Readville Yard 5 Industrial Development

Hyde Park, Massachusetts

Expanded Project Notification Form

July 23, 2014

submitted to the **Boston Redevelopment Authority**
submitted by **First Highland Management and Development Corporation**

prepared by **Fort Point Associates, Inc.**

in association with **Utile, Inc.**
McDermott Ventures LLC
Howard/Stein-Hudson Associates, Inc.
GeoInsight, Inc.
Offshoots Inc.

Fort Point Associates, Inc.
Urban Planning Environmental Consulting Project Permitting

TABLE OF CONTENTS

EXPANDED PROJECT NOTIFICATION FORM

LIST OF FIGURES

LIST OF TABLES

APPENDIX

Chapter 1

PROJECT SUMMARY

CHAPTER 1: PROJECT SUMMARY

1.1 PROJECT IDENTIFICATION

Project Name: Readville Yards

Address/Location: Readville Yard 5, Boston, MA 02136

Assessor's Parcel Numbers: 1812972000, 1812971500

1.2 PROJECT SITE

First Highland Management and Development Corporation (the "Proponent") proposes to construct the Readville Yard 5 Industrial Development (the "Project") on a 907,226 square foot (21 acre) parcel (the "Site") at 8 Industrial Drive in the Hyde Park Neighborhood of the City of Boston. The Site is bounded by private warehouses/industrial properties along Industrial Drive to the south, the Dedham, MA municipal line to the west, private residences along West Milton Street to the north, and Sprague Street to the east. The remaining railroad land to the west in Dedham is not part of the Site. The Site is located directly adjacent to the Massachusetts Bay Transportation Authority's (the "MBTA") Readville Commuter Rail Station (Readville Station), and is approximately 0.1 miles north of the Proponent's existing Boston Dedham Commerce Park. See Figure 1-1, Locus Map and Figure 1-2, Aerial View.

1.3 PROJECT SUMMARY

The Proponent proposes to redevelop an underutilized rail yard off Sprague Street in the Hyde Park Neighborhood of Boston, which was acquired by the MBTA in 1987 to serve as a mid-day layover and train storage yard for the expanding commuter rail fleet in the late 1980s. The Site contains the vestiges of the abandoned rail right-of-way formerly known as the Dedham Secondary Branch. The Site is within a short walk of MBTA mass transit services, including Readville Station, which serves the Franklin and Fairmount commuter rail lines, as well as the MBTA Route 32 and Route 33 bus lines. The Project will construct six buildings on the Site that will contain approximately 375,000 square feet (sf) of gross floor area (GFA) and will house light-industrial, manufacturing, and office uses. The Project will also provide new vehicular and bicycle parking, and streetscape improvements such as a new multi-use path, new plantings, accessible ramps, and improvements to street lighting where necessary. Two multi-use paths will be constructed along the northerly and southerly sides of the Site that will connect the Project with Readville Station.

While traditional manufacturing jobs are in decline, innovation economy sectors have seen robust employment growth in recent years. The "Maker Movement" is an umbrella term for

a thriving economic model that places emphasis on collaboration and innovation through the development of products that are made in the United States and blur the lines between manufacturing, arts, and technology. The Project would support a burgeoning maker movement in the city, where there is a lack of space for small industrial uses. The Proponent is a long-standing owner of properties in Readville, and boasts a demonstrated track record of supporting small business owners and bringing long-term jobs to the neighborhood through light-industrial and manufacturing development opportunities at Boston Dedham Commerce Park.

The MBTA's development goals for this Site call for development that leverages and enhances the physical connections to public transportation infrastructure, incorporates sustainable design principles, and lays the groundwork for sustained economic development for local residents. The Project will build on the success of the Proponent's Boston Dedham Commerce Park through the development of light-industrial, manufacturing and office space that can be tailored to support the needs and size of fledgling or established companies. Through studies by the Proponent this use has been deemed the highest and best for the Site and its surround neighborhood. The Proponent anticipates that the Project will attract tenants similar to those at Boston Dedham Commerce Park, which include but are not limited to food service (Dancing Deer Baking Co.), recreation (SkyZone Indoor Trampoline Park), and imaging (Roxbury Technology LLC.). During the initial public outreach, the Proponent has received many inquiries from businesses about the potential to move to the new Site, reiterating the need for spaces such as this but also showing the interest that is there from potential tenants.

In 2011 the MBTA completed an extensive Site remediation for environmental contamination that has prepared the Site for select public uses. The Project will further improve the environmental conditions of the Site and will create public pedestrian access to the Site, which has been closed off to the public for over a century.

The Proponent proposes to construct six buildings (A, B, C, D, E, and F) on the Site. The proposed six buildings will vary in size from one end of the Site to the other to adapt to the Site's triangular shape and maximize the potential of the Site. Buildings A through E will front onto Industrial Drive and will contain up to a total of 51 light-industrial/manufacturing units in total across five one-story industrial buildings that will be 4,000 to 7,000 sf each. Building F, a three-story office building, will be located on the eastern portion of the Site adjacent to Sprague Street and will front onto Industrial Drive. The Project will incorporate a variety of sustainable building features and will be Leadership in Energy and Environmental Design (LEED) certifiable as required by Article 37 of the City of Boston Zoning Code.

The Site will be designed to allow vehicles to move efficiently into and through the internal street and parking network via Industrial Drive, which extends along the entire south edge of the Site. Industrial Drive also provides access to the private industrial/warehouse

businesses that abut the southerly property line and to the MBTA's remaining Readville Yard 5 acreage west of the Site in Dedham. A new 14 foot one-way access road will be constructed on the northern edge of the Site to provide a secondary means of egress from the Site to Industrial Drive and West Milton Street. The Project will provide approximately 250 total parking spaces. Each light industrial unit will be provided with approximately six parking spaces for typical passenger vehicles and two to three loading spaces for trailers and delivery vehicles. Approximately 75 parking spaces will provided for office uses on-Site.

A multi-use path will be constructed along northerly side of the Site that will provide access from the Site to the MBTA's Readville Station. Approximately 89 bicycle parking spaces will be provided for employees and visitors. See Figure 1-3, Project Site Plan.

1.4 PUBLIC REVIEW PROCESS

Concurrent with the submission of this Expanded Project Notification Form (EPNF) to the Boston Redevelopment Authority (BRA), the Proponent will meet with BRA Staff and present the Project to the Impact Advisory Group (the "IAG") that is selected.

1.4.1 ARTICLE 80 REVIEW PROCESS

This document is being submitted to the BRA as part of the Article 80B, Large Project Review process. A scoping session and a community meeting are expected to occur during the public comment period and prior to the issuance of a Scoping Determination.

Following submission of this EPNF to the BRA, the Proponent will meet with city agencies and present the Project at a public meeting sponsored by the BRA. The Proponent is requesting that the BRA issue a Scoping Determination waiving further review for the Project.

1.4.2 BOSTON CIVIC DESIGN COMMISSION

The Proponent will meet with the Boston Civic Design Commission (BCDC) to review and discuss the Project design. The Proponent anticipates that BCDC will vote to recommend approval of the Project design.

1.4.3 CONSTRUCTION ON A FORMER RAILROAD RIGHT-OF-WAY

The Proponent will schedule a public hearing, and will work with the Massachusetts Department of Transportation (MassDOT) to review the Project and obtain the necessary approvals to finalize acquisition of the land and approve construction on a former railroad right-of-way.

1.5 PUBLIC AND COMMUNITY BENEFITS

The Project will provide substantial economic and community benefits to the City and its residents including the following:

- Redevelopment of an abandoned rail-yard into a series of human-scaled buildings along Industrial Drive;
- Provision of new industrial and office uses that support the city and the state's development plans to foster sustained economic opportunity and jobs for local residents;
- Improvement of the pedestrian experience by enhancing the aesthetics of the built environment, including the addition of a new multi-use path and plantings along Industrial drive, new street lighting, and an additional multi-use path along the northern edge of the Site that connects to the MBTA Readville commuter rail station;
- Encouragement of Transit Oriented Development (TOD) by increasing density in proximity to the MBTA Readville commuter rail station;
- Improvement of environmental conditions and restoration of public pedestrian access to a Site that has been contaminated and closed off to the public for over a century; and
- Creation of approximately 100 temporary construction jobs and 300 permanent jobs as a result of this project.

1.6 SUMMARY OF ANTICIPATED PERMITS AND APPROVALS

The following table is a list of anticipated approvals for the Project.

Table 1-1: Anticipated Project Approvals

Agency	Permit Approval
Local	
Boston Redevelopment Authority	• Article 80 B Large Project Review • Cooperation Agreement • Schematic Design Approval • Design Development Approval • Construction Document Approval • Certificate of Compliance • Certificate of Completion
Boston Civic Design Commission	• BCDC Recommendation
Boston Transportation Department	• Transportation Access Plan Agreement • Construction Management Plan
Boston Water and Sewer Commission	• Site Plan Approval • Sewer Connection Permit
Inspectional Services Department	• Building Permit • Certificate of Occupancy
Boston Public Works Department	• Street Opening Permit
Boston Public Improvement Commission	• Specific Repair Plan
State	
Massachusetts Environmental Policy Act (MEPA)	• Environmental Notification Form
Department of Environmental Protection	• Notice of Construction
Massachusetts Historical Commission	• Determination of No Adverse Effect/MOA
Massachusetts Department of Transportation	• Chapter 40 Section 54A
Federal	
Environmental Protection Agency	• National Pollution Discharge Elimination System - Stormwater Notice of Intent

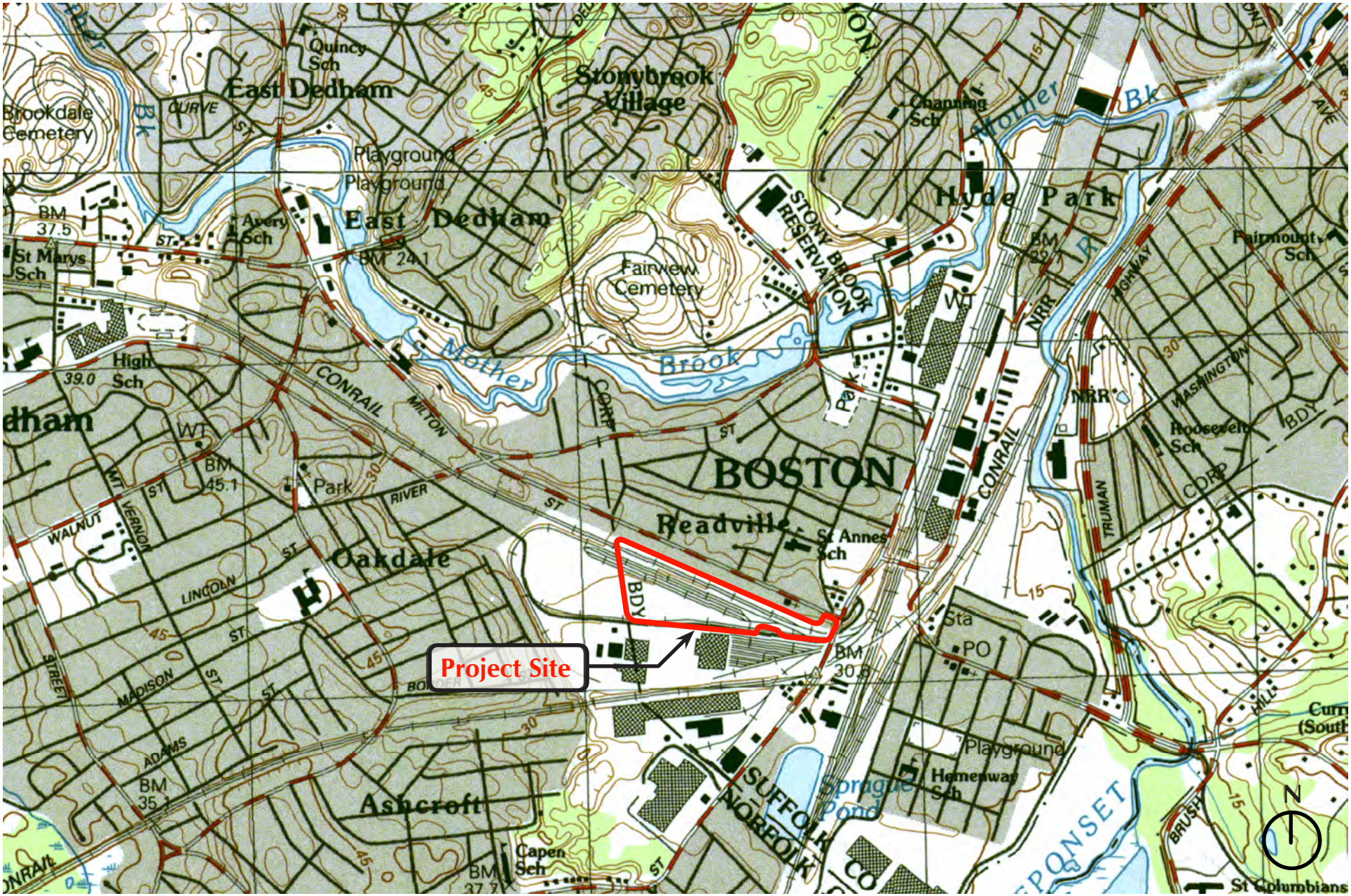
1.7 PROJECT TEAM

Table 1-2: Project Team

Proponent	First Highland Management and Development Corporation 65 Sprague Street, West B Hyde Park, MA 02136 Peter F. Murphy President (617) 361-9909 pmurphy@firsthighland.com Matthew O'Connor Vice President (617) 361-9909 moconnor@firsthighland.com
Legal	Sherin & Lodgen, LLP. 101 Federal Street Boston, MA 02110 Ronald W. Ruth Managing Partner (617) 646-2165 rwruth@sherin.com
Public Affairs/Community Engagement	McDermott Ventures 30 Rowes Wharf, Suite 540 Boston MA, 02210 Pam McDermott President (617) 557-2165 pam@mcdvent.com

Planning and Permitting	Fort Point Associates, Inc. 33 Union Street, 3rd Floor Boston, MA 02108 Jamie Fay, President (617) 357-7044 X204 jfay-@fpa-inc.com Kyle Greaves, Associate Planner (617) 357-7044 X200 kgreaves@fpa-inc.com
Architecture/Landscape/Site Planning/MEP	Utile, Inc. 38 Chancy Street, 9th Floor Boston, MA 02210 Matthew Littell Principal 617-423-7200 littell@utiledesign.com
Offshoots, Inc.	Offshoots, Inc. 547 Rutherford Ave Boston, MA 02129 Kate Kennen Owner 617-4500-6530 X101 kate@offshootsinc.com
Transportation	Howard/Stein-Hudson Associates, Inc. 38 Chauncy Street, 9th Floor Boston, MA 02111 Michael Santos Senior Transportation Engineer (617) 482-7080 msantos@hshassoc.com

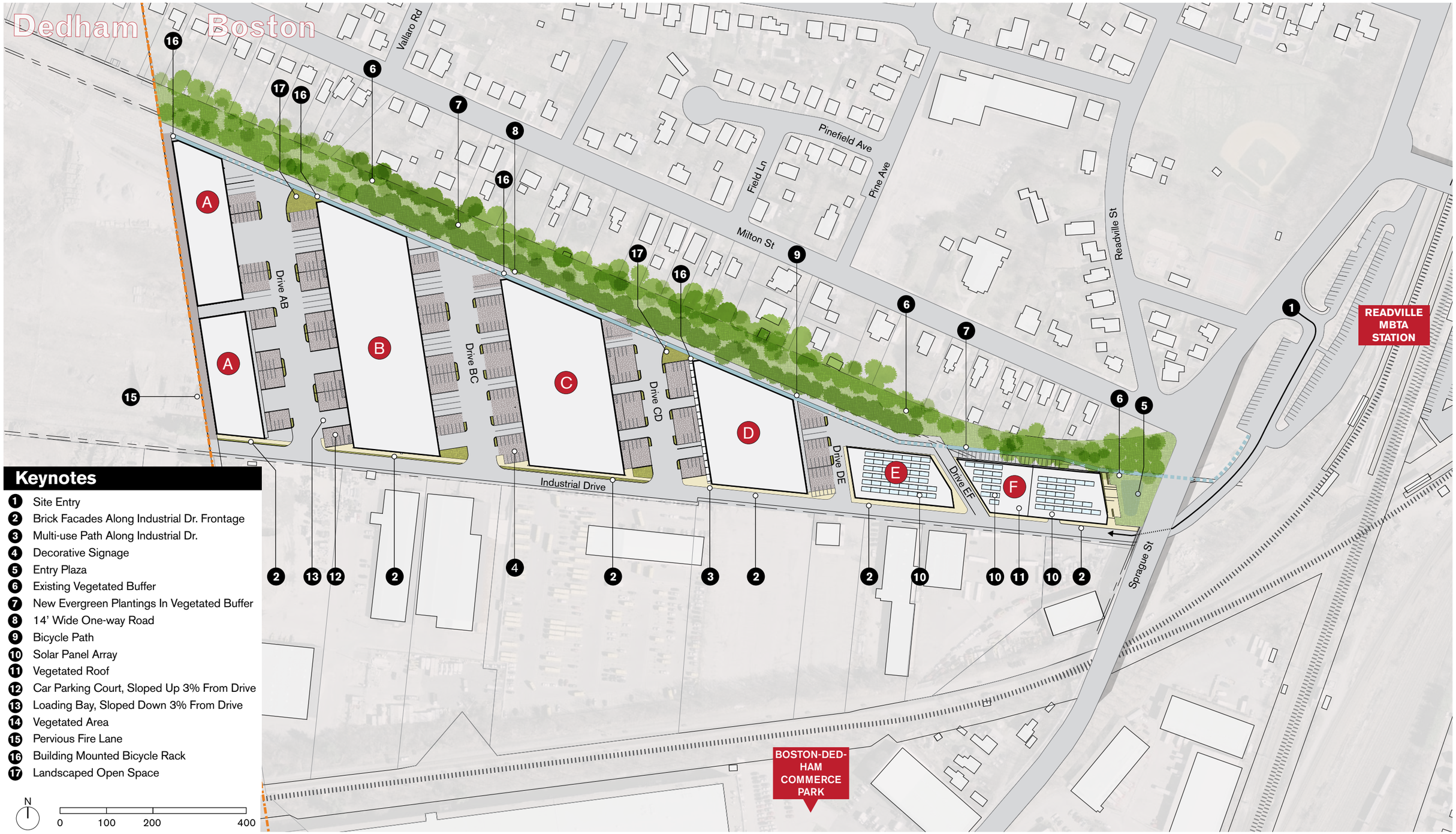
Geotechnical Engineering/Civil Engineering	GeoInsight, Inc. 186 Granite Street 3rd Floor, Suite A Manchester, NH 03101-2643 Contact: Michael C. Penney P.E., L.S.P. Senior Professional Engineer 603-314-0820 mcpenney@geoinc.com



Hyde Park, Massachusetts

Figure 1-1
Locus Map
Source: USGS, 2014

Figure 1-2
Aerial View
Source: Fort point Associates, Inc., 2014



Keynotes

1. Site Entry
2. Brick Facades Along Industrial Dr. Frontage
3. Multi-use Path Along Industrial Dr.
4. Decorative Signage
5. Entry Plaza
6. Existing Vegetated Buffer
7. New Evergreen Plantings In Vegetated Buffer
8. 14' Wide One-way Road
9. Bicycle Path
10. Solar Panel Array
11. Vegetated Roof
12. Car Parking Court, Sloped Up 3% From Drive
13. Loading Bay, Sloped Down 3% From Drive
14. Vegetated Area
15. Pervious Fire Lane
16. Building Mounted Bicycle Rack
17. Landscaped Open Space

Figure 1-3
Project Site Plan
Source: Utile, Inc., 2014

Chapter 2

PROJECT DESCRIPTION

CHAPTER 2: PROJECT DESCRIPTION

2.1 PROJECT SITE AND SURROUNDINGS

The Proponent proposes to redevelop a 907,226 square foot (21 acre) parcel (the "Site") bounded by private warehouses/industrial properties along Industrial Drive to the south, the Dedham, MA municipal line to the west, private residences along West Milton Street to the north, and Sprague Street to the east. See Figure 2-1, Oblique View of Project Site and Figure 2-2, Existing Conditions Plan.

The Site is located on the easterly portion of the 42 acre Readville Yard 5 (Yard 5), which is split between the cities of Boston and Dedham. For over 100 years the Site was used for railroad maintenance, passage, and materials storage. The Site has changed hands between railroad companies numerous times since the early 1900s and was acquired by the MBTA in 1987. At present, the Site is vacant except for the occasional storage of railroad equipment and material. The Site contains the remnants of the active rail yard that served as a midday layover station for the MBTA's commuter rail fleet. The unused railroad tracks on the abandoned right-of-way formerly known as the Dedham Secondary Branch pass through the northerly portion of the Site and abut the residential properties south of West Milton Street.

The Site is located directly adjacent to the MBTA's Readville Commuter Rail Station (Readville Station) and is approximately 0.1 miles north of the Proponent's existing Boston Dedham Commerce Park property. Site access and egress will be provided from Industrial Drive, which connects to West Milton Street. The area surrounding the Project is primarily industrial in nature except for the dense, established neighborhood along West Milton Street to the north of the Site. West of the Site lies the remaining 21 acre MBTA owned Yard 5 that is not included as part of this Project, and will be leased for use as a solar array facility. South and east of the Site are private industrial properties. See Figures 2-3 to 2-6, Existing Conditions Photographs.

2.2 PROPOSED PROJECT

The Project entails the construction of six new buildings (A, B, C, D, E, and F). The proposed six buildings will vary in size from one end of the Site to the other to adapt to the Site's triangular shape and maximize the potential of the Site. Buildings A through E are one story structures, generally rectangular in shape, which will front onto Industrial Drive and will accommodate light-industrial and manufacturing uses. These buildings will increase in size and length from east to west as the Site widens. Each of these buildings will be separated by a small parking area, driveway, and loading docks. Building F, a three-story office building, will be located on the eastern portion of the Site adjacent to Sprague Street.

Building F will front Industrial Drive and will serve as a gateway that welcomes visitors to the Site. A new 14-foot one-way roadway will be constructed to the north of the buildings and will provide a secondary means of egress to Industrial Drive. In addition to the existing dense tree cover along the northern edge of the Site, landscaped areas will be installed along the northern edge of the parking and loading corridors to provide outdoor gathering places for workers and visitors, including natural screening that will minimize the view of vehicular parking and service/delivery vehicles associated with the Project from homes to the north of the Site along West Milton Street.

Buildings A through E will contain up to 51 light-industrial/manufacturing units that will be approximately 4,000 to 7,000 sf in size. The Project will also include approximately 42,000 sf of office space. The Project will provide approximately 250 parking spaces on-Site in addition to dedicated interior and exterior bicycle parking. Each light industrial/manufacturing unit will be provided with approximately six parking spaces for typical passenger vehicles and two to three loading spaces for trailers and delivery vehicles. Approximately 75 parking spaces will provided for office uses on-Site. The Project will provide 89 bicycle parking spaces for employees and visitors to the Site.

Due to its industrial nature, the existing Site does not encourage pedestrian activity along Industrial Drive or in the vicinity of the Project Site. In recognition of the MBTA's development goals for this Site, the Project will enhance physical connections to Readville Station and will foster a more active urban environment. In addition to streetscape improvements such as a new multi-use path, new plantings, accessible ramps, and improvements to street lighting, two multi-use paths will be constructed along the northerly and southerly sides of the Site that will connect the Project with Readville Station. See Figure 1-3, Project Site Plan.

As described below in Table 2-1, the total gross floor area (GFA) of the building as calculated under Boston's zoning code is approximately 375,000 sf, and the Project's Floor Area Ratio (FAR) is 0.4.

Table 2-1: Project Program

Project Component	Dimensions/Count
Total Project Site	907,226 sf (21 acres)
Gross Floor Area (Per Zoning)	375,000 sf
Floor Area Ratio (Per Zoning)	0.4
Lot Coverage Ratio	41%
Stories	1 - 3
Program Overview Light-Industrial/Manufacturing Office **Total:**	 Approximately 333,000 sf Approximately 42,000 sf **375,000** sf
Bicycle Parking	89 Covered/Secure Spaces
Vehicle Parking	250 spaces
Height	35 feet

2.2.1 PROJECT PROGRAM

The Project will contain approximately 333,000 gsf of GFA for Buildings A through E, and approximately 42,000 sf of GFA for Building F. Buildings A through E will provide up to 51 light-industrial/manufacturing industrial units that will stimulate economic growth and bring long-term jobs to the Hyde Park neighborhood by targeting the growing innovation and creative economies. Each unit will range between 4,000 and 7,000 sf in size and are designed to attract smaller businesses, while also providing the flexibility to reconfigure and combine units to accommodate larger operations.

Building F will contain approximately 42,000 sf of office space in three stories. Vehicle and bicycle parking will occupy the rear of the ground floor of Building F. See Figures 2-7 through 2-9, Floor Plans.

The Project is expected to appeal to a variety of tenants that appreciate the flexibility of the space, nearby transit access, proximity to downtown Boston, and nearness to major transportation routes including Interstates 95 and 93. The layout and shape of all the buildings are designed to make the most of the Site's potential and to accommodate an at-grade interior circulation and parking network. All buildings will have direct entrances onto Industrial Drive as well as the new interior one-way access road at the northerly edge of the Site. See Figures 2-7 through 2-9, Floor Plans.

2.2.2 PARKING AND ACCESS

2.2.2.1 VEHICULAR

Vehicular access points will be provided on Industrial Drive for all six buildings on the Site. Four drive aisles that vary from 60 to 65 feet in width will provide access to the light-industrial/manufacturing units. The drive aisles will be wide enough to allow a WB-50 truck to efficiently and safely maneuver in and out of the Site. Access to the office parking area will be provided from Industrial Drive on the eastern portion of the Site. Circulation will be provided around the entire Site by way of Industrial Drive along the southerly portion of the Site and by a 14-foot wide one-way roadway along the northerly portion of the Site. The new roadway will improve internal Site circulation, and will not be designed to accommodate any loading or delivery operations along the north façade of the industrial buildings. See Figures 2-7 through 2-9, Floor Plans and Figure 2-10, Circulation and Access Plan.

2.2.2.2 LOADING AND SERVICE

Most of the service operations associated with the Project will consist of deliveries to and from Buildings A through E. Each industrial unit on the Site will have two to three loading docks that can accommodate up to a WB-50 trailer truck. The loading docks will be accessible by an internal roadway a minimum of 60 feet in width and will have direct access to Industrial Drive via two points of access and egress. The frequency and operation of delivery and loading activities will be dependent upon the tenant and types of use for each individual unit. Trash pick-up will be conducted by a private trash contractor and will occur on-site at each individual unit.

Delivery, service, trash, and recycling operations for Building F will occur along Drive EF on the west façade of the building.

2.2.2.3 BICYCLE

The Project will provide 89 covered, secure bicycle storage spaces on-Site. Thirty-two exterior spaces will be provided at Buildings A, B, C and D, in addition to 43 interior spaces in Building F, and 14 exterior spaces in the gateway park.

Two new multi-use paths will be constructed along both the southerly and northerly sides of the Site bookending all buildings with convenient and safe bicycle access. Both paths will provide access to the MBTA's

Readville Station and will terminate at the western edge of the Project's property line on the Boston/Dedham municipal line. See Figure 2-10, Circulation and Access Plan.

2.2.2.4 ACCESSIBILITY

As part of the Project, the Proponent will update all abutting sidewalks/ multi-use paths and pedestrian ramps to comply with the City of Boston standards outlined in the Boston Complete Streets Design Guidelines. The Proponent will construct a sidewalk along Industrial Drive between West Milton Street and the Project Site. Other improvements will include the installation of new, accessible ramps, plantings, improvements to street lighting where necessary, and provision of bicycle storage surrounding the Site, where appropriate.

The new multi-use paths provided along the southerly and northerly edge of the Site will provide safe and pleasant routes for employees and visitors to walk or bike to and from the Project. Where the multi-use paths cross Industrial Drive and other vehicular zones, traffic calming devices such as striped or painted cross walks and signage will be used to promote the safety of pedestrian and bicyclists.

2.2.3 OPEN SPACE AND LANDSCAPING

The Site's open spaces and landscaping compliment the programmatic building uses and create desirable pedestrian environments and views. Two multi-use paths are proposed in concert with landscaped buffers to provide attractive linear green corridors and will create east/west connections for pedestrians and cyclists. These green corridors are not only passageways for building occupants and visitors, but for plant and animal species as well. Three intimate community spaces will be located at the northwest corners of Buildings B, C and D and will enhance the northern multi-use path, creating outdoor gathering places and storage areas for bikes, with additional opportunities for planted screening.

At the east Site entry, a larger landscape space, the gateway park, anchors the Project. The gateway park will honor the Site's historic use as a rail yard by preserving the existing rail tracks located here and incorporating them and interpretive historic information into the gateway park design. Passive stormwater filtration with bioswales and water retention in this area is being considered by the proponent to highlight the Projects' commitment to sustainability and green building. The gateway park will include signage to easily direct pedestrians and cyclists to the two multi-use paths that book-end the northerly and southerly borders of the Site. It also will serve as a gathering place for events and informal lunch-hour breaks.

Lastly, landscape islands provided along the four primary drive aisles will green the vehicular corridors and define the parking courts in front of the individual units. Fastigiate columnar trees and simple groundcover plantings will be used to ensure that branches do not conflict with large trucks and circulation. The landscape Islands will be raised so that tenants can apply their logo to the outward facing façade. This will assist in wayfinding and tenant identification for visitors to the Site.

The plant species that have been proposed were selected for their aesthetic and environmental benefits. While the majority of the Site will be capped by impervious surface to minimize human and animal contact with contaminated soils, the Project will utilize phytotechnology, or the practice of using plants to mitigate environmental problems associated with contaminated soils. By preserving this buffer, the plants will continue the metals stabilization and petroleum compound degradation they are already performing, while also providing a natural and tall visual buffer to adjacent residents. See Figure 2-11, Site Section, Figure 2-12, Landscape Plan, Figure 2-13, Gateway Park Details Plan, and Figure 2-14, Illustrations of Phytotechnology Buffer Species.

2.3 COMPLIANCE WITH BOSTON ZONING CODE

The Project is subject to land use controls in the City of Boston Zoning Code (the "Code"). In accordance with Article 80B of the Code, the Project is subject to Large Project Review because it exceeds 50,000 square feet of gross floor area. The Project will also be subject to review by the Boston Civic Design Commission under Article 28 and will be designed and constructed to be LEED certifiable pursuant to Article 37, Green Buildings, of the Code. A full description of the Project's compliance with LEED credits is provided in Chapter 4, Sustainability.

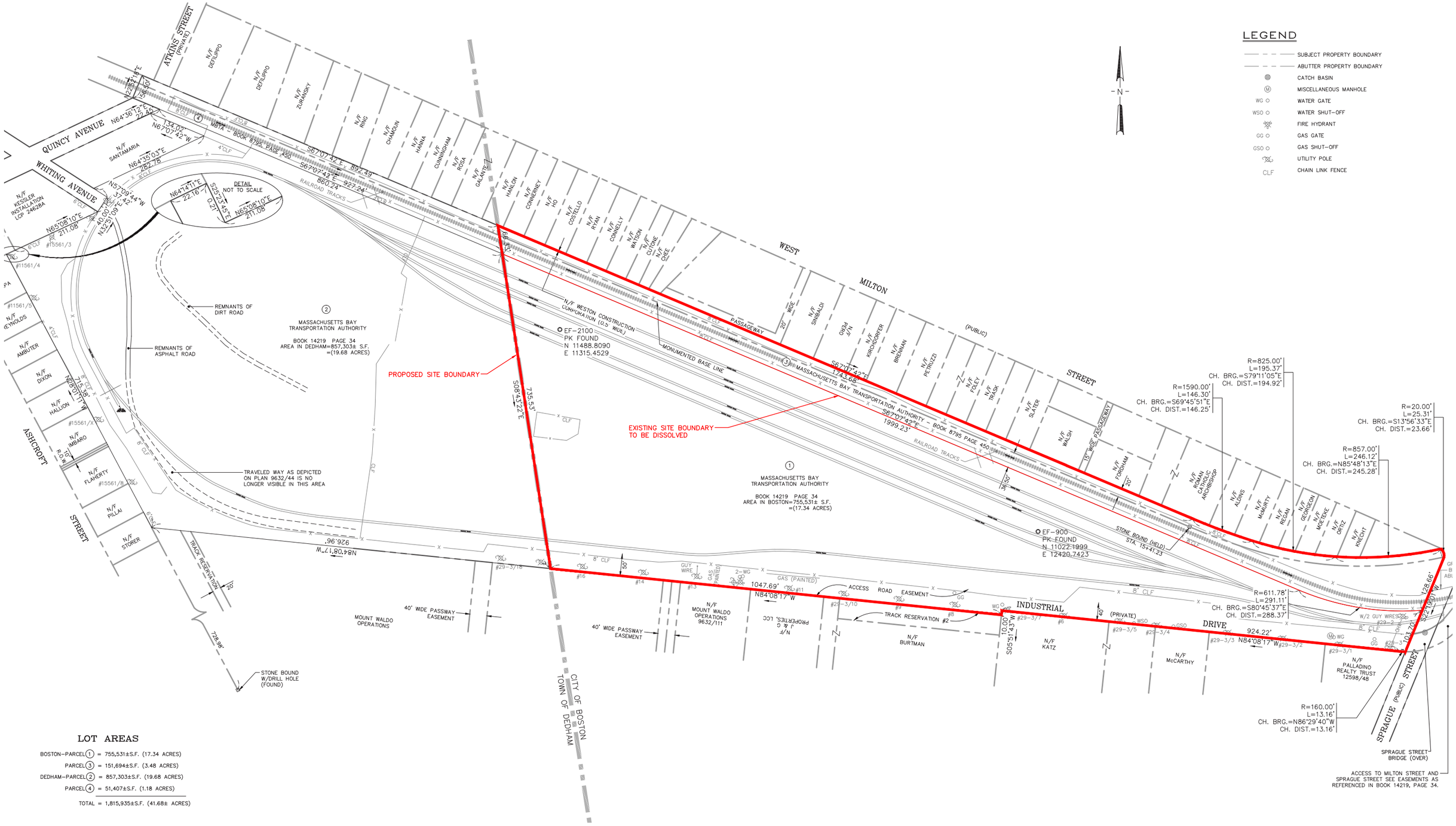
According to the most up to date Boston Assessor's map, the Project is comprised of two separate tax parcels. The majority of the Project is located within a LI-2, or Local Industrial sub-district (Parcel ID #1812971500). A small portion of the Site, approximately 3.48 acres, is located on a separate tax parcel (Parcel ID #1812972000) that consists of the abandoned Dedham Secondary Branch right-of-way. The northern half of this parcel is zoned residential, while the balance of the parcel is zoned LI-2.

The Project is in compliance with the Code and will be constructed as of right. The Project's principal industrial and office uses are located entirely within the LI-2 sub-district and are consistent with the dimensional requirements as described in the Code. The Project will enhance the existing manufacturing and light-industrial economy, create new job opportunities, and spur innovation while being sensitive to the surrounding neighborhood and environment. At the northern edge of the Site, the Project has placed the new one-way access road and multi-use path within the residential sub-district. No industrial or office uses are proposed within the residential sub-district.

2.4 CONSTRUCTION SCHEDULE

The Project will be constructed as one project over two stages. The first stage will commence in March 2015 and will conclude in April 2016, and will include the construction of the Site infrastructure, two-lane access road, multi-use path, and Buildings A and B. The second stage will commence in March 2017 and will conclude in February 2018, and will include the construction of Buildings C through F. Additional details on construction impacts and mitigation are included in Section 6.11, Construction Impacts.

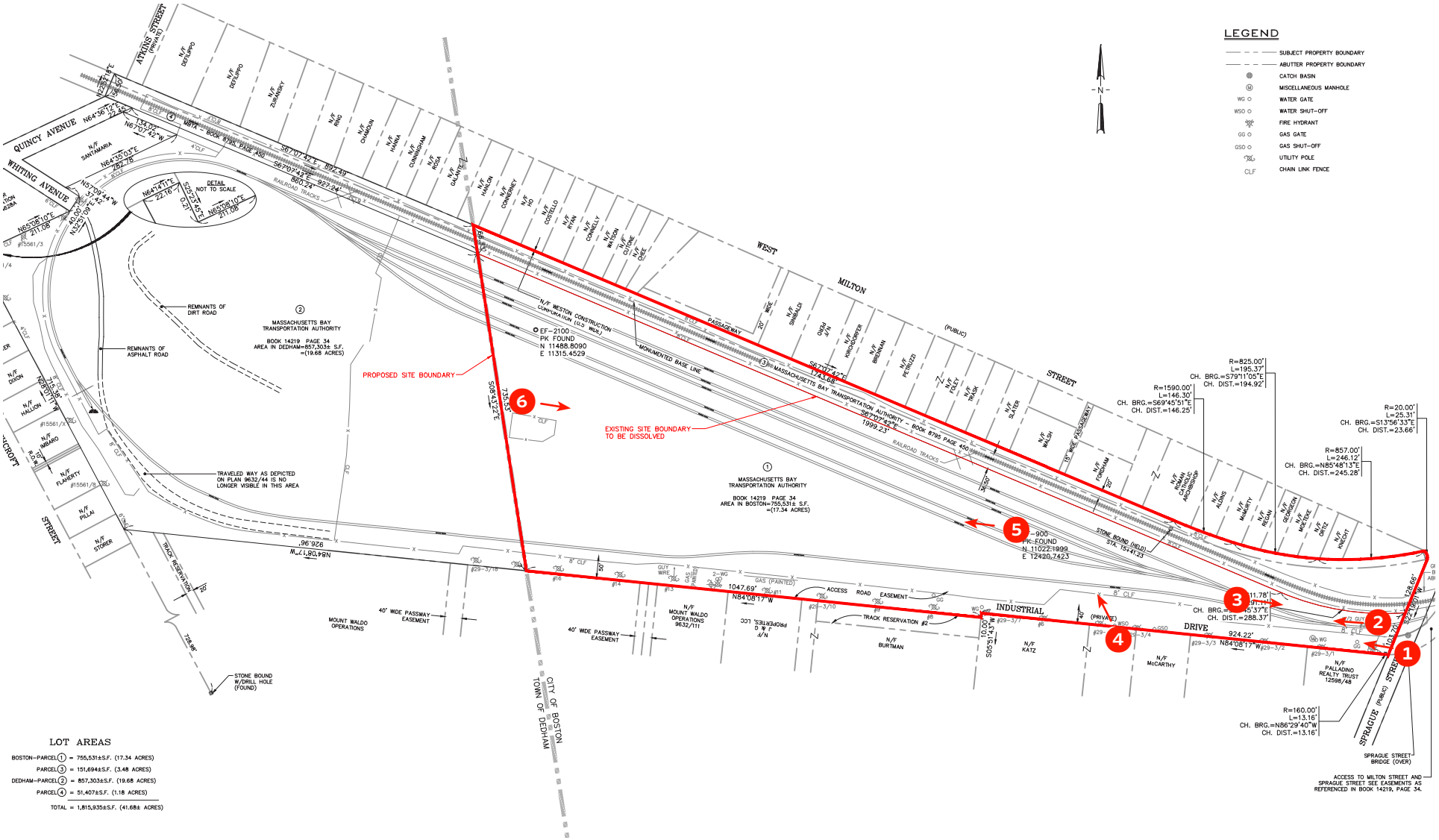
Figure 2-1
Oblique View of Existing Site
Source: Fort Point Associates, Inc., 2014



LOT AREAS

BOSTON–PARCEL (1) = 755,531±S.F. (17.34 ACRES)
PARCEL (3) = 151,694±S.F. (3.48 ACRES)
DEDHAM–PARCEL (2) = 857,303±S.F. (19.68 ACRES)
PARCEL (4) = 51,407±S.F. (1.18 ACRES)
TOTAL = 1,815,935±S.F. (41.68± ACRES)

Figure 2-2
Existing Conditions Plan
Source:



LOT AREAS

BOSTON–PARCEL (1) = 755,531±S.F. (17.34 ACRES)
PARCEL (3) = 151,694±S.F. (3.48 ACRES)
DEDHAM–PARCEL (2) = 857,303±S.F. (19.68 ACRES)
PARCEL (4) = 51,407±S.F. (1.18 ACRES)
TOTAL = 1,815,935±S.F. (41.68± ACRES)

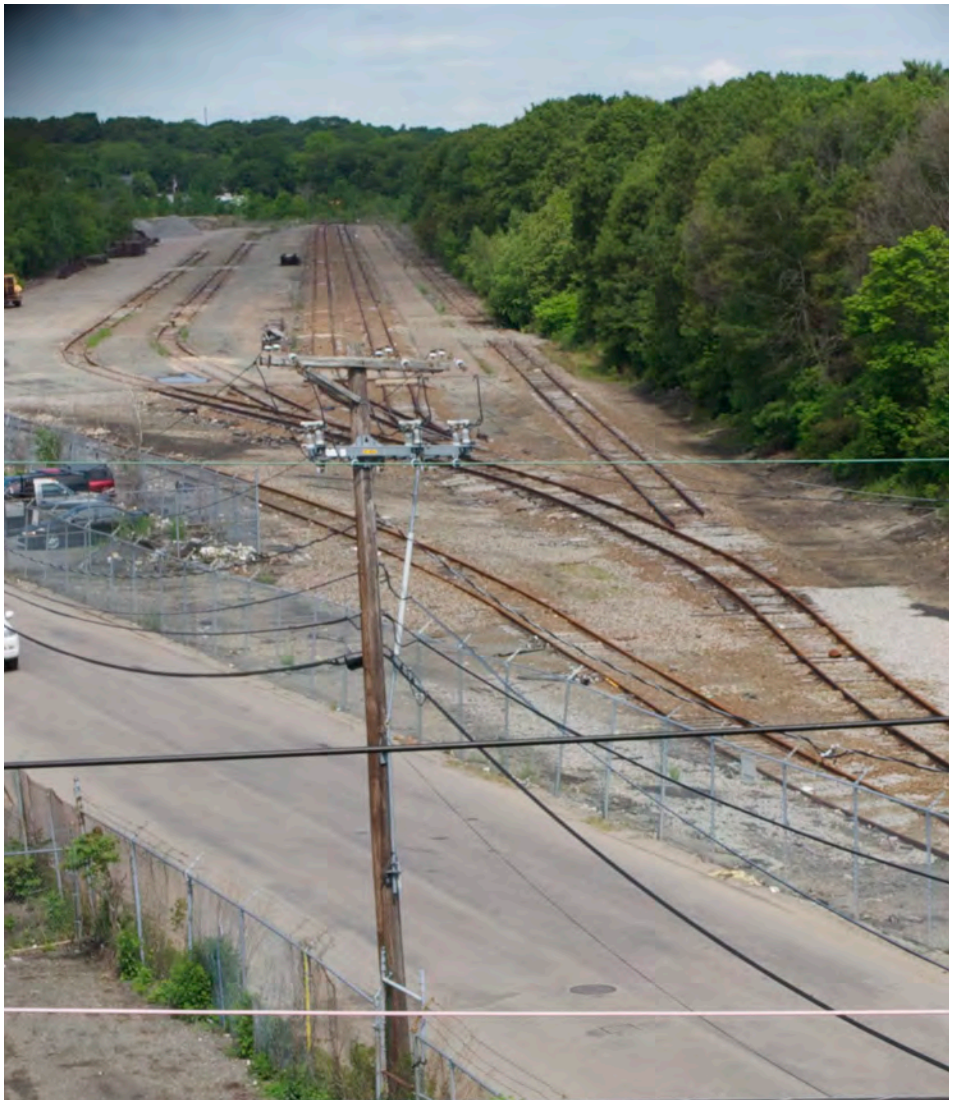
NOTES:

1. THIS FIGURE WAS BASED UPON A SEPTEMBER 12, 2002 PLAN ENTITLED "PLAN OF LAND" AND A MARCH 2005 PLAN ENTITLED "TOPOGRAPHIC PLAN OF LAND" PREPARED BY JUDITH NITSCH ENGINEERING, INC. OF BOSTON, MASSACHUSETTS.

D R A F T

APPROX. SCALE IN FEET

Figure 2-3
Photographic Locations Plan
Source: Fort Point Associates, Inc., 2014



Photograph 1: Elevated View of the Site looking west from Sprague Street

Photograph 2: View of the Site looking west from the eastern edge of the Site

Photograph 3: View looking east toward Sprague Street from the Site

Photograph 4: View of the Site looking northwest from Industrial Drive

Figure 2-5
Existing Conditions Photographs
Source: Fort Point Associates, Inc., 2014

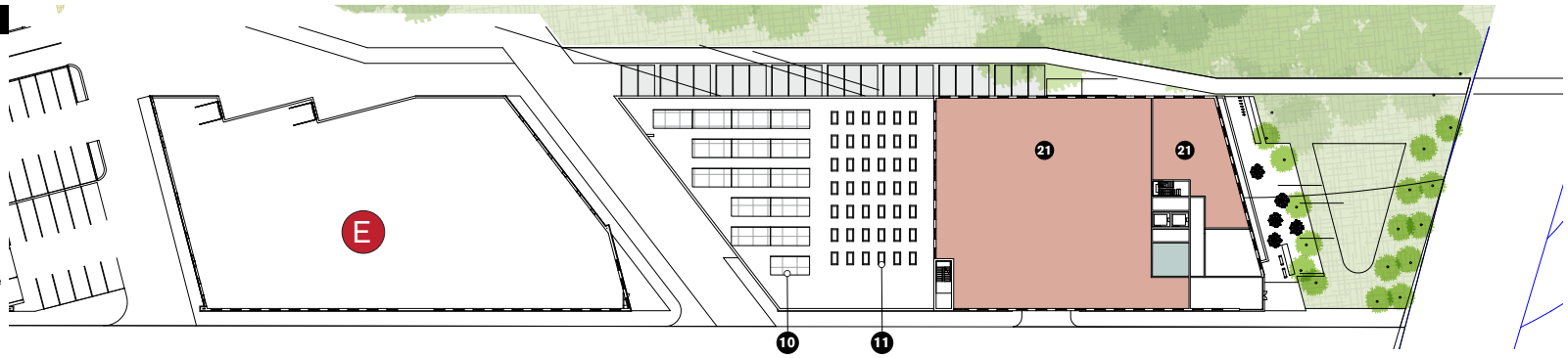
Photograph 5: View looking West from a central point on the Site

Photograph 6: View looking east from the western edge of the Site

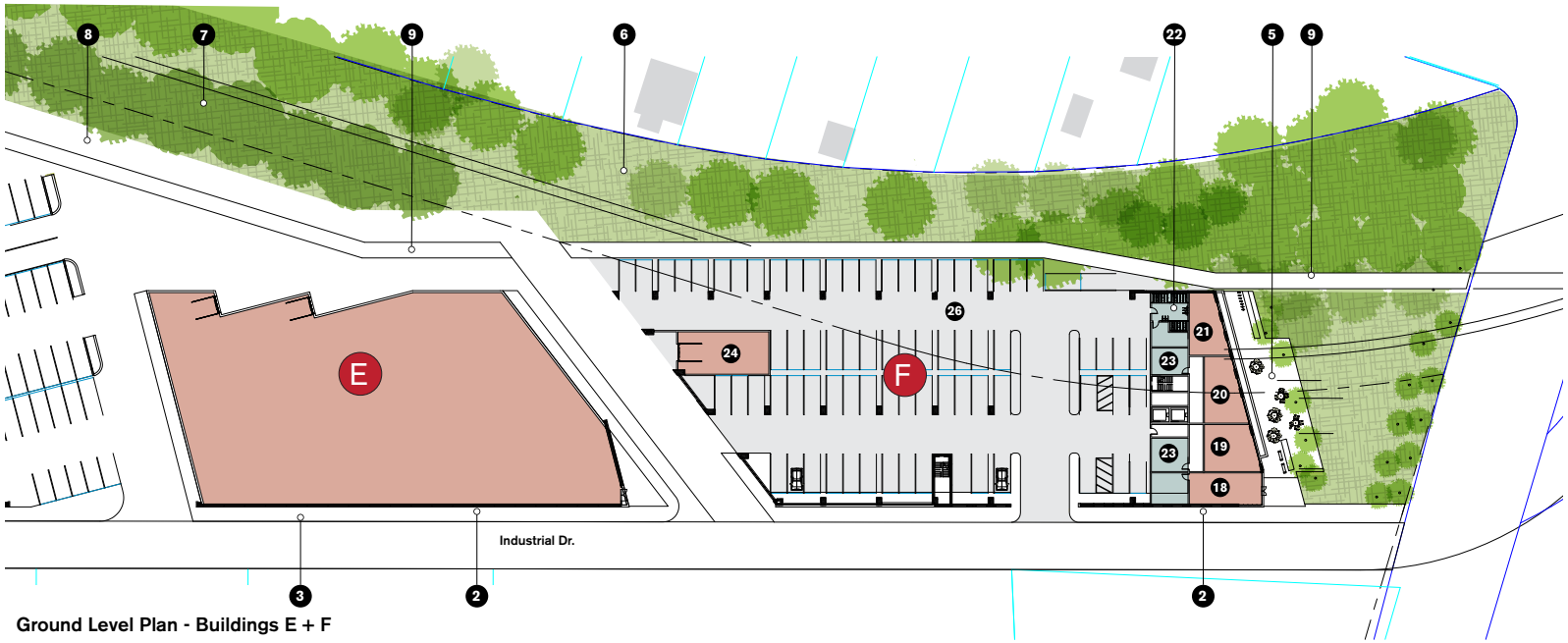
Figure 2-7
Floor Plans: Buildings A - D
Source: Utile, Inc., 2014

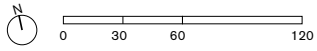
Keynotes

1. Site Entry
2. Brick Facades Along Industrial Dr. Frontage
3. Multi-use Path Along Industrial Dr.
4. Decorative Signage
5. Entry Plaza
6. Existing Vegetated Buffer
7. New Evergreen Plantings In Vegetated Buffer
8. 14' Wide One-way Road
9. Bicycle Path
10. Solar Panel Array
11. Vegetated Roof
12. Car Parking Court, Sloped Up 3% From Drive
13. Loading Bay, Sloped Down 3% From Drive
14. Vegetated Area
15. Pervious Fire Lane
16. Building Mounted Bicycle Rack
17. Landscaped Open Space
18. Entry Atrium
19. Showroom
20. Community Room
21. Office / Commercial
22. Bicycle Storage
23. Building Support
24. Loading
25. Core / Circulation
26. Covered Parking



Second Level Plan - Buildings E + F





Ground Level Plan - Buildings E + F

Figure 2-8

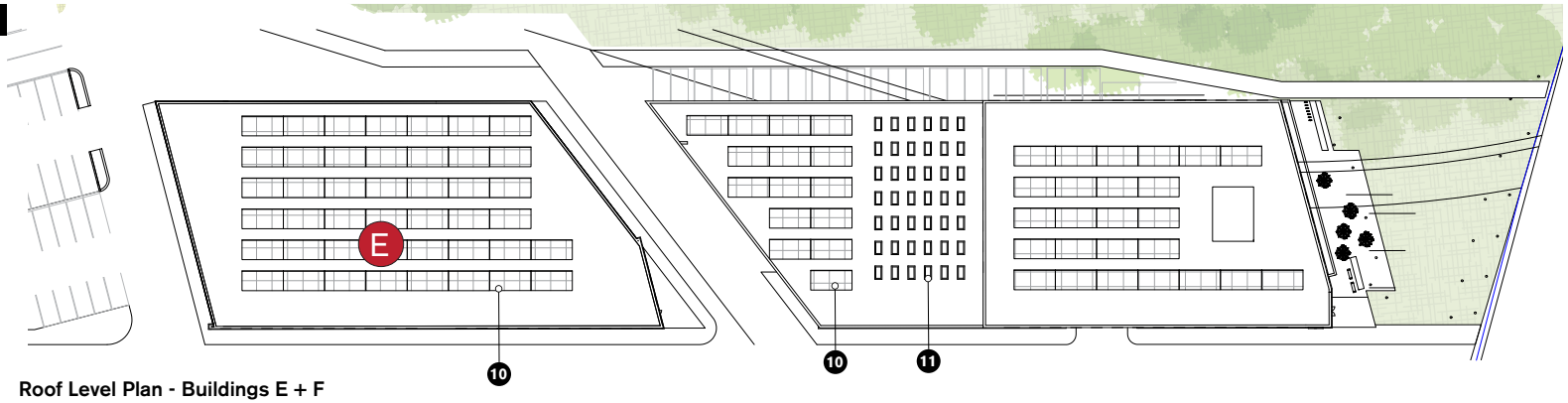
Enlarged Floor Plans: Buildings E - F

Source: Utile, Inc., 2014

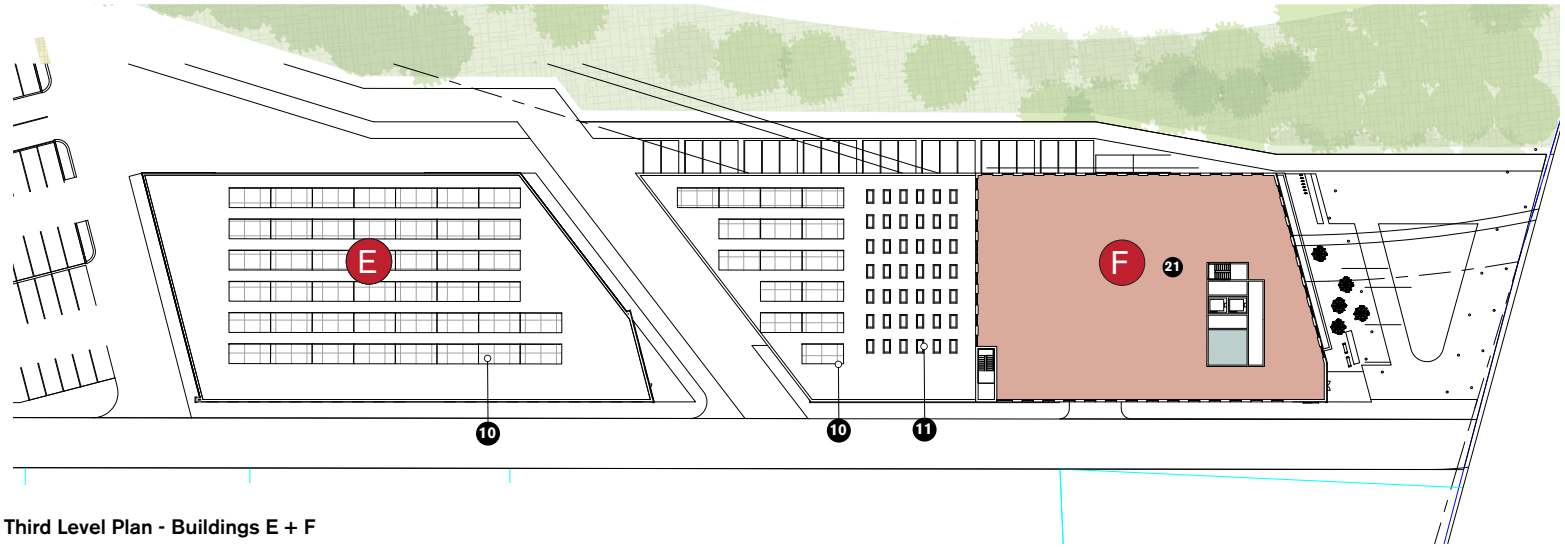
Keynotes

1. Site Entry
2. Brick Facades Along Industrial Dr. Frontage
3. Multi-use Path Along Industrial Dr.
4. Decorative Signage
5. Entry Plaza
6. Existing Vegetated Buffer
7. New Evergreen Plantings In Vegetated Buffer
8. 14' Wide One-way Road
9. Bicycle Path
10. Solar Panel Array
11. Vegetated Roof
12. Car Parking Court, Sloped Up 3% From Drive
13. Loading Bay, Sloped Down 3% From Drive
14. Vegetated Area
15. Pervious Fire Lane
16. Building Mounted Bicycle Rack
17. Landscaped Open Space

18. Entry Atrium
19. Showroom
20. Community Room
21. Office / Commercial
22. Bicycle Storage
23. Building Support
24. Loading
25. Core / Circulation
26. Covered Parking



Roof Level Plan - Buildings E + F



Third Level Plan - Buildings E + F

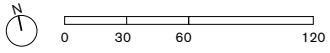


Figure 2-9

Enlarged Floor Plans: Buildings E - F

Source: Utile, Inc., 2014

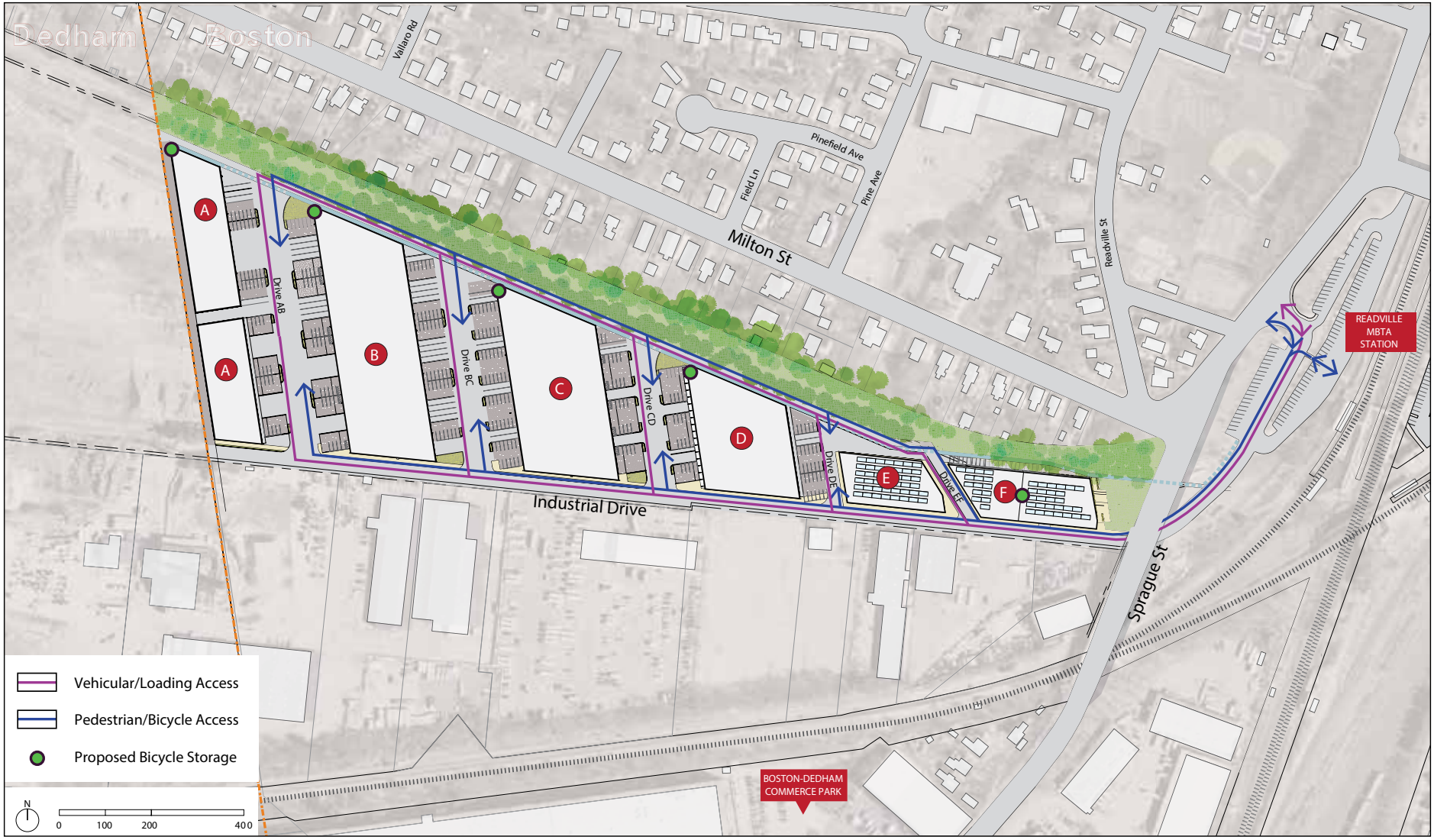


Figure 2-10
Circulation and Access Plan
Source: Utile, Inc., 2014

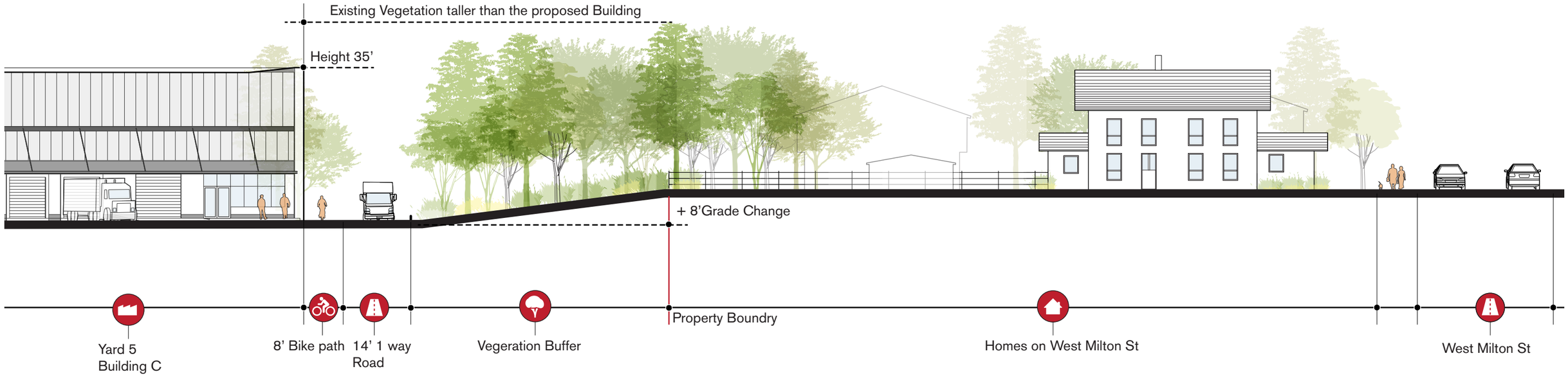


Figure 2-11
Site Section
Source: Utile, Inc., 2014

Figure 2-12
Landscape Plan
Source: Utile, Inc., 2014

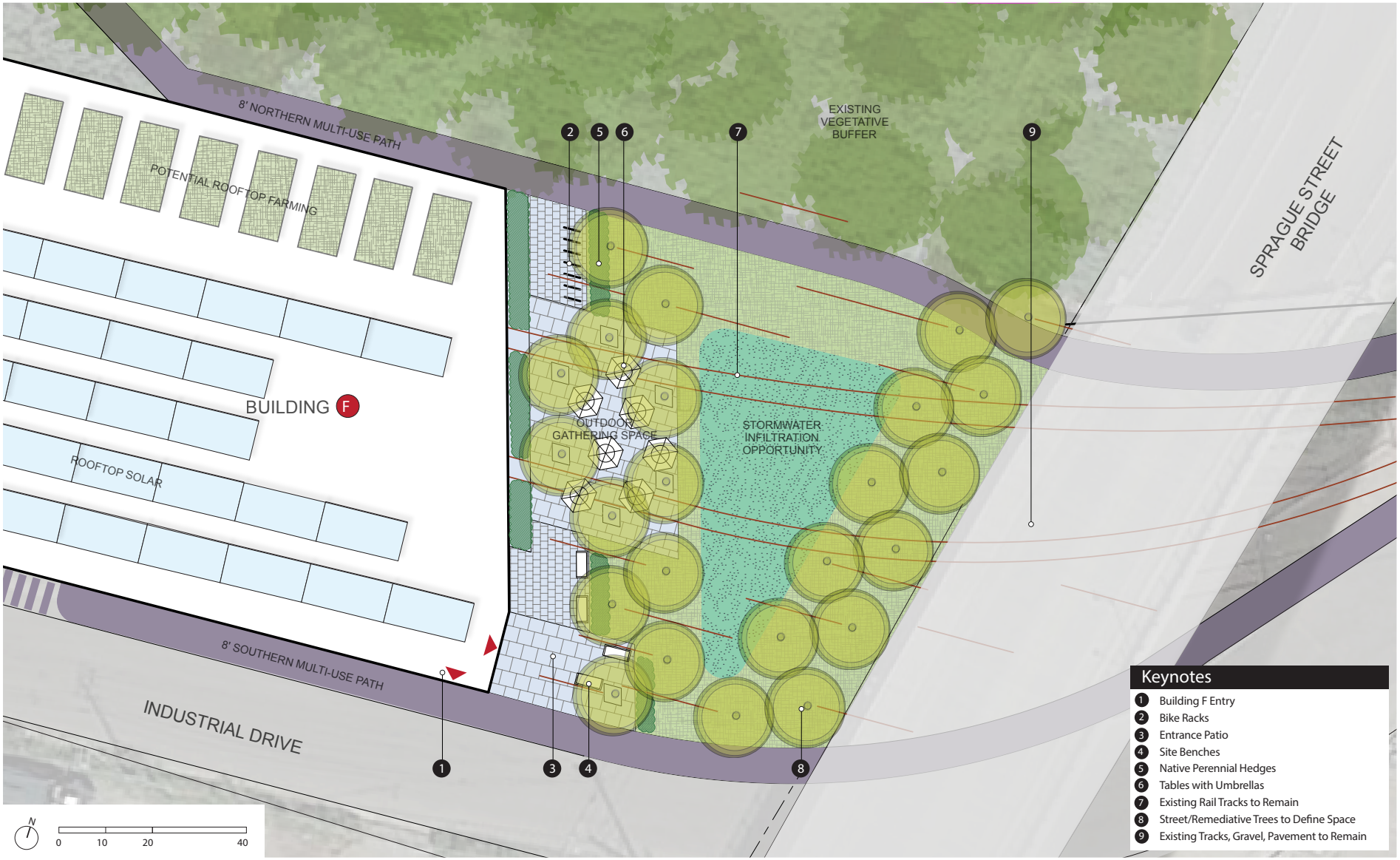


Figure 2-13
Gateway Park Details Plan
Source: Offshoots, Inc., 2014


Birch/Poplar Populus spp. (Photos taken on Site)

Poplar and birch species are often planted to remediate petroleum and organic contaminated sites. These species have the ability to slowly degrade petroleum compounds over a period of 3-20 years. Planted as buffers, their extensive water uptake can control groundwater flow and contamination spread in soils. (ITRC, 2009; US EPA, 2005; White and Newman, 2011)


Cottonwood Populus deltoids (Photos taken on Site)

Cottonwood species, much like poplar species, are often planted to degrade petroleum compounds on sites impacted with organic contaminants. In addition, their fibrous root systems can act as a "green" cap, minimizing human contact with contaminants from direct contact, erosion, and leaching. This is especially important for metals impacted soils; metals typically cannot be broken down or extracted by plants, and may remain in soils for centuries. Holding the metals in place with thick fiberous root systems is important for the risk of human or animal contact. (ITRC, 2009; US EPA, 2005; White and Newman, 2011, Chaney et. al, 2010)


White Pine Pinus strobus (Photos taken on Site)

White pines offer an evergreen alternative to poplars, birches and cottonwoods. The pines can slowly degrade petroleum compounds, though at a slower rate. Though degradation of petroleum compounds is less, their year round foliage allows for aesthetic appeal and screening in winter months. (ITRC, 2009; US EPA, 2005)


Meadow/Prairie Grasses (Photos taken on Site)

Deep rooted meadow grasses, including little and big bluestem, switchgrass, and prairie dropseed, as well as some sedges like Pennsylvania sedge and meadow sedge, have been shown to degrade petroleum compounds in the root zones through rhizodegradation. In addition, their thick fibrous roots can often travel as deep as 5' below the soil surface, acting as a green phyto-cap, holding contaminated soils, especially metals in place and eliminating human exposure risk. (ITRC, 2009; US EPA, 2005; White and Newman, 2011, Chaney et. al, 2010)

Figure 2-14
Illustration of Phytotechnology Buffer Species
Source: Offshoots, Inc., 2014

Chapter 3

URBAN DESIGN

CHAPTER 3: URBAN DESIGN

3.1 INTRODUCTION

The existing configuration of Readville Yard 5 (the "Site") presents two main challenges from an urban design standpoint. Firstly, it is relatively isolated from the surrounding context with respect to neighboring streets. It does not have street frontage in the classic sense and is accessed under a bridge. This particular condition makes it more difficult to establish a visual "address" for the Project and hinders its legibility from the street. Secondly, the longest, north-facing, edge of the Site faces the rear yards of more than 30 single-family residential properties along West Milton Street. These conditions will inform the design of The Project to ensure its compatibility with adjacent industrial and manufacturing uses to the south and residential uses to the north. See Figure 3-1, Neighborhood Context Map.

Several inter-related urban design strategies are discussed below to not only address those problems identified, but to convert the Site a vacant, under-utilized railroad storage yard into a thriving economic asset for the community.

3.2 MASSING

The industrial buildings (Buildings A through E) are designed as efficient building shells with flexible interior space that can be customized to the needs of individual tenants. Buildings A through E are single-story volumes that are approximately 35 feet tall and increase in gross floor area from the west end of the Site to the east side to adapt to the Site's triangular shape and to minimize façade frontage to the abutting neighbors along the northern boundary of the Site. From the south, these buildings will incorporate a wharf-like repetition that is capped by a formal brick wall that forms the front façade of the building along Industrial Drive. The northern facades are designed to be quieter, and will incorporate intermittent plantings at the northeast corners of Buildings B, C and D that will provide an additional landscaped buffer between the Project buildings and the residential homes along West Milton Street.

The commercial office building (Building F) is located at the eastern edge of the Site and fronts onto Industrial Drive. Building F is the first building that you see as you approach the Project along Industrial Drive and will serve as the gateway to the project. Similar to Buildings A through E, Building F's east, south and west facades will be capped by a formal brick façade. Building F is approximately 35 feet tall, however it is designed as a three-story structure with human-scaled floor-to-floor dimensions. Two-thirds of Building F's program is located on the second and third floors so that 85 vehicle parking spaces and 43 covered

bicycle parking spaces can be accommodated on the ground floor. See Figure 3-2, Project Site Plan, Figures 3-3, Illustrative Aerial View and Figures 3-4 through 3-6, Perspectives.

3.3 CHARACTER AND MATERIALS

The majority of the buildings facades, particularly the east and west facades of the industrial buildings will be comprised of cost-effective and utilitarian materials such as metal panels and glass. The goal is to create façades that are clean, attractive, and capable of absorbing a certain degree of customization, such as signage and canopies, so that individual tenants can establish their own unique presence.

The southern facades of the buildings will be painted masonry. While contemporary in their detailing, they will explicitly recall late 19th/early 20th century industrial architecture. It is anticipated that the signage on these ends of the buildings would be painted onto the south facing masonry wall, which will foster individuality at each building along Industrial Drive. See Figures 3-7 through 3-9, Elevations.

3.4 VIEWS

The buildings on Site are oriented in a north/south direction, and are divided by four drive aisles that vary from 60 to 65 feet in width. The orientation of the buildings will create more distinct addresses along the southern edge of the Site and will enhance the pedestrian realm along Industrial Drive by creating view corridors between the buildings. These same corridors will also reduce the visual impact of the Project on the views from the rear yards of the abutting residential properties along West Milton Street.

While the southern, front façades of the buildings are designed to serve as the doorway to the Site, the northern facades are broken up by intermittent landscaping and are designed to quietly fit into the existing scale and character of the residences along West Milton Street. The views from West Milton Street are further enhanced by the maintenance of an approximately 70 foot green buffer zone that encompasses an approximately eight foot grade change from the northern Site boundary and the residences along West Milton Street. (See Figure 3-10, Site Section) The green buffer will incorporate the existing trees and vegetation and will further soften the visual impact of the Project on the residences. The Project will include two new multi-use paths that will provide an attractive alternative to vehicular transportation for employees and visitors who bike or walk to the Site from Readville Station. Due to the existing grade change and vegetated buffer, pedestrian and bicycle activity along the path should not be visible from the residential homes along West Milton Street. The Project will add evergreen trees to the existing buffer to provide additional screening during the winter months when the existing deciduous trees lose their foliage.

3.5 OPEN SPACE/LANDSCAPING

The Project's open space and landscape amenities are designed to achieve the following environmental and programmatic goals:

- Minimize human and natural systems contact with any impacted soils that may remain on Site, consistent with the commercial and industrial AUL (Active Use Limitation) in place on the property;
- Maximize the use of phytotechnology plantings to break down any remaining contaminates slowly over time;
- Maximize pedestrian and bicycle access to buildings and open spaces, while creating new outdoor spaces for workers and visitors to gather outdoors; and
- Create a new gateway to the Project and Industrial Drive with the creation of a new public open space at the eastern end of the Site.

3.5.1 CENTRAL IMPERVIOUS 'CAPPED' AREA

The MBTA has completed extensive environmental remediation of the Site soils to make the Site safe for industrial redevelopment; however, a commercial and industrial Active Use Limitation (AUL) still remains on the property because of elevated levels of metals (primarily lead and arsenic) and petroleum compounds that remain in surface soils. In order to effectively minimize human and animal contact with impacted soils, the landscape plan caps most of the impacted soils in the Site's central area under the buildings and paved parking and loading corridors. Any impacted soils discovered during construction will be moved to the central area, and capped in this zone to prevent contact with users.

Around the Site edges, landscape zones are maximized to create phytotechnology buffers to neighboring uses. Phytotechnology is a type of bioremediation that uses plants to mitigate environmental problems, which can avoid excavating and disposing of contaminated soils. The plant species that have been proposed were selected for their aesthetic and environmental benefits. While the majority of the Site will be capped by impervious surface to minimize human and animal contact with contaminated soils, the Project will utilize phytotechnology to mitigate environmental problems associated with uncapped soils to remain. It is not surprising that many species used in phytotechnology applications for petroleum degradation and metals stabilization are already growing on the existing Site, since many emergent species self-select under difficult growing conditions. Birch, Poplar, White Pine, and deep rooted native prairie grasses such as Little Blue Stem are all

present in the existing plant buffer and have all been shown to effectively stabilize soils and prevent erosion and mobilization of surface metals contamination while also having the ability to break down persistent hydrocarbons into non-toxic parts. (ITRC, 2009; US EPA, 2005; White and Newman, 2011; Chaney et al, 2010[1])

On the north side of the Site, a 70-foot existing buffer of thick vegetation will be preserved, in addition to an existing eight-foot grade change to buffer the Site from the residential homes along West Milton Street to the north. By preserving this buffer, the plants will continue the metals stabilization and petroleum compound degradation they are already performing, while also providing a natural and tall visual buffer to adjacent residents. Where possible along the new one-way access road and multi-use path on the northerly edge of the Site, additional phytotechnology plants will be added to ensure the existing soils are stabilized and hydrocarbons are passively treated over time. This will include the addition of evergreen white pine to improve winter screening for adjacent neighbors, additional cottonwood/ poplar species, birch, and deep-rooted prairie grasses.

The new multi-use path along this buffer will provide pedestrian and bicycle access to the northern side of the Site. Community open spaces are proposed along the multi-use path at Buildings B, C and D, between the parking/loading corridors and the path. These community open spaces provide locations for bike parking, natural screening, and small outdoor gatherings for workers and visitors along the multi-use path. See Figure 3-11, Landscape Plan and Figure 3-13, Illustrations of Phytotechnology Buffer Species.

[1] ITRC (Interstate Technology & Regulatory Council). 2009. PHYTO-3 *Phytotechnology Technical and Regulatory Guidance and Decision Trees, Revised*. Washington, D.C.: Interstate Technology & Regulatory Council, Phytotechnologies Team. www.itrcweb.org

US EPA. "Use of Field-Scale Phytotechnology for Chlorinated Solvents, Metals, Explosives and Propellants, and Pesticides" EPA 542-R-05-002, 2005 (http://clu-in.org/download/remed/542-r-05-002.pdf, accessed 09.14.2009)

White, Jason C. and Newman, Lee A. 2011 "Phytoremediation of soils contaminated with organic pollutants" in Biophysico-Chemical Processes of Anthropogenic Organic Compounds in Environmental Systems Baoshan Xing (Editor), Nicola Senesi (Editor), Pan Ming Huang (Editor) May 2011 Wiley

Chaney, R.L., Broadhurst, C.L., and Centofanti, Tiziana. 2010. "Phytoremediation of Soil Trace Elements" in *Trace elements in soil* edited by Hooda, Peter. May 2010 Wildey-Blackwell ISBN: 978-1-4051-6037-7

3.5.2 INDUSTRIAL DRIVE STREETSCAPE

Along Industrial Drive, a new multi-use path and vegetated phytotechnology planting bed will be installed along the street. These improvements will establish Industrial Drive as a corridor to connect workers and visitors to Readville Station, whereas in its current state its primary use is limited to servicing leased parking lots and lay down yards. This corridor will connect workers and visitors to Readville station and the rest of Hyde Park, in addition to providing an attractive landscaped entry along Industrial Drive. The vegetated phytotechology planting bed will include plant species similar to the north buffer including cottonwoods and birches for street trees with an underplanting of prairie grasses to stabilize any potential metals in surface soils and degrade petroleum compounds that may be present. Where possible, existing vegetation currently growing on Site will be transplanted into these beds. The species selected for the streetscape are not only beneficial for phytotechnology purposes, but are native and provide habitat enhancement along the Industrial Drive corridor. See Figure 3-11, Landscape Plan and Figure 3-13, Illustrations of Phytotechnology Buffer Species.

3.5.3 PARKING COURTYARD LANDSCAPE ISLANDS

Within the drive aisles, small planting beds with clean soil are proposed at the edges of the parking courtyards to provide greening within these corridors. The Proponent is evaluating the potential use of these landscape areas as bioswales to passively remove contaminates from stormwater runoff generated within the parking areas. See Figure 3-11, Landscape Plan and Figure 3-13, Illustrations of Phytotechnology Buffer Species.

3.5.4 GATEWAY PARK AT CAMPUS ENTRY

A new gateway park is proposed to the east of Building F fronting Industrial Drive to provide an attractive entry experience for the new campus. The gateway park provides an opportunity for large outdoor gatherings, and can also be used as an outdoor gallery for products manufactured and sold by industrial tenants. The gateway park will honor the Site's historic use as a rail yard by preserving the existing rail tracks located here and incorporating them and interpretive historic information into the gateway park design. Passive stormwater filtration with bioswales and water retention areas are being considered by the proponent to highlight the Projects' commitment to sustainability and green building. The gateway park will include signage to easily direct pedestrians and cyclists to the two multi-use paths that book-end the northerly and southerly borders of the Site. See Figure 3-11, Landscape Plan, Figure 3-12, Gateway Park Landscape Plan and Figure 3-13, Illustrations of Phytotechnology Buffer Species.

3.6 VEHICULAR CIRCULATION AND PEDESTRIAN ENVIRONMENT

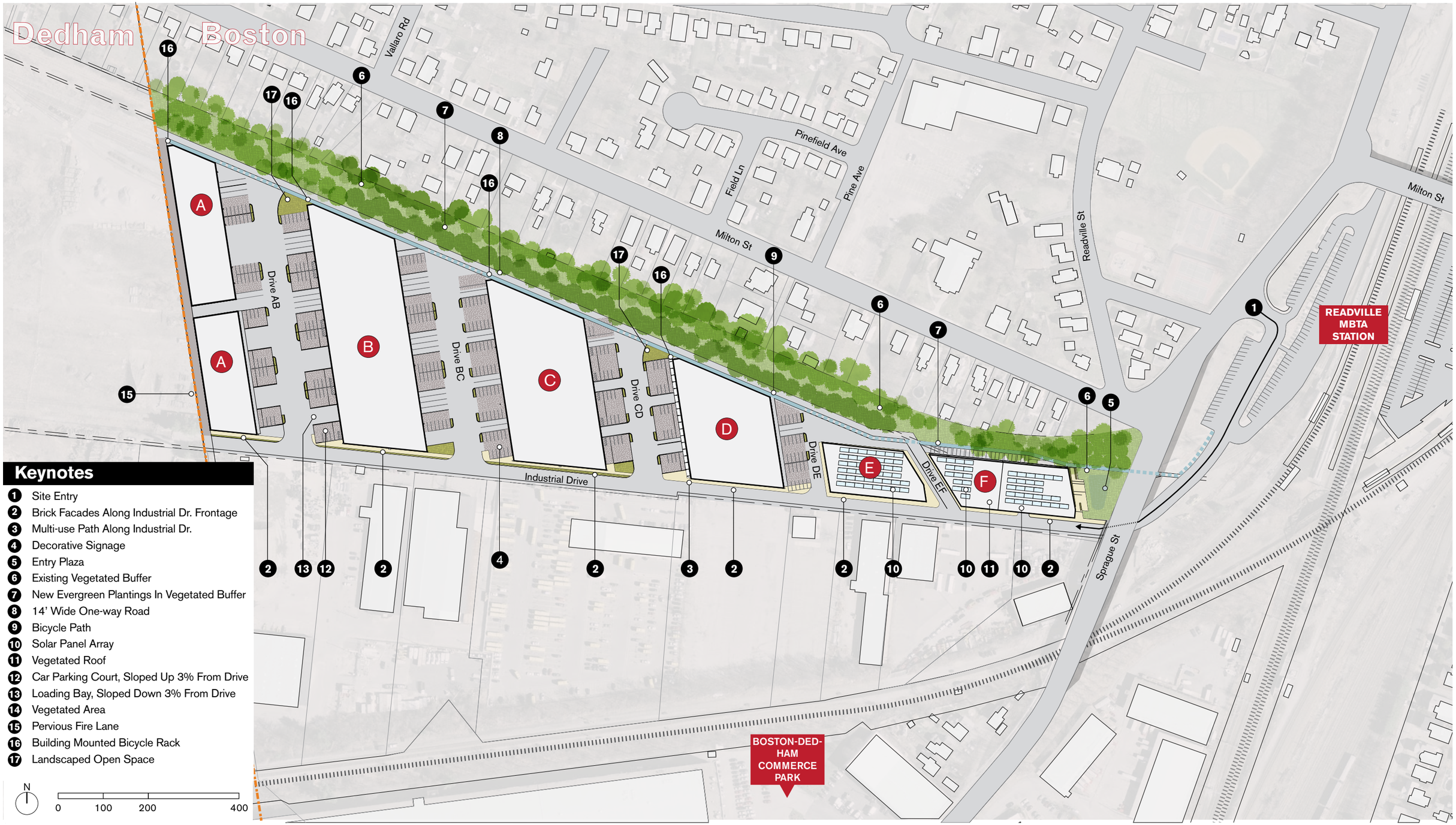
Vehicular access has been designed to minimize visual and functional impacts on Industrial Drive. Four drive aisles that vary from 60 to 65 feet in width will provide access to the light-industrial/manufacturing units. The drive aisles will provide enough width to allow a WB-50 truck to efficiently and safely maneuver in and out of the Site. Access to the office parking area will be provided from Industrial Drive in the eastern portion of the Site from drive aisle EF. See Figure 3-14, Circulation and Access Plan.

Vehicular circulation will be provided around the entire Site by way of Industrial Drive along the southerly portion of the Site and by a 14-foot wide one-way access road along the northerly portion of the Site. The new access road will improve internal Site circulation, and will not be designed to accommodate any loading activities along the north façade of the industrial buildings.

The pedestrian environment will be enhanced on the northerly and southerly edges of the Site with the construction of two multi-use paths. Other improvements will include the installation of new, accessible ramps, plantings, improvements to street lighting where necessary, and provision of bicycle storage surrounding the Site, where appropriate.

The south façades of Buildings A through F will be painted brick and designed to create a sense of place and to enhance pedestrian and vehicular navigation by identifying the location of businesses within the buildings. The internal drive aisles and the multi-use paths will be equipped with traffic calming striping to create a shared surface where vehicles and pedestrians will feel comfortable traveling to and from the Site.

Figure 3-1
Neighborhood Context Map
Source: Fort Point Associates, Inc., 2014



Keynotes

1. Site Entry
2. Brick Facades Along Industrial Dr. Frontage
3. Multi-use Path Along Industrial Dr.
4. Decorative Signage
5. Entry Plaza
6. Existing Vegetated Buffer
7. New Evergreen Plantings In Vegetated Buffer
8. 14' Wide One-way Road
9. Bicycle Path
10. Solar Panel Array
11. Vegetated Roof
12. Car Parking Court, Sloped Up 3% From Drive
13. Loading Bay, Sloped Down 3% From Drive
14. Vegetated Area
15. Pervious Fire Lane
16. Building Mounted Bicycle Rack
17. Landscaped Open Space

Figure 3-2
Project Site Plan
Source: Utile, Inc., 2014

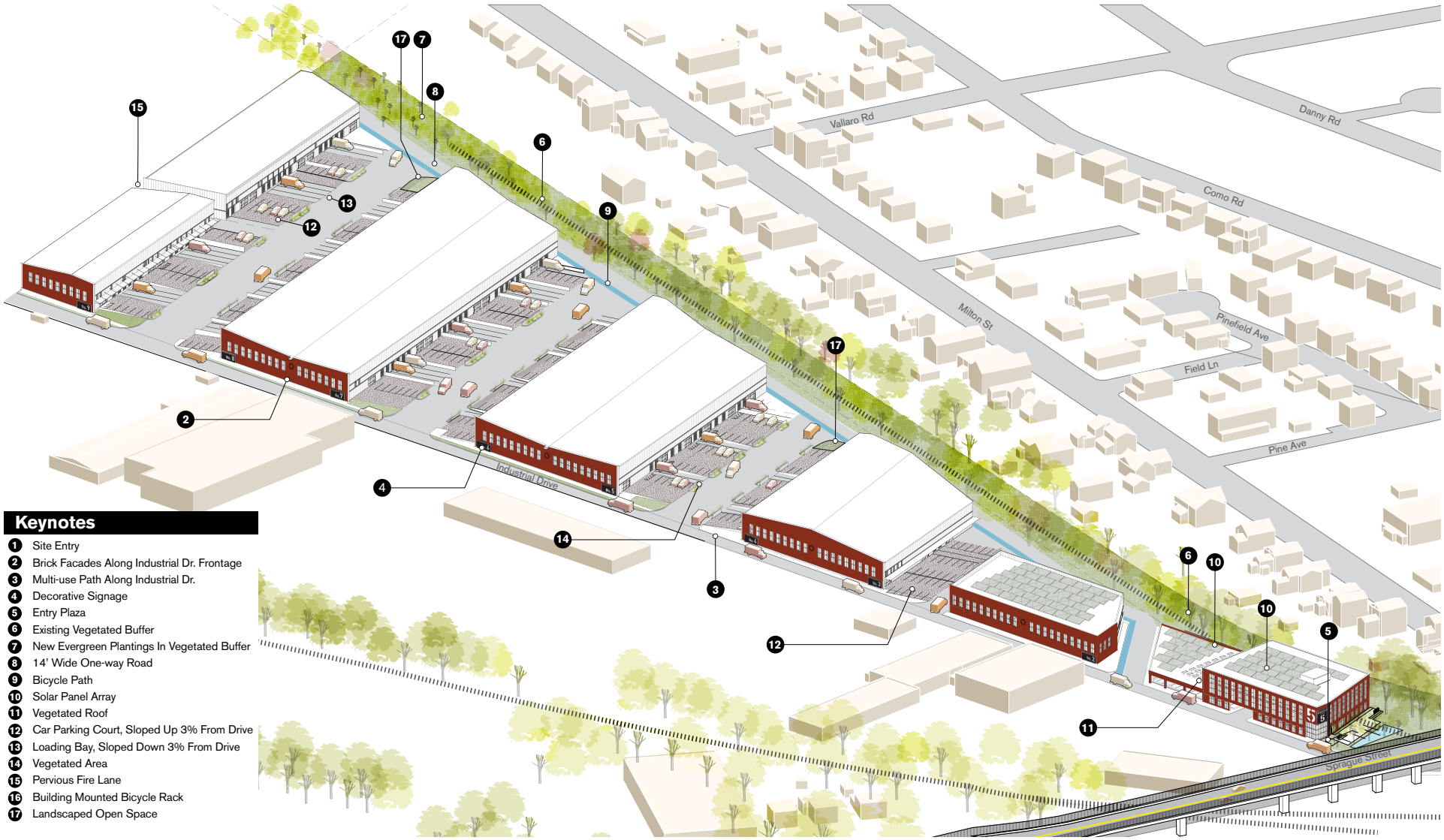


Figure 3-3
Illustrative Aerial
Source: Utile, Inc., 2014

Figure 3-4
Perspective - Northwest
Source: Utile, Inc., 2014

Figure 3-5
Perspective - Northeast
Source: Utile, Inc., 2014

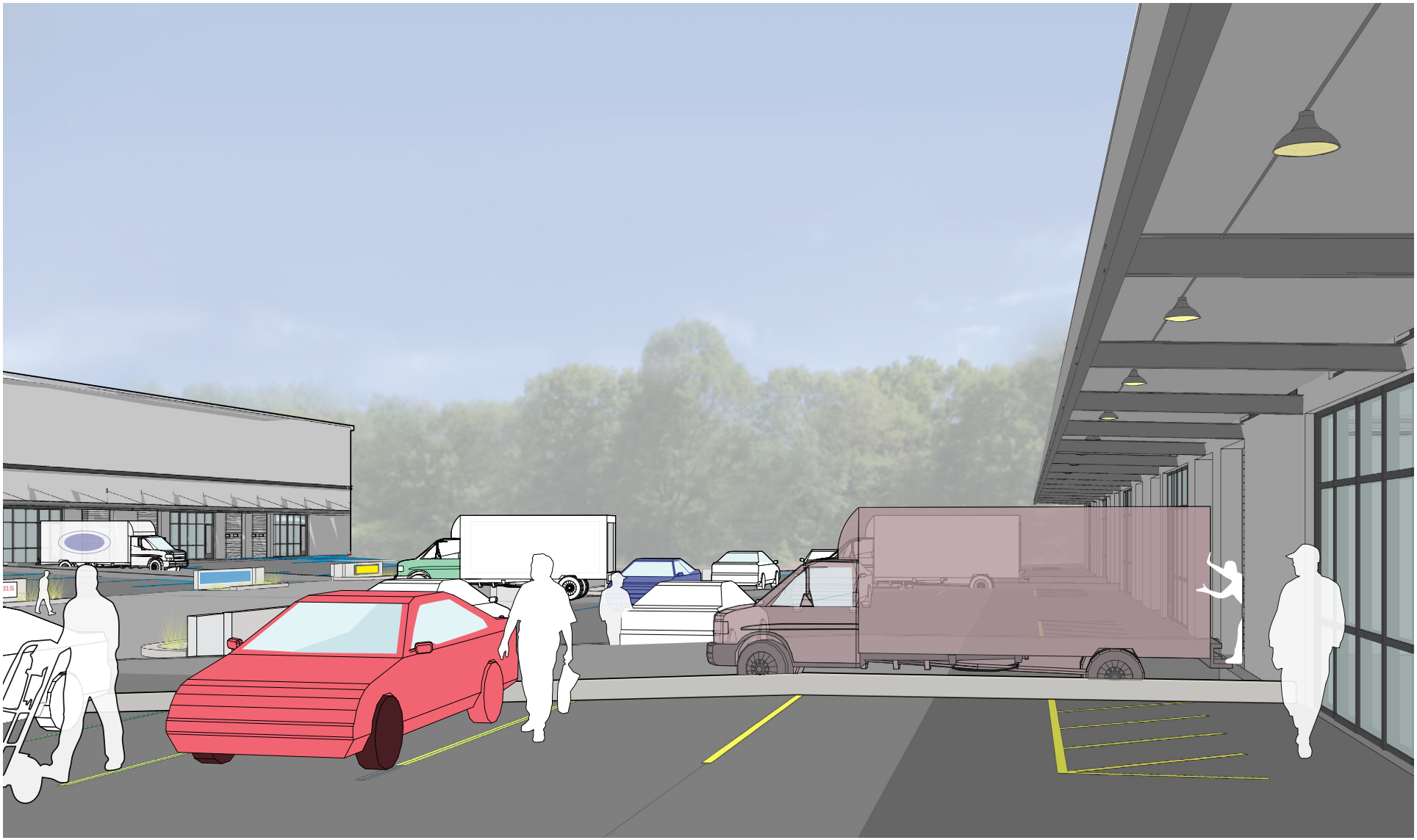
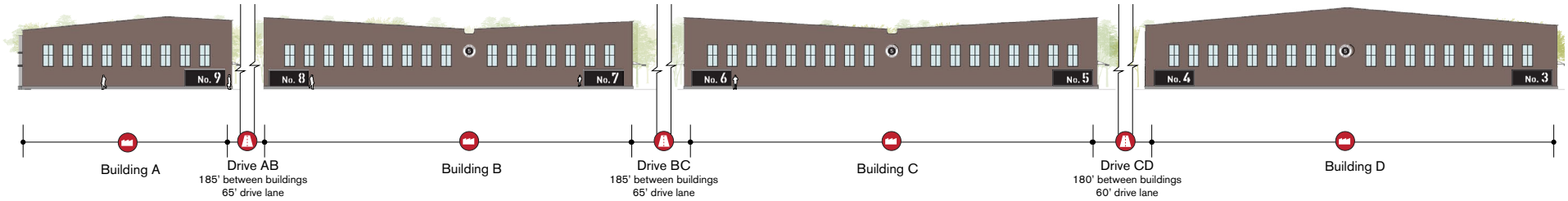
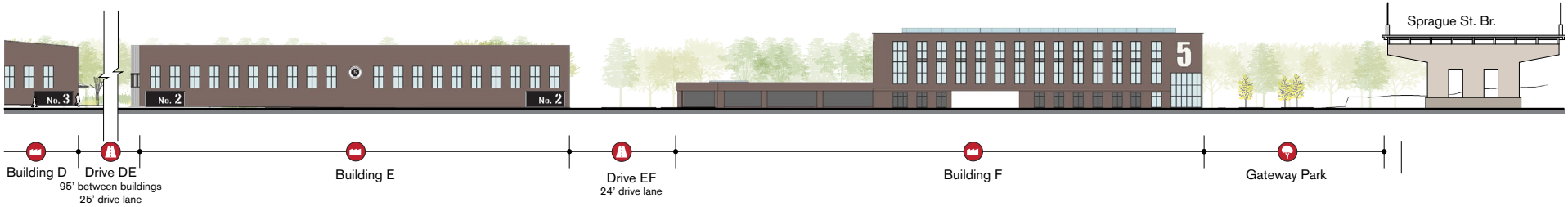


Figure 3-6
Perspective - North
Source: Utile, Inc., 2014



South Elevation at Industrial Drive



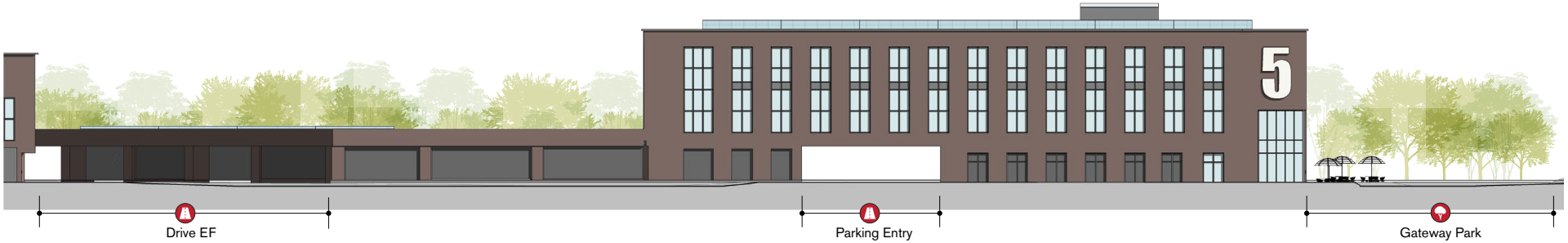
South Elevation at Industrial Drive

Enlarged Elevation at Industrial Drive

Figure 3-7
South Elevation
Source: Utile, Inc., 2014

East Elevation

Industrial Drive



Drive EF

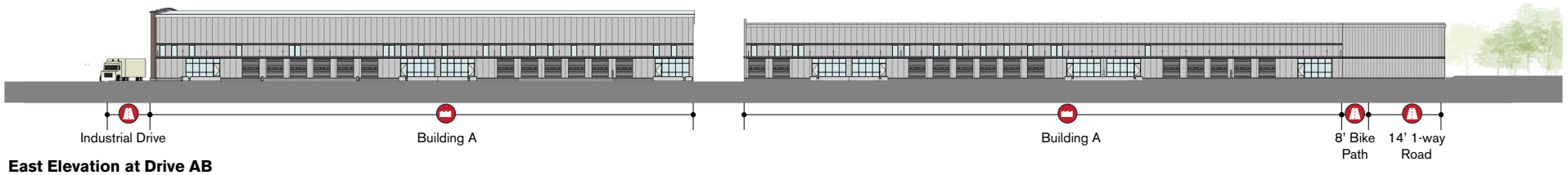
Parking Entry

Gateway Park

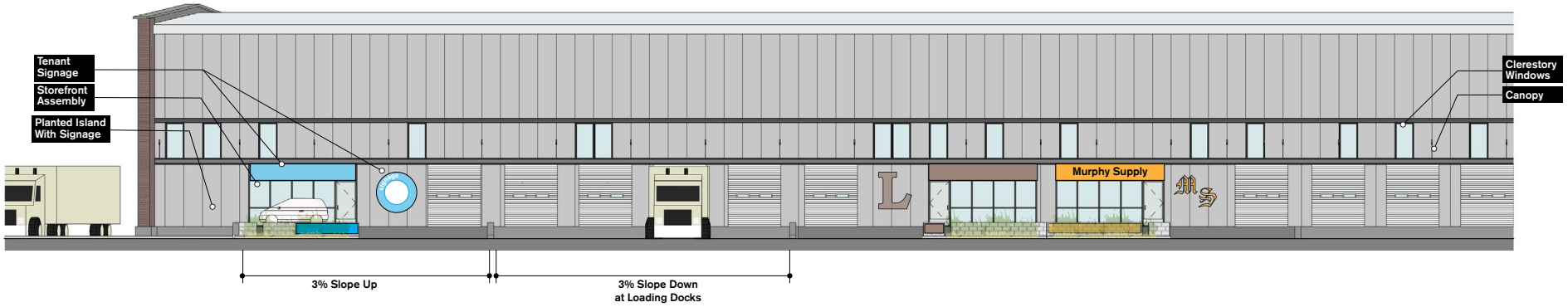
South Elevation

Building Section

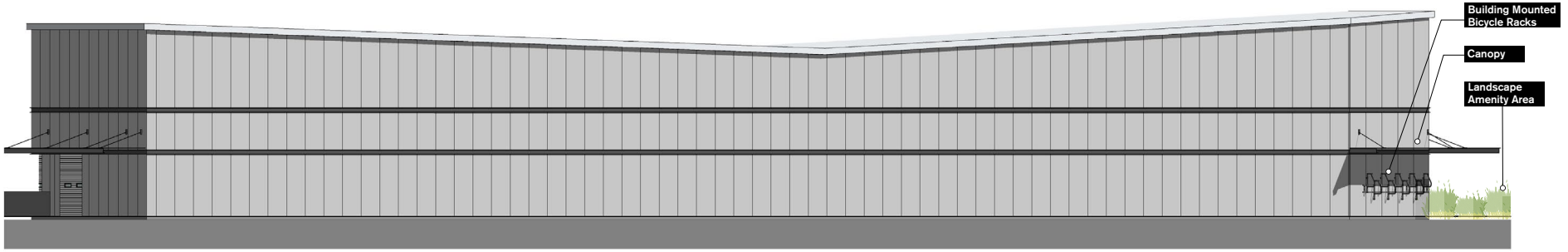
Figure 3-8
Building F Elevations
Source: Utile, Inc., 2014



East Elevation at Drive AB



Enlarged East Elevation at Drive AB



Elevation at Rear Drive

Figure 3-9
Typical Industrial Building Elevation
Source: Utile, Inc., 2014

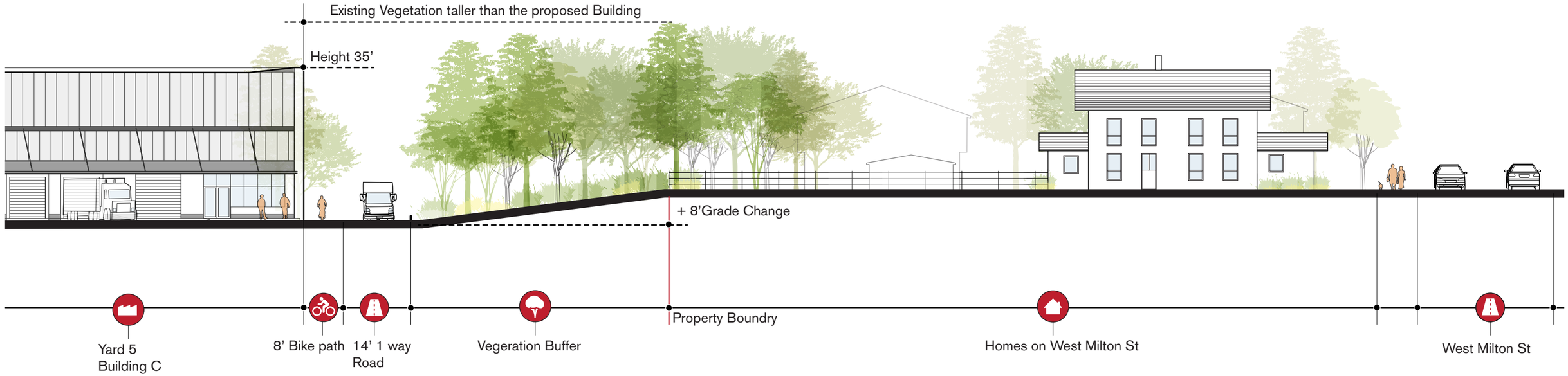


Figure 3-10
Site Section
Source: Utile, Inc., 2014

Hyde Park, Massachusetts

Figure 3-11
Landscape Plan
Source: Utile, Inc., 2014

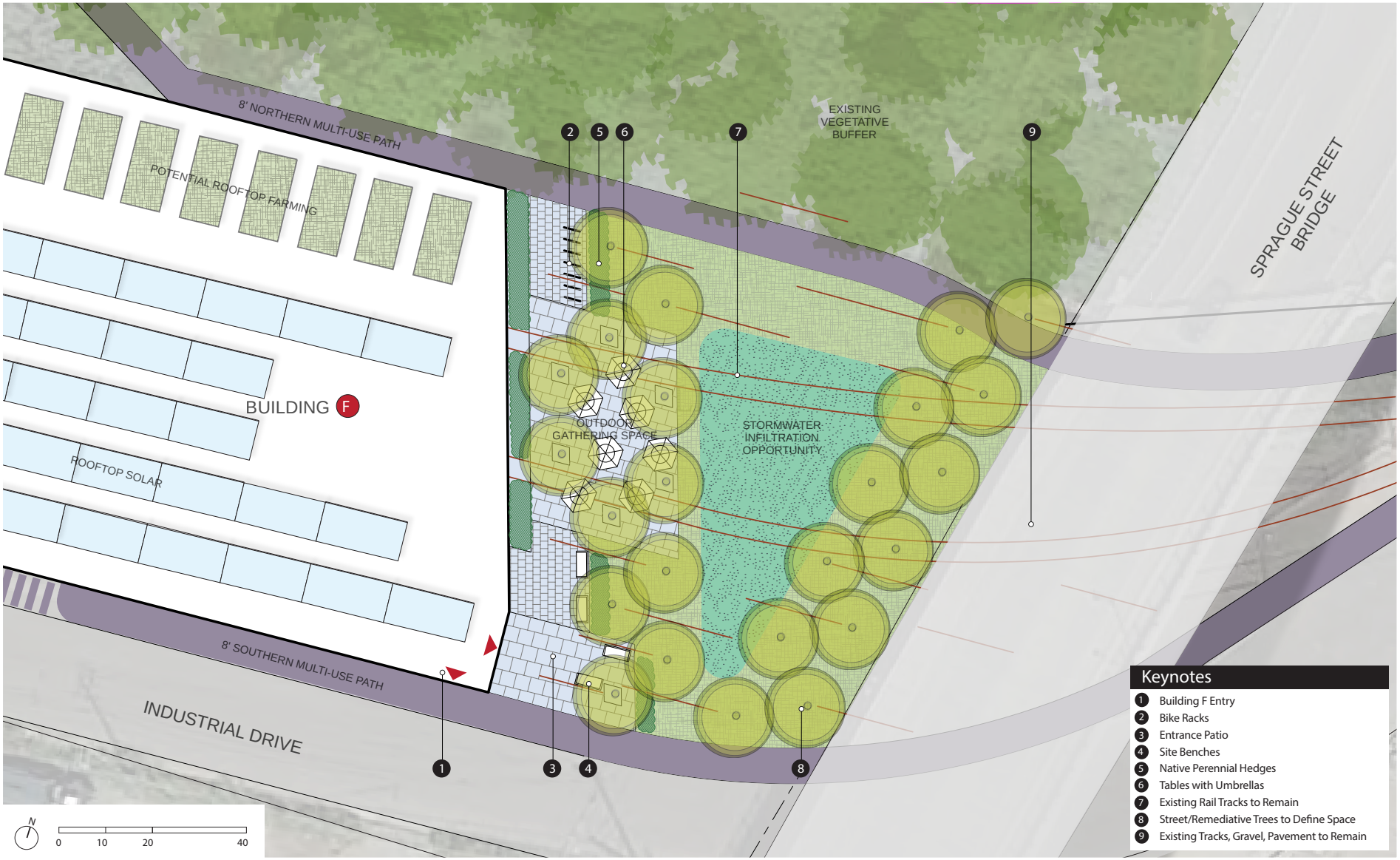


Figure 3-12
Gateway Park Details Plan
Source: Offshoots, Inc., 2014


Birch/Poplar Populus spp. (Photos taken on Site)

Poplar and birch species are often planted to remediate petroleum and organic contaminated sites. These species have the ability to slowly degrade petroleum compounds over a period of 3-20 years. Planted as buffers, their extensive water uptake can control groundwater flow and contamination spread in soils. (ITRC, 2009; US EPA, 2005; White and Newman, 2011)


Cottonwood Populus deltoids (Photos taken on Site)

Cottonwood species, much like poplar species, are often planted to degrade petroleum compounds on sites impacted with organic contaminants. In addition, their fibrous root systems can act as a "green" cap, minimizing human contact with contaminants from direct contact, erosion, and leaching. This is especially important for metals impacted soils; metals typically cannot be broken down or extracted by plants, and may remain in soils for centuries. Holding the metals in place with thick fiberous root systems is important for the risk of human or animal contact. (ITRC, 2009; US EPA, 2005; White and Newman, 2011, Chaney et. al, 2010)


White Pine Pinus strobus (Photos taken on Site)

White pines offer an evergreen alternative to poplars, birches and cottonwoods. The pines can slowly degrade petroleum compounds, though at a slower rate. Though degradation of petroleum compounds is less, their year round foliage allows for aesthetic appeal and screening in winter months. (ITRC, 2009; US EPA, 2005)


Meadow/Prairie Grasses (Photos taken on Site)

Deep rooted meadow grasses, including little and big bluestem, switchgrass, and prairie dropseed, as well as some sedges like Pennsylvania sedge and meadow sedge, have been shown to degrade petroleum compounds in the root zones through rhizodegradation. In addition, their thick fibrous roots can often travel as deep as 5' below the soil surface, acting as a green phyto-cap, holding contaminated soils, especially metals in place and eliminating human exposure risk. (ITRC, 2009; US EPA, 2005; White and Newman, 2011, Chaney et. al, 2010)

Figure 3-13
Illustration of Phytotechnology Buffer Species
Source: Offshoots, Inc., 2014

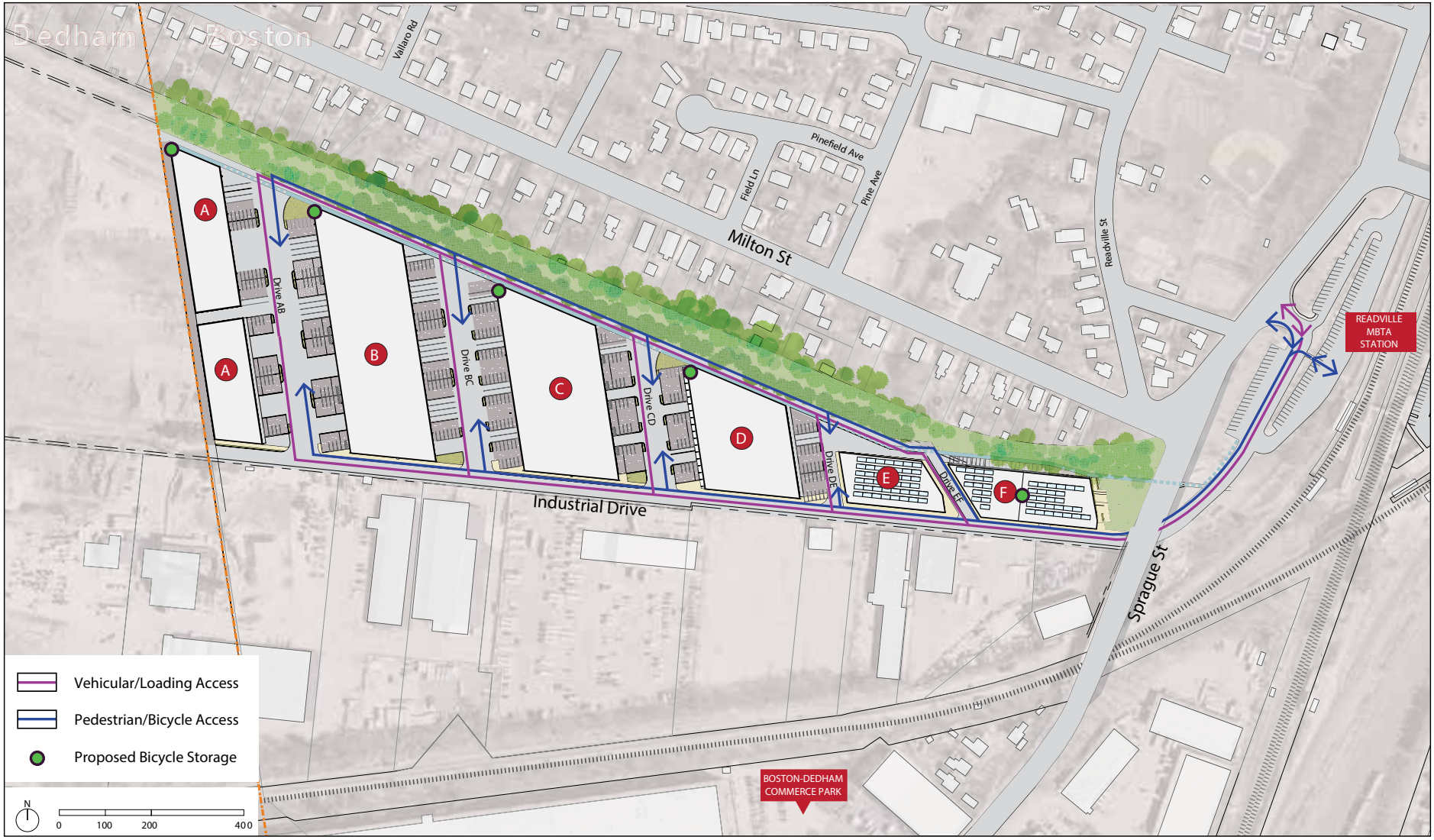


Figure 3-14
Circulation and Access Plan
Source: Utile, Inc., 2014

Chapter 4

SUSTAINABILITY

CHAPTER 4: SUSTAINABILITY

4.1 SUSTAINABLE DESIGN

The Project will incorporate multiple sustainability initiatives into its design, construction, and operation. The Leadership in Energy and Environmental Design ("LEED") rating system will be used as a framework to measure the various sustainable features of the Project. This system is divided into the following categories: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation, and Regional Priority. The Project Team has used a LEED Checklist to illustrate that the Project is working towards 41 LEED credits under the LEED BD&C V4: Core and Shell (Core and Shell) rating system. The Core and Shell rating system is used for new construction for the exterior shell and core mechanical, electrical, and plumbing units, but does not include a complete interior fit-out. The Project will be LEED Certifiable range, and anticipates being able to specify additional credits as the design progresses and the industrial buildings are fit-out. See Figure 4-1, LEED Checklist.

The Project, which is subject to Article 80B, Large Project Review of the Boston Zoning Code (the "Code"), must also comply with Article 37 of the Code, Boston's Green Building Regulations. The purpose of Article 37 is to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts, to conserve natural resources, to prepare for climate change; to promote a more sustainable city, and to enhance the quality of life in Boston. The narrative below demonstrates that the Project is in compliance with Article 37. A completed Climate Change Preparedness and Resiliency Checklist can be found in Appendix B. As the Project is in the early design phases, some of these strategies are expected to evolve with the design of the building.

4.2 ARTICLE 37/LEED COMPLIANCE

4.2.1 INTEGRATIVE PROCESS

The Project team is researching and identifying opportunities to achieve synergies across the building's energy and water related systems that will inform the Projects design and construction phases. Additional information will be provided as the design of the Project progresses.

4.2.2 LOCATION AND TRANSPORTATION

Credit 1: Sensitive Land Protection

The Project is located on a previously disturbed Site that has been used as a railroad staging and materials storage yard for over 100 years. No land on the Site currently qualifies as prime farmland, floodplains, wetlands or animal habitat.

Credit 2: High Priority Site

In 2011 the MBTA completed an extensive Site remediation for environmental contamination that has prepared the Site for select industrial and commercial uses. The Project will further improve the environmental conditions and will restore public access and economic activity to a Site that has been contaminated and closed off to the public for over a century.

Credit 4: Access to Quality Transit

The Project is located within one quarter mile walking distance of the MBTA Readville commuter rail station and two bus lines. The Project's proximity to multi-modal transportation choices will reduce motor vehicle use, which will reduce green house gas emissions, air pollution, and other environmental and public health concerns.

Credit 5: Bicycle Facilities

The Project will provide exterior/secure parking for 89 total bicycles at Buildings A, B, C, D and F. The Project will also create a new pedestrian and bicycle pathway along the right-of-way of the abandoned Dedham Secondary Branch on the northerly side of the Site that will provide access to the MBTA's Readville commuter rail station. Bicycle parking on Site will be located within 100 feet of a functional entrance to the building and within 200 yards of the proposed pedestrian and bicycle pathway.

4.2.3 SUSTAINABLE SITES

Prerequisite 1: Construction Activity Pollution Prevention

An Erosion and Sedimentation Control Plan will be developed and implemented for all construction activities associated with the Project.

Credit 1: Site Assessment

A site assessment will be completed to evaluate the sustainable features of the Site, and to document how they have influenced the Project and Site design.

Credit 4: Rainwater Management

The Project proposes to use low-impact development (LID) and green infrastructure to manage on-site runoff from the Project in a manner that replicates the natural hydrology of the Site.

Credit 7: Tenant Design and Construction Guidelines

The Project proposes to develop comprehensive guidelines that will educate future tenants in implementing sustainable design and construction features when they build out their light-industrial units. Specific recommendations will include examples of sustainable design and construction, sustainable strategies, products, materials and services.

4.2.4 WATER EFFICIENCY

Prerequisite 1: Outdoor Water Use Reduction

The Project's landscaping will consist of drought-tolerant native species that will reduce potable water consumption for irrigation by 30 percent from a calculated mid-summer baseline.

Prerequisite 2: Indoor Water Use Reduction

Water use reduction is an important goal for the Project since there is the potential for significant water use in industrial projects. The Project will specify plumbing fixtures in the building to achieve a minimum 20 percent reduction in water use over an established baseline through low-flow water-closets and low-flow sinks. These measures will increase the water efficiency for the Project and reduce the burden on municipal water supply and wastewater systems.

Prerequisite 3: Building-Level Water Metering

The Project proposes permanent water meters on each building that will measure total building water use on a monthly and annual basis. Data will be shared with the USGBC.

Credit 1: Outdoor Water Use Reduction

The Project's landscaping will consist of drought-tolerant native species that will reduce potable water consumption for irrigation beyond the baseline preqrequisite for a 50 percent reduction in total outdoor water use from a calculated mid-summer baseline.

Credit 2: Indoor Water Use Reduction

The Project will specify plumbing fixtures in the building to further reduce fixture and fitting water use from the Prerequisite Indoor Water Use Reduction for a projected 30 percent total reduction in water use over an established baseline.

Credit 4: Water Metering

The Project proposes permanent water meters that will measure monthly and annual water use for two or more subsystems as defined by USGBC. It is anticipated that the Project will monitor water use for irrigation as well as indoor plumbing fixtures and fittings. The Project will more clearly define this credit as the design of the building is advanced.

4.2.5 ENERGY AND ATMOSPHERE

Prerequisite 1: Fundamental Commissioning of Building Energy Systems

A qualified commissioning agent will review the Project to ensure that the Project's energy related systems are installed, calibrated, and perform properly at peak efficiency.

Prerequisite 2: Minimum Energy Performance

The Project proposes to exceed the minimum energy performance standards (2 percent improvement in building performance for core and shell projects over a baseline building performance rating as defined by ANSI/ASHRAE/IESNA Standard 90.1–2010).

Prerequisite 3: Building-Level Energy Metering

The Project proposes to install energy meters that will be capable of monitoring energy consumption on a monthly basis for the office building and each industrial unit on the Site.

Prerequisite 4: Fundamental Refrigerant Management

Where applicable, the Project will utilize heating, ventilation, air conditioning, and refrigeration that minimize or eliminate the emission of pollutants and compounds that contribute to ozone depletion and global climate change.

Credit 1: Enhanced Commissioning

The Project proposes to implement enhanced commissioning processes during both design and construction to ensure that systems are operating properly and at peak

efficiency. An independent commissioning authority will be involved early in the process and will facilitate commissioning design and documentation review. As the Project nears completion, additional oversight and training will be provided to ensure systems are operational and staff are properly trained.

Credit 2: Optimize Energy Performance

The Project proposes to exceed the minimum energy performance standards as established by Prerequisite Minimum Energy Performance, for an nine percent improvement in building performance for core and shell projects.

Credit 3: Advanced Energy Metering

To support energy management and future energy tracking the Project proposes to install energy meters for individual light-industrial units that will allow tenants to track building-level and system-level energy use.

Credit 5: Renewable Energy Production

The Project anticipates generating approximately five percent of the Projects on-site energy needs through renewable energy sources. Strategies most likely will include the development of a rooftop solar array on top of one or more of the buildings.

4.2.6 MATERIALS AND RESOURCES

MR Prerequisite 1: Storage and Collection of Recyclables

As required by the City of Boston, recyclables will be collected through a system located in a convenient location in the office building and in each individual industrial unit.

MR Prerequisite 2: Construction and Demolition Waste Management

The Project proposes to reduce construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials. All contractors considered for the Project will have a current Construction Waste Management Plan. These plans will include knowledge of local options for diversion and a program for documenting the diversion rate for construction waste.

Credit 2: Building Product Disclosure and Optimization – Environmental Product Declarations

The Project proposes to use building materials and products that have a documented reduced life-cycle impact. Materials and products will comply with at

least one of the USGB defined criteria that require product specific transparency and life-cycle declarations.

Credit 3: Building Product Disclosure and Optimization – Building Product Disclosure and Optimization – Sourcing of Raw Materials

The Project proposes to use building materials and products that have a documented reduced life-cycle impact. Materials and products will comply with the USGB defined criteria that require raw materials to meet ecologically responsible sourcing standards.

Credit 4: Building Product Disclosure and Optimization – Material Ingredients

The Project proposes to use building materials and products that have a documented reduced life-cycle impact and that are verified to minimize the use and generation of harmful substances. At least 2 5percent of products will document their material ingredient optimization using the paths defined by USGBC for at least 25 percent, by cost, of the total value of permanently installed products in the Project.

Credit 5: Construction and Demolition Waste Management

The Project proposes to document a 75 percent diversion rate of construction waste from disposal in landfills. All contractors considered for the Project will have a current Construction Waste Management Plan. These plans will include knowledge of local options for diversion and a program for documenting the diversion rate for construction waste.

4.2.7 INDOOR ENVIRONMENTAL QUALITY

Prerequisite 1: Minimum Indoor Air Quality Performance

The Proponent is deeply committed to designing an indoor environment that provides a healthy building for its occupants. The Project will meet the indoor air quality performance standards as required by sections 4 through 7 of ASHRAE Standard 62.1-2007.

Prerequisite 2: Environmental Tobacco Smoke Control

Smoking will be prohibited within the building and within 25 feet of building entrances.

Credit 2: Low-Emitting Materials

The Project will strive to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment. This includes limiting building materials that include volatile organic compound (VOC) emissions that could negatively impact the health of construction workers and building occupants.

Credit 3: Construction Indoor Air Quality Management Plan

The Proponent proposes to develop an indoor Air Quality Management Plan during the design phase that will be implemented during construction and preoccupation phases to minimize the impacts of construction activities on indoor air quality.

4.2.8 INNOVATION IN DESIGN

The Project proposes to achieve two Innovation in Design credits for design features not explicitly categorized in the LEED rating system. Specific credits are still being identified, and will be updated in the Draft Green Building Report that will be submitted after final design approval.

Credit 1: LEED Accredited Professional

The Project Team includes at least one LEED Accredited Professional with the architecture firm, Utile, Inc.

4.2.9 REGIONAL PRIORITY CREDITS

The Project proposes to achieve three LEED Regional Priority Credits for addressing sustainability challenges deemed critical to the Project area by the U.S. Green Building Council.

Credit 1: Brownfield Redevelopment

The Project proposes to reduce pressure on undeveloped land by rehabilitating and building on a Site with documented soil contamination.

Credit 2: Stormwater

The Project proposes to achieve an additional credit for designing and implementing a stormwater management plan that prevents the post development peak discharge rate and quantity from exceeding the predevelopment peak discharge rate and quantity for the one and the two-year, 24-hour design storm.

Credit 3: On-Site Renewable Energy

The Project proposes to achieve an additional credit for use of on-site, rooftop solar systems that are anticipated to offset approximately 11% of the Project's annual energy costs.

4.2.10 BOSTON ARTICLE 37 GREEN CREDITS

Although the Project will not pursue any of the Boston Green Building Credits, the Project will meet the Boston Public Health Commission prerequisites as noted below.

Credit p1: Retrofit Diesel Construction Vehicles

In order to reduce emissions, all construction vehicles will be retrofitted diesel vehicles or equipped with Tier II Engines.

Credit p2: Outdoor Construction Management Plan

In order to control contaminants and pollutants during construction, the contractor will develop an outdoor construction management plan including, at a minimum, wheel washing, site sweeping, truck covers, and anti-idling signage.

Credit p3: Integrated Pest Management Plan

The Project will employ an Integrated Pest Management Plan to reduce the impacts of rodents and insects that are disturbed during construction of the Project.

LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: Readville Yards
Date: July 2014

Y	?	N			
1			Credit	Integrative Process	1

11	4	25	**Location and Transportation**		20
		20	Credit	LEED for Neighborhood Development Location	20
2			Credit	Sensitive Land Protection	2
3			Credit	High Priority Site	3
	2	4	Credit	Surrounding Density and Diverse Uses	6
5		1	Credit	Access to Quality Transit	6
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1

4	2	5	**Sustainable Sites**		11
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
1			Credit	Tenant Design and Construction Guidelines	1

4	3	4	**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	2	2	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

8	7	16	**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
1	2	3	Credit	Enhanced Commissioning	6
4	4	8	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
2	1		Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

5	5	4	**Materials and Resources**		14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	3	Credit	Building Life-Cycle Impact Reduction	6
1		1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

3	5	3	**Indoor Environmental Quality**		10
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
	2	1	Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	2	1	Credit	Daylight	3
		1	Credit	Quality Views	1

3	0	3	**Innovation**		6
2		3	Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	4	1	**Regional Priority**		4
1			Credit	Regional Priority: Brownfield Redevelopment	1
1			Credit	Regional Priority: Stormwater	1
	4		Credit	Regional Priority: On-Site Renewable Energy	1
		1	Credit	Regional Priority: Specific Credit	1

41	30	61	**TOTALS**	Possible Points:	110

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

Figure 4-1
LEED Checklist
Source: Utile, Inc., 2014

Chapter 5

TRANSPORTATION

CHAPTER 5: TRANSPORTATION

5.1 INTRODUCTION

Howard/Stein-Hudson Associates, Inc. (HSH) has conducted an evaluation of the transportation impacts of a proposed development containing light-industrial and ancillary office uses located off Industrial Drive in Readville, part of Boston's Hyde Park neighborhood (the "Project"). This transportation study adheres to the Boston Transportation Department (BTD) *Transportation Access Plan Guidelines* and the Boston Redevelopment Authority's (BRA) Article 80 development review process. This study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian activity.

5.1.1 PROJECT DESCRIPTION

The Project is located along the northerly side of Industrial Drive (the "Site") in the Readville section of Boston. Access will be provided to the Site via the intersection of Milton Street at Industrial Drive, which also provides access to parking for the Massachusetts Bay Transportation Authority (MBTA) Readville commuter rail station ("Readville Station") and several other industrial use parcels located along the southerly side of Industrial Drive. The Project consists of the construction of approximately 375,000 square feet (sf) of light-industrial space with approximately 42,000 sf of office space. The light-industrial space will consist of approximately 51 individual units that will be approximately 4,000 to 7,000 square feet (sf) each. Each unit will be provided approximately three parking spaces for typical passenger vehicles and two to three loading spaces for trailers. Approximately 75 parking spaces will be provided for the office uses on the Site. Primary vehicular access to the Site will be provided by Industrial Drive via the existing intersection with Milton Street.

5.1.2 STUDY AREA

The study area consists of the following five intersections as shown on Figure 5-1, Study Area Intersections:

- West Milton Street/Milton Street/Sprague Street
- Milton Street/Industrial Drive
- Milton Street/Neponset Valley Parkway
- Milton Street/Hyde Park Avenue/Commuter Rail Driveway
- Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court

5.1.3 STUDY METHODOLOGY

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

The existing conditions analysis includes an inventory of the existing (2014) transportation conditions including traffic characteristics, parking and curb usage, transit, pedestrian circulation, bicycle facilities, loading, and Site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected in April 2014 at the study area intersections. The traffic counts form the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. Long-term impacts are evaluated for the year 2019, based on a five-year horizon from the year of the filing of this traffic study. Expected roadway, parking, transit, pedestrian, bicycle accommodation, and loading facilities are identified. This section includes the following scenarios:

- The 2019 No Build conditions scenario, which includes both general background traffic growth and traffic growth associated with any specific developments and transportation improvements that are planned in the vicinity of the Site; and

- The 2019 Build conditions scenario, which includes Project-generated traffic volume estimates added to the traffic volumes developed as part of the 2019 No Build conditions scenario.

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

An evaluation of short-term traffic impacts associated with construction activities is also provided in section 5.6, Evaluation of Short Term Traffic Impacts.

5.2 EXISTING CONDITIONS

5.2.1 EXISTING ROADWAY CONDITIONS

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

West Milton Street

- Is located north of the Site and classified as an urban principal arterial roadway under BTD jurisdiction;
- Runs in an east-west direction between Sprague Street to the east and continues on into Dedham to the west;
- Is a two-way roadway with a single travel lane in each direction; and
- Has sidewalks along both sides of the street.

Sprague Street

- Is adjacent to the east side of the Site and classified as an urban minor arterial roadway generally under BTD jurisdiction. The Sprague Street bridge over the rail tracks is under MassDOT jurisdiction;
- Runs in a north-south direction between West Milton Street to the north and Cedar Street in Dedham to the south;
- Is a two-way roadway with a single travel lane in each direction; and
- Has sidewalks along both sides of the street.

Milton Street

- Is located northeast of the Site and classified as an urban principal arterial roadway generally under BTD jurisdiction. The Milton Street bridge located over the rail tracks and in the vicinity of Readville Station is under MassDOT jurisdiction;
- Runs in a north-south direction between Neponset Valley Parkway and Hyde Park Avenue to the north and West Milton Street to the south;
- Is a two-way roadway with a single travel lane in each direction; and
- Has sidewalks along both sides of the street.

Hyde Park Avenue

- Is located east of the Site and classified as an urban principal arterial roadway under BTD jurisdiction north of Milton Street and under DCR jurisdiction between Milton Street and Wolcott Square;
- Runs in a north-south direction between Forest Hills Station to the north and terminates south of Wolcott Square;
- Is a two-way roadway with a single travel lane in each direction; and
- Has sidewalks along both sides of the avenue.

Neponset Valley Parkway

- Is broken down into two sections. One section of Neponset Valley Parkway is located north of the Site and is classified as an urban minor arterial roadway under Department of Conservation and Recreation (DCR) jurisdiction. The other section of Neponset Valley Parkway is located east of

the Project Site and is classified as an urban principal arterial roadway under DCR jurisdiction;
- Runs in a north-south direction between River Street to the north and Milton Street to the south;
- Runs in an east-west direction between Blue Hill Avenue to the east and Wolcott Square to the west;
- Is a two-way roadway with single travel lanes in each direction for both sections of the parkway; and
- Has sidewalks along both sides of both sections of the parkway in the vicinity of the study area.

Industrial Drive
- Is located adjacent to the south side of the Site and classified as a local roadway under BTD jurisdiction;
- Provides primary access to the Site, the Readville commuter-rail station parking lot, and other office and light industrial uses;
- Runs in an east-west direction between Milton Street to the east and terminates near the southwest corner of the Site with no outlet provided;
- Is a two-way roadway with a single travel lane in each direction and parking provided along both sides; and
- Does not currently provide any sidewalks.

5.2.2 EXISTING INTERSECTION CONDITIONS

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

West Milton Street at Sprague Street and Milton Street
- The intersection of West Milton Street at Sprague Street and Milton Street is a three-legged, unsignalized intersection under BTD jurisdiction;
- The Sprague Street northbound approach consists of a single travel lane under STOP control that accommodates left-turn and thru movements. Observations indicate that this approach sometimes operates as two lanes during periods of congestion;
- The Milton Street southbound approach consists of an exclusive right-turn lane and a through lane under STOP control;
- The West Milton eastbound approach consists of one travel lane under STOP control that accommodates left-turn and right-turn movements. Observations indicate that this approach sometimes operates as two lanes during periods of congestion;
- Crosswalks are provided across the southbound and eastbound approaches to the intersection; and

- Sidewalks are provided along both sides of all approaches to the intersection.

Milton Street at Industrial Drive

- The intersection of Milton Street at Industrial Drive is a three-legged, unsignalized intersection under BTD jurisdiction;
- The Milton street northbound and southbound approaches consist of single travel lanes that are separated by a double-yellow centerline;
- The Industrial Driveway westbound approach consists of a single travel lane under STOP control that accommodates left-turn and right-turn movement;
- Crosswalks are provided across all legs of the intersection; and
- Sidewalks are provided along both sides of all approaches.

Milton Street at Neponset Valley Parkway

- The intersection of Milton Street at Neponset Valley Parkway is a three-legged, unsignalized intersection under DCR jurisdiction;
- The Milton Street northbound and Neponset Valley Parkway southbound approaches consist of single travel lanes that are separated by a double-yellow centerline;
- The Milton street westbound approach consists of a single travel lane under STOP control that accommodates left-turn and right-turn movements. This approach operates as two lanes during periods of congestion;
- A crosswalk is provided across the westbound approach to the intersection; and
- Sidewalks are provided along both sides of all approaches.

Milton Street at Hyde Park Avenue and Commuter Rail Driveway

- The intersection of Milton Street at Hyde Park Avenue and Commuter Rail Driveway is a four-legged, unsignalized intersection under DCR jurisdiction;
- The Hyde Park Avenue northbound and southbound approaches consist of single travel lanes that are separated by a double-yellow centerline;
- The Milton Street eastbound approach consists of a single travel lane under STOP control that accommodates left-turn, thru, and right-turn movements. This approach operates as two lanes during periods of congestion;
- The Commuter Rail Driveway westbound approach consists of a single travel lane under STOP control that accommodates left-turn, thru, and right-turn movements;
- MBTA bus stops are provided along the northbound and southbound approaches to the intersection;
- A crosswalk is provided across the eastbound approach to the intersection; and
- Sidewalks are provided along both sides of all approaches.

Hyde Park Avenue at Neponset Valley Parkway and Wolcott Court

- The intersection of Hyde Park Avenue at Neponset Valley Parkway and Wolcott Court is a five-legged, signalized intersection under DCR jurisdiction;
- The Hyde Park Avenue northbound approach consists of a single travel lane that operates as a shared left-turn/through/right-turn lane;
- The Wolcott Court southbound approach consists of a right turn lane and a left-turn/through/right-turn lane. The right turn lane is STOP controlled and turns onto Hyde Park Avenue northbound. The left-turn/through/right-turn lane allows for movements onto Hyde Park Avenue southbound and Neponset Valley Parkway;
- The Hyde Park Avenue eastbound approach consists of a single travel lane that operates as a left-turn lane and a shared thru/right-turn lane;
- The Neponset Valley Avenue westbound approach consists of a single travel lane that operates as a shared left-turn/thru lane and a shared thru/right-turn lane;
- The Neponset Valley Avenue eastbound approach operates as a shared left-turn/thru lane and a shared thru/right-turn lane;
- An MBTA bus stop is located along the Hyde Park Avenue southbound approach;
- Crosswalks are provided across all legs of the intersection. Pedestrian signal equipment and phasing is also provided at the intersection;
- Sidewalks are provided along both sides of all approaches.

5.2.3 EXISTING TRAFFIC CONDITIONS

Traffic movement data was collected at the study area intersections on Tuesday April 1, 2014. Manual turning movement counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively) for the study area intersections.

The vehicle classification counts included car, truck, pedestrian, and bicycle movements. Based on the TMCs, the peak hours of vehicular traffic throughout the study area are 7:30 – 8:30 a.m. and 4:30 – 5:30 p.m. The detailed traffic counts are provided in the Appendix. See Figure 5-2, Existing Conditions (2014) Turning Movement Volumes, a.m. Peak Hour and Figure 5-3, Existing Conditions (2014) Turning Movement Volumes, p.m. Peak Hour, respectively.

5.2.4 EXISTING TRAFFIC OPERATIONS

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 6) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM). Field observations were performed by HSH to collect intersection geometry such as number of turning lanes, lane length, and lane width that were then incorporated into the operations analysis.

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table 5-1 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst (unacceptable) condition, with significant traffic delay. LOS D or better is typically considered acceptable in an urban area. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway.

Table 5-1: Level of Service Criteria

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

Source: 2000 Highway Capacity Manual, Transportation Research Board

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 (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 50th percentile queue length, measured in feet, represents the maximum queue length during a cycle of the traffic signal with typical (or median) entering traffic volumes.

The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during five percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only five percent of the time and would typically not occur during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" scenario. Queues at the intersection are generally below the 95th percentile queue throughout the course of the peak hour. It is also unlikely that the 95th percentile queues for each approach to the intersection will occur simultaneously.

Table 5-2 and Table 5-3 present the 2014 Existing conditions operational analysis for the study area intersections during the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix A.

Table 5-2: Existing Conditions (2014) Capacity Analysis Summary, a.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	D	41.8	-	-	-
Hyde Park Avenue EB left	F	>80.0	>1.00	~59	#122
Hyde Park Avenue EB thru/right/hard right	B	10.8	0.57	172	267
Neponset Valley Parkway WB hard left/bear left	A	6.5	0.05	2	2
Neponset Valley Parkway WB thru/right	B	16.5	0.77	288	444
Hyde Park Avenue NB left/thru/right	F	89.3	0.88	52	#76
Wolcott Court SB left/thru/right	D	52.8	0.59	41	46
Wolcott Court SB hard right	A	0.0	0.03	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	37.5	0.43	26	23
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	315
West Milton Street EB right	B	11.0	0.12	-	10
Sprague Street NB left	A	9.1	0.06	-	4
Sprague Street NB thru	A	0.0	0.24	-	0
Milton Street SB thru	A	0.0	0.21	-	0
Milton Street SB right	A	0.0	0.16	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	D	25.4	0.28	-	27
Milton Street NB thru/right	A	0.0	0.46	-	0
Milton Street SB left/thru	A	2.1	0.08	-	6
Neponset Valley Parkway/Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	D	26.8	0.77	-	177
Milton Street NB thru/right	A	0.0	0.42	-	0
Neponset Valley Parkway SB left	B	11.6	0.38	-	44
Neponset Valley Parkway SB thru	A	0.0	0.04	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	C	21.5	0.77	-	191
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	B	13.1	0.61	-	108
Hyde Park Avenue NB thru/right	A	0.0	0.14	-	0
Hyde Park Avenue SB left/thru	A	0.0	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.16	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
Grey shading indicates LOS E or LOS F.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

Table 5-3: Existing Conditions (2014) Capacity Analysis Summary, p.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	B	14.9	-	-	-
Hyde Park Avenue EB left	A	9.6	0.19	10	18
Hyde Park Avenue EB thru/right/hard right	B	13.7	0.70	256	399
Neponset Valley Parkway WB hard left/bear left	A	8.3	0.08	1	2
Neponset Valley Parkway WB thru/right	B	10.1	0.53	160	246
Hyde Park Avenue NB left/thru/right	C	31.6	0.34	17	32
Wolcott Court SB left/thru/right	D	42.0	0.44	36	20
Wolcott Court SB hard right	A	0.0	0.02	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	41.2	0.46	34	39
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	416
West Milton Street EB right	B	11.9	0.24	-	23
Sprague Street NB left	A	9.1	0.09	-	8
Sprague Street NB thru	A	0.0	0.25	-	0
Milton Street SB thru	A	0.0	0.21	-	0
Milton Street SB right	A	0.0	0.15	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	F	>50.0	>1.00	-	228
Milton Street NB thru/right	A	0.0	0.50	-	0
Milton Street SB left/thru	A	5.4	0.20	-	18
Neponset Valley Parkway/Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	C	21.2	0.64	-	113
Milton Street NB thru/right	A	0.0	0.50	-	0
Neponset Valley Parkway SB left	B	12.9	0.42	-	52
Neponset Valley Parkway SB thru	A	0.0	0.07	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	D	34.8	0.91	-	321
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	B	12.0	0.53	-	82
Hyde Park Avenue NB thru/right	A	0.0	0.10	-	0
Hyde Park Avenue SB left/thru	A	0.2	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.16	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
Grey shading indicates LOS E or LOS F.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

As shown in Table 5-2, the signalized intersection of Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court currently operates at an overall LOS D during the a.m. peak hour. The Hyde Park Avenue eastbound left and northbound movements currently operate at LOS F and are at the operating capacity. Field observations indicate that the queues for these movements generally clear during each traffic signal.

At the unsignalized intersections, several movements operate at LOS F during the a.m. peak hour. Field observations indicate that the actual queues and operations are better than what the analysis presents and that the traffic is generally processed through the intersections during the a.m. peak hour. The HCM analysis for unsignalized intersections assumes more conservative parameters than what is typically experienced in an urban environment, such as the critical gap[1], which sometimes causes the operations analysis to show poorer results than actual field operations.

As shown in Table 5-3, the signalized intersection of Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court currently operates at an overall LOS B during the p.m. peak hour with all movements operating at LOS D or better.

At the unsignalized intersections, several movements operate at LOS F during the p.m. peak hour. As mentioned above, field observations indicate that the actual queues and operations are better than what the analysis presents and that the traffic is generally processed through the intersections during the p.m. peak hour.

5.2.5 EXISTING PARKING AND CURB USAGE

On-street parking in the proximity of the Site generally consists of unrestricted parking north and east of the Site. Parking is unrestricted along Milton Street, West Milton Street, and Neponset Valley Parkway, but based on field observations, parking does not occur along these roadways. Two-hour parking is provided east of the Project Site at Wolcott Square. The existing on-street parking regulations are shown in Figure 5-4, On-Street Parking Regulations.

Off-street parking is provided in the vicinity of the Site at the Readville Commuter Rail station. Approximately 354 off-street parking spaces are currently provided at the station at a cost of $4 per day. Based on field observations, there is excess capacity at the station parking lot on a typical weekday.

[1] The critical gap is the minimum length of time interval in the major street traffic stream that allows intersection entry for one minor street vehicle.

5.2.6 EXISTING PUBLIC TRANSPORTATION

The Site is located in the proximity of Readville Station, which provides service to two commuter rail lines and two bus routes. These routes are summarized in Table 5-4 and shown graphically in Figure 5-5, Public Transportation Facilities.

Table 5-4: Public Transportation Services

Route	Description	Rush hour Headway[1] (minutes)
Bus Routes		
32	Wolcott Square – Forest Hills Station via Hyde Park Avenue	7-8
33	Dedham Line – Mattapan Station via River Street	30
Commuter Rail Routes		
Franklin	Forge Park / 495 – South Station	60-90
Fairmont	Readville – South Station	40

1 Headway is the time between trains/buses

MBTA Bus Service

MBTA Bus Route 32 operates along Hyde Park Avenue in the Project area and stops near the Readville Station and Wolcott Square. Route 32 provides a connection between Wolcott Square and Forest Hills Station, which is the last stop on the Orange Line. Bus Route 33 provides service between Readville and Mattapan and operates along West Milton Street and Milton Street with stops near the Sprague Street/West Milton Street/Milton Street Intersection.

MBTA Commuter Rail

The Providence/Stoughton and Franklin commuter rail lines pass through the Readville Station. Readville Station is also the last stop along the Fairmont commuter rail line.

5.2.7 EXISTING PEDESTRIAN CONDITIONS

The Site is located along Industrial Drive in the Readville district of Hyde Park. Currently, no sidewalks are provided along Industrial Drive. In the Project study area, sidewalks are generally provided along both sides of all other roadways, with crosswalks provided at the intersections. Pedestrian signal equipment is also provided at the signalized intersection of Hyde Park Avenue at Neponset Valley Parkway and Wolcott Court.

To document the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs at the study area intersections and are presented in Figure 5-6, Existing Pedestrian (2014) Volumes, a.m. and p.m. Peak Hour. The heaviest pedestrian movements occur at the intersection of Industrial Drive at Milton Street. This is most likely due to the activity at the Readville Commuter Rail station.

5.2.8 EXISTING BICYCLE FACILITIES

There are currently no on-street bicycle facilities or off-street multi-use paths in the vicinity of the Project Site. To estimate the level of bicycle activity in the study area, bicycle counts were conducted concurrent with the vehicular TMCs and are presented in Figure 5-7, Existing Bicycle (2014) Volumes, a.m. and p.m. Peak Hour. Bicycle volumes are minimal within the study area.

5.2.9 BICYCLE AND CAR SHARING SERVICES

There are currently no car sharing or Hubway locations in the vicinity of the Site.

5.3 FUTURE CONDITIONS

For transportation impact analyses, it is standard practice to evaluate two future conditions: No Build conditions (without the proposed project) and Build conditions (with the proposed project). In accordance with BTD guidelines, these conditions are projected to a future date five years from the current year. For the evaluation of this Project, 2019 was selected as the horizon year for the future conditions analyses.

This section presents a description of the 2019 future conditions scenarios and includes an evaluation of the transportation facilities under the No Build and Build conditions.

5.3.1 NO BUILD CONDITIONS

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

5.3.1.1 BACKGROUND TRAFFIC GROWTH

The methodology to account for future traffic growth, independent of the Project, consists of two parts. The first part of the methodology accounts for general background traffic growth that may be affected by changes in demographics, automobile usage, and automobile ownership. Based on a review of recent and historic traffic data collected for nearby projects and to account for any additional unforeseen traffic growth, a 1.0 percent per year annual traffic growth rate was used to develop the future conditions traffic volumes.

The second part of the methodology identifies any specific planned developments that are expected to affect traffic patterns throughout the study area within the future analysis time horizon. However, there are currently no other specific planned developments submitted to the BRA in the area of the Site.

5.3.1.2 NO BUILD CONDITIONS TRAFFIC OPERATIONS

The 2019 No Build conditions scenario analysis uses the same methodology as the 2014 Existing conditions scenario analysis. Table 5-5 and Table 5-6 present the 2019 No Build conditions operations analysis for the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in the Transportation Appendix. See Figure 5-8, No Build Conditions (2019) Turning Movement Volumes, a.m. Peak Hour and Figure 5-9, No Build Conditions (2019) Turning Movement Volumes, p.m. Peak Hour.

Table 5-5: No Build Conditions (2019) Capacity Analysis Summary, a.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	D	46.6	-	-	-
Hyde Park Avenue EB left	F	>80.0	>1.00	~67	#129
Hyde Park Avenue EB thru/right/hard right	B	11.4	0.60	188	292
Neponset Valley Parkway WB hard left/bear left	A	6.7	0.05	2	2
Neponset Valley Parkway WB thru/right	B	18.6	0.81	321	#517
Hyde Park Avenue NB left/thru/right	F	>80.0	0.97	57	#86
Wolcott Court SB left/thru/right	D	39.5	0.63	43	47
Wolcott Court SB hard right	A	0.1	0.03	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	38.4	0.45	28	23
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	388
West Milton Street EB right	B	11.2	0.13	-	11
Sprague Street NB left	A	9.2	0.06	-	5
Sprague Street NB thru	A	0.0	0.25	-	0
Milton Street SB thru	A	0.0	0.22	-	0
Milton Street SB right	A	0.0	0.16	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	D	27.8	0.31	-	31
Milton Street NB thru/right	A	0.0	0.48	-	0
Milton Street SB left/thru	A	2.3	0.08	-	7
Neponset Valley Parkway/Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	D	32.6	0.83	-	217
Milton Street NB thru/right	A	0.0	0.45	-	0
Neponset Valley Parkway SB left	B	12.1	0.41		50
Neponset Valley Parkway SB thru	A	0.0	0.05	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	C	25.0	0.82	-	228
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	B	14.2	0.65	-	127
Hyde Park Avenue NB thru/right	A	0.0	0.15	-	0
Hyde Park Avenue SB left/thru	A	0.0	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.16	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

As shown in Table 5-5, operations at the signalized intersection of Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court are expected to continue to operate at LOS B under the 2019 No Build conditions during the a.m. peak hour. The additional traffic growth is not expected to significantly add to the delay or queuing currently experienced at the intersection.

As shown in Table 5-5, operations at the unsignalized intersections of the study area are expected to continue to operate at the same LOS under the 2019 No Build conditions during the a.m. peak hour. The additional traffic growth is not expected to significantly add to the delay or queuing currently experienced at any of the intersections.

Table 5-6: No Build Conditions (2019) Capacity Analysis Summary, p.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	B	15.7	-	-	-
Hyde Park Avenue EB left	A	9.5	0.23	11	20
Hyde Park Avenue EB thru/right/hard right	B	14.9	0.74	282	442
Neponset Valley Parkway WB hard left/bear left	A	8.3	0.08	1	2
Neponset Valley Parkway WB thru/right	B	10.5	0.56	172	265
Hyde Park Avenue NB left/thru/right	C	32.2	0.36	17	33
Wolcott Court SB left/thru/right	D	43.1	0.47	38	21
Wolcott Court SB hard right	A	0.0	0.02	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	42.3	0.48	36	41
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	503
West Milton Street EB right	B	12.2	0.26	-	26
Sprague Street NB left	A	9.2	0.10	-	8
Sprague Street NB thru	A	0.0	0.26	-	0
Milton Street SB thru	A	0.0	0.22	-	0
Milton Street SB right	A	0.0	0.16	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	F	>50.0	>1.00	-	285
Milton Street NB thru/right	A	0.0	0.52	-	0
Milton Street SB left/thru	A	6.0	0.21	-	20
Neponset Valley Parkway/Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	C	24.3	0.69	-	136
Milton Street NB thru/right	A	0.0	0.52	-	0
Neponset Valley Parkway SB left	B	13.7	0.46	-	61
Neponset Valley Parkway SB thru	A	0.0	0.08	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	E	45.2	0.97	-	394
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	B	12.7	0.57	-	95
Hyde Park Avenue NB thru/right	A	0.0	0.10	-	0
Hyde Park Avenue SB left/thru	A	0.2	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.17	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
Grey shading indicates a decrease to LOS E or LOS F when compared to the Existing Conditions analysis.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

As shown in Table 5-6, operations at the signalized intersection of Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court are expected to continue to operate at LOS D under the 2019 No Build conditions during the p.m. peak hour. The additional traffic growth is not expected to significantly add to the delay or queuing currently experienced at the intersection.

As shown in Table 5-6, operations at the unsignalized intersections of the study area are expected to continue to operate at the same LOS under the 2019 No Build conditions during the p.m. peak hour. The additional traffic growth is not expected to significantly add to the delay or queuing currently experienced at any of the intersections.

5.3.2 BUILD CONDITIONS

As previously summarized, the Project will consist of the construction of approximately 331,950 sf of light-industrial space with approximately 42,000 sf of ancillary office space. The light-industrial space will include up to 51 individual units that will be approximately 4,000 to 7,000 sf each. Each unit will be provided approximately six parking spaces for typical passenger vehicles and two to three loading spaces for trailers. Approximately 75 parking spaces will be provided on the Site for the proposed office uses.

5.3.2.1 SITE ACCESS AND CIRCULATION

As shown in Figure 5-10, Circulation and Access Plan, access will be provided by Industrial Drive via the intersection with Milton Street. Four drive aisles that vary from 60 to 65 feet in width will provide internal access to the light-industrial units. The drive aisles will provide enough width to allow a WB-50 truck to efficiently and safely maneuver in and out of the Site. Access to the office parking area will be provided off of Industrial Drive in the eastern portion of the Site. Circulation will be provided around the entire Site by way of Industrial Drive along the southern portion of the Site and by a 16-foot wide one-way roadway along the northern portion of the Site.

5.3.2.2 TRIP GENERATION METHODOLOGY

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

To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*[2] were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel mode shares such as walking, bicycling, and transit.

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

LUC 130 – Industrial Park. Industrial parks are defined as a place containing a number of industrial or related facilities. They are characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Trip generation estimates are based on average vehicular rates per 1,000 square feet of gross floor area.

LUC 710 – General Office Building. General Office Buildings are defined as a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. Trip generation estimates are based on average vehicular rates per 1,000 square feet gross floor area.

5.3.2.3 MODE SHARE

The BTD publishes vehicle, transit, and walking/bicycling mode split rates for different areas of Boston. The Site is located in the southerly portion of BTD's designated Area 12, which also includes Hyde Park. The BTD's travel mode share data for Area 12 are shown in Table 5-7.

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

Table 5-7: Travel Mode Shares

Land Use	Direction	Walk/ Bicycle Share	Transit Share	Auto Share	Vehicle Occupancy Rate
Daily					
Industrial Park	In	5%	8%	87%	1.13
	Out	5%	8%	87%	1.13
General Office Building	In	5%	8%	87%	1.13
	Out	5%	8%	87%	1.13
a.m. Peak Hour					
Industrial Park	In	6%	6%	88%	1.13
	Out	5%	17%	78%	1.13
General Office Building	In	6%	6%	88%	1.13
	Out	5%	17%	78%	1.13
p.m. Peak Hour					
Industrial Park	In	5%	17%	78%	1.13
	Out	6%	6%	88%	1.13
General Office Building	In	5%	17%	78%	1.13
	Out	6%	6%	88%	1.13

5.3.2.4 TRIP GENERATION

The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[3] and then the mode share percentages shown in Table 5-7 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates. The trip generation for the Project by mode is shown in Table 5-8. The detailed trip generation information is provided in Appendix A, Transportation Technical Appendix.

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

Table 5-8: Project Trip Generation

Land Use		Walk/Bicycle Trips	Transit Trips	Vehicle Trips
Daily				
Industrial Park[1] *319 ksf*	In	62	99	949
	Out	62	99	949
General Office Building[2] *36 ksf*	In	11	18	173
	Out	11	18	173
Total	In	73	117	1,122
	Out	73	117	1,122
a.m. Peak Hour				
Industrial Park[1] *319 ksf*	In	15	15	189
	Out	3	9	36
General Office Building[2] *36 ksf*	In	3	3	42
	Out	0	1	5
Total	In	18	18	231
	Out	3	10	41
p.m. Peak Hour				
Industrial Park[1] *319 ksf*	In	3	11	44
	Out	15	15	188
General Office Building[2] *36 ksf*	In	1	2	*7*
	Out	3	3	40
Total	In	4	13	51
	Out	18	18	228

1 Based on ITE LUC 130 – Industrial Park.
2 Based on ITE LUC 710 – General Office Building.

5.3.2.5 VEHICLE TRIP GENERATION

To develop the overall trip generation characteristics, the adjusted vehicular trips associated with the Project were estimated. The Project-generated new vehicle trips are summarized in Table 5-9, with the detailed trip generation information provided in the Appendix A, Transportation Technical Appendix.

Table 5-9: Project Vehicle Trip Generation

Time Period	Direction	Industrial Park[1]	General Office Building[2]	Total
Daily	In	949	173	1,122
	Out	949	173	1,122
	Total	**1,898**	**346**	**2,244**
a.m. Peak Hour	In	189	42	231
	Out	36	5	41
	Total	**225**	**47**	**272**
p.m. Peak Hour	In	44	7	51
	Out	188	40	228
	Total	**232**	**47**	**279**

1 Based on ITE LUC 130 – Industrial Park for 319 ksf.
2 Based on ITE LUC 710 – General Office Building for 36 ksf.

As shown in Table 5-9, the Project is expected to generate approximately 2,244 new daily vehicle trips (1,122 entering and 1,122 exiting), with 272 new vehicle trips (231 entering and 41 exiting) during the a.m. peak hour and 279 new vehicle trips (51 entering and 228 exiting) during the p.m. peak hour.

5.3.2.6 VEHICLE TRIP DISTRIBUTION

The vehicle trip distribution identifies the various travel paths for vehicles arriving and leaving the Site. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 12. The origin-destination data specifies the percentage of trips traveling between Readville and other areas within the Boston metropolitan area. See Figure 5-11, Vehicle Trip Distribution.

The Project-generated vehicle trips were assigned to the study area roadway network based on the trip distribution patterns shown in Figure 5-11, and are shown in Figure 5-12, Project Generated Trips, a.m. Peak Hour and Figure 5-13, Project Generated Trips, p.m. Peak Hour for the a.m. and p.m. peak hours, respectively. The Project-generated trips were added to the 2019 No Build conditions traffic volumes to develop the 2019 Build conditions peak hour traffic volume networks and are shown in Figure 5-14, Build Conditions (2019) Turning Movement Volumes, a.m. Peak Hour and Figure 5-15, Build Conditions (2019) Turning Movement Volumes, p.m. Peak Hour for the a.m. and p.m. peak hours, respectively.

5.3.2.7 BUILD CONDITIONS TRAFFIC OPERATIONS

The 2019 Build conditions scenario analyses use the same methodology as the 2014 Existing and 2019 No Build conditions scenario analyses. The results of the 2019 Build condition traffic analysis at study area intersections are presented in Table 5-10 and Table 5-11 for the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix A, Transportation Technical Appendix.

Table 5-10: Build Conditions (2019) Capacity Analysis Summary, a.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	D	48.1	-	-	-
Hyde Park Avenue EB left	F	>80.0	>1.00	~67	#129
Hyde Park Avenue EB thru/right/hard right	B	11.7	0.61	195	303
Neponset Valley Parkway WB hard left/bear left	A	6.7	0.06	2	2
Neponset Valley Parkway WB thru/right	C	24.7	0.89	398	#691
Hyde Park Avenue NB left/thru/right	F	>80.0	0.97	57	#86
Wolcott Court SB left/thru/right	E	56.1	0.63	43	47
Wolcott Court SB hard right	A	0.1	0.03	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	38.4	0.45	28	23
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	624
West Milton Street EB right	B	11.3	0.13	-	11
Sprague Street NB left	A	9.3	0.06	-	5
Sprague Street NB thru	A	0.0	0.28	-	0
Milton Street SB thru	A	0.0	0.22	-	0
Milton Street SB right	A	0.0	0.17	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	F	>50.0	>1.00	-	306
Milton Street NB thru/right	A	0.0	0.58	-	0
Milton Street SB left/thru	A	9.2	0.36	-	42
Neponset Valley Parkway//Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	D	34.4	0.84	-	226
Milton Street NB thru/right	A	0.0	0.46	-	0
Neponset Valley Parkway SB left	B	12.4	0.42	-	52
Neponset Valley Parkway SB thru	A	0.0	0.05	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	D	26.5	0.84	-	245
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	C	18.7	0.77	-	196
Hyde Park Avenue NB thru/right	A	0.0	0.14	-	0
Hyde Park Avenue SB left/thru	A	0.0	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.19	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
Grey shading indicates a decrease to LOS E or LOS F when compared to the No-Build Conditions analysis.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

Table 5-11: Build Conditions (2019) Capacity Analysis Summary, p.m. Peak Hour

	LOS	Delay (seconds)	V/C Ratio	50th Percentile Queue Length (ft)	95th Percentile Queue Length (ft)
Signalized					
Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court	B	17.4	-	-	-
Hyde Park Avenue EB left	B	10.1	0.24	11	20
Hyde Park Avenue EB thru/right/hard right	B	18.2	0.81	338	#577
Neponset Valley Parkway WB hard left/bear left	A	8.3	0.08	1	2
Neponset Valley Parkway WB thru/right	B	10.8	0.57	180	277
Hyde Park Avenue NB left/thru/right	C	32.2	0.36	17	33
Wolcott Court SB left/thru/right	D	43.1	0.47	38	21
Wolcott Court SB hard right	A	0.0	0.02	0	0
Neponset Valley Parkway NEB hard left/bear left/bear right/hard right	D	42.3	0.48	36	41
Unsignalized					
Sprague Street/West Milton Street/Milton Street	-	-	-	-	-
West Milton Street EB left	F	>50.0	>1.00	-	591
West Milton Street EB right	B	12.7	0.27	-	28
Sprague Street NB left	A	9.8	0.11	-	10
Sprague Street NB thru	A	0.0	0.26	-	0
Milton Street SB thru	A	0.0	0.24	-	0
Milton Street SB right	A	0.0	0.21	-	0
Milton Street/Industrial Drive	-	-	-	-	-
Industrial Drive WB left/right	F	>50.0	>1.00	-	**
Milton Street NB thru/right	A	0.0	0.55	-	0
Milton Street SB left/thru	A	7.2	0.26	-	26
Neponset Valley Parkway/Sprague Street/Milton Street	-	-	-	-	-
Milton Street WB left	F	>50.0	>1.00	-	**
Milton Street WB right	D	30.1	0.76	-	165
Milton Street NB thru/right	A	0.0	0.60	-	0
Neponset Valley Parkway SB left	C	15.9	0.52	-	75
Neponset Valley Parkway SB thru	A	0.0	0.08	-	0
Milton Street/Hyde Park Avenue/MBTA Drive	-	-	-	-	-
Milton Street EB left/thru	F	>50.0	>1.00	-	**
Milton Street EB right	F	>50.0	>1.00	-	563
MBTA Drive WB left/thru/right	F	>50.0	>1.00	-	**
Hyde Park Avenue NB left	B	13.3	0.60	-	104
Hyde Park Avenue NB thru/right	A	0.0	0.10	-	0
Hyde Park Avenue SB left/thru	A	0.2	0.00	-	0
Hyde Park Avenue SB right	A	0.0	0.18	-	0

~ = 50th percentile volume exceeds capacity.
# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
Grey shading indicates a decrease to LOS E or LOS F when compared to the No-Build Conditions analysis.
** The v/c ratio is outside the acceptable limits for Synchro to calculate the 95th percentile queue.

As shown in Table 5-10 and Table 5-11, under the 2019 Build conditions, the signalized intersection of Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court operates at the same LOS as under the 2019 No Build conditions during both the a.m. and p.m. peak hours. The Wolcott Court southbound movements will worsen to LOS E during the a.m. peak hour. However, this approach will have minimal queuing and does not accommodate a significant amount of vehicular traffic.

The Site driveway (Industrial Drive) does not operate with acceptable levels of service during the a.m. or p.m. peak hour and is expected to worsen with the addition of the Project generated vehicle trips. The other unsignalized study area intersections are not as heavily impacted by the Project generated trips, but some existing capacity issues will be made worse due to the Project generated vehicle trips. The intersections on either side of the Milton Street bridge, which have queuing issues in the existing condition, will likely see even longer delays and queues. Potential measures, such as signalizing these intersections, could be considered to alleviate the congestion at the study area intersections.

5.3.2.8 PARKING

The Project will provide a total of 250 vehicular parking spaces on the Site. Eighty-five parking spaces will be provided for the office uses and 165 parking spaces will be provided for the light-industrial uses on the Site. Each industrial use unit will be provided approximately three parking spaces for passenger vehicles and two to three loading spaces for trailers. The parking ratio for the office uses will be more than adequate to accommodate the parking demand. The parking supply for the industrial uses will also accommodate the expected demand. It is anticipated that the uses in the industrial units will vary and may have different parking demands throughout the day.

5.3.2.9 PUBLIC TRANSPORTATION

As previously discussed, the Project is positioned to take advantage of nearby public transportation opportunities. The Readville Station is located less than a half-mile from the Site and provides access to the MBTA Commuter Rail. Two bus lines also serve Readville Station. Based on the transit mode shares presented earlier, the future transit trips associated with the Project were estimated and are summarized in Table 5-12. The transit trips are expected to be mostly associated with the office uses on the Project Site.

Table 5-12: Project Transit Trips

Time Period	Direction	Industrial Park[1]	General Office Building[2]	Total
Daily	In	99	18	117
	Out	99	18	117
	Total	**198**	**36**	**234**
a.m. Peak Hour	In	15	3	18
	Out	9	1	10
	Total	**24**	**4**	**28**
p.m. Peak Hour	In	11	2	13
	Out	15	3	18
	Total	**26**	**5**	**31**

1 Based on ITE LUC 130 – Industrial Park for 319 KSF.
2 Based on ITE LUC 710 – General Office Building for 36 KSF.

As shown in Table 5-12, the Project will generate an estimated 234 new transit trips on a daily basis. Approximately 28 new transit trips (18 alighting and 10 boarding) will occur during the a.m. peak hour and 31 new trips (13 alighting and 18 boarding) will occur during the p.m. peak hour. The majority of these transit trips will be accommodated by the Commuter Rail at the Readville MBTA Station and the two nearby MBTA bus routes.

5.3.2.10 PEDESTRIANS

Based on the walk/bicycle mode shares presented in Table 5-7, the future walk/bicycle trips were estimated and are summarized in Table 5-13.

Table 5-13: Project Pedestrian Trips

Time Period	Direction	Industrial Park[1]	General Office Building[2]	Total
Daily	In	62	11	73
	Out	62	11	73
	Total	**124**	**22**	**146**
a.m. Peak Hour	In	15	3	18
	Out	3	0	3
	Total	**18**	**3**	**21**
p.m. Peak Hour	In	3	1	4
	Out	15	3	18
	Total	**18**	**4**	**22**

1 Based on ITE LUC 130 – Industrial Park for 319 KSF.
2 Based on ITE LUC 710 – General Office Building for 36 KSF.

Over the course of a day, the Project will generate an estimated 146 new pedestrian trips and an additional 234 new transit trips that will

require a walk to or from the Site. This results in an additional 380 new pedestrian trips per day. Approximately 21 new pedestrian trips will occur during the a.m. peak hour and 22 new pedestrian trips will occur during the p.m. peak hour in addition to the transit trips that will also require a walk from the Site.

5.3.2.11 BICYCLE ACCOMMODATIONS

BTD has established guidelines requiring projects subject to Boston Redevelopment Authority (BRA) Article 80 Large Project Review (Article 80) and Transportation Access Plan Agreements (TAPA) to provide secure bicycle parking for employees and short-term bicycle racks for visitors. The Project will provide 89 covered and secure outdoor bicycle storage spaces on Site. Thirty-two spaces will be provided at Buildings A, B, C and D, 43 spaces will be provided within Building F and 10 spaces will be provided in the gateway park.

All bicycle racks, signs and parking areas will conform to BTD guidelines and will be located in sage, secure locations. The Proponent will with the BRA and BTD to identify the most appropriate quantity and location for bicycle racks on the Project Site as part of the Article 80 and TAPA processes.

Loading and Service Activity

Loading and service operations for the office building will occur within the parking lot associated with that each individual building. Most of the service operations will consist of deliveries to and from the individual building. Trash and recycling operations for the office building will also occur directly in the parking lot.

Each industrial unit on the Site will have two to three loading docks that can accommodate up to a WB-50 trailer truck. Deliveries and loading operations will be dependent on the types of uses for each individual unit. Trash pick-up will be conducted by a private trash contractor and will occur on-Site at each of the industrial units.

5.4 TRANSPORTATION MITIGATION MEASURES

The Proponent will work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use. As part of the Project, the Proponent will upgrade all abutting sidewalks and pedestrian ramps to the City of Boston standards in accordance with the Boston Complete Streets design guidelines. The Proponent will construct a sidewalk along Industrial Drive between

Milton Street and the Project Site. Other improvements will include the installation of new, accessible ramps, improvements to street lighting where necessary, and the provision of bicycle storage racks surrounding the Site, where appropriate.

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 proposed measures listed above and any additional transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA.

As part of the Project, the Proponent will commit to the following mitigation items that will offset the Project's impact at the study area intersections:

- The Proponent will conduct a traffic signal warrant analysis at all of the unsignalized study area intersections;

- If a traffic signal is warranted, the Proponent will design and work with BTD on determining the feasibility of the installation of a traffic signal at the intersection of Milton Street/Industrial Drive. It is anticipated that the improvements will include additional lanes at the intersection but will not require any roadway widening and will not have any right-of-way impacts. The specific details for the installation of a traffic signal will be included in the TAPA; and

- If traffic signals are warranted at the intersections of West Milton Street/Milton Street/Sprague Street, Milton Street/Neponset Valley Parkway, and Milton Street/Hyde Park Avenue/Commuter Rail Driveway, the Proponent will provide BTD with design documents for improvements at each intersection. Improvements at these intersections will also include additional lanes but will not require any roadway widening and will not have any right-of-way impacts. The Proponent will not construct improvements or install signals at these locations.

- 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. See Section 5.6 for additional information related to the CMP.

5.5 TRANSPORTATION DEMAND MANAGEMENT

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project related traffic impacts. TDMs 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. The TDM program will mostly primarily target the office uses of the Project.

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 the nearby available transit access in marketing the Site to future employees by working with them to implement the following 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:

- **Bicycle Accommodation:** The Proponent will provide bicycle storage in secure, sheltered areas for employees to encourage bicycling as an alternative mode of transportation. Subject to necessary approvals, public use bicycle racks will be placed near building entrances. Changing rooms with showers will be provided on Site;
- **Transportation Coordinator:** The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries; and
- **Project Web Site:** The web site will include transportation-related information for patrons and workers.

5.6 EVALUATION OF SHORT-TERM CONSTRUCTION IMPACTS

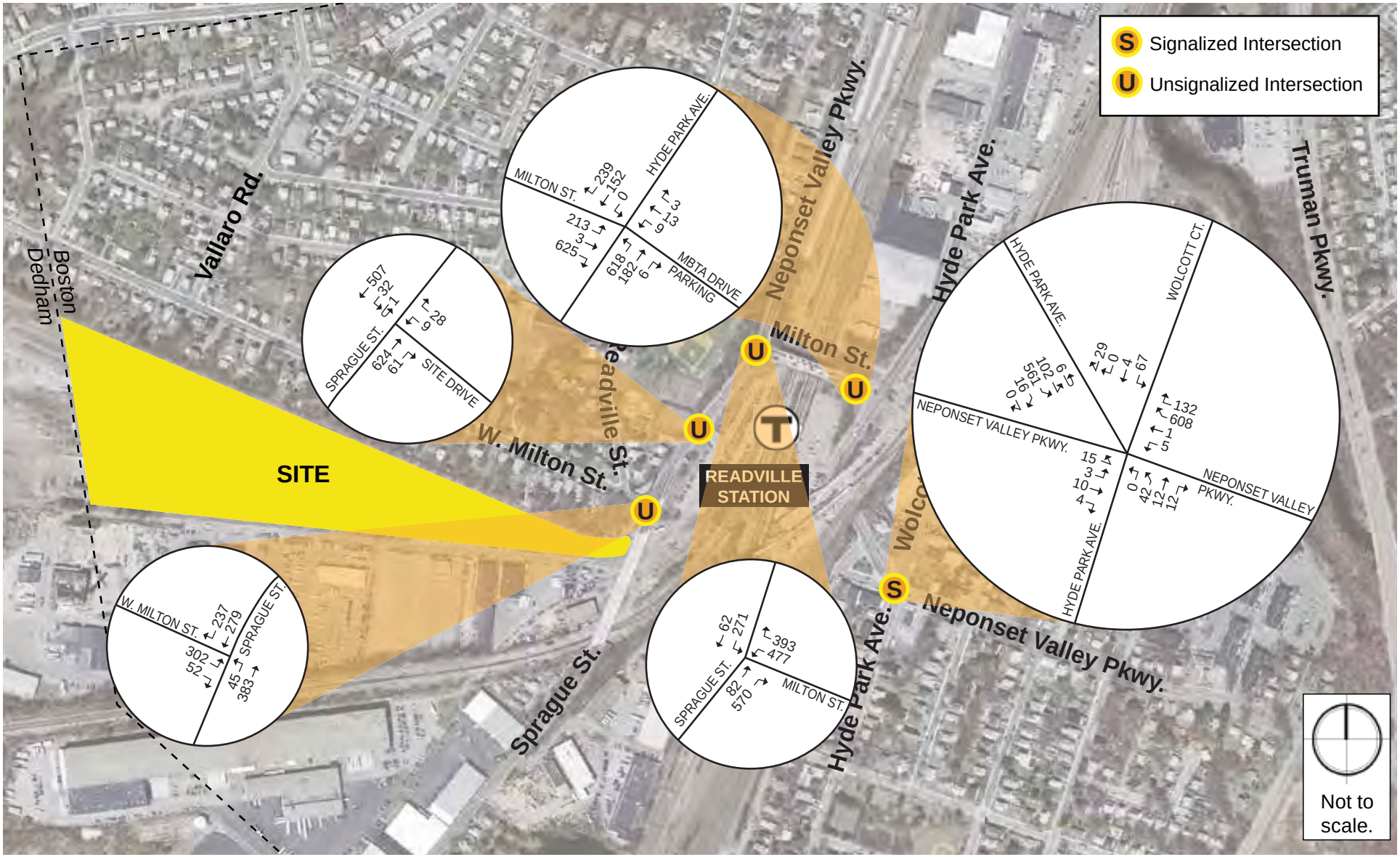
Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in the CMP to be filed with BTD in accordance with the City's transportation maintenance plan requirements. The CMP will also address the need for pedestrian detours, lane closures, and/or parking restrictions, if necessary to accommodate a safe and secure work zone.

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

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

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

Figure 5-1
Study Area Intersections
Source: Howard/Stein-Hudson Associates, Inc., 2014

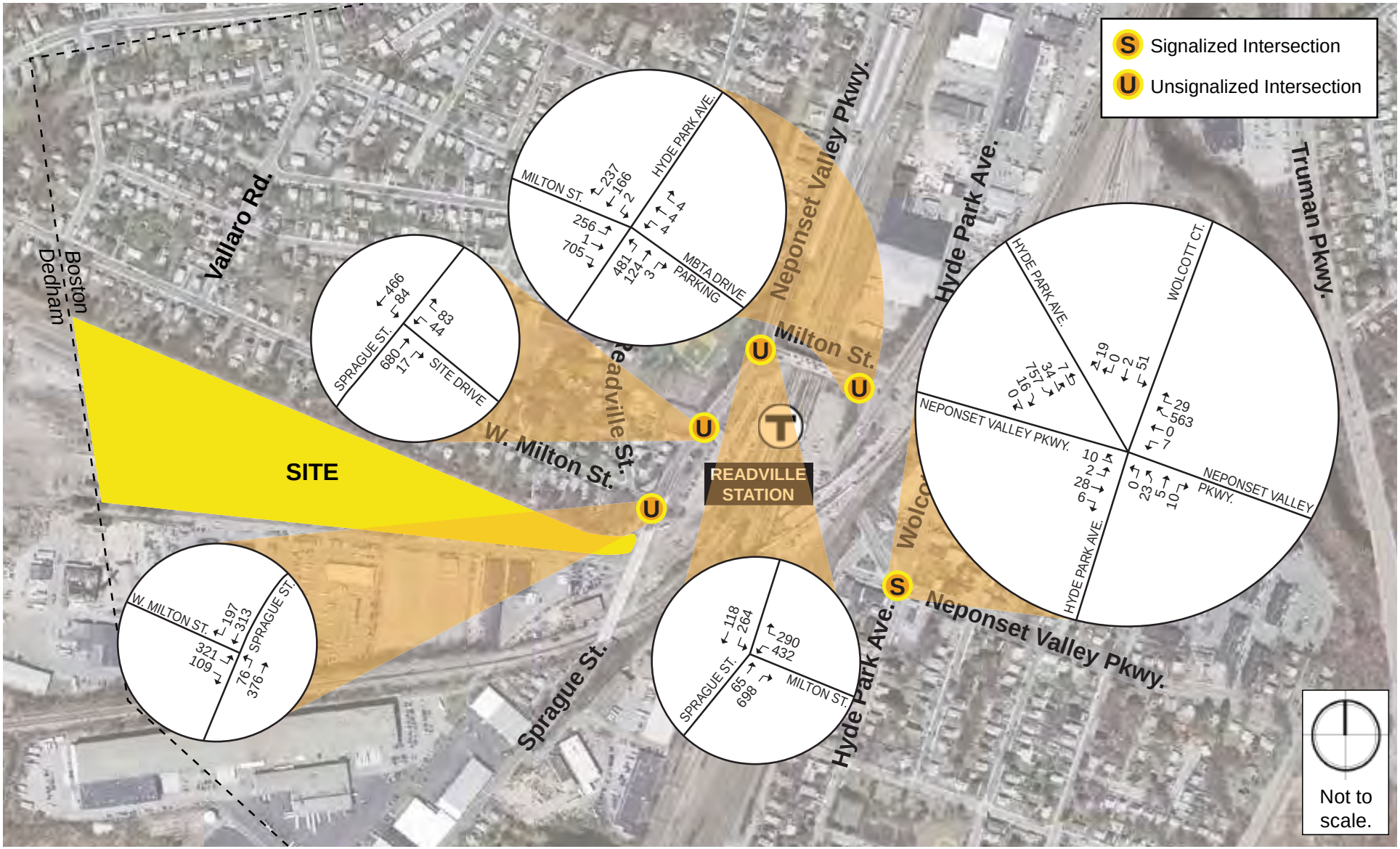


Hyde Park, Massachusetts

Figure 5-2

Existing Conditions (2014) Turning Movement Volumes, a.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014



Hyde Park, Massachusetts

Figure 5-3

Existing Conditions (2014) Turning Movement Volumes, p.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014

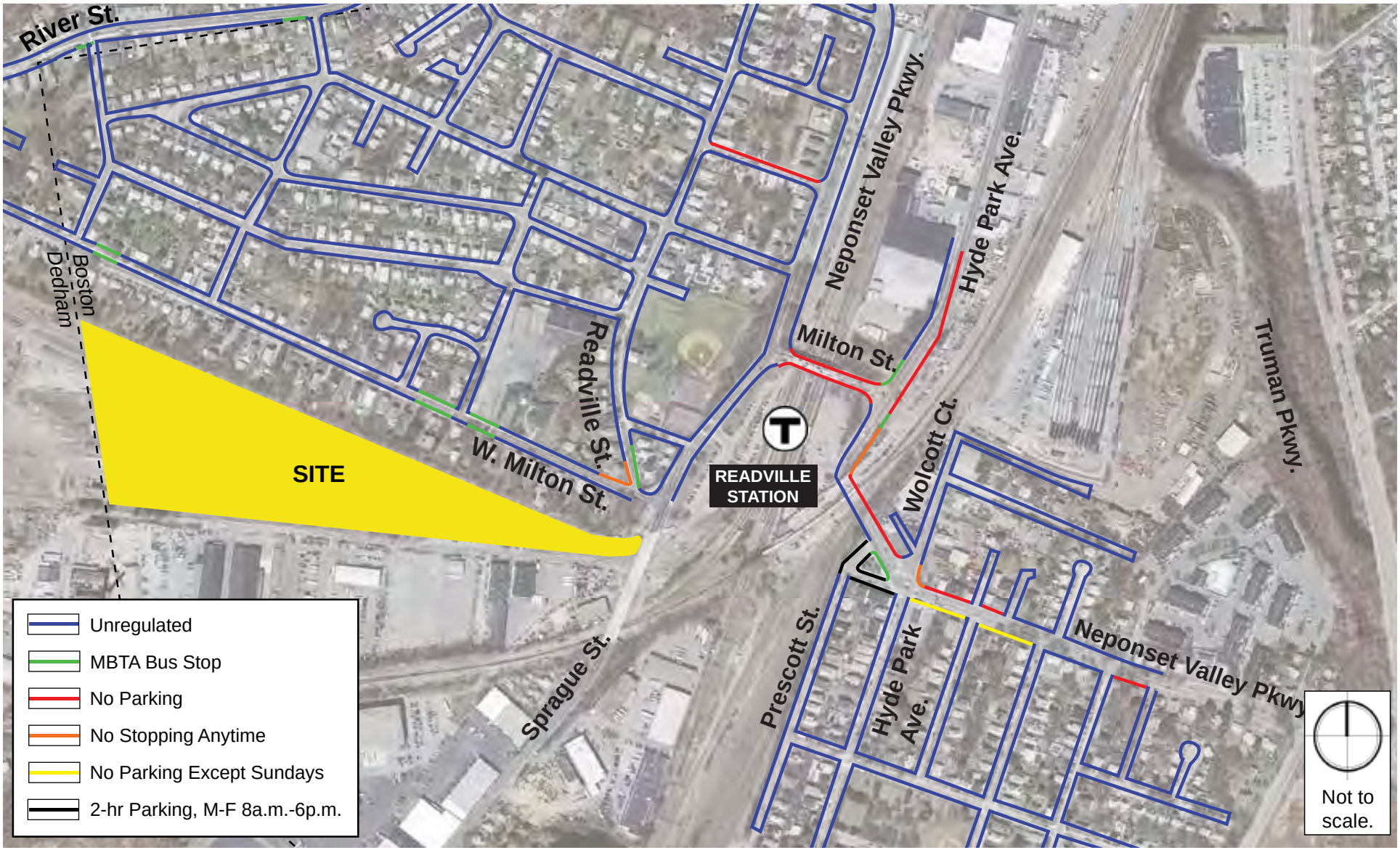


Figure 5-4
On-street Parking in the Study Area
Source: Howard/Stein-Hudson Associates, Inc., 2014

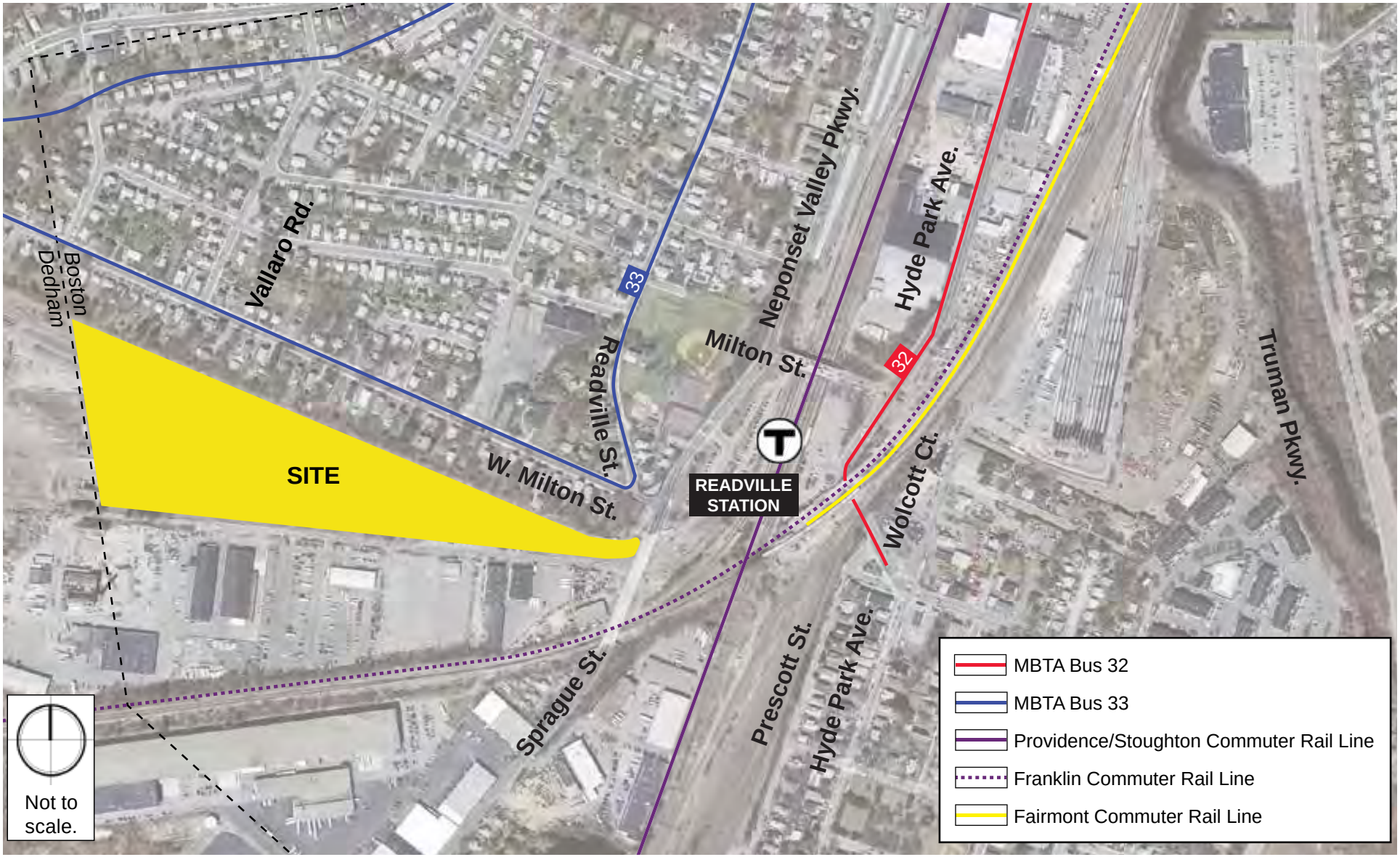


Figure 5-5
Public Transportation in the Study Area
Source: Howard/Stein-Hudson Associates, Inc., 2014

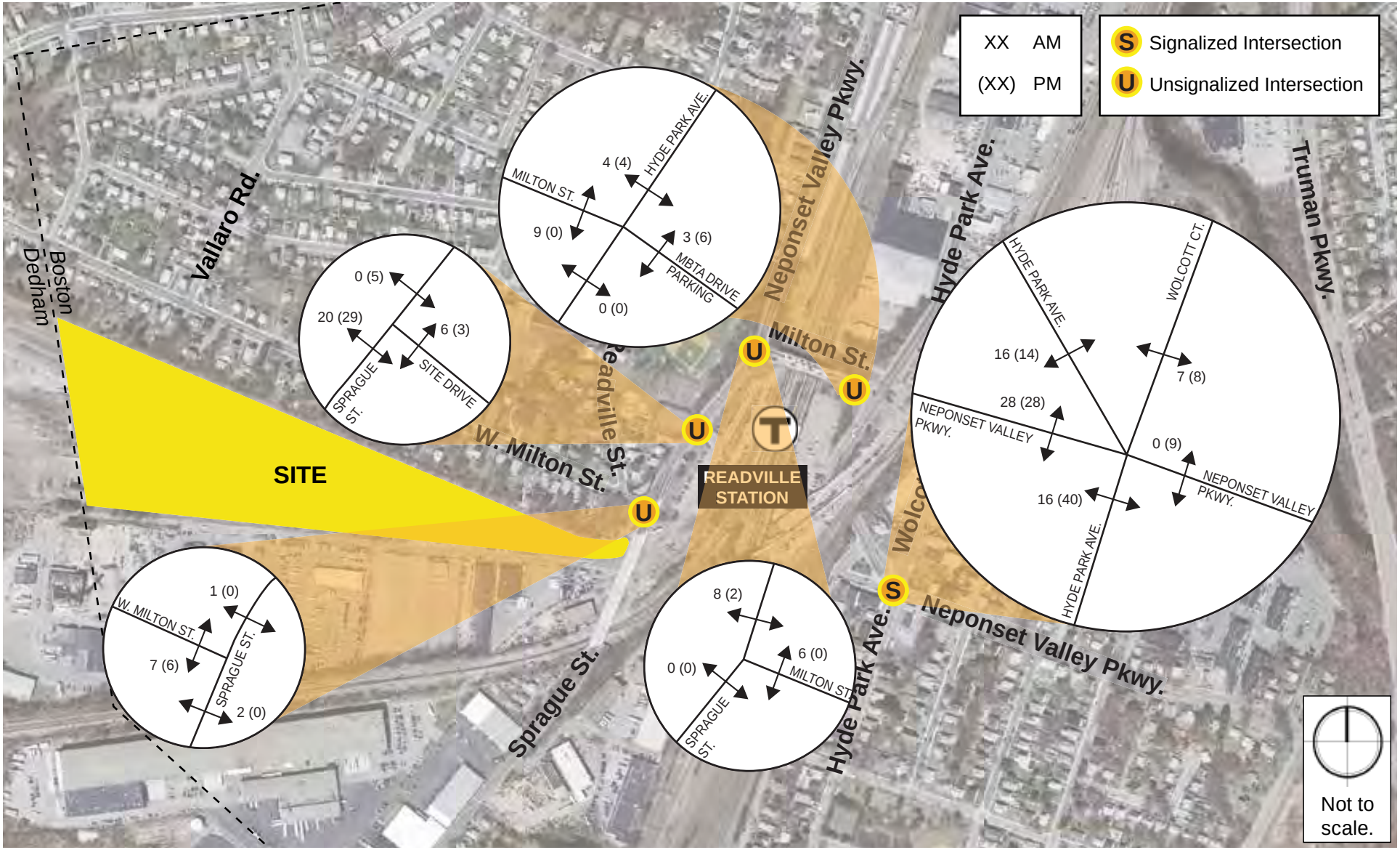
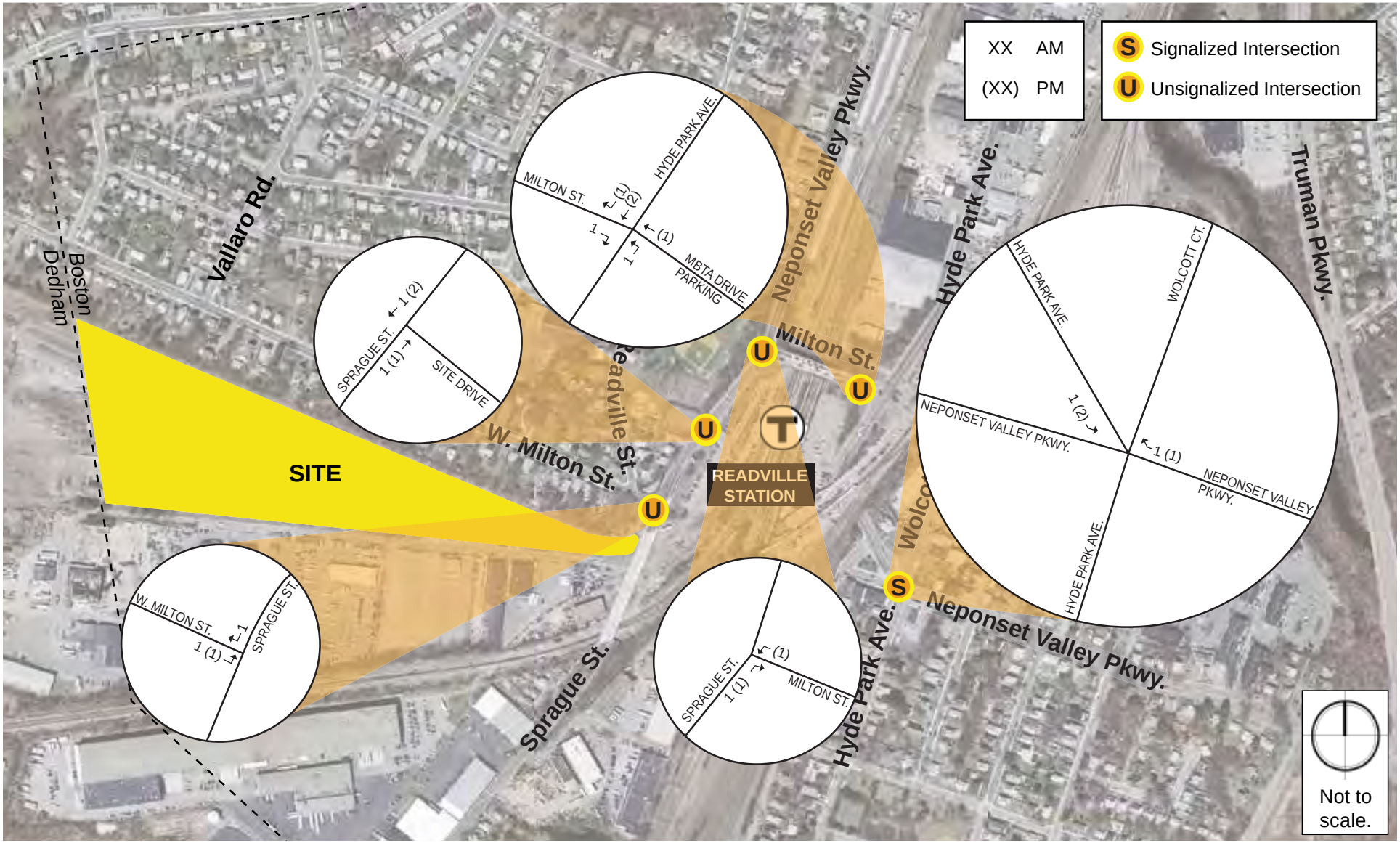


Figure 5-6

Existing Conditions (2014) Pedestrian Volumes, a.m. and p.m. Peak Hours

Source: Howard/Stein-Hudson Associates, Inc., 2014

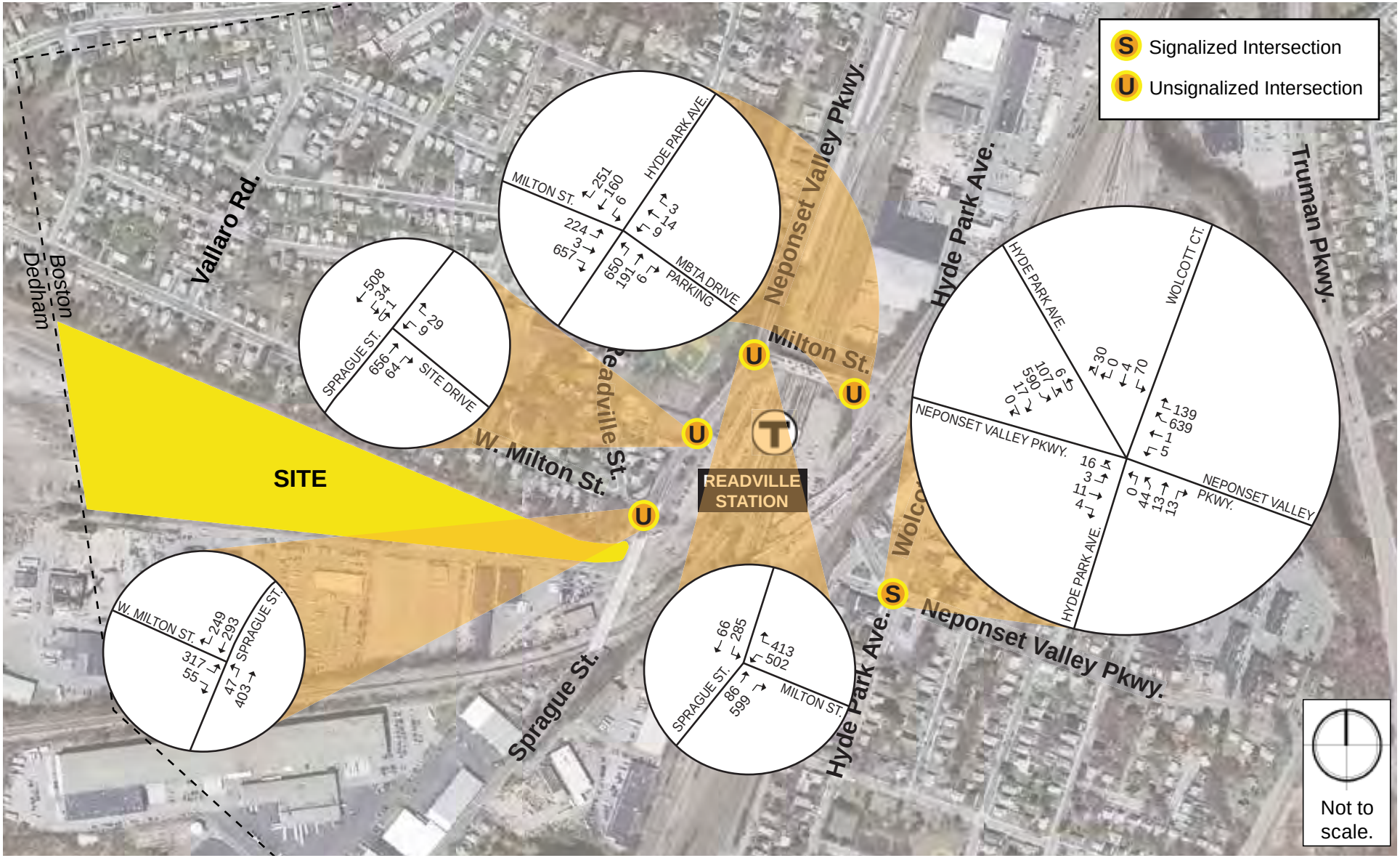


Hyde Park, Massachusetts

Figure 5-7

Existing Conditions (2014) Bicycle Volumes, a.m. and p.m. Peak Hours

Source: Howard/Stein-Hudson Associates, Inc., 2014



Hyde Park, Massachusetts

Figure 5-8

No-Build Conditions (2019) Turning Movement Volumes, a.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014

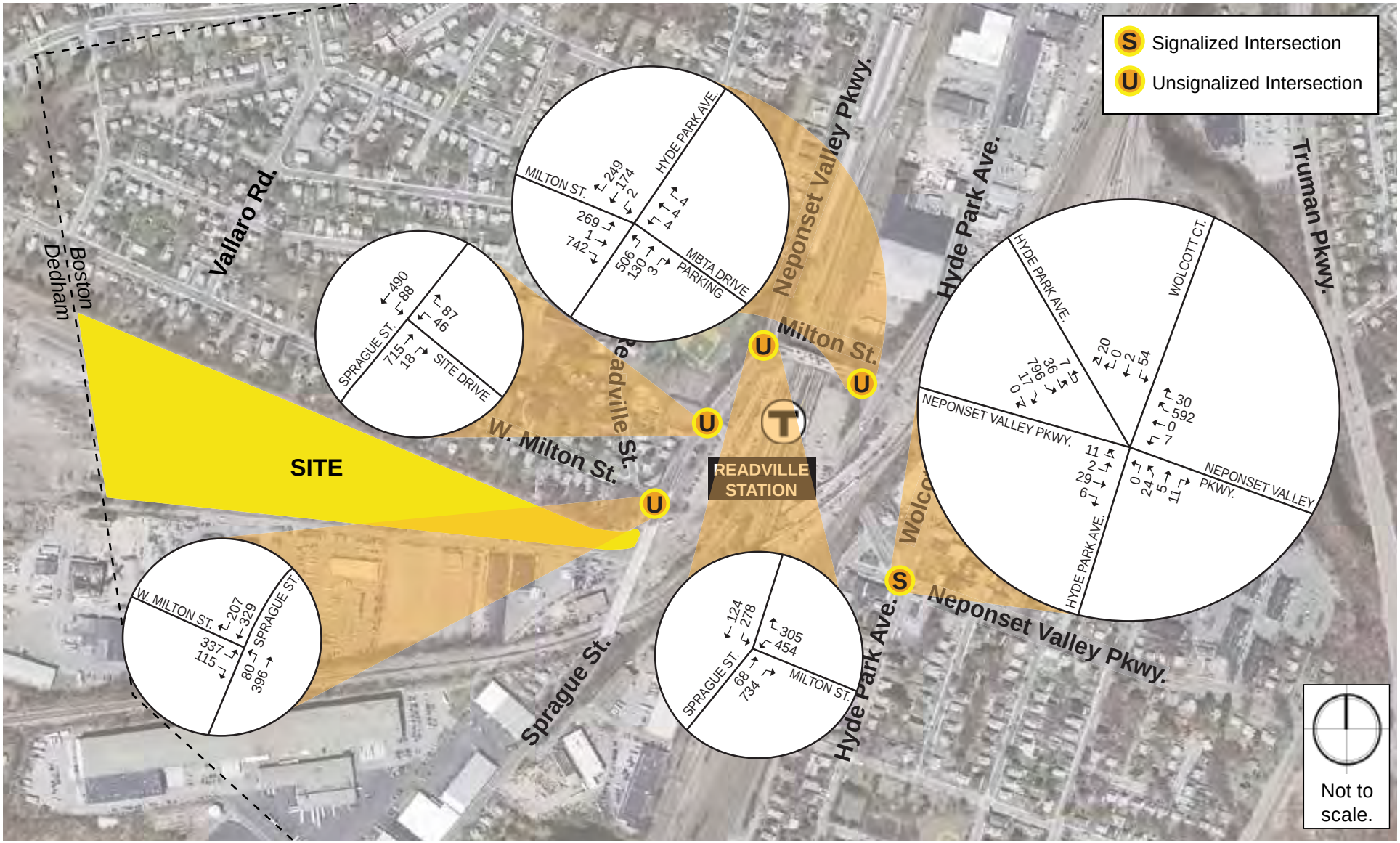


Figure 5-9

No-Build Conditions (2019) Turning Movement Volumes, p.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014

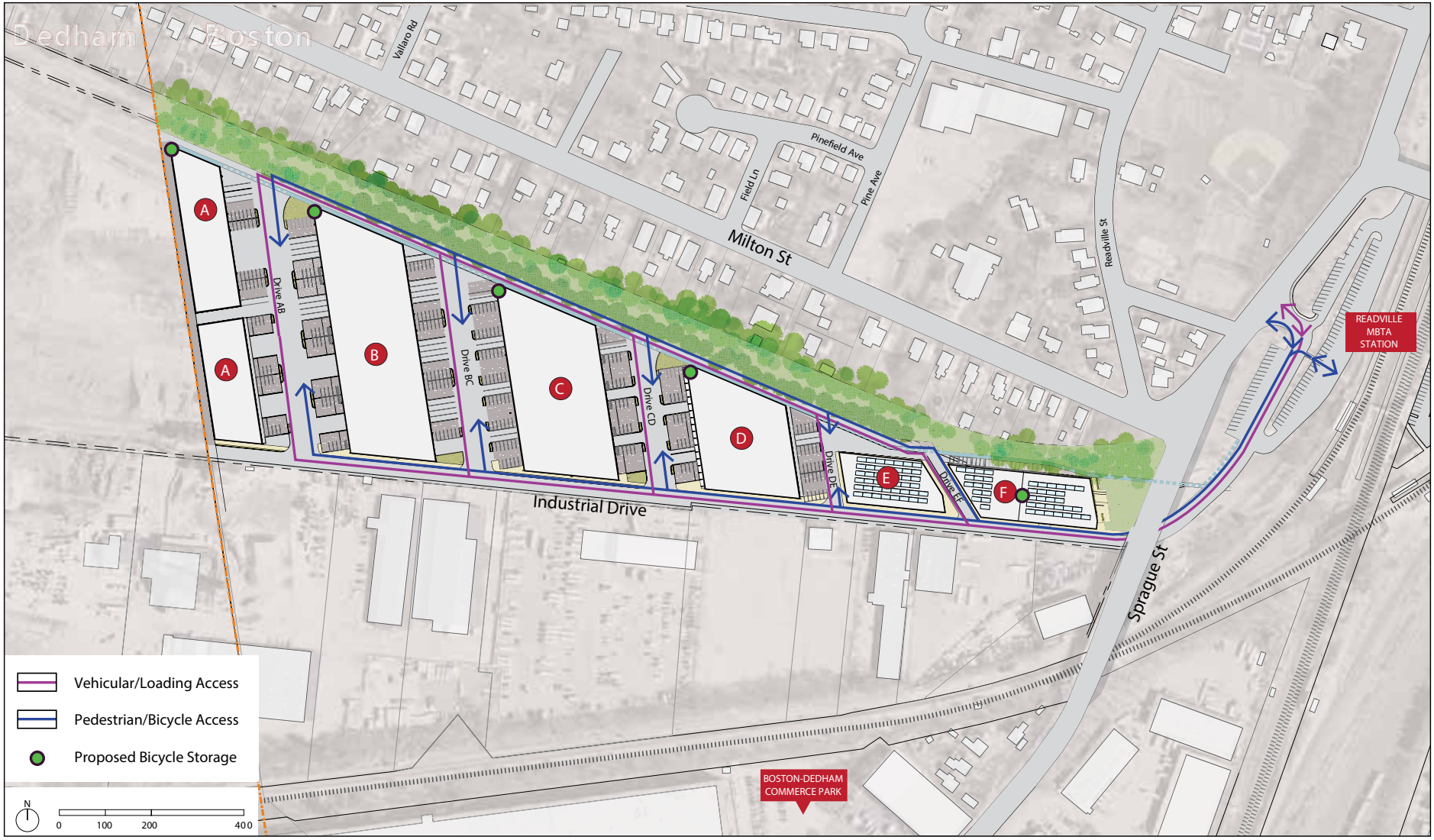
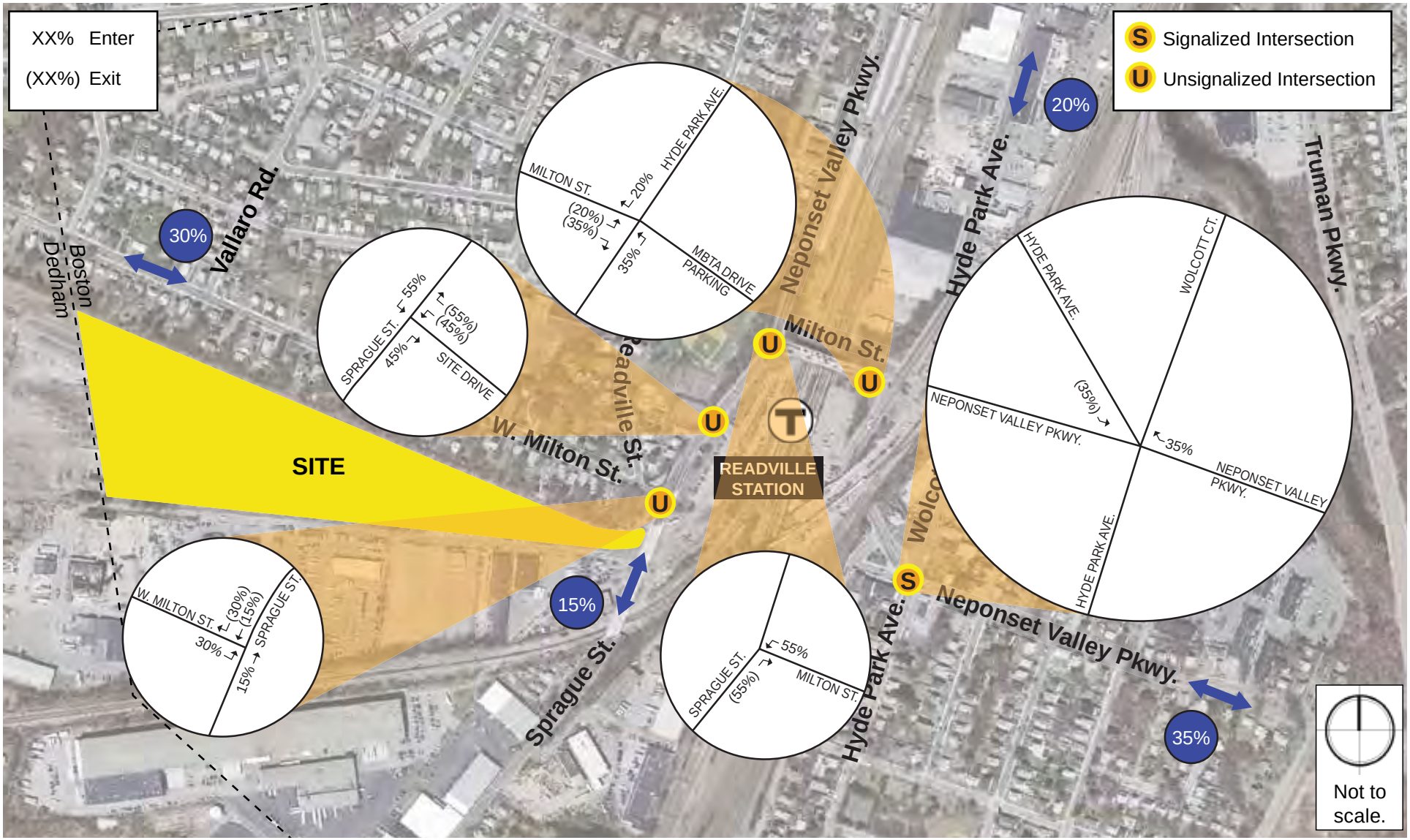


Figure 5-10
Circulation and Access Plan
Source: Howard/Stein-Hudson Associates, Inc., 2014



Hyde Park, Massachusetts

Figure 5-11
Vehicle Trip Distribution
Source: Howard/Stein-Hudson Associates, Inc., 2014

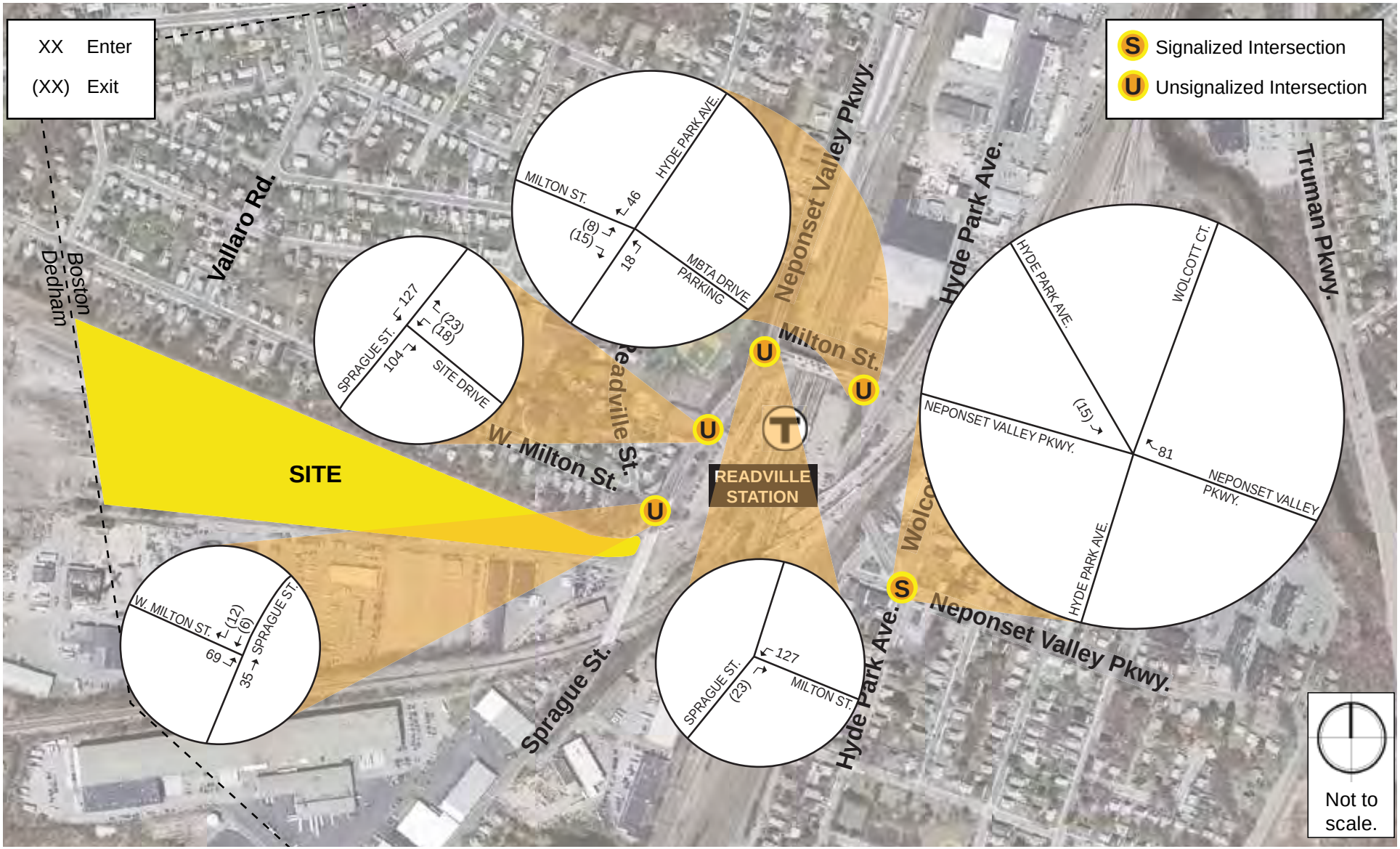


Figure 5-12
Project-generated Trips, a.m. Peak Hour
Source: Howard/Stein-Hudson Associates, Inc., 2014

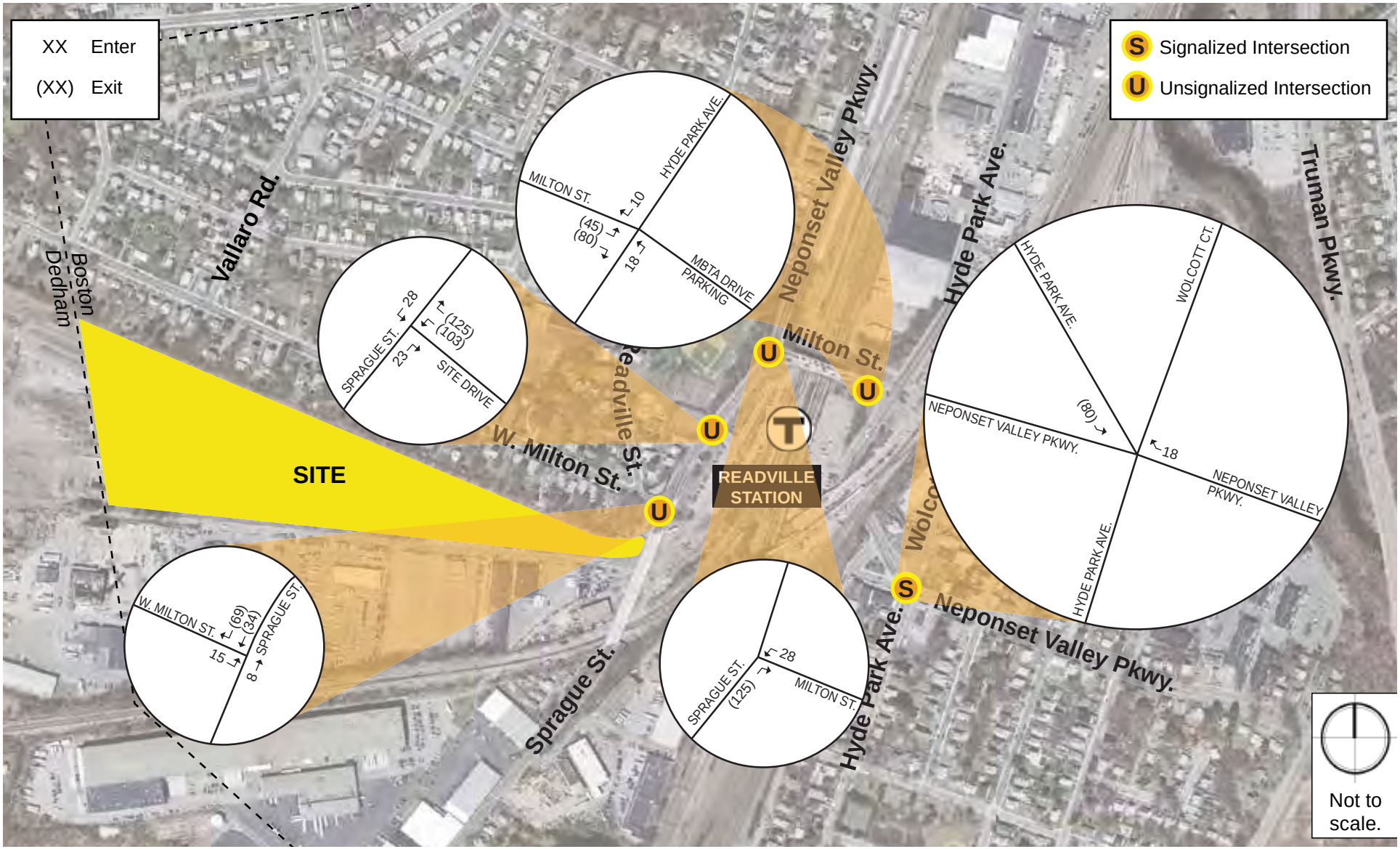
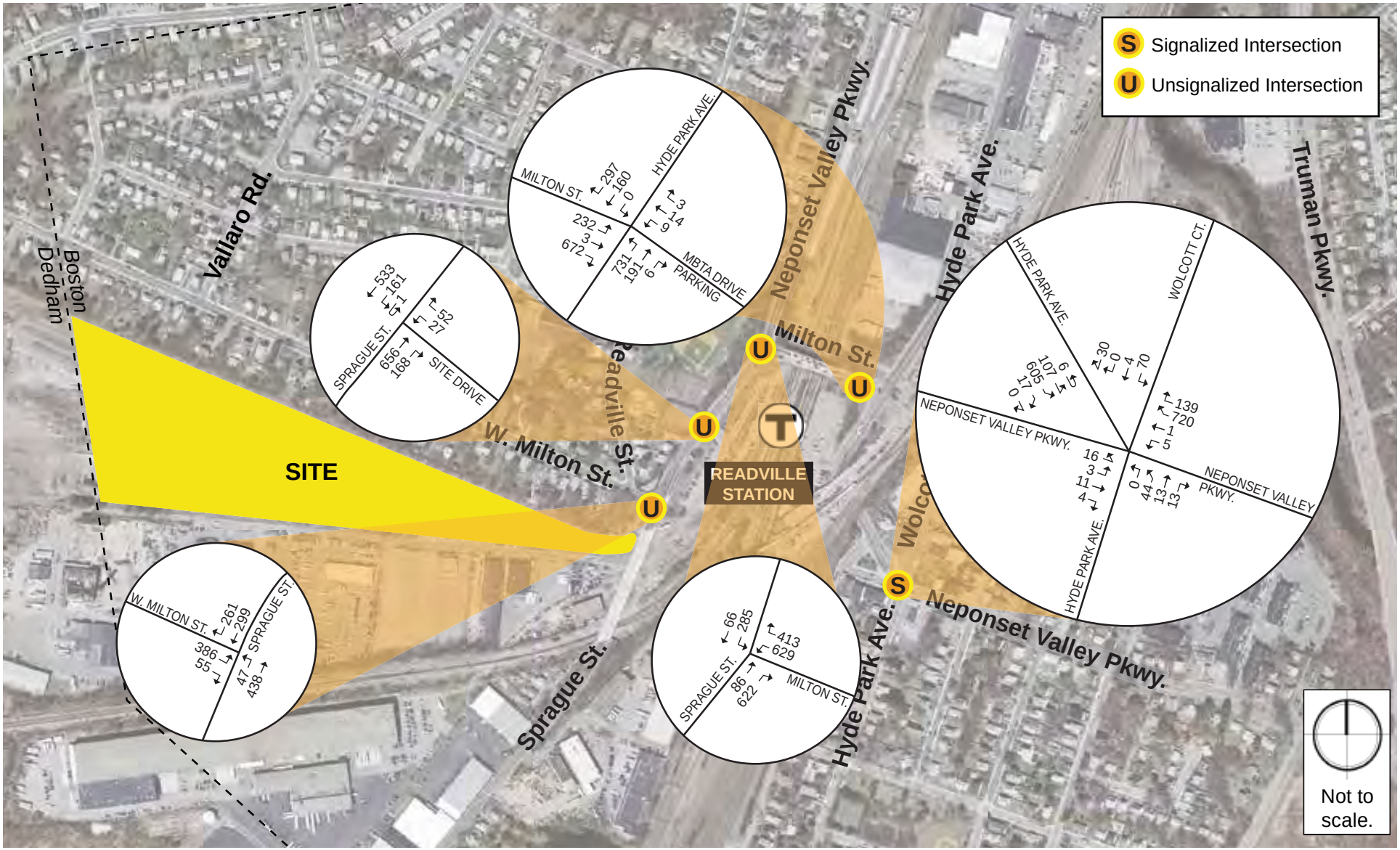


Figure 5-13
Project-generated Trips, p.m. Peak Hour
Source: Howard/Stein-Hudson Associates, Inc., 2014

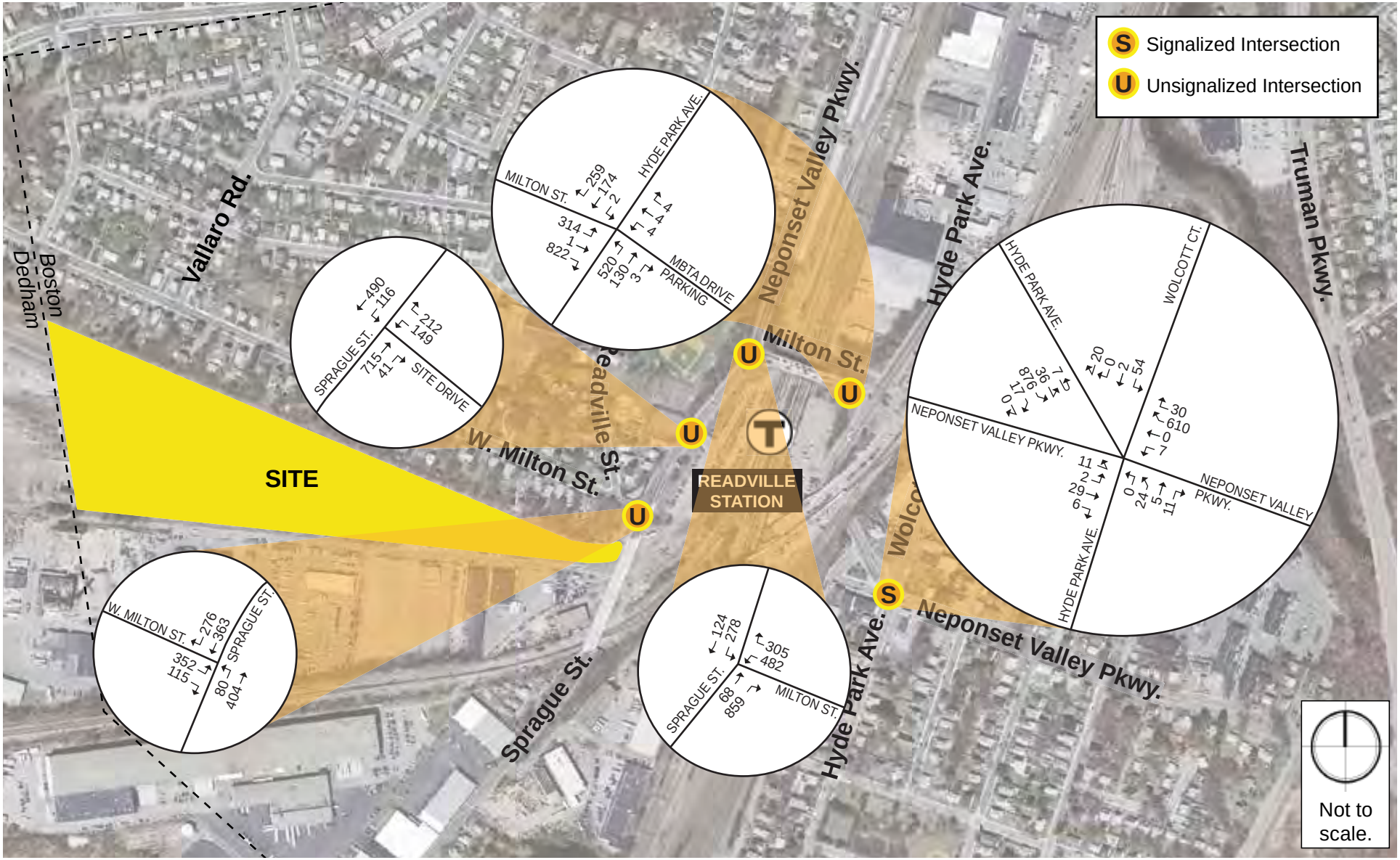


Hyde Park, Massachusetts

Figure 5-14

Build Conditions (2019) Turning Movement Volumes, a.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014



Hyde Park, Massachusetts

Figure 5-15

Build Conditions (2019) Turning Movement Volumes, p.m. Peak Hour

Source: Howard/Stein-Hudson Associates, Inc., 2014

Chapter 6

ENVIRONMENTAL

CHAPTER 6: ENVIRONMENTAL

6.1 INTRODUCTION

The Project will be built in full compliance with local, state, and federal environmental regulations and will improve the environmental condition of the existing Site. The Project will not create undue wind, shadow, noise, solar glare, or air quality impacts in the vicinity of the Site.

6.2 WIND

The Project is not expected to have adverse pedestrian-level wind impacts adjacent to or in the vicinity of the Site due to its modest size, height (maximum of 35 feet), and proximity to nearby buildings. As a result of the placement of the proposed new buildings in the existing context, pedestrian level winds along the proposed multi-use paths are not anticipated to exceed the BRA guidelines for wind speeds of 31 miles per hour.

6.3 SHADOW

The Project is not expected to have adverse pedestrian-level shadow impacts adjacent to or in the vicinity of the Site due to the modest maximum height (35 feet) of the proposed buildings and their proximity to nearby buildings. Furthermore, the residential development along West Milton Street is buffered by trees that exceed the height of the proposed new buildings.

6.4 DAYLIGHT

This Project is being constructed at a relatively low density for an urban setting. The buildings on Site will not exceed a maximum height of 35 feet and the absence of a street wall on the south side of the property will ensure adequate daylight on the south side of the Site along Industrial Drive. The loading docks and a 60 foot access road between each industrial building will ensure that sufficient daylight will reach the surfaces on Site.

6.5 SOLAR GLARE

A solar glare analysis is intended to measure potential reflective glare and solar heat buildup from the buildings onto streets, public open spaces, and sidewalks in order to determine the likelihood of visual impairment or discomfort due to reflective spot glare. As a result of the Project's design, use of generally non-reflective materials, and the distance between the new building and existing buildings south of Industrial Drive, it is not anticipated that the Project will have adverse solar glare impacts or create solar heat

buildup in nearby buildings. The existing landscaped buffer at the north edge of the Site will further absorb sunlight to minimize any potential reflection off of the building into the residential neighborhood along West Milton Street.

6.6 AIR QUALITY

This section provides a qualitative review of potential air quality sources and impacts from the proposed Project. Temporary air quality impacts from construction operations are addressed in Section 6.11.5, Construction Air Quality.

6.6.1 TRAFFIC SOURCES

The majority of the local road network surrounding the Project will absorb a relatively modest number of new vehicle trips as a result of the Project. The Boston Redevelopment Authority (BRA) typically requires a future air quality CO analysis if project traffic will 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. Additionally, if project traffic will increase traffic volumes on nearby roadways by 10% or more or the project will generate 3,000 or more new average daily trips, the BRA may require further quantitative analysis.

The Project will generate approximately 2,244 adjusted daily vehicle trips, which will not increase the average daily traffic by more than 10 percent. The signalized intersection at Hyde Park Avenue/Neponset Valley Parkway/Wolcott Court currently operates at LOS D during the a.m. peak hours and will remain at LOS D as a result of Project-generated trips. Industrial Drive, which serves as the Site's driveway currently operates at an acceptable LOS and is expected to worsen as a result of the Project. The Proponent will conduct a signal warrant analysis at all unsignalized area intersections. If a traffic signal is warranted, the Proponent will design and work with BTD on determining the feasibility of the installation of a traffic signal at the intersection of Milton Street/Industrial Drive. It is anticipated that the improvements will include additional lanes at the intersection but will not require any roadway widening and will not have any right-of-way impacts. The specific details for the installation of a traffic signal will be included in the TAPA.

If the signal warrant analysis identifies that additional signals are warranted at intersections in the vicinity of the Project, the Proponent will provide the Boston Transportation Department (BTD) with design documents for improvements. Chapter 5, Transportation, provides a more in depth discussion related to transportation impacts and mitigation. Proposed mitigation measures will benefit the entire neighborhood in the vicinity of the Site, not just the Project and its occupants.

Transportation Demand Management (TDM) strategies are a significant component of this Project and will assist in minimizing traffic impacts and by extension air

quality impacts. The TDM strategies proposed will encourage the use of the nearby MBTA commuter rail and other non-motorized modes of transportation in order to minimize negative impacts to overall air quality in the vicinity of the Project. These strategies include the following:

- Promotion of public transit and dissemination of transit information;
- Provision of accessible and secure bicycle storage;
- Construction of improvements to the pedestrian realm; and
- Creation of a designated transportation coordinator.

6.6.2 PARKING SOURCES

The Site is currently covered with a mix of pavement, gravel, railroad tracks, and sparse grasses and weeds. The Project will improve and enliven the Site with light industrial and office space uses, and appropriate landscaping. The Project will provide approximately 250 total parking spaces on Site. Each light industrial unit will be provided with approximately six parking spaces for typical passenger vehicles and two to three loading spaces for trailers and delivery vehicles. Approximately 75 parking spaces will provided for office uses on Site.

Consistent with the BTD's standards for bicycle parking, the Project will provide 89 secure, covered bicycle parking spaces on Site. The provision of bicycle and pedestrian facilities, coupled with the Project's proximity to the MBTA commuter rail, will minimize negative air quality impacts related to the Project's parking sources.

6.6.3 BUILDING OPERATIONS SOURCES

An emergency generator, if necessary, will be located on the Project Site. The generator would be sited to be in compliance with the Department of Environmental Protection (DEP) standards.

There will be individual heating and cooling units for each building, and a number of venting and condensing equipment that may be located on the roof. Rooftop equipment will vary depending on the tenants within the each building. These building operations and rooftop equipment are not expected to contribute to changes in air quality.

6.7 NOISE

The Proponent does not anticipate a significant increase in noise associated with the light industrial and office uses at the Site. The Boston Air Pollution Control Commission regulates noise in the City of Boston based on zoning and land use classification. The regulations set fixed noise limits for daytime and nighttime use of equipment serving the building (a maximum level of 70 dBA). These levels are limits for equipment sound assessed at the property lines of the Project. The limits apply to equipment that operates on a significant basis to serve the building, such as climate control equipment and fans. In addition to the overall sound level requirements, the regulations list specific octave band frequency limits for daytime and night time periods.

The Project may include rooftop heating, cooling and ventilation equipment and/or an emergency generator; however rooftop mechanical needs will be determined by each tenant during the fit-out process. Any rooftop equipment is not expected to produce significant sound levels at the building property lines, though noise control measures will be provided if necessary.

Intermittent increases in noise levels will occur in the short-term during construction. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Noise impacts will be controlled during construction, as appropriate, through the use of mufflers on heavy equipment, construction hour restrictions, and other noise mitigation.

6.8 FLOOD HAZARDS/WETLANDS

In the past decade, climate change adaptation has gained national attention as a critical environmental factor that must be addressed in new development projects. In Boston, sea level rise has become a serious concern as recent weather patterns and future models demonstrate that storms impacting the city are likely to intensify. As part of its administration of the National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) publishes flood hazard maps, called Flood Insurance Rate Maps (FIRM). The purpose of a FIRM is to identify the areas in a community that are subject to flooding and the risk associated with these flood hazards.

According to the current Flood Insurance Rate Map published in 2009, the Site is not located in a flood zone. Additionally, there is no land protected under the Massachusetts Wetlands Protection Act located on the Site.

6.9 GEOTECHNICAL

This section discusses existing soil and groundwater conditions, anticipated foundation construction methods and excavation work for the Project based on available subsurface information, and preliminary foundation designs.

6.9.1 SUBSURFACE SOIL CONDITIONS

A total of eight soil borings were performed across the Boston and Dedham portions of Readville Yard 5 (Yard 5) in 1989 by HMM Associates, Inc. The borings were relatively shallow and ranged from 6 feet to 17 feet in total depth. Review of these borings indicates surface debris in some locations, varying depths of fill material, and underlying native soil deposits that vary in origin.

Surficial Conditions: Visual assessment of the Site indicates the presence of miscellaneous surface debris, including steel rails, wooden and concrete railroad ties, and concrete pipe sections. The existing surface conditions on Site include pavement, concrete slabs, apparent remains of building foundations, sand and gravel, and brush and small trees.

Topsoil/Subsoil: In borings at the eastern portion of the Site, an organic topsoil and subsoil layer was encountered and fill was not identified, suggesting the area represented by the boring may be native and relatively undisturbed.

Fill Material: The surficial fill materials were identified to be granular for the most part (silty sand and gravel); however, debris and miscellaneous waste materials were also encountered within the fill. Where encountered, fill depths on the eastern portion of the Site ranged from approximately 1 to 1.5 feet below ground surface (BGS). The density of the fill varied and generally ranged from loose to medium density. Past use of the Site as a rail yard has likely resulted in significant compaction of surface soils in many locations. It should be noted that where past Site excavations have occurred, backfill material will likely include fill material.

Native Outwash Deposit: Underlying the fill, or in some locations possibly being present at the ground surface, was a stratified outwash deposit consisting of alternating layers of sand and gravel, silty sand, and sand. Cobbles were occasionally noted within the deposit, but their detection is difficult because they are larger than the opening of the sampling spoon. This deposit varied in density generally from medium dense to dense. The thickness of this deposit appears to have extended from the bottom of the fill or topsoil/subsoil to the limit of the borings conducted (i.e., up to 17 feet BGS). The deposit generally appeared to become finer and increase in density with depth.

Native Till Deposit: Below the outwash at investigation locations on the far western side of the Yard 5 parcel west of the Dedham property line was a possible ablation till and/or basal till encountered that was observed to be dense to very dense. This material was generally classified as silty sand or sand. This finding is consistent with the fact that topography rises to the west beyond Yard 5. The till deposit likely underlies the entire Yard 5, but is at a depth that was not reached by the HMM borings on the Site.

Bedrock: The 1989 HMM borings did not penetrate deep enough to encounter bedrock refusal and bedrock outcrops were not observed at the Site. Bedrock below the Site is mapped as Westwood Granite. A well-defined north/south fault and several lesser southwest to northeast bedrock faults are mapped near the east side of the Site.

6.9.2 GROUNDWATER CONDITIONS

Based upon groundwater depth observations made during the investigations conducted by HMM in 1989 and by Weston & Sampson in 2001 and 2002, the depth to groundwater at the Site ranged from approximately 8 to 14 feet BGS. Based upon hydrologic information obtained in 2002, the water table at the Site was flat, and groundwater was estimated to flow radially outward from the center of the Site, with the eastern end of the property considered downgradient.

6.9.3 FOUNDATION DESIGN AND CONSIDERATION

Based upon subsurface conditions at the Site, shallow spread footings will be suitable to support new buildings and structures relying on the ground for support. In some locations, existing fill material will need to be excavated and reused in compacted lifts, or removed and replaced with structural borrow from off-site. The fill materials observed during the 1989 investigation were generally reported to be well graded and will very likely be acceptable as general fill below new pavement areas. They may also be suitable for structural fill under foundations and slabs, after being placed in compacted lifts.

Additional geotechnical characterization will be warranted to further define the nature of the fill materials and deeper deposits. In particular, depending upon the depth, density, and character of the existing fill materials, it may be possible to leave fill in place underneath slab areas after aggressive proof-rolling to evaluate soil compaction and density. Sitework must consider the potential for subsurface obstructions, such as old foundations and slabs. Groundwater should not interfere with most normal construction activities, but may be encountered during the installation of deeper utilities such as sewer and drain lines.

6.10 SOLID AND HAZARDOUS MATERIALS

Construction activities for the Project are not anticipated to generate material requiring off-Site transport and disposal. On-site excavation and soil handling activities will be conducted in accordance with a site-specific health and safety plan (HASP). The HASP will describe measures and methods to be employed that will ensure safety of construction workers and abutters during redevelopment activities. In addition, as described below in Section 6.6.2, prior to property redevelopment, a Soil Management Plan (SMP) will be

developed that will be consistent with the requirements of the Activity and Use Limitation (AUL) that was placed on the property by the MBTA. The SMP will describe appropriate procedures and methods to be used while excavating, handling, stockpiling, and moving soils at the Site, including engineering controls to manage the generation of dust. The SMP will also discuss methods for managing excess generated materials (if any), including criteria and options for off-site recycling and disposal. Material leaving the Site will be transported in accordance with local, state, and federal requirements. The Proponent will also retain a Licensed Site Professional (LSP) to oversee the assessment and cleanup work on Site. The LSP will be present during all construction related activities on-site.

6.10.1 SITE HISTORY AND COMPLIANCE WITH MA CONTINGENCY PLAN

Site History

The Site consists of the eastern 21-acre section of the MBTA's larger 42 acre Yard 5. The western portion of the Yard 5 is located within the Town of Dedham. The Site was first developed as a rail yard in the 1800s. Several railroad companies (New York, New Haven and Hartford Railroad, Penn Central Railroad, Conrail, and Amtrak) have owned and operated the Site at various points over the years. The MBTA acquired the Site from Amtrak in 1987, and they used it as a mid-day layover yard for their commuter rail fleet and for storing railroad-related materials.

The earliest railroad operations at and in the vicinity of the Site include the Boston & Providence Railroad which began operating in Readville in 1834, and the Midland Railroad, which began operating in 1853. Historically, Yard 5 was used primarily to store railcars, and as such, the majority of the property was occupied by railway tracks. A slab-on-grade building that formerly occupied the southern portion of the Property was reportedly used to refurbish passenger cars in the 1940s and 1950s, and to warehouse valuable trains and items/materials that required protective cover. There are currently no buildings or aboveground structures on the Site.

Regulatory Compliance with the MCP

Environmental evaluations of the Site have been conducted by multiple parties. Earlier evaluations documented the presence of metals and petroleum compounds in fill materials at the Site. The presence of these constituents is attributable to and consistent with the historical use of the Site as a rail yard. Significant impacts to groundwater were not identified.

In 1989, metals and petroleum compounds were detected in the soil during an investigation that was conducted by the MBTA to evaluate the potential redevelopment of the Site into a commuter rail facility. The Massachusetts Department of Environmental Protection (DEP) was notified of these conditions and the Site was assigned the following property Release Tracking Number (RTN: 3-

2856). Subsequent Massachusetts's Contingency Plans (MCP) characterization activities completed on the Site include the advancement of soil borings, installation of monitoring wells, collection and analysis of soil and groundwater, and monitoring of hydrologic conditions. The results of these characterization activities were used to identify the magnitude and extent of metals and petroleum compounds in fill materials and soil on the Site.

Remedial response actions were conducted at the Site by AECOM on behalf of the MBTA from July 2011 to January 2012. Remedial actions focused on the western/Dedham portion of Yard 5 (where detected impacts were greatest), and included the excavation and off-property disposal of metals (primarily lead and arsenic) and petroleum-impacted soil. In April 2013 AECOM submitted a Class A3 Response Action Outcome (RAO) to DEP for Yard No. 5. The RAO included an Activity and Use Limitation (AUL) to limit future use of the Site to commercial and industrial activities. The AUL indicated that future activities that are likely to disturb soil at the Site must be conducted in accordance with a SMP and HASP. There are currently no open RTNs or outstanding MCP requirements associated with the Site. All Project activities on the Site will be limited to commercial and industrial activities, pursuant to the AUL.

6.11 CONSTRUCTION IMPACTS

The following section describes the potential impacts associated with the Project's construction and steps that will be taken to avoid or minimize environmental and transportation related impacts throughout the construction period.

6.11.1 CONSTRUCTION MANAGEMENT PLAN

In compliance with the City of Boston's Construction Management Program, a Construction Management Plan (CMP) will be submitted to the Boston Transportation Department (BTD). The CMP will provide detailed information concerning construction activities, specific mitigation measures, construction materials, and access and staging area plans in order to minimize impacts to the surrounding neighborhood.

Construction methodologies to ensure public safety and protect nearby residents will be employed throughout the construction period. Barricades, walkways, signage, and other precautionary techniques will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting, trucking and delivery routes, and control of noise and dust. The Proponent will develop a plan for managing traffic, parking, and construction staging throughout the construction period.

6.11.2 CONSTRUCTION ACTIVITY SCHEDULE

The Project will be constructed as one project over two stages. The first stage will commence in March 2015 and will conclude in April 2016, and will include the construction of the Site infrastructure, one-lane access road, multi-use paths and Buildings A and B. The second stage will commence in March 2017 and will conclude in February 2018 and will include the construction of buildings C through F.

The Project will comply with the City of Boston Noise and Work Ordinance. Normal work hours will be from 7:00 a.m. to 6:00 p.m., Monday through Friday, in addition to any approved exceptions. No truck idling construction activity or staging before 7:00 a.m. and after 6:00 p.m. will be allowed.

6.11.3 CONSTRUCTION TRAFFIC IMPACTS

Potential truck routes have been proposed to minimize the traffic impacts and to govern where construction trucks may access and egress the Site. The anticipated truck routes to and from the Site are shown in Figure 6-1, Construction Truck Circulation Plan.

To access the Site, construction trucks will be directed to take Exit 14 off 1-95 to East Street eastbound, take the Cedar Street exit at the traffic circle, turn right onto Sprague Street, and turn right on Industrial Drive until the Site. Trucks will egress from the Site by reversing the aforementioned directions.

The neighborhood and Sprague Street in particular are accustomed to truck traffic as a result of existing industrial development uses in the area. Use of these proposed routes will minimize traffic on local roads in Hyde Park, Dedham, and Milton with just over three miles of travel on roads other than an interstate highway.

6.11.4 CONSTRUCTION WORKER PARKING

The number of workers required for the construction of the Project will vary depending upon the stage of construction. The general contractor will be responsible for educating all construction workers about public transit options and encouraging carpooling. With the MBTA Readville Station adjacent to the Site, the use of public transportation by construction workers is anticipated. All construction workers will be encouraged to utilize mass transit and ridesharing options to access the construction site and to minimize vehicle traffic and parking on the local streets. As part of the program to promote public transportation, the following will be implemented:

- Provide secured space for workers' tool storage on-site;
- Post transit schedules and maps at the Site and encourage personnel to utilize public transportation;
- Write terms and conditions related to workforce parking and public transportation into each subcontract.

These measures will be incorporated into the CMP for the Project, which will be reviewed by BTD prior to the commencement of construction activities.

Construction workers will typically arrive to and depart from the Site prior to the peak traffic hours. Construction worker trips are therefore not expected to substantially impact traffic conditions in the area.

6.11.5 CONSTRUCTION AIR QUALITY

Construction activities may generate fugitive dust, which will result in a short-term, localized increase of airborne particle levels. Fugitive dust emission from construction activities will depend on the properties of the emitting surface (e.g. moisture content), meteorological variables, and construction practices employed. Techniques to mitigate and avoid adverse air quality impacts will include:

- Use of wetting agents to control and suppress dust from construction debris;
- Ensuring full cover for all trucks traveling to and from the Site;
- Locating aggregate storage piles away from areas having the greatest pedestrian activity;
- Regular removal of construction debris;
- Close monitoring of construction practices;
- Periodic cleaning of sidewalks and streets to minimize dust accumulation; and
- Use of wheel-washing for all trucks before leaving the Site during the excavation phase.

6.11.6 CONSTRUCTION NOISE IMPACTS

Intermittent increases in noise levels will occur in the short term during construction, however all work will comply with the requirements of the City of Boston Noise Ordinance. Construction will occur during daytime hours as defined by Boston Noise Regulations (7:00 a.m. to 6:00 p.m. except Sundays).

Every reasonable effort will be made to minimize the noise impact of construction activities, including the following:

- Conducting all construction activities during daytime hours;

- Use of appropriate mufflers on all equipment such as air compressors and welding generators;
- Maintenance of intake and exhaust mufflers;
- Prohibiting idling equipment;
- Replacement of specific operations and techniques with less noisy ones, where possible; and
- Scheduling equipment operations to synchronize the noisiest operations with times of highest ambient noise levels.

6.11.7 SEDIMENT CONTROL

During demolition and construction, erosion and sediment control measures will be implemented to minimize the transport of Site soils to off-site areas and BWSC storm drain systems. Existing catch basins where applicable will be protected with filter fabric or silt sacks to remove sediment from runoff. These controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Other sediment controls, which will be implemented as needed during construction, will include the following:

- Stacked hay bales and/or silt fence barriers will be installed at the base of stockpiled soils and at erosion-prone areas throughout the construction phase of the Project;
- Where necessary, temporary sedimentation basins will be constructed to prevent the transport of sediment off-site;
- Measures to control dust will be implemented during construction and all debris will be properly contained on the Site; and
- Erosion controls will be maintained and replaced as necessary until the installation of pavement and the establishment of stabilized vegetation at the Site.

6.11.8 PEST AND RODENT CONTROL

Construction and demolition activities can disturb rodent habitat, eliminating food, shelter, and movement routes. Since the existing Site is currently unused and no buildings exist on the Site, the proposed construction activities are not expected to increase rodent activity. A rodent extermination certification, in addition to the building permit, will be filed with the City. Rodent inspection, monitoring, and treatment in compliance with the City's requirements will be carried out before, during, and at the completion of all construction work for the Project.

6.12 HISTORIC RESOURCES

With roots in the early industrial movement of the 18th and 19th centuries, the Hyde Park neighborhood of Boston was annexed into the City in 1868. Readville is one of three districts in Hyde Park and is located in the valley created by the Neponset River and Mother Brook. In 1855, Readville became the point of intersection for the Midland Railroad and the Boston and Providence Railroad. The enhanced transportation network led to a surge in rail-related industry and residential expansion throughout the Readville district.

The Project will fit the character, design, and history of the district, and will enhance the existing manufacturing and light-industrial economy, create new job opportunities and spur innovation while being sensitive to the surrounding residential neighborhood and environment.

6.12.1 HISTORIC RESOURCES ON THE PROJECT SITE

There are no historic resources on the Site. From 1834 into the 2000s, the Site served the MBTA and other railroad companies for railroad maintenance, passage, and materials storage. In 2011 the MBTA completed an extensive Site remediation for environmental contamination as a result of historic uses. At present, the Site is vacant except for the occasional storage of railroad equipment and material. The Site contains the remains of unused railroad tracks from a once active rail yard that served as a midday layover station for the MBTA's commuter rail fleet. Remnants of the right-of-way formerly known as the Dedham Secondary Branch pass through the northerly portion of the site and abut the homes south of West Milton Street.

6.12.2 HISTORIC RESOURCES IN THE VICINITY OF THE PROJECT SITE

Several historic resources are proximate to the Site. Described below are historic resources listed on the Massachusetts Inventory of Historic and Archaeological Assets of the Commonwealth within one-quarter mile of the Project Site (See Figure 6-2, Historic Resources). The Project, which is located on a plot of land once used for railroad storage, will include buildings that will not exceed 35 feet in height, and will therefore not have any adverse affects on any of the resources listed below.

Neponset Valley Parkway (BOS.YA)

The Neponset Valley Parkway (the "Parkway") consists of approximately 13 acres that wind through the southern portion of Hyde Park. Designated as a National Register District in 2005, the Parkway was developed in three segments between 1898 and 1956, and includes several structures. The Parkway was designed for the Metropolitan Park Commission by Olmsted, Olmsted and Eliot and its successor firm, Olmsted Brothers. The Parkway was one of the earliest connecting parkways in

the first regional park system ever established in the United States, the Metropolitan Park System of Greater Boston. The Metropolitan Park System of Greater Boston was designated as a National Register District in 2003, and includes many of Greater Boston's important parks and parkways. The Project will have no impact on the Parkway, including visual and shadow impacts.

Readville Industrial Area (BOS.RQ)

The Readville Industrial Area (the "Industrial Area") is composed of 23 contributing structures and five significant complexes, with a collective history pertaining to the industrial beginnings of Readville. Most of the structures were constructed between 1866 and the late 1900s as foundries, machine shops, and warehouses. Though some of the original buildings have burned or been demolished, some remain in good repair and have benefited from adaptive reuse. Though the Site falls within the boundaries of the Industrial Area, there will be no adverse impacts as a result of the Project. Further, the Project design and uses will reflect and promote the industrial heritage of the Readville area.

Saint Anne Roman Catholic Church Complex (BOS.WD)

Composed of buildings dating from 1875 to 1931, the church complex includes a chapel, rectory, garage, and associated structures. Situated along West Milton Street, the cluster of buildings is situated slightly above grade from the Project Site and is thickly buffered from the site by mature trees. The Saint Anne Roman Catholic Church Complex will not be impacted by the Project.

Amos Macomber House (BOS.11122)

The Amos Macomber House, located at 69 West Milton Street, is a simple 5 x 2 bay dwelling constructed in the late 1940s. This house is the final remnant of the vernacular residential style common during an era when the land in Hyde Park was largely farm and forest. The house was originally owned by Amos Macomber, a Dedham manufacturer. Located to the north of the Site and thickly buffered by mature trees, the Amos Macomber House will not be impacted by the Project.

10-25 Hamilton Street (BOS.OS)

10-25 Hamilton Street includes a selection of houses that are characterized by a sequence of architectural styles ranging from Queen Anne to typical Boston three-decker to contemporary suburban. Most of the houses have been altered from their original state, though the character defining features generally remain and so the integrity of the structures are largely intact. This area was developed on an ongoing basis from 1896 into the 1900's and was once the site of Readville's Civil War camp ground, Camp Meiggs. Disconnected from the Project Site by the MBTA right of

way and several roads, the houses on Hamilton Street will not be impacted by the Project.

John D. Conley Double House (BOS.10889)

The John D. Conley House was built in 1898 in the Queen Anne Style. The house is located at 49-51 Chesterfield Street and features a central porch recessed between projecting one-story bays, a triangular pediment atop the porch, and decoratively coursed shingles over the first story. This property, coupled with the Stephen Conley House located next door, are excellent examples of the housing types associated with the residential boom that took place in Readville around the turn of the 20th century. Located to the north of the Site and separated from the Project by a change in grade and several roads, there will be no adverse impacts on the John D. Conley Double House by the Project.

Readville Color Works (40-46 Sprague Street) (BOS.11083)

Constructed in 1889, this late Victorian industrial structure is architecturally intact. Originally the home of the Readville Color Works, which remained in operation until 1924, the structure has benefited from adaptive reuse. Located to the southwest of the Site, the Readville Color Works building will not be impacted by the Project.

Stephen Conley House (BOS.10888)

Constructed around 1875 in the Italianate style, the Stephen Conley House is an intact example of the type of cottage occupied by the working class in the late 19th century. Located to the north of the Site and separated from the Project by a change in grade and several roads, the Stephen Conley House will not be affected by the Project.

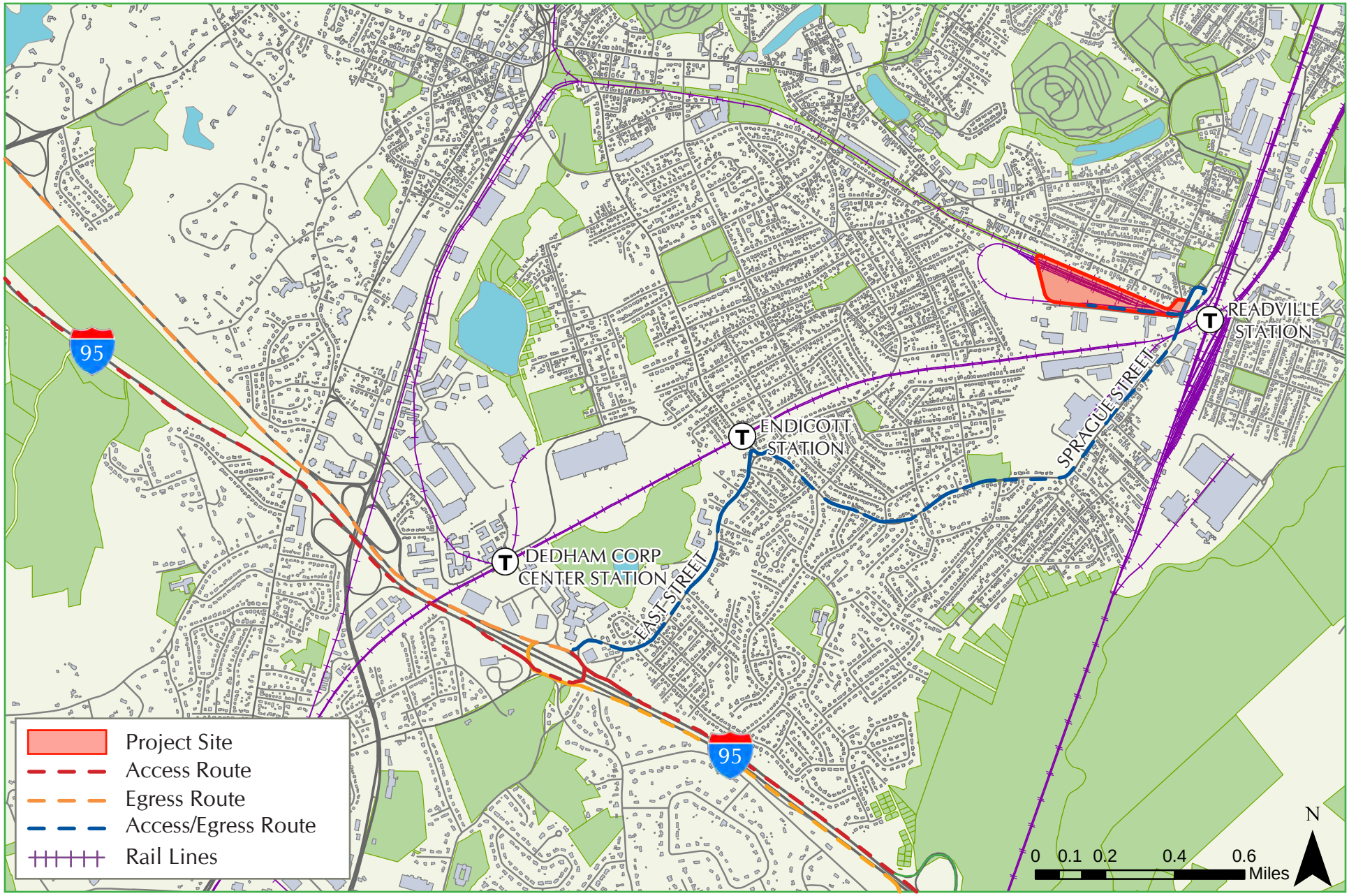


Figure 6-1
Construction Truck Circulation Plan
Source: Fort Point Associates, Inc., 2014

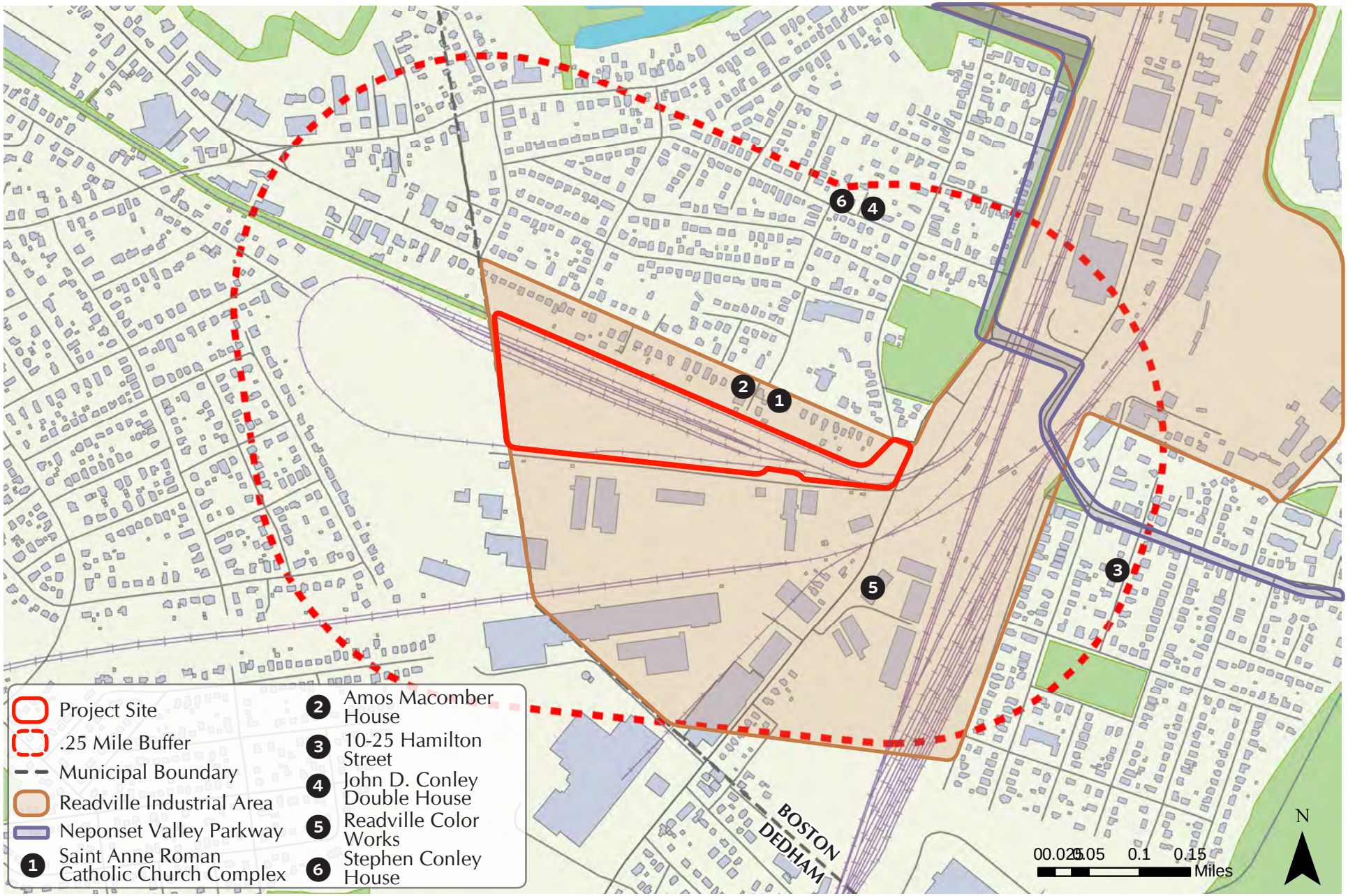


Figure 6-2
Historic Resouces
Source: Fort Point Associates, Inc., 2014

Chapter 7

INFRASTRUCTURE

CHAPTER 7: INFRASTRUCTURE

7.1 INTRODUCTION

The following chapter describes the existing utility systems servicing the Site and surrounding area, discusses the Project's potential impacts on these utilities, and identifies mitigation measures to address potential impacts.

To ensure that the project can be adequately serviced by existing and/or proposed new infrastructure, final engineering and design will be determined once the Project has been received all necessary approvals. During the design and construction of the Project the engineer and architect will coordinate with the appropriate agencies and utility owners.

7.2 WASTEWATER

7.2.1 EXISTING SEWER SYSTEM

The Site is currently undeveloped and no direct municipal sanitary sewer connections leading onto the Site have been identified. An existing private sanitary sewer manhole is located near the southwest corner of the site, and connects to an existing 12-inch diameter private sanitary sewer main on the Site. The existing 12-inch diameter sewer main flows east from the existing manhole for approximately 80 feet, and then turns south and crosses Industrial Drive and continues through the abutting Industrial complex to the south of the Site. It is assumed that the existing 12-inch diameter sewer ultimately connects to the Boston Water and Sewer Commission's sanitary mains, however that data still needs to be confirmed.

Existing BWSC sanitary sewer mains are located in Sprague Street to the southeast, and West Milton Street to the North. The existing 10-inch diameter sanitary sewer main in Sprague Street flows to the south, and is ultimately directed to the Deer Island Treatment Plant. The existing 8-inch diameter sanitary sewer main in West Milton Street flows southeasterly to the 10-inch diameter sanitary sewer main in Readville Street. It should be noted that West Milton Street is higher in elevation that the Site, and it is therefore unlikely that the private sanitary sewer main in Industrial Drive connects to the BWSC 8-inch diameter sanitary sewer main in West Milton Street. The existing BWSC sewer services are shown on Figure 7-1, BWSC Sewer and Stormwater System Map.

7.2.2 PROJECTED SANITARY FLOW

The Project's projected sanitary flows were calculated using 310 CMR 15 design criteria for Industrial and Office use consistent with the currently proposed

development. The Project is currently estimated to accommodate 240 Industrial use occupants and 60 Office use occupants. The proposed Office space is currently estimated at 42,000 sf. Table 7-1 below summarizes the projected sanitary flows for the Project. This estimation is considered to be conservative because it assumes 100 percent occupancy. It should be noted that this estimate is safely below the building code occupancy limit of 1 person per 100 sf.

Table 7-1: Projected Sanitary Flows

Proposed Use	Units/Size	Design Flow Rate	Projected Sanitary Flows (GPD)
Office	42,000 S.F	75 GPD/1,000 sf	3,150
Industrial	240 Persons	15 GPD/Person	3,600
Total Projected Sanitary Flow			**6,750**

Flows from any industrial processes subject to MWRA 360 CMR 10 regulations, will be permitted separately by each individual business owner/tenant.

7.2.3 SANITARY SEWER CONNECTION

The plumbing design for the Project is still to be determined. However, the general design plan will consist of a main sanitary sewer line from each building that will connect to the existing private sanitary sewer line in Industrial Drive. Each unit within a given building will have its own dedicated industrial sewer line, with an inspection port, which will tie into the main sanitary sewer line of each building. The design team will work to combine the sanitary sewer lines from each building, as practicable, in an attempt to minimize the number of connection points to the existing private sanitary sewer. The proposed sanitary sewer connection for the project will take place at the existing 12-inch diameter private sanitary sewer. The hydraulic capacity of the existing 12-inch diameter private sanitary sewer was analyzed based on the data currently available. The hydraulic capacity calculations are presented in Table 7-2

Table 7-2, Sewer Hydraulic Capacity Analysis

Sewer Main	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Existing 12" Private	0.50*	12	.012**	2.74	1.77

*Actual slope is unknown at this time. A slope of 0.50% was assumed.
** Actual pipe material is unknown at this time. A Manning's Number of 0.012 was assumed.

Per the results of Table 7-2, the hydraulic capacity of the existing 12-inch diameter private sanitary sewer is estimated at approximately 1.77 MGD. Based on the projected sanitary flows for the Project of 6,750 GPD or 0.007 MGD, the existing sanitary sewer connection is expected to provide significantly more capacity than will actually be required.

Approval from BWSC, through their Site Plan Review Process, will be required. 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. Improvements to the BWSC infrastructure and/or the existing private sanitary sewer will also be evaluated as part of the BWSC Site Plan Review Process.

7.3 WATER SYSTEM

7.3.1 EXISTING WATER SYSTEM

An existing 10-inch diameter private water service is located in Industrial Drive, which connects to an existing 12-inch diameter BWSC water service that extends from West Milton Street though the eastern side of the Site. The City of Boston currently has five different water system/service districts. The existing 12-inch diameter BWSC water service is part of Southern High water system/service district. BWSC water services are shown on Figure 7-2, BWSC Water System Map.

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Site was requested by the Proponent. Hydrant flow data was available for hydrant H-14 in the vicinity of the Site. The existing hydrant flow data is available in Table 7-3.

Table 7-3, Existing Hydrant Flow Data

Flow Hydrant Number	Date of Test	Static Pressure (psi)	Residual Pressure (psi)	Total Flow (gpm)	Flow (gpm) at 20 psi
H-14 Industrial Drive	6/19/2014	72	66	1,486	4,769

Note: Data provided by BWSC, June 19, 2014

7.3.2 ANTICIPATED WATER CONSUMPTION

The Project's domestic water consumption is based on the projected sanitary flows (6,750 GPD per table 7-1), plus an additional 10% for consumption, system losses and other uses. Therefore it is estimated that the total water consumption for the

Project will be 7,425 GPD. However the Proponent has obtained record water meter data for a nearby facility at 65 Sprague St., which houses a similar industrial/office space tenant mix as the Project. The 2013 record data for this facility indicated an annual water consumption of 2,108,000 gallons. The facility at 65 Sprague St. is approximately 20% larger than the Project. Therefore it can be estimated that the annual water consumption for the Project will be approximately 1,700,000 gallons, which is the equivalent of 4,658 GPD.

7.3.3 PROPOSED WATER SERVICE

The proposed domestic and fire protection water services for the Project will connect to the 12-inch diameter BWSC water service and/or the existing 10-inch diameter private water service in Industrial Drive.
Per the results indicated on Table 7-3, the minimum water flow in the vicinity of the Site is 1,486 GPM or 2.14 MGD. Based on the anticipated water consumption for the Project of 7,425 GPD or 0.009 MGD, the existing water connection is expected to provide significantly more capacity than will actually be required.

7.3.4 WATER SUPPLY CONSERVATION AND MITIGATION MEASURES

Measures to reduce water consumption will be incorporated into the Project Design. The State Building Code requires the use of water-conserving fixtures. Water conservation measures such as low-flow toilets and restricted flow faucets will help reduce the domestic water demand on the existing distribution system. The installation of sensor-operated sinks with water conserving aerators and sensor-operated toilets in all restrooms will be incorporated into the design plans for the Project.

New water services will be installed in accordance with the latest local, state, and federal codes and standards. The Project will comply with the Commonwealth's Stretch Energy Code and as such, will reduce energy use from the baseline energy conservation by approximately 30%. 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. If individual occupants of a unit intend to perform operations that will require significantly more water consumption than the average values assumed for the design, they will be required to provide information on their process and associated water conservation measures.

7.4 STORM DRAINAGE

7.4.1 EXISTING STORM DRAINAGE SYSTEM

Existing stormwater runoff patterns include overland flow to isolated low spots, a localized catch basin system, and a long swale running northwest to southeast. The existing storm drain network on the Site is private, and also extends onto portions of Industrial Drive. Although the dimensions of the drainage system vary, most of the Site flow appears to be collected within the swale and then discharged into an existing 18-inch diameter drain line toward the southeast. An existing 18-inch diameter private storm drain flows easterly across the southern side of the Site along Industrial Drive. It is assumed that the existing 18-inch diameter storm drain ultimately connects to the Boston Water and Sewer Commission's storm mains, however that data still needs to be determined.

There are existing BWSC storm drain mains in West Milton Street (12-inch diameter) and in Sprague Street (10-inch diameter). The 12-inch diameter BWSC storm drain main in West Milton Street flows southeasterly to a 24-inch diameter BWSC storm drain, which flows southwesterly and outlets to the Site at a BWSC storm drain outfall. The 24-inch diameter BWSC storm drain outfall has an estimated hydraulic capacity of 24.6 cubic feet per second (cfs). The 10-inch diameter storm drain main in Sprague Street flows in a southwesterly direction, and is ultimately directed to Sprague Pond. The existing BWSC storm drain services are shown on Figure 7-2.

The existing Site consists of a mix of bituminous concrete, concrete slab, wooded and light underbrush, and railroad tracks, which consist of a soil and ballast cover. There are also several miscellaneous debris piles across the Site consisting of steel rails, wooden and concrete railroad ties, concrete pipe sections, and other miscellaneous debris. The existing Site is approximately 30% impervious.

The Site drainage generally flows from west to east, and includes off-site flow contributions from the adjacent properties to the north and west. Off-site flow from the north comes from the adjacent residential properties on West Milton Street, as well as the existing 24-inch diameter BWSC storm drain outfall. Off-site flow from the west comes from the adjacent Yard 5 property in Dedham, which has similar surface cover type characteristic to the Site. The Site has a closed drainage system that collects portions of the stormwater runoff via catch basins. Stormwater runoff not collected by the catch basins flows overland to low points on the eastern side of the Site, as well as to a catch basin located in Industrial Drive.

7.4.2 PROPOSED STORM DRAINAGE SYSTEM

The proposed design will increase the amount of impervious area on the Site by approximately 46 percent, for a total Site imperviousness of approximately 76 percent. The proposed impervious area will consist mostly of building roofs and associated parking and walkway areas. The project will be designed to promote a reduction of stormwater runoff peak rates and volumes, and to minimize the loss of annual recharge to groundwater through the use of on-site infiltration measures.

The Project design will include a closed drainage system that will be adequately sized to handle the Site's expected stormwater flows, and will direct stormwater to the on-Site infiltration structures, the existing 18-inch diameter private storm drain and ultimately BWSC infrastructure. The on-site infiltration will be designed to infiltrate one inch of stormwater runoff from impervious areas, in order to meet the BWSC stormwater quality and ground water recharge requirements. The Project is not located within the Groundwater Conservation Overlay District.

Improvements to the BWSC infrastructure and/or the existing private storm drain systems will be evaluated as part of the BWSC Site Plan Review Process.

7.4.3 MITIGATION MEASURE

The Project will be designed to meet the stormwater management standards of the BWSC and the MADEP. The MADEP has established ten (10) Stormwater Management Standards. A project that meets or exceeds the standards is presumed to satisfy the regulatory requirements regarding stormwater management. 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.

There will be no new stormwater conveyances discharging untreated stormwater into or cause erosion to wetlands or waters of the Commonwealth. The Project will treat all proposed runoff through appropriate stormwater measures.

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.

The proposed design will ensure that post development peak discharge rates do not exceed pre-development peak discharge rates, through the use of onsite infiltration measures and outlet control structures.

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.

The proposed design will ensure that loss of annual recharge will be minimized through the use of on-Site infiltration measures.

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:

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.

The proposed design will ensure that each drainage outfall area will meet the 80% TSS removal standard.

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.

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.

Not Applicable. The proposed project is not within an outstanding resource area.

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

Not Applicable. The proposed project is not a re-development project.

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

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 #9: A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

To facilitate functionality of the proposed stormwater management system with the design intent, a long-term operation and maintenance plan will be developed and implemented.

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

There is no know illicit discharge from the area at this time, or intended to be discharged from the Project in the post-development phase.

Temporary construction dewatering will be conducted in accordance with all applicable BWSC and Massachusetts Water Resource Authority (MWRA) requirements, as necessary.

7.5 ELECTRICAL SERVICES

NSTAR owns the electrical services within the vicinity of the Site. NSTAR has confirmed that the current service in the area is an overhead 122 volt/40 amp single phase service. The

Project's electrical demand and design will be determined during the final design phase, and will be coordinated with NSTAR.

7.6 TELECOMMUNICATIONS SYSTEM

Private telecommunication companies will be used to provide cable, data, and telephone services as necessary to support the Project. Up to 150 mbps is currently available in the vicinity of the Site. All service connection locations and approvals will be coordinated by the Proponent during the final design phase of the Project.

7.7 NATURAL GAS SYSTEM

NSTAR owns the gas services within the vicinity of the Site. NSTAR confirmed that Industrial Drive is served by a 4-inch diameter high pressure main with 60 lbs of pressure. The Project's gas demand and design will be determined during the final design phase, and will be coordinated with NSTAR.

7.8 UTILITY PROTECTION DURING CONSTRUCTION

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

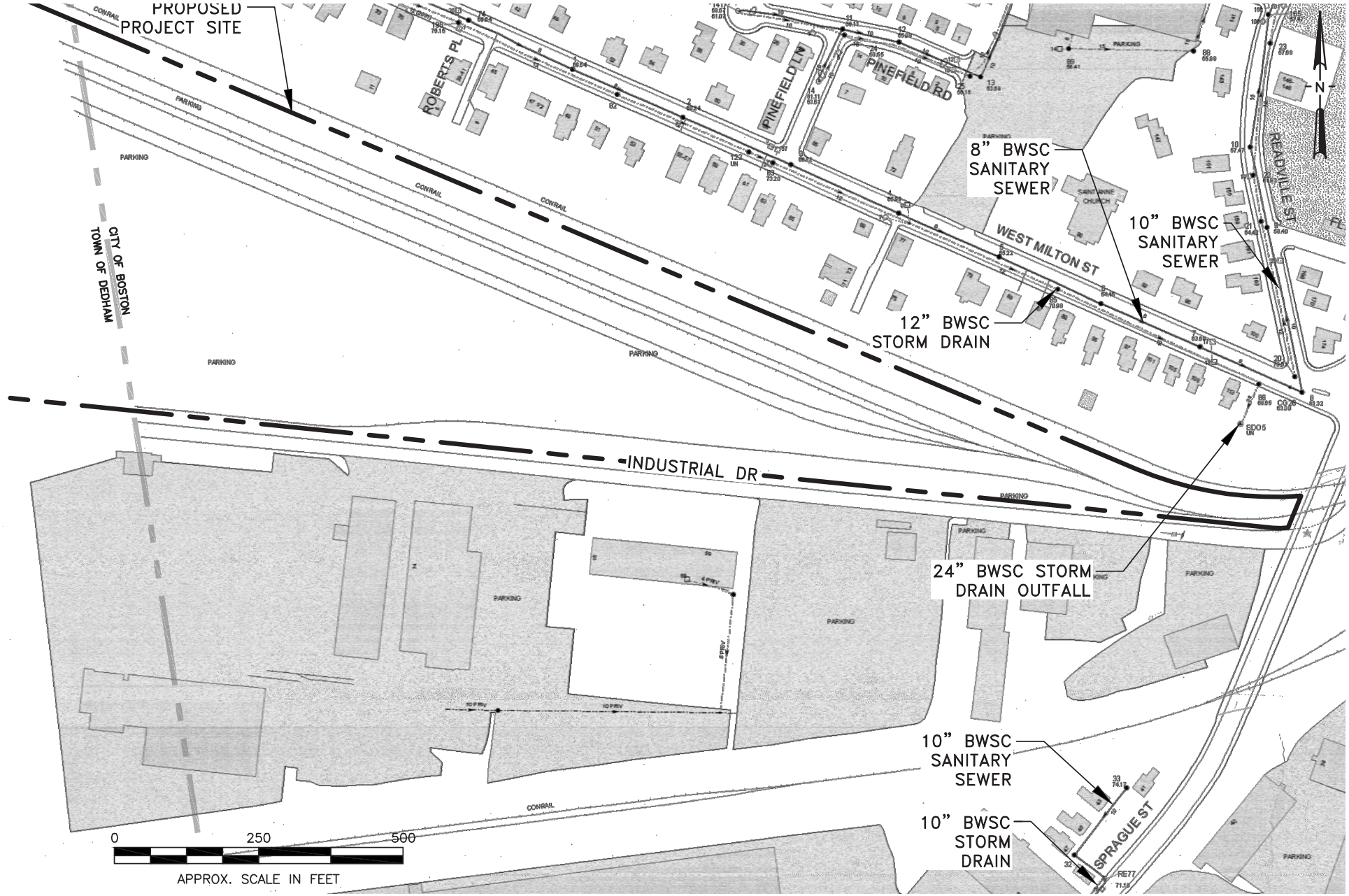


Figure 7-1
BWSC Sewer and Stormwater System Map
Source: GeoInsight, Inc., 2014

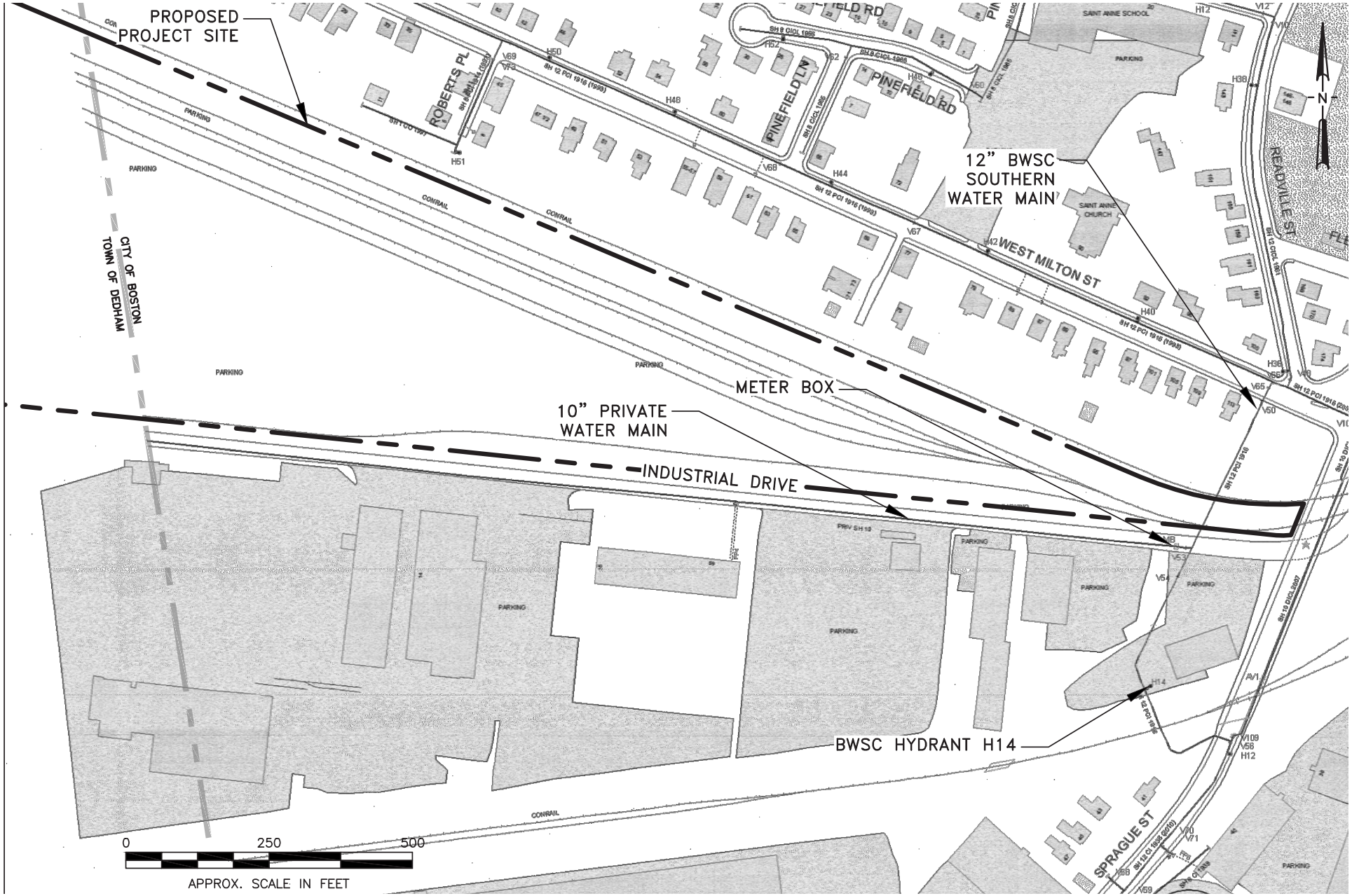


Figure 7-2
BWSC Water System Map
Source: GeoInsight, Inc., 2014

Appendix A

TRANSPORTATION TECHNICAL APPENDIX

TRANSPORTATION TECHNICAL APPENDIX

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

TRAFFIC COUNTS

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 A
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	120	8	0	3	5	0	15	130	0	281
07:15 AM	112	12	0	9	7	0	18	127	0	285
07:30 AM	121	6	0	6	0	0	9	143	0	285
07:45 AM	120	5	0	7	2	0	15	164	0	313
Total	473	31	0	25	14	0	57	564	0	1164
08:00 AM	118	9	1	4	1	0	11	156	0	300
08:15 AM	124	12	0	11	6	0	26	148	0	327
08:30 AM	123	11	0	4	0	0	5	125	0	268
08:45 AM	108	11	0	11	5	0	13	117	0	265
Total	473	43	1	30	12	0	55	546	0	1160
Grand Total	946	74	1	55	26	0	112	1110	0	2324
Apprch %	92.7	7.2	0.1	67.9	32.1	0	9.2	90.8	0	
Total %	40.7	3.2	0	2.4	1.1	0	4.8	47.8	0	
Cars	895	38	1	31	22	0	106	1041	0	2134
% Cars	94.6	51.4	100	56.4	84.6	0	94.6	93.8	0	91.8
Heavy Vehicles	51	36	0	24	4	0	6	69	0	190
% Heavy Vehicles	5.4	48.6	0	43.6	15.4	0	5.4	6.2	0	8.2

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	121	6	0	127	6	0	0	6	9	143	0	152	285
07:45 AM	120	5	0	125	7	2	0	9	15	164	0	179	313
08:00 AM	118	9	1	128	4	1	0	5	11	156	0	167	300
08:15 AM	124	12	0	136	11	6	0	17	26	148	0	174	327
Total Volume	483	32	1	516	28	9	0	37	61	611	0	672	1225
% App. Total	93.6	6.2	0.2		75.7	24.3	0		9.1	90.9	0		
PHF	.974	.667	.250	.949	.636	.375	.000	.544	.587	.931	.000	.939	.937
Cars	451	12	1	464	12	9	0	21	58	574	0	632	1117
% Cars	93.4	37.5	100	89.9	42.9	100	0	56.8	95.1	93.9	0	94.0	91.2
Heavy Vehicles	32	20	0	52	16	0	0	16	3	37	0	40	108
% Heavy Vehicles	6.6	62.5	0	10.1	57.1	0	0	43.2	4.9	6.1	0	6.0	8.8

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 A
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	117	6	0	0	3	0	15	118	0	259
07:15 AM	105	10	0	8	7	0	18	117	0	265
07:30 AM	118	1	0	2	0	0	9	129	0	259
07:45 AM	110	3	0	2	2	0	13	156	0	286
Total	450	20	0	12	12	0	55	520	0	1069
08:00 AM	108	4	1	1	1	0	11	148	0	274
08:15 AM	115	4	0	7	6	0	25	141	0	298
08:30 AM	119	4	0	3	0	0	5	122	0	253
08:45 AM	103	6	0	8	3	0	10	110	0	240
Total	445	18	1	19	10	0	51	521	0	1065
Grand Total	895	38	1	31	22	0	106	1041	0	2134
Apprch %	95.8	4.1	0.1	58.5	41.5	0	9.2	90.8	0	
Total %	41.9	1.8	0	1.5	1	0	5	48.8	0	

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	118	1	0	119	2	0	0	2	9	129	0	138	259
07:45 AM	110	3	0	113	2	2	0	4	13	156	0	169	286
08:00 AM	108	4	1	113	1	1	0	2	11	148	0	159	274
08:15 AM	115	4	0	119	7	6	0	13	25	141	0	166	298
Total Volume	451	12	1	464	12	9	0	21	58	574	0	632	1117
% App. Total	97.2	2.6	0.2		57.1	42.9	0		9.2	90.8	0		
PHF	.956	.750	.250	.975	.429	.375	.000	.404	.580	.920	.000	.935	.937

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 A
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	3	2	0	3	2	0	0	12	0	22
07:15 AM	7	2	0	1	0	0	0	10	0	20
07:30 AM	3	5	0	4	0	0	0	14	0	26
07:45 AM	10	2	0	5	0	0	2	8	0	27
Total	23	11	0	13	2	0	2	44	0	95
08:00 AM	10	5	0	3	0	0	0	8	0	26
08:15 AM	9	8	0	4	0	0	1	7	0	29
08:30 AM	4	7	0	1	0	0	0	3	0	15
08:45 AM	5	5	0	3	2	0	3	7	0	25
Total	28	25	0	11	2	0	4	25	0	95
Grand Total	51	36	0	24	4	0	6	69	0	190
Apprch %	58.6	41.4	0	85.7	14.3	0	8	92	0	
Total %	26.8	18.9	0	12.6	2.1	0	3.2	36.3	0	

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	3	5	0	8	4	0	0	4	0	14	0	14	26
07:45 AM	10	2	0	12	5	0	0	5	2	8	0	10	27
08:00 AM	10	5	0	15	3	0	0	3	0	8	0	8	26
08:15 AM	9	8	0	17	4	0	0	4	1	7	0	8	29
Total Volume	32	20	0	52	16	0	0	16	3	37	0	40	108
% App. Total	61.5	38.5	0		100	0	0		7.5	92.5	0		
PHF	.800	.625	.000	.765	.800	.000	.000	.800	.375	.661	.000	.714	.931

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 A
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	6	6
07:15 AM	0	0	1	0	0	0	0	0	4	5
07:30 AM	0	0	0	0	0	3	0	0	4	7
07:45 AM	1	0	0	0	0	1	0	0	9	11
Total	1	0	1	0	0	4	0	0	23	29
08:00 AM	0	0	0	0	0	1	0	0	2	3
08:15 AM	0	0	0	0	0	1	0	1	5	7
08:30 AM	0	0	0	0	0	0	0	0	4	4
08:45 AM	0	0	1	0	0	1	0	0	4	6
Total	0	0	1	0	0	3	0	1	15	20
Grand Total	1	0	2	0	0	7	0	1	38	49
Apprch %	33.3	0	66.7	0	0	100	0	2.6	97.4	
Total %	2	0	4.1	0	0	14.3	0	2	77.6	

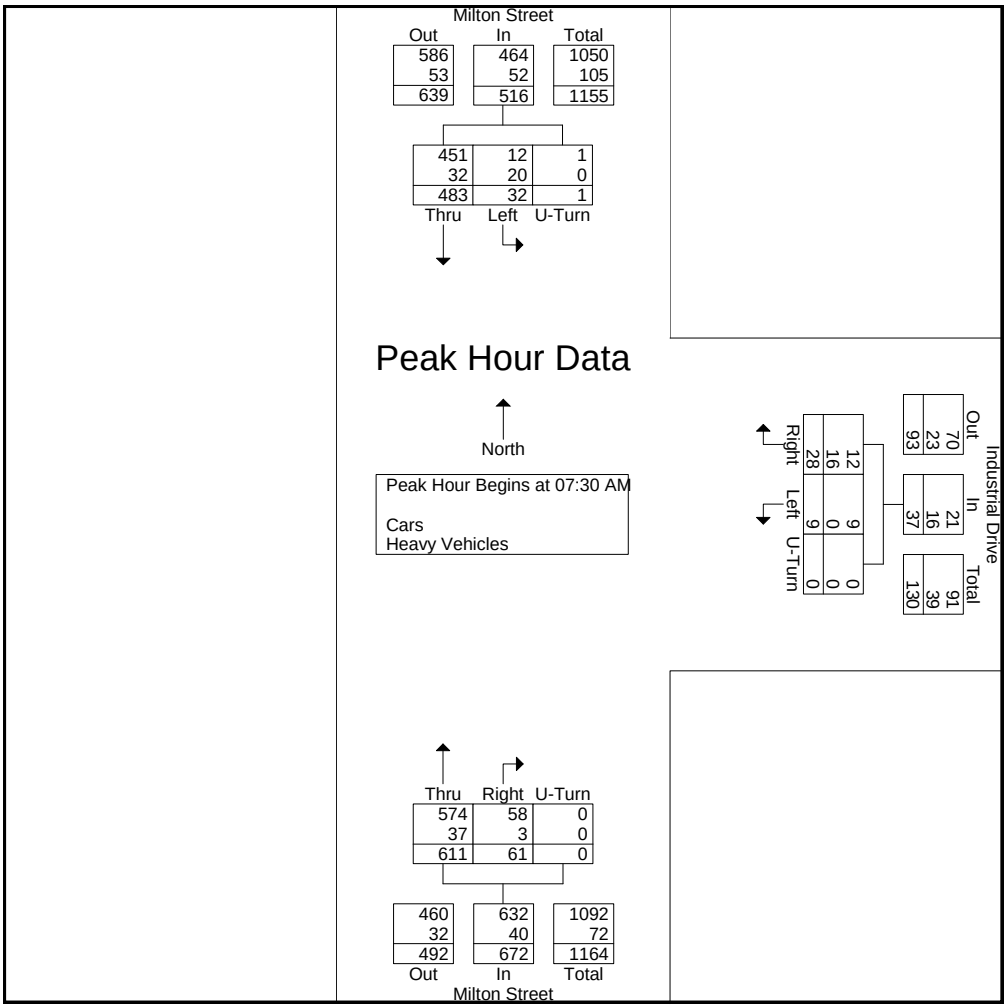
	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	0	0	0	0	0	0	0	0	6	6	6
07:15 AM	0	0	1	1	0	0	0	0	0	0	4	4	5
07:30 AM	0	0	0	0	0	0	3	3	0	0	4	4	7
07:45 AM	1	0	0	1	0	0	1	1	0	0	9	9	11
Total Volume	1	0	1	2	0	0	4	4	0	0	23	23	29
% App. Total	50	0	50		0	0	100		0	0	100		
PHF	.250	.000	.250	.500	.000	.000	.333	.333	.000	.000	.639	.639	.659

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 A
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	121	6	0	127	6	0	0	6	9	143	0	152	285
07:45 AM	120	5	0	125	7	2	0	9	15	164	0	179	313
08:00 AM	118	9	1	128	4	1	0	5	11	156	0	167	300
08:15 AM	124	12	0	136	11	6	0	17	26	148	0	174	327
Total Volume	483	32	1	516	28	9	0	37	61	611	0	672	1225
% App. Total	93.6	6.2	0.2		75.7	24.3	0		9.1	90.9	0		
PHF	.974	.667	.250	.949	.636	.375	.000	.544	.587	.931	.000	.939	.937
Cars	451	12	1	464	12	9	0	21	58	574	0	632	1117
% Cars	93.4	37.5	100	89.9	42.9	100	0	56.8	95.1	93.9	0	94.0	91.2
Heavy Vehicles	32	20	0	52	16	0	0	16	3	37	0	40	108
% Heavy Vehicles	6.6	62.5	0	10.1	57.1	0	0	43.2	4.9	6.1	0	6.0	8.8



N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 AA
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	115	15	0	7	11	0	6	136	0	290
04:15 PM	115	15	0	14	17	0	7	141	0	309
04:30 PM	119	21	0	20	4	0	4	171	0	339
04:45 PM	136	18	0	28	16	0	5	165	0	368
Total	485	69	0	69	48	0	22	613	0	1306
05:00 PM	101	23	0	16	18	0	4	163	0	325
05:15 PM	110	22	0	19	6	0	4	181	0	342
05:30 PM	109	17	0	17	10	0	4	157	0	314
05:45 PM	124	26	0	10	8	0	3	127	0	298
Total	444	88	0	62	42	0	15	628	0	1279
Grand Total	929	157	0	131	90	0	37	1241	0	2585
Apprch %	85.5	14.5	0	59.3	40.7	0	2.9	97.1	0	
Total %	35.9	6.1	0	5.1	3.5	0	1.4	48	0	
Cars	894	14	0	127	87	0	20	1205	0	2347
% Cars	96.2	8.9	0	96.9	96.7	0	54.1	97.1	0	90.8
Heavy Vehicles	35	143	0	4	3	0	17	36	0	238
% Heavy Vehicles	3.8	91.1	0	3.1	3.3	0	45.9	2.9	0	9.2

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	119	21	0	140	20	4	0	24	4	171	0	175	339
04:45 PM	136	18	0	154	28	16	0	44	5	165	0	170	368
05:00 PM	101	23	0	124	16	18	0	34	4	163	0	167	325
05:15 PM	110	22	0	132	19	6	0	25	4	181	0	185	342
Total Volume	466	84	0	550	83	44	0	127	17	680	0	697	1374
% App. Total	84.7	15.3	0		65.4	34.6	0		2.4	97.6	0		
PHF	.857	.913	.000	.893	.741	.611	.000	.722	.850	.939	.000	.942	.933
Cars	448	9	0	457	81	44	0	125	10	659	0	669	1251
% Cars	96.1	10.7	0	83.1	97.6	100	0	98.4	58.8	96.9	0	96.0	91.0
Heavy Vehicles	18	75	0	93	2	0	0	2	7	21	0	28	123
% Heavy Vehicles	3.9	89.3	0	16.9	2.4	0	0	1.6	41.2	3.1	0	4.0	9.0

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 AA
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	106	0	0	7	8	0	4	130	0	255
04:15 PM	111	1	0	12	17	0	1	136	0	278
04:30 PM	109	1	0	19	4	0	3	163	0	299
04:45 PM	131	3	0	28	16	0	3	161	0	342
Total	457	5	0	66	45	0	11	590	0	1174
05:00 PM	100	2	0	15	18	0	4	157	0	296
05:15 PM	108	3	0	19	6	0	0	178	0	314
05:30 PM	107	2	0	17	10	0	3	157	0	296
05:45 PM	122	2	0	10	8	0	2	123	0	267
Total	437	9	0	61	42	0	9	615	0	1173
Grand Total	894	14	0	127	87	0	20	1205	0	2347
Apprch %	98.5	1.5	0	59.3	40.7	0	1.6	98.4	0	
Total %	38.1	0.6	0	5.4	3.7	0	0.9	51.3	0	

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	109	1	0	110	19	4	0	23	3	163	0	166	299
04:45 PM	131	3	0	134	28	16	0	44	3	161	0	164	342
05:00 PM	100	2	0	102	15	18	0	33	4	157	0	161	296
05:15 PM	108	3	0	111	19	6	0	25	0	178	0	178	314
Total Volume	448	9	0	457	81	44	0	125	10	659	0	669	1251
% App. Total	98	2	0		64.8	35.2	0		1.5	98.5	0		
PHF	.855	.750	.000	.853	.723	.611	.000	.710	.625	.926	.000	.940	.914

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 AA
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	9	15	0	0	3	0	2	6	0	35
04:15 PM	4	14	0	2	0	0	6	5	0	31
04:30 PM	10	20	0	1	0	0	1	8	0	40
04:45 PM	5	15	0	0	0	0	2	4	0	26
Total	28	64	0	3	3	0	11	23	0	132
05:00 PM	1	21	0	1	0	0	0	6	0	29
05:15 PM	2	19	0	0	0	0	4	3	0	28
05:30 PM	2	15	0	0	0	0	1	0	0	18
05:45 PM	2	24	0	0	0	0	1	4	0	31
Total	7	79	0	1	0	0	6	13	0	106
Grand Total	35	143	0	4	3	0	17	36	0	238
Apprch %	19.7	80.3	0	57.1	42.9	0	32.1	67.9	0	
Total %	14.7	60.1	0	1.7	1.3	0	7.1	15.1	0	

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	9	15	0	24	0	3	0	3	2	6	0	8	35
04:15 PM	4	14	0	18	2	0	0	2	6	5	0	11	31
04:30 PM	10	20	0	30	1	0	0	1	1	8	0	9	40
04:45 PM	5	15	0	20	0	0	0	0	2	4	0	6	26
Total Volume	28	64	0	92	3	3	0	6	11	23	0	34	132
% App. Total	30.4	69.6	0		50	50	0		32.4	67.6	0		
PHF	.700	.800	.000	.767	.375	.250	.000	.500	.458	.719	.000	.773	.825

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 AA
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Milton Street From North			Industrial Drive From East			Milton Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	2	3
04:15 PM	0	0	0	0	0	2	0	0	4	6
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	2	0	0	3	0	0	8	14
Total	1	0	2	0	0	6	0	0	14	23
05:00 PM	1	0	3	0	0	0	0	0	15	19
05:15 PM	0	0	0	0	0	0	0	1	6	7
05:30 PM	1	0	0	0	0	0	0	0	20	21
05:45 PM	0	0	0	0	0	0	0	0	4	4
Total	2	0	3	0	0	0	0	1	45	51
Grand Total	3	0	5	0	0	6	0	1	59	74
Apprch %	37.5	0	62.5	0	0	100	0	1.7	98.3	
Total %	4.1	0	6.8	0	0	8.1	0	1.4	79.7	

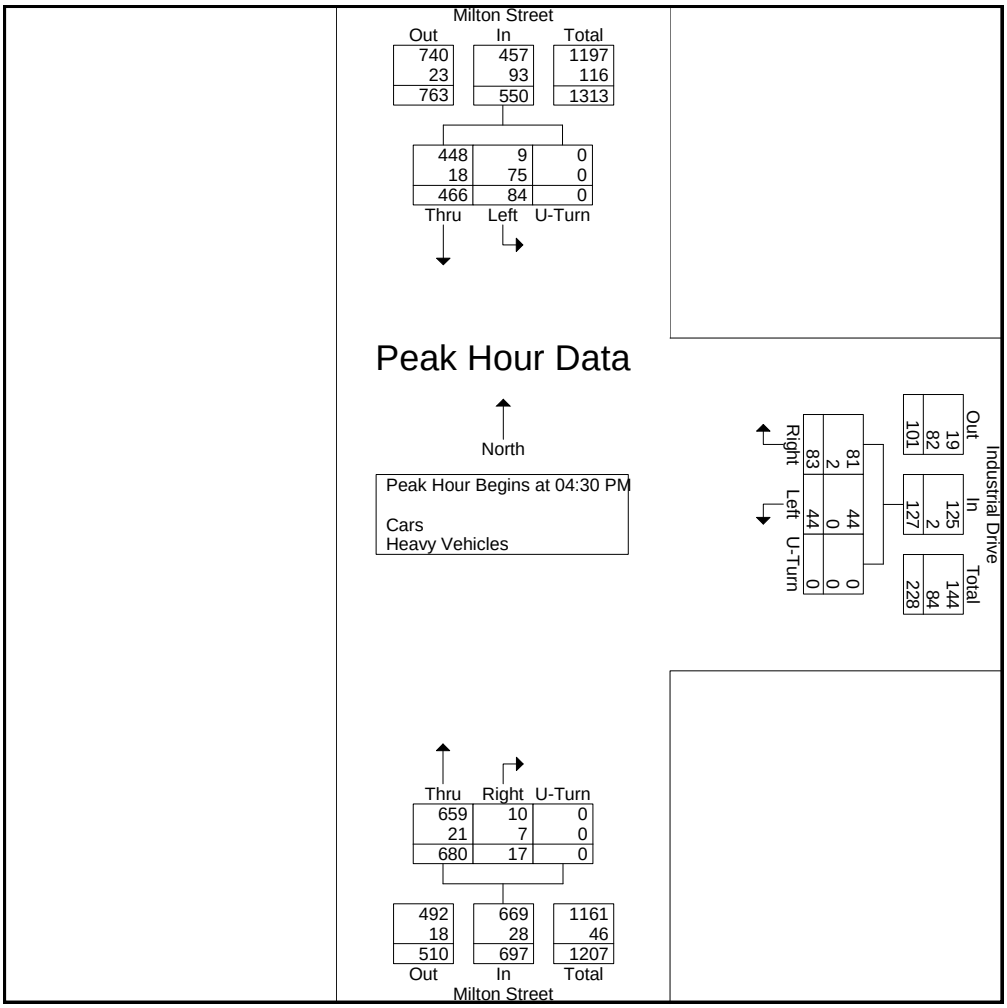
	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	1	0	2	3	0	0	3	3	0	0	8	8	14
05:00 PM	1	0	3	4	0	0	0	0	0	0	15	15	19
05:15 PM	0	0	0	0	0	0	0	0	0	1	6	7	7
05:30 PM	1	0	0	1	0	0	0	0	0	0	20	20	21
Total Volume	3	0	5	8	0	0	3	3	0	1	49	50	61
% App. Total	37.5	0	62.5		0	0	100		0	2	98		
PHF	.750	.000	.417	.500	.000	.000	.250	.250	.000	.250	.613	.625	.726

N/S: Milton Street
E: Industrial Drive
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 AA
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Milton Street From North				Industrial Drive From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	119	21	0	140	20	4	0	24	4	171	0	175	339
04:45 PM	136	18	0	154	28	16	0	44	5	165	0	170	368
05:00 PM	101	23	0	124	16	18	0	34	4	163	0	167	325
05:15 PM	110	22	0	132	19	6	0	25	4	181	0	185	342
Total Volume	466	84	0	550	83	44	0	127	17	680	0	697	1374
% App. Total	84.7	15.3	0		65.4	34.6	0		2.4	97.6	0		
PHF	.857	.913	.000	.893	.741	.611	.000	.722	.850	.939	.000	.942	.933
Cars	448	9	0	457	81	44	0	125	10	659	0	669	1251
% Cars	96.1	10.7	0	83.1	97.6	100	0	98.4	58.8	96.9	0	96.0	91.0
Heavy Vehicles	18	75	0	93	2	0	0	2	7	21	0	28	123
% Heavy Vehicles	3.9	89.3	0	16.9	2.4	0	0	1.6	41.2	3.1	0	4.0	9.0



N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 B
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	61	64	0	106	17	0	10	44	0	302
07:15 AM	78	43	0	92	13	0	6	50	0	282
07:30 AM	64	57	0	90	13	0	5	62	0	291
07:45 AM	41	85	0	99	11	0	14	80	0	330
Total	244	249	0	387	54	0	35	236	0	1205
08:00 AM	58	62	0	89	11	0	13	81	0	314
08:15 AM	64	64	0	91	10	0	20	79	0	328
08:30 AM	56	70	0	64	17	0	24	59	0	290
08:45 AM	46	65	0	86	18	0	13	43	0	271
Total	224	261	0	330	56	0	70	262	0	1203
Grand Total	468	510	0	717	110	0	105	498	0	2408
Apprch %	47.9	52.1	0	86.7	13.3	0	17.4	82.6	0	
Total %	19.4	21.2	0	29.8	4.6	0	4.4	20.7	0	
Cars	447	483	0	672	103	0	99	477	0	2281
% Cars	95.5	94.7	0	93.7	93.6	0	94.3	95.8	0	94.7
Heavy Vehicles	21	27	0	45	7	0	6	21	0	127
% Heavy Vehicles	4.5	5.3	0	6.3	6.4	0	5.7	4.2	0	5.3

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	64	57	0	121	90	13	0	103	5	62	0	67	291
07:45 AM	41	85	0	126	99	11	0	110	14	80	0	94	330
08:00 AM	58	62	0	120	89	11	0	100	13	81	0	94	314
08:15 AM	64	64	0	128	91	10	0	101	20	79	0	99	328
Total Volume	227	268	0	495	369	45	0	414	52	302	0	354	1263
% App. Total	45.9	54.1	0		89.1	10.9	0		14.7	85.3	0		
PHF	.887	.788	.000	.967	.932	.865	.000	.941	.650	.932	.000	.894	.957
Cars	215	252	0	467	349	42	0	391	48	288	0	336	1194
% Cars	94.7	94.0	0	94.3	94.6	93.3	0	94.4	92.3	95.4	0	94.9	94.5
Heavy Vehicles	12	16	0	28	20	3	0	23	4	14	0	18	69
% Heavy Vehicles	5.3	6.0	0	5.7	5.4	6.7	0	5.6	7.7	4.6	0	5.1	5.5

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 B
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	59	61	0	96	15	0	10	43	0	284
07:15 AM	73	42	0	85	12	0	6	49	0	267
07:30 AM	63	55	0	82	13	0	5	56	0	274
07:45 AM	37	80	0	96	10	0	13	76	0	312
Total	232	238	0	359	50	0	34	224	0	1137
08:00 AM	56	57	0	85	11	0	11	79	0	299
08:15 AM	59	60	0	86	8	0	19	77	0	309
08:30 AM	55	68	0	63	17	0	24	57	0	284
08:45 AM	45	60	0	79	17	0	11	40	0	252
Total	215	245	0	313	53	0	65	253	0	1144
Grand Total	447	483	0	672	103	0	99	477	0	2281
Apprch %	48.1	51.9	0	86.7	13.3	0	17.2	82.8	0	
Total %	19.6	21.2	0	29.5	4.5	0	4.3	20.9	0	

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	37	80	0	117	96	10	0	106	13	76	0	89	312
08:00 AM	56	57	0	113	85	11	0	96	11	79	0	90	299
08:15 AM	59	60	0	119	86	8	0	94	19	77	0	96	309
08:30 AM	55	68	0	123	63	17	0	80	24	57	0	81	284
Total Volume	207	265	0	472	330	46	0	376	67	289	0	356	1204
% App. Total	43.9	56.1	0		87.8	12.2	0		18.8	81.2	0		
PHF	.877	.828	.000	.959	.859	.676	.000	.887	.698	.915	.000	.927	.965

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 B
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
07:00 AM	2	3	0	10	2	0	0	1	0	18
07:15 AM	5	1	0	7	1	0	0	1	0	15
07:30 AM	1	2	0	8	0	0	0	6	0	17
07:45 AM	4	5	0	3	1	0	1	4	0	18
Total	12	11	0	28	4	0	1	12	0	68
08:00 AM	2	5	0	4	0	0	2	2	0	15
08:15 AM	5	4	0	5	2	0	1	2	0	19
08:30 AM	1	2	0	1	0	0	0	2	0	6
08:45 AM	1	5	0	7	1	0	2	3	0	19
Total	9	16	0	17	3	0	5	9	0	59
Grand Total	21	27	0	45	7	0	6	21	0	127
Apprch %	43.8	56.2	0	86.5	13.5	0	22.2	77.8	0	
Total %	16.5	21.3	0	35.4	5.5	0	4.7	16.5	0	

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	1	2	0	3	8	0	0	8	0	6	0	6	17
07:45 AM	4	5	0	9	3	1	0	4	1	4	0	5	18
08:00 AM	2	5	0	7	4	0	0	4	2	2	0	4	15
08:15 AM	5	4	0	9	5	2	0	7	1	2	0	3	19
Total Volume	12	16	0	28	20	3	0	23	4	14	0	18	69
% App. Total	42.9	57.1	0		87	13	0		22.2	77.8	0		
PHF	.600	.800	.000	.778	.625	.375	.000	.719	.500	.583	.000	.750	.908

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 B
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	0	1	0	0	0	0	0	3	4
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	3	4
07:45 AM	1	0	0	0	0	0	0	0	4	5
Total	1	0	2	0	0	0	0	0	10	13
08:00 AM	0	0	0	0	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	1	0	1	0	2
08:30 AM	0	0	0	0	0	0	0	0	3	3
08:45 AM	0	0	0	0	0	0	0	0	3	3
Total	0	0	0	0	0	2	0	1	6	9
Grand Total	1	0	2	0	0	2	0	1	16	22
Apprch %	33.3	0	66.7	0	0	100	0	5.9	94.1	
Total %	4.5	0	9.1	0	0	9.1	0	4.5	72.7	

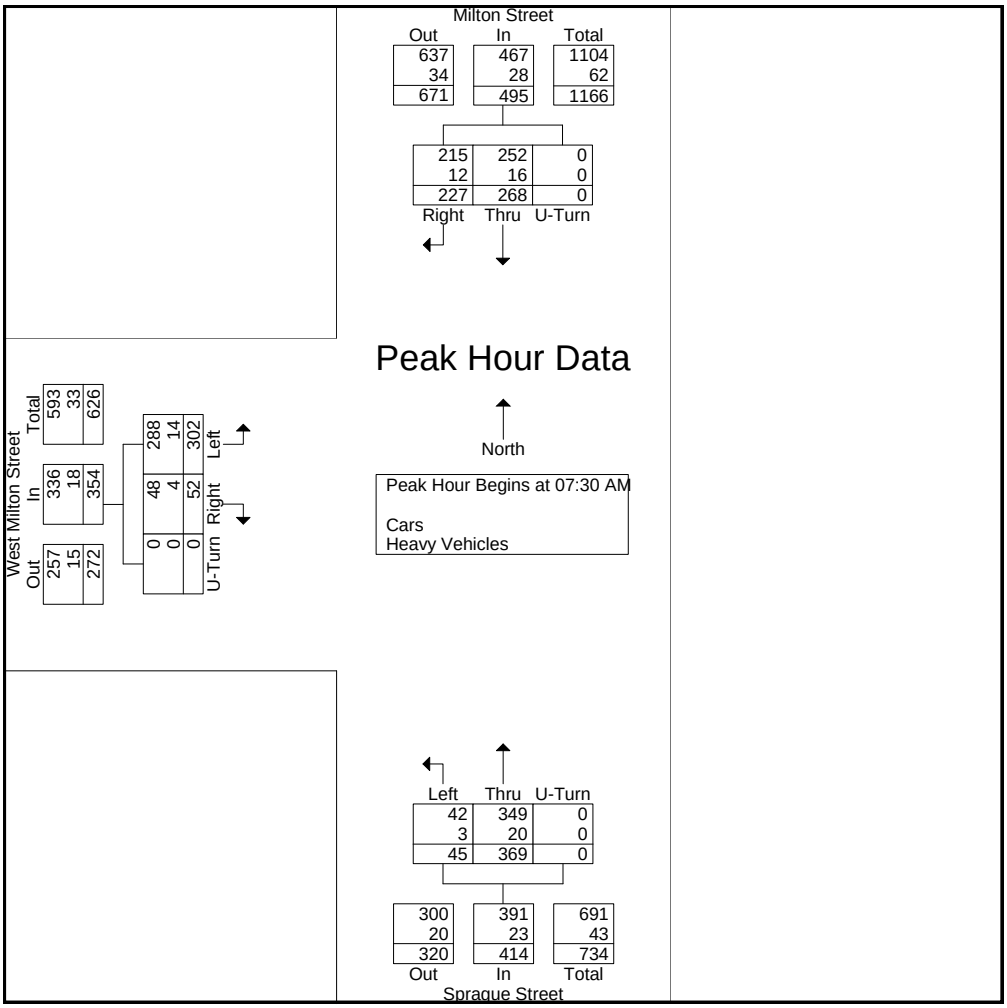
	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	1	1	0	0	0	0	0	0	3	3	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	1	0	0	0	0	0	0	3	3	4
07:45 AM	1	0	0	1	0	0	0	0	0	0	4	4	5
Total Volume	1	0	2	3	0	0	0	0	0	0	10	10	13
% App. Total	33.3	0	66.7		0	0	0		0	0	100		
PHF	.250	.000	.500	.750	.000	.000	.000	.000	.000	.000	.625	.625	.650

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 B
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	64	57	0	121	90	13	0	103	5	62	0	67	291
07:45 AM	41	85	0	126	99	11	0	110	14	80	0	94	330
08:00 AM	58	62	0	120	89	11	0	100	13	81	0	94	314
08:15 AM	64	64	0	128	91	10	0	101	20	79	0	99	328
Total Volume	227	268	0	495	369	45	0	414	52	302	0	354	1263
% App. Total	45.9	54.1	0		89.1	10.9	0		14.7	85.3	0		
PHF	.887	.788	.000	.967	.932	.865	.000	.941	.650	.932	.000	.894	.957
Cars	215	252	0	467	349	42	0	391	48	288	0	336	1194
% Cars	94.7	94.0	0	94.3	94.6	93.3	0	94.4	92.3	95.4	0	94.9	94.5
Heavy Vehicles	12	16	0	28	20	3	0	23	4	14	0	18	69
% Heavy Vehicles	5.3	6.0	0	5.7	5.4	6.7	0	5.6	7.7	4.6	0	5.1	5.5



N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 BB
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	47	80	0	70	13	0	21	71	0	302
04:15 PM	54	81	0	69	10	0	20	79	0	313
04:30 PM	42	81	0	92	16	0	22	84	0	337
04:45 PM	64	88	0	85	17	0	23	80	0	357
Total	207	330	0	316	56	0	86	314	0	1309
05:00 PM	42	76	0	95	23	0	23	73	0	332
05:15 PM	49	67	0	104	20	0	41	84	0	365
05:30 PM	49	68	0	67	19	0	19	86	0	308
05:45 PM	50	84	0	61	8	0	17	67	0	287
Total	190	295	0	327	70	0	100	310	0	1292
Grand Total	397	625	0	643	126	0	186	624	0	2601
Apprch %	38.8	61.2	0	83.6	16.4	0	23	77	0	
Total %	15.3	24	0	24.7	4.8	0	7.2	24	0	
Cars	382	601	0	618	122	0	178	597	0	2498
% Cars	96.2	96.2	0	96.1	96.8	0	95.7	95.7	0	96
Heavy Vehicles	15	24	0	25	4	0	8	27	0	103
% Heavy Vehicles	3.8	3.8	0	3.9	3.2	0	4.3	4.3	0	4

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	42	81	0	123	92	16	0	108	22	84	0	106	337
04:45 PM	64	88	0	152	85	17	0	102	23	80	0	103	357
05:00 PM	42	76	0	118	95	23	0	118	23	73	0	96	332
05:15 PM	49	67	0	116	104	20	0	124	41	84	0	125	365
Total Volume	197	312	0	509	376	76	0	452	109	321	0	430	1391
% App. Total	38.7	61.3	0		83.2	16.8	0		25.3	74.7	0		
PHF	.770	.886	.000	.837	.904	.826	.000	.911	.665	.955	.000	.860	.953
Cars	190	302	0	492	362	75	0	437	108	306	0	414	1343
% Cars	96.4	96.8	0	96.7	96.3	98.7	0	96.7	99.1	95.3	0	96.3	96.5
Heavy Vehicles	7	10	0	17	14	1	0	15	1	15	0	16	48
% Heavy Vehicles	3.6	3.2	0	3.3	3.7	1.3	0	3.3	0.9	4.7	0	3.7	3.5

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 BB
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	42	73	0	66	11	0	18	66	0	276
04:15 PM	51	78	0	65	9	0	17	73	0	293
04:30 PM	38	76	0	87	16	0	21	80	0	318
04:45 PM	62	85	0	82	17	0	23	77	0	346
Total	193	312	0	300	53	0	79	296	0	1233
05:00 PM	42	75	0	92	23	0	23	70	0	325
05:15 PM	48	66	0	101	19	0	41	79	0	354
05:30 PM	49	66	0	67	19	0	18	85	0	304
05:45 PM	50	82	0	58	8	0	17	67	0	282
Total	189	289	0	318	69	0	99	301	0	1265
Grand Total	382	601	0	618	122	0	178	597	0	2498
Apprch %	38.9	61.1	0	83.5	16.5	0	23	77	0	
Total %	15.3	24.1	0	24.7	4.9	0	7.1	23.9	0	

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	38	76	0	114	87	16	0	103	21	80	0	101	318
04:45 PM	62	85	0	147	82	17	0	99	23	77	0	100	346
05:00 PM	42	75	0	117	92	23	0	115	23	70	0	93	325
05:15 PM	48	66	0	114	101	19	0	120	41	79	0	120	354
Total Volume	190	302	0	492	362	75	0	437	108	306	0	414	1343
% App. Total	38.6	61.4	0		82.8	17.2	0		26.1	73.9	0		
PHF	.766	.888	.000	.837	.896	.815	.000	.910	.659	.956	.000	.863	.948

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 BB
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
04:00 PM	5	7	0	4	2	0	3	5	0	26
04:15 PM	3	3	0	4	1	0	3	6	0	20
04:30 PM	4	5	0	5	0	0	1	4	0	19
04:45 PM	2	3	0	3	0	0	0	3	0	11
Total	14	18	0	16	3	0	7	18	0	76
05:00 PM	0	1	0	3	0	0	0	3	0	7
05:15 PM	1	1	0	3	1	0	0	5	0	11
05:30 PM	0	2	0	0	0	0	1	1	0	4
05:45 PM	0	2	0	3	0	0	0	0	0	5
Total	1	6	0	9	1	0	1	9	0	27
Grand Total	15	24	0	25	4	0	8	27	0	103
Apprch %	38.5	61.5	0	86.2	13.8	0	22.9	77.1	0	
Total %	14.6	23.3	0	24.3	3.9	0	7.8	26.2	0	

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	5	7	0	12	4	2	0	6	3	5	0	8	26
04:15 PM	3	3	0	6	4	1	0	5	3	6	0	9	20
04:30 PM	4	5	0	9	5	0	0	5	1	4	0	5	19
04:45 PM	2	3	0	5	3	0	0	3	0	3	0	3	11
Total Volume	14	18	0	32	16	3	0	19	7	18	0	25	76
% App. Total	43.8	56.2	0		84.2	15.8	0		28	72	0		
PHF	.700	.643	.000	.667	.800	.375	.000	.792	.583	.750	.000	.694	.731

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 BB
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Milton Street From North			Sprague Street From South			West Milton Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	3	3
Total	0	0	0	0	0	0	0	0	5	5
05:00 PM	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	1	0	1
05:30 PM	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	0	1	0	1	2	4
Grand Total	0	0	0	0	0	1	0	1	7	9
Apprch %	0	0	0	0	0	100	0	12.5	87.5	
Total %	0	0	0	0	0	11.1	0	11.1	77.8	

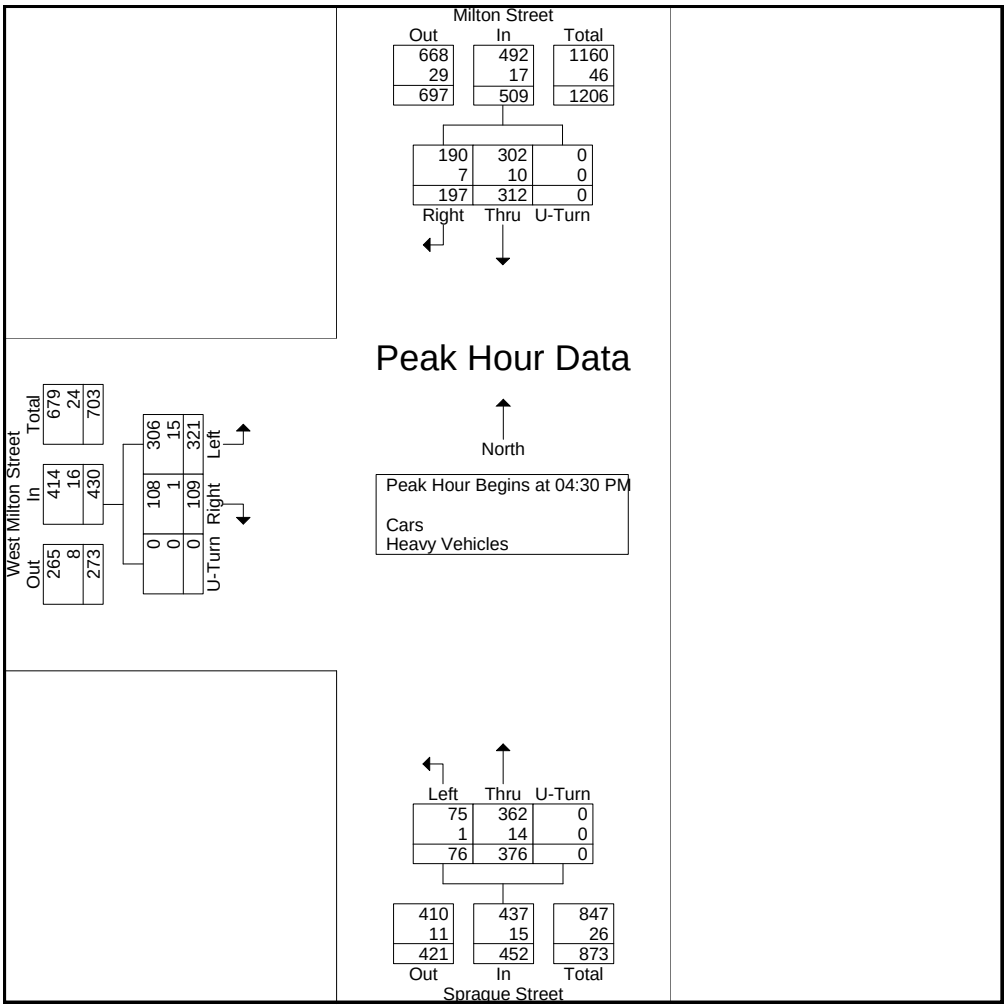
	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	1	6	7	7
% App. Total	0	0	0		0	0	0		0	14.3	85.7		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.500	.583	.583

N/S: Milton Street/ Sprague Street
W: West Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 BB
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Milton Street From North				Sprague Street From South				West Milton Street From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	42	81	0	123	92	16	0	108	22	84	0	106	337
04:45 PM	64	88	0	152	85	17	0	102	23	80	0	103	357
05:00 PM	42	76	0	118	95	23	0	118	23	73	0	96	332
05:15 PM	49	67	0	116	104	20	0	124	41	84	0	125	365
Total Volume	197	312	0	509	376	76	0	452	109	321	0	430	1391
% App. Total	38.7	61.3	0		83.2	16.8	0		25.3	74.7	0		
PHF	.770	.886	.000	.837	.904	.826	.000	.911	.665	.955	.000	.860	.953
Cars	190	302	0	492	362	75	0	437	108	306	0	414	1343
% Cars	96.4	96.8	0	96.7	96.3	98.7	0	96.7	99.1	95.3	0	96.3	96.5
Heavy Vehicles	7	10	0	17	14	1	0	15	1	15	0	16	48
% Heavy Vehicles	3.6	3.2	0	3.3	3.7	1.3	0	3.3	0.9	4.7	0	3.7	3.5



N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 C
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	16	48	0	84	112	0	115	16	0	391
07:15 AM	7	64	0	125	117	0	104	33	0	450
07:30 AM	9	83	0	117	118	0	128	16	0	471
07:45 AM	17	65	0	95	111	0	147	24	0	459
Total	49	260	0	421	458	0	494	89	0	1771
08:00 AM	17	61	0	83	115	0	148	15	0	439
08:15 AM	19	62	0	83	115	0	129	27	0	435
08:30 AM	16	41	0	94	119	0	116	10	0	396
08:45 AM	15	53	0	76	103	0	103	23	0	373
Total	67	217	0	336	452	0	496	75	0	1643
Grand Total	116	477	0	757	910	0	990	164	0	3414
Apprch %	19.6	80.4	0	45.4	54.6	0	85.8	14.2	0	
Total %	3.4	14	0	22.2	26.7	0	29	4.8	0	
Cars	97	458	0	731	843	0	919	146	0	3194
% Cars	83.6	96	0	96.6	92.6	0	92.8	89	0	93.6
Heavy Vehicles	19	19	0	26	67	0	71	18	0	220
% Heavy Vehicles	16.4	4	0	3.4	7.4	0	7.2	11	0	6.4

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	7	64	0	71	125	117	0	242	104	33	0	137	450
07:30 AM	9	83	0	92	117	118	0	235	128	16	0	144	471
07:45 AM	17	65	0	82	95	111	0	206	147	24	0	171	459
08:00 AM	17	61	0	78	83	115	0	198	148	15	0	163	439
Total Volume	50	273	0	323	420	461	0	881	527	88	0	615	1819
% App. Total	15.5	84.5	0		47.7	52.3	0		85.7	14.3	0		
PHF	.735	.822	.000	.878	.840	.977	.000	.910	.890	.667	.000	.899	.965
Cars	41	262	0	303	407	425	0	832	487	79	0	566	1701
% Cars	82.0	96.0	0	93.8	96.9	92.2	0	94.4	92.4	89.8	0	92.0	93.5
Heavy Vehicles	9	11	0	20	13	36	0	49	40	9	0	49	118
% Heavy Vehicles	18.0	4.0	0	6.2	3.1	7.8	0	5.6	7.6	10.2	0	8.0	6.5

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 C
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	14	43	0	81	109	0	104	14	0	365
07:15 AM	5	60	0	124	108	0	94	32	0	423
07:30 AM	8	81	0	112	110	0	115	11	0	437
07:45 AM	15	62	0	90	103	0	137	23	0	430
Total	42	246	0	407	430	0	450	80	0	1655
08:00 AM	13	59	0	81	104	0	141	13	0	411
08:15 AM	16	61	0	80	102	0	120	24	0	403
08:30 AM	12	40	0	90	113	0	112	10	0	377
08:45 AM	14	52	0	73	94	0	96	19	0	348
Total	55	212	0	324	413	0	469	66	0	1539
Grand Total	97	458	0	731	843	0	919	146	0	3194
Apprch %	17.5	82.5	0	46.4	53.6	0	86.3	13.7	0	
Total %	3	14.3	0	22.9	26.4	0	28.8	4.6	0	

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	5	60	0	65	124	108	0	232	94	32	0	126	423
07:30 AM	8	81	0	89	112	110	0	222	115	11	0	126	437
07:45 AM	15	62	0	77	90	103	0	193	137	23	0	160	430
08:00 AM	13	59	0	72	81	104	0	185	141	13	0	154	411
Total Volume	41	262	0	303	407	425	0	832	487	79	0	566	1701
% App. Total	13.5	86.5	0		48.9	51.1	0		86	14	0		
PHF	.683	.809	.000	.851	.821	.966	.000	.897	.863	.617	.000	.884	.973

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 C
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	2	5	0	3	3	0	11	2	0	26
07:15 AM	2	4	0	1	9	0	10	1	0	27
07:30 AM	1	2	0	5	8	0	13	5	0	34
07:45 AM	2	3	0	5	8	0	10	1	0	29
Total	7	14	0	14	28	0	44	9	0	116
08:00 AM	4	2	0	2	11	0	7	2	0	28
08:15 AM	3	1	0	3	13	0	9	3	0	32
08:30 AM	4	1	0	4	6	0	4	0	0	19
08:45 AM	1	1	0	3	9	0	7	4	0	25
Total	12	5	0	12	39	0	27	9	0	104
Grand Total	19	19	0	26	67	0	71	18	0	220
Apprch %	50	50	0	28	72	0	79.8	20.2	0	
Total %	8.6	8.6	0	11.8	30.5	0	32.3	8.2	0	

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	1	2	0	3	5	8	0	13	13	5	0	18	34
07:45 AM	2	3	0	5	5	8	0	13	10	1	0	11	29
08:00 AM	4	2	0	6	2	11	0	13	7	2	0	9	28
08:15 AM	3	1	0	4	3	13	0	16	9	3	0	12	32
Total Volume	10	8	0	18	15	40	0	55	39	11	0	50	123
% App. Total	55.6	44.4	0		27.3	72.7	0		78	22	0		
PHF	.625	.667	.000	.750	.750	.769	.000	.859	.750	.550	.000	.694	.904

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 C
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
07:00 AM	0	0	4	0	0	6	0	0	0	10
07:15 AM	0	1	0	0	0	1	0	0	0	2
07:30 AM	0	0	1	0	0	2	0	0	0	3
07:45 AM	0	0	4	0	0	4	0	0	0	8
Total	0	1	9	0	0	13	0	0	0	23
08:00 AM	0	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	2	0	0	0	1	0	0	3
08:30 AM	0	0	2	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	1	0	0	0	1
Total	0	0	5	0	0	1	1	0	0	7
Grand Total	0	1	14	0	0	14	1	0	0	30
Apprch %	0	6.7	93.3	0	0	100	100	0	0	
Total %	0	3.3	46.7	0	0	46.7	3.3	0	0	

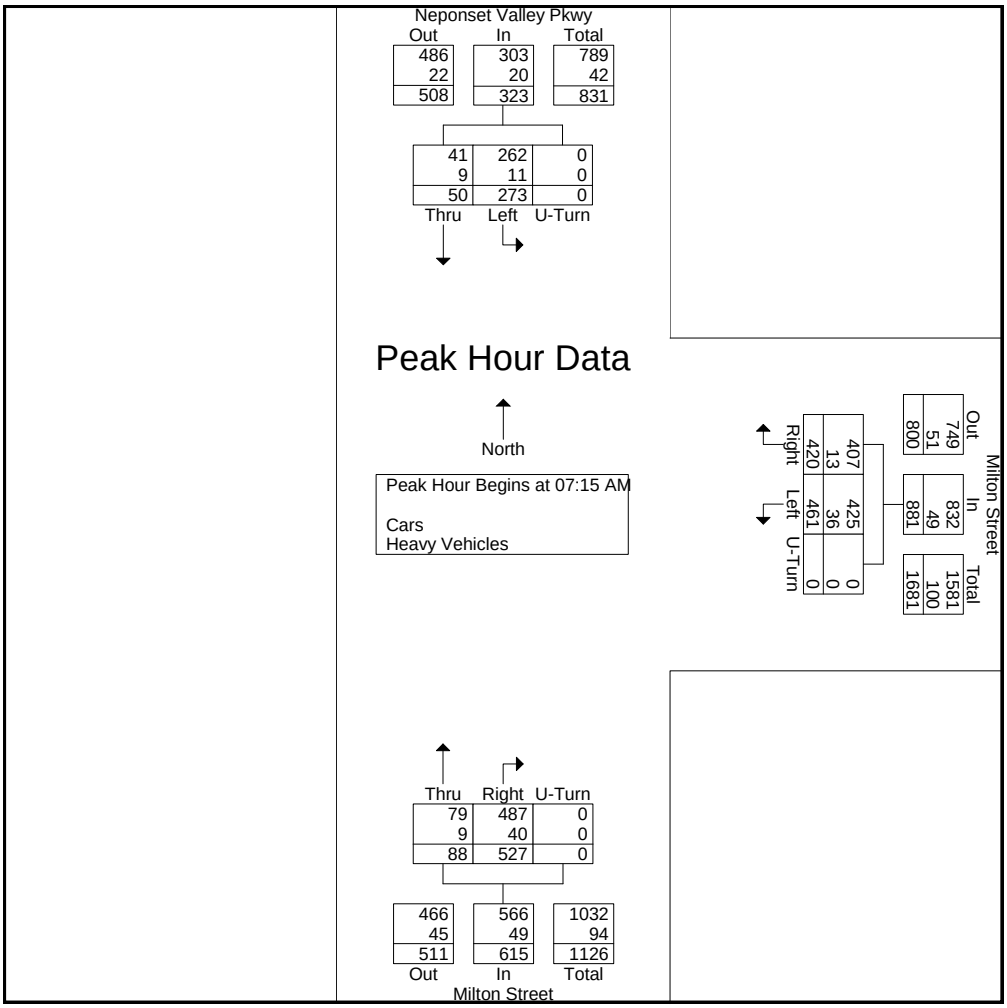
	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	4	4	0	0	6	6	0	0	0	0	10
07:15 AM	0	1	0	1	0	0	1	1	0	0	0	0	2
07:30 AM	0	0	1	1	0	0	2	2	0	0	0	0	3
07:45 AM	0	0	4	4	0	0	4	4	0	0	0	0	8
Total Volume	0	1	9	10	0	0	13	13	0	0	0	0	23
% App. Total	0	10	90		0	0	100		0	0	0		
PHF	.000	.250	.563	.625	.000	.000	.542	.542	.000	.000	.000	.000	.575

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 C
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	7	64	0	71	125	117	0	242	104	33	0	137	450
07:30 AM	9	83	0	92	117	118	0	235	128	16	0	144	471
07:45 AM	17	65	0	82	95	111	0	206	147	24	0	171	459
08:00 AM	17	61	0	78	83	115	0	198	148	15	0	163	439
Total Volume	50	273	0	323	420	461	0	881	527	88	0	615	1819
% App. Total	15.5	84.5	0		47.7	52.3	0		85.7	14.3	0		
PHF	.735	.822	.000	.878	.840	.977	.000	.910	.890	.667	.000	.899	.965
Cars	41	262	0	303	407	425	0	832	487	79	0	566	1701
% Cars	82.0	96.0	0	93.8	96.9	92.2	0	94.4	92.4	89.8	0	92.0	93.5
Heavy Vehicles	9	11	0	20	13	36	0	49	40	9	0	49	118
% Heavy Vehicles	18.0	4.0	0	6.2	3.1	7.8	0	5.6	7.6	10.2	0	8.0	6.5



N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 CC
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	33	70	0	66	97	0	134	9	0	409
04:15 PM	18	76	0	76	111	0	146	11	0	438
04:30 PM	31	53	0	54	110	0	177	10	0	435
04:45 PM	30	50	0	94	121	0	179	16	0	490
Total	112	249	0	290	439	0	636	46	0	1772
05:00 PM	25	79	0	64	99	0	150	24	0	441
05:15 PM	30	82	0	78	102	0	186	15	0	493
05:30 PM	22	70	0	74	107	0	152	21	0	446
05:45 PM	24	53	0	68	123	0	121	13	0	402
Total	101	284	0	284	431	0	609	73	0	1782
Grand Total	213	533	0	574	870	0	1245	119	0	3554
Apprch %	28.6	71.4	0	39.8	60.2	0	91.3	8.7	0	
Total %	6	15	0	16.2	24.5	0	35	3.3	0	
Cars	130	515	0	560	770	0	1210	114	0	3299
% Cars	61	96.6	0	97.6	88.5	0	97.2	95.8	0	92.8
Heavy Vehicles	83	18	0	14	100	0	35	5	0	255
% Heavy Vehicles	39	3.4	0	2.4	11.5	0	2.8	4.2	0	7.2

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	30	50	0	80	94	121	0	215	179	16	0	195	490
05:00 PM	25	79	0	104	64	99	0	163	150	24	0	174	441
05:15 PM	30	82	0	112	78	102	0	180	186	15	0	201	493
05:30 PM	22	70	0	92	74	107	0	181	152	21	0	173	446
Total Volume	107	281	0	388	310	429	0	739	667	76	0	743	1870
% App. Total	27.6	72.4	0		41.9	58.1	0		89.8	10.2	0		
PHF	.892	.857	.000	.866	.824	.886	.000	.859	.897	.792	.000	.924	.948
Cars	59	272	0	331	308	395	0	703	656	73	0	729	1763
% Cars	55.1	96.8	0	85.3	99.4	92.1	0	95.1	98.4	96.1	0	98.1	94.3
Heavy Vehicles	48	9	0	57	2	34	0	36	11	3	0	14	107
% Heavy Vehicles	44.9	3.2	0	14.7	0.6	7.9	0	4.9	1.6	3.9	0	1.9	5.7

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 CC
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	25	68	0	63	80	0	128	9	0	373
04:15 PM	10	71	0	71	101	0	139	11	0	403
04:30 PM	21	52	0	52	88	0	170	8	0	391
04:45 PM	19	49	0	94	111	0	175	16	0	464
Total	75	240	0	280	380	0	612	44	0	1631
05:00 PM	12	78	0	63	88	0	146	21	0	408
05:15 PM	16	77	0	77	95	0	184	15	0	464
05:30 PM	12	68	0	74	101	0	151	21	0	427
05:45 PM	15	52	0	66	106	0	117	13	0	369
Total	55	275	0	280	390	0	598	70	0	1668
Grand Total	130	515	0	560	770	0	1210	114	0	3299
Apprch %	20.2	79.8	0	42.1	57.9	0	91.4	8.6	0	
Total %	3.9	15.6	0	17	23.3	0	36.7	3.5	0	

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	19	49	0	68	94	111	0	205	175	16	0	191	464
05:00 PM	12	78	0	90	63	88	0	151	146	21	0	167	408
05:15 PM	16	77	0	93	77	95	0	172	184	15	0	199	464
05:30 PM	12	68	0	80	74	101	0	175	151	21	0	172	427
Total Volume	59	272	0	331	308	395	0	703	656	73	0	729	1763
% App. Total	17.8	82.2	0		43.8	56.2	0		90	10	0		
PHF	.776	.872	.000	.890	.819	.890	.000	.857	.891	.869	.000	.916	.950

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 CC
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	8	2	0	3	17	0	6	0	0	36
04:15 PM	8	5	0	5	10	0	7	0	0	35
04:30 PM	10	1	0	2	22	0	7	2	0	44
04:45 PM	11	1	0	0	10	0	4	0	0	26
Total	37	9	0	10	59	0	24	2	0	141
05:00 PM	13	1	0	1	11	0	4	3	0	33
05:15 PM	14	5	0	1	7	0	2	0	0	29
05:30 PM	10	2	0	0	6	0	1	0	0	19
05:45 PM	9	1	0	2	17	0	4	0	0	33
Total	46	9	0	4	41	0	11	3	0	114
Grand Total	83	18	0	14	100	0	35	5	0	255
Apprch %	82.2	17.8	0	12.3	87.7	0	87.5	12.5	0	
Total %	32.5	7.1	0	5.5	39.2	0	13.7	2	0	

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	8	2	0	10	3	17	0	20	6	0	0	6	36
04:15 PM	8	5	0	13	5	10	0	15	7	0	0	7	35
04:30 PM	10	1	0	11	2	22	0	24	7	2	0	9	44
04:45 PM	11	1	0	12	0	10	0	10	4	0	0	4	26
Total Volume	37	9	0	46	10	59	0	69	24	2	0	26	141
% App. Total	80.4	19.6	0		14.5	85.5	0		92.3	7.7	0		
PHF	.841	.450	.000	.885	.500	.670	.000	.719	.857	.250	.000	.722	.801

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 CC
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Neponset Valley Pkwy From North			Milton Street From East			Milton Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	0	0	0	0	0	0	1
Total	0	0	1	0	0	0	0	0	0	1
05:00 PM	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	1	0	0	1
05:30 PM	0	0	0	0	1	1	0	0	0	2
05:45 PM	0	0	0	2	0	0	0	0	0	2
Total	0	0	1	2	2	1	1	0	0	7
Grand Total	0	0	2	2	2	1	1	0	0	8
Apprch %	0	0	100	40	40	20	100	0	0	
Total %	0	0	25	25	25	12.5	12.5	0	0	

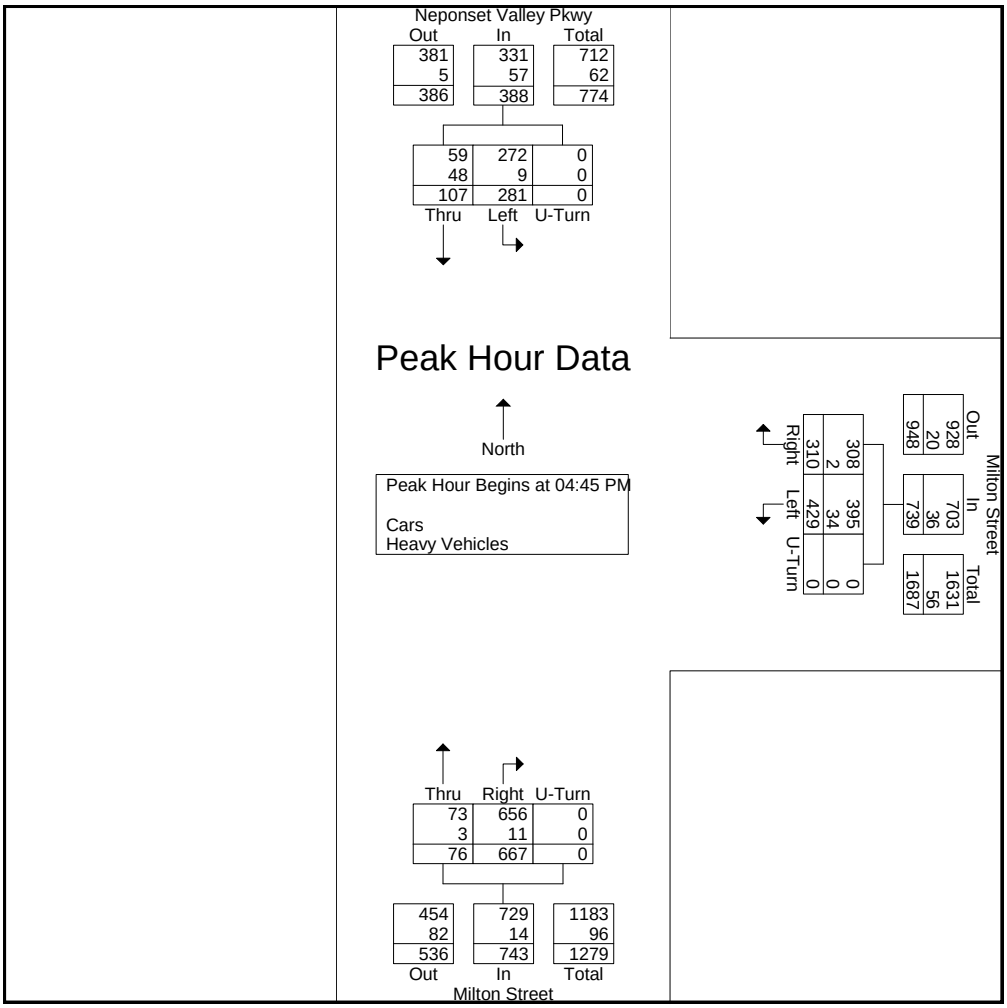
	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
05:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	2
05:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	0	0	1	1	2	2	1	5	1	0	0	1	7
% App. Total	0	0	100		40	40	20		100	0	0		
PHF	.000	.000	.250	.250	.250	.500	.250	.625	.250	.000	.000	.250	.875

N/S: Neponset Valley Pkwy/ Milton Street
E: Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 CC
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Neponset Valley Pkwy From North				Milton Street From East				Milton Street From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	30	50	0	80	94	121	0	215	179	16	0	195	490
05:00 PM	25	79	0	104	64	99	0	163	150	24	0	174	441
05:15 PM	30	82	0	112	78	102	0	180	186	15	0	201	493
05:30 PM	22	70	0	92	74	107	0	181	152	21	0	173	446
Total Volume	107	281	0	388	310	429	0	739	667	76	0	743	1870
% App. Total	27.6	72.4	0		41.9	58.1	0		89.8	10.2	0		
PHF	.892	.857	.000	.866	.824	.886	.000	.859	.897	.792	.000	.924	.948
Cars	59	272	0	331	308	395	0	703	656	73	0	729	1763
% Cars	55.1	96.8	0	85.3	99.4	92.1	0	95.1	98.4	96.1	0	98.1	94.3
Heavy Vehicles	48	9	0	57	2	34	0	36	11	3	0	14	107
% Heavy Vehicles	44.9	3.2	0	14.7	0.6	7.9	0	4.9	1.6	3.9	0	1.9	5.7



N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 D
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	45	20	1	0	0	1	2	0	11	48	160	0	111	6	51	0	456
07:15 AM	50	19	0	0	0	3	0	0	1	49	193	0	135	2	36	0	488
07:30 AM	60	37	0	0	1	3	1	0	2	42	187	0	153	1	53	0	540
07:45 AM	70	38	0	0	2	5	5	0	2	48	139	0	157	2	56	0	524
Total	225	114	1	0	3	12	8	0	16	187	679	0	556	11	196	0	2008
08:00 AM	57	37	0	0	0	4	2	0	0	49	146	0	158	0	62	0	515
08:15 AM	52	40	0	0	0	1	1	0	2	43	146	0	157	0	42	0	484
08:30 AM	54	29	0	0	2	2	1	0	0	29	152	0	124	2	33	0	428
08:45 AM	37	29	1	0	2	1	1	0	3	36	154	0	114	1	43	0	422
Total	200	135	1	0	4	8	5	0	5	157	598	0	553	3	180	0	1849
Grand Total	425	249	2	0	7	20	13	0	21	344	1277	0	1109	14	376	0	3857
Apprch %	62.9	36.8	0.3	0	17.5	50	32.5	0	1.3	21	77.8	0	74	0.9	25.1	0	
Total %	11	6.5	0.1	0	0.2	0.5	0.3	0	0.5	8.9	33.1	0	28.8	0.4	9.7	0	
Cars	381	214	2	0	7	16	12	0	20	305	1235	0	1057	13	342	0	3604
% Cars	89.6	85.9	100	0	100	80	92.3	0	95.2	88.7	96.7	0	95.3	92.9	91	0	93.4
Heavy Vehicles	44	35	0	0	0	4	1	0	1	39	42	0	52	1	34	0	253
% Heavy Vehicles	10.4	14.1	0	0	0	20	7.7	0	4.8	11.3	3.3	0	4.7	7.1	9	0	6.6

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	50	19	0	0	69	0	3	0	0	3	1	49	193	0	243	135	2	36	0	173	488
07:30 AM	60	37	0	0	97	1	3	1	0	5	2	42	187	0	231	153	1	53	0	207	540
07:45 AM	70	38	0	0	108	2	5	5	0	12	2	48	139	0	189	157	2	56	0	215	524
08:00 AM	57	37	0	0	94	0	4	2	0	6	0	49	146	0	195	158	0	62	0	220	515
Total Volume	237	131	0	0	368	3	15	8	0	26	5	188	665	0	858	603	5	207	0	815	2067
% App. Total	64.4	35.6	0	0		11.5	57.7	30.8	0		0.6	21.9	77.5	0		74	0.6	25.4	0		
PHF	.846	.862	.000	.000	.852	.375	.750	.400	.000	.542	.625	.959	.861	.000	.883	.954	.625	.835	.000	.926	.957
Cars	211	109	0	0	320	3	12	8	0	23	5	164	645	0	814	574	4	188	0	766	1923
% Cars	89.0	83.2	0	0	87.0	100	80.0	100	0	88.5	100	87.2	97.0	0	94.9	95.2	80.0	90.8	0	94.0	93.0
Heavy Vehicles	26	22	0	0	48	0	3	0	0	3	0	24	20	0	44	29	1	19	0	49	144
% Heavy Vehicles	11.0	16.8	0	0	13.0	0	20.0	0	0	11.5	0	12.8	3.0	0	5.1	4.8	20.0	9.2	0	6.0	7.0

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

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

File Name : 143791 D
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	41	19	1	0	0	1	2	0	10	44	158	0	99	6	46	0	427
07:15 AM	46	17	0	0	0	3	0	0	1	46	189	0	125	2	32	0	461
07:30 AM	53	31	0	0	1	2	1	0	2	38	184	0	146	1	47	0	506
07:45 AM	64	32	0	0	2	4	5	0	2	41	131	0	150	1	50	0	482
Total	204	99	1	0	3	10	8	0	15	169	662	0	520	10	175	0	1876
08:00 AM	48	29	0	0	0	3	2	0	0	39	141	0	153	0	59	0	474
08:15 AM	50	33	0	0	0	0	1	0	2	37	134	0	152	0	37	0	446
08:30 AM	50	28	0	0	2	2	0	0	0	27	147	0	121	2	32	0	411
08:45 AM	29	25	1	0	2	1	1	0	3	33	151	0	111	1	39	0	397
Total	177	115	1	0	4	6	4	0	5	136	573	0	537	3	167	0	1728
Grand Total	381	214	2	0	7	16	12	0	20	305	1235	0	1057	13	342	0	3604
Apprch %	63.8	35.8	0.3	0	20	45.7	34.3	0	1.3	19.6	79.2	0	74.9	0.9	24.2	0	
Total %	10.6	5.9	0.1	0	0.2	0.4	0.3	0	0.6	8.5	34.3	0	29.3	0.4	9.5	0	

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	46	17	0	0	63	0	3	0	0	3	1	46	189	0	236	125	2	32	0	159	461
07:30 AM	53	31	0	0	84	1	2	1	0	4	2	38	184	0	224	146	1	47	0	194	506
07:45 AM	64	32	0	0	96	2	4	5	0	11	2	41	131	0	174	150	1	50	0	201	482
08:00 AM	48	29	0	0	77	0	3	2	0	5	0	39	141	0	180	153	0	59	0	212	474
Total Volume	211	109	0	0	320	3	12	8	0	23	5	164	645	0	814	574	4	188	0	766	1923
% App. Total	65.9	34.1	0	0		13	52.2	34.8	0		0.6	20.1	79.2	0		74.9	0.5	24.5	0		
PHF	.824	.852	.000	.000	.833	.375	.750	.400	.000	.523	.625	.891	.853	.000	.862	.938	.500	.797	.000	.903	.950

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 D
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	4	1	0	0	0	0	0	0	1	4	2	0	12	0	5	0	29
07:15 AM	4	2	0	0	0	0	0	0	0	3	4	0	10	0	4	0	27
07:30 AM	7	6	0	0	0	1	0	0	0	4	3	0	7	0	6	0	34
07:45 AM	6	6	0	0	0	1	0	0	0	7	8	0	7	1	6	0	42
Total	21	15	0	0	0	2	0	0	1	18	17	0	36	1	21	0	132
08:00 AM	9	8	0	0	0	1	0	0	0	10	5	0	5	0	3	0	41
08:15 AM	2	7	0	0	0	1	0	0	0	6	12	0	5	0	5	0	38
08:30 AM	4	1	0	0	0	0	1	0	0	2	5	0	3	0	1	0	17
08:45 AM	8	4	0	0	0	0	0	0	0	3	3	0	3	0	4	0	25
Total	23	20	0	0	0	2	1	0	0	21	25	0	16	0	13	0	121
Grand Total	44	35	0	0	0	4	1	0	1	39	42	0	52	1	34	0	253
Apprch %	55.7	44.3	0	0	0	80	20	0	1.2	47.6	51.2	0	59.8	1.1	39.1	0	
Total %	17.4	13.8	0	0	0	1.6	0.4	0	0.4	15.4	16.6	0	20.6	0.4	13.4	0	

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	7	6	0	0	13	0	1	0	0	1	0	4	3	0	7	7	0	6	0	13	34
07:45 AM	6	6	0	0	12	0	1	0	0	1	0	7	8	0	15	7	1	6	0	14	42
08:00 AM	9	8	0	0	17	0	1	0	0	1	0	10	5	0	15	5	0	3	0	8	41
08:15 AM	2	7	0	0	9	0	1	0	0	1	0	6	12	0	18	5	0	5	0	10	38
Total Volume	24	27	0	0	51	0	4	0	0	4	0	27	28	0	55	24	1	20	0	45	155
% App. Total	47.1	52.9	0	0		0	100	0	0		0	49.1	50.9	0		53.3	2.2	44.4	0		
PHF	.667	.844	.000	.000	.750	.000	1.00	.000	.000	1.00	.000	.675	.583	.000	.764	.857	.250	.833	.000	.804	.923

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 D
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
07:15 AM	0	0	0	3	0	0	0	4	0	0	0	0	1	0	0	0	8
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	0	0	4	0	0	0	2	0	0	1	0	0	0	0	3	10
Total	0	0	0	7	0	0	0	7	0	0	1	0	1	0	0	6	22
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	4
08:30 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
Total	0	0	0	2	0	0	0	3	0	0	0	0	1	0	0	5	11
Grand Total	0	0	0	9	0	0	0	10	0	0	1	0	2	0	0	11	33
Apprch %	0	0	0	100	0	0	0	100	0	0	100	0	15.4	0	0	84.6	
Total %	0	0	0	27.3	0	0	0	30.3	0	0	3	0	6.1	0	0	33.3	

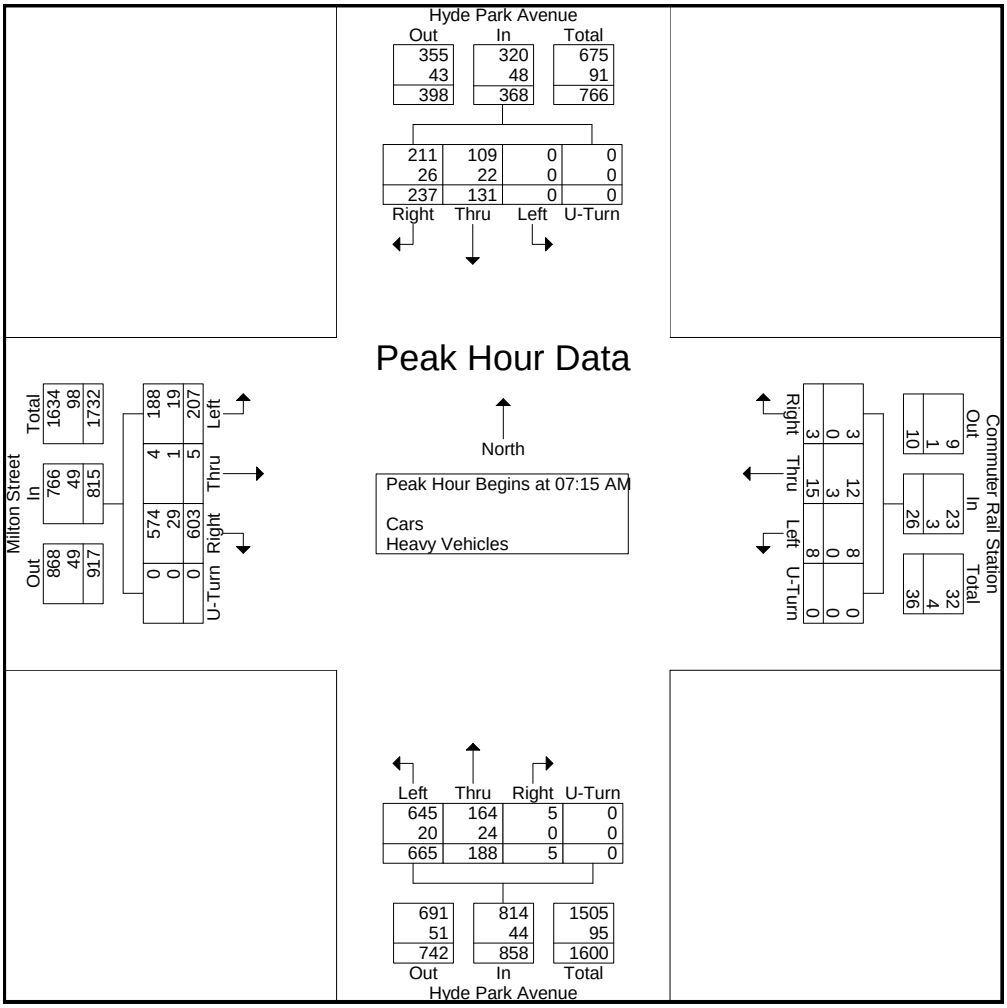
	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
07:15 AM	0	0	0	3	3	0	0	0	4	4	0	0	0	0	0	1	0	0	0	1	8
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
07:45 AM	0	0	0	4	4	0	0	0	2	2	0	0	1	0	1	0	0	0	3	3	10
Total Volume	0	0	0	7	7	0	0	0	7	7	0	0	1	0	1	1	0	0	6	7	22
% App. Total	0	0	0	100		0	0	0	100		0	0	100	0		14.3	0	0	85.7		
PHF	.000	.000	.000	.438	.438	.000	.000	.000	.438	.438	.000	.000	.250	.000	.250	.250	.000	.000	.500	.583	.550

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 D
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	50	19	0	0	69	0	3	0	0	3	1	49	193	0	243	135	2	36	0	173	488
07:30 AM	60	37	0	0	97	1	3	1	0	5	2	42	187	0	231	153	1	53	0	207	540
07:45 AM	70	38	0	0	108	2	5	5	0	12	2	48	139	0	189	157	2	56	0	215	524
08:00 AM	57	37	0	0	94	0	4	2	0	6	0	49	146	0	195	158	0	62	0	220	515
Total Volume	237	131	0	0	368	3	15	8	0	26	5	188	665	0	858	603	5	207	0	815	2067
% App. Total	64.4	35.6	0	0		11.5	57.7	30.8	0		0.6	21.9	77.5	0		74	0.6	25.4	0		
PHF	.846	.862	.000	.000	.852	.375	.750	.400	.000	.542	.625	.959	.861	.000	.883	.954	.625	.835	.000	.926	.957
Cars	211	109	0	0	320	3	12	8	0	23	5	164	645	0	814	574	4	188	0	766	1923
% Cars	89.0	83.2	0	0	87.0	100	80.0	100	0	88.5	100	87.2	97.0	0	94.9	95.2	80.0	90.8	0	94.0	93.0
Heavy Vehicles	26	22	0	0	48	0	3	0	0	3	0	24	20	0	44	29	1	19	0	49	144
% Heavy Vehicles	11.0	16.8	0	0	13.0	0	20.0	0	0	11.5	0	12.8	3.0	0	5.1	4.8	20.0	9.2	0	6.0	7.0



N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 DD
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	52	37	2	0	1	0	1	0	0	31	115	0	146	0	46	0	431
04:15 PM	66	29	1	0	0	2	3	0	1	40	117	0	160	0	60	0	479
04:30 PM	54	45	0	0	2	0	0	0	1	30	108	0	169	0	49	0	458
04:45 PM	69	38	1	0	1	1	3	0	1	27	146	0	157	0	58	0	502
Total	241	149	4	0	4	3	7	0	3	128	486	0	632	0	213	0	1870
05:00 PM	68	47	1	0	1	3	1	0	1	27	94	0	165	0	64	0	472
05:15 PM	46	36	0	0	0	0	0	0	0	40	130	0	189	1	79	0	521
05:30 PM	59	41	0	0	0	1	2	0	2	34	125	0	161	0	56	0	481
05:45 PM	63	37	0	0	1	1	0	0	1	32	126	0	134	0	40	0	435
Total	236	161	1	0	2	5	3	0	4	133	475	0	649	1	239	0	1909
Grand Total	477	310	5	0	6	8	10	0	7	261	961	0	1281	1	452	0	3779
Apprch %	60.2	39.1	0.6	0	25	33.3	41.7	0	0.6	21.2	78.2	0	73.9	0.1	26.1	0	
Total %	12.6	8.2	0.1	0	0.2	0.2	0.3	0	0.2	6.9	25.4	0	33.9	0	12	0	
Cars	426	285	5	0	6	8	10	0	7	234	900	0	1249	1	428	0	3559
% Cars	89.3	91.9	100	0	100	100	100	0	100	89.7	93.7	0	97.5	100	94.7	0	94.2
Heavy Vehicles	51	25	0	0	0	0	0	0	0	27	61	0	32	0	24	0	220
% Heavy Vehicles	10.7	8.1	0	0	0	0	0	0	0	10.3	6.3	0	2.5	0	5.3	0	5.8

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	69	38	1	0	108	1	1	3	0	5	1	27	146	0	174	157	0	58	0	215	502
05:00 PM	68	47	1	0	116	1	3	1	0	5	1	27	94	0	122	165	0	64	0	229	472
05:15 PM	46	36	0	0	82	0	0	0	0	0	0	40	130	0	170	189	1	79	0	269	521
05:30 PM	59	41	0	0	100	0	1	2	0	3	2	34	125	0	161	161	0	56	0	217	481
Total Volume	242	162	2	0	406	2	5	6	0	13	4	128	495	0	627	672	1	257	0	930	1976
% App. Total	59.6	39.9	0.5	0		15.4	38.5	46.2	0		0.6	20.4	78.9	0		72.3	0.1	27.6	0		
PHF	.877	.862	.500	.000	.875	.500	.417	.500	.000	.650	.500	.800	.848	.000	.901	.889	.250	.813	.000	.864	.948
Cars	217	150	2	0	369	2	5	6	0	13	4	117	485	0	606	663	1	245	0	909	1897
% Cars	89.7	92.6	100	0	90.9	100	100	100	0	100	100	91.4	98.0	0	96.7	98.7	100	95.3	0	97.7	96.0
Heavy Vehicles	25	12	0	0	37	0	0	0	0	0	0	11	10	0	21	9	0	12	0	21	79
% Heavy Vehicles	10.3	7.4	0	0	9.1	0	0	0	0	0	0	8.6	2.0	0	3.3	1.3	0	4.7	0	2.3	4.0

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 DD
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	48	33	2	0	1	0	1	0	0	27	99	0	139	0	42	0	392
04:15 PM	60	26	1	0	0	2	3	0	1	36	107	0	154	0	54	0	444
04:30 PM	48	41	0	0	2	0	0	0	1	24	91	0	162	0	48	0	417
04:45 PM	61	37	1	0	1	1	3	0	1	24	145	0	157	0	54	0	485
Total	217	137	4	0	4	3	7	0	3	111	442	0	612	0	198	0	1738
05:00 PM	63	45	1	0	1	3	1	0	1	26	89	0	162	0	62	0	454
05:15 PM	40	31	0	0	0	0	0	0	0	38	128	0	185	1	74	0	497
05:30 PM	53	37	0	0	0	1	2	0	2	29	123	0	159	0	55	0	461
05:45 PM	53	35	0	0	1	1	0	0	1	30	118	0	131	0	39	0	409
Total	209	148	1	0	2	5	3	0	4	123	458	0	637	1	230	0	1821
Grand Total	426	285	5	0	6	8	10	0	7	234	900	0	1249	1	428	0	3559
Apprch %	59.5	39.8	0.7	0	25	33.3	41.7	0	0.6	20.5	78.9	0	74.4	0.1	25.5	0	
Total %	12	8	0.1	0	0.2	0.2	0.3	0	0.2	6.6	25.3	0	35.1	0	12	0	

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	61	37	1	0	99	1	1	3	0	5	1	24	145	0	170	157	0	54	0	211	485
05:00 PM	63	45	1	0	109	1	3	1	0	5	1	26	89	0	116	162	0	62	0	224	454
05:15 PM	40	31	0	0	71	0	0	0	0	0	0	38	128	0	166	185	1	74	0	260	497
05:30 PM	53	37	0	0	90	0	1	2	0	3	2	29	123	0	154	159	0	55	0	214	461
Total Volume	217	150	2	0	369	2	5	6	0	13	4	117	485	0	606	663	1	245	0	909	1897
% App. Total	58.8	40.7	0.5	0		15.4	38.5	46.2	0		0.7	19.3	80	0		72.9	0.1	27	0		
PHF	.861	.833	.500	.000	.846	.500	.417	.500	.000	.650	.500	.770	.836	.000	.891	.896	.250	.828	.000	.874	.954

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 DD
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	4	4	0	0	0	0	0	0	0	4	16	0	7	0	4	0	39
04:15 PM	6	3	0	0	0	0	0	0	0	4	10	0	6	0	6	0	35
04:30 PM	6	4	0	0	0	0	0	0	0	6	17	0	7	0	1	0	41
04:45 PM	8	1	0	0	0	0	0	0	0	3	1	0	0	0	4	0	17
Total	24	12	0	0	0	0	0	0	0	17	44	0	20	0	15	0	132
05:00 PM	5	2	0	0	0	0	0	0	0	1	5	0	3	0	2	0	18
05:15 PM	6	5	0	0	0	0	0	0	0	2	2	0	4	0	5	0	24
05:30 PM	6	4	0	0	0	0	0	0	0	5	2	0	2	0	1	0	20
05:45 PM	10	2	0	0	0	0	0	0	0	2	8	0	3	0	1	0	26
Total	27	13	0	0	0	0	0	0	0	10	17	0	12	0	9	0	88
Grand Total	51	25	0	0	0	0	0	0	0	27	61	0	32	0	24	0	220
Apprch %	67.1	32.9	0	0	0	0	0	0	0	30.7	69.3	0	57.1	0	42.9	0	
Total %	23.2	11.4	0	0	0	0	0	0	0	12.3	27.7	0	14.5	0	10.9	0	

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	4	4	0	0	8	0	0	0	0	0	0	4	16	0	20	7	0	4	0	11	39
04:15 PM	6	3	0	0	9	0	0	0	0	0	0	4	10	0	14	6	0	6	0	12	35
04:30 PM	6	4	0	0	10	0	0	0	0	0	0	6	17	0	23	7	0	1	0	8	41
04:45 PM	8	1	0	0	9	0	0	0	0	0	0	3	1	0	4	0	0	4	0	4	17
Total Volume	24	12	0	0	36	0	0	0	0	0	0	17	44	0	61	20	0	15	0	35	132
% App. Total	66.7	33.3	0	0		0	0	0	0		0	27.9	72.1	0		57.1	0	42.9	0		
PHF	.750	.750	.000	.000	.900	.000	.000	.000	.000	.000	.000	.708	.647	.000	.663	.714	.000	.625	.000	.729	.805

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

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

File Name : 143791 DD
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Hyde Park Avenue From North				Commuter Rail Station From East				Hyde Park Avenue From South				Milton Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
04:30 PM	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	5
04:45 PM	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	4
Total	1	0	0	2	0	1	0	2	0	0	5	0	0	0	0	0	11
05:00 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	4
05:15 PM	0	2	0	2	0	0	0	2	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3
05:45 PM	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total	0	3	0	3	0	0	0	8	0	0	2	0	0	0	0	0	16
Grand Total	1	3	0	5	0	1	0	10	0	0	7	0	0	0	0	0	27
Apprch %	11.1	33.3	0	55.6	0	9.1	0	90.9	0	0	100	0	0	0	0	0	
Total %	3.7	11.1	0	18.5	0	3.7	0	37	0	0	25.9	0	0	0	0	0	

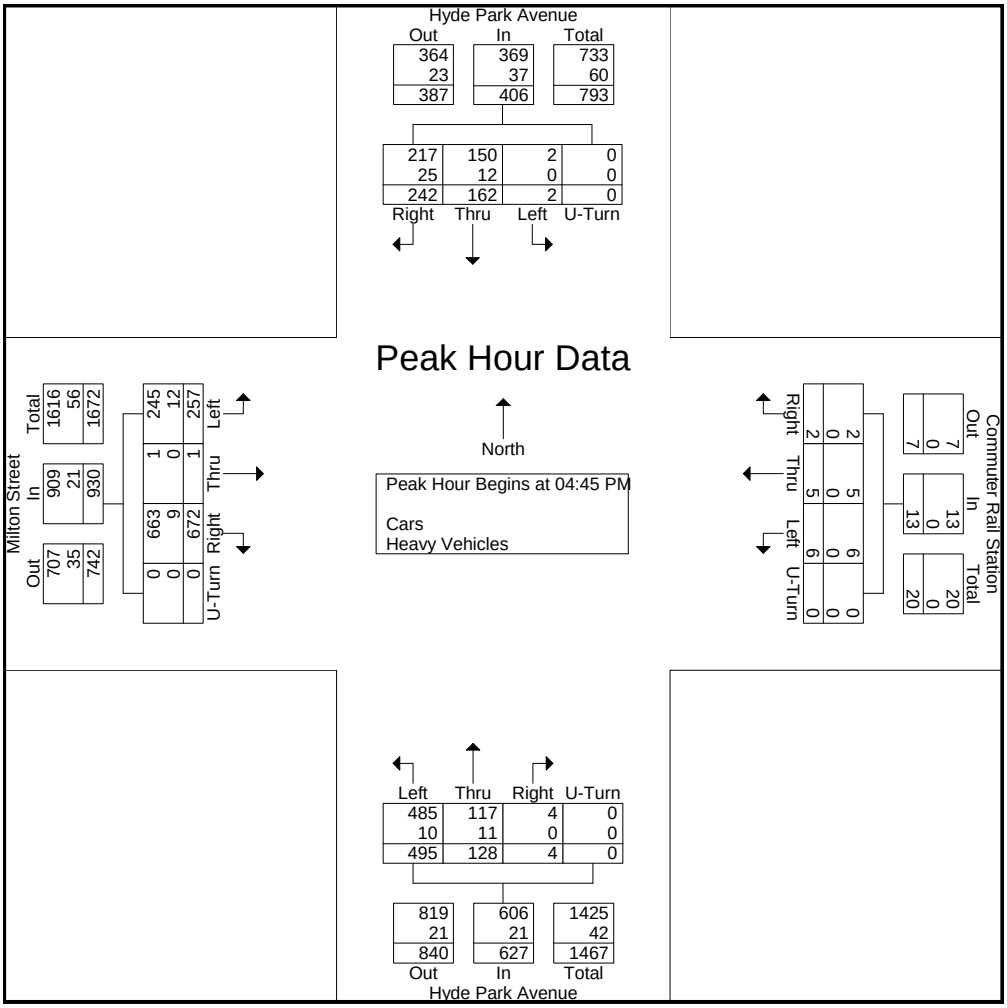
	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	5
04:45 PM	0	0	0	1	1	0	1	0	1	2	0	0	1	0	1	0	0	0	0	0	4
05:00 PM	0	0	0	1	1	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	4
05:15 PM	0	2	0	2	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	6
Total Volume	1	2	0	4	7	0	1	0	6	7	0	0	5	0	5	0	0	0	0	0	19
% App. Total	14.3	28.6	0	57.1		0	14.3	0	85.7		0	0	100	0		0	0	0	0		
PHF	.250	.250	.000	.500	.438	.000	.250	.000	.500	.583	.000	.000	.313	.000	.313	.000	.000	.000	.000	.000	.792

N/S: Hyde Park Avenue
E/W:Commuter Rail Station/ Milton Street
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 DD
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Hyde Park Avenue From North					Commuter Rail Station From East					Hyde Park Avenue From South					Milton Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	69	38	1	0	108	1	1	3	0	5	1	27	146	0	174	157	0	58	0	215	502
05:00 PM	68	47	1	0	116	1	3	1	0	5	1	27	94	0	122	165	0	64	0	229	472
05:15 PM	46	36	0	0	82	0	0	0	0	0	0	40	130	0	170	189	1	79	0	269	521
05:30 PM	59	41	0	0	100	0	1	2	0	3	2	34	125	0	161	161	0	56	0	217	481
Total Volume	242	162	2	0	406	2	5	6	0	13	4	128	495	0	627	672	1	257	0	930	1976
% App. Total	59.6	39.9	0.5	0		15.4	38.5	46.2	0		0.6	20.4	78.9	0		72.3	0.1	27.6	0		
PHF	.877	.862	.500	.000	.875	.500	.417	.500	.000	.650	.500	.800	.848	.000	.901	.889	.250	.813	.000	.864	.948
Cars	217	150	2	0	369	2	5	6	0	13	4	117	485	0	606	663	1	245	0	909	1897
% Cars	89.7	92.6	100	0	90.9	100	100	100	0	100	100	91.4	98.0	0	96.7	98.7	100	95.3	0	97.7	96.0
Heavy Vehicles	25	12	0	0	37	0	0	0	0	0	0	11	10	0	21	9	0	12	0	21	79
% Heavy Vehicles	10.3	7.4	0	0	9.1	0	0	0	0	0	0	8.6	2.0	0	3.3	1.3	0	4.7	0	2.3	4.0



N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 E
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
07:00 AM	6	0	2	14	0	32	159	0	0	0	2	7	17	0	0	0	3	0	0	0	0	1	94	21	2	360
07:15 AM	4	0	0	12	0	28	190	0	0	0	2	4	20	0	0	0	3	0	0	0	0	3	128	18	2	414
07:30 AM	5	0	0	13	0	23	173	1	1	0	2	4	5	0	0	0	5	1	4	0	0	7	125	26	1	396
07:45 AM	9	0	1	19	0	36	146	0	1	0	1	2	12	0	0	0	1	2	3	0	0	1	131	35	4	404
Total	24	0	3	58	0	119	668	1	2	0	7	17	54	0	0	0	12	3	7	0	0	12	478	100	9	1574
08:00 AM	7	0	1	19	0	48	142	0	1	0	5	1	7	0	0	4	4	0	2	0	0	4	155	20	1	421
08:15 AM	8	0	2	16	0	25	147	0	2	0	4	5	18	0	0	0	0	0	6	0	0	4	150	21	0	408
08:30 AM	1	0	0	14	0	31	136	0	3	0	4	3	8	0	0	1	2	0	2	0	1	4	120	22	0	352
08:45 AM	5	0	0	16	0	29	133	0	3	0	3	3	15	0	0	2	3	0	2	0	0	6	97	26	2	345
Total	21	0	3	65	0	133	558	0	9	0	16	12	48	0	0	7	9	0	12	0	1	18	522	89	3	1526
Grand Total	45	0	6	123	0	252	1226	1	11	0	23	29	102	0	0	7	21	3	19	0	1	30	1000	189	12	3100
Apprch %	25.9	0	3.4	70.7	0	16.9	82.3	0.1	0.7	0	14.9	18.8	66.2	0	0	14	42	6	38	0	0.1	2.4	81.2	15.3	1	
Total %	1.5	0	0.2	4	0	8.1	39.5	0	0.4	0	0.7	0.9	3.3	0	0	0.2	0.7	0.1	0.6	0	0	1	32.3	6.1	0.4	
Cars	32	0	5	113	0	241	1179	1	11	0	21	29	96	0	0	6	17	3	16	0	1	23	941	175	3	2913
% Cars	71.1	0	83.3	91.9	0	95.6	96.2	100	100	0	91.3	100	94.1	0	0	85.7	81	100	84.2	0	100	76.7	94.1	92.6	25	94
Heavy Vehicles	13	0	1	10	0	11	47	0	0	0	2	0	6	0	0	1	4	0	3	0	0	7	59	14	9	187
% Heavy Vehicles	28.9	0	16.7	8.1	0	4.4	3.8	0	0	0	8.7	0	5.9	0	0	14.3	19	0	15.8	0	0	23.3	5.9	7.4	75	6

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:15 AM																															
07:15 AM	4	0	0	12	0	16	28	190	0	0	0	218	2	4	20	0	0	26	0	3	0	0	0	3	0	3	128	18	2	151	414
07:30 AM	5	0	0	13	0	18	23	173	1	1	0	198	2	4	5	0	0	11	0	5	1	4	0	10	0	7	125	26	1	159	396
07:45 AM	9	0	1	19	0	29	36	146	0	1	0	183	1	2	12	0	0	15	0	1	2	3	0	6	0	1	131	35	4	171	404
08:00 AM	7	0	1	19	0	27	48	142	0	1	0	191	5	1	7	0	0	13	4	4	0	2	0	10	0	4	155	20	1	180	421
Total Volume	25	0	2	63	0	90	135	651	1	3	0	790	10	11	44	0	0	65	4	13	3	9	0	29	0	15	539	99	8	661	1635
% App. Total	27.8	0	2.2	70	0		17.1	82.4	0.1	0.4	0		15.4	16.9	67.7	0	0		13.8	44.8	10.3	31	0		0	2.3	81.5	15	1.2		
PHF	.694	.000	.500	.829	.000	.776	.703	.857	.250	.750	.000	.906	.500	.688	.550	.000	.000	.625	.250	.650	.375	.563	.000	.725	.000	.536	.869	.707	.500	.918	.971
Cars	18	0	2	57	0	77	130	624	1	3	0	758	9	11	42	0	0	62	4	10	3	8	0	25	0	8	509	94	2	613	1535
% Cars	72.0	0	100	90.5	0	85.6	96.3	95.9	100	100	0	95.9	90.0	100	95.5	0	0	95.4	100	76.9	100	88.9	0	86.2	0	53.3	94.4	94.9	25.0	92.7	93.9
Heavy Vehicles	7	0	0	6	0	13	5	27	0	0	0	32	1	0	2	0	0	3	0	3	0	1	0	4	0	7	30	5	6	48	100
% Heavy Vehicles	28.0	0	0	9.5	0	14.4	3.7	4.1	0	0	0	4.1	10.0	0	4.5	0	0	4.6	0	23.1	0	11.1	0	13.8	0	46.7	5.6	5.1	75.0	7.3	6.1

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 E
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
07:00 AM	6	0	1	13	0	31	155	0	0	0	2	7	17	0	0	0	3	0	0	0	0	1	85	20	1	342
07:15 AM	4	0	0	11	0	28	183	0	0	0	1	4	20	0	0	0	2	0	0	0	0	1	121	18	1	394
07:30 AM	4	0	0	13	0	21	169	1	1	0	2	4	4	0	0	0	5	1	3	0	0	5	118	25	0	376
07:45 AM	6	0	1	15	0	35	137	0	1	0	1	2	12	0	0	0	0	2	3	0	0	1	122	32	1	371
Total	20	0	2	52	0	115	644	1	2	0	6	17	53	0	0	0	10	3	6	0	0	8	446	95	3	1483
08:00 AM	4	0	1	18	0	46	135	0	1	0	5	1	6	0	0	4	3	0	2	0	0	1	148	19	0	394
08:15 AM	4	0	2	16	0	22	137	0	2	0	3	5	15	0	0	0	0	0	5	0	0	4	139	17	0	371
08:30 AM	0	0	0	12	0	31	133	0	3	0	4	3	8	0	0	0	1	0	1	0	1	4	116	20	0	337
08:45 AM	4	0	0	15	0	27	130	0	3	0	3	3	14	0	0	2	3	0	2	0	0	6	92	24	0	328
Total	12	0	3	61	0	126	535	0	9	0	15	12	43	0	0	6	7	0	10	0	1	15	495	80	0	1430
Grand Total	32	0	5	113	0	241	1179	1	11	0	21	29	96	0	0	6	17	3	16	0	1	23	941	175	3	2913
Apprch %	21.3	0	3.3	75.3	0	16.8	82.3	0.1	0.8	0	14.4	19.9	65.8	0	0	14.3	40.5	7.1	38.1	0	0.1	2	82.3	15.3	0.3	
Total %	1.1	0	0.2	3.9	0	8.3	40.5	0	0.4	0	0.7	1	3.3	0	0	0.2	0.6	0.1	0.5	0	0	0.8	32.3	6	0.1	

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:15 AM																															
07:15 AM	4	0	0	11	0	15	28	183	0	0	0	211	1	4	20	0	0	25	0	2	0	0	0	2	0	1	121	18	1	141	394
07:30 AM	4	0	0	13	0	17	21	169	1	1	0	192	2	4	4	0	0	10	0	5	1	3	0	9	0	5	118	25	0	148	376
07:45 AM	6	0	1	15	0	22	35	137	0	1	0	173	1	2	12	0	0	15	0	0	2	3	0	5	0	1	122	32	1	156	371
08:00 AM	4	0	1	18	0	23	46	135	0	1	0	182	5	1	6	0	0	12	4	3	0	2	0	9	0	1	148	19	0	168	394
Total Volume	18	0	2	57	0	77	130	624	1	3	0	758	9	11	42	0	0	62	4	10	3	8	0	25	0	8	509	94	2	613	1535
% App. Total	23.4	0	2.6	74	0		17.2	82.3	0.1	0.4	0		14.5	17.7	67.7	0	0		16	40	12	32	0		0	1.3	83	15.3	0.3		
PHF	.750	.000	.500	.792	.000	.837	.707	.852	.250	.750	.000	.898	.450	.688	.525	.000	.000	.620	.250	.500	.375	.667	.000	.694	.000	.400	.860	.734	.500	.912	.974

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 E
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
07:00 AM	0	0	1	1	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	1	18
07:15 AM	0	0	0	1	0	0	7	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	7	0	1	20
07:30 AM	1	0	0	0	0	2	4	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	7	1	1	20
07:45 AM	3	0	0	4	0	1	9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	9	3	3	33
Total	4	0	1	6	0	4	24	0	0	0	1	0	1	0	0	0	2	0	1	0	0	4	32	5	6	91
08:00 AM	3	0	0	1	0	2	7	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3	7	1	1	27
08:15 AM	4	0	0	0	0	3	10	0	0	0	1	0	3	0	0	0	0	0	1	0	0	0	11	4	0	37
08:30 AM	1	0	0	2	0	0	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	4	2	0	15
08:45 AM	1	0	0	1	0	2	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	2	2	17
Total	9	0	0	4	0	7	23	0	0	0	1	0	5	0	0	1	2	0	2	0	0	3	27	9	3	96
Grand Total	13	0	1	10	0	11	47	0	0	0	2	0	6	0	0	1	4	0	3	0	0	7	59	14	9	187
Apprch %	54.2	0	4.2	41.7	0	19	81	0	0	0	25	0	75	0	0	12.5	50	0	37.5	0	0	7.9	66.3	15.7	10.1	
Total %	7	0	0.5	5.3	0	5.9	25.1	0	0	0	1.1	0	3.2	0	0	0.5	2.1	0	1.6	0	0	3.7	31.6	7.5	4.8	

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:30 AM																															
07:30 AM	1	0	0	0	0	1	2	4	0	0	0	6	0	0	1	0	0	1	0	0	0	1	0	1	0	2	7	1	1	11	20
07:45 AM	3	0	0	4	0	7	1	9	0	0	0	10	0	0	0	0	0	0	0	1	0	0	0	1	0	0	9	3	3	15	33
08:00 AM	3	0	0	1	0	4	2	7	0	0	0	9	0	0	1	0	0	1	0	1	0	0	0	1	0	3	7	1	1	12	27
08:15 AM	4	0	0	0	0	4	3	10	0	0	0	13	1	0	3	0	0	4	0	0	0	1	0	1	0	0	11	4	0	15	37
Total Volume	11	0	0	5	0	16	8	30	0	0	0	38	1	0	5	0	0	6	0	2	0	2	0	4	0	5	34	9	5	53	117
% App. Total	68.8	0	0	31.2	0		21.1	78.9	0	0	0		16.7	0	83.3	0	0		0	50	0	50	0		0	9.4	64.2	17	9.4		
PHF	.688	.000	.000	.313	.000	.571	.667	.750	.000	.000	.000	.731	.250	.000	.417	.000	.000	.375	.000	.500	.000	.500	.000	1.00	.000	.417	.773	.563	.417	.883	.791

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 E
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Int. Total
07:00 AM	0	0	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	7	0	0	0	0	2	13
07:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	7	16
07:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	9	0	0	0	0	3	18
07:45 AM	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4	0	0	0	0	12	0	0	0	0	11	31
Total	0	0	0	0	8	0	1	0	0	1	0	0	0	0	13	0	0	0	0	32	0	0	0	0	23	78
08:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	1	12
08:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	1	0	1	8
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0	4	0	0	0	0	2	13
08:45 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	0	7	0	0	0	0	5	0	0	0	0	4	20
Total	0	0	0	0	4	0	0	0	0	4	0	0	0	0	20	0	0	0	0	16	0	0	1	0	8	53
Grand Total	0	0	0	0	12	0	1	0	0	5	0	0	0	0	33	0	0	0	0	48	0	0	1	0	31	131
Apprch %	0	0	0	0	100	0	16.7	0	0	83.3	0	0	0	0	100	0	0	0	0	100	0	0	3.1	0	96.9	
Total %	0	0	0	0	9.2	0	0.8	0	0	3.8	0	0	0	0	25.2	0	0	0	0	36.6	0	0	0.8	0	23.7	

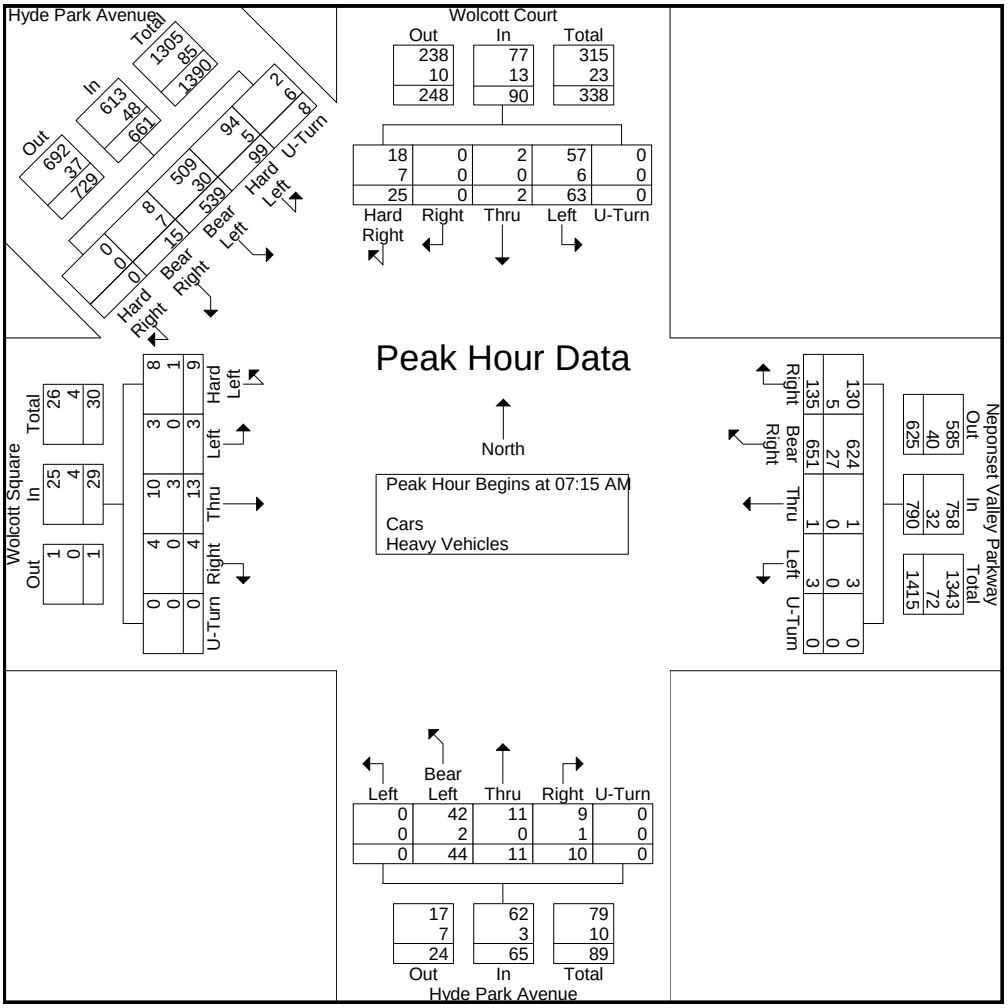
	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:00 AM																															
07:00 AM	0	0	0	0	2	2	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	7	7	0	0	0	0	2	2	13
07:15 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	4	0	0	0	0	7	7	16
07:30 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	9	9	0	0	0	0	3	3	18
07:45 AM	0	0	0	0	3	3	0	1	0	0	0	1	0	0	0	0	4	4	0	0	0	0	12	12	0	0	0	0	11	11	31
Total Volume	0	0	0	0	8	8	0	1	0	0	1	2	0	0	0	0	13	13	0	0	0	0	32	32	0	0	0	0	23	23	78
% App. Total	0	0	0	0	100		0	50	0	0	50		0	0	0	0	100		0	0	0	0	100		0	0	0	0	100		
PHF	.000	.000	.000	.000	.667	.667	.000	.250	.000	.000	.250	.500	.000	.000	.000	.000	.813	.813	.000	.000	.000	.000	.667	.667	.000	.000	.000	.000	.523	.523	.629

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 E
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:15 AM																															
07:15 AM	4	0	0	12	0	16	28	190	0	0	0	218	2	4	20	0	0	26	0	3	0	0	0	3	0	3	128	18	2	151	414
07:30 AM	5	0	0	13	0	18	23	173	1	1	0	198	2	4	5	0	0	11	0	5	1	4	0	10	0	7	125	26	1	159	396
07:45 AM	9	0	1	19	0	29	36	146	0	1	0	183	1	2	12	0	0	15	0	1	2	3	0	6	0	1	131	35	4	171	404
08:00 AM	7	0	1	19	0	27	48	142	0	1	0	191	5	1	7	0	0	13	4	4	0	2	0	10	0	4	155	20	1	180	421
Total Volume	25	0	2	63	0	90	135	651	1	3	0	790	10	11	44	0	0	65	4	13	3	9	0	29	0	15	539	99	8	661	1635
% App. Total	27.8	0	2.2	70	0		17.1	82.4	0.1	0.4	0		15.4	16.9	67.7	0	0		13.8	44.8	10.3	31	0		0	2.3	81.5	15	1.2		
PHF	.694	.000	.500	.829	.000	.776	.703	.857	.250	.750	.000	.906	.500	.688	.550	.000	.000	.625	.250	.650	.375	.563	.000	.725	.000	.536	.869	.707	.500	.918	.971
Cars	18	0	2	57	0	77	130	624	1	3	0	758	9	11	42	0	0	62	4	10	3	8	0	25	0	8	509	94	2	613	1535
% Cars	72.0	0	100	90.5	0	85.6	96.3	95.9	100	100	0	95.9	90.0	100	95.5	0	0	95.4	100	76.9	100	88.9	0	86.2	0	53.3	94.4	94.9	25.0	92.7	93.9
Heavy Vehicles	7	0	0	6	0	13	5	27	0	0	0	32	1	0	2	0	0	3	0	3	0	1	0	4	0	7	30	5	6	48	100
% Heavy Vehicles	28.0	0	0	9.5	0	14.4	3.7	4.1	0	0	0	4.1	10.0	0	4.5	0	0	4.6	0	23.1	0	11.1	0	13.8	0	46.7	5.6	5.1	75.0	7.3	6.1



N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 EE
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
04:00 PM	5	0	0	18	0	13	128	0	3	0	3	3	10	0	1	2	8	2	5	0	0	1	159	7	2	370
04:15 PM	6	0	0	25	0	10	125	0	1	0	2	1	6	0	0	1	5	1	6	0	0	6	161	9	1	366
04:30 PM	6	0	2	13	0	5	140	0	1	0	3	1	5	0	0	2	1	1	0	0	0	1	201	13	2	397
04:45 PM	8	0	0	17	0	10	139	0	2	0	1	1	7	0	0	2	8	0	5	0	0	4	186	7	2	399
Total	25	0	2	73	0	38	532	0	7	0	9	6	28	0	1	7	22	4	16	0	0	12	707	36	7	1532
05:00 PM	3	0	0	15	0	6	136	0	2	0	4	1	5	0	0	0	8	1	2	0	0	8	181	9	2	383
05:15 PM	2	0	0	6	0	8	148	0	2	0	2	2	6	0	0	2	11	0	3	0	0	3	189	5	1	390
05:30 PM	4	0	0	11	0	6	144	0	0	0	2	0	5	0	0	3	6	0	0	0	0	7	179	9	2	378
05:45 PM	1	0	0	6	0	4	124	1	2	0	2	3	6	0	0	0	5	0	1	0	0	4	162	2	2	325
Total	10	0	0	38	0	24	552	1	6	0	10	6	22	0	0	5	30	1	6	0	0	22	711	25	7	1476
Grand Total	35	0	2	111	0	62	1084	1	13	0	19	12	50	0	1	12	52	5	22	0	0	34	1418	61	14	3008
Apprch %	23.6	0	1.4	75	0	5.3	93.4	0.1	1.1	0	23.2	14.6	61	0	1.2	13.2	57.1	5.5	24.2	0	0	2.2	92.9	4	0.9	
Total %	1.2	0	0.1	3.7	0	2.1	36	0	0.4	0	0.6	0.4	1.7	0	0	0.4	1.7	0.2	0.7	0	0	1.1	47.1	2	0.5	
Cars	33	0	1	108	0	59	1019	1	12	0	19	12	47	0	1	12	52	5	21	0	0	32	1382	56	0	2872
% Cars	94.3	0	50	97.3	0	95.2	94	100	92.3	0	100	100	94	0	100	100	100	100	95.5	0	0	94.1	97.5	91.8	0	95.5
Heavy Vehicles	2	0	1	3	0	3	65	0	1	0	0	0	3	0	0	0	0	0	1	0	0	2	36	5	14	136
% Heavy Vehicles	5.7	0	50	2.7	0	4.8	6	0	7.7	0	0	0	6	0	0	0	0	0	4.5	0	0	5.9	2.5	8.2	100	4.5

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:30 PM																															
04:30 PM	6	0	2	13	0	21	5	140	0	1	0	146	3	1	5	0	0	9	2	1	1	0	0	4	0	1	201	13	2	217	397
04:45 PM	8	0	0	17	0	25	10	139	0	2	0	151	1	1	7	0	0	9	2	8	0	5	0	15	0	4	186	7	2	199	399
05:00 PM	3	0	0	15	0	18	6	136	0	2	0	144	4	1	5	0	0	10	0	8	1	2	0	11	0	8	181	9	2	200	383
05:15 PM	2	0	0	6	0	8	8	148	0	2	0	158	2	2	6	0	0	10	2	11	0	3	0	16	0	3	189	5	1	198	390
Total Volume	19	0	2	51	0	72	29	563	0	7	0	599	10	5	23	0	0	38	6	28	2	10	0	46	0	16	757	34	7	814	1569
% App. Total	26.4	0	2.8	70.8	0		4.8	94	0	1.2	0		26.3	13.2	60.5	0	0		13	60.9	4.3	21.7	0		0	2	93	4.2	0.9		
PHF	.594	.000	.250	.750	.000	.720	.725	.951	.000	.875	.000	.948	.625	.625	.821	.000	.000	.950	.750	.636	.500	.500	.000	.719	.000	.500	.942	.654	.875	.938	.983
Cars	19	0	1	51	0	71	28	536	0	7	0	571	10	5	23	0	0	38	6	28	2	10	0	46	0	15	738	32	0	785	1511
% Cars	100	0	50.0	100	0	98.6	96.6	95.2	0	100	0	95.3	100	100	100	0	0	100	100	100	100	100	0	100	0	93.8	97.5	94.1	0	96.4	96.3
Heavy Vehicles	0	0	1	0	0	1	1	27	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19	2	7	29	58
% Heavy Vehicles	0	0	50.0	0	0	1.4	3.4	4.8	0	0	0	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	6.3	2.5	5.9	100	3.6	3.7

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 EE
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Cars

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
04:00 PM	4	0	0	16	0	13	114	0	2	0	3	3	9	0	1	2	8	2	4	0	0	1	153	5	0	340
04:15 PM	5	0	0	24	0	8	112	0	1	0	2	1	6	0	0	1	5	1	6	0	0	6	156	8	0	342
04:30 PM	6	0	1	13	0	5	123	0	1	0	3	1	5	0	0	2	1	1	0	0	0	1	191	12	0	366
04:45 PM	8	0	0	17	0	10	136	0	2	0	1	1	7	0	0	2	8	0	5	0	0	4	186	7	0	394
Total	23	0	1	70	0	36	485	0	6	0	9	6	27	0	1	7	22	4	15	0	0	12	686	32	0	1442
05:00 PM	3	0	0	15	0	5	130	0	2	0	4	1	5	0	0	0	8	1	2	0	0	8	177	8	0	369
05:15 PM	2	0	0	6	0	8	147	0	2	0	2	2	6	0	0	2	11	0	3	0	0	2	184	5	0	382
05:30 PM	4	0	0	11	0	6	138	0	0	0	2	0	4	0	0	3	6	0	0	0	0	6	176	9	0	365
05:45 PM	1	0	0	6	0	4	119	1	2	0	2	3	5	0	0	0	5	0	1	0	0	4	159	2	0	314
Total	10	0	0	38	0	23	534	1	6	0	10	6	20	0	0	5	30	1	6	0	0	20	696	24	0	1430
Grand Total	33	0	1	108	0	59	1019	1	12	0	19	12	47	0	1	12	52	5	21	0	0	32	1382	56	0	2872
Apprch %	23.2	0	0.7	76.1	0	5.4	93.4	0.1	1.1	0	24.1	15.2	59.5	0	1.3	13.3	57.8	5.6	23.3	0	0	2.2	94	3.8	0	
Total %	1.1	0	0	3.8	0	2.1	35.5	0	0.4	0	0.7	0.4	1.6	0	0	0.4	1.8	0.2	0.7	0	0	1.1	48.1	1.9	0	

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:30 PM																															
04:30 PM	6	0	1	13	0	20	5	123	0	1	0	129	3	1	5	0	0	9	2	1	1	0	0	4	0	1	191	12	0	204	366
04:45 PM	8	0	0	17	0	25	10	136	0	2	0	148	1	1	7	0	0	9	2	8	0	5	0	15	0	4	186	7	0	197	394
05:00 PM	3	0	0	15	0	18	5	130	0	2	0	137	4	1	5	0	0	10	0	8	1	2	0	11	0	8	177	8	0	193	369
05:15 PM	2	0	0	6	0	8	8	147	0	2	0	157	2	2	6	0	0	10	2	11	0	3	0	16	0	2	184	5	0	191	382
Total Volume	19	0	1	51	0	71	28	536	0	7	0	571	10	5	23	0	0	38	6	28	2	10	0	46	0	15	738	32	0	785	1511
% App. Total	26.8	0	1.4	71.8	0		4.9	93.9	0	1.2	0		26.3	13.2	60.5	0	0		13	60.9	4.3	21.7	0		0	1.9	94	4.1	0		
PHF	.594	.000	.250	.750	.000	.710	.700	.912	.000	.875	.000	.909	.625	.625	.821	.000	.000	.950	.750	.636	.500	.500	.000	.719	.000	.469	.966	.667	.000	.962	.959

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 EE
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Heavy Vehicles

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
04:00 PM	1	0	0	2	0	0	14	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	6	2	2	30
04:15 PM	1	0	0	1	0	2	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	24
04:30 PM	0	0	1	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	2	31
04:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
Total	2	0	1	3	0	2	47	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	21	4	7	90
05:00 PM	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	2	14
05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	1	8
05:30 PM	0	0	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	0	2	13
05:45 PM	0	0	0	0	0	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	2	11
Total	0	0	0	0	0	1	18	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	15	1	7	46
Grand Total	2	0	1	3	0	3	65	0	1	0	0	0	3	0	0	0	0	0	1	0	0	2	36	5	14	136
Apprch %	33.3	0	16.7	50	0	4.3	94.2	0	1.4	0	0	0	100	0	0	0	0	0	100	0	0	3.5	63.2	8.8	24.6	
Total %	1.5	0	0.7	2.2	0	2.2	47.8	0	0.7	0	0	0	2.2	0	0	0	0	0	0.7	0	0	1.5	26.5	3.7	10.3	

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:00 PM																															
04:00 PM	1	0	0	2	0	3	0	14	0	1	0	15	0	0	1	0	0	1	0	0	0	1	0	1	0	0	6	2	2	10	30
04:15 PM	1	0	0	1	0	2	2	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	7	24
04:30 PM	0	0	1	0	0	1	0	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	2	13	31
04:45 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5
Total Volume	2	0	1	3	0	6	2	47	0	1	0	50	0	0	1	0	0	1	0	0	0	1	0	1	0	0	21	4	7	32	90
% App. Total	33.3	0	16.7	50	0		4	94	0	2	0		0	0	100	0	0		0	0	0	100	0		0	0	65.6	12.5	21.9		
PHF	.500	.000	.250	.375	.000	.500	.250	.691	.000	.250	.000	.735	.000	.000	.250	.000	.000	.250	.000	.000	.000	.250	.000	.250	.000	.000	.525	.500	.875	.615	.726

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 EE
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

Groups Printed- Peds and Bikes

	Wolcott Court From North					Neponset Valley Parkway From East					Hyde Park Avenue From South					Wolcott Square From West					Hyde Park Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Int. Total
04:00 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	0	5	0	0	0	0	10	0	0	0	0	4	23
04:15 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	11	0	0	0	0	22	0	0	0	0	3	39
04:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	9	0	0	0	0	6	0	0	0	0	3	20
04:45 PM	0	0	0	0	4	0	1	0	0	0	0	0	0	0	6	0	0	0	0	7	0	0	0	0	7	25
Total	0	0	0	0	6	0	1	0	0	7	0	0	0	0	31	0	0	0	0	45	0	0	0	0	17	107
05:00 PM	0	0	0	0	4	0	0	0	0	3	0	0	0	0	17	0	0	0	0	11	0	0	0	0	2	37
05:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	8	0	0	0	0	4	0	0	2	0	2	20
05:30 PM	0	0	0	0	3	0	1	0	0	1	0	0	0	0	10	0	0	0	0	11	0	0	0	0	3	29
05:45 PM	0	0	0	0	1	0	1	0	0	5	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	13
Total	0	0	0	0	8	0	2	0	0	13	0	0	0	0	38	0	0	0	0	29	0	0	2	0	7	99
Grand Total	0	0	0	0	14	0	3	0	0	20	0	0	0	0	69	0	0	0	0	74	0	0	2	0	24	206
Apprch %	0	0	0	0	100	0	13	0	0	87	0	0	0	0	100	0	0	0	0	100	0	0	7.7	0	92.3	
Total %	0	0	0	0	6.8	0	1.5	0	0	9.7	0	0	0	0	33.5	0	0	0	0	35.9	0	0	1	0	11.7	

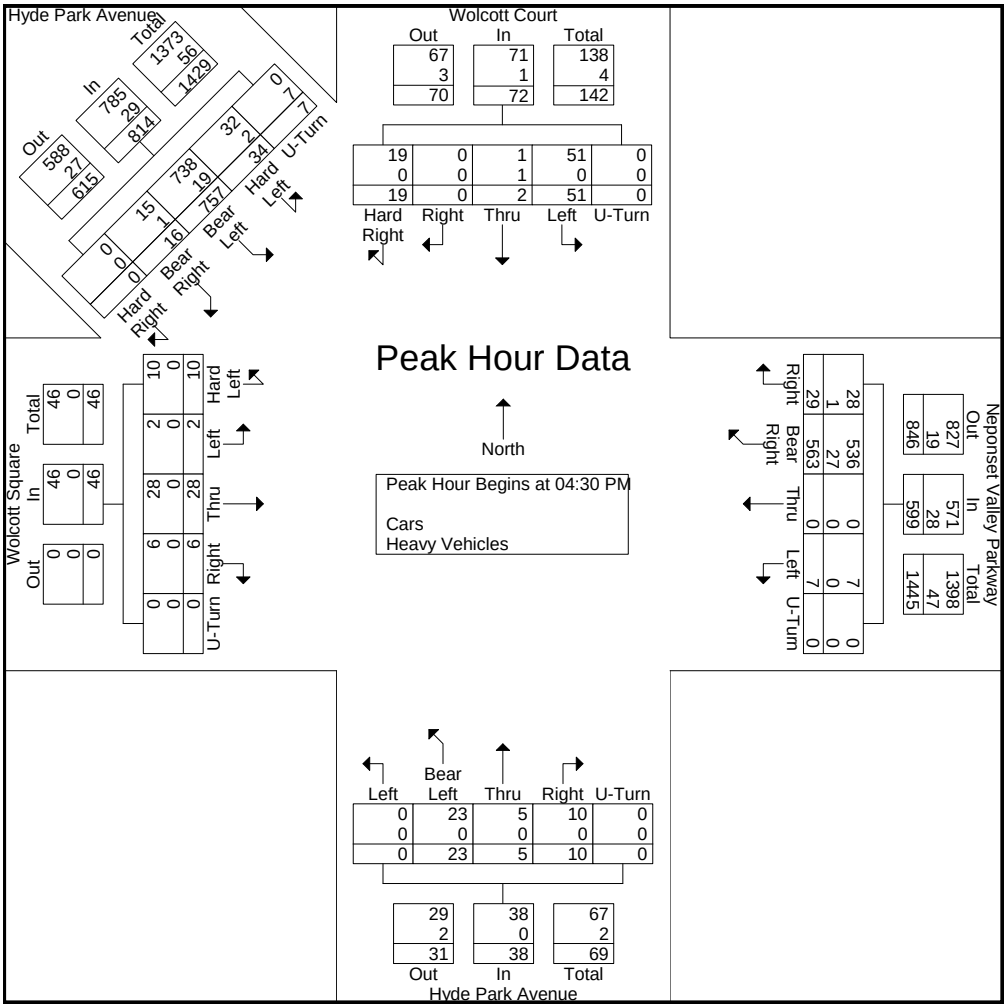
	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:15 PM																															
04:15 PM	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0	11	11	0	0	0	0	22	22	0	0	0	0	3	3	39
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	9	9	0	0	0	0	6	6	0	0	0	0	3	3	20
04:45 PM	0	0	0	0	4	4	0	1	0	0	0	1	0	0	0	0	6	6	0	0	0	0	7	7	0	0	0	0	7	7	25
05:00 PM	0	0	0	0	4	4	0	0	0	0	3	3	0	0	0	0	17	17	0	0	0	0	11	11	0	0	0	0	2	2	37
Total Volume	0	0	0	0	9	9	0	1	0	0	7	8	0	0	0	0	43	43	0	0	0	0	46	46	0	0	0	0	15	15	121
% App. Total	0	0	0	0	100		0	12.5	0	0	87.5		0	0	0	0	100		0	0	0	0	100		0	0	0	0	100		
PHF	.000	.000	.000	.000	.563	.563	.000	.250	.000	.000	.583	.667	.000	.000	.000	.000	.632	.632	.000	.000	.000	.000	.523	.523	.000	.000	.000	.000	.536	.536	.776

N/S/NW: Wolcott Court/ Hyde Park Avenue
E/W: Neponset Valley Pkwy/Wolcott Square
City, State: Hyde Park, MA
Client: Howard Stein-Hudson/ M. Santos

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

File Name : 143791 EE
Site Code : 14026
Start Date : 4/1/2014
Page No : 1

	Wolcott Court From North						Neponset Valley Parkway From East						Hyde Park Avenue From South						Wolcott Square From West						Hyde Park Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U-Turn	App. Total	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:30 PM																															
04:30 PM	6	0	2	13	0	21	5	140	0	1	0	146	3	1	5	0	0	9	2	1	1	0	0	4	0	1	201	13	2	217	397
04:45 PM	8	0	0	17	0	25	10	139	0	2	0	151	1	1	7	0	0	9	2	8	0	5	0	15	0	4	186	7	2	199	399
05:00 PM	3	0	0	15	0	18	6	136	0	2	0	144	4	1	5	0	0	10	0	8	1	2	0	11	0	8	181	9	2	200	383
05:15 PM	2	0	0	6	0	8	8	148	0	2	0	158	2	2	6	0	0	10	2	11	0	3	0	16	0	3	189	5	1	198	390
Total Volume	19	0	2	51	0	72	29	563	0	7	0	599	10	5	23	0	0	38	6	28	2	10	0	46	0	16	757	34	7	814	1569
% App. Total	26.4	0	2.8	70.8	0		4.8	94	0	1.2	0		26.3	13.2	60.5	0	0		13	60.9	4.3	21.7	0		0	2	93	4.2	0.9		
PHF	.594	.000	.250	.750	.000	.720	.725	.951	.000	.875	.000	.948	.625	.625	.821	.000	.000	.950	.750	.636	.500	.500	.000	.719	.000	.500	.942	.654	.875	.938	.983
Cars	19	0	1	51	0	71	28	536	0	7	0	571	10	5	23	0	0	38	6	28	2	10	0	46	0	15	738	32	0	785	1511
% Cars	100	0	50.0	100	0	98.6	96.6	95.2	0	100	0	95.3	100	100	100	0	0	100	100	100	100	100	0	100	0	93.8	97.5	94.1	0	96.4	96.3
Heavy Vehicles	0	0	1	0	0	1	1	27	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19	2	7	29	58
% Heavy Vehicles	0	0	50.0	0	0	1.4	3.4	4.8	0	0	0	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	6.3	2.5	5.9	100	3.6	3.7



TRIP GENERATION CALCULATIONS

Readville Yards - Final Development

Trip Generation Assessment--Daily

HOWARD/STEIN-HUDSON ASSOCIATES

4-Jun-14

			Vehicular Trip Generation					Conversion to Person Trips		Mode Share Split							Vehicular Trips		
Land Use	**Size**	**Category**	**Unadjusted Vehicle Trips**	**Internal trips**	**Pass-by %**	**Pass-By Trips**	**Less capture trips**	**Assumed national vehicle occupancy rate[1]**	**Converted to New Person trips**	**Transit Share[2]**	**Transit Trips**	**Walk/Bike/ Other Share[2]**	**Walk/ Bike/ Other Trips**	**Vehicle Share[2]**	**Total Vehicle Person Trips**	**Pass-By vehicle Share**	**Total Vehicle Pass-By Person Trips**	**Assumed local auto occupancy rate for autos[3]**	**Total Adjusted Auto Trips**	**Total Adjusted Auto Trips (Pass-By)**
Daily																			
Industrial park	319	Total	2,179	0			2,179	1.13	**2,463**		**197**		**124**		**2,143**			1.13	**1,897**	
	KSF	In	1,090		0.00		1,090	1.13	**1,232**	8%	**99**	5%	**62**	87%	**1,072**			1.13	**949**	
		Out	1,089		0.00		1,089	1.13	**1,231**	8%	**98**	5%	**62**	87%	**1,071**			1.13	**948**	
General Office Building	36	Total	398				398	1.13	**450**		**36**		**22**		**392**			1.13	**346**	
	KSF	In	199				199	1.13	**225**	8%	**18**	5%	**11**	87%	**196**			1.13	**173**	
		Out	199				199	1.13	**225**	8%	**18**	5%	**11**	87%	**196**			1.13	**173**	
Total		Total	2,577				2,577	1.13	**2,913**		**233**		**146**		**2,535**			1.13	**2,243**	
		In	1,289				1,289	1.13	**1,457**		**117**		**73**		**1,268**			1.13	**1,122**	
		Out	1,288				1,288	1.13	**1,456**		**116**		**73**		**1,267**			1.13	**1,121**	
AM Peak Hour																			
Industrial park	319	Total	262	0			262	1.13	**296**		**24**		**18**		**255**			1.13	**225**	
	KSF	In	215		0.00		215	1.13	**243**	6%	**15**	6%	**15**	88%	**214**			1.13	**189**	
		Out	47		0.00		47	1.13	**53**	17%	**9**	5%	**3**	78%	**41**			1.13	**36**	
General Office Building	36.0	Total	56				56	1.13	**63**		**4**		**3**		**54**			1.13	**47**	
	KSF	In	49				49	1.13	**55**	6%	**3**	6%	**3**	88%	**48**			1.13	**42**	
		Out	7				7	1.13	**8**	17%	**1**	5%	**0**	78%	**6**			1.13	**5**	
Total		Total	318				318	1.13	**359**		**28**		**21**		**309**			1.13	**272**	
		In	264				264	1.13	**298**		**18**		**18**		**262**			1.13	**231**	
		Out	54				54	1.13	**61**		**10**		**3**		**47**			1.13	**41**	
PM Peak Hour																			
Industrial Park	319	Total	271	0			271	1.13	**306**		**26**		**18**		**263**			1.13	**232**	
	KSF	In	57		0.00		57	1.13	**64**	17%	**11**	5%	**3**	78%	**50**			1.13	**44**	
		Out	214		0.00		214	1.13	**242**	6%	**15**	6%	**15**	88%	**213**			1.13	**188**	
General Office Building	36.0	Total	54				54	1.13	**61**		**5**		**4**		**53**			1.13	**47**	
	KSF	In	9				9	1.13	**10**	17%	**2**	5%	**1**	78%	**8**			1.13	**7**	
		Out	45				45	1.13	**51**	6%	**3**	6%	**3**	88%	**45**			1.13	**40**	
Total			325				325	1.13	**367**		**31**		**22**		**316**			1.13	**279**	
			66				66	1.13	**74**		**13**		**4**		**58**			1.13	**51**	
			259				259	1.13	**293**		**18**		**18**		**258**			1.13	**228**	

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Mode shares based on peak-hour BTD Data for Area 12
3. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates.
4. ITE Trip Generation Rate, 9th Edition, LUC 130 (Industrial Park), Average rate, and LUC 710 (General Office Building) Average rate

INTERSECTION CAPACITY ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.994				0.968			0.976				0.850		0.929			
Flt Protected	0.950				0.950				0.969			0.957			0.977			
Satd. Flow (prot)	1656	1764	0	0	1805	1748	0	0	1383	0	0	1710	1170	0	1311	0	0	
Flt Permitted	0.080				0.214				0.717			0.682			0.977			
Satd. Flow (perm)	139	1764	0	0	407	1748	0	0	1023	0	0	1219	1170	0	1311	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						20			9				36		12			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		715				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	102	561	16	5	1	608	132	42	12	12	67	4	29	15	3	10	4	
Peak Hour Factor	0.73	0.90	0.57	0.63	0.25	0.88	0.69	0.58	0.60	0.60	0.88	0.50	0.81	0.63	0.38	0.50	0.25	
Heavy Vehicles (%)	9%	6%	31%	0%	0%	5%	6%	12%	0%	8%	7%	0%	38%	13%	0%	20%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	140	623	28	8	4	691	191	72	20	20	76	8	36	24	8	20	16	
Lane Group Flow (vph)	140	651	0	0	12	882	0	0	112	0	0	84	36	0	68	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	Perm				
Protected Phases		1				1			3			3			4			2
Permitted Phases	1			1	1			3			3		Free	4				
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	1.56	0.57			0.05	0.77			0.88			0.59	0.03		0.43			
Control Delay	316.7	10.8			6.5	16.5			89.3			52.8	0.0		37.5			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	316.7	10.8			6.5	16.5			89.3			52.8	0.0		37.5			
LOS	F	B			A	B			F			D	A		D			
Approach Delay		65.0				16.3			89.3			37.0			37.5			
Approach LOS		E				B			F			D			D			
Queue Length 50th (ft)	~59	172			2	288			52			41	0		26			
Queue Length 95th (ft)	#122	267			2	444			#76			46	0		23			
Internal Link Dist (ft)		635				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	90	1146			264	1142			127			142	1170		158			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	1.56	0.57			0.05	0.77			0.88			0.59	0.03		0.43			

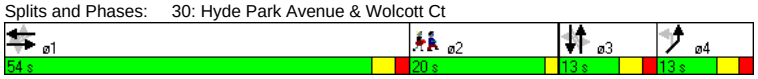
Intersection Summary

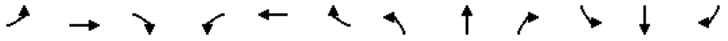
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 41.8 — Intersection LOS: D
Intersection Capacity Utilization 77.0% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: Hyde Park Avenue & Wolcott Ct





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	213	3	625	9	13	3	618	182	6	0	152	239
Peak Hour Factor	0.88	0.47	0.94	0.31	0.50	0.50	0.91	0.81	0.70	0.25	0.88	0.90
Hourly flow rate (vph)	242	6	665	29	26	6	679	225	9	0	173	266
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1170				
pX, platoon unblocked												
vC, conflicting volume	1775	1764	173	2428	2026	229	438			233		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1775	1764	173	2428	2026	229	438			233		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	81	23	0	0	99	39			100		
cM capacity (veh/h)	0	33	866	2	23	815	1116			1346		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	248	665	61	679	233	173	266
Volume Left	242	0	29	679	0	0	0
Volume Right	0	665	6	0	9	0	266
cSH	0	866	4	1116	1700	1346	1700
Volume to Capacity	Err	0.77	13.67	0.61	0.14	0.00	0.16
Queue Length 95th (ft)	Err	191	Err	108	0	0	0
Control Delay (s)	Err	21.5	Err	13.1	0.0	0.0	0.0
Lane LOS	F	C	F	B			
Approach Delay (s)	Err		Err	9.8		0.0	
Approach LOS	F		F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	70.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	477	393	82	570	271	62
Peak Hour Factor	0.97	0.81	0.76	0.93	0.82	0.82
Hourly flow rate (vph)	492	485	108	613	330	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1151	414			721	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1151	414			721	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	23			62	
cM capacity (veh/h)	132	634			876	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	492	485	721	330	76
Volume Left	492	0	0	330	0
Volume Right	0	485	613	0	0
cSH	132	634	1700	876	1700
Volume to Capacity	3.72	0.77	0.42	0.38	0.04
Queue Length 95th (ft)	Err	177	0	44	0
Control Delay (s)	Err	26.8	0.0	11.6	0.0
Lane LOS	F	D		B	
Approach Delay (s)	5046.4		0.0	9.4	
Approach LOS	F				

Intersection Summary			
Average Delay	2345.2		
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	28	624	61	32	507
Peak Hour Factor	0.38	0.64	0.93	0.59	0.67	0.97
Hourly flow rate (vph)	24	44	671	103	48	523
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1341	723			774	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1341	723			774	
tC, single (s)	6.4	6.8			4.7	
tC, 2 stage (s)						
tF (s)	3.5	3.8			2.8	
p0 queue free %	85	87			92	
cM capacity (veh/h)	157	347			624	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	67	774	570
Volume Left	24	0	48
Volume Right	44	103	0
cSH	243	1700	624
Volume to Capacity	0.28	0.46	0.08
Queue Length 95th (ft)	27	0	6
Control Delay (s)	25.4	0.0	2.1
Lane LOS	D		A
Approach Delay (s)	25.4	0.0	2.1
Approach LOS	D		

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	302	52	45	383	279	237
Peak Hour Factor	0.93	0.65	0.87	0.93	0.79	0.89
Hourly flow rate (vph)	325	80	52	412	353	266
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868	353	619			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868	353	619			
tC, single (s)	6.4	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	0	88	94			
cM capacity (veh/h)	301	677	937			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	325	80	52	412	353	266
Volume Left	325	0	52	0	0	0
Volume Right	0	80	0	0	0	266
cSH	301	677	937	1700	1700	1700
Volume to Capacity	1.08	0.12	0.06	0.24	0.21	0.16
Queue Length 95th (ft)	315	10	4	0	0	0
Control Delay (s)	112.7	11.0	9.1	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	92.6		1.0		0.0	
Approach LOS	F					

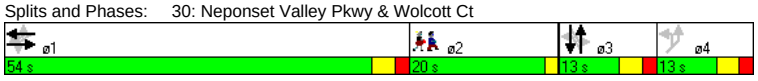
Intersection Summary			
Average Delay	25.5		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

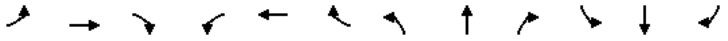
Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.994				0.991			0.958				0.850		0.908			
Flt Protected	0.950				0.950				0.974			0.957			0.984			
Satd. Flow (prot)	1752	1844	0	0	1805	1828	0	0	1458	0	0	1818	1615	0	1426	0	0	
Flt Permitted	0.228				0.080				0.790			0.778			0.984			
Satd. Flow (perm)	421	1844	0	0	152	1828	0	0	1182	0	0	1478	1615	0	1426	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						5			16				32		5			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		716				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	34	757	16	7	0	563	29	23	5	10	51	2	19	10	2	28	6	
Peak Hour Factor	0.65	0.94	0.50	0.88	0.25	0.95	0.73	0.82	0.63	0.63	0.75	0.25	0.59	0.50	0.50	0.64	0.75	
Heavy Vehicles (%)	3%	2%	13%	0%	0%	3%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	52	805	32	8	0	593	40	28	8	16	68	8	32	20	4	44	8	
Lane Group Flow (vph)	52	837	0	0	8	633	0	0	52	0	0	76	32	0	76	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	custom				
Protected Phases		1				1			3			3						2
Permitted Phases	1			1	1			3			3		Free	4	4			
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	0.19	0.70			0.08	0.53			0.34			0.44	0.02		0.46			
Control Delay	8.6	13.7			8.3	10.1			31.6			42.0	0.0		41.2			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	8.6	13.7			8.3	10.1			31.6			42.0	0.0		41.2			
LOS	A	B			A	B			C			D	A		D			
Approach Delay		13.4				10.0			31.6			29.6			41.2			
Approach LOS		B				B			C			C			D			
Queue Length 50th (ft)	10	256			1	160			17			36	0		34			
Queue Length 95th (ft)	18	399			2	246			32			20	0		39			
Internal Link Dist (ft)		636				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	273	1198			99	1188			152			173	1615		165			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	0.19	0.70			0.08	0.53			0.34			0.44	0.02		0.46			

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 30: Neponset Valley Pkwy & Wolcott Ct





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	256	1	699	4	4	4	481	124	3	2	166	237
Peak Hour Factor	0.79	0.25	0.90	0.33	0.33	0.50	0.82	0.78	0.75	0.50	0.88	0.86
Hourly flow rate (vph)	324	4	777	12	12	8	587	159	4	4	189	276
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1155				
pX, platoon unblocked												
vC, conflicting volume	1543	1533	189	2309	1806	161	464			163		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1543	1533	189	2309	1806	161	464			163		
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	93	9	0	67	99	47			100		
cM capacity (veh/h)	41	55	856	1	37	889	1097			1428		

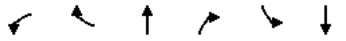
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	328	777	32	587	163	193	276
Volume Left	324	0	12	587	0	4	0
Volume Right	0	777	8	0	4	0	276
cSH	41	856	4	1097	1700	1428	1700
Volume to Capacity	8.06	0.91	9.14	0.53	0.10	0.00	0.16
Queue Length 95th (ft)	Err	321	Err	82	0	0	0
Control Delay (s)	Err	34.8	Err	12.0	0.0	0.2	0.0
Lane LOS	F	D	F	B		A	
Approach Delay (s)	2993.7		Err	9.4		0.1	
Approach LOS	F		F				

Intersection Summary				
Average Delay	1544.4			
Intersection Capacity Utilization	66.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	432	290	71	692	264	118
Peak Hour Factor	0.89	0.77	0.68	0.93	0.80	0.94
Hourly flow rate (vph)	485	377	104	744	330	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1262	476			848	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1262	476			848	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	36			58	
cM capacity (veh/h)	106	591			785	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	485	377	848	330	126
Volume Left	485	0	0	330	0
Volume Right	0	377	744	0	0
cSH	106	591	1700	785	1700
Volume to Capacity	4.59	0.64	0.50	0.42	0.07
Queue Length 95th (ft)	Err	113	0	52	0
Control Delay (s)	Err	21.2	0.0	12.9	0.0
Lane LOS	F	C		B	
Approach Delay (s)	5639.6		0.0	9.3	
Approach LOS	F				

Intersection Summary			
Average Delay	2246.3		
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	83	680	17	84	466
Peak Hour Factor	0.60	0.72	0.83	0.63	0.80	0.88
Hourly flow rate (vph)	73	115	819	27	105	530
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1572	833			846	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1572	833			846	
tC, single (s)	6.4	6.2			4.9	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.9	
p0 queue free %	25	69			80	
cM capacity (veh/h)	98	370			536	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	189	846	635
Volume Left	73	0	105
Volume Right	115	27	0
cSH	177	1700	536
Volume to Capacity	1.06	0.50	0.20
Queue Length 95th (ft)	228	0	18
Control Delay (s)	139.0	0.0	5.4
Lane LOS	F		A
Approach Delay (s)	139.0	0.0	5.4
Approach LOS	F		

Intersection Summary			
Average Delay	17.7		
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	321	109	76	376	313	197
Peak Hour Factor	0.96	0.66	0.83	0.90	0.89	0.77
Hourly flow rate (vph)	334	165	92	418	352	256
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	953	352	608			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953	352	608			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	76	91			
cM capacity (veh/h)	262	687	976			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	334	165	92	418	352	256
Volume Left	334	0	92	0	0	0
Volume Right	0	165	0	0	0	256
cSH	262	687	976	1700	1700	1700
Volume to Capacity	1.28	0.24	0.09	0.25	0.21	0.15
Queue Length 95th (ft)	416	23	8	0	0	0
Control Delay (s)	189.9	11.9	9.1	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	131.0		1.6		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	41.0		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.993				0.967			0.975				0.850		0.928			
Flt Protected	0.950				0.950				0.969			0.957			0.977			
Satd. Flow (prot)	1656	1762	0	0	1805	1746	0	0	1383	0	0	1710	1170	0	1306	0	0	
Flt Permitted	0.080				0.188				0.699			0.670			0.977			
Satd. Flow (perm)	139	1762	0	0	357	1746	0	0	997	0	0	1197	1170	0	1306	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						20			9				37		12			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		715				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	107	590	17	5	1	639	139	44	13	13	70	4	30	16	3	11	4	
Peak Hour Factor	0.73	0.90	0.57	0.63	0.25	0.88	0.69	0.58	0.60	0.60	0.88	0.50	0.81	0.63	0.38	0.50	0.25	
Heavy Vehicles (%)	9%	6%	31%	0%	0%	5%	6%	12%	0%	8%	7%	0%	38%	13%	0%	20%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	147	656	30	8	4	726	201	76	22	22	80	8	37	25	8	22	16	
Lane Group Flow (vph)	147	686	0	0	12	927	0	0	120	0	0	88	37	0	71	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	Perm				
Protected Phases		1				1			3			3			4			2
Permitted Phases	1			1	1			3			3		Free	4				
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	1.63	0.60			0.05	0.81			0.97			0.63	0.03		0.45			
Control Delay	348.4	11.4			6.7	18.6			109.7			56.1	0.1		38.4			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	348.4	11.4			6.7	18.6			109.7			56.1	0.1		38.4			
LOS	F	B			A	B			F			E	A		D			
Approach Delay		70.9				18.5			109.7			39.5			38.4			
Approach LOS		E				B			F			D			D			
Queue Length 50th (ft)	~67	188			2	321			57			43	0		28			
Queue Length 95th (ft)	#129	292			2	#517			#86			47	0		23			
Internal Link Dist (ft)		635				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	90	1144			232	1141			124			140	1170		158			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	1.63	0.60			0.05	0.81			0.97			0.63	0.03		0.45			

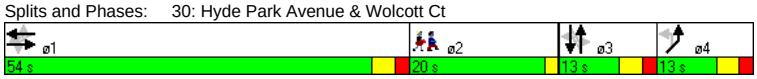
Intersection Summary

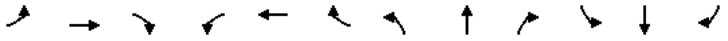
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 46.6 — Intersection LOS: D
Intersection Capacity Utilization 79.3% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: Hyde Park Avenue & Wolcott Ct





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	224	3	657	9	14	3	650	191	6	0	160	251
Peak Hour Factor	0.88	0.47	0.94	0.31	0.50	0.50	0.91	0.81	0.70	0.25	0.88	0.90
Hourly flow rate (vph)	255	6	699	29	28	6	714	236	9	0	182	279
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1170				
pX, platoon unblocked												
vC, conflicting volume	1866	1855	182	2553	2129	240	461			244		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1866	1855	182	2553	2129	240	461			244		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	75	18	0	0	99	35			100		
cM capacity (veh/h)	0	26	856	1	17	804	1095			1334		

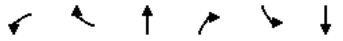
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	261	699	63	714	244	182	279
Volume Left	255	0	29	714	0	0	0
Volume Right	0	699	6	0	9	0	279
cSH	0	856	3	1095	1700	1334	1700
Volume to Capacity	Err	0.82	23.61	0.65	0.14	0.00	0.16
Queue Length 95th (ft)	Err	228	Err	127	0	0	0
Control Delay (s)	Err	25.0	Err	14.2	0.0	0.0	0.0
Lane LOS	F	C	F	B			
Approach Delay (s)	Err		Err	10.6		0.0	
Approach LOS	F		F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	73.7%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	502	413	86	599	285	65
Peak Hour Factor	0.97	0.81	0.76	0.93	0.82	0.82
Hourly flow rate (vph)	518	510	113	644	348	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1210	435			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1210	435			757	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	17			59	
cM capacity (veh/h)	115	617			849	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	518	510	757	348	79
Volume Left	518	0	0	348	0
Volume Right	0	510	644	0	0
cSH	115	617	1700	849	1700
Volume to Capacity	4.49	0.83	0.45	0.41	0.05
Queue Length 95th (ft)	Err	217	0	50	0
Control Delay (s)	Err	32.6	0.0	12.1	0.0
Lane LOS	F	D		B	
Approach Delay (s)	5052.9		0.0	9.9	
Approach LOS	F				

Intersection Summary			
Average Delay	2349.4		
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	29	656	64	34	533
Peak Hour Factor	0.38	0.64	0.93	0.59	0.67	0.97
Hourly flow rate (vph)	24	45	705	108	51	549
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1411	760			814	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1411	760			814	
tC, single (s)	6.4	6.8			4.7	
tC, 2 stage (s)						
tF (s)	3.5	3.8			2.8	
p0 queue free %	83	86			92	
cM capacity (veh/h)	141	329			601	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	69	814	600
Volume Left	24	0	51
Volume Right	45	108	0
cSH	226	1700	601
Volume to Capacity	0.31	0.48	0.08
Queue Length 95th (ft)	31	0	7
Control Delay (s)	27.8	0.0	2.3
Lane LOS	D		A
Approach Delay (s)	27.8	0.0	2.3
Approach LOS	D		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	317	55	47	403	293	249
Peak Hour Factor	0.93	0.65	0.87	0.93	0.79	0.89
Hourly flow rate (vph)	341	85	54	433	371	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	912	371	651			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912	371	651			
tC, single (s)	6.4	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	0	87	94			
cM capacity (veh/h)	282	662	912			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	341	85	54	433	371	280
Volume Left	341	0	54	0	0	0
Volume Right	0	85	0	0	0	280
cSH	282	662	912	1700	1700	1700
Volume to Capacity	1.21	0.13	0.06	0.25	0.22	0.16
Queue Length 95th (ft)	388	11	5	0	0	0
Control Delay (s)	159.7	11.2	9.2	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	130.1		1.0		0.0	
Approach LOS	F					

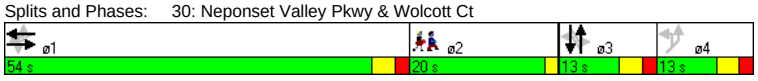
Intersection Summary			
Average Delay	35.7		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

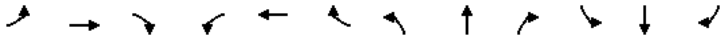
Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.994				0.991			0.957				0.850		0.909			
Flt Protected	0.950				0.950				0.974			0.957			0.984			
Satd. Flow (prot)	1752	1844	0	0	1805	1828	0	0	1456	0	0	1818	1615	0	1428	0	0	
Flt Permitted	0.204				0.080				0.769			0.770			0.984			
Satd. Flow (perm)	376	1844	0	0	152	1828	0	0	1150	0	0	1463	1615	0	1428	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						5			17				34		4			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		716				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	36	796	17	7	0	592	30	24	5	11	54	2	20	11	2	29	6	
Peak Hour Factor	0.65	0.94	0.50	0.88	0.25	0.95	0.73	0.82	0.63	0.63	0.75	0.25	0.59	0.50	0.50	0.64	0.75	
Heavy Vehicles (%)	3%	2%	13%	0%	0%	3%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	55	847	34	8	0	623	41	29	8	17	72	8	34	22	4	45	8	
Lane Group Flow (vph)	55	881	0	0	8	664	0	0	54	0	0	80	34	0	79	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	custom				
Protected Phases		1				1			3			3						2
Permitted Phases	1			1	1			3			3		Free	4	4			
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	0.23	0.74			0.08	0.56			0.36			0.47	0.02		0.48			
Control Delay	9.5	14.9			8.3	10.5			32.2			43.1	0.0		42.3			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	9.5	14.9			8.3	10.5			32.2			43.1	0.0		42.3			
LOS	A	B			A	B			C			D	A		D			
Approach Delay		14.6				10.5			32.2			30.2			42.3			
Approach LOS		B				B			C			C			D			
Queue Length 50th (ft)	11	282			1	172			17			38	0		36			
Queue Length 95th (ft)	20	442			2	265			33			21	0		41			
Internal Link Dist (ft)		636				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	244	1198			99	1188			149			171	1615		164			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	0.23	0.74			0.08	0.56			0.36			0.47	0.02		0.48			

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 15.7 — Intersection LOS: B
Intersection Capacity Utilization 68.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 30: Neponset Valley Pkwy & Wolcott Ct





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	269	1	735	4	4	4	506	130	3	2	174	249
Peak Hour Factor	0.79	0.25	0.90	0.33	0.33	0.50	0.82	0.78	0.75	0.50	0.88	0.86
Hourly flow rate (vph)	341	4	817	12	12	8	617	167	4	4	198	290
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1155				
pX, platoon unblocked												
vC, conflicting volume	1621	1611	198	2427	1898	169	487			171		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1621	1611	198	2427	1898	169	487			171		
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	91	3	0	59	99	43			100		
cM capacity (veh/h)	31	45	846	0	30	881	1076			1419		

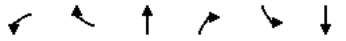
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	345	817	32	617	171	202	290
Volume Left	341	0	12	617	0	4	0
Volume Right	0	817	8	0	4	0	290
cSH	31	846	1	1076	1700	1419	1700
Volume to Capacity	10.98	0.97	31.09	0.57	0.10	0.00	0.17
Queue Length 95th (ft)	Err	394	Err	95	0	0	0
Control Delay (s)	Err	45.2	Err	12.7	0.0	0.2	0.0
Lane LOS	F	E	F	B		A	
Approach Delay (s)	2998.3		Err	10.0		0.1	
Approach LOS	F		F				

Intersection Summary				
Average Delay	1541.8			
Intersection Capacity Utilization	68.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	454	305	75	727	278	124
Peak Hour Factor	0.89	0.77	0.68	0.93	0.80	0.94
Hourly flow rate (vph)	510	396	110	782	348	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1328	501			892	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1328	501			892	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	31			54	
cM capacity (veh/h)	90	572			756	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	510	396	892	348	132
Volume Left	510	0	0	348	0
Volume Right	0	396	782	0	0
cSH	90	572	1700	756	1700
Volume to Capacity	5.68	0.69	0.52	0.46	0.08
Queue Length 95th (ft)	Err	136	0	61	0
Control Delay (s)	Err	24.3	0.0	13.7	0.0
Lane LOS	F	C		B	
Approach Delay (s)	5639.1		0.0	10.0	
Approach LOS	F				

Intersection Summary			
Average Delay	2245.7		
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	46	87	715	18	88	490
Peak Hour Factor	0.60	0.72	0.83	0.63	0.80	0.88
Hourly flow rate (vph)	77	121	861	29	110	557
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1653	876			890	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1653	876			890	
tC, single (s)	6.4	6.2			4.9	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.9	
p0 queue free %	10	65			79	
cM capacity (veh/h)	85	350			513	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	198	890	667
Volume Left	77	0	110
Volume Right	121	29	0
cSH	158	1700	513
Volume to Capacity	1.25	0.52	0.21
Queue Length 95th (ft)	285	0	20
Control Delay (s)	209.1	0.0	6.0
Lane LOS	F		A
Approach Delay (s)	209.1	0.0	6.0
Approach LOS	F		

Intersection Summary			
Average Delay	25.8		
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	337	115	80	396	329	207
Peak Hour Factor	0.96	0.66	0.83	0.90	0.89	0.77
Hourly flow rate (vph)	351	174	96	440	370	269
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1002	370	638			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1002	370	638			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	74	90			
cM capacity (veh/h)	242	672	950			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	351	174	96	440	370	269
Volume Left	351	0	96	0	0	0
Volume Right	0	174	0	0	0	269
cSH	242	672	950	1700	1700	1700
Volume to Capacity	1.45	0.26	0.10	0.26	0.22	0.16
Queue Length 95th (ft)	503	26	8	0	0	0
Control Delay (s)	261.6	12.2	9.2	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	178.9		1.7		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	55.8		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.994				0.970			0.975				0.850		0.928			
Flt Protected	0.950				0.950				0.969			0.957			0.977			
Satd. Flow (prot)	1656	1764	0	0	1805	1752	0	0	1383	0	0	1710	1170	0	1306	0	0	
Flt Permitted	0.080				0.175				0.699			0.670			0.977			
Satd. Flow (perm)	139	1764	0	0	332	1752	0	0	997	0	0	1197	1170	0	1306	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						18			9				37		12			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		715				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	107	605	17	5	1	720	139	44	13	13	70	4	30	16	3	11	4	
Peak Hour Factor	0.73	0.90	0.57	0.63	0.25	0.88	0.69	0.58	0.60	0.60	0.88	0.50	0.81	0.63	0.38	0.50	0.25	
Heavy Vehicles (%)	9%	6%	31%	0%	0%	5%	6%	12%	0%	8%	7%	0%	38%	13%	0%	20%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	147	672	30	8	4	818	201	76	22	22	80	8	37	25	8	22	16	
Lane Group Flow (vph)	147	702	0	0	12	1019	0	0	120	0	0	88	37	0	71	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	Perm				
Protected Phases		1				1			3			3			4			2
Permitted Phases	1			1	1			3			3		Free	4				
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	1.63	0.61			0.06	0.89			0.97			0.63	0.03		0.45			
Control Delay	348.4	11.7			6.7	24.7			109.7			56.1	0.1		38.4			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	348.4	11.7			6.7	24.7			109.7			56.1	0.1		38.4			
LOS	F	B			A	C			F			E	A		D			
Approach Delay		70.0				24.5			109.7			39.5			38.4			
Approach LOS		E				C			F			D			D			
Queue Length 50th (ft)	~67	195			2	398			57			43	0		28			
Queue Length 95th (ft)	#129	303			2	#691			#86			47	0		23			
Internal Link Dist (ft)		635				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	90	1146			216	1144			124			140	1170		158			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	1.63	0.61			0.06	0.89			0.97			0.63	0.03		0.45			

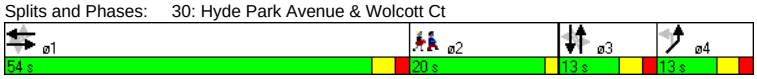
Intersection Summary

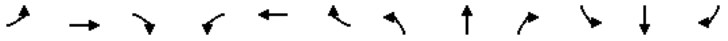
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.63
Intersection Signal Delay: 48.1 — Intersection LOS: D
Intersection Capacity Utilization 83.6% — ICU Level of Service E
Analysis Period (min) 15

~ 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: 30: Hyde Park Avenue & Wolcott Ct

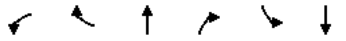




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	232	3	672	9	14	3	731	191	6	0	160	297
Peak Hour Factor	0.88	0.47	0.94	0.31	0.50	0.50	0.91	0.81	0.70	0.25	0.88	0.90
Hourly flow rate (vph)	264	6	715	29	28	6	803	236	9	0	182	330
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1170				
pX, platoon unblocked												
vC, conflicting volume	2044	2033	182	2747	2358	240	512			244		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2044	2033	182	2747	2358	240	512			244		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	53	16	0	0	99	23			100		
cM capacity (veh/h)	0	14	856	1	8	804	1048			1334		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	270	715	63	803	244	182	330
Volume Left	264	0	29	803	0	0	0
Volume Right	0	715	6	0	9	0	330
cSH	0	856	1	1048	1700	1334	1700
Volume to Capacity	Err	0.84	56.91	0.77	0.14	0.00	0.19
Queue Length 95th (ft)	Err	245	Err	196	0	0	0
Control Delay (s)	Err	26.5	Err	18.7	0.0	0.0	0.0
Lane LOS	F	D	F	C			
Approach Delay (s)	Err		Err	14.3		0.0	
Approach LOS	F		F				

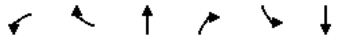
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	78.6%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	629	413	86	622	285	65
Peak Hour Factor	0.97	0.81	0.76	0.93	0.82	0.82
Hourly flow rate (vph)	648	510	113	669	348	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1222	448			782	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1222	448			782	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	16			58	
cM capacity (veh/h)	112	607			831	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	648	510	782	348	79
Volume Left	648	0	0	348	0
Volume Right	0	510	669	0	0
cSH	112	607	1700	831	1700
Volume to Capacity	5.81	0.84	0.46	0.42	0.05
Queue Length 95th (ft)	Err	226	0	52	0
Control Delay (s)	Err	34.4	0.0	12.4	0.0
Lane LOS	F	D		B	
Approach Delay (s)	5612.8		0.0	10.1	
Approach LOS	F				

Intersection Summary			
Average Delay	2748.4		
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	27	52	656	168	161	533
Peak Hour Factor	0.38	0.64	0.93	0.59	0.67	0.97
Hourly flow rate (vph)	71	81	705	285	240	549
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1878	848			990	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1878	848			990	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	0	75			64	
cM capacity (veh/h)	51	321			660	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	152	990	790
Volume Left	71	0	240
Volume Right	81	285	0
cSH	92	1700	660
Volume to Capacity	1.66	0.58	0.36
Queue Length 95th (ft)	306	0	42
Control Delay (s)	418.9	0.0	9.2
Lane LOS	F		A
Approach Delay (s)	418.9	0.0	9.2
Approach LOS	F		

Intersection Summary			
Average Delay	36.8		
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	386	55	47	438	299	261
Peak Hour Factor	0.93	0.65	0.87	0.93	0.79	0.89
Hourly flow rate (vph)	415	85	54	471	378	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	957	378	672			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	957	378	672			
tC, single (s)	6.4	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	0	87	94			
cM capacity (veh/h)	265	655	896			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	415	85	54	471	378	293
Volume Left	415	0	54	0	0	0
Volume Right	0	85	0	0	0	293
cSH	265	655	896	1700	1700	1700
Volume to Capacity	1.57	0.13	0.06	0.28	0.22	0.17
Queue Length 95th (ft)	624	11	5	0	0	0
Control Delay (s)	306.4	11.3	9.3	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	256.4		1.0		0.0	
Approach LOS	F					

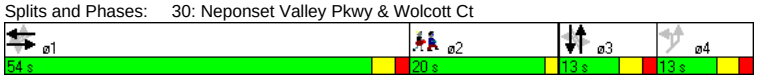
Intersection Summary			
Average Delay	75.8		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

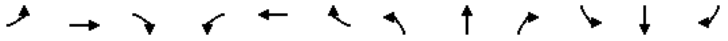
Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2	NEL2	NEL	NER	NER2	ø2
Lane Configurations																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	12	12	10	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50	50		50	50	50	50	50			
Trailing Detector (ft)	0	0		0	0	0		0	0		0	0	0	0	0			
Turning Speed (mph)	15		9	15	15		9	15		9	15		9	15	15	9	9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.995				0.991			0.957				0.850		0.909			
Flt Protected	0.950				0.950				0.974			0.957			0.984			
Satd. Flow (prot)	1752	1846	0	0	1805	1828	0	0	1456	0	0	1818	1615	0	1428	0	0	
Flt Permitted	0.190				0.080				0.769			0.770			0.984			
Satd. Flow (perm)	350	1846	0	0	152	1828	0	0	1150	0	0	1463	1615	0	1428	0	0	
Right Turn on Red							Yes			Yes			Yes				Yes	
Satd. Flow (RTOR)						5			17				34		4			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.00	1.00	
Link Speed (mph)		30				30			30			30			30			
Link Distance (ft)		716				454			726			459			307			
Travel Time (s)		16.3				10.3			16.5			10.4			7.0			
Volume (vph)	36	876	17	7	0	610	30	24	5	11	54	2	20	11	2	29	6	
Peak Hour Factor	0.65	0.94	0.50	0.88	0.25	0.95	0.73	0.82	0.63	0.63	0.75	0.25	0.59	0.50	0.50	0.64	0.75	
Heavy Vehicles (%)	3%	2%	13%	0%	0%	3%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)								0	0	0				0	0	0	0	
Adj. Flow (vph)	55	932	34	8	0	642	41	29	8	17	72	8	34	22	4	45	8	
Lane Group Flow (vph)	55	966	0	0	8	683	0	0	54	0	0	80	34	0	79	0	0	
Turn Type	Perm			Perm	Perm			Perm			Perm		Free	custom				
Protected Phases		1				1			3			3						2
Permitted Phases	1			1	1			3			3		Free	4	4			
Detector Phases	1	1		1	1	1		3	3		3	3		4	4			
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0			8.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0		13.0	13.0		13.0	13.0		13.0	13.0			20.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	54.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0	0.0	20.0
Total Split (%)	54.0%	54.0%	0.0%	54.0%	54.0%	54.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%	0.0%	20%
Maximum Green (s)	49.0	49.0		49.0	49.0	49.0		8.0	8.0		8.0	8.0		8.0	8.0			18.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0		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		2.0	2.0		2.0	2.0			0.0
Lead/Lag	Lead	Lead		Lead	Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag			Lag
Lead-Lag Optimize?								Yes	Yes		Yes	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0			3.0
Recall Mode	Max	Max		Max	Max	Max		Max	Max		Max	Max		None	None			None
Walk Time (s)																		5.0
Flash Dont Walk (s)																		11.0
Pedestrian Calls (#/hr)																		0
Act Effct Green (s)	50.3	50.3			50.3	50.3			9.0			9.0	77.4		9.0			
Actuated g/C Ratio	0.65	0.65			0.65	0.65			0.12			0.12	1.00		0.11			
v/c Ratio	0.24	0.81			0.08	0.57			0.36			0.47	0.02		0.48			
Control Delay	10.1	18.2			8.3	10.8			32.2			43.1	0.0		42.3			
Queue Delay	0.0	0.0			0.0	0.0			0.0			0.0	0.0		0.0			
Total Delay	10.1	18.2			8.3	10.8			32.2			43.1	0.0		42.3			
LOS	B	B			A	B			C			D	A		D			
Approach Delay		17.7				10.7			32.2			30.2			42.3			
Approach LOS		B				B			C			C			D			
Queue Length 50th (ft)	11	338			1	180			17			38	0		36			
Queue Length 95th (ft)	20	#577			2	277			33			21	0		41			
Internal Link Dist (ft)		636				374			646			379			227			
Turn Bay Length (ft)																		
Base Capacity (vph)	227	1199			99	1188			149			171	1615		164			
Starvation Cap Reductn	0	0			0	0			0			0	0		0			
Spillback Cap Reductn	0	0			0	0			0			0	0		0			
Storage Cap Reductn	0	0			0	0			0			0	0		0			
Reduced v/c Ratio	0.24	0.81			0.08	0.57			0.36			0.47	0.02		0.48			

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 17.4 — Intersection LOS: B
Intersection Capacity Utilization 72.7% — ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: Neponset Valley Pkwy & Wolcott Ct

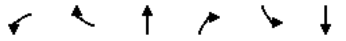




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	314	1	815	4	4	4	524	130	3	2	174	259
Peak Hour Factor	0.79	0.25	0.90	0.33	0.33	0.50	0.82	0.78	0.75	0.50	0.88	0.86
Hourly flow rate (vph)	397	4	906	12	12	8	639	167	4	4	198	301
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								1155				
pX, platoon unblocked												
vC, conflicting volume	1665	1654	198	2560	1954	169	499			171		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1665	1654	198	2560	1954	169	499			171		
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	90	0	0	53	99	40			100		
cM capacity (veh/h)	26	40	846	0	26	881	1065			1419		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	401	906	32	639	171	202	301
Volume Left	397	0	12	639	0	4	0
Volume Right	0	906	8	0	4	0	301
cSH	26	846	0	1065	1700	1419	1700
Volume to Capacity	15.32	1.07	Err	0.60	0.10	0.00	0.18
Queue Length 95th (ft)	Err	563	Err	104	0	0	0
Control Delay (s)	Err	73.1	Err	13.3	0.0	0.2	0.0
Lane LOS	F	F	F	B		A	
Approach Delay (s)	3121.9		Err	10.5		0.1	
Approach LOS	F		F				

Intersection Summary				
Average Delay		Err		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	482	305	75	852	278	124
Peak Hour Factor	0.89	0.77	0.68	0.93	0.80	0.94
Hourly flow rate (vph)	542	396	110	916	348	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1395	568			1026	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1395	568			1026	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	0	24			48	
cM capacity (veh/h)	73	524			673	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	542	396	1026	348	132
Volume Left	542	0	0	348	0
Volume Right	0	396	916	0	0
cSH	73	524	1700	673	1700
Volume to Capacity	7.42	0.76	0.60	0.52	0.08
Queue Length 95th (ft)	Err	165	0	75	0
Control Delay (s)	Err	30.1	0.0	15.9	0.0
Lane LOS	F	D		C	
Approach Delay (s)	5787.8		0.0	11.5	
Approach LOS	F				

Intersection Summary			
Average Delay	2223.3		
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	149	212	715	41	116	490
Peak Hour Factor	0.60	0.72	0.83	0.63	0.80	0.88
Hourly flow rate (vph)	248	294	861	65	145	557
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1741	894			927	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1741	894			927	
tC, single (s)	6.4	6.2			4.7	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.7	
p0 queue free %	0	13			74	
cM capacity (veh/h)	70	340			549	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	543	927	702
Volume Left	248	0	145
Volume Right	294	65	0
cSH	123	1700	549
Volume to Capacity	4.40	0.55	0.26
Queue Length 95th (ft)	Err	0	26
Control Delay (s)	Err	0.0	7.2
Lane LOS	F		A
Approach Delay (s)	Err	0.0	7.2
Approach LOS	F		

Intersection Summary			
Average Delay	2502.1		
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	352	115	80	404	363	276
Peak Hour Factor	0.96	0.66	0.83	0.90	0.89	0.77
Hourly flow rate (vph)	367	174	96	449	408	358
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1050	408	766			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1050	408	766			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	73	89			
cM capacity (veh/h)	224	639	852			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	367	174	96	449	408	358
Volume Left	367	0	96	0	0	0
Volume Right	0	174	0	0	0	358
cSH	224	639	852	1700	1700	1700
Volume to Capacity	1.64	0.27	0.11	0.26	0.24	0.21
Queue Length 95th (ft)	591	28	10	0	0	0
Control Delay (s)	343.5	12.7	9.8	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	236.9		1.7		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	69.7		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		