81	519	0	0	239
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	118	92	546	0	0	272
Pedestrians	2		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			588
pX, platoon unblocked	0.72	0.72			0.72	
vC, conflicting volume	821	549			548	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	554	175			173	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	67	85			100	
cM capacity (veh/h)	356	625			1014	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	210	546	272
Volume Left	118	0	0
Volume Right	92	0	0
cSH	438	1700	1700
Volume to Capacity	0.48	0.32	0.16
Queue Length 95th (ft)	63	0	0
Control Delay (s)	20.5	0.0	0.0
Lane LOS	C		
Approach Delay (s)	20.5	0.0	0.0
Approach LOS	C		

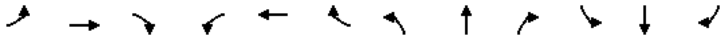
Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣						✣			✣	
Traffic Volume (veh/h)	6	8	28	0	0	0	30	513	76	18	320	5
Future Volume (Veh/h)	6	8	28	0	0	0	30	513	76	18	320	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	8	10	35	0	0	0	32	552	82	19	340	5
Pedestrians		7			4			18			4	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281			842	
pX, platoon unblocked	0.60	0.60		0.60	0.60	0.60				0.60		
vC, conflicting volume	1048	1090	368	1100	1051	601	352			638		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	747	815	368	832	751	1	352			63		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	94	95	100	100	100	97			98		
cM capacity (veh/h)	189	178	666	149	194	651	1210			931		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	53	666	364
Volume Left	8	32	19
Volume Right	35	82	5
cSH	351	1210	931
Volume to Capacity	0.15	0.03	0.02
Queue Length 95th (ft)	13	2	2
Control Delay (s)	17.1	0.7	0.7
Lane LOS	C	A	A
Approach Delay (s)	17.1	0.7	0.7
Approach LOS	C		

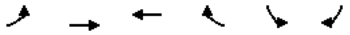
Intersection Summary					
Average Delay	1.5				
Intersection Capacity Utilization	64.3%	ICU Level of Service		C	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	202	53	101	497	0	0	229	26
Future Volume (Veh/h)	0	0	0	24	202	53	101	497	0	0	229	26
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	24	206	54	111	546	0	0	254	29
Pedestrians		16			19			48			52	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			2			5			5	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1262	1072	332	1104	1086	617	299			565		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1262	1072	332	1104	1086	617	299			565		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	85	0	88	91			100		
cM capacity (veh/h)	0	199	681	164	195	461	1274			998		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	284	657	283
Volume Left	24	111	0
Volume Right	54	0	29
cSH	216	1274	1700
Volume to Capacity	1.32	0.09	0.17
Queue Length 95th (ft)	386	7	0
Control Delay (s)	215.5	2.2	0.0
Lane LOS	F	A	
Approach Delay (s)	215.5	2.2	0.0
Approach LOS	F		

Intersection Summary					
Average Delay		51.2			
Intersection Capacity Utilization		78.2%	ICU Level of Service	D	
Analysis Period (min)		15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	265	0	0	14
Future Volume (Veh/h)	0	0	265	0	0	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	288	0	0	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			433			
pX, platoon unblocked						
vC, conflicting volume	288				288	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				288	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1274				702	751

Direction, Lane #	WB 1	SB 1
Volume Total	288	15
Volume Left	0	0
Volume Right	0	15
cSH	1700	751
Volume to Capacity	0.17	0.02
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	9.9
Lane LOS		A
Approach Delay (s)	0.0	9.9
Approach LOS		A

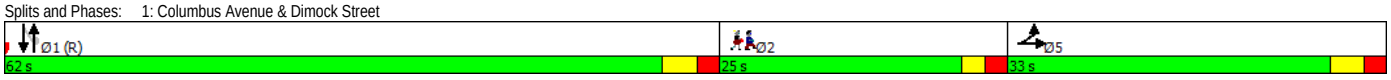
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	23.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	336	105	35	0	0	0	0	716	39	50	893	0	
Future Volume (vph)	336	105	35	0	0	0	0	716	39	50	893	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	
Ped Bike Factor		1.00						1.00					
Frt		0.963						0.992					
Flt Protected	0.950										0.997		
Satd. Flow (prot)	1608	1641	0	0	0	0	0	3189	0	0	3209	0	
Flt Permitted	0.950										0.823		
Satd. Flow (perm)	1608	1641	0	0	0	0	0	3189	0	0	2649	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		13						6					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		292			635			345			834		
Travel Time (s)		6.6			14.4			7.8			19.0		
Confl. Bikes (#/hr)			1						1			1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.94	0.94	0.94	0.97	0.97	0.97	
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	
Adj. Flow (vph)	357	112	37	0	0	0	0	762	41	52	921	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	357	149	0	0	0	0	0	803	0	0	973	0	
Turn Type	Split	NA						NA		Perm	NA		
Protected Phases	5	5						1			1		2
Permitted Phases										1			
Detector Phase	5	5						1		1	1		
Switch Phase													
Minimum Initial (s)	8.0	8.0						8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0						13.0		13.0	13.0		25.0
Total Split (s)	33.0	33.0						62.0		62.0	62.0		25.0
Total Split (%)	27.5%	27.5%						51.7%		51.7%	51.7%		21%
Maximum Green (s)	28.0	28.0						57.0		57.0	57.0		21.0
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0		
Total Lost Time (s)	5.0	5.0						5.0			5.0		
Lead/Lag								Lead		Lead	Lead		Lag
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0						2.0		2.0	2.0		0.2
Recall Mode	None	None						C-Max		C-Max	C-Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													89
Act Effct Green (s)	27.6	27.6						57.4			57.4		
Actuated g/C Ratio	0.23	0.23						0.48			0.48		
v/c Ratio	0.97	0.39						0.53			0.77		
Control Delay	85.3	38.8						23.3			31.0		
Queue Delay	0.0	0.0						0.0			0.0		
Total Delay	85.3	38.8						23.3			31.0		
LOS	F	D						C			C		
Approach Delay		71.6						23.3			31.0		
Approach LOS		E						C			C		
Queue Length 50th (ft)	274	89						221			320		
Queue Length 95th (ft)	#462	153						281			410		
Internal Link Dist (ft)		212			555			265			754		
Turn Bay Length (ft)													
Base Capacity (vph)	375	392						1528			1267		
Starvation Cap Reductn	0	0						0			0		
Spillback Cap Reductn	0	0						0			0		
Storage Cap Reductn	0	0						0			0		
Reduced v/c Ratio	0.95	0.38						0.53			0.77		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 37.3 Intersection LOS: D
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Columbus Avenue & Dimock Street

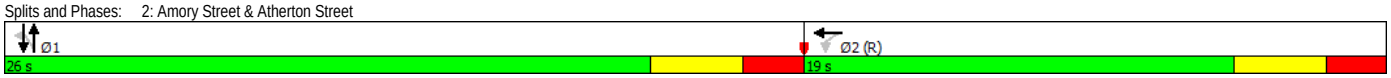


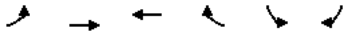
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	45	40	9	34	419	0	0	633	84
Future Volume (vph)	0	0	0	45	40	9	34	419	0	0	633	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98			1.00			1.00	
Frt					0.988						0.984	
Flt Protected					0.977			0.996				
Satd. Flow (prot)	0	0	0	0	1478	0	0	1703	0	0	1507	0
Flt Permitted					0.977			0.709				
Satd. Flow (perm)	0	0	0	0	1452	0	0	1212	0	0	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10						20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		411			746			618			281	
Travel Time (s)		9.3			17.0			14.0			6.4	
Confl. Peds. (#/hr)				21		19	19					19
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)				0	0	0					0	0
Adj. Flow (vph)	0	0	0	52	47	10	40	493	0	0	659	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	109	0	0	533	0	0	747	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			1			1	
Permitted Phases				2			1					
Minimum Split (s)				18.0	18.0		25.0	25.0			25.0	
Total Split (s)				19.0	19.0		26.0	26.0			26.0	
Total Split (%)				42.2%	42.2%		57.8%	57.8%			57.8%	
Maximum Green (s)				14.0	14.0		21.0	21.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					5.0			5.0			5.0	
Lead/Lag				Lag	Lag		Lead	Lead			Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	Yes			Yes	
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)				6.0	6.0		13.0	13.0			13.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effct Green (s)					14.0			21.0			21.0	
Actuated g/C Ratio					0.31			0.47			0.47	
v/c Ratio					0.24			0.94			1.05	
Control Delay					12.4			42.9			64.1	
Queue Delay					0.0			0.0			0.0	
Total Delay					12.4			42.9			64.1	
LOS					B			D			E	
Approach Delay					12.4			42.9			64.1	
Approach LOS					B			D			E	
Queue Length 50th (ft)					19			119			~200	
Queue Length 95th (ft)					44			#262			#391	
Internal Link Dist (ft)		331			666			538			201	
Turn Bay Length (ft)												
Base Capacity (vph)					458			565			713	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.24			0.94			1.05	

Intersection Summary

Area Type: CBD
Cycle Length: 45
Actuated Cycle Length: 45
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 51.9 Intersection LOS: D
Intersection Capacity Utilization 74.9% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Amory Street & Atherton Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	358	0	0	63	578
Future Volume (Veh/h)	73	358	0	0	63	578
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.82	0.82	0.95	0.95
Hourly flow rate (vph)	79	389	0	0	66	608
Pedestrians		15	6		5	
Lane Width (ft)		12.0	0.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		818	292			
pX, platoon unblocked						
vC, conflicting volume	5				558	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				558	20
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				86	42
cM capacity (veh/h)	1622				468	1041

Direction, Lane #	EB 1	SB 1
Volume Total	468	674
Volume Left	79	66
Volume Right	0	608
cSH	1622	929
Volume to Capacity	0.05	0.73
Queue Length 95th (ft)	4	164
Control Delay (s)	1.6	18.4
Lane LOS	A	C
Approach Delay (s)	1.6	18.4
Approach LOS		C

Intersection Summary				
Average Delay		11.5		
Intersection Capacity Utilization		82.3%	ICU Level of Service	E
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	10	18	401	550	47
Future Volume (Veh/h)	30	10	18	401	550	47
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	37	12	20	436	585	50
Pedestrians	37			3	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	4			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				673	437	
pX, platoon unblocked						
vC, conflicting volume	1126	650	672			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1126	650	672			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	97	98			
cM capacity (veh/h)	215	455	895			

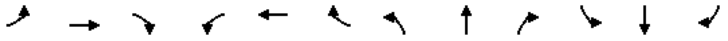
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	49	456	635
Volume Left	37	20	0
Volume Right	12	0	50
cSH	247	895	1700
Volume to Capacity	0.20	0.02	0.37
Queue Length 95th (ft)	18	2	0
Control Delay (s)	23.2	0.7	0.0
Lane LOS	C	A	
Approach Delay (s)	23.2	0.7	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		50.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	180	76	344	0	0	560
Future Volume (Veh/h)	180	76	344	0	0	560
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.77	0.77	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	234	99	420	0	0	609
Pedestrians			3			3
Lane Width (ft)			12.0			12.0
Walking Speed (ft/s)			3.5			3.5
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			535			575
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	1032	423			420	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	997	343			340	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	8	85			100	
cM capacity (veh/h)	253	654			1146	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	333	420	609
Volume Left	234	0	0
Volume Right	99	0	0
cSH	310	1700	1700
Volume to Capacity	1.08	0.25	0.36
Queue Length 95th (ft)	318	0	0
Control Delay (s)	110.5	0.0	0.0
Lane LOS	F		
Approach Delay (s)	110.5	0.0	0.0
Approach LOS	F		

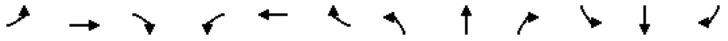
Intersection Summary			
Average Delay	27.0		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	14	16	0	0	0	26	339	63	34	701	5
Future Volume (Veh/h)	5	14	16	0	0	0	26	339	63	34	701	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	6	18	20	0	0	0	28	365	68	37	770	5
Pedestrians		9			6			6			1	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								281			829	
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79				0.79		
vC, conflicting volume	1312	1350	788	1342	1319	406	784			439		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1261	1310	788	1300	1270	111	784			153		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	85	95	100	100	100	97			97		
cM capacity (veh/h)	109	117	389	86	124	746	836			1134		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	44	461	812
Volume Left	6	28	37
Volume Right	20	68	5
cSH	169	836	1134
Volume to Capacity	0.26	0.03	0.03
Queue Length 95th (ft)	25	3	3
Control Delay (s)	33.6	1.0	0.9
Lane LOS	D	A	A
Approach Delay (s)	33.6	1.0	0.9
Approach LOS	D		

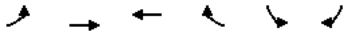
Intersection Summary					
Average Delay		2.0			
Intersection Capacity Utilization		64.4%	ICU Level of Service	C	
Analysis Period (min)		15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	8	140	18	107	177	0	0	320	51
Future Volume (Veh/h)	0	0	0	8	140	18	107	177	0	0	320	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	9	154	20	118	195	0	0	330	53
Pedestrians		30						34			34	
Lane Width (ft)		0.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						3			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	948	818	420	822	844	229	413			195		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	948	818	420	822	844	229	413			195		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	43	97	90			100		
cM capacity (veh/h)	117	281	617	264	271	789	1157			1390		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	183	313	383
Volume Left	9	118	0
Volume Right	20	0	53
cSH	292	1157	1700
Volume to Capacity	0.63	0.10	0.23
Queue Length 95th (ft)	98	8	0
Control Delay (s)	36.0	3.8	0.0
Lane LOS	E	A	
Approach Delay (s)	36.0	3.8	0.0
Approach LOS	E		

Intersection Summary					
Average Delay		8.8			
Intersection Capacity Utilization		61.8%	ICU Level of Service	B	
Analysis Period (min)		15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	159	0	0	7
Future Volume (Veh/h)	0	0	159	0	0	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	173	0	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			411			
pX, platoon unblocked						
vC, conflicting volume	173				173	173
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	173				173	173
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1404				817	871

Direction, Lane #	WB 1	SB 1
Volume Total	173	8
Volume Left	0	0
Volume Right	0	8
cSH	1700	871
Volume to Capacity	0.10	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	9.2
Lane LOS		A
Approach Delay (s)	0.0	9.2
Approach LOS		A

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	18.4%	ICU Level of Service	A	
Analysis Period (min)	15			

2015130-Amory Street Apartments

Trip Generation Assessment

HOWARD STEIN HUDSON
20-Apr-2017

XXX Means Columns U, X, and AA do not sum to Column R; hard code adjustements are needed
XX HARD CODED TO BALANCE (Manually change formatting)

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Unadjusted Person-Trips	Transit Share[3]	Transit Person-Trips	Walk/Bike/ Other Share[3]	Walk/ Bike/ Other Trips	Auto Share[3]	Auto Person-Trips	Assumed Local Auto Occupancy Rate[4]	Total Adjusted Auto Trips
Daily Peak Hour															
Apartment[5]	375	Total		6.650	2,494	1.13	**2,818**	25%	**704**	14%	**394**	61%	**1,720**	1.13	**1,522**
	units	In	50%	3.325	1,247	1.13	**1,409**	25%	**352**	14%	**197**	61%	**860**	1.13	**761**
		Out	50%	3.325	1,247	1.13	**1,409**	25%	**352**	14%	**197**	61%	**860**	1.13	**761**
Total		Total			**2,494**		**2,818**		**704**		**394**		**1,720**		**1,522**
		In			**1,247**		**1,409**		**352**		**197**		**860**		**761**
		Out			**1,247**		**1,409**		**352**		**197**		**860**		**761**
AM Peak Hour															
Apartment[5]	375	Total		0.51	191	1.13	**216**		**87**		**29**		**100**	1.13	**88**
	units	In	20%	0.102	38	1.13	**43**	26%	**11**	18%	**8**	56%	**24**	1.13	**21**
		Out	80%	0.408	153	1.13	**173**	44%	**76**	12%	**21**	44%	**76**	1.13	**67**
Total		Total			**191**		**216**		**87**		**29**		**100**		**88**
		In			**38**		**43**		**11**		**8**		**24**		**21**
		Out			**153**		**173**		**76**		**21**		**76**		**67**
PM Peak Hour															
Apartment[5]	375	Total		0.62	232	1.13	**263**		**85**		**42**		**136**	1.13	**120**
	units	In	65%	0.403	151	1.13	**171**	26%	**44**	18%	**31**	56%	**96**	1.13	**85**
		Out	35%	0.217	81	1.13	**92**	44%	**41**	12%	**11**	44%	**40**	1.13	**35**
Total		Total			**232**		**263**		**85**		**42**		**136**		**120**
		In			**151**		**171**		**44**		**31**		**96**		**85**
		Out			**81**		**92**		**41**		**11**		**40**		**35**

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares based on peak-hour BTD Data for Area 6
4. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates
5. ITE Trip Generation Manual, 9th Edition, LUC 220 (Apartment), average rate

Appendix D

Air Quality

AIR QUALITY APPENDIX

Introduction

This Air Quality Appendix provides modeling assumptions and backup for results presented in Section 3.5 of the report. Included within this documentation is a brief description of the methodology employed along with pertinent calculations and data used in the emissions and dispersion calculations supporting the microscale air quality analysis.

Motor Vehicle Emissions

The EPA MOVES computer program generated motor vehicle emissions used in the garage stationary source analysis along with the mobile source CAL3QHC modeling and mesoscale analysis. The model input parameters were provided by MassDEP. Emission rates were derived for 2016 and 2023 for speed limits of idle, 10, 15, and 30 mph for use in the microscale analyses.

MOVES CO Emission Factor Summary

Carbon Monoxide Only

		2016	2023
Free Flow	30 mph	2.697	1.844
Right Turns	10 mph	4.447	2.956
Left Turns	15 mph	3.823	2.586
Queues	Idle	9.997	4.102

Notes: Winter CO emission factors are higher than Summer and are conservatively used
Urban Unrestricted Roadway type used

CAL3QHC

For the intersection studied, the CAL3QHC model was applied to calculate CO concentrations at sensitive receptor locations using emission rates derived in MOVES. The intersection's queue links and free flow links were input to the model along with sensitive receptors at all locations nearby each intersection. The meteorological assumptions input into the model were a 1.0 meter per second wind speed, Pasquill-Gifford Class D stability combined with a mixing height of 1000 meters. For each direction, the full range of wind directions at 10 degree intervals was examined. In addition, a surface roughness (z_0) of 371 cm was used for the intersection. Idle emission rates for queue links were based on 0 mph emission rates derived in MOVES. Emission rates for speeds of 10, 15, and 30 mph were used for right turn, left turn, and free flow links, respectively.

Raw Background Concentrations

POLLUTANT	AVERAGING TIME	Form	2014	2015	2016	Units	ppm/ppb to $\mu g/m^3$ Conversion Factor	2014-2016 Background Concentration ($\mu g/m^3$)	Location
SO_2 [1][6]	1-Hour [5]	99th %	12.3	9.4	4.7	ppb	2.62	23.1	Harrison Ave., Boston
	3-Hour	H2H	21.5	8.7	5.1	ppb	2.62	56.3	Harrison Ave., Boston
	24-Hour	H2H	5.1	4.3	1.9	ppb	2.62	13.4	Harrison Ave., Boston
	Annual	H	1.057204	0.795953	0.458538	ppb	2.62	2.8	Harrison Ave., Boston
PM-10	24-Hour	H2H	61	28	29	$\mu g/m^3$	1	61	Harrison Ave., Boston
	Annual	H	13.97479	12.361345	11.826531	$\mu g/m^3$	1	14.0	Harrison Ave., Boston
PM-2.5	24-Hour [5]	98th %	17.6	19	16.3	$\mu g/m^3$	1	17.6	Harrison Ave., Boston
	Annual [5]	H	8.0405539	8.811331	6.231933	$\mu g/m^3$	1	7.7	Harrison Ave., Boston
NO_2 [3]	1-Hour [5]	98th %	51	53	49	ppb	1.88	95.9	Harrison Ave., Boston
	Annual	H	15.759425	14.970182	13.198638	ppb	1.88	29.6	Harrison Ave., Boston
CO [2]	1-Hour	H2H	1.713	1.362	2.409	ppm	1146	2760.7	Harrison Ave., Boston
	8-Hour	H2H	1.3	0.9	1.8	ppm	1146	2062.8	Harrison Ave., Boston
Ozone [4]	8-Hour	H4H	0.054	0.056	0.058	ppm	1963	113.9	Harrison Ave., Boston
Lead	3-Month	H	0.0142	0.0157	0.0174	$\mu g/m^3$	1	0.017	Harrison Ave., Boston

Notes:
From 2014-2016 EPA's AirData Website

[1] SO_2 reported ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 2.62 $\mu g/m^3$.

[2] CO reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1146 $\mu g/m^3$.

[3] NO_2 reported in ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 1.88 $\mu g/m^3$.

[4] O_3 reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1963 $\mu g/m^3$.

[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.

Due to excessive size CAL3QHC, and MOVES input and output files are available on digital media upon request.

Appendix E

Climate Change Preparedness Checklist

Climate Change Preparedness and Resiliency Checklist for New Construction

In November 2013, in conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the Boston Redevelopment Authority adopted policy for all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding project resiliency, preparedness, and to mitigate any identified adverse impacts that might arise under future climate conditions.

For more information about the City of Boston's climate policies and practices, and the 2011 update of the climate action plan, *A Climate of Progress*, please see the City's climate action web pages at http://www.cityofboston.gov/climate

In advance we thank you for your time and assistance in advancing best practices in Boston.

Climate Change Analysis and Information Sources:

1. Northeast Climate Impacts Assessment (www.climatechoices.org/ne/)
2. USGCRP 2009 (http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/)
3. Army Corps of Engineers guidance on sea level rise (http://planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf)
4. Proceeding of the National Academy of Science, "Global sea level rise linked to global temperature", Vermeer and Rahmstorf, 2009 (http://www.pnas.org/content/early/2009/12/04/0907765106.full.pdf)
5. "Hotspot of accelerated sea-level rise on the Atlantic coast of North America", Asbury H. Sallenger Jr*, Kara S. Doran and Peter A. Howd, 2012 (http://www.bostonredevelopmentauthority.org/planning/Hotspot of Accelerated Sea-level Rise 2012.pdf)
6. "Building Resilience in Boston": Best Practices for Climate Change Adaptation and Resilience for Existing Buildings, Linnean Solutions, The Built Environment Coalition, The Resilient Design Institute, 2103 (http://www.greenribboncommission.org/downloads/Building_Resilience_in_Boston_SML.pdf)

Checklist

Please respond to all of the checklist questions to the fullest extent possible. For projects that respond "Yes" to any of the D.1 – Sea-Level Rise and Storms, Location Description and Classification questions, please respond to all of the remaining Section D questions.

Checklist responses are due at the time of initial project filing or Notice of Project Change and final filings just prior seeking Final BRA Approval. A PDF of your response to the Checklist should be submitted to the Boston Redevelopment Authority via your project manager.

Please Note: When initiating a new project, please visit the BRA web site for the most current Climate Change Preparedness & Resiliency Checklist.

A.1 - Project Information

Project Name:	**125 Amory Street**
Project Address Primary:	**125 Amory Street**
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	**Noah Sawyer, Senior Project Manager, The Community Builders, nsawyer@tcbinc.org, (857) 221-8668**

A.2 - Team Description

Owner / Developer:	**Amory Street Partners**
Architect:	**ICON Architecture**
Engineer (building systems):	
Sustainability / LEED:	
Permitting:	**Epsilon Associates, Inc.**
Construction Management:	
Climate Change Expert:	**Epsilon Associates, Inc.**

A.3 - Project Permitting and Phase

At what phase is the project – most recent completed submission at the time of this response?

☑ PNF / Expanded PNF Submission	☐ Draft / Final Project Impact Report Submission	☐ BRA Board Approved	☐ Notice of Project Change
☐ Planned Development Area	☐ BRA Final Design Approved	☐ Under Construction	☐ Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:	Residential
List the First Floor Uses:	*Residential*

What is the principal Construction Type – select most appropriate type?

☑ Wood Frame	☐ Masonry	☐ Steel Frame	☐ Concrete

Describe the building?

Site Area:	*261,695 SF*	Building Area:	*485,950 SF*
Building Height:	*Up to 70 Ft.*	Number of Stories:	*Up to 6 Flrs.*
First Floor Elevation (reference Boston City Base):	*43-53' Elev.*	Are there below grade spaces/levels, if yes how many:	*Yes, 1 level below Bldg A and partial level below Bldg C*

A.5 - Green Building

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

Select by Primary Use:	☑ New Construction	☐ Core & Shell	☐ Healthcare	☐ Schools
	☐ Retail	☐ Homes Midrise	☐ Homes	☐ Other
Select LEED Outcome:	☐ Certified	☑ Silver	☐ Gold	☐ Platinum

Will the project be USGBC Registered and / or USGBC Certified?

Registered:	*No*	Certified:	*No*

A.6 - Building Energy-

What are the base and peak operating energy loads for the building? **TBD**

Electric:	*(kW)*	Heating:	*(MMBtu/hr)*
What is the planned building Energy Use Intensity:	*(kWh/SF)*	Cooling:	*(Tons/hr)*

What are the peak energy demands of your critical systems in the event of a service interruption? **TBD**

Electric:	*(kW)*	Heating:	*(MMBtu/hr)*
		Cooling:	*(Tons/hr)*

What is nature and source of your back-up / emergency generators? **TBD**

Electrical Generation:	*(kW)*		Fuel Source:	
System Type and Number of Units:	☐ Combustion Engine	☐ Gas Turbine	☐ Combine Heat and Power	*(Units)*

B - Extreme Weather and Heat Events

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

B.1 - Analysis

What is the full expected life of the project?

Select most appropriate:	☐ 10 Years	☐ 25 Years	☑ 50 Years	☐ 75 Years

What is the full expected operational life of key building systems (e.g. heating, cooling, ventilation)?

Select most appropriate:	☐ 10 Years	☑ 25 Years	☐ 50 Years	☐ 75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	☐ 10 Years	☐ 25 Years	☑ 50 Years	☐ 75 Years

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

8/91 Deg.

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

90 Deg.	*25-90 Days*	*Per year*

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

30-90 Days	*0.2 Events / yr.*

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

45 Inches / yr.	*4 Inches*	*0.5 Events / yr.*

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

105 Peak Wind	*10 Hours*	*0.25 Events / yr.*

B.2 - Mitigation Strategies

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

Building energy use below code:	***TBD***
How is performance determined:	Energy model

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

Select all appropriate:	☑ High performance building envelop	☑ High performance lighting & controls	☐ Building day lighting	☑ EnergyStar equip. / appliances
	☑ High performance HVAC equipment	☐ Energy recovery ventilation	☐ No active cooling	☐ No active heating
Describe any added measures:				

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

Roof:	*R-50*	Walls / Curtain Wall Assembly:	*R-29*
Foundation:	*Buildings A & B plenum: R-36 Building C: R-10*	Basement / Slab:	*See Foundation*
Windows:	*U-.30*	Doors:	*U-.30*

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

☐ On-site clean energy / CHP system(s)	☐ Building-wide power dimming	☐ Thermal energy storage systems	☐ Ground source heat pump
☐ On-site Solar PV	☐ On-site Solar Thermal	☐ Wind power	☐ None
Describe any added measures:	Studying the feasibility of CHP and on-site solar PV		

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

Select all appropriate:	☐ Connected to local distributed electrical	☐ Building will be Smart Grid ready	☐ Connected to distributed steam, hot, chilled water	☐ Distributed thermal energy ready

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

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

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

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

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

Select all appropriate:	☐ High reflective paving materials	☑ Shade trees & shrubs	☑ High reflective roof materials	☐ Vegetated roofs
Describe other strategies:				

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

Select all appropriate:	☑ On-site retention systems & ponds	☑ Infiltration galleries & areas	☐ Vegetated water capture systems	☐ Vegetated roofs
Describe other strategies:				

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

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

C - Sea-Level Rise and Storms

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

C.1 - Location Description and Classification:

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

	No

Describe site conditions?

Site Elevation – Low/High Points:	*35' to 57' BCB*
Building Proximity to Water:	*>4,200 Ft.*

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

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

Will the 2013 Preliminary FEMA Flood Insurance Rate Maps or future floodplain delineation updates due to Climate Change result in a change of the classification of the site or building location?

2013 FEMA Prelim. FIRMs:	*No*	Future floodplain delineation updates:	*No*

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

>4,200 Ft.

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

C - Sea-Level Rise and Storms

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

C.2 - Analysis

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

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

C.3 - Building Flood Proofing

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

What will be the Building Flood Proof Elevation and First Floor Elevation:

Flood Proof Elevation:	*Boston City Base Elev.(Ft.)*	First Floor Elevation:	*Boston City Base Elev. (Ft.)*

Will the project employ temporary measures to prevent building flooding (e.g. barricades, flood gates):

	Yes / No	If Yes, to what elevation	*Boston City Base Elev. (Ft.)*
If Yes, describe:			

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

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

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

Yes / No

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

Yes / No	If yes, to what height above 100 Year Floodplain:	*Boston City Base Elev. (Ft.)*

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

Yes / No

If Yes, describe:

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

Yes / No	If Yes, for how long:	*days*

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

C.4 - Building Resilience and Adaptability

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

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

Select appropriate:				
	Yes / No	☐ Hardened / Resilient Ground Floor Construction	☐ Temporary shutters and or barricades	☐ Resilient site design, materials and construction

Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:				
	Yes / No	☐ Surrounding site elevation can be raised	☐ Building ground floor can be raised	☐ Construction been engineered
Describe additional strategies:				

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

Select appropriate:				
	Yes / No	☐ Solar PV	☐ Solar Thermal	☐ Clean Energy / CHP System(s)
		☐ Potable water storage	☐ Wastewater storage	☐ Back up energy systems & fuel
Describe any specific or additional strategies:				

Thank you for completing the Boston Climate Change Resilience and Preparedness Checklist!

For questions or comments about this checklist or Climate Change Resiliency and Preparedness best practices, please contact: John.Dalzell.BRA@cityofboston.gov

Appendix F

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 BDPA 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%200114_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.

1. Project Information:

If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.

Project Name:	125 Amory Street
Primary Project Address:	125 Amory Street, Jamaica Plain
Total Number of Phases/Buildings:	One renovation, three new buildings
Primary Contact (Name / Title / Company / Email / Phone):	Noah Sawyer, Senior Project Manager, The Community Builders nsawyer@tcbinc.org, 857-221-8668
Owner / Developer:	Amory Street Partners, LLC
Architect:	ICON Architecture, Inc
Civil Engineer:	Nitsch Engineering
Landscape Architect:	Copley Wolff Design Group
Permitting:	Epsilon Associates, Inc.
Construction Management:	TBD

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)? ***If yes,*** identify and explain.	

2. Building Classification and Description:

This section identifies preliminary construction information about the project including size and uses.

What are the dimensions of the project?

Site Area:	*~162,000 SF*	Building Area:	*~310,000 GSF*
Building Height:	*Max 70 FT.*	Number of Stories:	*4-6Flrs.*
First Floor Elevation:	FFE varies, lowest residential floor	Is there below grade space:	*Yes – half level of parking under*

	elevation will be at el. 44'			*Buildings A & B*
What is the Construction Type? (Select most appropriate type)				
	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:	*Residential Lobby, Residential Units, Amenity Space, Community Space, Maintenance*			

3. Assessment of Existing Infrastructure for Accessibility:

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.

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	This is an urban area, with extensive open space, multifamily homes and mixed - use neighborhood fabric. The Project Site's primary identifying characteristic is the sloped site and several existing buildings: 125 Amory Street, 125A (PACE) and other outbuildings.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	The site is located halfway between (three - tenths of a mile to each) Jackson Square and to Stony Brook Orange MBTA Stations. The MBTA station at Jackson Square offers an elevator and escalator access to the train platforms. Buses at Jackson Square also provide transit access.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	The Nativity Preparatory School is 4/10 walk from the site. Dimock Center is 2/10 of a mile from the site. The Heath Street BHA property is located 4/10 of a mile from the site. Nate Smith House is 3/10 mile from the site, and Horizons for Homeless Children is 2/10 of a mile, on Columbus Avenue. 125 Amory Street houses a community room at the southern end of the ground floor.
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	The Kelly Outdoor Ice Skating Rink is located 2/10 of a mile walk from the site and the new Jackson Square Recreation Center, once constructed, will be 3/10 of a mile from the site. Dimock Health Center is also 3/10 of a mile away.

4. Surrounding Site Conditions – Existing:

This section identifies current condition of the sidewalks and pedestrian ramps at the development site.

Is the development site within a historic district? ***If yes,*** identify which district:	No.
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	No pedestrian sidewalks currently exist across the site. Partial sidewalks and ramps serve 125 Amory Street and the PACE building. The site is predominantly paved and utilized by vehicles. The BHA police station and maintenance buildings are located toward the rear of the site. The site is bounded by Amory Street and Atherton Street sidewalks. The site has approximately an 8 to 10 foot grade change from east to west and north to south.
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	The public sidewalk on Amory Street will be rebuilt as part of the Project. This is not currently compliant with accessibility and Complete Streets standards. Proposed private driveways and sidewalks will be compliant with accessibility and Complete Streets.
5. Surrounding Site Conditions – Proposed *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.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	The 125 Amory Street redevelopment faces onto Amory Street, which, as part of this project, will be improved to allow safe and accessible pedestrian access north and south on Amory Street. The redevelopment includes several new connecting driveways that will increase accessibility across the site. Proposed public and private sidewalks aim to meet Complete Street Guidelines. The new private driveways will be designed as Neighborhood Residential Streets. The public way along Amory Street will be designed as a Neighborhood Connector.
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	Amory Street sidewalk width will be 8’ wide with a 5’ wide planting strip. Internal private ways will provide a 5’ sidewalk and a 4’ planting strip. Frontage Zone will vary in relation to available widths.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the	Sidewalks will be rebuilt of concrete or bituminous paving with curbs and are expected to be on BHA property and in the City's right-of-way.

proposed materials be on the City of Boston pedestrian right-of-way?	
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	No
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	TBD
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	The project includes three new roadways that are intended to be private ways.
6. Accessible Parking: *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*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	257 parking spaces in a combination of small off-street lots, on-street spaces and in parking levels under two buildings.
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?	7 accessible parking spaces will be provided throughout the Project Site. At least one space will be van accessible.
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	The proponent will identify on-street accessible parking spaces. We have not yet coordinated with the Commission for Persons with Disabilities.
Where is the accessible visitor parking located?	No designated accessible visitor parking is provided.
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Drop-off Areas have been identified for each building.
7. Circulation and Accessible Routes:	

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.	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	Proposed new buildings will have accessible entries (via ramp or grade access) and route to elevators. 125 Amory has multiple accessible entries, both at grade and via ramp access.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	Yes.
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	No wayfinding or signage package has been developed at this time.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *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.*	
What is the total number of proposed housing units or hotel rooms for the development?	Approximately 350 new residential apartments are proposed on the Project Site. Including residential apartments in 125 Amory Street building, the site may comprise a total of approximately 570 apartments.
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?	The apartments in the existing 125 Amory Street building are all Public Housing units for seniors and differently abled residents. Of the proposed new buildings: Buildings A & B will be 25% affordable: Building C will be 100% affordable
If a residential development, how many accessible Group 2 units are being proposed?	Building A: 8 accessible units proposed of 147 total. Building B: 7 accessible units proposed of 140 total. Building C: 6 accessible units proposed of 62 total.
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	For buildings A&B the Group 2 units will be distributed between market and low income units. For building C, all of the Group 2 units will be restricted as low income.
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	Not Applicable

equipment.	
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. ***If yes,*** provide reason.	All units in the new midrise elevator buildings will be designed to meet MAAB/ADA Group 1 accessibility.
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes,*** describe:	There will be an elevator in each midrise building. There will be ramps to provide access at front entries and at various locations within the buildings, if necessary.
9. Community Impact: *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.*	
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?	The scope of this redevelopment includes the improvement of adjacent MBTA land to create a linear north-south park along one side of the site. Additionally, the redevelopment includes street and sidewalk creation and improvement, with street trees and open space designed across the site.
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?	Yes, the site and buildings are being designed to increase accessibility across the site and throughout the buildings.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as “Family”/	Any common restrooms will meet ADA compliance and current building codes.

"Companion" restrooms? ***If no***, explain why not.	
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	The plan has not yet been presented to the Disability Commission or Access Staff.
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? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	TBD

10. Attachments

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.

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.
Provide a diagram of the accessible route connections through the site, including distances.
Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)
Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.
Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project. • Site Accessibility Diagram • Building Floor Plans for three new construction buildings, A, B, & C.

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:

The Mayor's Commission for Persons with Disabilities
1 City Hall Square, Room 967,
Boston MA 02201.

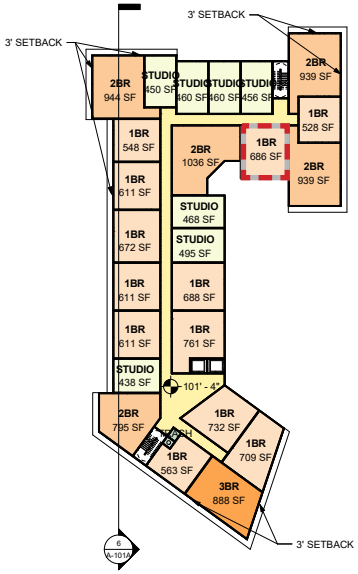
Architectural Access staff can be reached at:

accessibility@boston.gov | patricia.mendez@boston.gov | sarah.leung@boston.gov | 617-635-3682

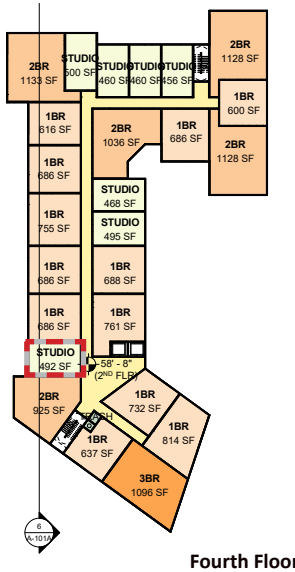
125 Amory Street Boston, Massachusetts

ICON ARCHITECTURE

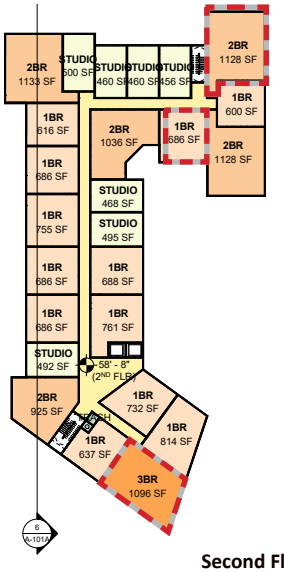
Accessibility Graphic
Accessibility Diagram



Sixth Floor Plan



Fourth Floor Plan

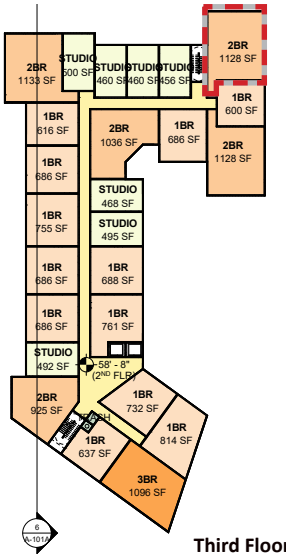


Second Floor Plan

Building A -- Unit Mix

	STUDIO	1BR	2BR	3BR	
Lower Level	0	0	0	0	**0**
Ground Floor	8	10	4	0	**22**
2nd Floor	7	12	5	1	**25**
3rd Floor	8	10	6	1	**25**
4th Floor	8	10	6	1	**25**
5th Floor	8	10	6	1	**25**
6th Floor	8	10	6	1	**25**
	47	**62**	**33**	**5**	**147**
	32%	42%	22%	3%	100%
Barrier Free Proposed 5%	*2*	*3*	*2*	*1*	8

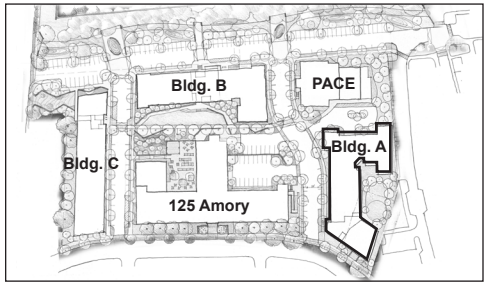
Fifth Floor Plan



Third Floor Plan

Ground Floor Plan

Residential Group Two Apartment



125 Amory Street Boston, Massachusetts

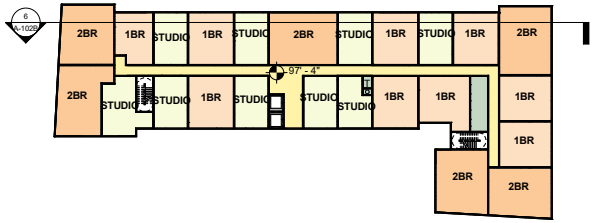
N

0' 30'

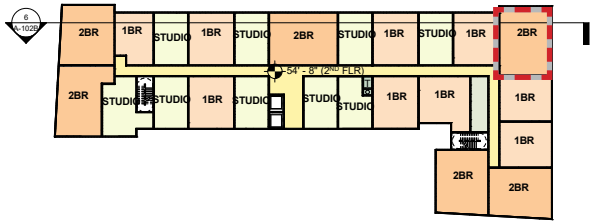
E-ICON ARCHITECTURE

Accessibility Graphic

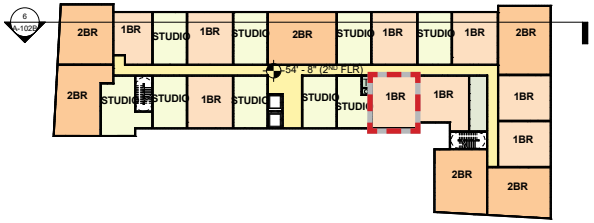
Building A Accessibility Diagram



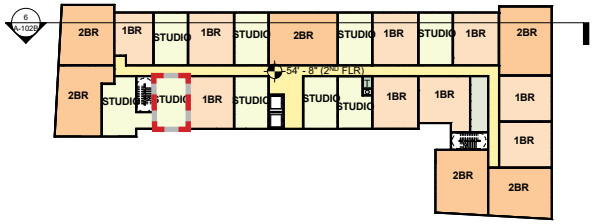
Sixth Floor Plan



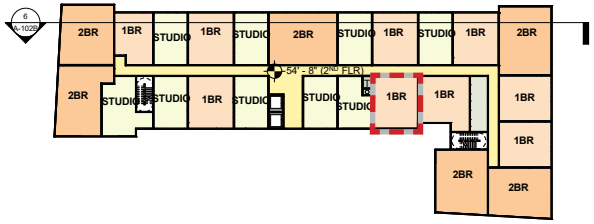
Third Floor Plan



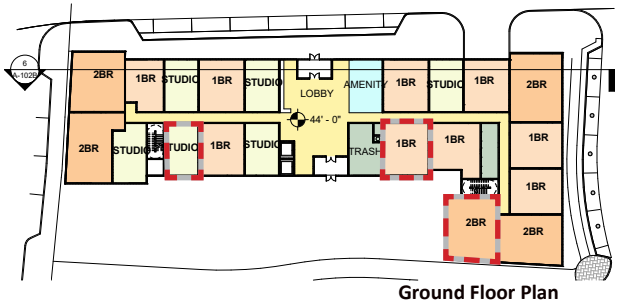
Fifth Floor Plan



Second Floor Plan

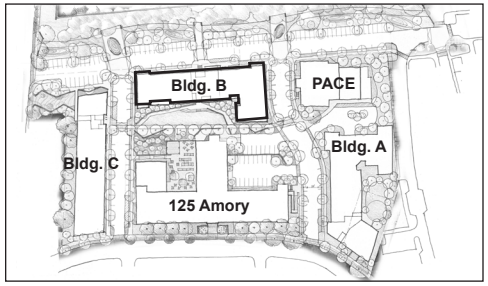


Fourth Floor Plan



Ground Floor Plan

Residential Group Two Apartment



Building B -- Unit Mix

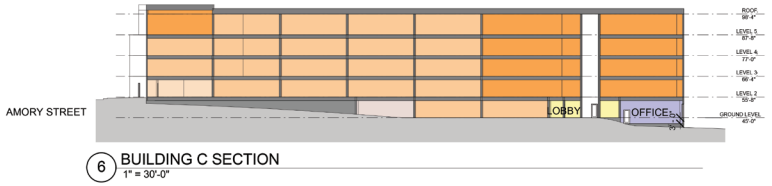
	STUDIO	1BR	2BR	3BR	
Lower Level	0	0	0	0	**0**
Ground Floor	6	9	5	0	**20**
2nd Floor	9	9	6	0	**24**
3rd Floor	9	9	6	0	**24**
4th Floor	9	9	6	0	**24**
5th Floor	9	9	6	0	**24**
6th Floor	9	9	6	0	**24**
	51	**54**	**35**	**0**	**140**
	36%	39%	25%	0%	100%
Barrier Free Proposed 5%	*2*	*3*	*2*	*0*	7

125 Amory Street Boston, Massachusetts

E-ICON ARCHITECTURE

Accessibility Graphic

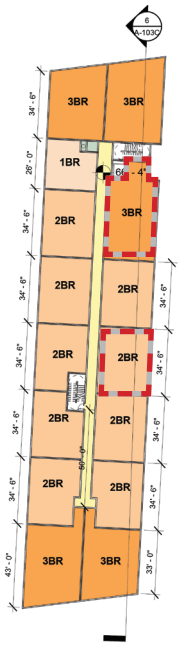
Building B Accessibility Diagram



6 BUILDING C SECTION
1" = 30'-0"

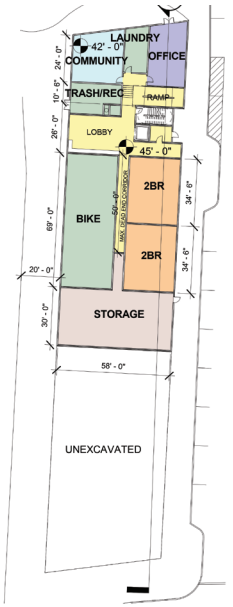
Fifth Floor Plan

Fourth Floor Plan



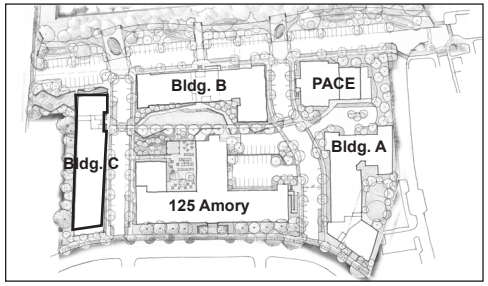
Third Floor Plan

Second Floor Plan



Ground Floor Plan

Residential Group Two Apartment



Building C -- Unit Mix

	STUDIO	1BR	2BR	3BR	
Ground Level	0	0	2	0	**2**
2nd Floor	0	4	8	3	**15**
3rd Floor	0	1	9	5	**15**
4th Floor	0	3	8	4	**15**
5th Floor	0	6	6	3	**15**
	0	**14**	**33**	**15**	**62**
		23%	53%	24%	100%
Barrier Free Proposed 10%	*0*	*1*	*3*	*2*	6

125 Amory Street Boston, Massachusetts

E-ICON ARCHITECTURE

Accessibility Graphic
Building C Accessibility Diagram