125 Lincoln Street

Project Notification Form

JUNE 2019

PREPARED BY

vhb

IN ASSOCIATION WITH

Gensler
DLA Piper LLP (US)
Utile
The Strategy Group
Landworks Studio
Cosentini
The Green Engineer
Haley & Aldrich

PROPONENT

125 Lincoln Street Owner (DE) LLC

SUBMITTED TO

Boston Planning & Development Agency

June 7, 2019

By Hand Delivery

Brian P. Golden, Director
Boston Planning & Development Agency
One City Hall Plaza
Boston, MA 02201

Re: **125 Lincoln Street**
Project Notification Form

Dear Director Golden:

On behalf of 125 Lincoln Street Owner (DE) LLC (the "Proponent"), an affiliate of Oxford Properties Group ("Oxford"), we are pleased to submit the enclosed Project Notification Form ("PNF") to initiate review under Article 80B of the City of Boston Zoning Code for the construction of a new, approximately 625,000 square foot, 24 story office building containing retail, restaurant, and other commercial uses on the ground floor, below-grade parking and indoor and outdoor publicly accessible space located at 125 Lincoln Street in Boston's Leather District (the "Project").

The enclosed PNF presents details about the Project and provides an analysis of its potential impacts, including transportation/traffic, environmental, infrastructure, and historic impacts. Key elements of the Project include:

- The complete redesign of approximately 7,500 square feet of underutilized space at the corner of Lincoln Street and the Greenway;
- Creation of a publicly accessible indoor space of approximately 7,000 square feet that includes gathering and retail spaces. In conjunction with the adjacent publicly accessible outdoor space, the Project will deliver an all-season indoor/outdoor space available for public gathering and community functions and events; and
- Creation of approximately 4,100 square feet of retail space along Beach Street and Lincoln Street, complementing the existing retail character within the Leather District.

We look forward to working collaboratively with you and your staff, and other city agencies and members of the community to develop the best redevelopment plan for this location. The Proponent will publish notice of submission of the PNF, as required by Section 80A-2(3) coincident with the filing of this PNF. Requests for copies of the PNF should be directed to Seth Lattrell at (617) 607-2973 or via email at slattrell@vhb.com.

Sincerely,

Mark McGowan

Enclosure

cc: Ms. Theresa Polhemus
Mr. Jonathan Greeley
Mr. Michael Sinatra
Senator Joe Boncore
Representative Aaron Michlewitz
City Councilor Ed Flynn
City Councilor Michelle Wu
Danchen Xu

125 Lincoln Street

Boston, Massachusetts

SUBMITTED TO **Boston Planning and Development Agency**
One City Hall Square, 9th Floor
Boston, MA 02201

PROPONENT **125 Lincoln Street Owner (DE) LLC**
c/o Oxford Properties Group
125 Summer Street, Suite 1230
Boston, MA 02110

PREPARED BY **VHB**
99 High Street, 10th Floor
Boston, MA 02110

In association with:

Gensler	Landworks Studio
DLA Piper LLP (US)	Cosentini
Utile	The Green Engineer
The Strategy Group	Haley & Aldrich

June 7, 2019

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A: BPDA Checklists

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1

Project Description

In accordance with Article 80B of the City of Boston Zoning Code and the Boston Zoning Enabling Act (the "Code"), 125 Lincoln Street Owner (DE) LLC (the "Proponent"), an affiliate of Oxford Properties Group ("Oxford"), respectfully submits this Project Notification Form ("PNF") for the construction of a new approximately 625,000 square foot office[1] building (the "Building") with publicly accessible ground floor uses and significant public realm improvements (collectively, the "Project") to be located at 125 Lincoln Street in Boston's Leather District.

This chapter provides an overview of the existing site conditions at the Project Site (defined below), describes the Project and the Project Site, summarizes Project-related public benefits, and identifies certain permits and approvals that the Proponent currently anticipates may be required for the Project. This chapter also summarizes ongoing public agency and community outreach, identifies the development team for the Project, and provides relevant legal information regarding the Proponent and the Project Site.

1.1 Oxford History

Established in 1960, Oxford is one of the world's premier real estate investment, development and management companies, managing over $45 billion of real estate assets on behalf of its co-owners and investment partners, with a global portfolio spanning over 100 million square feet.

Based on square footage owned in fee or ground leased through its subsidiaries, Oxford is the second largest landlord in the City of Boston (the "City"), with a portfolio that includes approximately 4.5 million square feet of commercial real estate in downtown Boston and Cambridge. Oxford has built one of the highest quality real estate portfolios across Canada, Europe, Australia and the US through a combination of global and local development and operating expertise. Our develop-to-hold strategy ensures long-term success of projects and demonstrates significant alignment of interests with stakeholders as well as a commitment to meeting the needs of the communities in which their projects reside.

Oxford's vision for the future is to grow a formidable, diversified, and increasingly global portfolio, and to continue to connect people to exceptional places. This vision

1 All areas provided as Gross Floor Area ("GFA") means Gross Floor Area as defined within and measured pursuant to the Code (i.e., excluding below-grade structured parking).

includes a commitment to providing leading sustainability practices, technologies and experiences to Oxford's customers and their communities. Oxford's track record in sustainability practices is quantifiable and impressive. Since 2010, Oxford has (i) significantly reduced energy usage in their buildings, directly saving their customers over $62 million in energy costs, (ii) achieved 83 percent LEED certification across their North American office buildings, and (iii) increased the amount of waste from their properties that is diverted from landfills, now diverting 60 percent of all such waste.

Oxford has adopted sustainability as a company-wide initiative. The dedication to managing and developing sustainable projects influences how Oxford makes decisions with respect to new building projects and the operation and maintenance of existing buildings. Oxford integrates sustainability measures throughout the development process for its new building projects, working with consultants from the outset of each project to identify applicable and cutting-edge sustainable design and construction strategies that can be implemented. The company concentrates their focus on four key factors: (1) climate & energy; (2) wellbeing; (3) materials & resources; and (4) the local community.

Oxford's dedication to developing sustainable projects includes ensuring that their projects' sustainable design and energy efficient measures are apparent and beneficial to its customers and occupiers, as Oxford's projects strive to provide high indoor air quality, integrated biophilic design elements, access to natural daylight, tenant fitness centers and access to landscaped open space.

Oxford is committed to building on its role as a real estate leader in Boston by bringing its progressive vision to the downtown through the development of the Project.

1.2 Site Context and Existing Conditions

The site consists of approximately 0.64 acres of developed land located at 125 Lincoln Street in the Leather District of Boston (the "Project Site"). Refer to Figure 1.1 for the site locus map and Figure 1.2 for site context. The Project Site is currently occupied by an approximately 115,625 square foot, 5-story parking garage, with office uses located on the upper floors and ground-floor retail. The existing structure was constructed in 1955, then substantially renovated in 1997. Refer to Figure 1.3 for existing site conditions, Figure 1.4 for the site ownership plan, and Figure 1.5a-d for photographs of the existing site. Details on site control and property ownership are described in greater detail in Section 1.9 below.

The Project Site is bounded by Tufts Street to the north and west, Beach Street to the south, and Lincoln Street to the east. The location is at the intersection of several important neighborhoods of the City, including the Leather District, Chinatown, Downtown Crossing, and the Downtown Financial District. It is located in close proximity to several Massachusetts Bay Transportation Authority ("MBTA") stations, including South Station, which features access to Red Line, Silver Line, commuter and

passenger rails, Amtrak, and regional and local bus service. The Project Site is also less than half a mile from each of (i) the Downtown Crossing MBTA Station, with access to Red Line and Orange Line service, (ii) Park Street Station, with access to Red Line and Green Line service, (iii) Boylston Street Station with access to Green Line service, and (iv) Chinatown Station with access to Orange Line service.

Centrally located in Downtown Boston, the Project Site is a short walk from South Station, Chinatown, and Downtown Crossing, and is located within a ten-minute walk to the Boston Common and the Boston Convention and Exposition Center. Adjacent to the end of the Greenway, Boston's Fort Point and Seaport neighborhoods are also within a short walk from the Project Site. It is also within walking distance of a number of Boston's cultural destinations, including the Theater District, Institute of Contemporary Art and Boston's Children's Museum.

In addition to these local connections, the Project has immediate access to regional connectors I-90 and I-93 and is a short ride away from Logan International Airport by vehicle or public transportation.

1.3 Project Description

The Project consists of a new, approximately 625,000 square foot office building with retail and publicly accessible ground floor uses. Adjacent to the I-93 on-ramp at Lincoln Street and the Greenway, the Project intends to replace an existing building with a new building that will activate and invigorate the urban environment around it. The Project includes the following key components:

- The redesign of approximately 7,500 square feet of existing open space at the corner of Lincoln Street and the Greenway, adjacent to the new publicly accessible indoor space. This enhanced public realm will include landscaping designed to accommodate a wide range of programming, streetscape improvements, and improved connections to the Greenway. The design will be developed in close coordination with the City and Rose Fitzgerald Kennedy Greenway Conservancy (then "Greenway Conservancy").
- Creation of a publicly accessible indoor space of approximately 7,000 square feet that includes gathering and retail spaces. In conjunction with the adjacent publicly accessible outdoor space, the Project will deliver an all-season indoor/outdoor space available for public gathering and community functions and events.
- Creation of approximately 4,100 square feet of retail space along Beach Street and Lincoln Street, complementing the existing retail character within the Leather District.
- Parking capacity for up to 275 vehicles located in up to five levels below grade.

Refer to Figure 1.6 for the Project site plan and Figure 1.7 for a rendering of the Project. The proposed development program is provided in Table 1-1 below:

Table 1-1 Proposed Development Program

Use/Element	Dimensions/Quantity[1]
Publicly Accessible Indoor Space	7,000 sf
Retail	4,100 sf
Lobby	6,000 sf
Office	594,500 sf
Office Amenity	13,400 sf
Parking Capacity	Up to 275
Total:	**625,000 SF**

1 All areas provided as Gross Floor Area ("GFA") exclusive of below grade structured parking, as defined in the Code
sf = square feet

1.3.1 Project Design Approach

The Project's location at the juncture of the Leather District, Financial District and Chinatown is emblematic of Boston's emerging character as a city of complementary neighborhoods. On the City's skyline, the Project's architecture and massing will reflect its unique location, adjacent to the Greenway and in close proximity to the Radian and will create a new gateway for those arriving and leaving the City at its southern end. At street level, the Project's progressive signature will be evident and pedestrians will recognize it as having strong roots in and compatibility with its neighborhood. A mix of glass and masonry at the lower podium-level of the Project will reflect the character and tactility of the Leather District, which will be further underscored by active public programming. The Building's base will be both transparent and porous, encouraging a unique and dynamic interaction between the City and the Project.

1.3.2 Public Realm Improvements and Open Space

The Project proposes to replace and improve the triangular open space adjacent to the Project Site on its northern side, including the dead-end spur of Tufts Street. In addition, the Project Team will work with the City and Greenway Conservancy to improve the sidewalks along Beach and Lincoln Streets. The 7,500 square foot publicly accessible open space currently designed as part of the Project is expected to expand and support the Greenway and connect to the publicly accessible indoor space through oversized transparent doors, creating a unique urban condition to inspire year-round public activity and serve residents and office workers within the Leather District, Chinatown, and other nearby areas. Interior and exterior space has been conceived to work together in terms of design character, programming, and sight lines. Retail will help activate the space in the mornings, at lunchtime, and in the evenings.

1.3.3 Parking and Bicycle Provisions

In support of the City's goal of reducing single occupancy vehicle trips, the Project will include limited parking with capacity for up to 275 vehicles beneath the Building. Five percent (5%) of the total parking spaces will be designated as Low Emission, Fuel-Efficient ("LEFE") vehicle parking spaces and a minimum of two percent of the total parking capacity to be equipped with EV charging stations. The garage will be accessible by traveling westerly on Beach Street. As discussed more fully in Chapter 4, *Transportation*, it is expected that most occupants will utilize public transit, walk and bike. Consistent with the City's goals, the Project will provide secure bicycle storage to encourage cycling as a healthy and environmentally-friendly means to commute. Secure indoor bicycle spaces will be available for employees upon project completion, with the ability to expand the number of spaces to meet future demand. In addition, on-site shower and locker facilities, and bicycle maintenance services, will be provided for bicyclists at the Project. In addition to the indoor spaces, publicly-accessible bicycle parking spaces will be located at-grade adjacent to the Building.

1.4 Summary of Public Benefits

The Project will provide substantial public benefits for the surrounding neighborhoods and the City of Boston, and will include, but not be limited to, the following:

1.4.1 Urban Design

- **Enhancement of the Property –**
  - The Project will transform a underutilized building at the end of its functional life into a vibrant and sustainable office space with active ground floor public uses, including retail space, restaurant space, a publicly accessible indoor space, and a community gathering space with supporting retail options and indoor/outdoor connectivity.
  - Development of a signature architectural form that contributes to the City's skyline.
  - The Proponent intends to work with the City and the Greenway to redesign and renovate approximately 7,500 square feet of publicly accessible open space at the corner of Lincoln Street and the Greenway to expand the useable open space and create a unique office and neighborhood amenity.
- **Improved Street and Pedestrian Environment –**
  - The Project will enhance the pedestrian realm around the Project Site by improving pedestrian safety between the Leather District and Chinatown.
  - The Project will improve publicly accessible space and expanded sidewalks.

1.4.2 Sustainability/Green Building and Climate Change Resiliency

- **Area Revitalization –**
  - The Project will revitalize and reuse a previously developed, underutilized urban site.
- **LEEDv4 Gold Certifiable –**
  - The Building will demonstrate compliance using the LEEDv4 New Construction rating system at a minimum of a LEEDv4 Gold level.
  - In addition to providing other environmental benefits, the Project will incorporate a variety of sustainable design strategies that will improve water quality and reduce the urban heat island effect.
- **Stormwater Management –**
  - The Project will incorporate on-site stormwater management and treatment systems that are expected to improve water quality, reduce runoff volume, and control peak rates of runoff in comparison to existing conditions.
  - The Project Team is actively studying possible uses for collected and stored site rainwater, including irrigation demand for the publicly accessible indoor space and open space adjacent to the Building, and for cooling tower make-up water.
  - The Proponent will comply with the BWSC Inflow and Infiltration fund requirements to mitigate for new wastewater flow generated by the Project, which will be available for combined sewer separation projects in the City.
- **Environmental/Resource Conservation** –
  - The Project will maximize the conservation of energy and water and minimize impacts to regional infrastructure and water resources by utilizing sustainable design strategies and exceeding the minimum building energy code requirements.
  - The Project intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.
- **Climate Resilience** –
  - Mobile source CO_2 emissions created by the Project are projected to be reduced by 15.5 percent or 494 tons per year with the implementation of the proposed Transportation Demand Management ("TDM") program and roadway improvements.
  - The Project will propose adaptive planning measures that reduce vulnerability to rising sea levels and changes in intensity and frequency of storms.
  - Design of the Project will consider future sea level rise scenarios over the lifetime of the Project and propose deployable structures to make the Project resilient to future extreme storm events.

1.4.3 Transportation

- **Roadway**
  - Improvements to Beach Street will include substantial widening of sidewalks and other improvements to enhance the pedestrian environment. The changes will be designed in collaboration with BPDA, Boston Transportation Department and the community to prioritize the pedestrian experience rather than the relatively low vehicle volumes. Specifically, the Project curb-cut will be designed to emphasize pedestrian flow along Beach Street with a continuous grade along the sidewalk, special materials and signage for drivers and pedestrians.
  - The elimination of the existing garage egress via Tufts Street to Lincoln Street will eliminate the need for south- and west-bound vehicles exiting the garage to cut through the Leather District. Project trips will be able to access I-93 southbound, I-90 westbound, Kneeland Street westbound and the Back Bay, South End and Chinatown neighborhoods, without unnecessarily cutting through the Leather District via Tufts Street and South Street which they must do with the existing exit on Tufts Street.
  - Traffic signal phasing and timing changes and/or striping and signage improvements are proposed to mitigate Project impacts at four locations, as well as significant pedestrian improvements on Beach Street and Lincoln Street.
  - In collaboration with BTD and the community the Proponent will perform an evaluation of the potential for the improvement of the north-south pedestrian accommodations at the Lincoln Street/Essex Street/Surface Street intersection
- **Transit –**
  - The Project enjoys an excellent transit-oriented location close to the heart of downtown Boston which will minimize the generation of auto trips by the Project.
- **Transportation Demand Management** –
  - The Project will incorporate bicycle accommodations in compliance with the Boston Transportation Department's guidelines to encourage bicycling, as well as walking, as alternative transportation modes.
  - The Project will implement a robust program of TDM strategies to take full advantage of nearby public transportation options.
  - The Proponent will provide funding to supplement existing Bluebike facilities in the area.

1.4.4 Social and Economic Benefits

- **Greenway Business Improvement District** –
  - The Project will participate in the Greenway Business Improvement District.

- **Enhanced Economic Vitality** –
  - The Project will strengthen economic vitality in the Leather District/Chinatown neighborhood by replacing a deteriorated commercial asset with an active office building with ground floor retail and public gathering spaces.
  - The Project will provide new office space that fits the future demands of leading employers, adding to the existing appeal of Boston as a world class city and an innovation hub that attracts the world's top talent.
- **New Job Creation** –
  - The Project will enhance economic opportunities in Downtown Boston by providing new job opportunities and a source of customers for local retail and restaurant establishments.
  - The Project is expected to provide leasable space for or otherwise directly create approximately 3,000 permanent jobs.
  - The Project is expected to create approximately 375 construction jobs in a variety of trades.
- **Linkage Payments -**
  - Based on its current working design, the Project is anticipated to contribute approximately $4.6 million in housing linkage payments and $900,000 in jobs linkage payments in accordance with the terms and provisions of Section 80B-7 of the Code.

1.5 Regulatory Context

This section lists the anticipated permits and approvals, as well as the local planning and regulatory controls applicable to the Project.

1.5.1 Local Zoning and Regulatory Controls

The Project Site is located in: (i) the Leather District, which is governed principally by Article 44 of the Code, (ii) a Restricted Parking Overlay District, (iii) the Groundwater Conservation Overlay District, which is governed principally by Article 32 of the Code, and (iv) the Greenway Overlay District, which is governed principally by Article 49A of the Code. The Proponent anticipates that the Project will require zoning relief from the Zoning Board of Appeals.

Table 1-2 below presents a preliminary list of governmental reviews and approvals that the Project may need to undergo or obtain, depending on its final design. As the design of the Project evolves, it may be determined that certain reviews and approvals listed below do not to the Project, or that certain additional reviews and approvals not listed below will apply to the Project.

Table 1-2 Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action
Federal	
Federal Aviation Administration	Determinations of no hazard to air navigation (building and cranes),
Environmental Protection Agency	Remediation General Permit (if required)
	Dewatering General Permit (if required)
Commonwealth of Massachusetts	
Massachusetts Historical Commission	Determination of No Adverse Effect
Massachusetts Department of Environmental Protection	Construction and Demolition Notices
	Source Registration for Emergency Generator
	Asbestos Notices (if required)
	RAM Plan and Completion Certificate (if required)
	Boiler and Emergency Generator Emissions Approval
	Air Plan approval
Massachusetts Water Resources Authority	Construction Dewatering Permit
Massachusetts Department of Transportation	Access Permit
	Possible land transfer or easement
Architectural Access Board	Regulation Variances (M.G.L. c.22, §13A; 521 CMR 3.00 *et. seq.*)
State Building Code Appeals Board	Variances from State Building Code
City of Boston	
Boston Planning & Development Agency	Article 80B Large Project Review (including execution of required agreements and submittal of required disclosures)
	Certificates of Compliance
Boston Zoning Board of Appeal	Conditional Use Permit for Groundwater Conservation Overlay District
	Conditional Use Permit and Variances for certain bulk, dimensional, design, and use requirements
Boston Landmarks Commission	Article 85 (Demolition Delay)
Boston Interagency Green Building Committee	Article 37 Green Building Compliance
Boston Civic Design Commission	Design Review approval
Boston Parks and Recreation Commission	Approval of Demolition and Construction within 100 feet of Park or Parkway
Public Improvement Commission	Discontinuances of public ways and/or licenses for earth retention systems/installations, groundwater observation wells, canopy overhangs, street occupancy, and/or street and sidewalk improvements, as necessary

Table 1-2 Anticipated Project Permits and Approvals (Continued)

Agency/Department	Permit/Approval/Action
City of Boston (cont'd.)	
Boston Water & Sewer Commission	Site Plan Approval
	Construction Dewatering approvals
	Sewer Cross-Connection and/or Extension Permits
Boston Transportation Department	Transportation Access Plan Agreement
	Construction Management Plan
Committee on Licenses, Public Safety Commission	Permit to Erect Parking Garage
	License for Storage of Flammables
Inspectional Services Department	Building Permit
	Demolition Permit
	Foundation Permit
	Certificate of Occupancy
Air Pollution Control Commission	Parking Freeze Permit/Exemption
Boston Fire Department	Fuel Storage Permit
	Equipment and Access Permit

* This is a preliminary list of local, state and federal permits and approvals that may be sought for the Project. This list is based on current information about the Project and is subject to change as the design of the Project evolves.

1.6 Agency Coordination and Community Outreach

The Proponent has conducted early community outreach by meeting with project abutters, tenants, local elected officials and civic leaders. Prior to filing a Letter of Intent with the Boston Redevelopment Authority d/b/a Boston Planning & Development Agency (the "BPDA"), the Proponent conducted community outreach that included meetings with City Councilor Ed Flynn, City Councilor Michelle Wu, Representative Aaron Michlewitz, Senator Joe Boncore, the Mayor's Office of Neighborhood Services, existing businesses presently operated at the Project Site, and other neighborhood leaders. Further outreach efforts, including public meetings and discussions with the community, will be conducted as part of the Article 80 review process.

1.7 Project Proponent/Development Team

The following lists the key members of the development team for the Project (the "Project Team"):

Proponent	125 Lincoln Street Owner (DE) LLC c/o Oxford Properties Group 125 Summer Street, Suite 1230 Boston, MA 02110 Dean Shapiro dshapiro@oxfordproperties.com Mark McGowan mmcgowan@oxfordproperties.com
Legal Counsel	DLA Piper LLP (US) 33 Arch Street, 26th Floor Boston, MA 02110 John Rattigan john.rattigan@dlapiper.com Brian Awe brian.awe@dlapiper.com
Urban Planning Advisor	Utile 115 Kingston Street Boston, MA 02111 Tim Love love@utildesign.com
Public Relations	The Strategy Group 40 Court Street, 11th Floor Boston, MA 02108 Susan Tracy stracy@strategygroupinc.com Dave Newman dnewman@strategygroupinc.com
Project Architect	Gensler One Beacon Street, Suite 300 Boston MA 02108 Doug Gensler douglas_gensler@gensler.com Todd Dundon todd_dundon@gensler.com Jonathan Ginnis jonathan_ginnis@gensler.com

Landscape Architecture	Landworks Studio 121 Loring Avenue, Suite 810 Salem, MA 01970 Michael J. Blier mblier@landworks-studio.com Cissy Yang cyang@landworks-studio.com
Permitting Consultant	VHB 99 High Street, 10th Floor Boston, MA 02110 Elizabeth Grob egrob@vhb.com Seth Lattrell slattrell@vhb.com
Site/Civil Engineer	VHB 99 High Street, 10th Floor Boston, MA 02110 Mark Junghans mjunghans@vhb.com Will Nichols wnichols@vhb.com
Transportation Consultant	VHB 99 High Street, 10th Floor Boston, MA 02110 David Black dblack@vhb.com Adriana Santiago asantiago@vhb.com
Mechanical/Electrical/Plumbing	Cosentini 101 Federal Street, Suite 600 Boston, MA 02110 Vladimir Yarmarkovich vyarmarkovich@cosentini.com Robert Leber rleber@cosentini.com

Cultural Resources	VHB 101 Walnut Street Watertown, MA 02472 Nicole Benjamin-Ma nbenjamin-ma@vhb.com
Sustainability	The Green Engineer 23 Bradford Street, 1st Floor Concord, MA 01742 Sarah Michelman sarah@greenengineer.com
Geotechnical Engineer	Haley & Aldrich 465 Medford Street, Suite 2200 Boston, MA 02129 Rebecca B. Higgins rhiggins@haleyaldrich.com

1.8 Legal Information

1.8.1 Legal Judgements or Actions Pending Concerning the Project

To the Proponent's knowledge, there are no legal judgements or actions pending concerning the Project.

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

There are no known tax arrears on property in Boston owned by the Proponent.

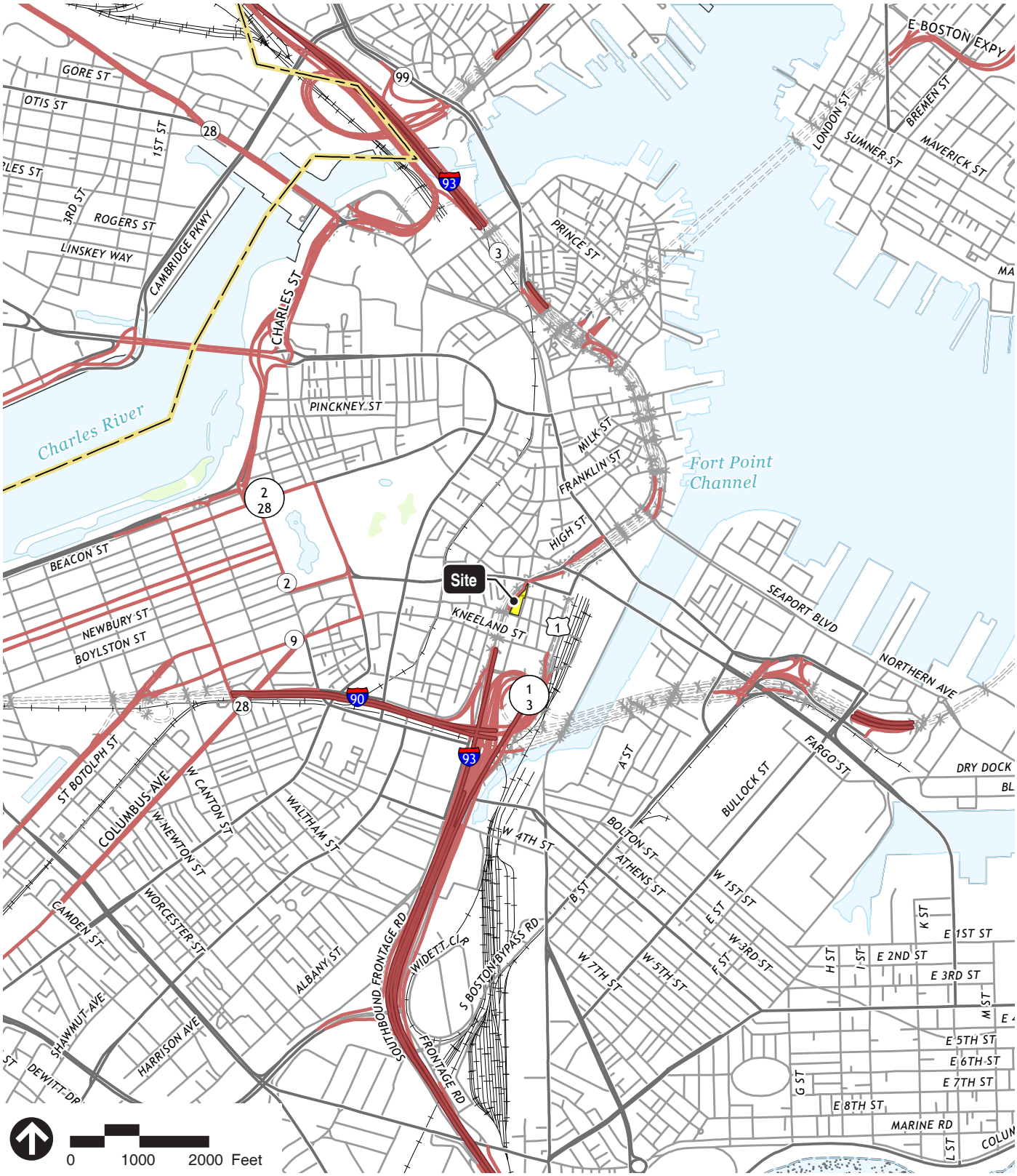
1.8.3 Evidence of Site Control

The Proponent owns fee title to 109-153 Lincoln Street, the portion of the Project Site upon and within which the majority of the Building will be located. In addition, as currently designed, the Building includes a small, approximately 1,900 square foot above-grade extension into air space currently owned by the Massachusetts Department of Transportation along the westerly side of the Project Site. The Proponent is in discussions with Massachusetts Department of Transportation to potentially acquire appropriate rights within such air space. In the event the Proponent is not able to acquire the necessary rights the Project may proceed without that small addition.

The Project also proposes to redevelop and upgrade (i) a street owned by the City of Boston that solely serves the Project Site and (ii) a small unused parcel of land owned by the Massachusetts Department of Transportation, together totaling approximately 7,500 square feet, as the enhanced publicly accessible open space described above. The Proponent anticipates designing, reconstructing, and improving such portions of the Project Site pursuant to easements, licenses, or other appropriate rights granted by the Massachusetts Department of Transportation and the City of Boston, as applicable. The proposed Project building will be unaffected in the event the Proponent is not able to acquire the necessary rights.

1.8.4 Public Easements

A public right of way that solely serves the Project Site is located adjacent to the Building. The Proponent proposes to discontinue the public right of way and, as described above, redevelop this area as publicly accessible open space adjacent to the Building. The Massachusetts Department of Transportation also has certain rights with respect to the Project Site established in connection with the adjacent Central Artery/Tunnel Project.

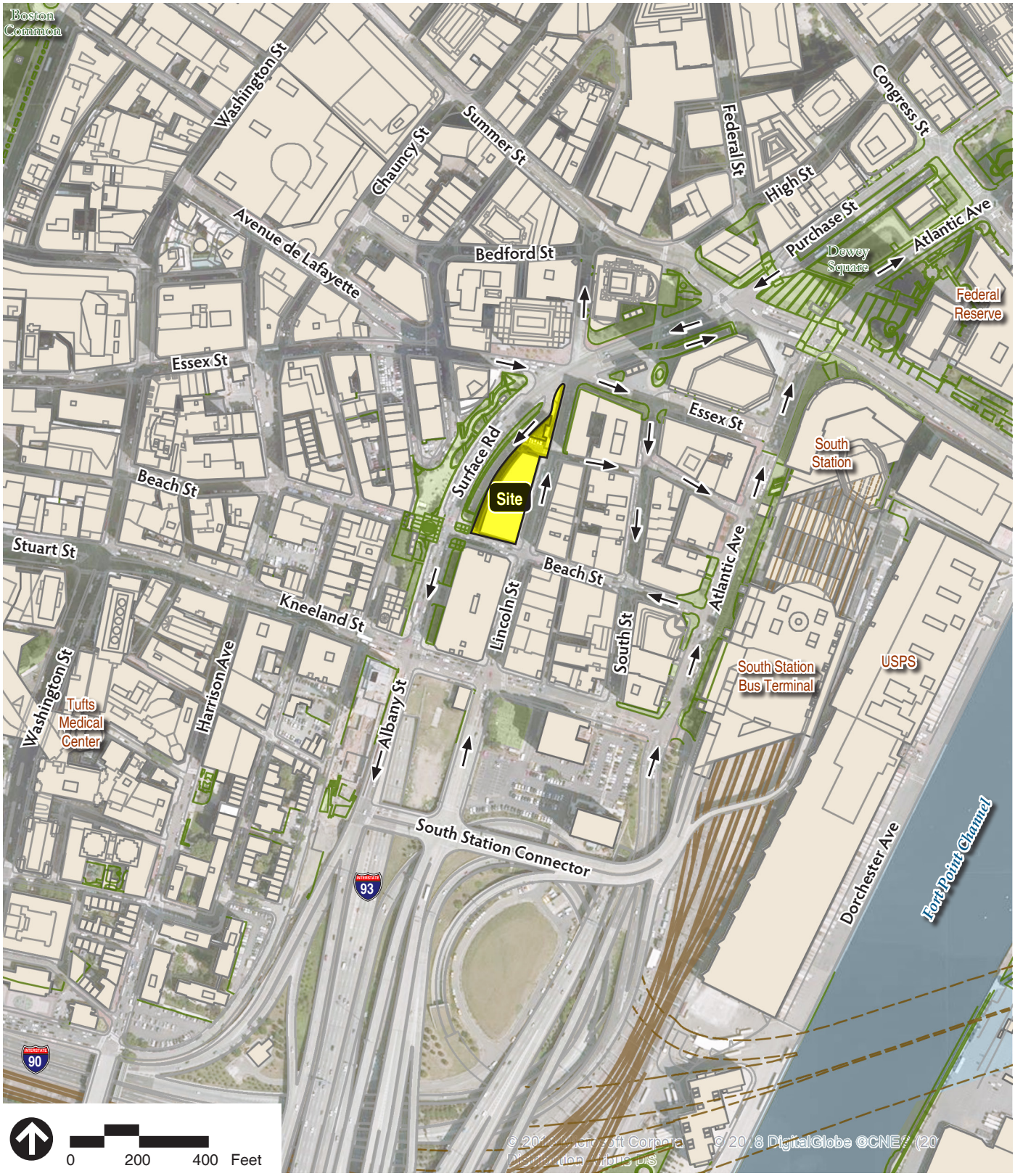


Source: USGS US Topo Boston, South

Figure 1.1

USGS Locus Map

Boston, Massachusetts



Source: City of Boston, MassGIS

Figure 1.2

Project Site Context

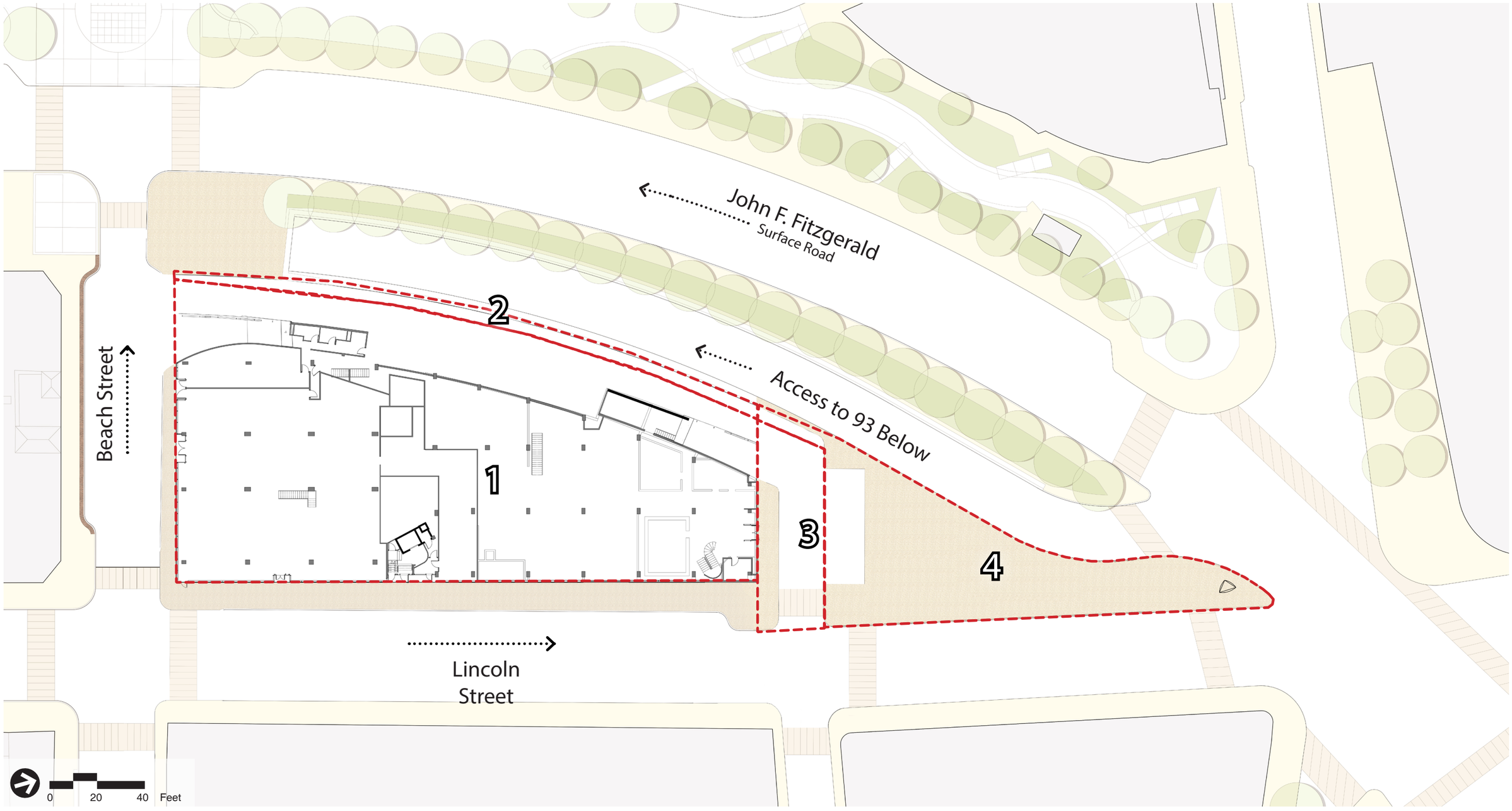
Boston, Massachusetts

Source: Bing Aerial

Figure 1.3

Existing Conditions Site Plan

Boston, Massachusetts



1. **125 Lincoln Street:** Oxford Properties
2. **Surface Artery plot:** MassDOT
3. **Tufts Street extension:** Public/City
4. **Open Space:** Public/MassDOT (managed by Greenway)

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Figure 1.4
Existing Conditions SIte Plan & Ownership

125 Lincoln
Boston, Massachusetts

Beach St. and Lincoln St. Intersection

Surface Rd looking North

Gensler

Figure 1.5a

Existing Conditions

Boston, Massachusetts

Lincoln St. Looking West

Beach St. Looking East

I-92 Ramp Looking South

Gensler

Figure 1.5b

Existing Conditions

Boston, Massachusetts

Lincoln St. Looking South

Tufts St. Looking South

Gensler

Figure 1.5c

Existing Conditions

Boston, Massachusetts

Beach St. Looking North

Tufts St. Looking South

Surface Rd Looking East

Gensler

Figure 1.5d

Existing Conditions

Boston, Massachusetts

Gensler
landworks studio INC

Figure 1.6
Proposed Conditions SIte Plan

125 Lincoln
Boston, Massachusetts

Gensler Figure 1.7

Project Rendering

125 Lincoln
Boston, Massachusetts

2

Urban Design

Introduction

This chapter describes the design approach of the Project, including its public realm improvements. The Project proposes a new office building with certain publicly accessible ground floor uses, an enhanced and enlivened pedestrian environment, and retail offerings aimed to activate this intersection between the Leather District, Chinatown and the Financial District.

2.1 Summary of Key Findings and Benefits

The Project will offer community and public benefits which enhance the surrounding neighborhoods. The removal of the existing building will provide new office space with ground floor publicly accessible uses, along with streetscape improvements to activate the public realm and connect the Leather District, Chinatown, and Financial District. Key findings and benefits associated with the Project include:

- Enhancement of the existing open space into a significant open space that serves the Leather District, Chinatown, and daytime office workers.
- Expansion of the perceived scale of the open space through the redesign of the sidewalks and the dead-end stub of Tufts Street that abuts the Building.
- Expansion of the open space into an all-season publicly accessible indoor space with seasonal outdoor connectivity.
- Expansion of the width of the sidewalk along the northern side of Beach Street, furthering pedestrian-focused improvements around the site.
- The all-season publicly accessible indoor space and outdoor open space will be programmed and designed by the Proponent to complement nearby Chinatown Park and Dewey Square.
- In addition to the all-season publicly accessible indoor space, active edges are planned for the Lincoln Street and Beach Street sidewalks, including the Building lobby and retail that fronts to Building corners.
- The Building massing and articulation of the facades respect and complement the street wall alignments and architectural character of Lincoln and Beach Streets.
- The parking/loading entrance, currently located at the Beach Street/Surface Street corner, has been shifted to the middle of the Beach Street façade, allowing for active uses at both corners of the Building along Beach Street.

2.2 Neighborhood Context

The Project's location at the intersection of Lincoln and Beach Streets within the Leather District neighborhood provides a unique opportunity to complement the neighborhood and embrace its unique architectural character. Historically, the Project Site has been home to a number of uses, but currently supports a parking garage with office and retail space, as described in Chapter 1, *Project Description*. Across from the Chinatown Gate and park, the addition of the Project and expanded public realm will further reinforce this area of the City as a destination within the City while adding more usable, publicly accessible open space to the end of the Greenway.

Architecturally, the Project Site is adjacent to late 19th and early 20th century industrial buildings on Beach and Lincoln Streets which are characterized by masonry design. In contrast, the Project Site provides un-obstructed views to the north and west. Significantly, the Project Site also relates to a series of taller buildings that function as landmarks along both sides of the Greenway. They include (moving from south to north) the Radian, One Lincoln, 125 Summer, One Financial and the Federal Reserve Building.

2.3 Planning Principles and Design Goals

The Building design is intended to be emblematic of the 21st-century workplace. Its location adjacent to the open space network of the Greenway and the historic loft buildings of the Leather District will have a major impact on the ground floor configuration, the publicly accessible uses, and the architectural character.

The Project aims to:

- Be grounded in the Leather District
- Be singular in expression
- Embrace and promote connections

Both the storefront zone and a major horizontal architectural datum on the Lincoln and Beach Street elevations will align with the surrounding buildings. In addition, the Building will have a texture and palette of materials that complements the existing historic district. While embedded within the immediate neighborhood fabric, the Building will be both a gateway and beacon on the skyline. Refer to Figure 2.1 for building massing.

An all-season publicly accessible indoor space is proposed that faces and extends the open space on the north side of the Building where Lincoln Street intersects with the Greenway. The two-story indoor space and outdoor open space will be designed as one contiguous publicly accessible space that will encourage a wide range of programming across the four seasons. Refer to Figures 2.2a-f for Project floor plans.

2.4 Building Design Concept and Development

The massing of the Building proposes an industrial-inspired framework that is derived from the architectural fabric extant within the Leather District. The framework is manipulated on all facades through the introduction of two-story outdoor spaces on each corner as the Building extends to sky, culminating in a setback at the top of the Building to further break down the massing. The Building façade articulation is intended to provide a singular expression of texture and materiality that both reflects its place within the Leather District but also allows for ample daylighting to, and views from, within. The street-level, Leather District facing facades will be delineated by an 80-foot podium to be consistent with the roofline of many existing buildings throughout the neighborhood. At the street, the Building will be characterized by high degrees of transparency and physical connectivity with the public realm, layered with texture and materiality that is complimentary to its context.

2.4.1 Height and Massing

The Building's height will be set at 340 feet,[1] consistent with other buildings along the Rose Kennedy Greenway and within the adjacent Financial District. The upper floors of the Building will sit on an 80-foot podium that matches the scale of adjacent buildings in the Leather District. The 24-story Building will be composed of a six-story base with 18-stories above, which is intended to reflect its cross roads location. As discussed in Chapter 5, *Environmental Protection,* the building height has been carefully studied to confirm that the Project complies with state and local laws relative to shadow generation on the Boston Common, Boston Public Garden and Chinatown parks. The Building will have multiple outdoor spaces (patios, balconies, etc.) on all corners to break down the massing and will be set back at level 24, providing outdoor spaces for tenants and an articulated form as the Building meets the sky. Refer to Figures 2.3a-b for building elevations and Figure 2.4 for building sections.

2.4.2 Character and Exterior Materials

The design of the Building expresses modern, sustainable, and forward-thinking aspirations and goals of the 21st century work place, while being grounded in and by the 19th century character of the surrounding neighborhood. As a result, the Building will be comprised of a state of the art, high performance curtain wall, providing optimum views and daylight for its occupants while exceeding energy codes and sustainability/wellness benchmarks. The articulation of the Building's facade reflects the character of a building located at the crossroads of three established neighborhoods. The Building will be further enriched by a material palette informed by the fabric of its surroundings. Opaque portions of the facades will celebrate the colors of blackened steel, brick, terracotta, and wood. Finally, the base of the Building is intended to celebrate the Leather District and be firmly

1 Building height, as defined by the Code, is measured to the top of the last of occupied floor

rooted in the spirit of the late 19th century neighborhood. The base will be informed by technology, values and program, yet undeniably part of its surroundings. Building view perspectives are provided in Figures 2.5a-e.

2.4.3 Signage

The Building will have a rich variety of signs at street level, identifying ground floor uses and, potentially, anchor office tenants. In addition, wayfinding signs will help the public navigate past and through the ground floor spaces, including the all-season publicly accessible indoor space, connected retail spaces, and lobby. Signage typologies will include blade signs, a sign band and through-glass advertising. Building signage at the top of the Building may announce an anchor tenant. It will be integrated into the architectural expression and be thoughtfully considered relative to primary site lines and the overall design of the skyline. The details of the signage will ultimately be informed by the city approval process and the potential of an anchor tenant.

2.5 Open Space/Landscape Approach

This Project presents a unique opportunity to create a world-class four-season publicly accessible indoor experience which defines approximately 7,000 square feet of the ground floor, linking Beech Street on the south end of the block to a proposed adjacent, approximately 7,500 square foot publicly accessible open space on the north side of the Building. Interior and exterior space has been conceived to work together in terms of design character, programming, and sight lines. Retail will help activate the space in the mornings, at lunchtime, and in the evenings. The space has been designed with three specific constituencies in mind: Leather District residents, residents of and visitors to Chinatown, and the residents and office workers who populate the upper floors of the buildings of Chinatown and the Leather District, including the tenants of the Project. Precise programming of the proposed publicly accessible open spaces will emerge from a dialogue with the area stakeholders defined above.

The landscape strategy acknowledges the nearby open spaces along the Greenway, including Chinatown Park and Dewey Square, as well as the plazas adjacent to 100 and 125 Summer Street. It was determined that this collection of urban publicly accessible spaces, mostly hardscapes with some canopy trees, would be best complemented by a more verdant space; a simple, active urban oasis. The planting palette would be developed to provide four-season interest, color, texture, habit and ecological opportunities. The planting zones would frame areas for active and flexible programming opportunities at both the center of the space as well as along the length of Lincoln Street.

Other design considerations include the provision of a range of gathering options for various groups, large and small. The strategy of using flexible seating, with a balance of seat walls and moveable chairs will allow multiple groups to

simultaneously occupy the publicly accessible open space, particularly during lunchtime. This publicly accessible space is anticipated to remain active across all seasons because it presents a flexible range of indoor, protected, and physically and visually active outdoor spaces.

Given the challenging location of the existing space, sandwiched between the I-93 ramp and Lincoln Street, carefully calibrated responses to lighting, acoustics related to I-93, and varying levels of enclosure to frame connections to the surrounding urban fabric will coalesce into a cohesive, memorable, yet fully accessible space. Lighting will play an especially important role in the winter, when the exterior urban realm will become an important scene from inside the publicly accessible all-season indoor space. During all seasons and weather conditions, views from the inside-out and outside-in will invite people to explore the space.

More generally, the proposed publicly accessible open space will serve as a new jewel along the Greenway. As the details are worked out, including the specification of plant material and furniture, the Greenway staff will be consulted, given their extensive on-the-ground experience and the Project Team's goal to make the publicly accessible open space part of the comprehensive Greenway experience.

2.5.1 Pedestrian/Bike Access and Circulation

The open space has also been conceived as part of a larger set of choreographed pedestrian sequences. Key approaches include a walk south from the busy Essex Street intersection, a walk north along Lincoln Street from Beach Street, and an important itinerary from South Street and South Station, walking along narrow Tufts Street, or west on Beach Street. The role of the publicly accessible space as the culmination of the sequence from the Atlantic Avenue entrance of South Station, to East Street, and then Tufts Street has a specific impact on the qualities of the boundary between indoors and outdoors.

The Project will be primarily accessed via foot from transit access points at South Station, numerous bus lines that stop on Lincoln Street, and the downtown neighborhoods within walking distance including the Leather District, Financial District and Chinatown. There will be approaches from Lincoln, Summer, Tyler and Beach Streets with entries to the Building both at the north and center of the Lincoln Street block.

Dedicated and secure bike parking will be provided to tenants on the ground floor and P1 parking level (first level below grade.) Tenants will have access to locker rooms and showers located on an amenity level within the Building. On-site short-term bike parking for visitors will also be provided.

2.5.2 Accessibility

Refer to Appendix A for a draft Accessibility Checklist for the Project.

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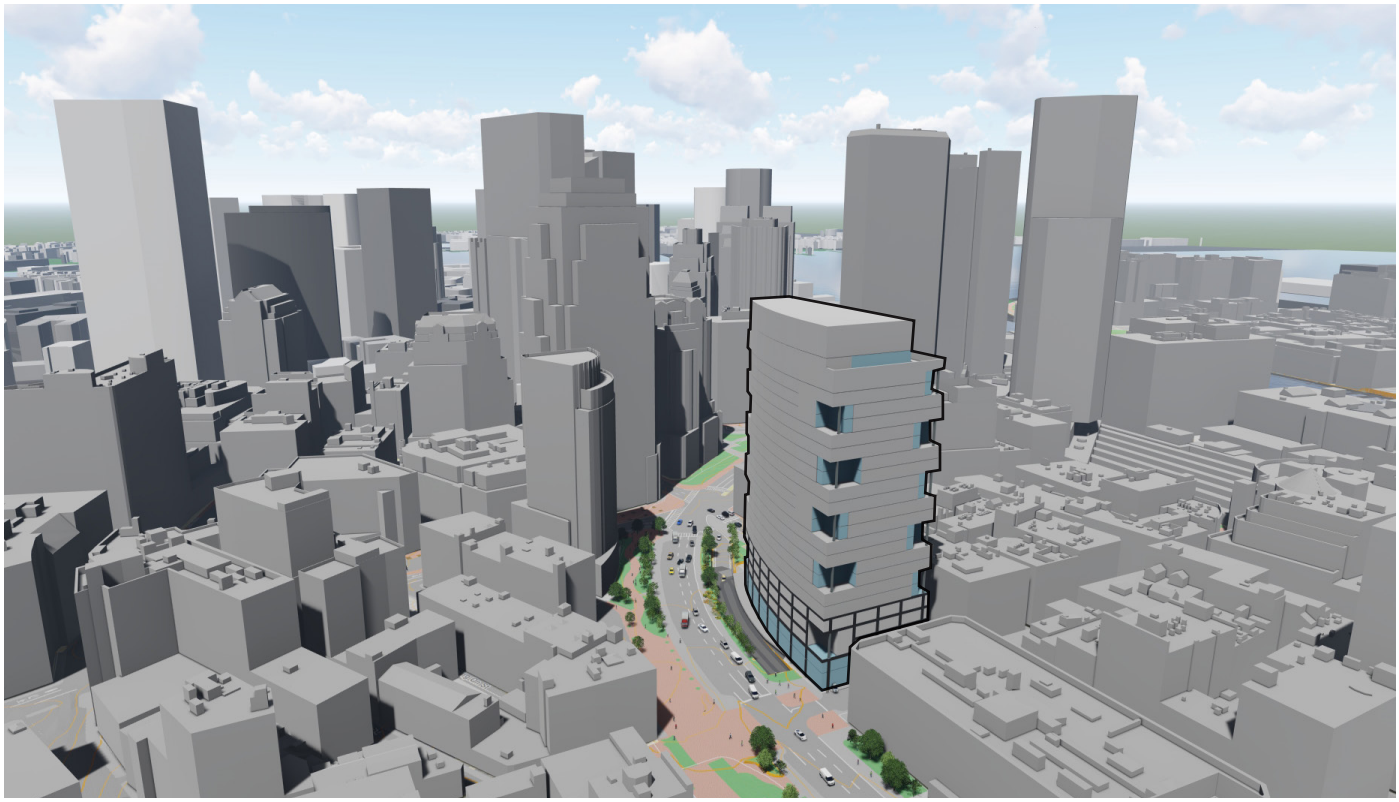

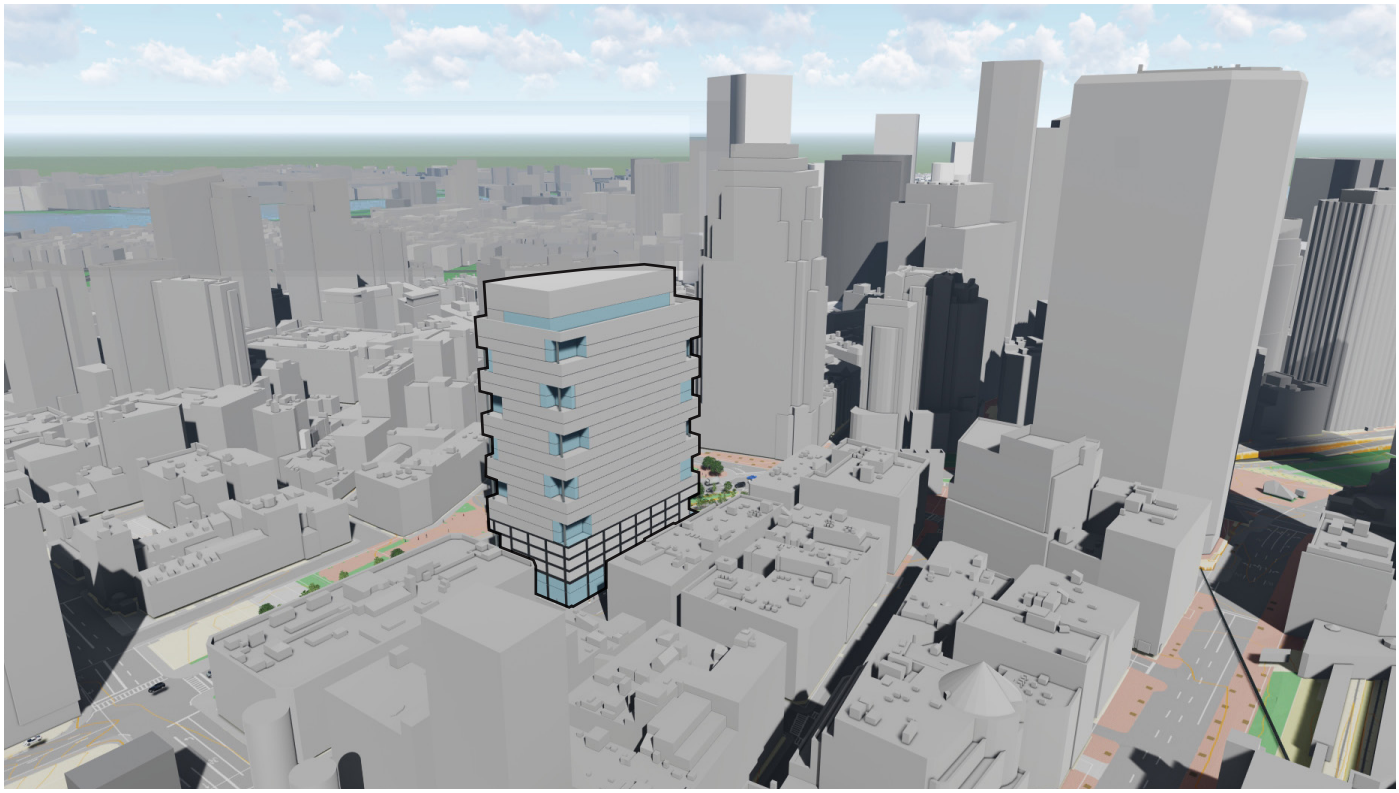

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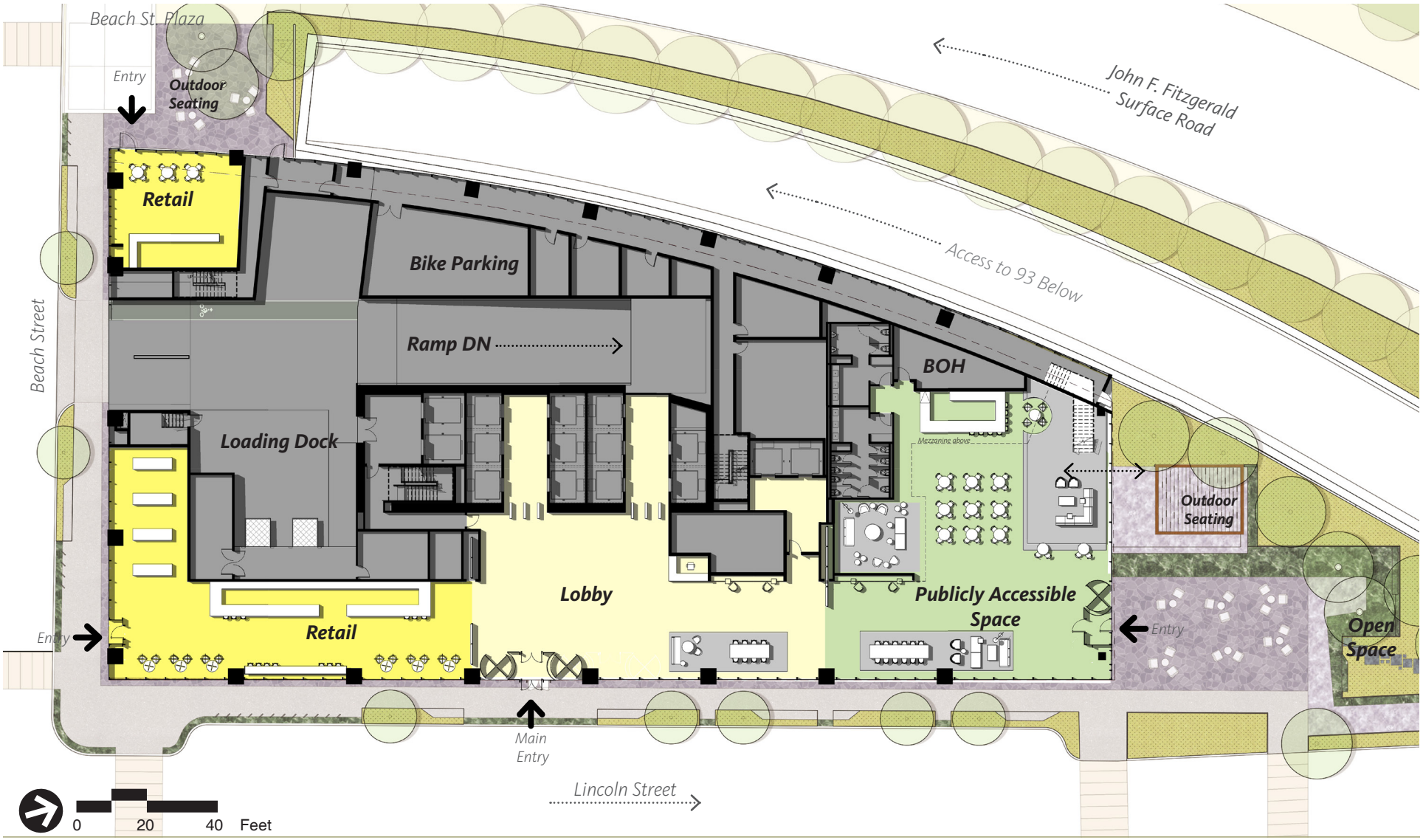
Figure 2.1

Building Massing

125 Lincoln
Boston, Massachusetts



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landworks studio INC.

Figure 2.2a
Level 01 Plan

125 Lincoln
Boston, Massachusetts

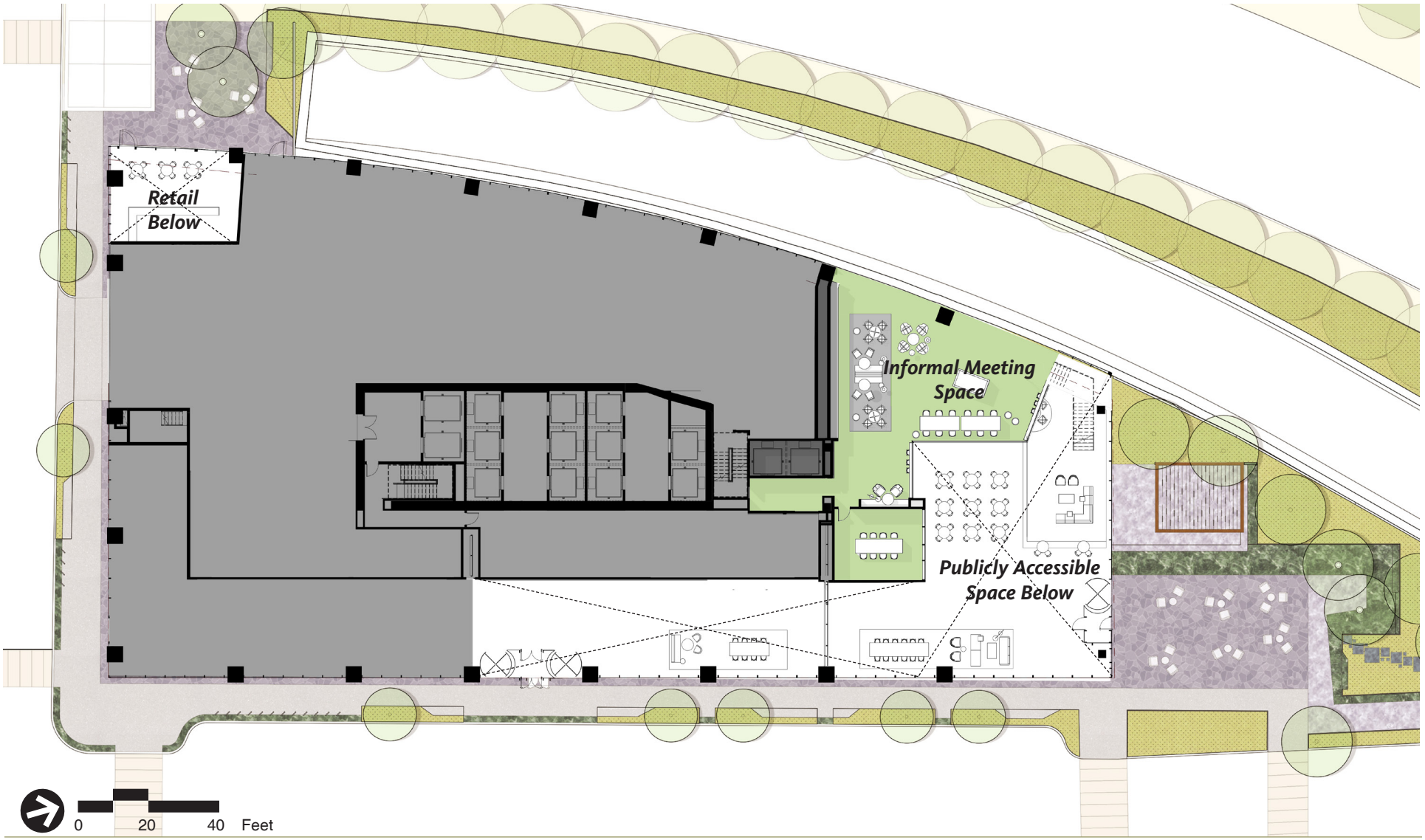

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Figure 2.2b
Mezzanine Plan

125 Lincoln
Boston, Massachusetts

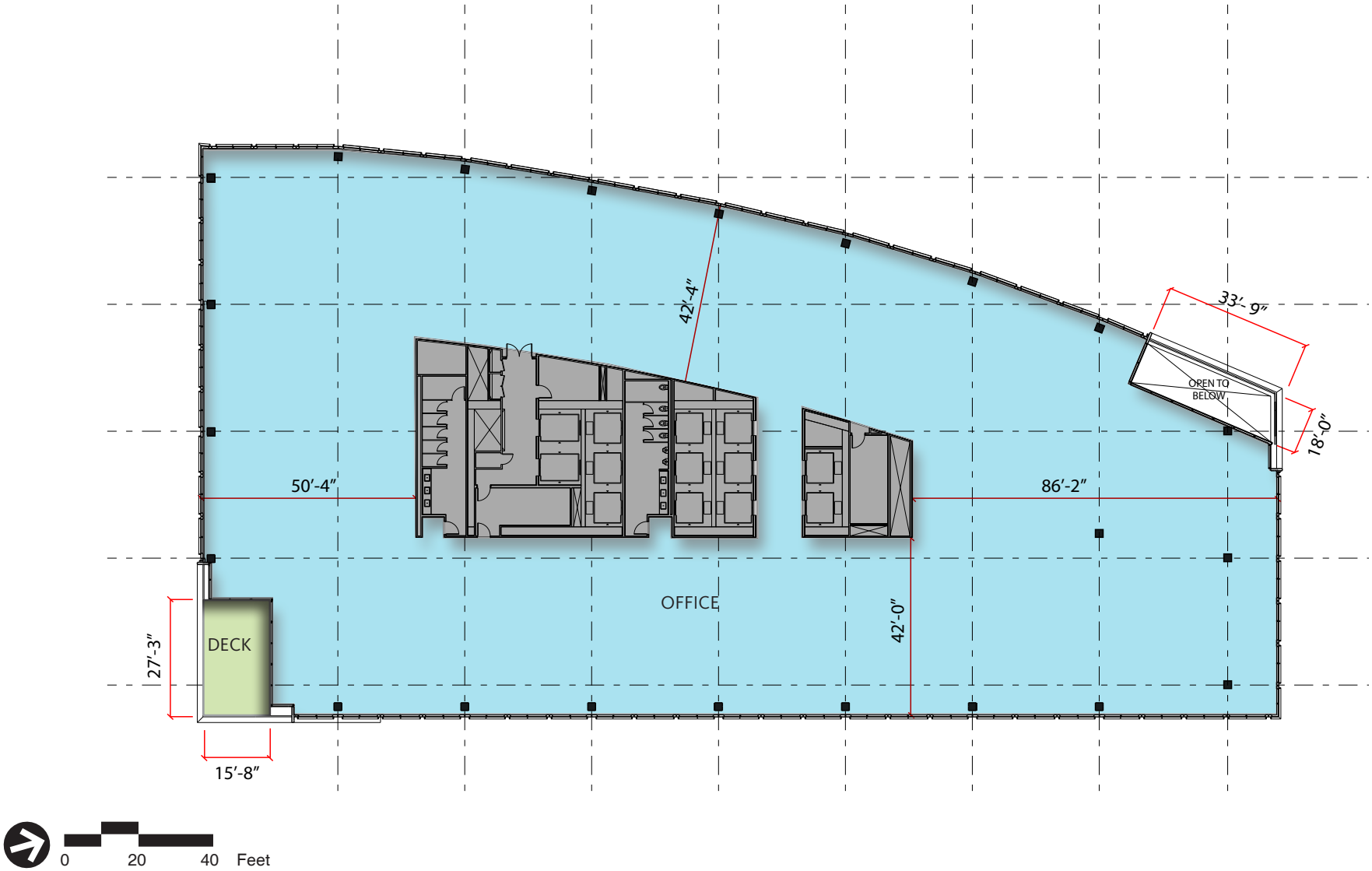

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Figure 2.2c

Typical Low Rise Plan

125 Lincoln
Boston, Massachusetts

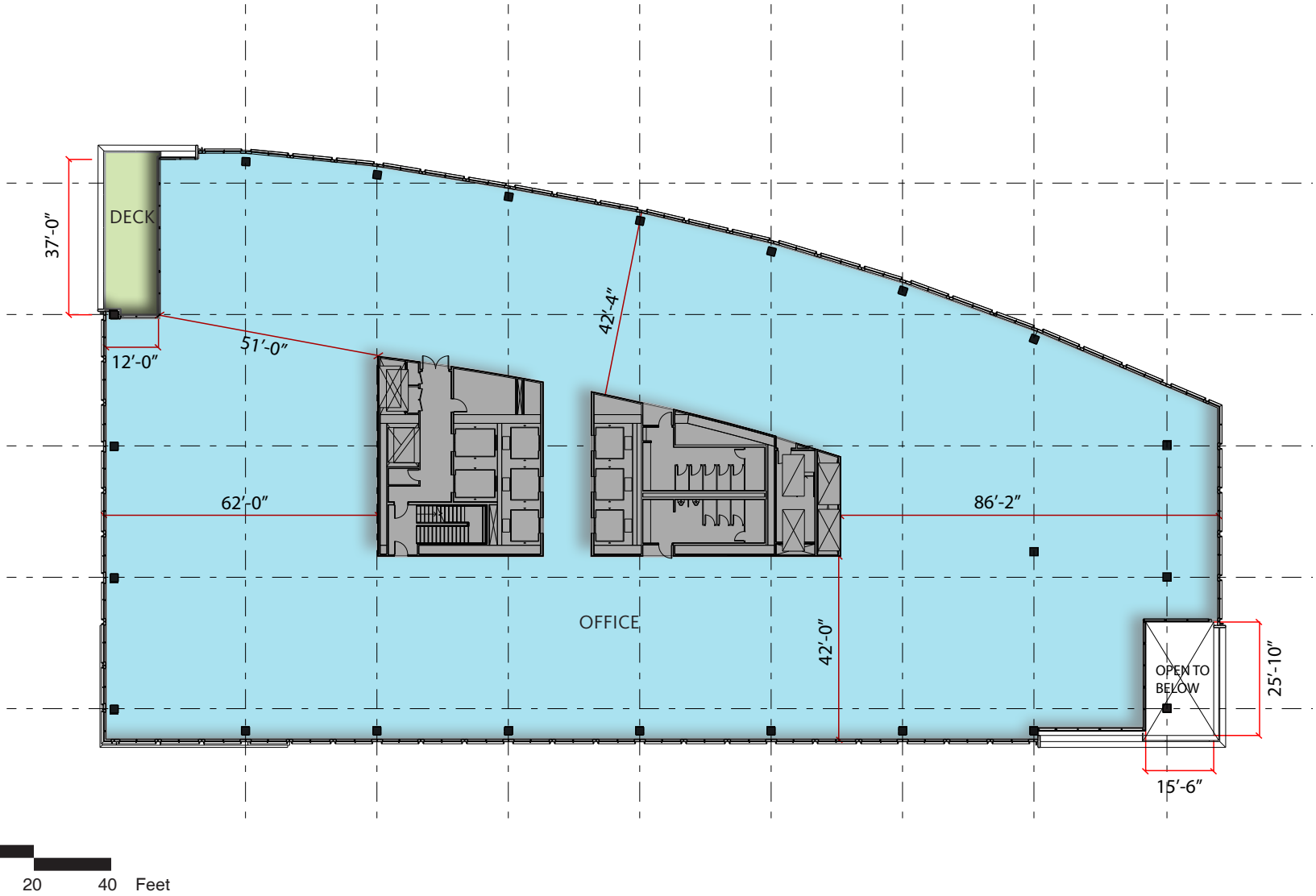

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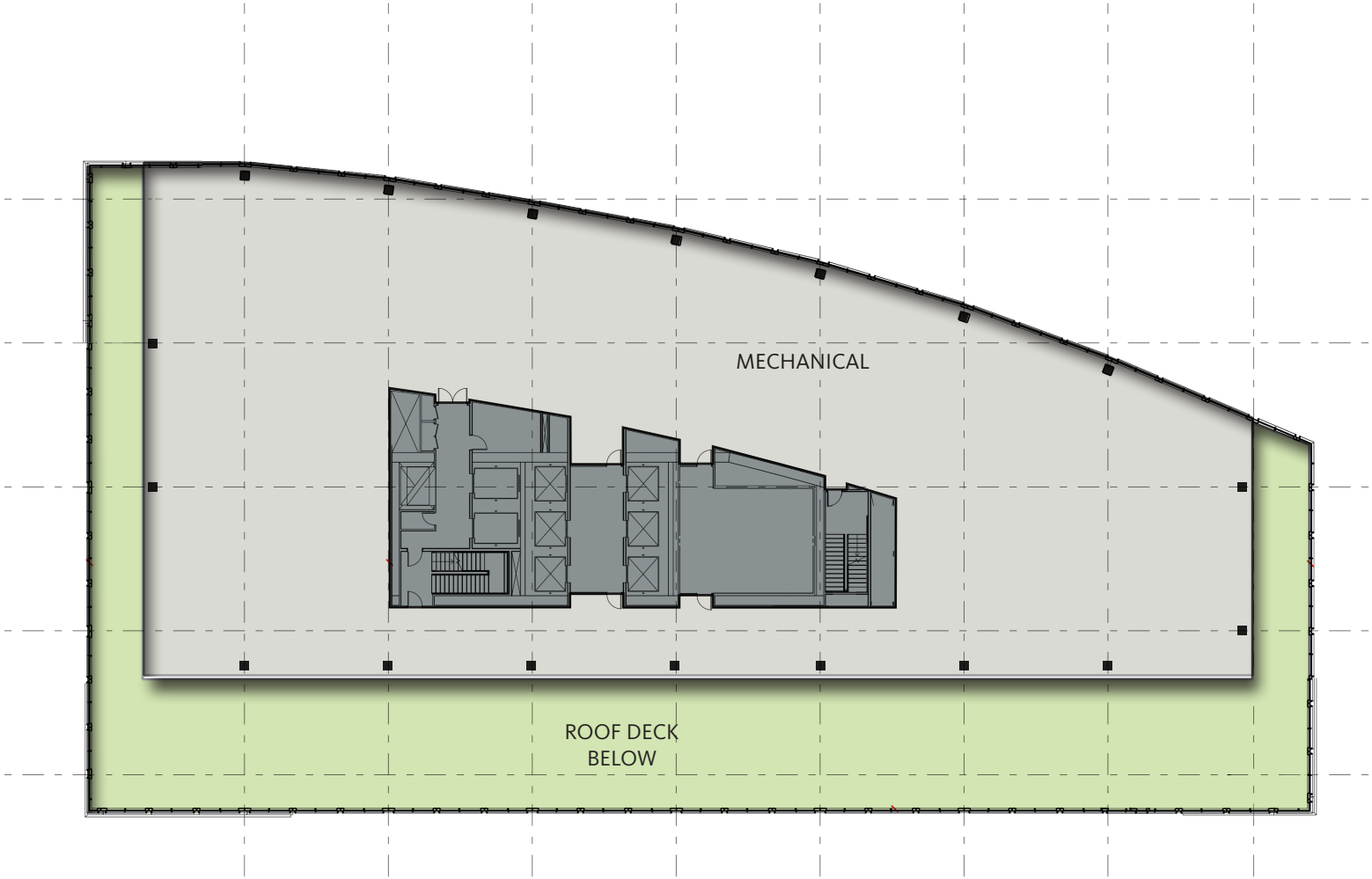
Figure 2.2d

Typical High Rise Plan

125 Lincoln
Boston, Massachusetts



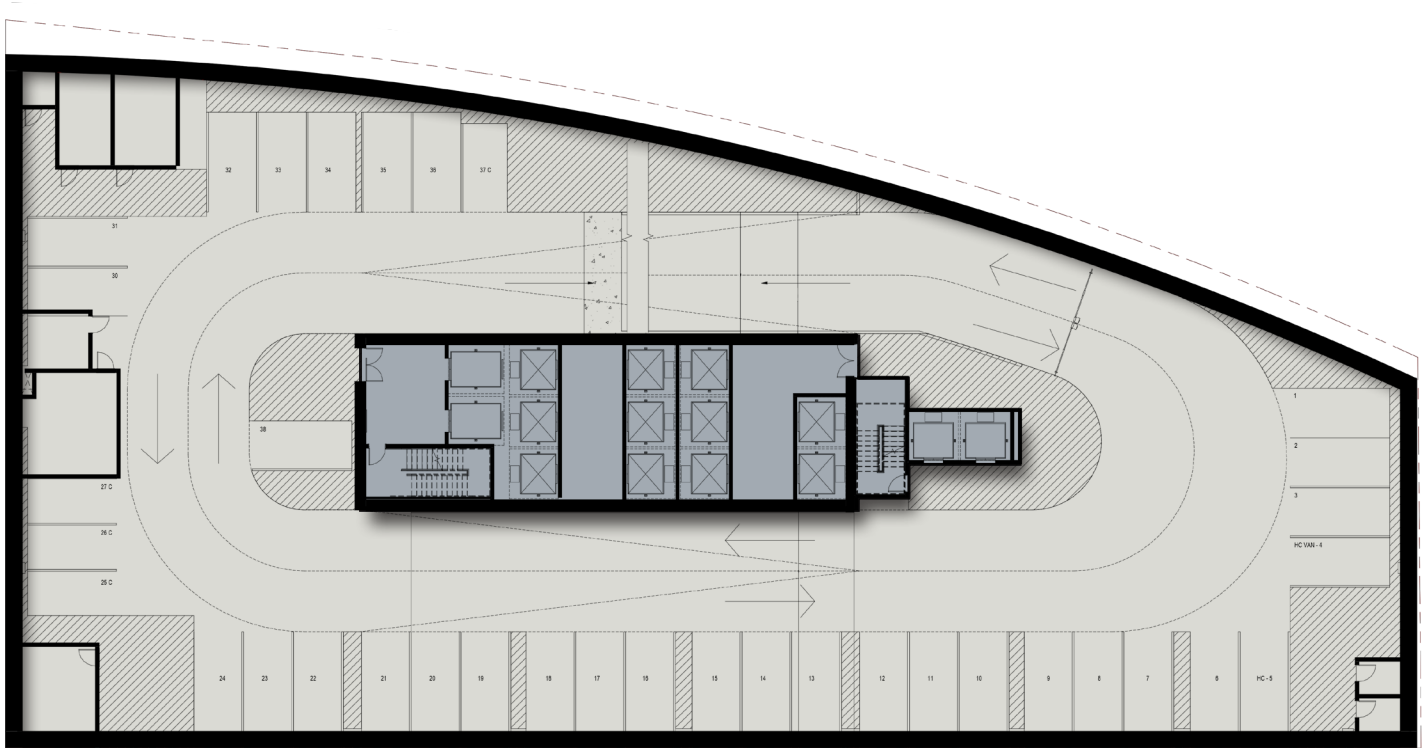
0 20 40 Feet

Gensler

Figure 2.2e

Penthouse Level Plan

125 Lincoln
Boston, Massachusetts



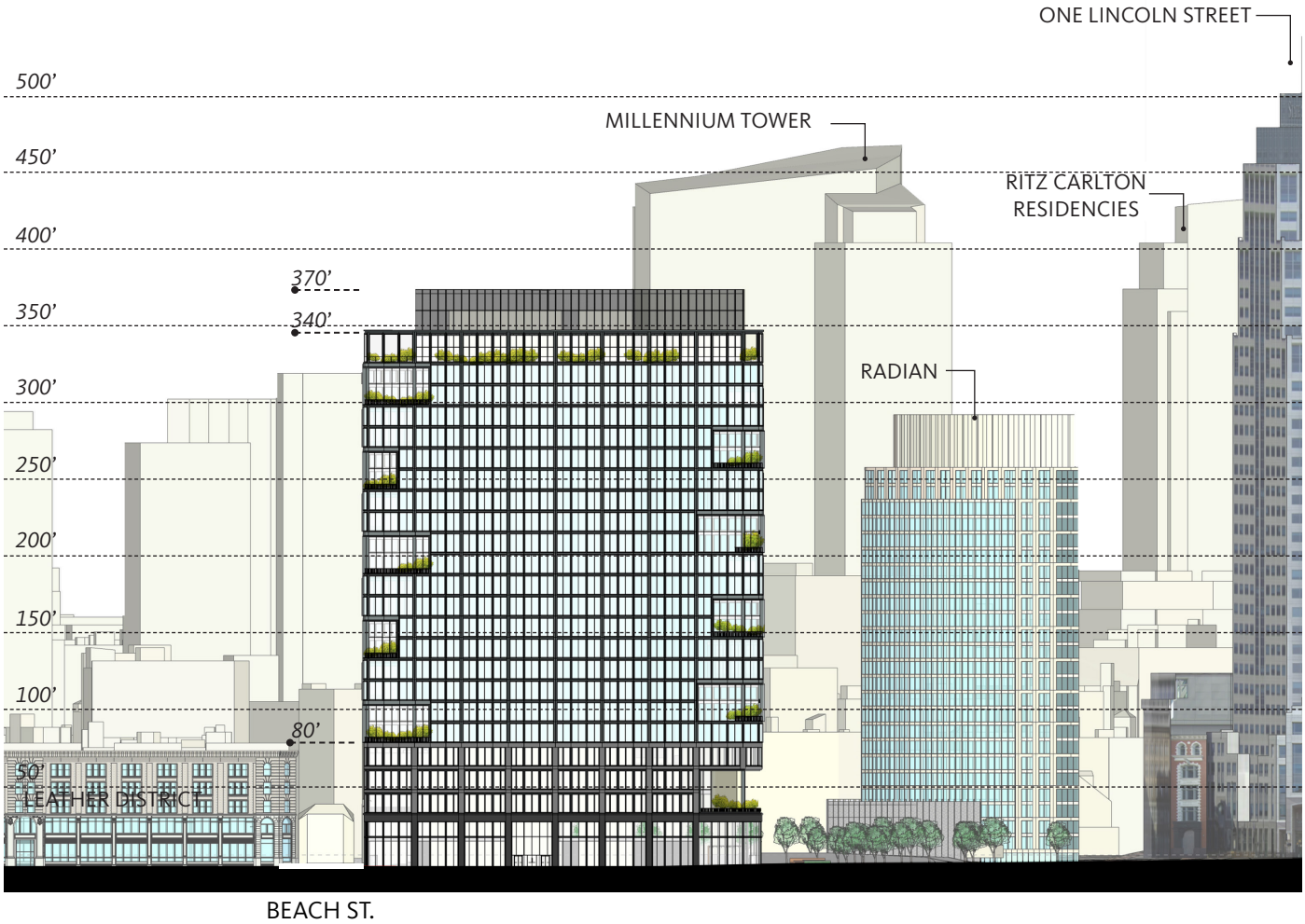
0 20 40 Feet

Gensler

Figure 2.2f

Typical Parking Level Plan

125 Lincoln
Boston, Massachusetts

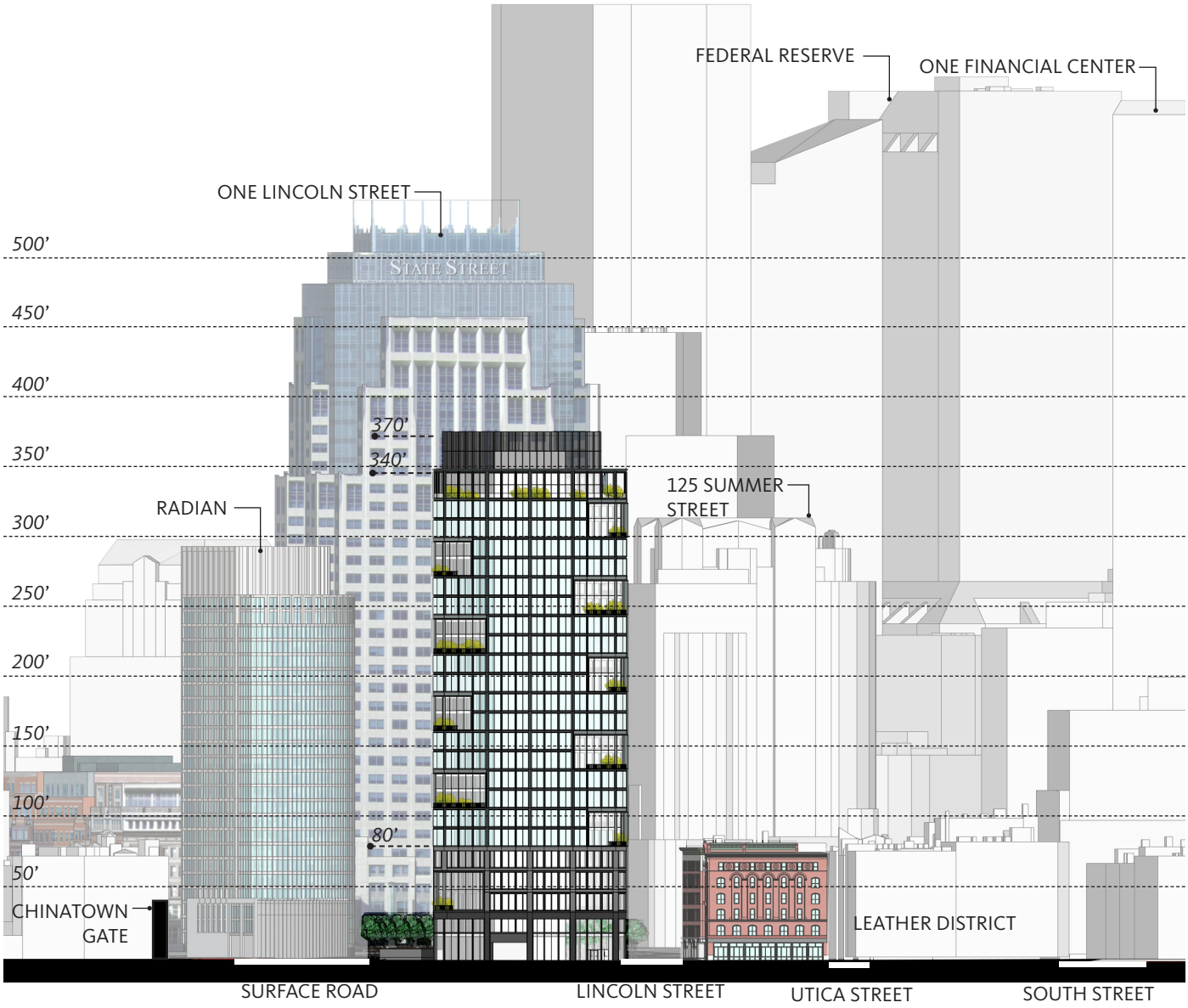


Gensler

Figure 2.3a

Lincoln St. Building Elevation

125 Lincoln
Boston, Massachusetts

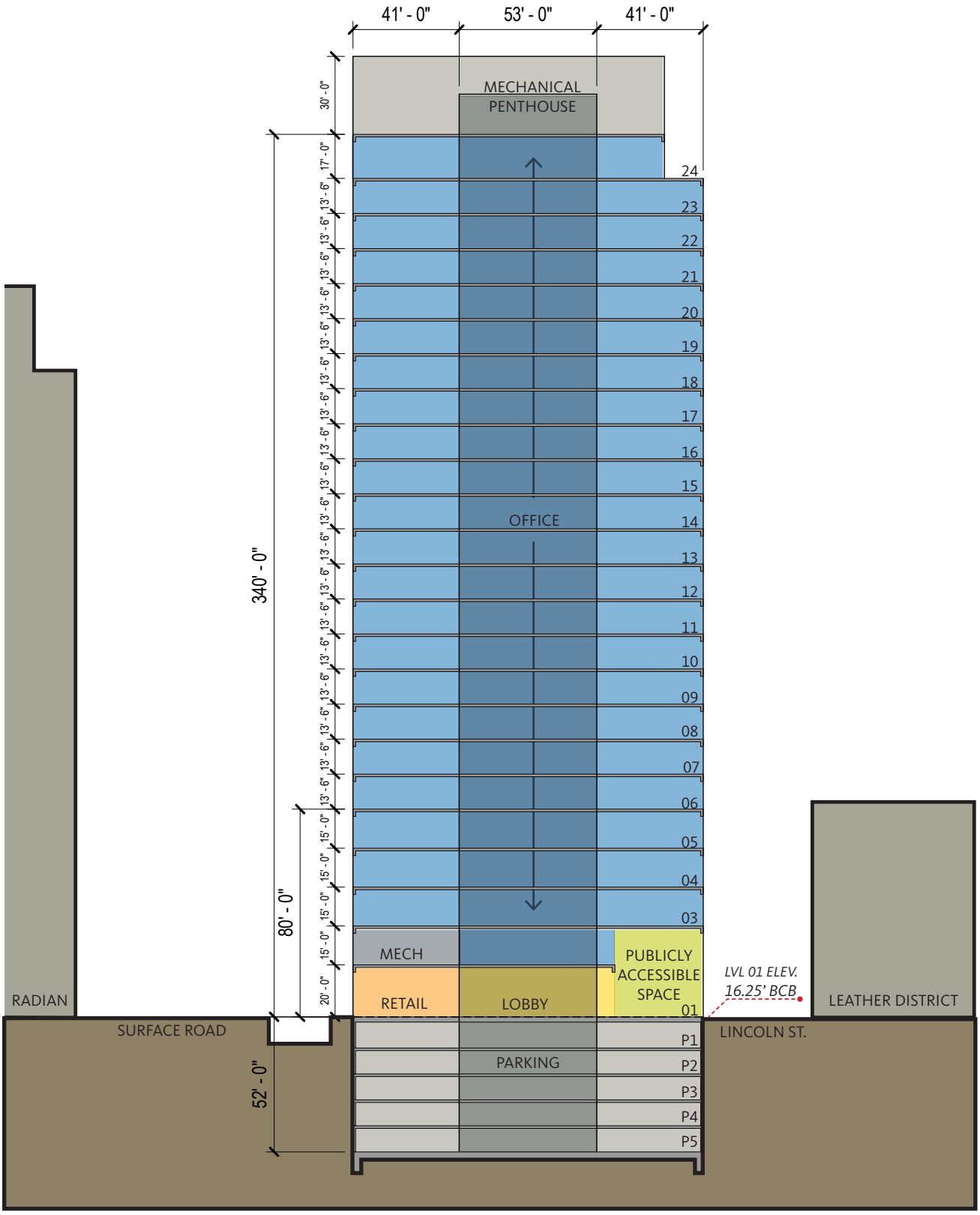


Gensler

Figure 2.3b

Beach St. Building Elevation

125 Lincoln
Boston, Massachusetts



Gensler

Figure 2.4

Building Section

125 Lincoln
Boston, Massachusetts

Surface Rd & Lincoln St. Looking South

Gensler

Figure 2.5a

Building View Perspective

125 Lincoln
Boston, Massachusetts

Essex St. Looking South

Gensler

Figure 2.5b

Building View Perspective

125 Lincoln
Boston, Massachusetts

Beach St. Looking West

Gensler

Figure 2.5c

Building View Perspective

125 Lincoln
Boston, Massachusetts

Lincoln St. Looking West

Gensler

Figure 2.5d

Building View Perspective

125 Lincoln
Boston, Massachusetts

From Chinatown Park Looking East

Gensler

Figure 2.5e

Building View Perspective

125 Lincoln
Boston, Massachusetts

3

Sustainability/Green Building and Climate Change Resiliency

The following chapter describes the overall approach to sustainable design, construction, and operation for the Project. Included is a preliminary assessment of green building design, in compliance with the requirements of Article 37 of the Code relative to the City's Green Building policies and procedures ("Article 37"). It identifies consistency with the U.S. Green Building Council's ("USGBC") Leadership in Energy and Environmental Design ("LEED") version 4 ("v4") rating system based on early design. This chapter also discusses the susceptibility of the Project Site to predicted climate change impacts, in accordance with the BPDA Climate Change Preparedness and Resiliency Policy ("Resiliency Policy"). The required Climate Change Preparedness and Resiliency Checklist ("Resiliency Checklist") has been completed for the Project and is provided in Appendix A.

3.1 Summary of Key Findings and Benefits

Key findings and benefits related to sustainability/green building design and climate change preparedness include the following Project attributes:

- Achieves a minimum of LEED Gold Certifiability though an integrated sustainable design approach.
- Exceeds the Massachusetts Stretch Energy Code requirements to be 10 percent better than ASHRAE 90.1-2013. Preliminary energy modelling indicates a 14 percent energy site use savings for the Project.
- Building design will include high-efficiency building systems (mechanical, plumbing and electrical), and a high-performance building envelope.
- Sustainable design measures such as LED lighting, low flush and flow plumbing fixtures, building energy management systems, the environmental impact of building materials, daylighting strategies and healthy interior environments, are a few of the features that are being considered for inclusion in the Project.
- The Project will include a publicly accessible indoor space which will provide an interior landscaped environment year-round. The publicly accessible indoor space will be directly connected with the landscaped corner public improvement component.
- Other sustainable design and construction approaches will be studied as the design progresses. The final design may include the ground work to enable

future tenants to design their fit outs to address the health and well-being of their employees.

- The Project Team is actively studying possible uses for collected and stored site rainwater including irrigation demand for the publicly accessible indoor space, adjacent open space, and cooling tower make-up water.
- The Project Team is considering a central biophilic design feature in the publicly accessible indoor open space as an amenity for visitors of the space, as well as rainwater re-use for irrigation and improved indoor air quality.
- Although the Project Site is not located within the current floodplain, to maintain resiliency to flooding throughout the life of the Project, the Proponent is contemplating deployable structures in the future if and when the Project Site becomes susceptible to flooding.

3.2 Regulatory Context

The following section provides an overview of the state and local regulatory context related to energy efficiency and greenhouse gas ("GHG") emissions.

3.2.1 Article 37 Green Buildings

Through Article 37 of the Code, Green Buildings, the City of Boston encourages major building projects to be "planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston."

Article 37 requires all projects over 50,000 gross square feet to meet LEED certifiability standards by either certifying the proposed project or demonstrating that the project would meet the minimum requirements to achieve a LEED Certified level (all LEED pre-requisites and at least 40 points associated with credits listed on the LEED project checklist) without registering the project with the USGBC ("LEED certifiable"). With the LEED v4 rating system effective as of October 31, 2016, the BPDA requires initial Article 80 Large Project Review submissions on or after November 1, 2016, to demonstrate compliance with Article 37 using LEEDv4.

Boston Green Building Credits

Appendix A of Article 37 lists "Boston Green Building Credits," which are credits that may be included in the calculation toward achieving a LEEDv4 certifiable project. These credits, along with the prerequisites, were developed by the City and are intended to address local issues unique to development within Boston.

3.2.2 Stretch Energy Code

As part of the Green Communities Act of 2008, Massachusetts developed an optional building code, known as the "Stretch Energy Code," that gives cities and towns the ability to choose stronger energy performance in buildings than otherwise

required under the state building code. Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the 8th edition Massachusetts Building Code, the Stretch Energy Code is an appendix to the Massachusetts building code, based on further amendments to the International Energy Conservation Code ("IECC").

The Stretch Energy Code increases the energy efficiency code requirements for new construction and major residential renovations or additions in municipalities that adopt it. The Stretch Energy Code applies to both residential and commercial buildings and, specifically, to all new commercial buildings over 100,000 square feet in size. The City of Boston adopted the Stretch Energy Code, which became mandatory on July 1, 2011. Effective January 1, 2017, the Stretch Energy Code now requires 10 percent greater energy efficiency compared to the state's energy code (the "Base Code").

3.2.3 BPDA Climate Change Preparedness and Resiliency Policy

In conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the BPDA requires projects subject to Boston Zoning Article 80 Small and Large Project Review to complete a Resiliency Checklist to assess potential adverse impacts that might arise under future climate conditions, and any project resiliency, preparedness, and/or mitigation measures identified early in the design stage. The Resiliency Checklist is reviewed by the Boston Interagency Green Building Committee ("IGBC").

3.3 Sustainability/Green Building Design Approach

3.3.1 Overall Approach to Sustainability

The Proponent will include environmentally-conscious strategies throughout the Project that will benefit both the base core and shell building and future tenants. The Project Team will explore possible opportunities in energy efficiency and sustainable design throughout the duration of the design process. Ultimately, the team will determine which of the assessed strategies are appropriate and the energy conservation and sustainable design measures suitable for integration will be included in the final construction documents, construction practices and the completed building.

The Project is located on a previously developed site on the intersection of the Chinatown, Leather District and Financial District areas of Boston. It is located less than one-quarter-mile from South Station, an MBTA, Amtrak and interstate bus transportation hub. Access to I-93 and the Massachusetts Turnpike provide the Project with connections to additional major transportation arteries. In this way, the Project supports Smart Growth objectives.

The Building design will include high-efficiency building systems (mechanical, plumbing and electrical), and a high-performance building envelope. Energy efficiency measures such as LED lighting and building energy management systems and water efficiency measures including limited potable water use for irrigation and low flow high efficiency fixtures will be included in the core and shell design.

The Project includes a publicly accessible indoor space on the ground floor as an amenity to the public and the Building tenants. The publicly accessible indoor space will be appropriately landscaped and may be a location for a small café or coffee bar. It provides an all-season park-like space for the surrounding neighborhoods and the employees within the Building.

The Project Team will research and identify applicable building materials and products that mitigate their impact on the environment. The Project will specify interior finish materials that enable the core and shell building to provide a healthy interior environment for future tenants. The base building will be designed to provide the framework/infrastructure for the tenants to integrate components that address the health and well-being of their employees into their fit-out designs.

The Proponent is interested in providing a core and shell office building that can accommodate the modern workplace environment and expectations of future tenants. It is anticipated that employees of future tenants will have access to alternative modes of transportation, an on-site fitness center, and an interior workplace that promotes employee health and well-being while being a productive work environment.

3.3.2 LEEDv4 Certification Compliance

Integrative Process (IP)

The Project Team plans to meet regularly to ensure the individual members from consulting firms involved are collaborating and communicating. Sustainable design focused workshops will be held early on to assist the team in establishing shared sustainable design and energy efficiency goals for the Project. As the design progresses, there will be multiple sustainable design focused workshops to ensure the entire team is engaged throughout the design and construction process.

The Project Team contacted Eversource and National Grid and is in the process of setting up a preliminary meeting to discuss the incentive programs and potential Energy Conservation Measures (“ECMs”) for the Project.

Location and Transportation (LT)

The Project Site is located within walking distance of South Station, an MBTA transit hub which provides access to several Commuter Rail lines, the Red Line, the Silver Line and multiple bus routes. It is within easy walking distance of multiple modes of public transportation.

Building tenants will have access to structured, below-grade parking with parking spaces allocated for carpools, low-emitting/fuel-efficient vehicles and electric vehicle ("EV") charging stations. The Project will provide capacity for five percent of parking spaces to be designated as Low Emission, Fuel-Efficient ("LEFE") vehicle parking spaces, and a minimum of two percent of the total parking capacity to be equipped with EV charging stations.

The Project will provide secure bicycle storage to encourage cycling as a healthy and environmentally-friendly means to commute. Secure indoor bicycle spaces will be available for employees upon project completion, with the ability to expand the number of spaces to meet future demand. In addition, on-site shower and locker facilities, and bicycle maintenance services, will be provided for bicyclists at the Project. In addition to the indoor spaces, publicly accessible bicycle parking spaces will be located at-grade adjacent to the Building. Boston has reduced the speed limit on all City streets to 25 mph, which qualifies them to be safe for cyclists with or without a designated bike lane. Showers and changing rooms will be incorporated in to the Project for use by tenant employees.

The Project includes wide sidewalks and open space with paved interior pathways to support pedestrian safety. The immediate neighborhood provides a wide variety of services with pedestrian and cyclist access including restaurants, grocery stores, banks, and the Greenway. The Project Site currently has a Walk Score of 98, making it a 'Walker's Paradise.'

Sustainable Sites (SS)

The Project Site is a developed urban parcel in a densely developed area of Boston. The Project design includes an adjacent small parcel to be developed into a publicly accessible open space. This publicly accessible open space will be designed with both vegetated and hardscaped areas. The inclusion of permeable landscaped areas will help reduce rainwater runoff and contain it on-site.

A stormwater management plan will be developed to address the potential for collection, recharge and possible re-use of rainwater collected on site. As described more fully in Chapter 7, *Infrastructure*, the Project will be designed to meet BWSC and DEP stormwater management requirements. Project benefits may include, but are not limited to, improving stormwater quality, reducing stormwater runoff volume, and controlling peak rates of runoff by incorporating new stormwater management and treatment systems on-site. As an added benefit, the publicly accessible indoor space may have some irrigation water demand all year.

Water Efficiency (WE)

The Project will reduce potable water use for both sewage conveyance and irrigation demand. The Project Team plans to specify low-flow/high-efficiency commercial plumbing fixtures in the core restrooms including the following:

- 1.28 gpf WC; 0.125 gpf urinal; 0.35 gpm Lavatory faucet (metered); 1.5 gpm shower head

Through the specification of low flow and high-efficiency plumbing fixtures, the Building will exceed a 20 percent annual potable water use reduction for sewage conveyance.

The outdoor landscaped area and publicly accessible indoor space will include mixtures of drought tolerant trees, shrubs, and groundcover that grow well in an urban environment. The irrigation system will be designed to use a minimum of 50 percent less potable water than the mid-summer baseline.

Energy & Atmosphere (EA)

The Project will be designed with high-efficiency building systems and a high-performance building envelope. Alternative energy strategies will be considered for further investigation including a photovoltaic array on the building roof.

The proposed core HVAC system designs for the Project includes a central system with a high-efficiency cooling towers and chiller plant and gas-fired condensing boilers. The Project Team is currently investigating the efficiency of designing for chilled beam terminal units within the tenant lease spaces. Additional ECMs in the proposed design include: Energy recovery units, reduced lighting power density, variable speed fan and pump drives.

Refrigerants with low global warming and ozone depleting potential will be specified for use in applicable building systems equipment.

Both the Building and the below grade parking structure will target lighting power densities 10-20 percent better than code through the use of LED lighting and lighting controls systems.

Preliminary energy modeling estimates the project will have an annual site energy use that is approximately 14 percent below the ASHRAE 90.1-2013 baseline and an annual cost savings of approximately 19.87 percent below the ASHRAE 90.1-2010 baseline (LEED metric).

Early energy modeling strategies are being implemented to conduct preliminary assessments and ensure the proposed designs will meet both the Stretch Code and LEEDv4 prerequisite requirements. The Stretch Code compliance model will be compared to an ASHRAE 90.1-2013 baseline and the LEED model will be compared to the ASHRAE 90.1-2010 baseline.

The Proponent plans to engage a Commissioning Agent ("CxA") to perform both fundamental and enhanced commissioning services including providing reviews of design documents. Additionally, a Building Envelope Commissioning Agent will be engaged to review and test the Building envelope design. The commissioning processes will continue through construction and ultimately confirm the Building systems are installed and function as intended and desired.

Materials and Resources (MR)

The Project will specify materials and products that are environmentally responsible and provide transparency documentation detailing the sourcing of raw materials, the

manufacturing processes and the product composition (chemical and inert materials). The Project Team will endeavor to specify materials and products with compliant environmental and health product declarations to reduce the impact of the Project on the environment overall.

Waste management will be addressed both during construction and post-occupancy. The construction manager will implement a construction waste management plan to divert a minimum of four different identified waste streams that total a minimum of 75 percent of the construction waste and demolition debris generated on-site.

Post-occupancy collected recyclables will be accommodated in a central location near the loading dock within the Building. Tenants will be responsible for bringing their recyclables to the storage room. A contracted waste management company will pick up the collected recyclables on a regular basis.

Indoor Environmental Quality (IEQ)

The Project will have a healthy interior environment through the use of low VOC containing interior construction and finish materials and an efficient ASHRAE 62.1 compliant ventilation system. The Building and open space will be designated as non-smoking, and no smoking will be allowed within 25 feet of the Building.

The construction manager will be required to implement a compliant Indoor Air Quality Management Plan for the construction and pre-occupancy phases of the Project.

The Building envelope design includes large areas of vision glazing with ample access to daylight and views for future tenants.

The Building thermal comfort systems and controls will be designed to meet the requirements of ASHRAE 55-2010 for all applicable mechanically ventilated regularly occupied spaces.

Innovation in Design (ID)

The Project design incorporates Biophilia through the inclusion of the publicly accessible indoor space, an innovative approach to providing access to a landscaped setting year-round.

Additional innovative design measures including low mercury lighting, public outreach/education, an integrated pest management policy, and green housekeeping will be explored as the project progresses through design and construction.

Regional Priority Credits (RPC)

Applicable regional priority credits for the Project may include:

- SS High Priority Site
- SS Rainwater Management
- Indoor Water Use Reduction (4 pt threshold)

- EA Renewable Energy Production (2 pt threshold)
- EA Optimize Energy Performance (8 pt threshold)

WELL Certification

The Proponent is exploring pursuing WELL v2 Certification for Core and Shell for this Project, with the intent to provide a healthy interior environment and general building policies to promote future tenant employee health and wellness. A WELL Certified CS project enables future tenants to pursue WELL Certification for their individual build-outs if desired.

Boston Green Building Credits

At this preliminary design stage, the Proponent will evaluate options for achieving two of the four available Boston Green Building credits (Appendix A of Article 37):

Groundwater Recharge

At a minimum, the Project will meet the requirements of the BWSC. At this early stage of design, the Project has not fully assessed the quantity of rainwater that may be diverted from the municipal storm water system; the infiltration rates, seasonal high groundwater elevations, and locations of soil and/or groundwater contamination have not been evaluated. These factors may limit the Project from infiltrating in certain areas.

Modern Mobility

The Project may elect to pursue the Boston Green Building credit for Modern Mobility through compliance with the Transportation Demand Management ("TDM") prerequisites and project-type credit requirements. As part of the transportation mitigation strategy, the Project provides ample access to multiple modes of public transportation, below-grade parking with EV stations and secure bike storage. Refer to Chapter 4, *Transportation*, for more detail on the proposed comprehensive TDM plan.

USGBC LEED Certification

The Proponent plans to register the proposed building project with the USGBC and pursue LEED-CS v4 Gold Certification.

3.4 Preliminary Energy Conservation/Greenhouse Gas Emissions Reduction Approach

The baseline performance rating was calculated according to the building performance rating method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2013 (with errata but without addenda 1) through a computer simulation mode. Appendix G of Standard 90.1-2013 requires that the energy analysis completed for the project's performance rating method include all energy costs associated with the building project. The Project Team has also made provisions to comply with all the mandatory requirements of ASHRAE 90.1 – 2013, namely

Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4), which is a prerequisite to complying via the modeling protocol for both energy code compliance and LEED certification.

The 15 percent energy reduction target will be met by evaluating ECMs to create a high performing building envelope, efficient mechanical and ventilation equipment, and a lighting design with high efficacy.

The whole building design as evaluated through the parameters listed below is projected to reduce energy usage from the baseline by 16 percent, or 494 tons of CO_2.

3.4.1 Energy Efficiency Measures

A list of inputs to the energy model has been provided in Table 3-1. A description of key energy efficiency measures is provided below.

Thermal Envelope

The thermal envelope will be designed to meet the prescriptive requirements for Climate Zone 5A (Boston) of ASHRAE 90.1-2013 where possible in order to reduce solar gains and reduce heat loss. Proper envelope detailing will ensure the mechanical equipment is properly sized for the expected loads.

Roof insulation was evaluated to perform at R-30, or six inches of rigid insulation for all space types. Soffits and exposed floors were simulated with R-14.6 c.i. insulation.

An air tight curtain wall is anticipated to be specified for the exterior walls, and the spandrel assembly will target performance of U-0.16. This figure assumes a highly insulated spandrel panel up to R-25 and minimal framing losses.

Glazing can be a source of both high solar gains and heat loss. The proposed glazing percentage of 69 percent exceeds the Base Code of 40 percent but is mitigated through the use of high efficiency glazing and framing. The Proponent is considering high efficiency triple glazing with performance specifications of U-0.26 and SHGC of 0.33. An alternate for double glazing with U-value of 0.40 exceeds the baseline of 0.42, and an SHGC of 0.38 reduces solar gain from the baseline value of 0.40.

Heating, Ventilating, and Air Conditioning

All mechanical systems will be selected to exceed the minimum efficiency requirements of ASHRAE 90.1-2013 Section 6. Heat recovery will be employed wherever possible to reduce the energy required to condition the ventilation air.

In the office space, the Proponent is considering high efficiency two-pipe active chilled beams to serve interior spaces. High-efficiency condensing gas-fired boilers may be utilized to offset skin loads and provide heating to ventilation and primary air serving the chilled beam system. Ventilation is anticipated to be provided through central make-up air units equipped with 75 percent efficient heat recovery wheels that preheat the entering outdoor air with toilet exhaust. Low boiler return temperatures would be optimized to reduce natural gas usage.

Table 3-1 Energy Modeling Inputs

Input Summary	Baseline Case (ASHRAE 90.1-2013, App. G)	Proposed Design
ENVELOPE		
Roof Insulation	R-30 Insulation Entirely Above Deck, Assembly Max. U-0.032	R-30 Insulation Entirely Above Deck, Assembly Max. U-0.032
Exterior Wall Construction	Steel Framed, Assembly Max. U-0.055	Spandrel, Assembly Max. U-0.16
Fenestration	Assembly Max. U-0.42 SHGC-0.40	Double Low-E Triple Insulated Glazing: Assembly Max. U-0.26 SHGC-0.33 VE1-2M *Alternate: Low-E Insulated Glazing:* *Assembly Max. U-0.40* *SHGC-0.38 VE1-2M*
Window-to-Wall Ratio:	40% of Above Grade Wall	69% of Above Grade Wall
MECHANICAL SYSTEMS		
Cooling Equipment	Three (3) Electric Centrifugal Chiller with efficiencies of 0.56 kW/ton	Three (3) 550 ton Electric Centrifugal Chiller with efficiencies of 0.41 kW/ton at design conditions EWT 65F/LWT 57F with water economizer
Heating Equipment	Two (2) Natural Draft Hot Water Boilers with 82% efficiency	Eight (8) Condensing Hot Water Boilers with 93% efficiency
Temperature Setpoints	Cooling: 75°F Heating: 70°F	Cooling: 75°F Heating: 70°F
Primary HVAC System	VAV with Reheat	Active Chilled Beams with Energy Recovery Unit
Retail HVAC System	Air-cooled DX w/ Gas Fired Furnace	Air-cooled DX w/ Gas Fired Furnace
Retail Cooling Efficiency	11.4 EER	11.4 EER
Domestic Hot Water	Same as proposed	Electric Point of Use Hot Water Heater
ELECTRICAL SYSTEMS & PROCESS LOAD		
Lighting LPD (Space by Space)	0.98 W/SF (Office) 0.90 W/SF (Lobby) 0.66 W/SF (Corridor) 0.69 W/SF (Stairwell) 1.30 W/SF (Retail) 0.19 W/SF (Parking) 0.42 W/SF (Mechanical)	0.98 W/SF (Office) - *Alternates: 0.78* W/SF*; 0.83* W/SF*; 0.89* W/SF 0.90 W/SF (Lobby) 0.66 W/SF (Corridor) 0.30 W/SF (Stairwell) 1.30 W/SF (Retail) 0.10 W/SF (Parking) 0.30 W/SF (Mechanical)
Appliances	same as proposed	TBD
Elevators	same as proposed	TBD
Whole Building Energy Model Results		
Electricity Cost [kWh]	$0.175	$0.175
Natural Gas Cost	$1.100	$1.100
Total Energy Cost	$1,492,308	$1,240,581
	Savings Over Baseline	16.87%

Active chilled beams would utilize higher temperature chilled water to avoid condensation and maintain dry coils while decreasing energy usage. There would be a greater percentage of waterside economizer hours for this system, and the chillers can operate at higher efficiency. The installed fan capacity would be less than a traditional variable air volume ("VAV") system which results in fan power reductions beyond the baseline scenario. In addition, all domestic hot water fixtures can be specified to be at least 20 percent below the LEED baseline flowrates.

Economizer is anticipated to be utilized wherever possible, including mechanical support spaces that have constant run times.

Interior and Exterior Lighting

All common and amenity spaces will be designed to include daylight photocell sensors where practicable. Vacancy sensors will automatically shut off lighting to spaces within 20 minutes of occupants leaving a common space with enclosed partitions. In addition, high-efficacy fixtures can be selected to reduce the connected load in the tenant office space – simulations showing tenant reductions of 10 percent, 15 percent, and 20 percent have been provided.

3.4.2 Clean and Renewable Energy Analysis

The Proponent evaluated the following clean and renewable energy sources as described below: photovoltaic panels; combined heat and power; wind; and solar thermal systems.

Photovoltaic Panels

There are many long-term benefits to photovoltaic panels beyond just reduced electric demand during times of production, or demand shaving when combined with battery storage. Solar energy provides an inexhaustible and independent energy source. However, there is not significant roof and site area which would enable significant solar production. Tradeoffs in terms of area allocation with solar thermal collectors and/or vertical axis wind turbines also need to be studied further.

Combined Heat and Power

Cogeneration, or combined heat and power, provides a unique opportunity to reduce electric demand and provide useful heating at the same time. Based on the projects network connection and constant base load, a unit under 75 kW would be expected. The base load includes, but is not limited to, lighting in common spaces and stairwells, parking garage loads, supply and exhaust fans for ventilation, and compressors to temper make-up air. Thermal energy produced by the system would need to be utilized to offset the cost of producing electricity. This can be a challenge for office buildings when there is not a significant thermal load. The Proponent will continue to evaluate opportunities for cogeneration as design of the Project advances.

Wind

Small scale vertical axis wind turbines could be implemented at 125 Lincoln as these units would not need to be oriented towards the prevailing winds. Further study on historical wind data and low speed energy production is still on-going. Tradeoffs in terms of area allocation with photovoltaic panels and/or solar thermal collectors would need to be studied further.

Solar Thermal

Available roof area could be utilized to offset domestic hot water loads for the office tenancy through the implementation of solar thermal collectors. However, given the height of the Building, lack of a central domestic hot water system, and irregular domestic hot water needs, it may not be feasible to offset the domestic hot water load with a solar thermal array in an office. Tradeoffs in terms of area allocation with photovoltaic panels and/or vertical axis wind turbines would need to be studied.

3.4.3 Energy Efficiency Assistance

The Proponent is aware that the Project's electrical and natural gas service providers may offer technical assistance and incentives for implementing energy efficiency measures. By working with these utilities throughout the design process, the Proponent will evaluate additional energy conservation strategies, and therefore, additional energy savings and associated GHG emissions reductions may be achieved.

Furthermore, the Proponent is committed to meeting the applicable requirements of the City of Boston Building Energy Reporting and Disclosure Ordinance, Section 7-2.2 of the Boston Ordinances, once the Project is in operation.

3.5 Climate Change Preparedness and Resiliency

This section discusses the current climate change adaptation guidance, the Project's approach to complying with this guidance, and additional Project Site and building design features that will improve the Project's resiliency and support adaptation under future climate scenarios. The required BPDA Climate Change Resiliency and Preparedness Checklist is provided in Appendix A.

3.5.1 Updated Climate Change Adaptation Guidance

In March 2018, the Executive Office of Energy and Environmental Affairs published the Massachusetts Climate Change Projections – Statewide and for Major Drainage Basins, authored by the Northeast Climate Adaptation Science Center. The projections for expected total rainfall, number of days receiving over one-, two-, and four-inches of rainfall, and consecutive dry days are variable for the Boston Harbor basin, fluctuating seasonally between loss and gain of days. The Boston Harbor basin is expected to experience increased average, seasonal, and extreme high temperatures throughout the 21st century.

In December 2017, the BPDA released an updated Climate Resiliency Guidance document that identifies scenarios that the City believes represent reasonable SLR risk thresholds for evaluating impacts to new development. The BPDA used the Boston Harbor Flood Risk Model ("BH-FRM") to create its Sea Level Rise – Flood Hazard Area ("SLR-FHA") map, which depicts the one-percent annual chance flood event with 40 inches (3.3 feet) of SLR. This represents a combination of the mean SLR (3.2 feet above 2013 MSL) plus 2.5 inches of local subsidence that is projected to occur by 2070.

The BPDA's Climate Resiliency Guidance document states that projects within the FEMA Special Flood Hazard Area ("SFHA") or the BPDA SLR-FHA should use its recommended Sea Level Rise-Design Flood Elevation ("SLR-DFE") for the year 2070 as the minimum performance target for assessing SLR impacts and for reducing or eliminating flood risk, potential damage, and related adverse impacts. The projected SLR-DFEs are comprised of two components: the SLR-BFE and freeboard. The BFE is based on the BH-FRM results, which include 40-inches of SLR and the one percent annual chance coastal flood event in 2070. The SLR-BFE indicated on the BPDA's SLR-FHA at the Project Site is 18.9 feet BCB.

As described below, the Project has taken this updated guidance into account in the evaluation and selection of resiliency measures. Refer to Figure 3.2a-b for site vulnerability.

3.5.2 Potential Resiliency Measures

Although the Project Site is not located within the current floodplain, it is located within the BPDA's SLR-FHA. As discussed above, this designation identifies the Project Site as being at risk of flooding from the one percent annual chance flood event in the year 2070. The Project Team plans to evaluate potential design elements to mitigate the impacts of potential flooding, as well as increased heat, as the design of each Project component progresses.

Site Design Measures

- Due to the location and elevation of the Project Site, flooding due to SLR is not anticipated to occur in the near-term and is only anticipated during extreme storm events.
- Use of light-colored materials as paving in the publicly accessible open space is anticipated to reduce heat-island impacts and shade trees will be planted within the adjacent open space to mitigate heat.

Building Design Measures

- To maximize site-resiliency during extreme events, while maintaining an accessible and pedestrian friendly ground-level during average typical conditions, the Project will employ flood proofing measures, such as kneewall systems, flood gates, and deployable structures, to an elevation of 19.9 feet BCB.

- To understand the potential impacts of extreme weather conditions, the Proponent anticipates the use Whole Building Energy Simulation to analyze the performance of heating and cooling equipment under extreme cold (0º F) and heat events (95º F) and will assess occupant thermal comfort under extreme conditions lasting up to three consecutive days, including thermal comfort in the event of a power outage and loss of heating and cooling capacity.
- To assist with reducing heat island effect, the Project Team will consider high albedo roofing.

LEED v4 BD+C: Core and Shell

Project Checklist

Project Name: **125 Lincoln**

Date: **02.06.19**

Y	M	N			
1	0	0	**Integrative Process**		1
1			Credit 1	Integrative Process	1
17	0	3	**Location and Transportation**		20
		N	Credit 1	LEED for Neighborhood Development Location	20
2			Credit 2	Sensitive Land Protection	2
		3	Credit 3	High Priority Site	3
6			Credit 4	Surrounding Density and Diverse Uses	6
6			Credit 5	Access to Quality Transit	6
1			Credit 6	Bicycle Facilities	1
1			Credit 7	Reduced Parking Footprint	1
1			Credit 8	Green Vehicles	1
6	3	2	**Sustainable Sites**		11
Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Assessment	1
	1	1	Credit 2	Site Development - Protect or Restore Habitat	2
1			Credit 3	Open Space	1
	2	1	Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1
1			Credit 7	Tenant Design and Construction Guidelines	1
6	2	3	**Water Efficiency**		11
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
1	1		Credit 1	Outdoor Water Use Reduction	2
3	1	2	Credit 2	Indoor Water Use Reduction	6
1		1	Credit 3	Cooling Tower Water Use	2
1			Credit 4	Water Metering	1
17	1	15	**Energy and Atmosphere**		33
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
5		1	Credit 1	Enhanced Commissioning	6
9	1	8	Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
		2	Credit 4	Demand Response	2
		3	Credit 5	Renewable Energy Production	3
		1	Credit 6	Enhanced Refrigerant Management	1
2			Credit 7	Green Power and Carbon Offsets	2

Y	M	N			
7	1	6	**Materials and Resources**		14
Y			Prereq 1	Storage and Collection of Recyclables	Required
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required
3		3	Credit 1	Building Life-Cycle Impact Reduction	6
1		1	Credit 2	Building Product Disclosure and Optimization - EPD	2
	1	1	Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1		1	Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit 5	Construction and Demolition Waste Management	2
5	3	2	**Indoor Environmental Quality**		10
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			Prereq 2	Environmental Tobacco Smoke Control	Required
2			Credit 1	Enhanced Indoor Air Quality Strategies	2
1	1	1	Credit 2	Low-Emitting Materials	3
1			Credit 3	Construction Indoor Air Quality Management Plan	1
	2	1	Credit 4	Daylight	3
1			Credit 5	Quality Views	1
5	1	0	**Innovation**		6
1			Credit 1	Innovation in Design: OM Starter Kit	1
1			Credit 2	Innovation in Design: Organic Landscape Maintenance	1
1			Credit 3	Innovation in Design: Biophilic design elements	1
	1		Credit 4	Innovation in Design: TBD	1
1			Credit 5	Innovation in Design: Pilot Credit: Integrative Materials	1
1			Credit 6	LEED Accredited Professional	1
1	1	2	**Regional Priority (earn up to 4 points)**		4
		1	Credit 1	Regional Priority Credit: MRc1 (2 pts)	1
1			Credit 2	Regional Priority Credit: EAc2 17% (8 points)	1
		1	Credit 3	Regional Priority Credit: LTc3	1
	1		Credit 4	Regional Priority Credit: SSc4	1
65	12	33	**TOTALS**	Possible Points:	110

Figure 3.1

Preliminary LEEDv4 Scorecard

Source: The Green Engineer

Boston, Massachusetts

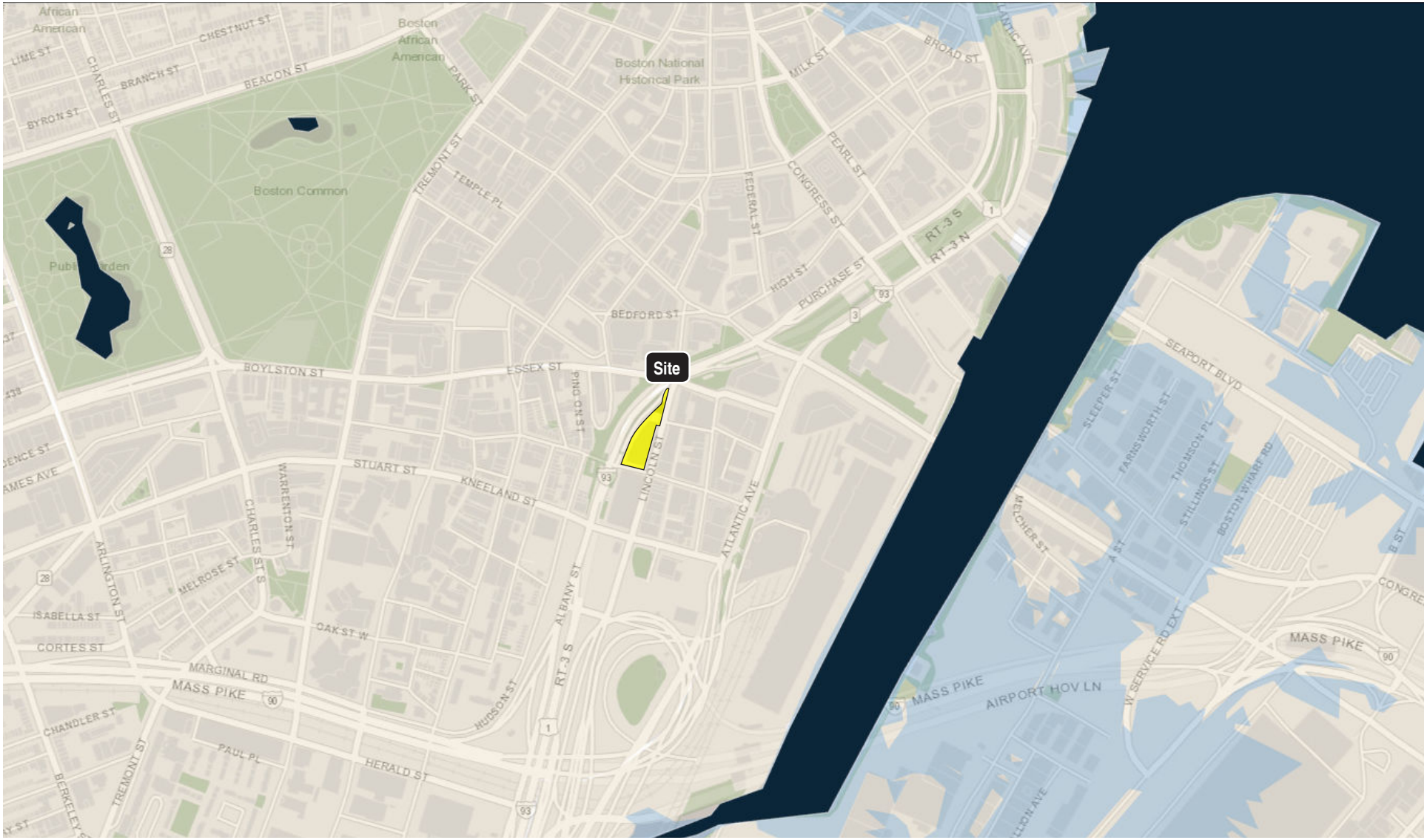


Figure 3.2a

2030 Coastal Flood Exceedance Probabilities (High Scenario)

Source: Cimate Ready Boston, 2019

Boston, Massachusetts

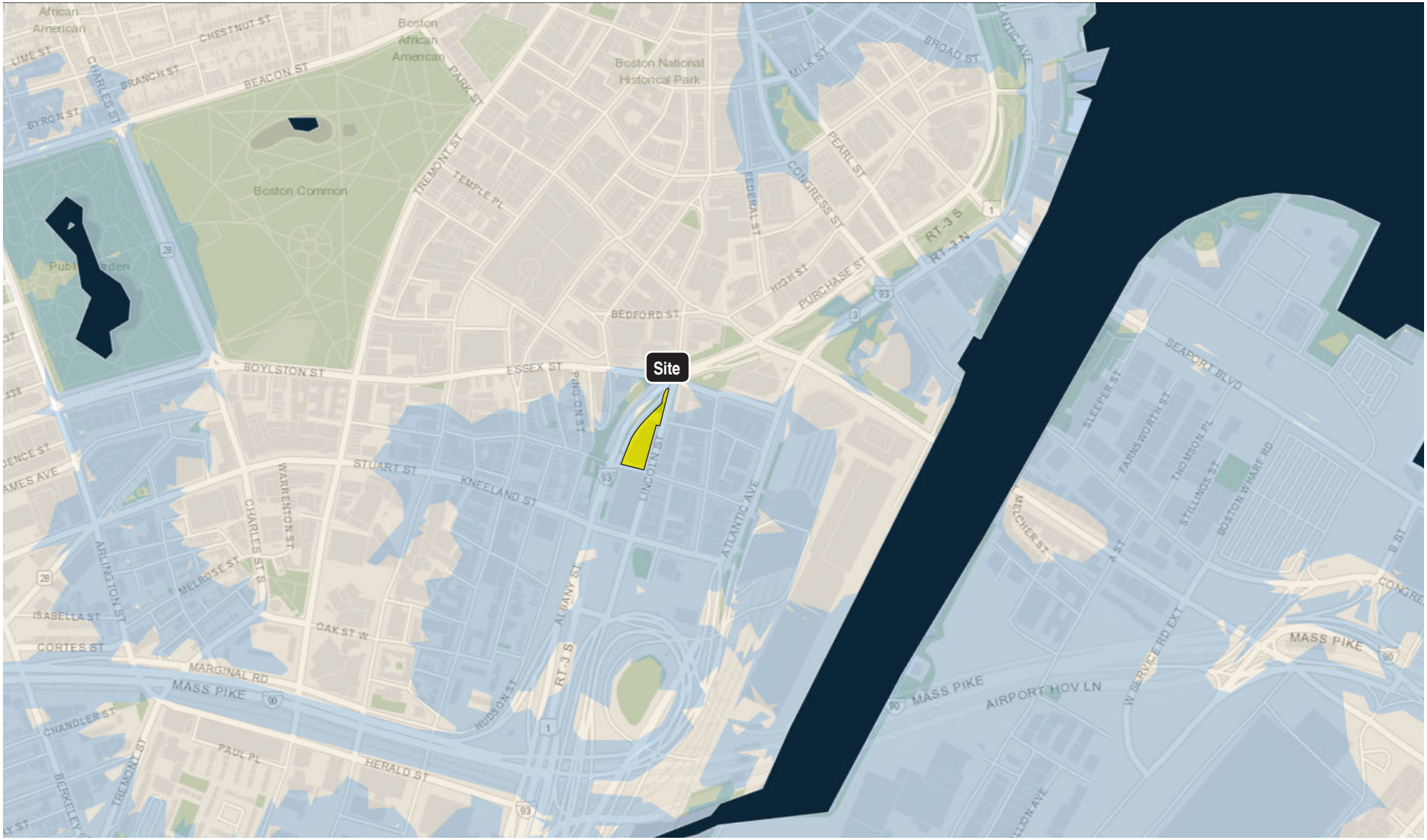


Figure 3.2b

2070 Coastal Flood Exceedance Probabilities (High Scenario)

Source: Cimate Ready Boston, 2019

Boston, Massachusetts

4

Transportation

This chapter presents an analysis of the transportation infrastructure and operations for the Project. The transportation study has been developed to understand and address potential transportation impacts of the Project and to assess appropriate transportation improvements in Boston's Leather District and Chinatown neighborhoods. This study analyzes the following:

- A description of existing Project Site conditions, traffic volumes, roadway capacities, parking, transit, pedestrian circulation, bicycle accommodations, and loading.
- An evaluation of future transportation conditions, including a comparison of future No-Build (without the Project) and Build (with the Project) conditions to identify potential impacts.
- A description of the transportation mitigation and improvements proposed as part of the Project to minimize any potential transportation impacts and improve overall mobility at the Project site and throughout the study area.

Additional details and supporting information are provided in Appendix C, which is provided electronically via weblink. Hard copies of supporting materials are available upon request.

4.1 Summary of Key Findings and Benefits

Key findings of the analysis include the following:

- The Project enjoys an excellent transit-oriented location close to the heart of downtown Boston which will minimize the generation of auto trips by the Project.
- The Project will eliminate existing retail and office uses on the Project Site and an existing 150-space Public parking garage. The Project will provide up to 275 parking spaces, consistent with the Air Pollution Control Commission ("APCC") Downtown Boston Parking Freeze base inventory.
- Lincoln Street carries high traffic volumes into the Financial District during the morning peak period. By contrast, Beach Street carries relatively low traffic volumes even during peak periods.
- Existing traffic conditions in the study area are subject to commuter peak characteristics, but generally operate well. However, intersections along Kneeland Street experience some peak period congestion, and during morning peak periods the Lincoln Street corridor is subject to queuing and delays at its intersection with Essex Street and Surface Road.

- The Project is projected to generate approximately 156 and 178 net new vehicle trips in the weekday morning and evening peak hours, respectively. As the site enjoys good local and regional highway access, trips will be dispersed in multiple directions on the roadway network.
- Currently, entry to the on-site parking garage is provided on Beach Street, with exit to Lincoln Street via Tufts Street. As a result, trips exiting the garage and destined to I-93 southbound, I-90 westbound, Kneeland Street westbound and the Back Bay, South End and Chinatown neighborhoods are forced to pass through the Leather District via Tufts Street and South Street.
- The existing garage curb-cut on Beach Street immediately abuts the Stop line at the Beach Street/Surface Road signalized intersection. To eliminate this adjacency and reduce the length of curb-cut, the Project's vehicle access will be re-located further to the east on Beach Street. The relocated single driveway will accommodate all Project vehicle trips including both garage traffic and service/loading vehicles. The crossing distance for pedestrians will be reduced from approximately 38 feet at the existing curb-cut to 26 feet at the new driveway.
- Improvements to Beach Street will include substantial widening of sidewalks and other improvements to enhance the pedestrian environment. The changes will be designed in collaboration with BPDA, BTD and the community to prioritize the pedestrian experience rather than the relatively low vehicle volumes. Specifically, the Project curb-cut will be designed to emphasize pedestrian flow along Beach Street with a continuous grade along the sidewalk, special materials and appropriate signage for drivers and pedestrians.
- The elimination of the existing garage egress via Tufts Street to Lincoln Street will eliminate the need for south- and west-bound vehicles exiting the garage to cut through the Leather District. Project trips will be able to access I-93 southbound, I-90 westbound, Kneeland Street westbound and the Back Bay, South End and Chinatown neighborhoods, without unnecessarily cutting through the Leather District via Tufts Street and South Street which they must do with the existing exit being located on Tufts Street.
- Some deterioration of traffic levels of service (LOS) are projected in the future 2025 time-horizon, both without (No-Build) or with the Project (Build). Generally, however, increases in intersection delay due to the Project are relatively small, and overall intersection LOS grade reductions are limited.
- Traffic signal phasing and timing changes and/or striping and signage improvements are proposed to mitigate Project impacts at four locations, as well as significant pedestrian improvements on Beach Street and Lincoln Street.
- The Project is projected to generate approximately 406 and 441 transit trips in the weekday morning and evening peak hours, respectively. The trips will be broadly dispersed across multiple MBTA Commuter Rail, subway (heavy rail), light rail and bus routes serving the downtown. As result, capacity impacts for individual rail lines and bus routes are expected to be minimal.
- With minor exceptions, the subway lines currently operate within their MBTA Policy capacities, and well within their crush capacities. However, they are subject to pressures of delay and crush capacity during the peak periods that result largely from difficulties in maintaining schedules and consistent headways.

- The greatest assignments of Project trips will be to the Orange and Red subway lines. However, with the planned new cars and improved headway, both lines will have increased capacity in the future, and the impact of Project trips will result in limited impact to future volume/capacity ratios and operations.
- The Project is expected to attract high volumes of pedestrian trips, many of which will be shared trips with surrounding land uses. However, substantial improvements to the pedestrian accommodations and environment on Beach Street and Lincoln Street are proposed as part of the Project. The Proponent will work collaboratively with the BPDA, BTD, BPW and the community to develop the designs for these improvements, including potential sidewalk and crosswalk improvements.
- With parking for up to 275 vehicles, the Project is within BTD guidelines for parking ratios. The existing 150 public parking spaces will be maintained within this total.
- Both long-term and short-term bicycle parking and supporting facilities will be provided to encourage the use of bicycles by employees and visitors.
- Off-street service and loading docks will be provided to support the Project. The Proponent will work collaboratively with the BPDA, BTD, BPW and the community to develop appropriate curbside regulations to accommodate parking, loading and drop-off/pick-up needs for the Project and surrounding residents and businesses.
- The Proponent will implement a robust transportation demand management ("TDM") program to reduce single-occupant vehicle ("SOV") trips and enhance and encourage alternative modes.
- Transportation improvements, including TDM, will be committed to through the execution of a Transportation Access Plan Agreement ("TAPA") and Construction Management Plan ("CMP") with BTD.

4.2 Existing Transportation Conditions

As shown in Figure 4.1, the Project Site is located in the Leather District along the Greenway/John F. Fitzgerald Surface Road (often referred to as Surface Road) and is well located to take advantage of its multimodal context. Like most downtown locations, it is truly transit-oriented, being close to both regional and local public transportation services. Boston's largest transit hub, South Station, is less than a five-minute walk from the Project Site, providing direct access to the MBTA Red Line, Commuter Rail, Silver Line and regional/inter-city bus services. In addition, numerous MBTA express and local bus routes serve the downtown area.

To the extent that the Project will rely on highway access, the Project Site is well located in relation to both local and regional routes, including I-93 and I-90. Vehicular circulation has been designed to provide direct access to on-site parking with minimum impact to the non-auto environment. The Project Site is also located at the nexus of strategic east-west and north-south neighborhood pedestrian connections.

4.2.1 Roadways

John F. Fitzgerald Surface Road

John F. Fitzgerald Surface Road (referred to as Surface Road) is located adjacent to the west side of the Project Site. It provides one-way southbound travel from the Causeway Street in the north to Kneeland Street in the south. Metered parking is provided on the west side of the roadway. Sidewalks are provided along both sides of the street and all intersections provide crosswalks. Surface Road is paired with Atlantic Avenue (one-way northbound) as a major surface route through Downtown Boston, with the Rose Kennedy Greenway parks separating the southbound and northbound roadways from the North End to South Station. South of Summer Street, the paired roadways are separated by the Leather District.

Lincoln Street

Lincoln Street is located adjacent to the east side of the Project Site and provides one-way northbound travel from the South Station Connector in the south to Summer Street in the north, except for the short section of Lincoln Street between Kneeland Street and the South Station Connector which is two-way. Lincoln Street provides a northbound arterial directly into the Financial District, supplementing Atlantic Avenue, another northbound arterial (see below). Metered and visitor parking are provided on portions of the roadway, along with commercial vehicle zones. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

South Street

South Street is located east of the Project Site and provides one-way southbound travel from Essex Street in the north to Kneeland Street in the south. Both metered parking and visitor parking is provided on portions of the roadway. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

Atlantic Avenue

Atlantic Avenue is located east of the Project Site and provides one-way northbound travel from Kneeland Street in the south to Commercial Street in the north. For the majority of Atlantic Avenue, parking is prohibited; however, between Kneeland Street and Summer Street at South Station, a combination of metered and resident parking is provided on the west side, and cab stands, 30-min pick-up/drop-off, and some metered parking on the east side supporting South Station activity. Sidewalks are provided along both sides of the street and all intersections provide crosswalks. North of South Station, Atlantic Avenue borders the Rose Kennedy Greenway on the east from Summer Street in the south to Mercantile Street in the north.

Summer Street

Summer Street is located north of the Project Site and provides two-way travel from East 1st Street in South Boston to Kingston Street in downtown. There are no parking or loading accommodations on Summer Street between Atlantic Avenue

and Lincoln Street. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

Essex Street

Essex Street is located north of the Project Site and provides one-way eastbound travel from Washington Street in Chinatown to South Street in the east. Essex Street provides two-way travel from South Street in the west to Atlantic Avenue in the east. Parking is prohibited on most of Essex Street, except for some commercial parking. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

Beach Street

Beach Street is located along the south edge of the Project Site and provides one-way westbound travel from Atlantic Avenue in the east to Washington Street in the west. However, there is no vehicular traffic connection on Beach Street between Surface Road and Hudson Street at the Chinatown Gate. Most of Beach Street provides parking on both sides including resident, metered and commercial parking. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

Kneeland Street

Kneeland Street is located south of the Project Site and provides two-way travel between Atlantic Avenue in the east to Washington Street in the west, where the corridor continues as Stuart Street. Most of Kneeland Street prohibits parking except for some commercial and metered parking provided on the south side. Sidewalks are provided along both sides of the street and all intersections provide crosswalks.

Tufts Street

Tufts Street runs along the west and north edges of the Project Site, and provides travel between Beach Street in the south to Lincoln Street in the northeast. Tufts Street serves as the entrance and exit drive for the existing parking garage on the Project Site which has separate northbound entry and exit ramps running parallel with Tufts Street. While garage traffic enters from Beach Street and exits via Tufts Street to Lincoln Street, Tufts Street is used by traffic in both directions with very low through volumes in either direction. Two-way access to on-street surface parking on the northern edge of the Project Site is provided via its intersection with Lincoln Street and Tufts Street, which is one-way eastbound from Lincoln Street to South Street, aligns with Tufts Street on the east side of Lincoln Street.

4.2.2 Study Area Intersections

The Project study area includes the following twelve (12) key intersections, as illustrated in Figure 4.2:

1. Essex Street at Kingston Street
2. Surface Road at Essex Street and Lincoln Street
3. Essex Street at South Street

4. Surface Road and Purchase Street at Summer Street
5. Surface Road at Beach Street
6. Lincoln Street at Beach Street
7. South Street at Beach Street
8. Atlantic Avenue at Beach Street
9. Surface Road at Kneeland Street
10. Kneeland Street at Lincoln Street
11. Kneeland Street at South Street
12. Atlantic Avenue at Kneeland Street

In addition, the Project driveway on Beach Street is analyzed for the Build condition.

4.2.3 Existing Traffic Volumes

Turning movement counts, including vehicles, pedestrians, and bicycles, were conducted at the study area intersections on Wednesday, September 19, 2018 from 7:00-9:00 AM and 4:00-6:00 PM. The results of these counts indicate that the peak hours for vehicular traffic in the study area are:

- Morning Peak Hour / 8:00-9:00 AM
- Evening Peak Hour / 4:45-5:45 PM

Morning and evening peak hour vehicle volumes are presented in Figure 4.3a and Figure 4.3b, respectively.

4.2.4 Bicycle Facilities

Currently, there are bike lanes on the Greenway/Surface Road that run southbound from the beginning of the Greenway at Haymarket Square to Kneeland Street. In the northbound direction, bike lanes are provided on Atlantic Avenue from its intersection with Summer Street, but there are no accommodations south of the Summer Street intersections. No dedicated bicycle accommodations are provided along Lincoln Street or Beach Street adjacent to the project site.

The on-street bicycle accommodations/facilities are shown in Figure 4.4. As shown, there are three Bluebikes (formally known as Hubway) stations within walking distance of the Project site (Per *bluebikes.com/maps*, January 30, 2019):

- Chinatown Gate Plaza (approx. 350 feet away) provides 17 bikes;
- South Station – 700 Atlantic Avenue (approx. 0.20 miles away) provides 46 bikes;
- Chinatown T Stop (approx. 0.30 miles away) provides 14 bikes.

Morning and evening bicycle volumes at study intersections are shown in Figure 4.5a and Figure 4.5b, respectively.

4.2.5 Pedestrian Facilities

Sidewalks along the roadway network near the Project Site are generally in good condition. Striped crosswalks and pedestrian signals are available at all signalized

intersections. Due to the proximity of the Downtown core and Financial District as well as major transportation hubs, the area around the Project Site experiences a high concentration of pedestrians during the mid-day as well as morning and evening peak hours.

Morning and evening pedestrian volumes at study intersections are shown in Figure 4.6a and Figure 4.6b, respectively.

4.2.6 Parking

In addition to a grocery store, day care and other uses, the Project Site contains a fully operational public parking garage with approximately 150 vehicle parking spaces. A total of 275 spaces were recorded in the Boston Air Pollution Control Commission base inventory under the Downtown Boston Parking Freeze. The entry driveway to the garage is located on Beach Street in close proximity to the Stop line at the Beach Street/Surface Road signalized intersection. The exit drive is to Lincoln Street, via Tufts Street. Traffic counts at the existing site driveways show that there are 34/7 entry/exit movements in the morning peak hour and 8/30 entry/exit movements in the evening peak. This relatively low vehicle access activity during the peak hours indicates that the existing garage is not used substantially by commuters.

Figure 4.7 identifies other off-street parking facilities in the area. There is a total of approximately 3,930 off-street parking spaces within a quarter-mile radius of the Project Site.

Figure 4.8 presents the existing on-street curb regulations within a quarter mile radius of the Project Site. There is metered parking along Lincoln Street and Beach Street as well as Resident Permit zones and commercial vehicle zones.

In addition to the various public and private parking facilities in the area, the Project is well served by Zipcar car-sharing services, including a Zipcar location on the Project Site itself. Car share locations within a quarter mile radius of the Project Site are shown previously in Figure 4.7, Off-Street Parking Locations.

4.2.7 Public Transportation

The Project site is served by several MBTA public transportation services, including:

- MBTA Red, Orange, Green, and Silver line
- Eight MBTA Commuter Rail Lines: Fairmont, Framingham/Worchester, Franklin, Greenbush, Kinston/Plymouth, Middleborough/Lakeville, Needham, and Providence/Stoughton Lines;
- MBTA Bus Routes: 4, 7, 11, 15, 448, 449, 459, 501, 504, 505, 553, 554, 556, and 558;
- Intercity Bus Service: Bolt, Boston Express, C+J, Concord Coach Lines, Dartmouth Coach, Dattco, Greyhound, Lucky Star, Megabus, Peter Pan, and Plymouth+Brockton; and
- AMTRAK, serving the Acela Express, Lake Shore Limited, and Northeast Regional routes.

Transit Services are summarized in Table 4-1 and are illustrated in Figure 4.9 which shows MBTA services, including bus stop locations, in the vicinity of the Project Site.

Table 4-1 Transit Service Summary

Transit Service	Origin-Destination	Major Stops	Nearest Stop to Project site	Peak Hour Headway (minutes)	Weekday Daily Ridership	Hours of Service
MBTA Commuter Rail Services						
Fairmont Line	Readville Station – South Station	Talbot Avenue Station Newmarket Station	South Station	40 – 50	1,038	Weekday: 5:39 AM – 11:50 PM Saturday: 7:30 AM – 11:15 PM Sunday: 7:30 AM – 11:15 PM
Framingham / Worcester Line	Worcester/ Union Station – South Station	Yawkey Station Back Bay Station	South Station	10 – 30	16,293	Weekday: 4:45 AM – 1:51 AM Saturday: 6:40 AM – 12:30 AM Sunday: 6:40 AM – 12:30 AM
Franklin Line	Forge Park / I-495 – South Station	Back Bay Station Ruggles Station	South Station	15 – 30	12,480	Weekday: 3:50 AM – 12:53 AM Saturday: 6:35 AM – 12:19 AM Sunday: 10:40 AM – 12:19 AM
Greenbush Line	Greenbush Station – South Station	Quincy Center Station JFK/UMass Station	South Station	30 – 60	5,411	Weekday: 5:40 AM – 10:57 PM Saturday: 7:15 AM – 11:54 PM Sunday: 7:15 AM – 11:54 PM
Kingston / Plymouth Line	Kingston Station – South Station	Braintree Station JFK/UMass Station	South Station	25 – 60	6,560	Weekday: 5:32 AM – 11:36 PM Saturday: 7:00 AM – 11:42 PM Sunday: 7:00 AM – 11:42 PM
Middleborough / Lakeville Line	Middleborough / Lakeville Station – South Station	Quincy Center Station JFK/UMass Station	South Station	20 – 60	7,182	Weekday: 5:20 AM – 11:27 PM Saturday: 6:50 AM – 11:34 PM Sunday: 6:50 AM – 11:34 PM
Needham Line	Needham Heights – South Station	Back Bay Station Ruggles Station Forest Hills	South Station	30 – 45	6,972	Weekday: 6:05 AM – 12:00 AM Saturday: 7:10 AM – 12:00 AM Sunday: No Service
Providence / Stoughton Line	Wickford Junction – South Station	Route 128 Station Ruggles Station Back Bay Station	South Station	10 – 30	19,634	Weekday: 4:45 AM – 1:10 AM Saturday: 6:35 AM – 12:15 AM Sunday: 11:05 AM – 12:15 AM
MBTA Subway Service						
Orange Line	Oak Grove Station – Forest Hills Station	North Station Downtown Crossing Back Bay	Chinatown	6	203,406	Weekday: 5:16 AM – 12:35 AM Saturday: 5:16 AM – 12:35 AM Sunday: 6:00 AM – 12:35 AM
Red Line	Alewife Station – Ashmont Station / Braintree Station	Park Street Station Charles MGH Station Downtown Crossing	South Station	9	272,684	Weekday: 5:15 AM – 1:05 AM Saturday: 5:05 AM – 1:05 AM Sunday: 5:51 AM – 1:05 AM
Silver Line 1	South Station – Logan Airport	Airport Terminals World Trade Center Courthouse Station	South Station	8 – 10	16,056	Weekday: 5:38 AM – 12:44 AM Saturday: 5:33 AM – 12:45 AM Sunday: 5:50 AM – 12:45 AM
Silver Line 2	South Station – Design Center via Waterfront	Dry Dock Avenue World Trade Center Courthouse Station	South Station	5	16,056	Weekday: 5:45 AM – 12:50 AM Saturday: 5:50 AM – 12:49 AM Sunday: 6:35 AM – 12:49 AM
Silver Line 3	South Station – Chelsea via Airport Station	Airport Station World Trade Center Courthouse Station	South Station	11 – 13	N/A	Weekday: 4:32 AM – 1:47 AM Saturday: 4:53 AM – 1:45 AM Sunday: 5:53 AM – 1:45 AM
Silver Line 4	South Station – Dudley Station via Essex Street	Dudley Station Washington Street at Tufts Medical Center	Essex Street at Atlantic Avenue	10 – 12	13,783	Weekday: 5:20 AM – 12:40 AM Saturday: 5:23 AM – 12:40 AM Sunday: 6:35 AM – 12:49 AM

Table 4-1 Transit Service Summary (Continued)

Transit Service	Origin-Destination	Major Stops	Nearest Stop to Project site	Peak Hour Headway (minutes)	Weekday Daily Ridership	Hours of Service
MBTA Commuter Rail Services						
Route 4	North Station – Tide Street	North Station State Street Station Haymarket Station	Summer Street at South Station	13 – 20	470	Weekday: 6:25 AM – 6:52 PM Saturday: No Service Sunday: No Service
Route 7	City Point – Otis and Summer Streets	Seaport District BCEC South Boston	Bedford Street at Chauncy St.	4 – 7	4,452	Weekday: 5:15 AM – 10:32 PM Saturday: 5:15 AM – 10:31 PM Sunday: No Service
Route 11	City Point – Downtown Boston	Tufts Medical Center Broadway Chinatown	Bedford Street at Chauncy St.	7 – 12	3,413	Weekday: 5:11 AM – 1:22 AM Saturday: 5:10 AM – 1:20 AM Sunday: 6:15 AM – 1:28 AM
Route 448/449	Marblehead – Downtown Crossing	Wonderland Station Logan Airport	Summer Street at South Station	30	334	Weekday: 6:00 AM – 7:30 PM Saturday: No Service Sunday: No Service
Route 459	Salem Depot – Downtown Crossing	Logan Airport	Summer Street at South Station	70 – 75	1,184	Weekday: 5:50 AM – 8:27 PM Saturday: No Service Sunday: No Service
Route 501	Brighton Center – Downtown Boston	Oak Square Saint Elizabeth Medical	Lincoln Street at Beach Street	6 – 7	1,690	Weekday: 6:20 AM – 8:05 PM Saturday: No Service Sunday: No Service
Route 504	Watertown Square – Downtown Boston	Watertown Yard Newton Corner	Lincoln Street at Beach Street	9 – 12	1,548	Weekday: 6:20 AM – 8:09 PM
Route 505	Central Square, Waltham – Downtown Boston	Waltham West Newton	Lincoln Street at Beach Street	8 – 15	1,009	Weekday: 5:55 PM – 7:56 PM Saturday: No Service Sunday: No Service
Route 553	Roberts, Waltham – Downtown Boston	Waverly Square Central Square, Waltham Newton Corner	Lincoln Street at Beach Street	25 – 60	978	Weekday: 5:58 AM – 10:24 PM Saturday: No Service Sunday: No Service
Route 554	Waverly Square – Downtown Boston	Central Square, Waltham Newton Corner	Lincoln Street at Beach Street	30 – 66	649	Weekday: 5:51 AM – 8:19 PM Saturday: No Service Sunday: No Service
Route 556	Waltham Highlands – Downtown Boston	Central Square, Waltham Newton Corner	Lincoln Street at Beach Street	30	515	Weekday: 6:15 AM – 7:55 PM Saturday: No Service Sunday: No Service
Route 558	Riverside – Downtown Boston	Newton Center	Lincoln Street at Beach Street	25 – 70	429	Weekday: 6:25 MAM – 7:06 PM Saturday: No Service Sunday: No Service

4.3 Future 2025 No-Build Conditions

The 2025 No-Build Conditions were developed to evaluate future transportation conditions in the traffic study area without the Project. In accordance with MassDOT guidelines, the future analysis year represents a seven year horizon (2025) from existing conditions (2018). The No-Build Conditions provide insight into future traffic conditions resulting from regional growth and traffic generated by specific planned projects that are expected to affect the local roadway network.

4.3.1 Background Growth

To account for general background growth of area traffic, an annualized growth rate was developed and applied to the Existing Condition peak hour traffic volumes to reasonably account for future traffic growth in the study area.

An annualized growth rate of half a percent (0.5%) per year between 2018 and 2025 was applied to the 2018 Existing Condition. The growth rate accounts for regional growth outside of Downtown Boston and is consistent with other recent traffic studies.

4.3.2 Area Development Projects

In addition to the background growth rate, traffic projections for several specific and applicable projects under Article 80 review were incorporated into the development of the No-Build Condition. The following four planned projects are expected to impact study area intersections and were considered as part of the background:

- 73-79 Essex Street
- 150 Kneeland Street
- South Station Air Rights
- 115 Winthrop Square

4.3.3 2025 No-Build Traffic Volumes

The 2018 Existing Condition volumes were projected to 2025 using a growth rate of half a percent (0.5%) per year. Trips associated with the previously identified projects that are either planned, approved, and/or under construction were then added to these adjusted volumes to create the 2025 No-Build Condition weekday morning and evening peak hour traffic volumes. Figure 4.10a and Figure 4.10b present the 2025 No-Build Condition traffic volume networks for the weekday morning and evening peak hours, respectively.

4.4 Future 2025 Build Conditions

The 2025 Build Conditions traffic volumes for study area roadways were developed by estimating Project-generated vehicle traffic volumes, distributing these volumes by direction, and assigning them to the study area intersections. The traffic volumes expected to be generated by the proposed Project were added to the 2025 No-Build Conditions traffic volumes to create the 2025 Build Conditions traffic volume networks. This section describes the procedures used to develop the 2025 Build Conditions traffic volume networks.

4.4.1 Unadjusted Project Generated Trips

The trip generation for the Project was based on standard Institute of Transportation Engineers ("ITE") trip rates published in ITE's Trip Generation, 10th Edition Manual, adjusted as necessary to reflect local transportation alternatives. The appropriate trip generation methodology for each Project element is shown in Table 4-2.

Table 4-2 Project Program and Trip Generation Methodology

Project Element	Program	ITE Land Use Code (LUC)
Office	594,500 SF	710 – General Office
Office Amenity	13,400 SF	N/A[1]
Retail/Restaurant	4,100 SF	820 – Shopping Center
Publicly Accessible Indoor Space	7,000 SF	N/A[2]
Lobby	6,000 SF	N/A[3]

1 Office Amenity space will be restricted to occupants of the Project's office space and is not expected to be an independent trip generator during typical weekdays.
2 Although the indoor public space will attract trips associated with other land use and activity in the area, it is not an independent generator of new trips.
3 Lobby Space is not an independent trip generator.

ITE rates produce unadjusted vehicle trips for weekday daily, morning, and evening peak hours, i.e. trips before adjustment for local transportation conditions, including availability of transit and alternative modes, that influence mode share and vehicle occupancy. Unadjusted daily vehicle trips are presented in Table 4-3.

Table 4-3 Unadjusted[1] Project Generated Vehicle Trips

	ITE Unadjusted[1] Daily Vehicle Trips		
Land Use	**Arriving**	**Departing**	**Total**
Office	2,990	2,990	5,979
Retail	77	77	155
Total	**3,067**	**3,067**	**6,134**

1 Project trips before adjustment for mode share and vehicle occupancy.

Unadjusted vehicle trips were converted into person trips by applying the national average vehicle occupancy ("AVO") of 1.18 for office and 1.82 for retail as determined by the 2017 National Household Travel Survey.

4.4.2 Mode Share and Vehicle Occupancy

Area mode shares were used to allocate the calculated person-trips by various transportation modes including vehicle (drive), transit, and walk/bike. The Project is located in the same Census Tract as the recently reviewed 115 Winthrop Square project and is expected to exhibit similar mode share characteristics. The mode shares are based on the U.S. Census Bureau American Community Survey ("ACS") 2006 – 2010 Five-year estimates from census tract 701.01 of Suffolk County, Massachusetts. Mode shares are presented in Table 4-4.

Table 4-4 Project Mode Shares

Mode	Office/Retail
Vehicle	33%
Transit	58%
Walk/Bike	9%
Total	**100%**

Source: U.S. Census Bureau, American Community Survey 2006-2010 Five-year estimates
Special Tabulation: Census Transportation Planning.

The mode shares shown in Table 4-4 were applied to the unadjusted Project trips to determine the adjusted Project trips by mode.

AVO ratios were applied to convert the person-trips to vehicle-trips for the vehicle trip generation. As local AVO data is not available, national AVOs of 1.18 for office and 1.82 for retail were utilized.

4.4.3 Adjusted Trip Generation

The adjusted Project trip generation by mode is presented in Table 4-5.

Table 4-5 Adjusted Project Generated Trips by Mode

		Auto (vehicle)	Transit (person)	Walk/Bike (person)
Daily	In	1,012	2,128	330
	Out	1,012	2,128	330
	Total	**2,024**	**4,256**	**660**
Morning Peak Hour	In	167	348	54
	Out	28	58	9
	Total	**195**	**406**	**63**
Evening Peak Hour	In	35	76	12
	Out	174	365	57
	Total	**209**	**441**	**69**

As shown, the Project is expected to generate a total of approximately 195 vehicle trips (167 arriving, and 28 departing) during the weekday morning peak hour, and a total of approximately 209 vehicle trips (35 arriving and 174 departing) during the weekday evening peak hour. On a typical weekday, the Project is expected to generate approximately 2,024 vehicle-trips total (arriving and departing), some of which are expected will park in other area off-street parking facilities rather than the Project Site itself.

Building upon the strongly transit-oriented nature of the Project's location, the current trends in declining parking needs in Boston, and in response to local transportation goals, the Project seeks to minimize dependence on auto travel and will implement a comprehensive package of Transportation Demand Management ("TDM") strategies to reduce auto trips and parking demand. By limiting the parking supply to reflect transit-oriented development, the Project also provides a degree of parking constraint to minimize vehicle trip generation.

It should be noted that not all Project vehicle trips will use the on-site parking, as many will be drop-off/pick-up trips, and some will park in other remote locations and therefore not even pass adjacent to the Project Site itself. For a conservative analysis, however, it is assumed that all trips will arrive at and depart from the Project Site.

Reflecting the transit-oriented location of the Project Site, it is expected that that the Project will generate approximately 4,256 transit trips on a weekday, with approximately 406 trips during the morning peak hour and 441 trips during the evening peak hour.

Existing Site Vehicle Trips

Under the existing condition, the Project Site generates trips over the course of the day, either associated with existing uses in the Building, or by people from other developments/land use in the area who choose to park in the existing garage. These

existing trips will be eliminated and replaced with the Project trips. The existing land uses on the Project Site, excluding on-site parking, likely generate vehicle trips that do not park in the garage or drop-off/pick-up at the site. Therefore, to reflect a conservative analysis, it was assumed that the only trips which will be eliminated are those vehicle trips using the existing driveways on Beach Street and Lincoln Street. Other transient users of the garage may seek parking in other area garages or lots over the course of the day, but the effect of such re-distributions of existing trips would be expected to be limited.

Existing vehicle trips entering on Beach Street and exiting on Lincoln Street need to be eliminated from the No Build volumes before adding the Project trips to generate the future site trips. The existing trips, as determined from the previously discussed traffic counts, are presented in Table 4-6.

Table 4-6 Existing Site Vehicle Trips

Morning Peak Hour	In	34
	Out	5
	Total	**39**
Evening Peak Hour	In	5
	Out	26
	Total	**31**

Net New Adjusted Project Trips

The resulting net new Project vehicle trips assigned to the Project site are presented in Table 4-7.

Table 4-7 Net-New Site Project Vehicle Trips

		Project Generated Trips	Less Existing Site Trips	Net New Vehicle Trips
Morning Peak Hour	In	167	(-34)	133
	Out	28	(-5)	23
	Total	**195**	**(-39)**	**156**
Evening Peak Hour	In	35	(-5)	30
	Out	174	(-26)	148
	Total	**209**	**(-31)**	**178**

4.4.4 Trip Distribution and Assignment

The directional distribution of the vehicular traffic approaching and departing the Project Site is a function of the land use, population densities, the location of employment, existing travel patterns, competing uses, and the efficiency of the existing roadway system.

The Project trip distribution is based on the origin-destination U.S. Census Bureau American Community Survey ("ACS") 2006-2010 Five-year estimates for Census Tract 701.01 of Suffolk County, Massachusetts. Table 4-8 summarizes the regional distribution of site trips by major roadway corridor, and Figure 4.11 shows the assignment of trips to the main roadway corridors serving the Project Site.

Table 4-8 Regional Vehicle Trip Distribution

Direction/Highway	Percentage Trips
South I-93, Route 3, Route 3A, Route 24, I-95	36%
North I-93	24%
North I-95, Route 1	6%
West I-90	20%
East I-90	5%
West/Northwest Route 2, Storrow Drive	5%
West/Southwest Route 9, Route 1	3%
Local	1%
Total	100%

Source: U.S. Census Bureau, American Community Survey 2006-2010 Five-year estimates
Special Tabulation: Census Transportation Planning.

4.4.5 Project Site Plan – Changes to Street Circulation

The Project Site plan is shown in Figure 4.12 which illustrates the locations of the Project's pedestrian and vehicle accesses and the internal service area/loading docks.

The existing garage curb-cut on Beach Street immediately abuts the stop line at the Beach Street/Surface Road signalized intersection. The crossing distance for pedestrians at the existing curb-cut is approximately 38 feet. To eliminate the adjacency to the intersections and reduce the length of curb-cut, the Project's vehicle access will be re-located further to the east on Beach Street. The relocated single driveway will accommodate all Project vehicle trips including both garage traffic and service/loading vehicles. The sidewalk will be maintained at a continuous grade across the driveway, with an effective crossing distance for pedestrians of 26 feet.

The elimination of the existing garage egress via Tufts Street to Lincoln Street will eliminate the need for south- and west-bound vehicles exiting the garage to cut through the Leather District. Project trips will be able to access I-93 southbound, I-90 westbound, Kneeland Street westbound and the Back Bay, South End and Chinatown

neighborhoods, without unnecessarily cutting through the Leather District via Tufts Street and South Street which they must do with the existing exit on Tufts Street.

Improvements to Beach Street will include substantial widening of sidewalks and other improvements to enhance the pedestrian environment. The changes will be designed in collaboration with BPDA, BTD and the community to prioritize the pedestrian experience rather than the relatively low vehicle volumes. Specifically, the Project curb-cut will be designed to emphasize pedestrian flow along Beach Street with a continuous grade along the sidewalk, special materials and appropriate signage for drivers and pedestrians. As part of the Project, a section of Beach Street is proposed to change from one way westbound to two way between the Project's driveway and Lincoln Street.

4.4.6 2025 Build Traffic Volumes

The net-new vehicle trips, summarized previously in Table 4-7, were assigned to the roadway network serving the Project's driveways. As noted previously, not all Project vehicle trips will use the on-site parking, as many will be drop-off/pick-up trips, and some will park in other remote locations and therefore not even pass adjacent to the site itself. For a conservative analysis, however, it is assumed that all trips will arrive at and depart from the Project site.

The resulting Project trip turning movements at study intersections are shown in Figure 4.13a and Figure 4.13b for the weekday morning peak hour and evening peak hour, respectively. Combined with the 2025 No-Build Conditions traffic networks yields the 2025 Build Conditions networks shown in Figure 4.14a and Figure 4.1b for the weekday morning peak hour and evening peak hour, respectively. A comprehensive operational and Level of Service ("LOS") analysis of all study area intersections for Existing, No-Build and Build conditions is presented in the following sections.

4.5 Traffic Operations Analysis

Synchro 9 software was used to determine the vehicle level of service ("VLOS") for the nine signalized and three unsignalized study area intersections. Synchro software is based on the 2000 Highway Capacity Manual.

4.5.1 Vehicle Operations

Results for the 2018 Existing, 2025 No-Build, and 2025 Build Conditions are presented in Table 4-9a and Table 4-9b for signalized intersections, and Table 4-10a and Table 4-10b for unsignalized intersections, for the morning and evening peak hours, respectively. The tables also show the difference in delay between the Existing and No-Build conditions (delay due to background growth and trips from other projects) and between No-Build and Build conditions (delay due to Project impact).

Table 4-9a Signalized Intersection Level of Service Results – Morning Peak Hour

		Existing (2018)			No-Build (2025)				Build (2025)			
Intersection	Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay	v/c	Delay	VLOS	Difference in Delay
1. Kingston Street at Essex Street	Essex Street EB Thru/Right	0.37	18.7	B	0.38	18.9	B	0.2	0.39	19.0	B	0.1
	Kingston Street SB Left	0.38	23.4	C	0.52	26.7	C	3.3	0.52	26.7	C	0.0
	Kingston Street SB Thru	0.03	18.4	B	0.03	18.4	B	0.0	0.03	18.4	B	0.0
	Overall	**0.39**	**20.0**	**C**	**0.47**	**21.6**	**C**	**1.6**	**0.48**	**21.6**	**C**	**0.0**
2. Surface Road at Essex Street and Lincoln Street	Essex Street EB Left/Thru/Right	0.82	47.5	D	0.90	57.8	E	10.3	0.91	57.4	E	-0.4
	Essex Street EB Right	0.43	44.5	D	0.54	45.4	D	0.9	0.55	45.1	D	-0.3
	Lincoln Street NB Thru/Right	0.77	44.3	D	0.87	47.5	D	3.2	0.88	48.4	D	0.9
	Surface Road SWB Left/Thru	0.57	29.8	C	0.72	36.1	D	6.3	0.76	37.8	D	1.7
	Overall	**0.69**	**39.1**	**D**	**0.82**	**45.0**	**D**	**5.9**	**0.84**	**45.7**	**D**	**0.7**
3. South Street at Essex Street	Essex Street EB Thru/Right	0.23	7.6	A	0.24	7.6	A	0.0	0.26	7.4	A	-0.2
	Essex Street WB Left	0.21	27.2	C	0.23	27.5	C	0.3	0.23	26.3	C	-1.2
	Overall	**0.24**	**10.9**	**B**	**0.25**	**11.2**	**B**	**0.3**	**0.27**	**11.0**	**B**	**-0.2**
4. Summer Street at Surface Road/ Purchase Street	Purchase Street WB Left/Thru/Right	0.65	23.8	C	0.78	27.6	C	3.8	0.80	28.5	C	0.9
	Summer Street NB Left	0.78	68.3	E	0.83	74.9	E	6.6	0.84	76.2	E	1.3
	Summer Street NB Left/Thru	1.02	95.7	F	1.14	131.6	F	35.9	1.14	131.6	F	0.0
	Summer Street SB Thru	0.34	42.7	D	0.35	42.8	D	0.1	0.35	42.8	D	0.0
	Summer Street SB Right	0.04	37.4	D	0.04	37.4	D	0.0	0.04	37.4	D	0.0
	Overall	**0.65**	**44.8**	**D**	**0.75**	**54.5**	**D**	**9.7**	**0.76**	**54.7**	**D**	**0.2**
5. Surface Road at Beach Street	Beach Street WB Left	0.06	19.2	B	0.07	19.4	B	0.2	0.09	19.6	B	0.2
	Surface Road SB Thru	0.34	15.0	B	0.41	15.8	B	0.8	0.41	15.8	B	0.0
	Overall	**0.23**	**15.6**	**B**	**0.28**	**16.3**	**B**	**0.7**	**0.29**	**16.4**	**B**	**0.1**
8. Atlantic Avenue at Beach Street	Atlantic Ave NB Left/Thru	0.37	4.3	A	0.42	4.6	A	0.3	0.42	4.6	A	0.0
	Overall	**0.30**	**4.3**	**A**	**0.34**	**4.6**	**A**	**0.3**	**0.34**	**4.6**	**A**	**0.0**
9. Surface Road at Kneeland Street	Kneeland Street EB Thru	0.25	22.0	C	0.27	22.9	C	0.9	0.28	22.9	C	0.0
	Kneeland Street EB Right	0.09	20.6	C	0.12	21.5	C	0.9	0.12	21.5	C	0.0
	Kneeland Street WB Left	0.14	8.2	A	0.15	8.2	A	0.0	0.15	8.2	A	0.0
	Kneeland Street WB Thru	0.43	7.8	A	0.45	7.9	A	0.1	0.45	7.9	A	0.0
	Surface Road SB Thru	0.73	48.3	D	0.99	69.8	E	21.5	1.03	78.7	E	8.9
	Overall	**0.58**	**25.0**	**C**	**0.67**	**34.9**	**C**	**9.9**	**0.68**	**38.8**	**D**	**3.9**
10. Lincoln Street at Kneeland Street	Kneeland Street EB Left/Thru/Right	0.51	28.8	C	0.57	29.4	C	0.6	0.60	30.0	C	0.6
	Kneeland Street WB Left/Thru/Right	0.76	28.6	C	0.80	29.8	C	1.2	0.81	30.5	C	0.7
	Lincoln Street NB Left	1.31	198.7	F	1.44	256.8	F	58.1	1.44	256.8	F	0.0
	Lincoln Street NB Thru/Right	0.63	41.7	D	0.95	66.6	E	24.9	1.03	86.2	F	19.6
	Overall	**0.72**	**70.0**	**E**	**0.78**	**86.6**	**F**	**16.6**	**0.78**	**91.8**	**F**	**5.2**
12. I-93 Off Ramp/ Atlantic Ave at I-90 Off-Ramp at Kneeland Street	Kneeland Street EB Left	0.74	49.0	D	0.77	46.3	D	-2.7	0.77	45.8	D	-0.5
	Kneeland Street EB Thru	0.74	49.0	D	0.77	46.5	D	-2.5	0.77	46.0	D	-0.5
	Kneeland Street WB Thru	0.00	00.0	A	0.00	0.00	A	0.0	0.00	0.00	A	0.0
	Interstate-93 NB Left	0.63	40.3	D	0.57	34.6	C	-5.7	0.56	33.9	C	-0.7
	Interstate-93 NB Left/Thru	0.80	49.9	D	0.79	44.8	D	-5.1	0.79	44.3	D	-0.5
	Interstate-90 NB Left	0.67	33.3	C	0.93	63.2	E	29.9	0.95	66.8	E	3.6
	Interstate-90 NB Right	1.17	127.3	F	1.50	275.3	F	148	1.60	319.0	F	43.7
	Overall	**1.02**	**70.4**	**E**	**1.12**	**117.7**	**F**	**47.3**	**1.15**	**133.7**	**F**	**16.0**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle;
VLOS = vehicular level of service

Table 4-9b Signalized Intersection Level of Service Results – Evening Peak Hour

		Existing (2018)			No-Build (2025)				Build (2025)			
Intersection	Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay	v/c	Delay	VLOS	Difference in Delay
1. Kingston Street at Essex Street	Essex Street EB Thru/Right	0.56	26.1	C	0.59	26.7	C	0.6	0.59	26.7	C	0.0
	Kingston Street SB Left	0.57	23.1	C	0.67	26.1	C	3.0	0.67	26.1	C	0.0
	Kingston Street SB Thru	0.01	14.4	B	0.01	14.4	B	0.0	0.01	14.4	B	0.0
	Overall	**0.60**	**24.8**	**C**	**0.67**	**26.3**	**C**	**1.5**	**0.67**	**26.3**	**C**	**0.0**
2. Surface Road at Essex Street and Lincoln Street	Essex Street EB Left/Thru/Right	1.04dl	67.3	E	1.26dl	139.8	F	72.5	1.30dl	157.3	F	17.5
	Essex Street EB Right	0.63	34.5	C	0.81	48.1	D	13.6	0.84	51.5	D	3.4
	Lincoln Street NB Thru/Right	1.02dr	45.7	D	0.97dr	50.8	D	5.1	1.19dr	58.0	E	7.2
	Surface Road SWB Left/Thru	0.77	39.2	D	0.87	44.4	D	5.2	0.87	44.6	D	0.2
	Overall	**0.85**	**48.2**	**D**	**0.98**	**73.6**	**E**	**25.4**	**1.01**	**80.1**	**F**	**6.5**
3. South Street at Essex Street	Essex Street EB Thru/Right	0.27	10.1	B	0.27	9.6	A	-0.5	0.28	9.7	A	0.1
	Essex Street WB Left	0.17	17.0	B	0.18	17.1	B	0.1	0.18	17.1	B	0.0
	Overall	**0.23**	**12.0**	**B**	**0.23**	**11.7**	**B**	**-0.3**	**0.24**	**11.8**	**B**	**0.1**
4. Summer Street at Surface Road/ Purchase Street	Purchase Street WB Left/Thru/Right	0.60	24.0	C	0.73	27.0	C	3.0	0.73	27.1	C	0.1
	Summer Street NB Left	0.68	55.6	E	0.75	60.3	E	4.7	0.75	60.3	E	0.0
	Summer Street NB Left/Thru	0.72	50.9	D	0.80	55.2	E	4.3	0.80	55.1	E	-0.1
	Summer Street SB Thru	0.44	46.2	D	0.45	46.4	D	0.2	0.45	46.4	D	0.0
	Summer Street SB Right	0.06	38.5	D	0.06	38.5	D	0.0	0.06	38.5	D	0.0
	Overall	**0.60**	**34.2**	**C**	**0.68**	**36.7**	**D**	**2.5**	**0.68**	**36.7**	**D**	**0.0**
5. Surface Road at Beach Street	Beach Street WB Left	0.06	19.2	B	0.07	19.3	B	0.1	0.30	22.2	C	2.9
	Surface Road SB Thru	0.47	15.8	B	0.54	17.8	B	2.0	0.54	17.8	B	0.0
	Overall	**0.31**	**17.0**	**B**	**0.35**	**18.0**	**B**	**1.0**	**0.46**	**18.8**	**B**	**0.8**
8. Atlantic Avenue at Beach Street	Atlantic Ave NB Left/Thru	0.24	3.7	A	0.28	3.9	A	0.2	0.28	3.9	A	0.0
	Overall	**0.19**	**3.7**	**A**	**0.23**	**3.9**	**A**	**0.2**	**0.23**	**3.9**	**A**	**0.0**
9. Surface Road at Kneeland Street	Kneeland Street EB Thru	0.40	28.8	C	0.44	29.9	C	1.1	0.44	30.0	C	0.1
	Kneeland Street EB Right	0.20	26.9	C	0.23	27.9	C	1.0	0.23	27.9	C	0.0
	Kneeland Street WB Left	0.25	13.5	B	0.26	13.6	B	0.1	0.26	13.6	B	0.0
	Kneeland Street WB Thru	0.38	11.9	B	0.40	12.1	B	0.2	0.40	12.1	B	0.0
	Surface Road SB Thru	0.78	62.1	E	0.92	70.1	E	8.0	1.06	97.4	F	27.3
	Overall	**0.60**	**37.5**	**D**	**0.68**	**42.2**	**D**	**4.7**	**0.73**	**56.8**	**E**	**14.6**
10. Lincoln Street at Kneeland Street	Kneeland Street EB Left/Thru/Right	0.60	30.4	C	0.67	31.6	C	1.2	0.79	36.8	D	5.2
	Kneeland Street WB Left/Thru/Right	0.74	47.2	D	0.80	46.5	D	-0.7	0.81	47.5	D	1.0
	Lincoln Street NB Left	1.05	103.4	F	1.18	148.2	F	44.8	1.18	148.2	F	0.0
	Lincoln Street NB Thru/Right	0.36	37.3	D	0.76	48.6	D	11.3	0.77	49.0	D	0.4
	Overall	**0.63**	**52.2**	**D**	**0.69**	**61.9**	**E**	**9.7**	**0.71**	**62.6**	**E**	**0.7**
12. I-93 Off Ramp/ Atlantic Ave at I-90 Off-Ramp at Kneeland Street	Kneeland Street EB Left	0.72	47.8	D	0.78	51.4	D	3.6	0.79	48.9	D	-2.5
	Kneeland Street EB Thru	0.72	47.8	D	0.79	51.5	D	3.7	0.79	48.9	D	-2.6
	Kneeland Street WB Thru	0.00	0.00	A	0.00	0.00	A	0.0	0.00	0.00	A	0
	Interstate-93 NB Left	0.69	45.9	D	0.66	42.4	D	-3.5	0.66	42.4	D	-0.0
	Interstate-93 NB Left/Thru	0.83	56.8	E	0.86	57.6	E	0.8	0.86	57.9	E	0.3
	Interstate-90 NB Left	0.45	38.8	D	0.68	52.2	D	13.4	0.68	52.5	D	0.3
	Interstate-90 NB Right	0.45	39.1	D	0.60	49.0	D	9.9	0.62	49.8	D	0.8
	Overall	**0.53**	**47.2**	**D**	**0.64**	**51.2**	**D**	**4.0**	**0.64**	**50.5**	**D**	**-0.7**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Table 4-10a Unsignalized Intersection Level of Service Results – Morning Peak Hour

		Existing (2018)			No-Build (2025)				Build (2025)			
Intersection	Conflicting Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay	v/c	Delay	VLOS	Difference in Delay
6. Lincoln Street at Beach Street	Beach Street WB Thru/Right	0.40	17.9	C	0.58	27.7	D	9.8	0.83	46.1	E	18.4
7. South Street at Beach Street	Beach Street WB Left/Thru	0.20	10.7	B	0.20	10.8	B	0.1	0.28	11.9	B	1.1
11. Kneeland Street at South Street	South Street SB Right	0.17	10.6	B	0.18	10.8	B	0.2	0.18	10.8	B	0.0
13. Lincoln Street at Existing Site Driveway	Site Driveway EB Left/Thru	0.01	10.0	B	0.01	10.5	B	0.5	-	-	-	-
14. Beach Street at Project Site Driveway	Site Driveway SB Right	0.01	8.9	A	0.01	9.0	A	0.1	0.15	10.1	B	1.1

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Table 4-10b Unsignalized Intersection Level of Service Results – Evening Peak Hour

		Existing (2018)			No-Build (2025)				Build (2025)			
Intersection	Conflicting Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay	v/c	Delay	VLOS	Difference in Delay
6. Lincoln Street at Beach Street	Beach Street WB Thru/Right	0.24	13.4	B	0.36	18.0	C	4.6	0.42	20.7	C	2.7
7. South Street at Beach Street	Beach Street WB Left/Thru	0.14	11.4	B	0.14	11.5	B	0.1	0.15	11.6	B	0.1
11. Kneeland Street at South Street	South Street SB Right	0.34	11.2	B	0.35	11.6	B	0.4	0.35	11.6	B	0.0
13. Lincoln Street at Existing Site Driveway	Site Driveway EB Left/Thru	0.06	11.1	B	0.07	12.4	B	1.3	-	-	-	-
14. Beach Street at Project Site Driveway	Site Driveway SB Right	0.01	8.8	A	0.01	9.0	A	0.2	0.39	11.4	B	2.4

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Under existing conditions, during the morning peak hour, all of the signalized study intersections operate at a LOS D or better with the exception of Lincoln Street at Kneeland Street and I-93 Off-Ramp at Kneeland Street (#10) and the I-93 and I-90 Off-Ramp at Atlantic Avenue (#12), which operate at a LOS E. The unsignalized study intersections each operate at a LOS B or better with the exception of Lincoln Street at Beach Street (#4) which operates at a LOS C.

Under existing conditions, during the evening peak hour, the signalized study intersections operate at a LOS D or better. The unsignalized study intersections each operate at a LOS C or better.

Under No Build conditions, during the morning peak hour, the Lincoln Street at Kneeland Street (#10) and I-90 and I-93 off-ramps at Atlantic Avenue (#12) both decline from LOS E to LOS F. During the evening peak hour, the Surface Road at Essex Street and Lincoln Street intersection (#2) and the Lincoln Street at Kneeland Street (#10) intersection both decline from LOS D to LOS E. Also, the Summer Street at Surface Street intersection (#4) declines from LOS C to LOS D. All of the un-signalized study intersections maintain the same LOS as Existing under No Build, with the exception of the Lincoln Street at Beach Street intersection (#6) which declines from LOS C to LOS D in the morning peak hour and LOS B to LOS C in the evening peak hour.

Under Build conditions, there are no reductions in LOS grade due to the Project during the morning peak hour at signalized study intersections, with the exception of the Surface Street at Kneeland Street intersection (#9), which declines to LOS D from LOS C. During the evening peak hour, there are no reductions in LOS grade due to the Project with the exception of the Surface Road at Essex Street and Lincoln Street intersection (#2) which declines from LOS E to LOS F, and the Surface Road at Kneeland Street intersection (#9), which declines to LOS D from LOS E. The increases in delay due to the Project are limited to 6.5 and 14.6 respectively. The maximum increase in delay due to the Project at all study intersections is 16 seconds, but most are 5 seconds or less, with no changes in LOS grade.

Under Build Conditions, all of the un-signalized study intersections maintain the same LOS as under No Build, with the exception of the Lincoln Street at Beach Street intersection (#6) which declines from LOS D to LOS E with an 18.4 second increase in delay in the morning peak hour and Beach Street at the Project driveway (#14) which declines from LOS A to LOS B in the both peak hours.

4.5.2 Mitigation

Operational improvements are proposed as mitigation to address reductions in future LOS at study area intersections as a result of the Project (Build conditions compared to No-Build conditions). Timing changes and or lane reassignments are proposed at the following intersections:

2. Surface Road at Essex Street and Lincoln Street
6. Lincoln Street at Beach Street

9. Surface Street Surface Road at Kneeland Street
10. Kneeland Street at Lincoln Street

The results of the Build with Mitigation conditions analysis are presented in Tables 4-11a and 4-11b for the signalized intersections and 4-12a and 4-12b for the unsignalized intersections for the morning and evening peak hours, respectively. The proposed timing changes mitigate existing and Project-related impact as follows:

2. Surface Road at Essex Street and Lincoln Street

With signal timing mitigation, the overall intersection operations are maintained at LOS D during the morning peak hour and LOS E during the evening peak hour, compared to LOS D and LOS F under Build conditions in the morning and evening peak hours, respectively.

6. Lincoln Street at Beach Street

With striping of Beach Street to accommodate two lanes (thru and thru/right), the overall intersection operations are at LOS E in the morning peak hour, and LOS C in the evening peak hour compared to LOS D and LOS E, respectively, under No Build. The Mitigated LOS is maintained at the same as Build in each peak respectively, The delay is reduced by 7.8 and 4.0 seconds during the morning and evening peak hours, respectively, compared to Build conditions.

9. Surface Street Surface Road at Kneeland Street

With signal timing mitigation, the overall intersection operations are maintained at LOS C and LOS D during the morning and evening peak hours, respectively, compared to No Build, and LOS D and LOS E under Build Conditions.

10. Kneeland Street at Lincoln Street

With signal timing mitigation, the overall intersection operations are maintained at LOS E and LOS D during the morning and evening peak hours, respectively, compared to LOS F and LOS D under No Build conditions and LOS F and LOS E under Build Conditions.

Table 4-11a Signalized Intersection Level of Service Results - Morning Peak Hour Build with Mitigation

		No-Build (2025)			Build (2025)			Build Mitigated (2025)			
Intersection	Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay
2. Surface Road at Essex Street and Lincoln Street	Essex Street EB Left/Thru/Right	0.90	57.8	E	0.91	57.4	E	0.85	50.3	D	-7.1
	Essex Street EB Right	0.54	45.4	D	0.55	45.1	D	0.52	43.4	D	-1.7
	Lincoln Street NB Thru/Right	0.87	47.5	D	0.88	48.4	D	0.90	51.9	D	3.5
	Surface Road SWB Left/Thru	0.72	36.1	D	0.76	37.8	D	0.78	38.8	D	1
	Overall	**0.82**	**45.0**	**D**	**0.84**	**45.7**	**D**	**0.84**	**45.6**	**D**	**-0.1**
9. Surface Road at Kneeland Street	Kneeland Street EB Thru	0.27	22.9	C	0.28	22.9	C	0.36	30.0	C	7.1
	Kneeland Street EB Right	0.12	21.5	C	0.12	21.5	C	0.12	27.5	C	6
	Kneeland Street WB Left	0.15	8.2	A	0.15	8.2	A	0.15	10.7	B	2.5
	Kneeland Street WB Thru	0.45	7.9	A	0.45	7.9	A	0.49	10.8	B	2.9
	Surface Road SB Thru	0.99	69.8	E	1.03	78.7	E	0.82	46.0	D	-32.7
	Overall	**0.67**	**34.9**	**C**	**0.68**	**38.8**	**D**	**0.68**	**28.2**	**C**	**-10.6**
10. Lincoln Street at Kneeland Street	Kneeland Street EB Left/Thru/Right	0.57	29.4	C	0.60	30.0	C	0.71	38.6	D	8.6
	Kneeland Street WB Left/Thru/Right	0.80	29.8	C	0.81	30.5	C	1.00	59.6	E	29.1
	Lincoln Street NB Left	1.44	256.8	F	1.44	256.8	F	0.96	71.2	E	-185.6
	Lincoln Street NB Thru/Right	0.95	66.6	E	1.03	86.2	F	0.94	57.1	E	-29.1
	Overall	**0.78**	**86.6**	**F**	**0.78**	**91.8**	**F**	**0.73**	**57.1**	**E**	**-34.7**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Table 4-11b Signalized Intersection Level of Service Results - Evening Peak Hour Build with Mitigation

		No-Build (2025)			Build (2025)			Build Mitigated (2025)			
Intersection	Movement	v/c	Delay	VLOS	v/c	Delay	VLOS	v/c	Delay	VLOS	Difference in Delay
2. Surface Road at Essex Street and Lincoln Street	Essex Street EB Left/Thru/Right	1.26dl	139.8	F	1.30dl	157.3	F	1.09dl	74.9	E	-82.4
	Essex Street EB Right	0.81	48.1	D	0.84	51.5	D	0.70	36.9	D	-14.6
	Lincoln Street NB Thru/Right	0.97dr	50.8	D	1.19dr	58.0	E	1.23dl	65.6	E	7.6
	Surface Road SWB Left/Thru	0.87	44.4	D	0.87	44.6	D	1.02	73.6	E	29
	Overall	**0.98**	**73.6**	**E**	**1.01**	**80.1**	**F**	**1.01**	**67.6**	**E**	**-12.5**
9. Surface Road at Kneeland Street	Kneeland Street EB Thru	0.44	29.9	C	0.44	30.0	C	0.57	37.5	D	7.5
	Kneeland Street EB Right	0.23	27.9	C	0.23	27.9	C	0.23	33.2	C	5.3
	Kneeland Street WB Left	0.26	13.6	B	0.26	13.6	B	0.28	16.5	B	2.9
	Kneeland Street WB Thru	0.40	12.1	B	0.40	12.1	B	0.44	15.1	B	3
	Surface Road SB Thru	0.92	70.1	E	1.06	97.4	F	0.92	50.4	D	-47
	Overall	**0.68**	**42.2**	**D**	**0.73**	**56.8**	**E**	**0.76**	**36.9**	**D**	**-19.9**
10. Lincoln Street at Kneeland Street	Kneeland Street EB Left/Thru/Right	0.67	31.6	C	0.79	36.8	D	0.83	41.8	D	5
	Kneeland Street WB Left/Thru/Right	0.80	46.5	D	0.81	47.5	D	0.94	66.1	E	18.6
	Lincoln Street NB Left	1.18	148.2	F	1.18	148.2	F	0.85	59.3	E	-88.9
	Lincoln Street NB Thru/Right	0.76	48.6	D	0.77	49.0	D	0.81	47.2	D	-1.8
	Overall	**0.69**	**61.9**	**E**	**0.71**	**62.6**	**E**	**0.69**	**53.5**	**D**	**-9.1**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Table 4-12a Unsignalized Intersection Level of Service Results (Morning Peak Hour) – Build with Mitigation

		Build (2025)			Build (2025)			Build Mitigated (2025)			
Intersection	**Movement**	**v/c**	**Delay**	**VLOS**	**v/c**	**Delay**	**VLOS**	**v/c**	**Delay**	**VLOS**	**Difference in Delay**
6. Lincoln Street at Beach Street	Beach Street WB Thru/Right	0.58	27.7	D	0.83	46.1	E	-	38.3	E	**-7.8**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

Table 4-12b Unsignalized Intersection Level of Service Results (Evening Peak Hour) – Build with Mitigation

		Build (2025)			Build (2025)			Build Mitigated (2025)			
Intersection	**Movement**	**v/c**	**Delay**	**VLOS**	**v/c**	**Delay**	**VLOS**	**v/c**	**Delay**	**VLOS**	**Difference in Delay**
6. Lincoln Street at Beach Street	Beach Street WB Thru/Right	0.36	18.0	C	0.42	20.7	C	-	16.7	C	**-4.0**

v/c = volume-to-capacity ratio; Delay = average delay expressed in seconds per vehicle; VLOS = vehicular level of service

4.6 Transit Analysis

As discussed previously, the Project Site is well served by public transportation. As a result, the supporting transit system will move a significant proportion of people to and from the Project Site. As presented previously in Table 4-5, the Project trip generation analysis estimates that the Project will generate a total of approximately 4,256 daily transit trips, (2,128 in and 2,128 out), approximately 404 (348 in and 58 out) of which occur during the morning peak hour, and approximately 440 (76 in and 365 out) of which occur during the evening peak hour. A breakdown of the peak hour transit trips by each Project land use is shown in Table 4-13.

Table 4-13 Project Generated Transit Trips

		Office	Retail	Total
Morning Peak Hour	In	345	3	348
	Out	56	2	58
	Total	401	5	406
Evening Peak Hour	In	68	8	76
	Out	356	9	365
	Total	424	17	441

4.6.1 Project Transit Trip Distribution and Assignment

The Project transit trips were assigned to specific transit services based on the ACS, the same data source for the Project mode split in Section 4.5.2. Table 4-14 shows the distribution of transit trips by type of transit service, including Commuter Rail, Heavy Rail (Red, Orange and Blue Lines), Light Rail (Green Lines), bus and Ferry.

Table 4-14 Transit Trip Distribution

Service	Project Trip Assignment
Commuter Rail	27%
Heavy Rail (Red/Orange/Blue Lines)	50%
Light Rail (Green Lines)	3%
Silver Line	10%
Bus	7%
Ferry Boat	2%
Total	**100%**

Project trips were assigned to individual lines or routes based on the distribution of the exiting ridership on each category of service type. Table 4-15 shows the numbers of peak hour Project trips assigned by each service category. Full details of the assignments of Project trips by individual lines/routes are included in Appendix C.

Table 4-15 Project Transit Trips by Line/Service

	Morning Peak Hour			Evening Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Commuter Rail	96	17	113	21	99	120
Heavy Rail (Red/Orange/Blue Lines)	174	31	205	37	182	219
Light Rail (Green Lines)	11	2	13	3	12	15
Silver Line	39	6	45	10	43	53
Bus	20	2	22	2	22	24
Ferry Boat	7	1	8	2	8	10
Total	**345**	**57**	**406**	**75**	**366**	**441**

Review of the assignments by individual lines/routes in the Appendix show that Project trips are broadly distributed amongst the multiple services, with low volumes of project trips assigned to individual bus routes, including the Silver Line routes. The highest one-direction volume of Project trips assigned to any individual bus route is eight riders on the Route 7 bus (inbound in the morning peak hour and outbound in the evening peak hour), equivalent to less than two riders per bus. The Route 11 bus attracts five peak hour one-direction Project trips. Assignments to all other bus routes are effectively negligible, ranging from 0 - 2 peak hour one-direction Project trips. The highest one-direction volume of Project trips assigned to

any Silver Line route is 15 riders on Silver Line 1 during the evening peak hour, equivalent to approximately two trips per bus.

With the exception of the Green Line, assignment of Project trips to the heavy and light rail lines are more significant than Bus, Silver Line and Commuter Rail, with the highest Project trips assigned to the Orange and Red lines. The potential impacts of Project trips to subway lines are described in Section 4.7.2.

4.6.2 Existing Transit Ridership

Existing ridership for the Orange, Red, Blue and Green lines was based on MBTA data for Fall 2016. Future background growth for 2025 No-Build was based on MBTA data incorporated in analyses of other recent projects relying significantly on subway access, including the Back Bay/South End Gateway Project and Kendal Square Urban Renewal Plan. Existing and projected 2025 No-Build and Build ridership for each line at the stations serving the Project are presented in Table 4-16.

Table 4-16 Existing and Projected Subway Ridership by Line and Direction

				Morning Peak Hour				Evening Peak Hour			
	Station	Direction	Enter/Exit Station	Existing	No-Build	Project Trips	Build	Existing	No-Build	Project Trips	Build
Orange Line	Chinatown	Forest Hills	Entering	4,833	5,366	34	5,400	4,672	5,105	7	5,113
			Exiting	4,317	4,744	6	4,750	4,766	5,257	36	5,293
		Oak Grove	Entering	5,231	5,815	40	5,855	4,662	5,099	9	5,108
			Exiting	4,948	5,438	7	5,445	5,038	5,569	42	5,611
Red Line	South Station	Ashmont/ Braintree	Entering	4,871	6,532	55	6,587	8,337	11,014	12	11,025
			Exiting	2,049	2,727	9	2,736	8,725	11,603	57	11,660
		Alewife	Entering	9,334	12,382	44	12,426	2,755	3,660	9	3,670
			Exiting	8,592	11,332	8	11,339	5,078	6,782	47	6,829
Green Line	Park Street	Westbound	Entering	3,243	3,617	8	3,625	2,566	2,854	2	2,856
			Exiting	4,917	5,461	1	5,463	4,025	4,486	9	4,494
		Lechmere	Entering	3,093	3,440	3	3,443	5,289	5,872	1	5,473
			Exiting	1,714	1,904	1	1,904	3,386	3,765	3	3,769

As shown in Table 4-16, the addition of Project trips varies by line and direction and is higher in the evening peak than the morning peak, with maximum additional single-direction hourly loadings of 42 trips on the Orange Line, 57 trips on the Red Line, and 9 trips on the Green Line. Spread over a full one-hour period, these increases are relatively insignificant compared to the total ridership, particularly as they are accommodated by multiple-car train sets.

4.6.3 Line Capacities

Existing capacities for the Orange, Red, and Green Lines are based on vehicle load standards from the MBTA's Service Delivery Policy and Crush Capacity manual and

data from the MBTA Blue Book, 14th edition. Policy and Crush Capacity are defined by the MBTA as follows:

- **Policy Capacity** – refers to the load standards or passengers per car volume defined by the MBTA's Service Delivery Policy which states the standards "establish the average maximum number of passengers allowed per vehicle to provide a safe and comfortable ride." Each vehicle type in the MBTA fleet has a defined "policy capacity" and is published in the MBTA Blue Book;
- **Crush Capacity** – refers to the higher load capacity of a vehicle and is calculated by adding the number of seated passengers plus 1.5 square feet per standing passenger (two square feet on buses). The MBTA Blue Book publishes the "crush capacity" for each vehicle type in the MBTA fleet.

On-Time Performance (OTP)

Line capacity also depends on the reliability of the trains within a specific time period. The MBTA publishes OTP measures related to the reliability of their services. MassDOT's Annual Performance Report for fiscal year 2016 defines MBTA Subway reliability as "the percent of customers who wait no longer than the scheduled time between trains". As reported for fiscal year 2016, the Orange Line, Red Line, and Green Line currently operate with 91 percent, 87 percent, and 72 percent reliability, respectively.

Planned Improvements

The MBTA is currently manufacturing new Orange Line cars, and the updated fleet will be in operation by 2025. Signal upgrades will also be in place before then. The improvements will decrease the headways from six minutes to four-and-a-half minutes, increasing the capacity and reliability of the line.

The MBTA will also have new Red Line rolling stock in place by 2025, which, along with signal upgrades will decrease the headways from four-and-a-half minutes to three minutes, again increasing the capacity and reliability of the line.

Table 4-17 shows the existing and future capacity for each line.

Table 4-17 Existing and Future (2025) Rail Line Capacities

	Existing (2018)		Future (2025)	
	Policy Capacity	Crush Capacity	Policy Capacity	Crush Capacity
Orange Line	7,153	12,230	9,537	16,307
Red Line	11,623	18,583	17,435	27,875
Green Line (Westbound)	5,818	15,494	5,818	15,494
Green Line (Eastbound/Lechmere)	4,363	11,621	4,363	11,621

* Capacity expressed as number of passengers per hour

4.6.4 Volume / Capacity Ratios

Ridership at the stations serving the Project site were combined with the corresponding capacity to generate volume/capacity ("V/C") ratios for each rail line, under Existing, No-Build and Build conditions. The analysis was performed for both Policy and Crush capacities, and includes both boarding and alighting riders at the station, yielding V/C ratios for trains entering and exiting the station. The results are presented in Tables 4-18a and 4-18b for the morning and evening peak hours, respectively. A V/C ratio greater than 1.0 indicates that the train is operating over its capacity as defined by the MBTA.

Table 4-18a V/C Ratios[1] For Policy and Crush Capacity on Subway Lines, AM Peak Hour

			Entering Station			Exiting Station		
	Direction	Capacity Type	Existing	No-Build	Build	Existing	No-Build	Build
Orange Line at Chinatown	Forest Hills	Policy	0.68	0.56	0.57	0.60	0.50	0.50
		Crush	0.40	0.33	0.33	0.35	0.29	0.29
	Oak Grove	Policy	0.73	0.61	0.61	0.69	0.57	0.57
		Crush	0.43	0.36	0.36	0.40	0.33	0.33
Red Line at South Station	Ashmont/ Braintree	Policy	0.42	0.37	0.38	0.18	0.16	0.16
		Crush	0.26	0.23	0.24	0.11	0.10	0.10
	Alewife	Policy	0.80	0.71	0.71	0.74	0.65	0.65
		Crush	0.50	0.44	0.45	0.46	0.41	0.41
Green Line at Park Street	Westbound	Policy	0.56	0.62	0.62	0.85	0.94	0.94
		Crush	0.21	0.23	0.23	0.32	0.35	0.35
	Lechmere	Policy	0.71	0.79	0.79	0.39	0.44	0.44
		Crush	0.27	0.30	0.30	0.15	0.16	0.16

1 Volume/Capacity Ratio = Number of Riders/Capacity expressed as number of passengers per hour

Table 4-18b V/C Ratios[1] For Policy and Crush Capacity on Subway Lines, PM Peak Hour

			Entering Station			Exiting Station		
	Direction	Capacity Type	Existing	No-Build	Build	Existing	No-Build	Build
Orange Line at Chinatown	Forest Hills	Policy	0.65	0.54	0.54	0.67	0.55	0.56
		Crush	0.38	0.31	0.31	0.39	0.32	0.32
	Oak Grove	Policy	0.65	0.53	0.54	0.70	0.58	0.59
		Crush	0.38	0.31	0.31	0.41	0.34	0.34
Red Line at South Station	Ashmont/ Braintree	Policy	0.72	0.63	0.63	0.75	0.67	0.67
		Crush	0.45	0.40	0.40	0.47	0.42	0.42
	Alewife	Policy	0.24	0.21	0.21	0.44	0.39	0.39
		Crush	0.15	0.13	0.13	0.27	0.24	0.24
Green Line at Park Street	Westbound	Policy	0.44	0.49	0.49	0.69	0.77	0.77
		Crush	0.17	0.18	0.18	0.26	0.29	0.29
	Lechmere	Policy	1.21	1.35	1.35	0.78	0.86	0.86
		Crush	0.46	0.51	0.51	0.29	0.32	0.32

1 Volume/Capacity Ratio = Number of Riders/Capacity expressed as number of passengers per hour

As shown in Tables 4-18a and 4-18b, trains on all lines currently operate within MBTA policy capacity, with V/C ratios below 1.0 during both morning and evening peaks, with the exception of the Green Line to Lechmere from Park Street. During the evening peak hour, this segment of the Green Line shows a policy V/C ratio of 1.21, although it operates well within its crush capacity.

It is important to note, however, that this analysis is conducted for the whole peak hour, and does not recognize the surges ("peak of the peak" conditions) which occur within the peak hours. In practice, some lines experience a V/C ratio of over capacity during the ten to twenty minutes of "peak of the peak" conditions. There are also occurrences where trains are bunched together and do not operate on evenly spaced headways due to signaling or maintenance issues, again increasing V/C at certain times and creating crush capacity conditions for riders. These fluctuations are reflected in the OTP's discussed in Section 4.8.3, which indicate that the Orange Line, Red Line, and Green Line currently operate with 91 percent, 87 percent and 72 percent reliability, respectively. As a result, some overcrowding and delays are experienced by riders in practice.

The previously described future improvements to the Orange Line and Red Line with new cars in service and signal improvements already in the works are expected to address these overcrowding and bunching issues with improved headways and reliability. Under 2025 No-Build conditions, all lines are projected to operate within MBTA policy capacity, with V/C ratios below 1.0 during both morning and evening peaks, with the exception of the Green Line train to Lechmere from Park Street. During the evening peak hour, this segment of the Green Line is projected to operates at a policy V/C ratio of 1.35, although it will operate well within its crush capacity.

With the Project trips added to the various subway lines, the V/C ratios on most trains are projected to remain largely unchanged under Build conditions compared to No-Build conditions. Any increase in V/C ratios are limited to approximately 0.01, which is not expected to result in a significant or noticeable impact. Again, with the exception of the Green Line train to Lechmere from Park Street, all lines are projected to operate within their policy and crush capacities under Build conditions. While the addition of Project trips may result is some minor increases in crowding, in practice such changes are not expected to be noticeable.

4.7 Pedestrian and Bike Accommodations

As shown previously in Table 4-5, the Project is expected to generate 84 morning peak hour pedestrian/bicycle/other trips and 100 evening peak hour pedestrian/bicycle/other trips. It is expected that many patrons and employees will chose to walk or bike between the many amenities and destinations within the neighborhood. It should be noted, however, that the 549 and 648 transit trips in the morning and evening peak hours, respectively, will also arrive at the Project as pedestrians, along with any drop-off trips by auto (taxi and on demand car service trips).

It is important to note that the pedestrian and bicycle trips are those single mode trips generated by the Project land uses themselves. They do not include pass-by and exiting trips attracted from other land uses and activities in the area. As a result, the activity, particularly for pedestrians, in and around the Project will be significantly greater than the projected single-mode trips.

As described in Chapter 2, *Urban Design*, substantial improvements to the pedestrian accommodations and environment on Beach Street and Lincoln Street are proposed as part of the project. The Proponent will work collaboratively with the BPDA, BTD, BPW and the community to develop the designs for these improvements, including potential crosswalk improvements.

4.8 Vehicle Parking

The construction of the Project will replace the existing 150-car space garage with parking for up to 275 vehicles, consistent with the Air Pollution Control Commission ("APCC") Downtown Boston Parking Freeze base inventory. A limited number of existing users may park elsewhere in the area, but as there is limited use of the existing garage by commuters, the diversion of these trips will be limited on an hourly basis, even during the peak traffic hours, and the effects are expected to be widely dissipated beyond the Project study area.

Building upon the strongly transit-oriented nature of the Project's location, the current trends in declining parking needs in Boston, and in response to local transportation goals, the Project will seek to minimize dependence on auto travel and will implement a comprehensive package of TDM strategies to reduce auto trips and parking demand.

Based on the total office and retail floor area of 598,600 square feet, the parking ratio for the Project will be a maximum of 0.46 spaces per 1,000 square feet, consistent with the BTD's recommended ratio. By limiting the parking supply to reflect transit-oriented development, the Project already provides some degree of parking constraint to minimize vehicle trip generation.

The Proponent will work collaboratively with the BPDA, BTD, BPW and the community to develop appropriate curbside regulations to accommodate parking, loading and drop-off/pick-up needs for the Project and surrounding residents and businesses.

4.9 Bicycle Parking

The Project will provide both long-term secure bicycle parking for employees in the building and short-term parking for bicycles for visitor, located close to the building entrances. Bicycle commuters will have access to locker and changing facilities in the building. The bicycle parking program is summarized in Table 4-19.

Table 4-19 Bicycle Parking

Long-Term	Short-Term	Total
100 spaces	30 spaces	130 spaces

In addition, the Proponent will provide funding to supplement existing Bluebike facilities in the area.

4.10 Loading, Service and Deliveries

All loading and service operations will be accommodated in off-street loading docks, as shown in the site plan in Figure 4.12. The loading docks include two bays to accommodate SU-30 box trucks, and a dumpster bay which can be accessed by a trash removal truck. Truck turning analysis for the loading docks is included in Appendix C.

4.11 Transportation Demand Management

The Proponent is committed to implementing a robust program of TDM strategies. The proposed TDM plan aims to reduce drive-alone trips, or single occupancy vehicles, by encouraging employees, patrons and visitors to use alternative modes of transportation. The TDM plan will be refined in collaboration with the BTD, and is expected to include the following components:

- Designate a Transportation Coordinator to oversee all transportation-related operational matters, including vehicular operations, servicing and loading, parking and implementation of the TDM Plan. The Transportation Coordinator will act as the contact and liaison for the City, the local Transportation Management Association ("TMA") and tenants of the Project.
- Join A Better City or appropriate TMA which provides a variety of commuter benefits including, but not limited to:
  - Guaranteed Ride Home;
  - Ride Matching;
  - Cash incentives to try out MBTA services; and
  - Carpool and Vanpool Subsidies.
- Post and make available transit maps, schedules and other information relevant to commuting options.
- Provide preferential parking to carpool and vanpool participants.
- Assign Car Sharing spaces (e.g. Zipcar) in the garage, subject to demand.
- Provide electric vehicle ("EV") charging stations for up to five percent of parking capacity and EV-ready parking for up to 15 percent of parking capacity.
- Provide long-term covered secure, and short-term public realm, bicycle spaces (numbers of spaces to be determined in collaboration with BTD)
- Provide funding to supplement existing Bluebike facilities in the area.

- Commit to providing additional bike parking in response to demand.
- Provide on-site "Fix-it" bike station.
- Encourage tenants to provide Charliecard subsidies for Building employees.
- Pass cost of parking along to tenants in Project.
- Encourage tenants to provide Bluebike and/or Car-sharing memberships to employees.
- Provide consolidated package delivery.
- Perform an evaluation of the potential for the improvement of the north-south pedestrian accommodations at the Lincoln Street/Essex Street/Surface Street intersection.

4.12 Monitoring Program

The Proponent is committed to conducting a Transportation Monitoring Program, to include the following elements:

- **Employee Survey** – A survey will be distributed to determine commuting modes to/from the Project Site, transit ridership, bicycle parking utilization, occupancy of car-sharing parking spaces, occupancy of alternative fueled vehicle parking spaces, electric vehicle charging station demand and usage, and overall parking demands.
- **Garage Volume Data** – Collection of traffic volume information will be collected over a continuous seven-day period at each Garage entrance/exit.

4.13 Construction Management Plan (CMP)

The Proponent will develop a detailed evaluation of potential short-term construction-related transportation impacts including construction vehicle traffic, parking supply and demand, and pedestrian access. Detailed CMPs will be developed at the appropriate time that key elements such as start date, construction duration, and other active construction sites in the area at the time of the Project commencement. These plans will detail construction vehicle routing and staging.

Construction Vehicle Traffic

Construction vehicles will be necessary to move construction materials to and from the Project Site. Every effort will be made to reduce noise, control fugitive dust, and minimize other disturbances associated with construction traffic. Truck staging and laydown areas for the Project will be carefully planned. The need for Project site occupancy (lane closures) along roadways adjacent to the Project Site is not known at this time.

Construction Parking

Contractors will be encouraged to devise access plans for their personnel that de-emphasize auto use (such as seeking off-site parking, provide transit subsidies, on-site lockers, etc.) Construction workers will also be encouraged to use public transportation to access the Project Site because no parking will be provided for them.

Pedestrian Access during Construction

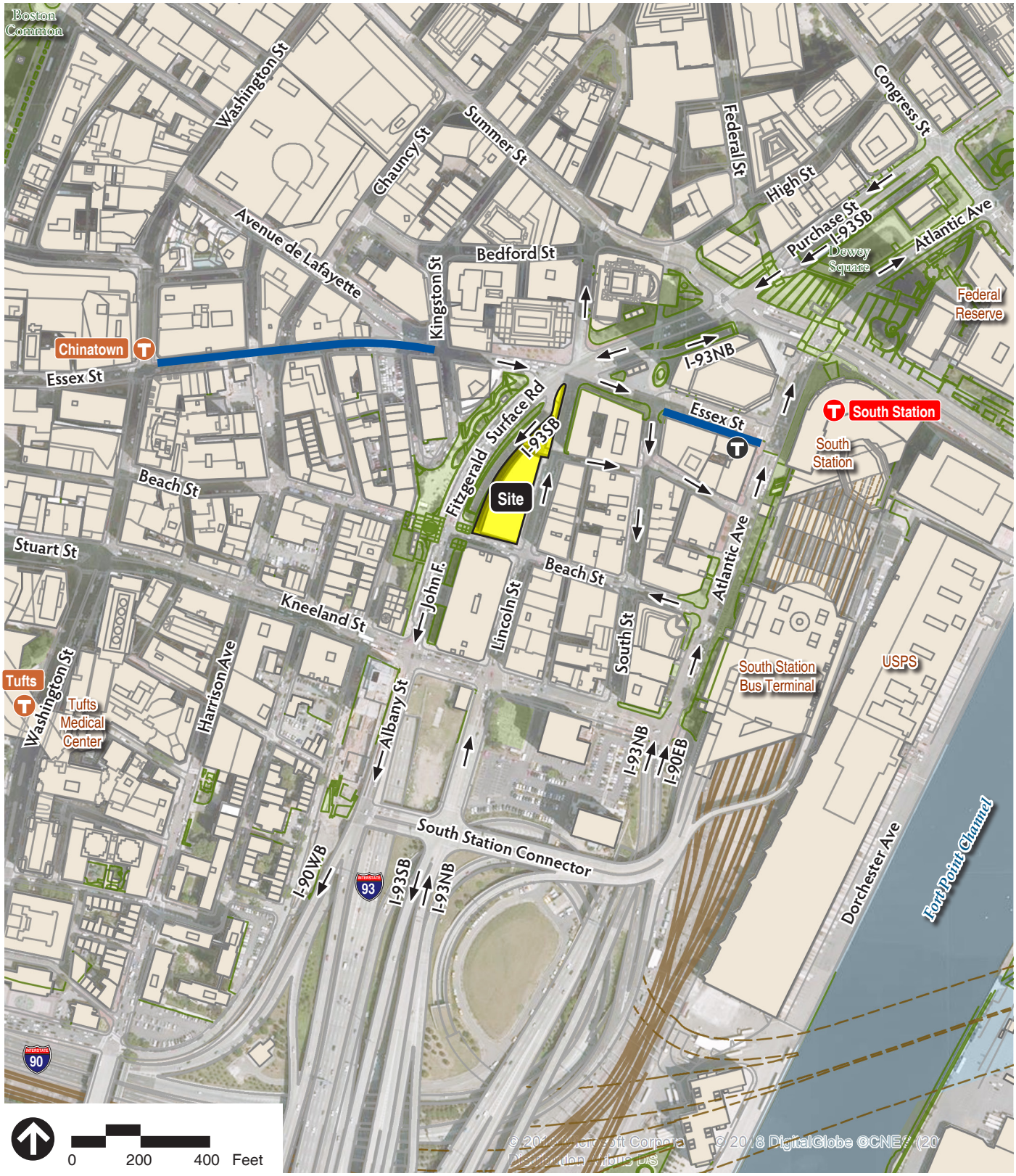
During the construction period, pedestrian activity adjacent to the Project Site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary walkways, appropriate lighting, and new directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished pedestrian sidewalks will be permanently reconstructed around the new facilities. Any damage as a result of construction vehicles or otherwise will be repaired per City standards.

4.14 Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a Transportation Access Plan Agreement ("TAPA") with the BTD which will formalize and document all transportation mitigation and TDM commitments. The TAPA will assign TDM implementation to the appropriate responsible entity, be that the building owner, an employer, or tenant.

Mitigation commitments will be the result of the detailed transportation analyses and identification of Project impacts, as documented in the above chapter, and specific agreements made between the Proponent and the City of Boston.

Specific mitigation measures have not been discussed with the City at this time. Upon the City's review of this transportation analysis and assessment of Project impacts, TDM commitments will be discussed and agreed upon for the Project, along with any necessary off-site mitigation.



Source: City of Boston, MassGIS

Bus Lane

Figure 4.1

Project Site Transportation Context

Boston, Massachusetts

1 Essex Street at Kingston Street
2 John F. Fitzgerald Surface Road /Essex Street at Lincoln Street
3 Essex Street at South Street
4 John F. Fitzgerald Surface Road /Purchase Street at Summer Street
5 John F Fitzgerald Surface Road at Beach Street
6 Lincoln Street at Beach Street
7 South Street at Beach Street
8 Atlantic Avenue at Beach Street
9 John F. Fitzgerald Surface Road at Kneeeland Street
10 Kneeland Street at Lincoln Street
11 Kneeland Street at South Street
12 Atlantic Avenue at Kneeland Street

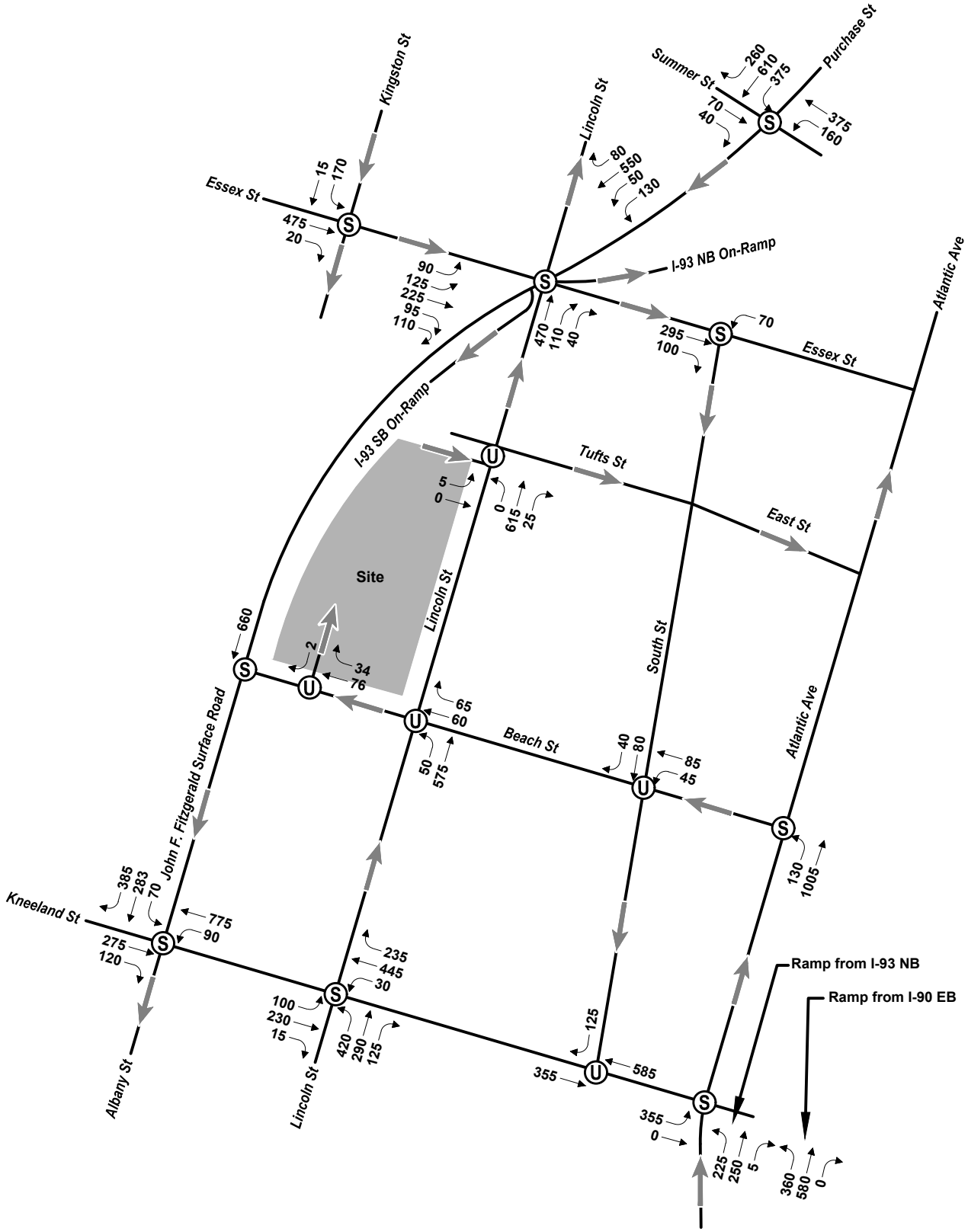
0 200 400 Feet

Source: City of Boston, MassGIS

Signalized Intersection
Unsignalized Intersection

Figure 4.2
Study Area Intersections

Boston, Massachusetts

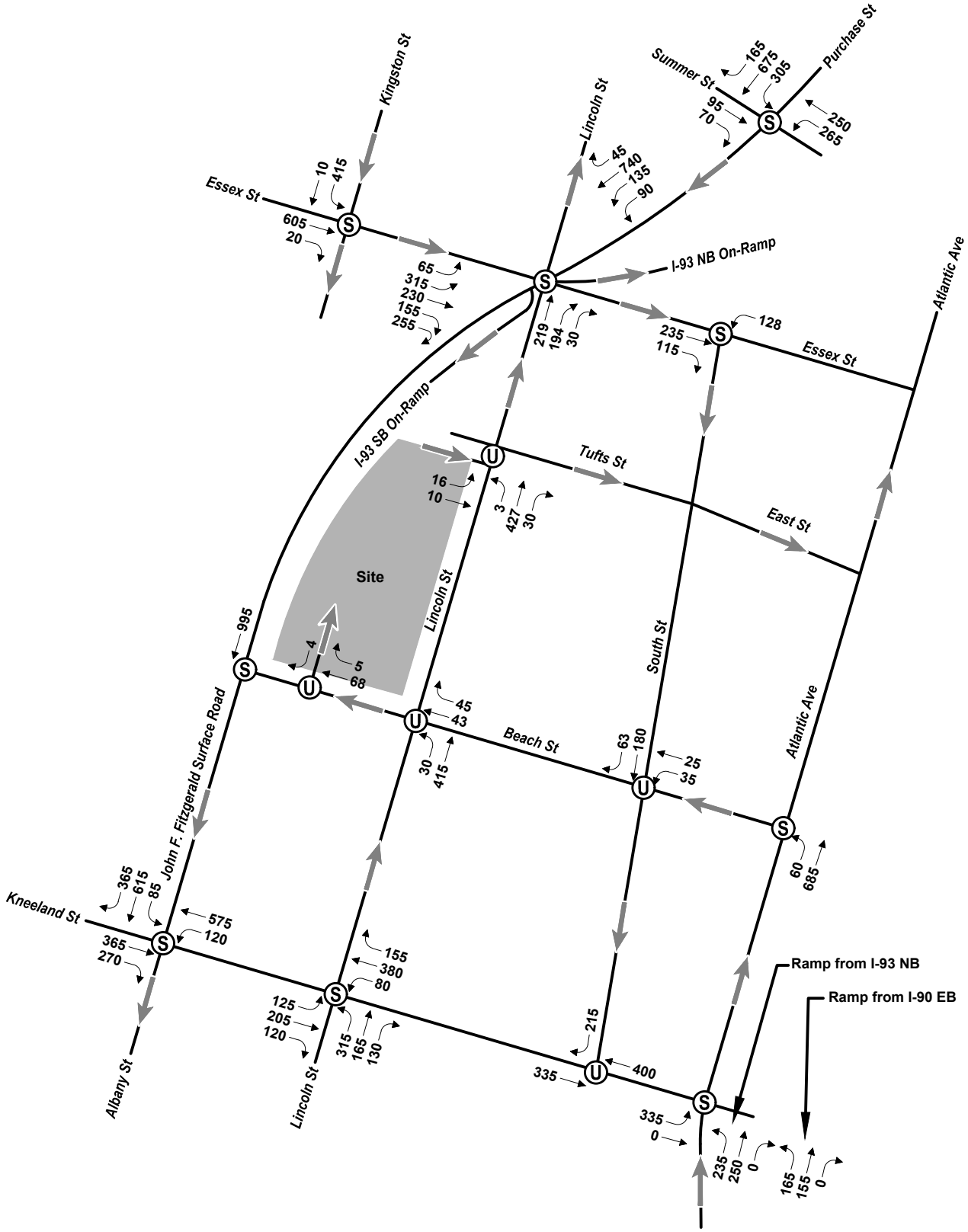


Not to Scale

Figure 4.3a

2018 Existing Condition
Morning Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts



Not to Scale

Figure 4.3b

2018 Existing Condition
Evening Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts

Source: City of Boston, MassGIS

Blue Bike Station

Number of Docks

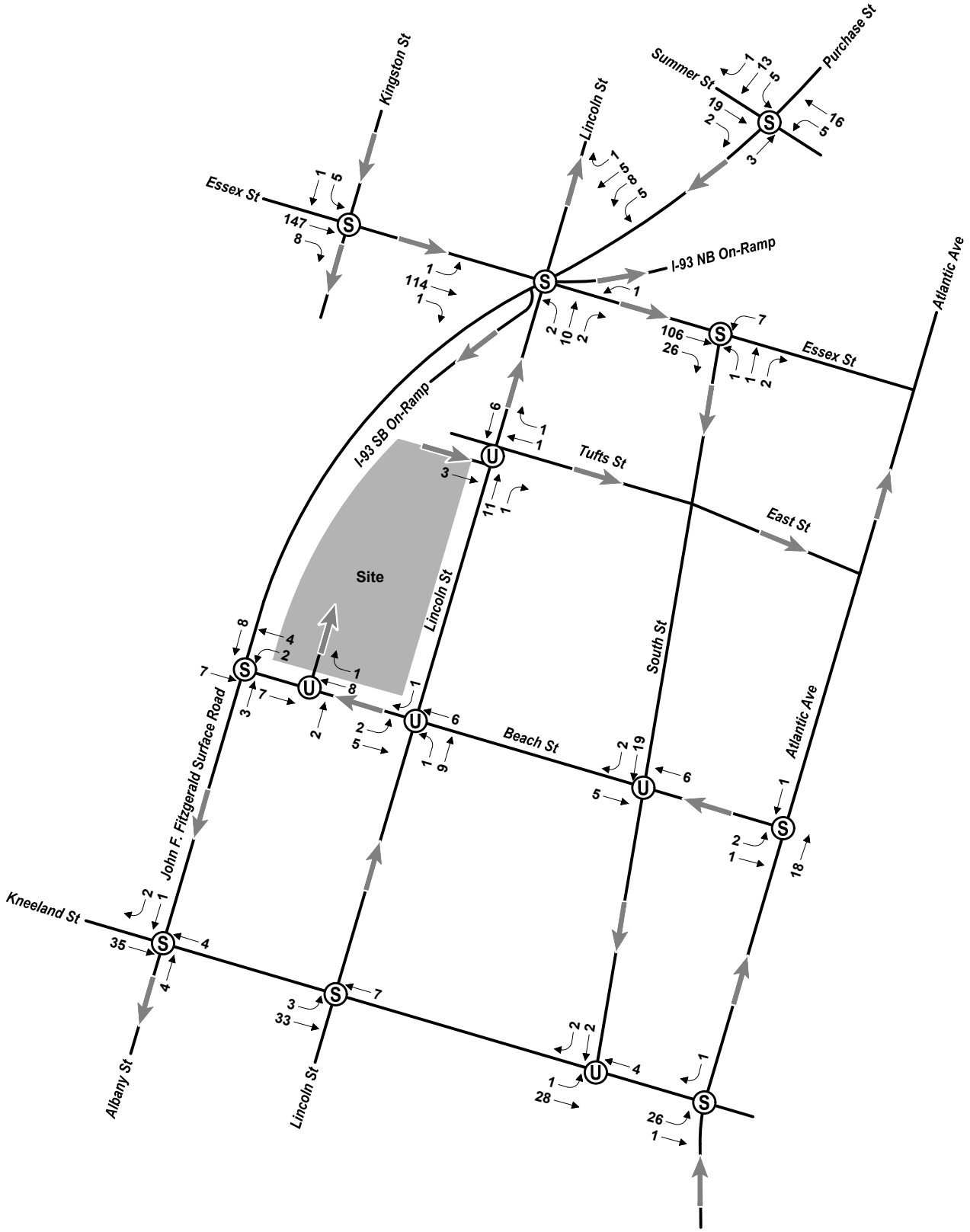
Sharrow

Bike Lane

Figure 4.4

Existing Bike Facilities

Boston, Massachusetts

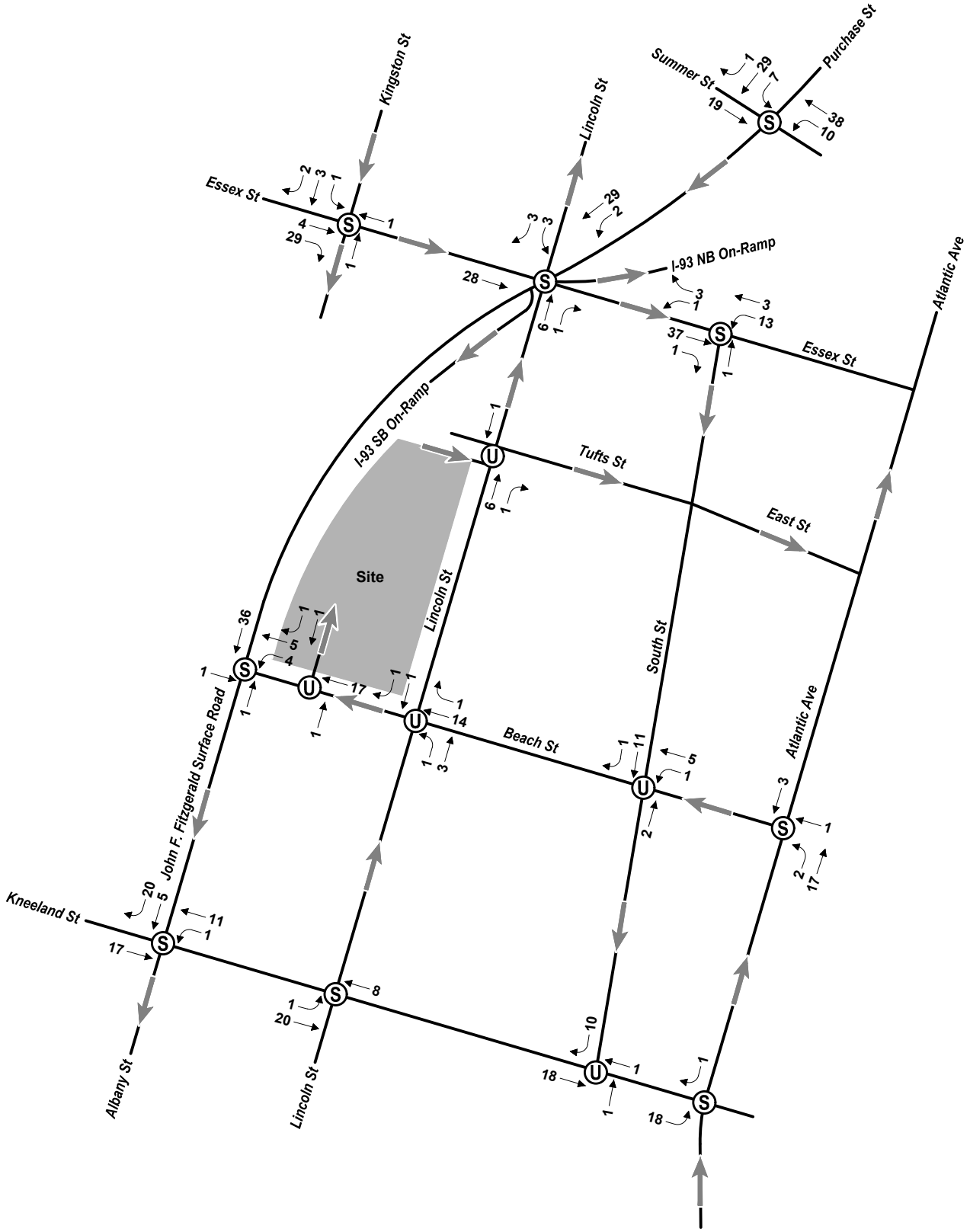


Not to Scale

Figure 4.5a

2018 Existing Condition
Morning Peak Hour Bicycle Volumes

125 Lincoln Street
Boston, Massachusetts

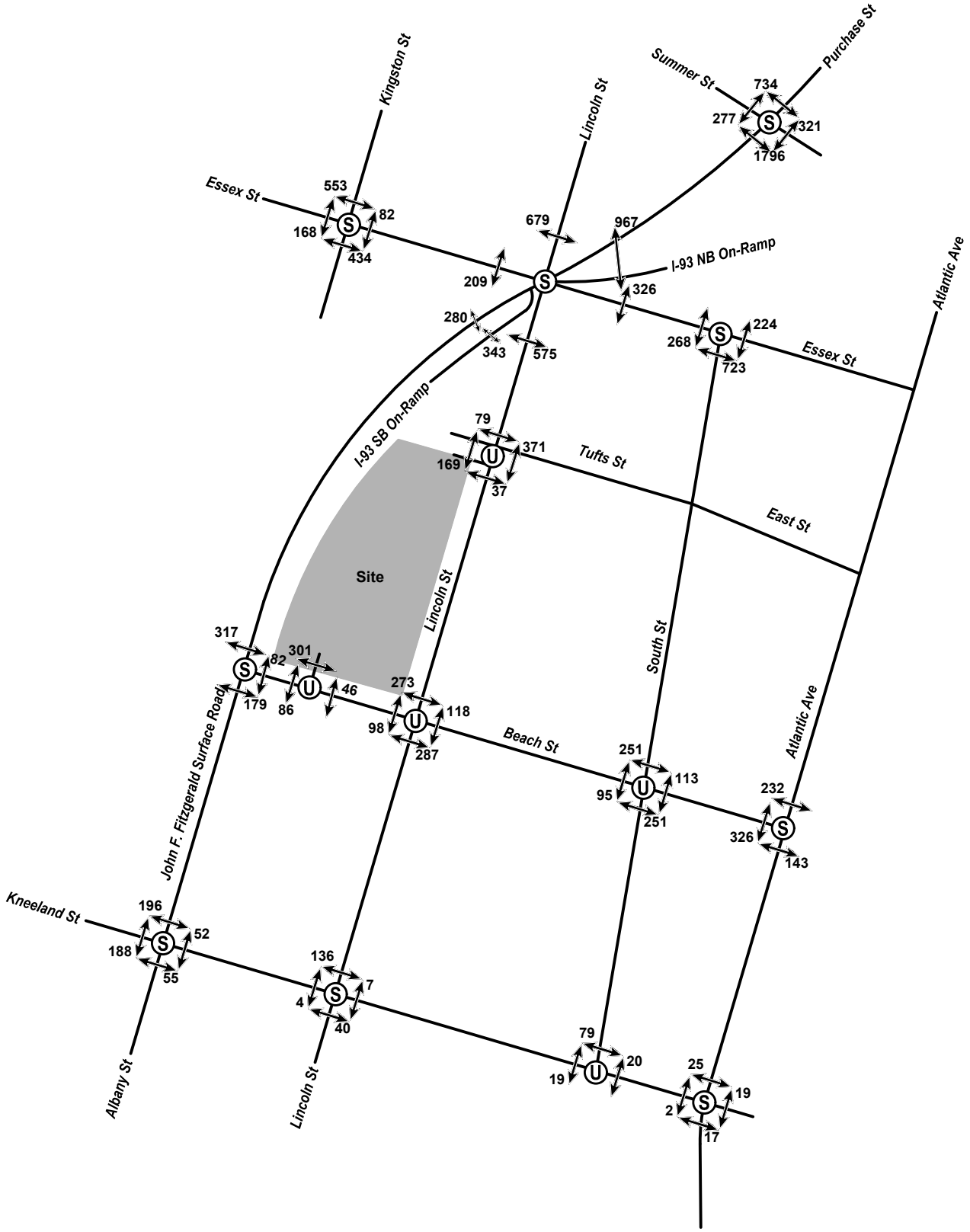


Not to Scale

Figure 4.5b

2018 Existing Condition
Evening Peak Hour Bicycle Volumes

125 Lincoln Street
Boston, Massachusetts

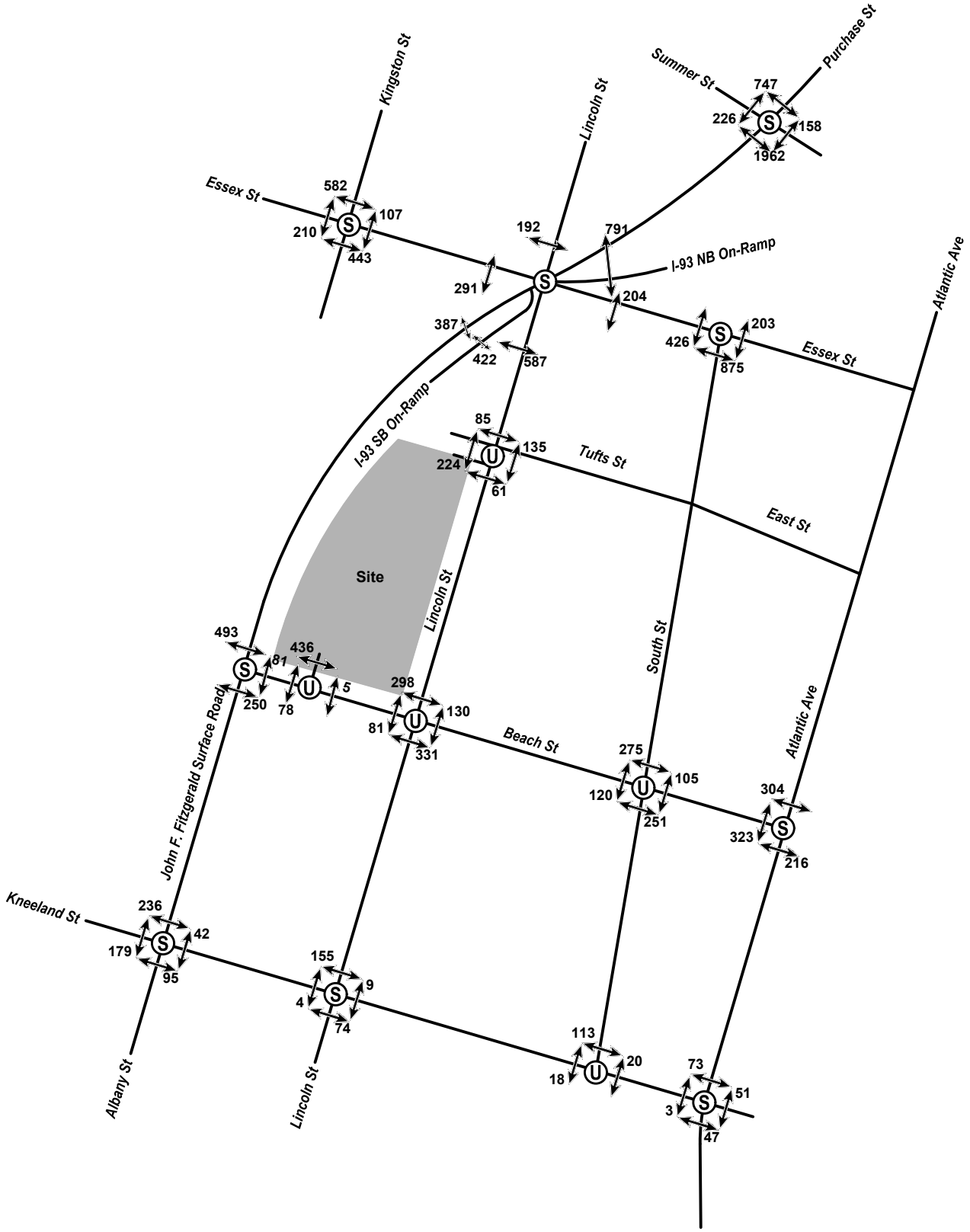


Not to Scale

Figure 4.6a

2018 Existing Conditions
Morning Peak Hour Pedestrian Volumes

125 Lincoln Street
Boston, Massachusetts



Not to Scale

Figure 4.6b

2018 Existing Conditions
Evening Peak Hour Pedestrian Volumes

125 Lincoln Street
Boston, Massachusetts

1 100 High Street (128 Spaces)
2 75-101 Federal Street Garage (150 Spaces)
3 99 Summer Street (60 Spaces)
4 125 Summer Street (120 Spaces)
5 State Street Financial Center (150 Spaces)
6 85 Essex Street (50 Spaces)
7 99 High Street (128 Spaces)
8 Chinatown Parking (250 Spaces)
9 Two Financial Center (150 Spaces)
10 Lafayette Garage (1000 Spaces)
11 Bradford Auto Parks (11 Spaces)
12 745 Atlantic Avenue (137 Spaces)
13 One Greenway (96 Spaces)
14 9 Tyler Street (35 Spaces)
15 33 Essex Street (53 Spaces)
16 Beach Street Garage (475 Spaces)
17 660 Washington Street (461 Spaces)
18 One Financial Center Garage (250 Spaces)
19 South Station Garage (223 Spaces)

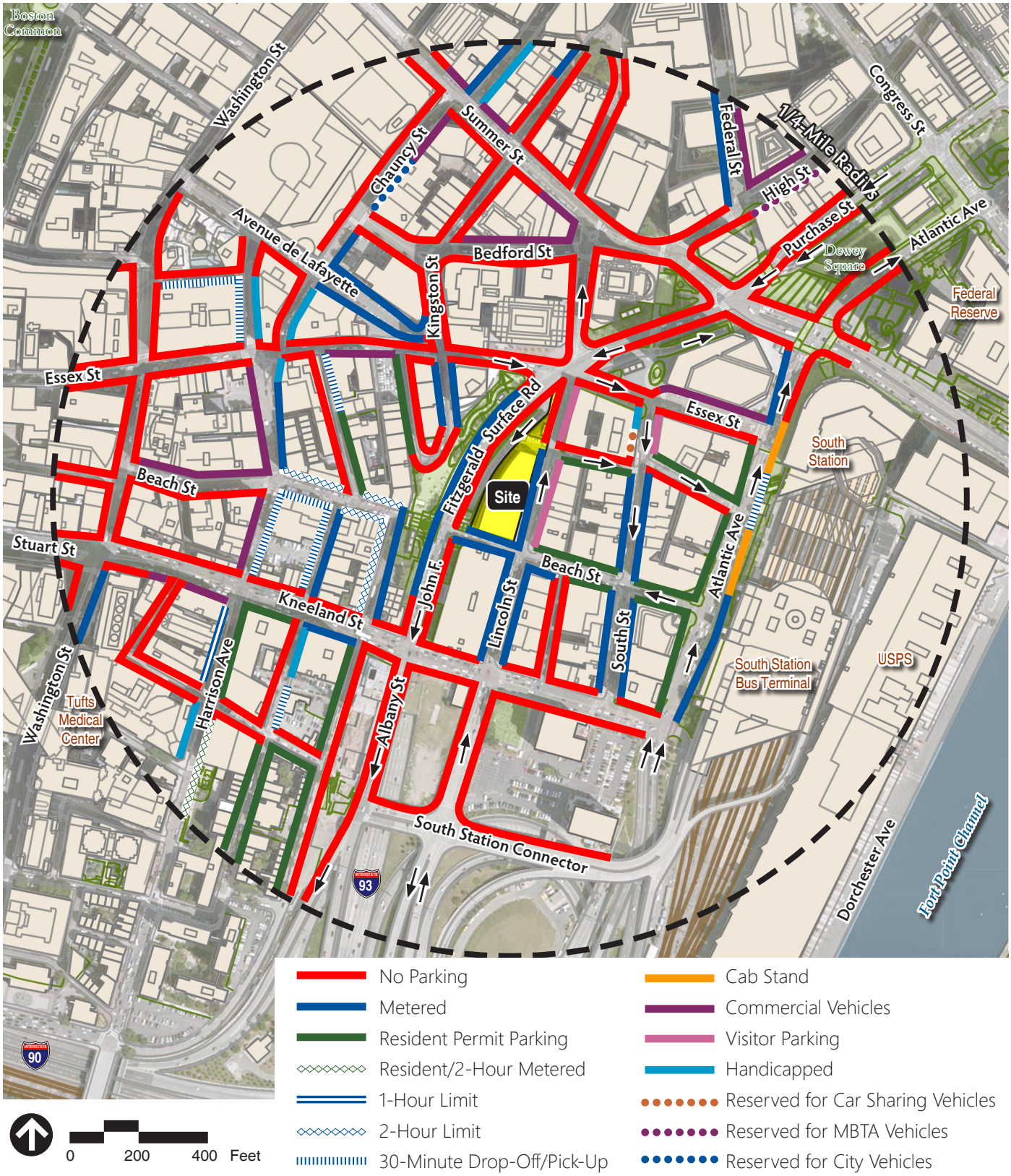
0 200 400 Feet

Source: City of Boston, MassGIS

Underground Lot
Surface Lot
Zipcar

Figure 4.7
Existing Off-Street Public Parking

Boston, Massachusetts



No Parking
Metered
Resident Permit Parking
Resident/2-Hour Metered
1-Hour Limit
2-Hour Limit
30-Minute Drop-Off/Pick-Up
Cab Stand
Commercial Vehicles
Visitor Parking
Handicapped
Reserved for Car Sharing Vehicles
Reserved for MBTA Vehicles
Reserved for City Vehicles

0 200 400 Feet

Source: City of Boston, MassGIS

Figure 4.8

Existing Curb Regulations

Boston, Massachusetts

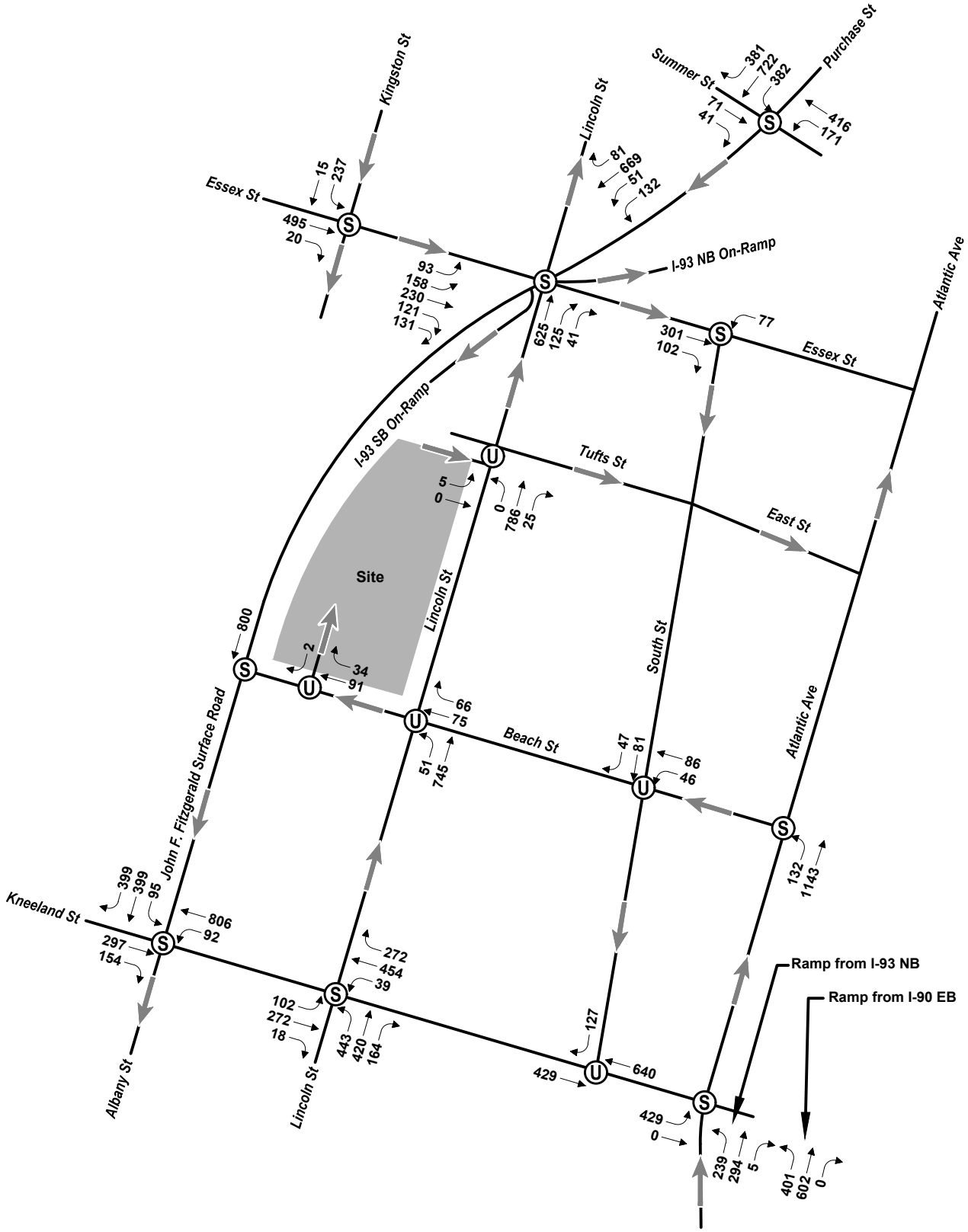
Source: City of Boston, MassGIS

Bus Stops near Site

Figure 4.9

Public Transportation

Boston, Massachusetts

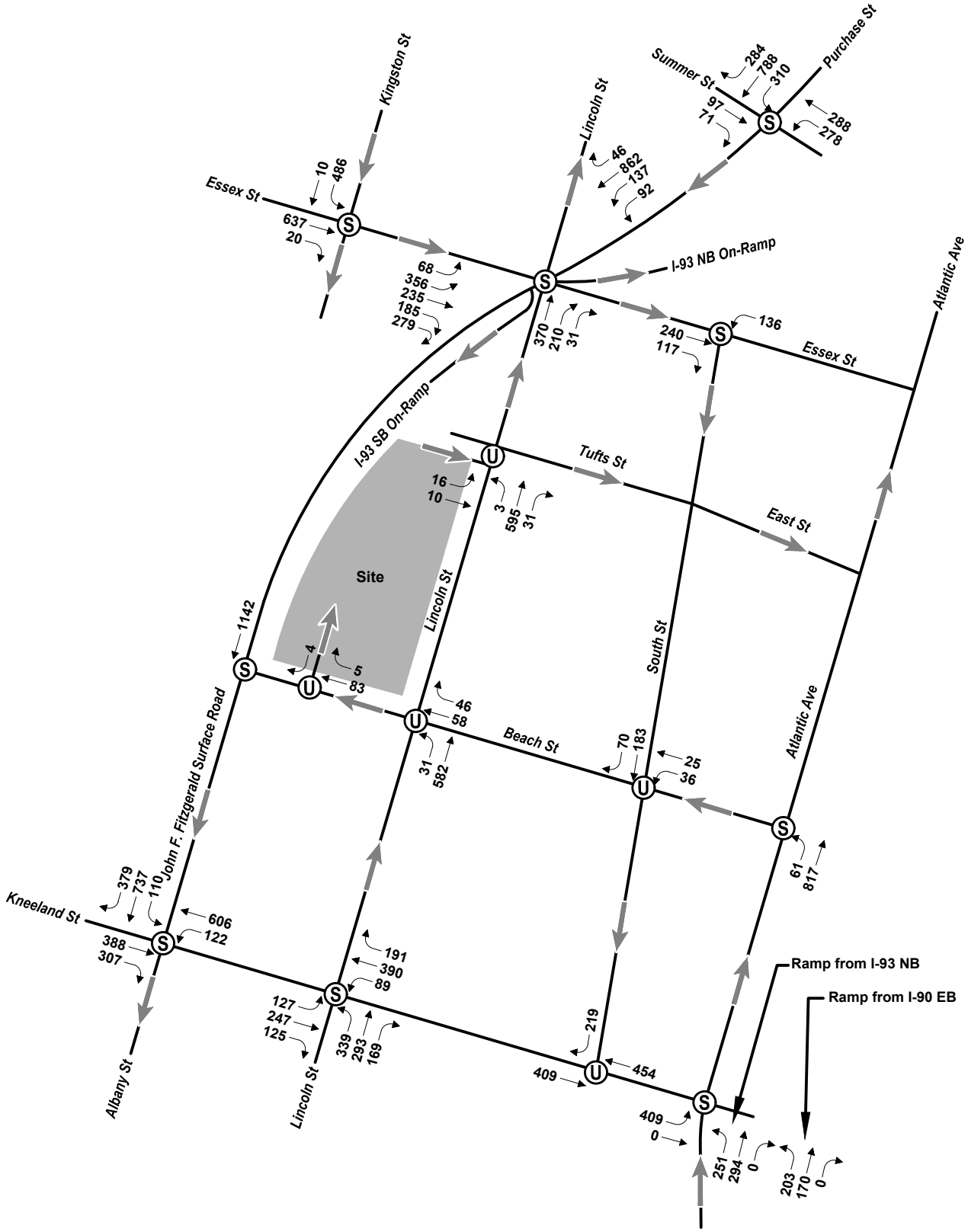


Not to Scale

Figure 4.10a

2025 No-Build Condition
Morning Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts

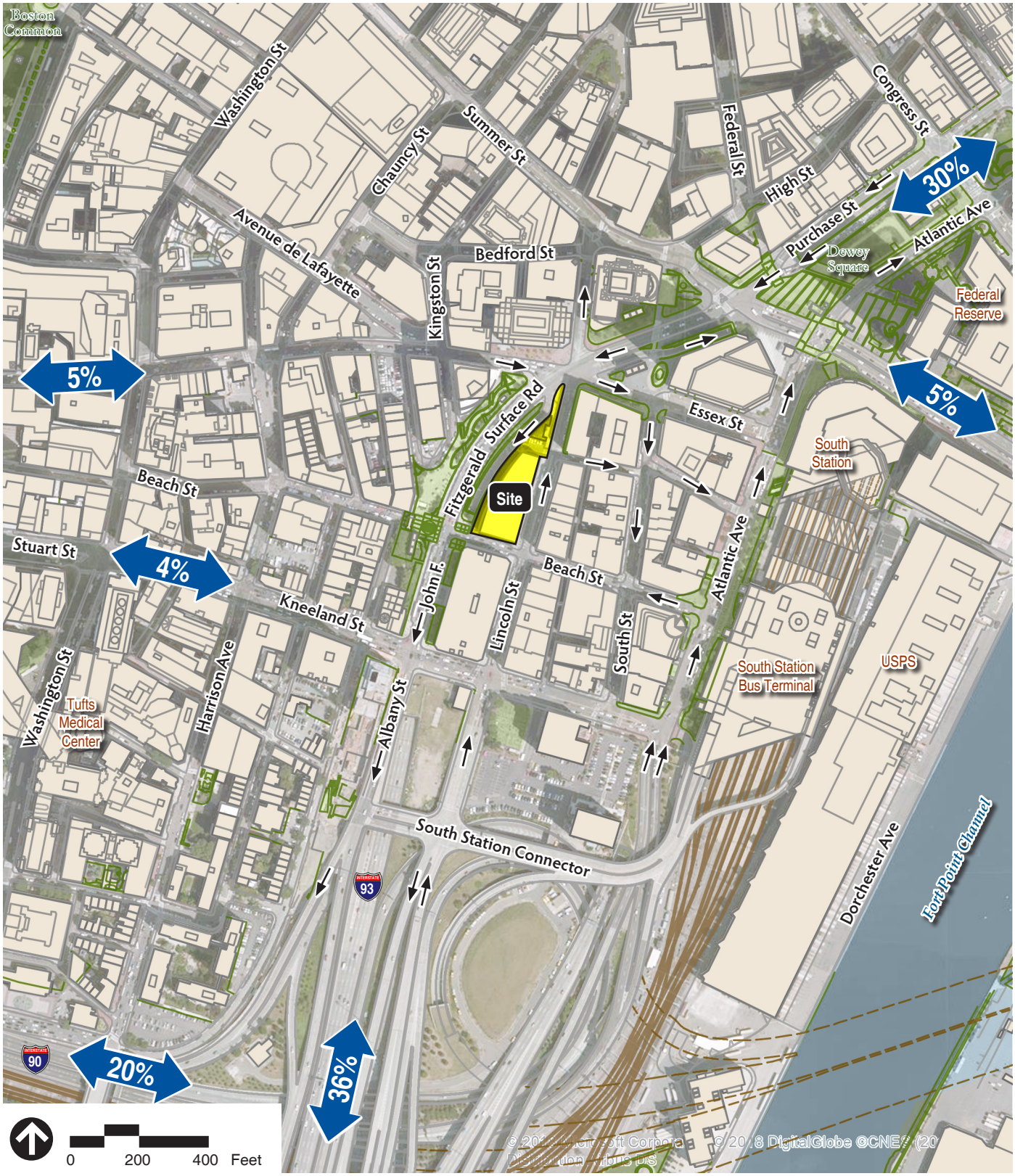


Not to Scale

Figure 4.10b

2025 No-Build Condition
Evening Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts



Source: City of Boston, MassGIS

Figure 4.11

Project Trip Distribution

Boston, Massachusetts

Source: Gensler

Pedestrian Access

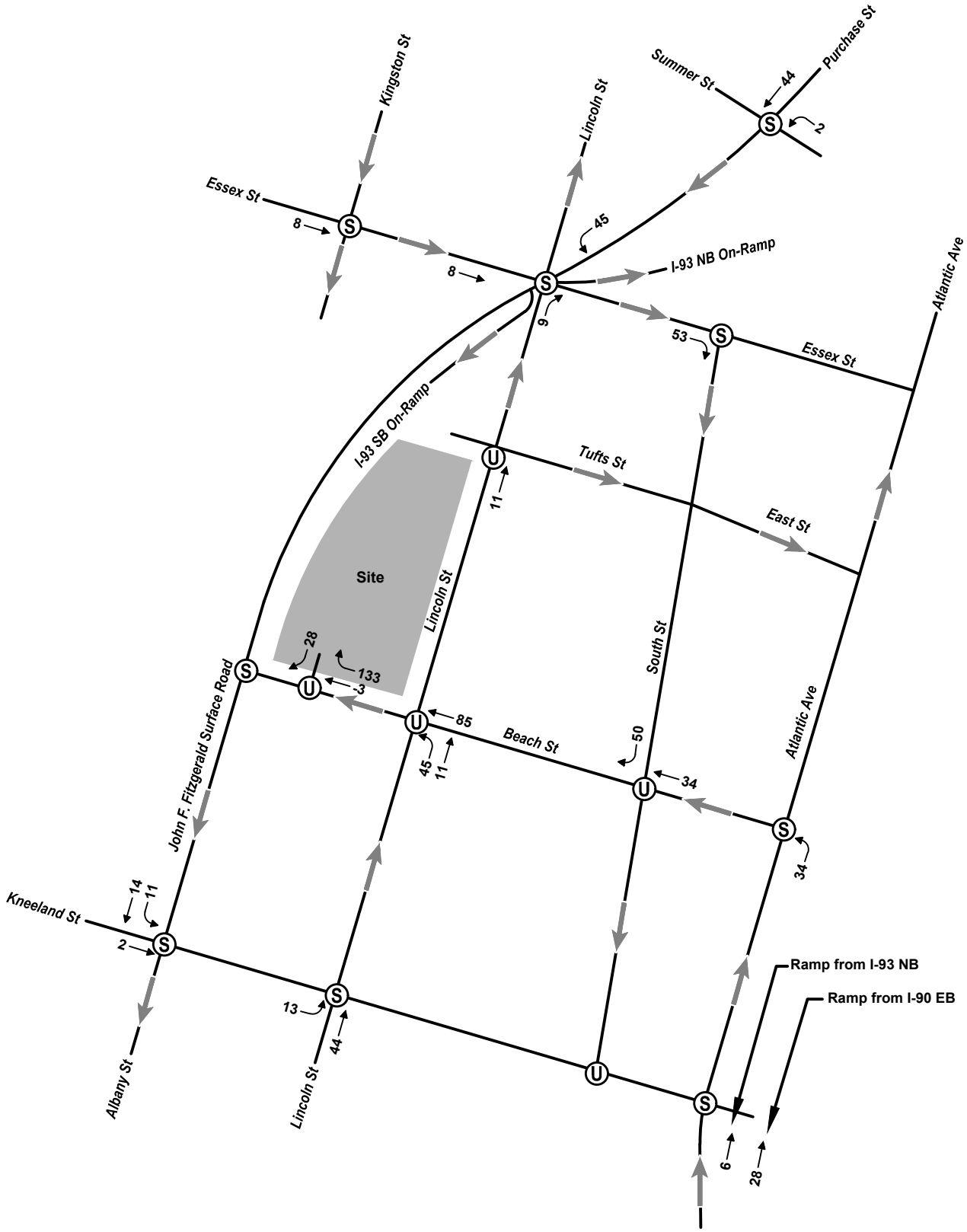
Bike Access

Loading Dock Access

Figure 4.12

Proposed Site Access Plan

125 Lincoln
Boston, Massachusetts

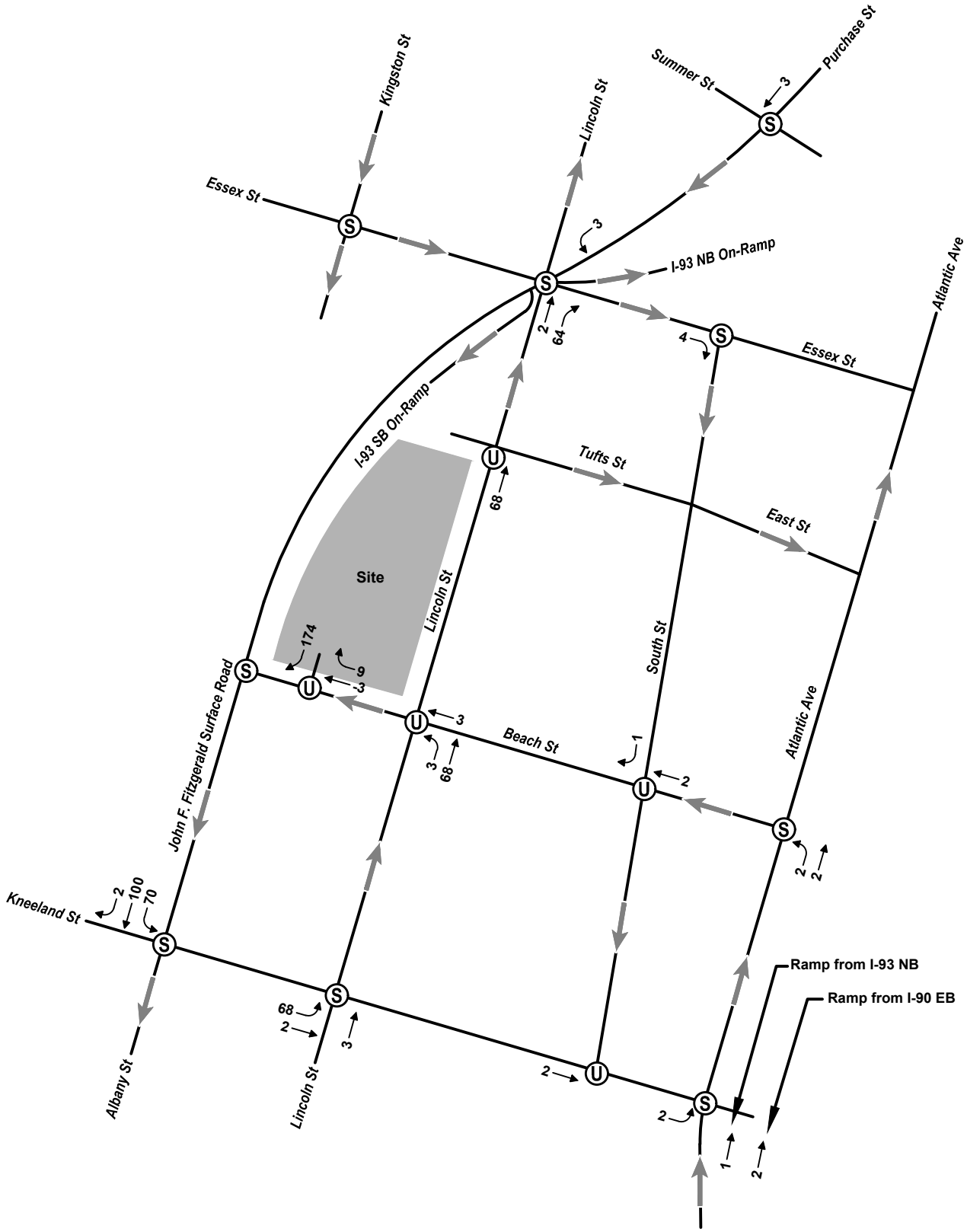


Not to Scale

Figure 4.13a

Net-New Project Trips
Morning Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts

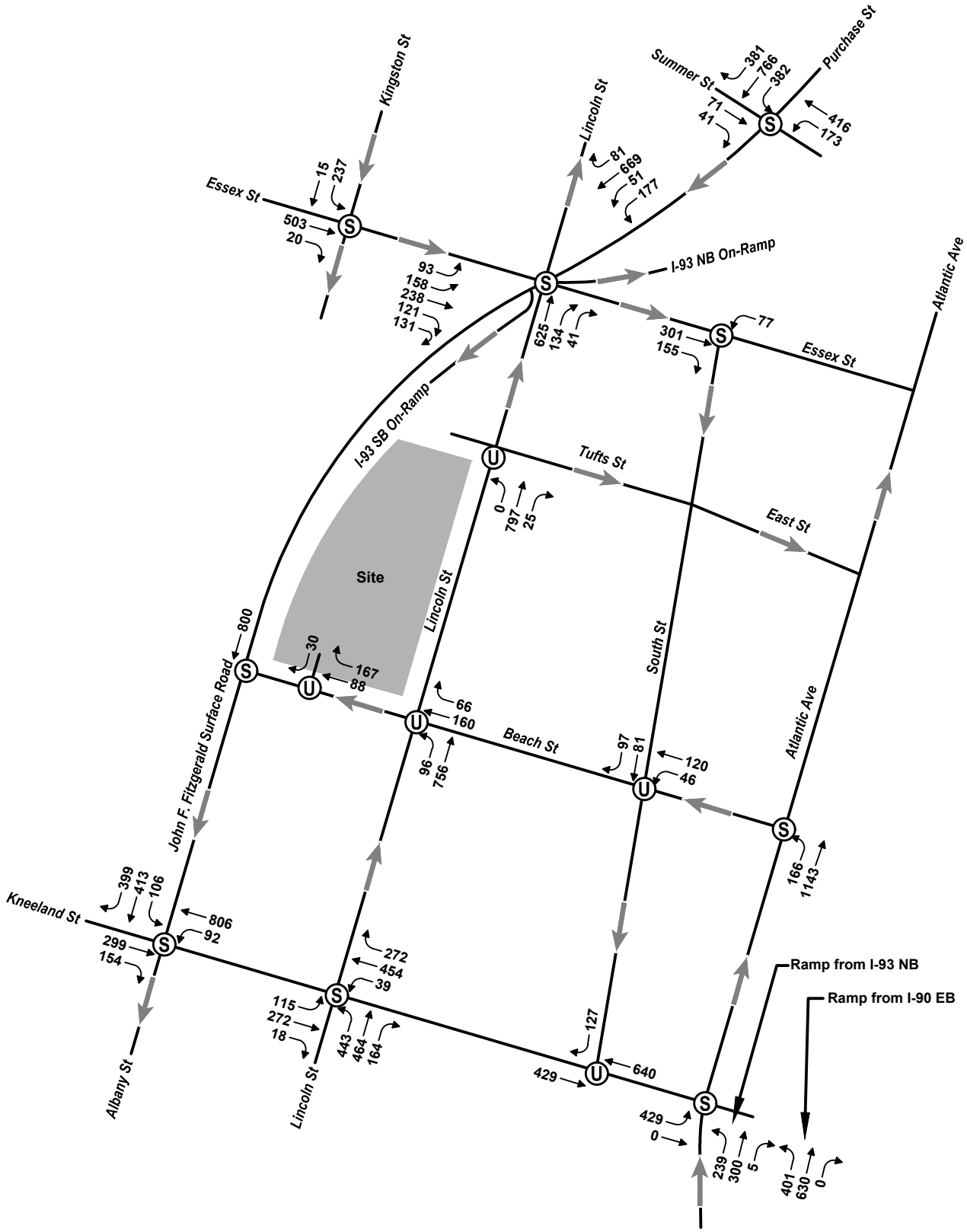


Not to Scale

Figure 4.13b

Net-New Project Trips
Evening Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts

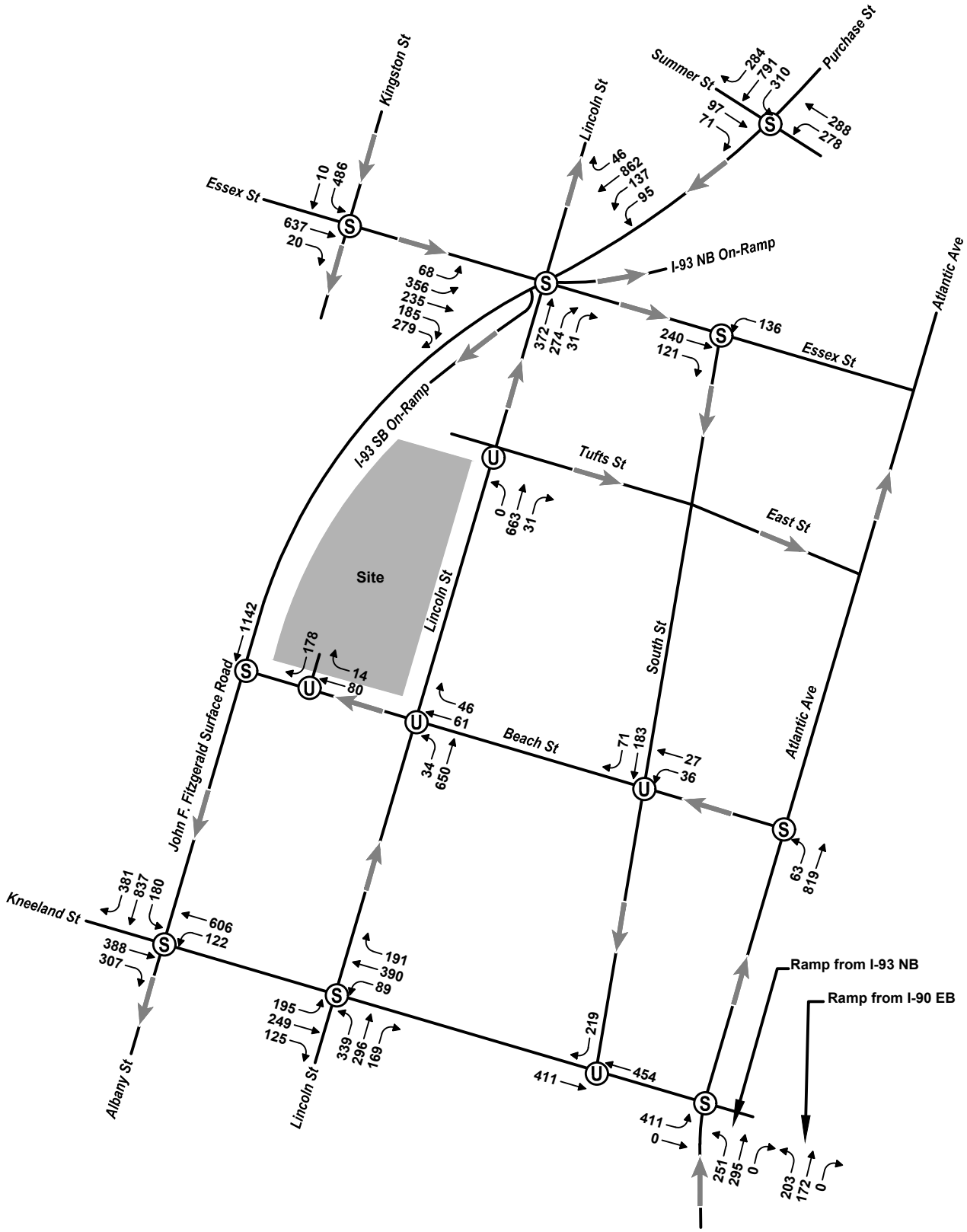


Not to Scale

Figure 4.14a

2025 Build Condition
Morning Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts



Not to Scale

Figure 4.14b

2025 Build Condition
Evening Peak Hour Vehicle Volumes

125 Lincoln Street
Boston, Massachusetts

5

Environmental Protection

Introduction

This chapter provides information on existing environmental conditions at the Project Site and the potential environmental impacts of the Project. The following sections assess potential Project-related impacts and identify the steps that have been or will be taken to avoid, minimize, and/or mitigate adverse impacts.

In compliance with City of Boston Article 80 requirements, this Project will address potential environmental impacts in the following categories:

- *Wind*
- *Shadow*
- *Solar Glare*
- *Daylight*
- *Air Quality*
- *Water Quality*
- *Noise*
- *Solid and Hazardous Wastes*
- *Groundwater/Geotechnical Construction*

5.1 Summary of Key Findings and Benefits

In summary, the initial key findings and benefits of the analyses of potential environmental impacts associated with the Project are as follows:

- **Wind** – The Project is not expected to result in unsafe wind conditions around the Project Site or nearby publicly accessible spaces. With the implementation of mitigation measures, such as landscaping and articulation of the Building façade, it is anticipated that conditions will further improve for sitting, standing, and walking throughout the Project Site.
- **Shadow** – The incremental shadows produced are consistent with the dense, urban context of the Project and have been minimized to the extent reasonably practicable.
- **Solar Glare** – No damaging conditions or significant thermal impacts are predicted as a result of the Project. Overall impact of solar glare is typical of a modern building of this size.
- **Daylight** – The Project will result in a reduction in the visible skydome when viewed from adjacent sidewalks compared to existing conditions. Such changes are consistent with the Project's urban context and will be offset by substantial improvements to the public realm that are anticipated to improve the overall pedestrian experience as compared to existing conditions.

- **Water Quality** – The Project will comply with all applicable stormwater management standards to the extent practicable by implementing Best Management Practices to improve water quality.
- **Noise** – Based on preliminary design, the Project's operations will have no adverse noise impacts at nearby sensitive receptor locations and will not contribute to a violation of the City of Boston's noise standards.
- **Solid and Hazardous Materials** – No reported releases of oil or hazardous materials have occurred within the limits of the Project Site.
- **Groundwater** – The Project is located within the Groundwater Conservation Overlay District and will therefore provide a recharge system designed to infiltrate stormwater runoff and recharge to the groundwater table to the extent feasible.
- **Geotechnical** – The geotechnical engineer and contractor will work closely together throughout excavation and foundation construction to avoid adverse impacts on adjacent structures and infrastructure during the installation of the foundation elements. Soil disturbance and vibration will be limited by low displacement foundation elements.
- **Construction** – The Project has been designed to avoid, minimize and mitigate potential construction-related impacts. The Project Team will work with the City to reduce potential construction period impacts.

5.2 Wind

5.2.1 Methodology

The wind study involved wind simulations on a 1:400 scale model of the proposed Building and surroundings. These simulations were conducted in RWDI's boundary-layer wind tunnel at Guelph, Ontario, to quantify local wind speed conditions and compare appropriate criteria for gauging wind comfort in pedestrian areas.

The wind tunnel model included the proposed development and all relevant surrounding buildings and topography within a 1,600-foot radius of the Project Site. The mean speed profile and turbulence of the natural wind approaching the modelled area were also simulated in the wind tunnel. Wind speeds were measured for 36 wind directions, in 10-degree increments, starting from true north. The measurements at each of the 117 sensor locations were recorded in the form of ratios of local mean and gust speeds to the reference wind speed in the free stream above the model. The results were then combined with long-term meteorological data, recorded during the years 1990 to 2017 at Boston's Logan International Airport to predict full scale wind conditions. The sensor locations were reviewed by the BPDA prior to running the wind tunnel analysis.

Wind Tunnel Analysis

A wind tunnel analysis was conducted for the following conditions:

- **No-Build Condition** – Based on guidance from the BPDA, this condition assumes future/planned developments, or background projects, surrounding the Project Site.
- **Build Condition** – The No-Build Condition with addition of the Project, as described in Chapter 1, *Project Description*.

The BPDA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root-mean-square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BPDA to determine the acceptability of specific locations is based on the work of Melbourne.[1] This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria, presented in Table 5-1 below, are expressed in terms of benchmarks for the one-hour mean wind speed exceeded one percent of the time (i.e., the 99-percentile mean wind speed).

Table 5-1 BPDA Mean Wind Criteria[1]

Comfort Category	Mean Wind Speed (mph)
Dangerous	> 27
Uncomfortable for Walking	> 19 and ≤ 27
Comfortable for Walking	> 15 and ≤ 19
Comfortable for Standing	> 12 and ≤ 15
Comfortable for Sitting	≤ 12

1 Applicable to the hourly mean wind speed exceeded one percent of the time.

The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BPDA effective gust velocity criterion of 31 mph. However, without any mitigation measures, this wind climate is likely to be frequently uncomfortable for more passive activities, such as sitting.

5.2.2 Pedestrian Wind Study Findings

Wind conditions that meet the effective gust criterion are predicted for the Build Condition on an annualized basis with localized landscaping. The following is a detailed discussion of the predicted mean speed and effective gust conditions for the No-Build and Build Conditions within the public realm surrounding the Project Site.

1 Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions", Journal Of Industrial Aerodynamics, 3 (1978) 241 - 249.

No-Build Wind Conditions

The No-Build wind conditions (mean speed and effect gust speed) are show in Figures 5.1a and 5.1c, respectively. These wind conditions represent the baseline against which the Project is measured.

Under the existing No-Build Condition, the mean wind speeds are comfortable for sitting around the majority of the Project Site annually. Extending further away from the Project Site there are several existing uncomfortable locations predicted along Essex Street. in the alley west of the existing building. Refer to Figure 5.1a for the No-Build Condition mean wind speeds.

The effective gust criterion is met annually at most locations, with the exception of one location on the north side of Essex Street, Location 106 (Figure 5.1c).

Build Wind Conditions

The Build wind conditions (mean speed and effect gust speed) are shown in Figures 5.1b and 5.1d, respectively. With the Project, mean wind speeds around the Building entrances are expected to be comfortable for sitting, which is appropriate for the intended pedestrian use. Slightly higher wind speeds are expected with the addition of the Project at the southwest building corner. Although conditions to the north and south are generally predicted to remain similar to those in the No Build scenario, conditions at three previously uncomfortable locations are anticipated to improve in the presence of the proposed development (Locations 53, 107, and 109, Figure 5.1b). Uncomfortable conditions are predicted at five isolated locations to the northwest, north, east, and south of the Project Site on an annual basis (Locations 10, 15, 23, 28, and 98, Figure 5.1b), as northwesterly prevailing winds downwash off the north and west building façades and accelerate around the northeast and southwest building corners. Improved wind conditions will be achieved through landscaping measures near areas of higher wind activity.

Under the Build Condition, as shown in Figure 5.1d, wind speeds are predicted to meet the effective gust criterion at all locations tested and eliminate Unacceptable wind gusts at Location 106.

5.3 Shadow

An analysis of the shading impact under the No-Build and Build Conditions is a requirement of Article 80, Large Project Review (Section 80B-2(c) of the Code) and pursuant to Ordinance 7-4.11, which requires design review for new construction within 100 feet of a public park. In addition to these requirements, the zoning for the Greenway Overlay District requires that projects minimize shadows, to the extent reasonably practicable, on Greenway parcels. The shading analysis was prepared in accordance with the requirements of Section B.2. of the BPDA Development Review Guidelines.

5.3.1 Methodology

A shadow impact analysis was conducted at regular time intervals to investigate the effect that the Project will have throughout the year. A computer model of the Project and surrounding urban area was developed. Several days and times were analyzed, as required under Article 80. The analysis used "clear sky" solar data at Boston's Logan International Airport, meaning the assumption that no cloud cover ever occurs; therefore, providing a "worst case" scenario showing the full extent of when and where shadow could occur.

In order to represent a variety of shadow conditions at various times of the day, and times of the year, three (3) time intervals (9:00 AM, 12:00 PM, 3:00 PM) are represented for the Vernal Equinox (March 21st, see Figure 5.2a-c), Summer Solstice (June 21st, see Figure 5.2d-g), Autumnal Equinox (September 21st, see Figure 5.2h-k), and Winter Solstice (December 21st, see Figure 5.2l-n). Per the BPDA Development Review Guidelines, 6:00 PM has been added to the June 21 and September 21 shadow studies. This study takes into consideration Daylight Savings Time ("DST"), and therefore times are presented in Eastern Standard Time ("EST") and Eastern Daylight Time ("EDT"). The study shows both existing shadows in and around the Project Site, and the shadow impact of the Project. The analysis focuses on the shadow cast onto existing pedestrian areas, open spaces, and sidewalks adjacent to and near the Project Site.

Table 5-2 shows the solar azimuth and altitude data. Times are listed as EST and EDT, as appropriate. The data reflects a latitude of 42.36° and a longitude of -71.06°.

Table 5-2 Solar Azimuth and Altitude Data

Date	Time	Azimuth[1]	Altitude[2]
March 21 EDT	9:00 AM	112.7	23.4
March 21 EDT	12:00 PM	161.2	46.2
March 21 EDT	3:00 PM	223.3	39.1
June 21 EDT	9:00 AM	93.5	39.9
June 21 EDT	12:00 PM	149.6	68.8
June 21 EDT	3:00 PM	246.3	56.5
June 21 EDT	6:00 PM	280.7	23.8
September 21 EDT	9:00 AM	115.4	26.0
September 21 EDT	12:00 PM	166.2	47.4
September 21 EDT	3:00 PM	227.2	37.3
September 21 EDT	6:00 PM	264.0	7.2
December 21 EST	9:00 AM	142.0	14.3
December 21 EST	12:00 PM	184.4	24.1
December 21 EST	3:00 PM	225.0	10.0

1 Azimuth is measured in degrees clockwise from North
2 Altitude is measured in degrees up from the horizon
EST Eastern Standard Time
EDT Eastern Daylight Time

5.3.2 Results

The incremental shadows produced are consistent with the existing urban shadow pattern and are not expected to have any noticeable effect on pedestrian use patterns.

March 21st (Vernal Equinox)

The net new shadows associated with the Project on March 21 are depicted on Figure 5.2a-c. March 21 is the vernal equinox and the daytime and nighttime hours are equal. The sun rises at 6:31 AM EDT in the southeastern sky and sets at 6:42 PM EDT.

At 9:00 AM on the vernal equinox, net new shadow from the Project will be cast to the northwest across the Surface Road and onto the neighboring properties to the west. By 12:00 noon, shadows shift northward across the Surface Road, shading a portion of Chinatown Park. At 3:00 PM, the shadows will shift northeastward onto Lincoln Street and the Surface Road.

June 21st (Summer Solstice)

The net new shadows associated with the Project for June 21 are illustrated in Figure 5.2d-g. June 21 is the summer solstice and the longest day of the year. The sun rises at 5:08 AM EDT in the southeastern sky and sets at 8:25 PM EDT.

At 9:00 AM on the summer solstice, shadow from the Project will be cast westward across the surface road. At 12:00 noon, the Project will cast minimal net new shadow to the north onto the surface road. At 3:00 PM, small amount of net new shadow will extend from the Project Site to the northeast onto Lincoln Street.

At 6:00 PM, shadows are cast to the east of the Project Site onto a portion of Tufts street and a portion of the boarding tracks at South Station.

September 21st (Autumnal Equinox)

The net new shadows associated with the Project on September 21 are depicted on Figure 5.2h-k. September 21 is the autumnal equinox and the daytime and nighttime hours are equal. The sun rises at 6:31 AM EDT in the southeastern sky and sets at 6:42 PM EDT. The shadows cast on this date are almost identical to those on March 21, the vernal equinox.

At 9:00 AM on the autumnal equinox, net new shadow from the Project will be cast across the Surface Road and onto neighboring properties to the West. By 12:00 noon, shadows shift northward across the Surface Road, shading a portion of Chinatown Park. At 3:00 PM, the shadows will shift northeastward onto Lincoln Street and the Surface Road. At 6:00 PM limited net new shadow is anticipated.

December 21st (Winter Solstice)

The net new shadows associated with the Project on December 21 are depicted on Figure 5.2l-n. December 21 is the winter solstice and the shortest day of the year. The sun is at its lowest inclination above the horizon at each hour of the day. Even low buildings cast long shadows in northerly latitudes, such as Boston. The sun rises at 7:10 AM EST and sets at 4:15 PM EST in December.

At 9:00 AM on the winter solstice, the Project casts a shadow in a northwestern direction filling in gaps in the heavily shaded urban landscape and falls predominately within roadways. At 12:00 noon, the Project will cast shadow in a northern direction extending over a portion of Chinatown Park and the sidewalk along the south side of One Lincoln Street. At 3:00 PM the surrounding area is heavily shaded under the existing conditions where net new shadow from the Project will extend northeast. Incremental net new shadow will be cast on the Surface Road.

5.4 Solar Glare

The BPDA Development Review Guidelines require projects undergoing Large Project Review to analyze the potential impacts from solar glare on the following areas to identify the potential for visual impairment or discomfort due to reflective spot glare:

- Potentially affected key roadways;
- Publicly accessible open spaces; and
- Pedestrian areas.

Furthermore, projects must consider the potential for solar heat buildup in any nearby buildings receiving reflective sunlight from the Project, if applicable.

A detailed review of the potential impacts from solar glare on the project area are presented below.

5.4.1 Methodology

A computer model of the Project and surrounding urban area was developed using proprietary software called Eclipse (refer to the full solar glare study provided in Appendix B for additional information). Consistent with the wind and shadow methodologies, based on guidance from the BPDA, the solar glare study assumes future/planned developments, or background projects, surrounding the Project Site. These future projects were based on the currently proposed building height and massing, which are subject to change.

Several receptor locations were utilized to understand the visual (glare) impacts on drivers, pedestrians and building façades. Refer to Figure 7 and Table 2 of the solar glare study provided in Appendix B for the receptor locations and descriptions.

The solar glare analysis used "clear sky" solar data at Boston's Logan International Airport and assumed no cloud cover ever occurs to provide a "worst case" scenario showing the full extent of when and where glare could occur. Finally, a statistical analysis was performed to assess the frequency, intensity and duration of the glare events. Reflections from existing structures were not accounted for; although shadows from these structures were factored in.

Impact Criteria

- **Low:** Either no reflections reach the receptor, or those reflections which do reach the location are unlikely to lead to visual or thermal concerns.
- **Moderate:** Some impacts have the potential for visual nuisance, minor thermal discomfort to people, or heating of materials. Moderate impacts do not indicate a significant safety risk and are common in urban areas and represent effects such as intermittent visual glare on pedestrians or occupants of adjacent buildings which can be safely self-mitigated.
- **High:** Indicates the potential for visual impacts to vehicle operators. When the sun is also in a driver's field of view, that brightness of the sun is expected to dominate over the less intense reflected light, likely reducing the perceived effect of high impact reflections.

5.4.2 Solar Glare Study Findings

Visual Glare

As with the addition of any glazed building, drivers travelling in the vicinity of the buildings are expected to experience an increased level of visual glare impact. With the conservative assumptions used in this analysis, some reflections with the potential for high visual impact were noted. Some of these impacts are expected to alter a driver's experience since the glare occurs at times when the sun would not ordinarily be within a driver's field of view. In particular, a driver's experience could be altered when:

- Traveling south along Kingston Street from September to March (receptor D3); and
- Traveling northeast along Lincoln Street in the morning (receptors D4 and D5).

The reflections on receptor D3 are anticipated to be the most impactful, however Kingston Street has generally low traffic volumes as compared to busier streets which limits the numbers of drivers potentially affected. The affected area is limited to only the southern-most portion of Kingston Street. Impacts at receptors D5 and D6 are infrequent, and short in duration.

Some of the reflection impacts are not expected to alter a driver's current experience as the sun will already be in the driver's line of sight. These events can occur to drivers:

- Traveling southwest along the John F. Fitzgerald Surface Road ("Surface Road") (receptor D1) during afternoons in January, February, November, and December; and
- Traveling northwest along Beach Street during some afternoons from March to October.

The simulations predict that these impacts would be brief and infrequent.

Thermal Impacts

The study found that no significant thermal impacts are predicted to occur either on the Project Site or within the surrounding neighborhood as a result of the Project. Refer to Appendix B for additional details on the study.

5.5 Daylight

The following section describes the anticipated effect on daylight coverage at the Project Site as a result of the Project. An analysis of the percentage of skydome obstructed under the No-Build and Build Conditions is a requirement of Article 80 (Section 80B-2(c)). The daylight analysis was prepared using the BPDA's Daylight Analysis Program ("BRADA") and has been completed in accordance with the requirements of Article 80. The results of the analysis are presented in Figures 5.3a-d.

5.5.1 Methodology

The daylight analysis was conducted using the BRADA program developed in 1985 by the Massachusetts Institute of Technology to estimate the pedestrian's view of the skydome taking into account building massing and building materials used. The software approximates a pedestrian's view of a site based on input parameters such as: location of viewpoint; length and height of buildings and the relative reflectivity of the building façades. The model typically uses the midpoint of an adjacent right-of-way or sidewalk as the analysis viewpoint. Based on these data, the model calculates the perceived skydome obstruction and provides a graphic depicting the analysis conditions.

The model inputs used for the study presented herein were taken from a combination of the BPDA's City of Boston model data, an existing conditions survey, and schematic design plans prepared by the Project Architect. As described above, the BRADA software considers the relative reflectivity of building façades when calculating perceived daylight obstruction. Highly reflective materials are thought to reduce the perceived skydome obstruction when compared to non-reflective materials. For the purposes of this daylight analysis, the building façades are considered non-reflective, resulting in a conservative estimate of daylight obstruction.

Viewpoints

The following viewpoints were studied in the daylight analysis:

- **Tufts Street** – This viewpoint is located on the centerline of Tufts Street, centered on the northern side of the Project Site.
- **Beach Street** – This viewpoint is located on the centerline of Beach Street, centered on the southern side of the Project Site.
- **Lincoln Street** – This viewpoint is located on the centerline of Lincoln Street, centered on the eastern side of the Project Site.
- **Surface Road** – This viewpoint is located on the centerline of Surface Road, centered on the western side of the Project Site.

These points represent the proposed Building façades when viewed from the adjacent public ways.

5.5.2 Daylight Study Findings

Daylight Existing/No-Build Conditions

Under the proposed conditions, the viewpoints along the four roadways are expected to experience an increase in skydome obstruction due to the increased height and massing of the new building, as would be expected when increasing the density of an urban site. The increase in skydome obstruction will be offset by significant improvements to the public realm which are anticipated to improve the overall pedestrian experience as compared to existing conditions.

Daylight Build Conditions

Table 5-3 below presents the percentage of skydome that is expected to be obstructed along the public ways with and without the Project. Figures 5.3a-d graphically show the Project-related daylight impacts from the same viewpoints.

Table 5-3 Existing/No-Build and Build Daylight Conditions

Viewpoint	Existing/No-Build Condition Skydome Obstruction	Build Condition Skydome Obstruction
Tufts Street	68.1%	97.4%
Beach Street	70.0%	82.4%
Lincoln Street	66.3%	93.4%
Surface Road	34.0%	93.6%

5.6 Air Quality

This section presents an overview of the air quality assessment for the Project. The purpose of the air quality assessment is to demonstrate that the Project will not result in a violation of applicable local, state, and federal air quality standards. Boston, in Suffolk County, is in attainment for all National Ambient Air Quality Standards (NAAQS) criteria pollutants except for the 8-hour (1997 Revoked) and 1-hour (1979 Revoked) Ozone standards. The county is also in maintenance for carbon monoxide.

As demonstrated in Section 5.6.1, the Project does not require a mesoscale analysis per the screening criteria established by the BPDA. A discussion of the CO microscale assessment is presented, per BPDA Development Review Guidelines under Section 5.6.2. Finally, a discussion of potential stationary sources associated with the Project and possible permits is provided in Section 5.6.3.

5.6.1 Mesoscale Analysis

The purpose of the mesoscale analysis is to estimate the area-wide emissions of VOC and NOx during a typical day in the peak ozone season (summer) consistent with the requirements of the State Implementation Plan ("SIP"). A mesoscale analysis evaluates the change in VOC and NOx emissions from average daily traffic volumes and vehicle emission rates. To demonstrate compliance with the SIP criteria, the air quality study must show the Project's change in daily (24-hour period) VOC and NOx emissions.

The BPDA requires a mesoscale air quality analysis if a project produces 10,000 or more vehicle trips per day. The Project is not anticipated to generate over 10,000 or more vehicle trips per day, therefore this analysis is not required for the BPDA and no mesoscale air quality impacts are anticipated.

5.6.2 Microscale Analysis

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air-quality problems. Air quality control regions are classified and divided into one of three categories: attainment, non-attainment, and maintenance areas, depending upon air quality data and ambient concentrations of pollutants. Attainment areas are regions where ambient concentrations of a pollutant are below the respective NAAQS; non-attainment areas are those where concentrations exceed the NAAQS. A maintenance area is an area that used to be non-attainment but has demonstrated that the air quality has improved to attainment. After 20 years of clean air quality, maintenance areas can be re-designated to attainment.

The Project is located within the City of Boston, Suffolk County, Massachusetts, which under the EPA designation is a CO Maintenance area. Projects located in a CO maintenance area are required to evaluate their CO concentrations with the NAAQS,

as has been done for this Project. The City of Boston is in attainment for the remainder of the criteria pollutants.

5.6.2.1 Air Quality Standards

The EPA has established the NAAQS to protect the public health. Massachusetts has adopted similar standards as those set by the EPA for CO. Table 5-4 presents the NAAQS for carbon monoxide.

Table 5-4 National Ambient Air Quality Standards

	Primary Standards		
Pollutant	**Level**	**Averaging Time**	**Form**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour	Not to be exceeded more than once per year
	35 ppm (40 mg/m^3)	1-hour	

DEP maintains a network of air-quality monitors to measure background CO concentrations. Background concentrations are ambient pollution levels from all stationary, mobile, and area sources. Background CO concentrations are determined by choosing the maximum of the second-highest annual values from the previous three years. Looking at the air-quality monitor closest to the project site (Von Hillern) for the years 2015-2017, the CO background values are 1.7 ppm for the 1-hour averaging time and 1.2 ppm for the 8-hour averaging time. These values are much less than the 1-hour and 8-hour NAAQS. The background values are presented in Table 5-5.

Table 5-5 Air Quality Background Concentrations

	Background Concentrations		NAAQS	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	1.2 ppm	8-hour	9 ppm	8-hour
	1.7 ppm	1-hour	35 ppm	1-hour

Monitoring Location: Von Hillern, Boston, MA. Years 2015-2017.

The potential CO concentrations from motor vehicle traffic related to the Project will be considered in conjunction with these background concentrations to demonstrate that the Project will comply with the NAAQS Standards.

5.6.2.2 BPDA Development Review Guidelines

The BPDA Development Review Guidelines require “a microscale analysis predicting localized carbon monoxide concentrations should be performed, including identification of any locations projected to exceed the National or Massachusetts Ambient Air Quality Standards, for projects in which:

- Project traffic would impact intersections or roadway links currently operating at Level of Service ("LOS") D, E, or F or would cause LOS to decline to D, E, or F; or
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more (unless the increase in traffic volume is less than 100 vehicles per hour); or
- The Project will generate 3,000 or more new average daily trips on roadways providing access to a single location."

As presented in Chapter 4, the traffic analysis indicates that the LOS at multiple study intersections will remain at or decline to D, E, or F under the build condition and volumes at some intersections will increase by 10 percent or more. As such, a microscale analysis was conducted pursuant to the BPDA Development Review Guidelines.

Microscale ("Hot Spot") Analysis Methodology

The modeling for the microscale analysis followed the EPA's guidelines. The traffic data was evaluated, and locations were selected based on the requirements of the BPDA Development Review Guidelines and the EPA modeling guidance.

The microscale analysis calculates maximum 1-hour and 8-hour CO concentrations in the Project area during the peak CO season (winter). EPA's Office of Transportation and Air Quality ("OTAQ") has developed the Motor Vehicle Emission Simulator ("MOVES2014b"). Emission factors were developed using the MOVES2014b program and were combined with the traffic data in EPA's computer model CAL3QHC Version 2.0[2] model to calculate the worst-case CO concentrations. EPA's CAL3QHC is an air quality dispersion model that applies emission factors obtained from MOVES2014b to projected traffic conditions in order to obtain localized pollutant concentrations at real-world locations.

The microscale analysis utilized the traffic (volumes and speeds) and emission factor data for the 2025 No-Build and 2025 Build Conditions. These data were incorporated into air quality models and demonstrate that the Project will meet the CAAA criteria. The microscale analysis calculated CO concentrations at congested intersections near the Project Site under the No-Build and Build conditions for comparison purposes. The worst-case CO concentrations were added to the background levels to determine if the Project's concentrations complied with the NAAQS.

Receptor locations were selected near the congested intersections based upon areas where the public may have access. The intersection receptors were placed at the edge of the roadway, but not closer than 10 feet (3 meters) from the nearest travel lane; as required by the EPA. The results calculated at these receptor locations represent the highest concentrations at each intersection. Receptor locations were

[2] User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-005; November 1992

grouped into receptor quadrants to simplify the presentation of the results. Receptor locations farther away from the intersections will have lower concentrations because of the dispersion characteristics. The receptor locations that are along other portions of the roadways in the study area are expected to have lower concentrations than the receptor locations at the intersection as the emission rates for vehicles traveling along these roadways are much lower than the emission rates for vehicles queuing at intersections.

Emission Rates

All the vehicle emission factors used in the microscale analysis were obtained using the EPA's MOVES2014b emissions model. MOVES2014b is EPA's latest motor vehicle emissions model for state and local agencies to estimate pollutants from cars, trucks, buses, and motorcycles. MOVES2014b calculates CO emission factors from motor vehicles for free-flow conditions in grams per vehicle mile and for idling conditions in grams per vehicle hour. The emission rates used in this study were developed with the data provided by MassDEP. The emission factors for the microscale analysis were based upon a morning peak hour on a typical weekday in the winter for Suffolk County and were calculated for idle and free-flow conditions based upon roadway travel speeds and grades.

The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine, and vehicle GHG regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program. These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios.

Traffic Data

The air quality study evaluates the air quality impacts of vehicular traffic associated with the Project on the environment. The vehicle traffic represents the worst-case conditions, which includes the increase in traffic volumes due to specific developments proposed for the study area, projected traffic growth over time, and future traffic associated with the Project. The microscale study utilizes traffic and emissions data for the future No-Build and future Build Conditions. These data are incorporated into the EPA air quality models to generate air pollutant concentrations that demonstrate whether or not the Project would have air quality impacts. The scenarios modeled include:

- **No-Build Condition (2025):** reflects background growth associated with other planned projects and general background regional growth.
- **Build Condition (2025):** assuming the 2025 No-Build Condition background growth with the Project fully constructed and in operation.

Traffic data (volumes, delays, and speeds) was developed for each analysis condition. The traffic volumes and level of-service for the study area were evaluated, and based on the BPDA Development Review Guidelines and EPA Guidelines, four intersections were selected for analysis:

- Atlantic Avenue at Kneeland Street
- Kneeland Street at Lincoln Street
- John F. Fitzgerald Surface Road at Kneeland Street
- John F. Fitzgerald Surface Road at Essex Street and Lincoln Street

The analysis considered the worst peak hour traffic conditions at each intersection. The intersections represent the top-ranking intersections in the study area based on intersection volumes and level of service. If these intersections show concentrations below the NAAQS, then it is expected that all intersections would be below the NAAQS.

Microscale Air Quality Study Results

The CO concentrations for each intersection under the No-Build and Build Conditions are presented in Table 5-6 and Table 5-7. The results show that there are minimal to no increases for 1-hour and 8-hour CO concentrations between the 2025 No-Build and Build conditions due to the minor traffic volume increase and minimal intersection delays experienced at the study intersections. The 1-hour CO concentrations ranged from 1.7 to 2.0 parts per million (ppm), and the 8-hour CO concentrations ranged from 1.2 ppm to 1.4 ppm for the 2025 No-Build and Build conditions. The results of the microscale analysis demonstrate that the 2025 No-Build and Build CO concentrations (both 1-hour and 8-hour values) for the Project are well below the NAAQS.

Table 5-6 Predicted Maximum 1-Hour CO Concentrations[1]

			1-Hour CO Concentrations (ppm)	
No.	**Intersection**	**Receptor Quadrant[2]**	**2025 No-Build**	**2025 Build**
1	Atlantic Avenue at Kneeland Street	East	1.9	1.9
		Northwest	1.8	1.8
		Northeast	1.7	1.7
2	Kneeland Street at Lincoln Street	Northeast	1.8	1.8
		Northwest	1.9	1.9
		Southwest	1.9	1.9
		Southeast	1.8	1.8
3	John F. Fitzgerald Surface Street Surface Road at Kneeland Street	Northeast	1.9	1.9
		Northwest	1.9	1.9
		Southwest	2.0	2.0
		Southeast	1.9	2.0
4	John F. Fitzgerald Surface Road at Essex Street and Lincoln Street	West	1.8	1.8
		Northwest	1.9	1.9
		Northeast	1.8	1.8
		East	1.8	1.8
		Southeast	1.8	1.8
		Southwest	1.9	1.9

Source: VHB, Inc.

1 The concentrations are expressed in parts per million (ppm) and include a 1-hour background concentration of 1.7 ppm. The 1-hour NAAQS for CO is 35 ppm.

2 Concentrations represent maximum concentrations within the grouping of receptors placed in the respective directions of each intersection.

Table 5-7 Predicted Maximum 8-Hour CO Concentration[1]

			8-Hour CO Concentrations (ppm)	
No.	Intersection	Receptor Quadrant[2]	2025 No-Build	2025 Build
1	Atlantic Avenue at Kneeland Street	East	1.3	1.3
		Northwest	1.3	1.3
		Northeast	1.2	1.2
2	Kneeland Street at Lincoln Street	Northeast	1.3	1.3
		Northwest	1.3	1.3
		Southwest	1.3	1.3
		Southeast	1.3	1.3
3	John F. Fitzgerald Surface Road at Kneeland Street	Northeast	1.3	1.3
		Northwest	1.3	1.3
		Southwest	1.4	1.4
		Southeast	1.3	1.4
4	John F. Fitzgerald Surface Road at Essex Street and Lincoln Street	West	1.3	1.3
		Northwest	1.3	1.3
		Northeast	1.3	1.3
		East	1.3	1.3
		Southeast	1.3	1.3
		Southwest	1.3	1.3

Source: VHB, Inc.

1 The concentrations are expressed in parts per million ("ppm") and include an 8-hour background concentration of 1.2 ppm and a persistence factor of 0.7. The 8-hour NAAQS for CO is 9 ppm.

2 Concentrations represent maximum concentrations within the grouping of receptors placed in the respective directions of each intersection

Conclusion of Microscale Analysis

The air quality evaluation demonstrated that the development of the Project would not result in adverse localized air quality impacts. The microscale analysis evaluated Project-related vehicles traveling through congested intersections in the study area. This analysis demonstrates that all existing and future CO concentrations are below the NAAQS. Specifically:

- All the 1-hour CO concentrations ranged from 1.7 to 2.0 ppm and are well below the CO NAAQS of 35 ppm.
- All the 8-hour CO concentrations ranged from 1.2 to 1.4 ppm and are below the CO NAAQS of 9 ppm.

The microscale study demonstrates that the Project conforms to the CAAA and the SIP because:

- No violation of the NAAQS is expected to be created.
- No increase in the frequency or severity of any existing violations (none of which are related to this development) is anticipated to occur.

- No delay in attainment of any NAAQS is expected to result due to the implementation of the proposed action.

Based upon the analysis presented herein and the conclusions summarized above, no significant adverse air quality impacts from the Project are anticipated on the microscale level.

5.6.3 Stationary Source Emissions Evaluation

Sizable combustion equipment with the potential to emit air pollutants at the Proposed Project may be subject to air permitting under 310 CMR 7.00. MassDEP has established the "Environmental Results Program" (ERP) to streamline the certification process of smaller combustion equipment subject to permitting regulations. The exact sizes, makes, models of equipment to be used by the Project is currently unknown and will be determined throughout the design process. However, equipment that is likely to be used at the Project, such as boilers or emergency generators, may be subject to permitting regulations. If a boiler with a rated capacity between 10 to 40 MMBtu per hour is used on the site, the Proponent will submit the appropriate self-certification forms under the ERP process before the installation of the boiler. Additionally, if an emergency generator with a rated capacity equal to or greater than 37 kW is used on the site, the Proponent will submit the appropriate self-certification forms under the ERP process within 60 days of generator startup.

5.7 Water Quality

The Project intends to address MassDEP's Stormwater Management Standards, improve the quality of stormwater runoff from the Project Site, and reduce runoff volume in comparison to existing site conditions. The Project is expected to improve water quality by collecting and treating stormwater runoff through a series of structural Best Management Practices ("BMPs") designed to remove oil, floatables, and Total Suspended Solids ("TSS"). Stormwater runoff from the Project Site is expected to be directed to recharge systems designed to infiltrate stormwater runoff to replenish groundwater as well as promote phosphorous removal. Subsurface infiltration systems, if constructed, are intended to address phosphorus removal and promote groundwater recharge in accordance with Groundwater Conservation Overlay District ("GCOD") requirements, as defined in Article 32 of the Code. Chapter 7, *Infrastructure*, provides a description of the existing drainage conditions and proposed stormwater management approach, to the extent these systems are designed, and provides a summary of the Project's compliance with the MassDEP Stormwater Management Standards.

5.8 Noise

The noise assessment evaluated the potential noise impacts associated with the Project's design and activities, including mechanical equipment and loading/service operations. This section discusses the fundamentals of noise, noise impact criteria, noise analysis methodology, and potential noise impacts.

Based on preliminary design, the Project's operations will have no adverse noise impacts at nearby sensitive receptor. The assessment concludes that the Project will comply with City of Boston noise regulations.

5.8.1 Fundamentals of Noise

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, communication, work, or recreation. How people perceive sound depends on several measurable physical characteristics, which include the following:

- **Intensity** – Sound intensity is often equated to loudness.
- **Frequency** - Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz. Pure tones have all their energy concentrated in a narrow frequency range.

Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (zero dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels creates a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:

- A 3-dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
- A 10-dB increase is a tenfold increase in acoustic energy but is perceived as a doubling in loudness to the average person.

The human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighted [dB(A)] is used to evaluate environmental noise levels. Table 5-8 presents a list of common outdoor and indoor sound levels.

A variety of sound level indicators can be used for environmental noise analysis. These indicators describe the variations in intensity and temporal pattern of the sound levels. The following is a list of common sound level descriptors used for environmental noise analyses:

- L90 is the sound level which is exceeded for 90 percent of the time during the time period. L90 is generally considered to be the ambient or background sound level.

› Leq is the A-weighted sound level, which averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time.

Table 5-8 Common Outdoor and Indoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa)*		Sound Level dB(A)**	Indoor Sound Levels
	6,324,555	-	110	Rock Band at 5 m
Jet Over Flight at 300 m		-	105	
	2,000,000	-	100	Inside New York Subway Train
Gas Lawn Mower at 1 m		-	95	
	632,456	-	90	Food Blender at 1 m
Diesel Truck at 15 m		-	85	
Noisy Urban Area—Daytime	200,000	-	80	Garbage Disposal at 1 m
		-	75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	-	70	Vacuum Cleaner at 3 m
Suburban Commercial Area		-	65	Normal Speech at 1 m
	20,000	-	60	
Quiet Urban Area—Daytime		-	55	Quiet Conversation at 1 m
	6,325	-	50	Dishwasher Next Room
Quiet Urban Area—Nighttime		-	45	
	2,000	-	40	Empty Theater or Library
Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	
		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

Source: Highway Noise Fundamentals. Federal Highway Administration, September 1980.
* μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.
** dB(A) – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

5.8.2 Methodology

The noise study evaluated the potential noise impacts associated with the proposed Project's operations, which include mechanical equipment and loading/service activities. The assessment included measurements of existing ambient background sound levels and a qualitative evaluation of potential noise impacts associated with the proposed mechanical equipment (e.g., energy recovery units, boilers, cooling towers, exhaust fans, etc.) and loading/service activities. The study area was evaluated and sensitive receptor locations near the proposed Project Site were identified and examined. The site layout and building design, as they relate to the

loading areas and management of deliveries at the Project Site were also considered. The analysis considered sound level reductions due to distance, proposed building design, and obstructions from surrounding structures.

5.8.2.1 Receptor Locations

The noise study included an evaluation of the study area to identify nearby sensitive receptor locations, which typically include areas of sleep and areas of outdoor activities. This assessment identified two noise-sensitive areas near the Project Site that would have the most potential for exposure to the proposed Project's activities. As shown on Figure 5.4, the receptor locations include the following:

- **R1** – Residential use to the east on Lincoln Street; and
- **R2** – Residential use to the west on Surface Road.

These receptor locations, selected based on land use considerations, represent the most sensitive locations near the Project Site.

5.8.3 City of Boston Noise Impact Criteria

The City of Boston has developed noise standards that establish noise thresholds deemed to result in adverse impacts. The noise analysis for the Project used these standards to evaluate whether the Project will generate sound levels that result in potential adverse impacts.

Under Chapter 40 Section 21 of the General Laws of the Commonwealth of Massachusetts and Title 7 Section 50 of the City of Boston Code, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control of Noise in the City of Boston. These regulations establish maximum allowable sound levels based upon the land use affected by the proposed development. Table 5-9 summarizes the allowable sound levels that should not be exceeded.

For a residential zoning district, the maximum noise level affecting residential uses shall not exceed the Residential Noise Standard. The residential land use noise standard is 60 dB(A) for daytime periods (7:00 AM to 6:00 PM) and 50 dB(A) for nighttime conditions (6:00 PM to 7:00 AM).

Table 5-9 City of Boston Noise Standards by Zoning District, dB(A)

Land Use Zone District	Daytime (7:00 AM – 6:00 PM)	All Other Times (6:00 PM – 7:00 AM)
Residential	60	50
Residential/Industrial	65	55
Business	65	65
Industrial	70	70

Source: Regulations for the Control of Noise in the City of Boston, Air Pollution Control Commission.

5.8.4 Existing Noise Conditions

Noise measurements were conducted to establish existing ambient sound levels in vicinity of the Project Site. The existing sound levels were measured using Type 1 sound analyzers (Larson Davis SoundExpert LxT). Measurements were conducted on August 21, 2018. Short-term measurements were conducted at two locations, shown in Figure 5.4, for a 20-minute period to capture sound levels representative of typical existing ambient conditions during the daytime period and nighttime period. The existing measured sound level data are summarized in Table 5-10.

Table 5-10 Existing Ambient Sound Levels, dB(A)

	City of Boston Residential District Noise Standard		Measured L90 Sound Levels	
Monitoring Location	Daytime	Nighttime	Daytime	Nighttime
M1 – Lincoln Street	60	50	63	59
M2 – Surface Road	60	50	62	59

Source: VHB
Note: Refer to Figure 5.4 for noise monitoring locations.

The measured Leq sound levels range from approximately 62 dB(A) to approximately 63 dB(A) during the daytime period in the neighborhood surrounding the Project site. During the nighttime period, the surrounding neighborhoods experience sound levels of approximately 59 dB(A). The result of the noise measurements indicates that the daytime sound levels in the surrounding neighborhoods adjacent to the Project Site are currently exceeding the City of Boston's standards for a Residential District. During the daytime period, the measured sound levels data were composed of noise from vehicles traveling on the surrounding roadways, building mechanical equipment, birds, and occasionally aircrafts (i.e. airplane, helicopter). The measured sound levels during the nighttime also exceeds the City of Boston's nighttime standards. The nighttime period sound levels were generally associated with similar sources except for aircrafts.

5.8.5 Future Noise Conditions

The noise analysis evaluated the potential noise impacts associated with the Project's mechanical equipment and loading/service activities. The analysis assessed the potential sound level impacts at the nearby sensitive receptor locations.

5.8.5.1 Mechanical Equipment

Since the Project is in the early stages of the design process, the specific details related to the final selection of mechanical equipment are not confirmed at the time of this noise assessment. Based on preliminary design plans, the anticipated mechanical equipment associated with the proposed office building may include the following:

- Energy recovery air handling units,
- Boiler system,

- Exhaust fans,
- Cooling tower,
- Evaporative cooled condensers, and
- Emergency generator.

Theses mechanical equipment will be located within an enclosed mechanical penthouse on the rooftop or in mechanical rooms of the proposed building. During the design and selection process, the appropriate low-noise mechanical equipment will be selected, including potential noise mitigation measures, such as acoustical enclosures, and/or acoustical silencers. The Project will incorporate noise attenuation measures necessary to comply with City of Boston's noise criteria at the sensitive receptor locations.

In addition to being located within a mechanical penthouse, the mechanical systems would be strategically located on the rooftop, utilizing the height of the building in providing noise attenuation. Noise attenuation could be achieved by the Project's building design as the height of the proposed building is approximately 340 feet tall. The rooftop of the proposed building will serve as a barrier and break the direct line of exposure between the noise sources and nearby sensitive receptors. As such, the sound levels associated with the Project's mechanical equipment are expected to be negligible and comply with the City of Boston's noise standards at the surrounding sensitive receptor locations.

The Project may install an emergency generator for life safety purposes, such as emergency exit lighting. The Project will be required to adhere to MassDEP's regulations that require such equipment to be certified and registered when installed. As part of the air permitting process, the Project will be required to comply with additional noise requirements described in MassDEP regulations under the Codes of Massachusetts Regulations (310 CMR 7.00). At the proper time during the construction phase, the proponent will submit the appropriate certification/permit application to MassDEP, which would include noise mitigation measures (such as acoustic enclosures and exhaust silencers) that are necessary to meet MassDEP's noise criteria.

Service and Loading Activities

Deliveries and service activities associated with the Project are expected to consist of small delivery and service vehicles that are no larger than a single unit truck. Loading and service activities are expected to occur in a designated loading area at the ground level of the proposed building with access from Beach Street. The loading activities will be managed so that service and loading operations do not impact traffic on the adjacent roadways. Since loading activities will be enclosed and will be managed, potential noise impacts to nearby sensitive receptor locations are expected to be negligible and therefore adhere to the City's noise standards.

5.8.6 Conclusion of Noise Impact Assessment

The noise analysis determined that the sensitive receptor locations near the Project Site currently experience sound levels above the City of Boston's noise standards during both the daytime and nighttime periods. Based on preliminary design, the proposed Project's operations are expected to have no adverse noise impacts at nearby sensitive receptor locations.

With the proposed equipment located within a penthouse on the rooftops or in mechanical rooms, the sound levels associated with the Project's mechanical equipment are expected to have no adverse noise impacts at nearby sensitive receptor locations. While potential noise impacts associated with the emergency generator are also expected to be negligible, a separate MassDEP permitting process will allow for further review of this equipment at a later date. The Project Site is designed such that the service and loading area will be enclosed or surrounded by building structure, which will attenuate sound levels associated with the loading and service activities. As a result of the preliminary design, the Project's operations are expected to have no adverse noise impacts at nearby sensitive receptor locations and adhere to the City of Boston's noise standards.

5.9 Solid and Hazardous Wastes

The Proponent conducted a Phase I Preliminary Site Assessment for the Project Site in February 2017. No chemical testing of soil or groundwater was conducted as part of this assessment. No previous data on soil and groundwater quality was discovered during the assessment. Prior to construction of the Building in approximately 1951, historic use of the property included the United States Hotel as well as retail and shoe and rubber manufacturing. Since approximately mid-1950s, the Project area has been used for retail space and a parking garage.

No reported releases of oil or hazardous materials have occurred within the limits of the Project Site. Portions of the Project Site are underlain by urban fill, which is ubiquitous throughout Boston. As is typical of this material, it is anticipated that the urban fill may be impacted by metals, Polycyclic aromatic hydrocarbons ("PAHs"), petroleum hydrocarbons, and/or other compounds at concentrations above Massachusetts Contingency Policy ("MCP") Reportable Concentrations. Chemical data for soil and groundwater has not yet been collected at the Project Site.

The Proponent will be conducting testing to characterize and classify the soil to be generated from excavation and foundation spoils for off-site removal to appropriate facilities. Materials excavated during construction of the Project will be managed in accordance with applicable regulatory requirements including, if necessary, a Release Abatement Measure ("RAM") Plan under the MCP.

5.10 Groundwater/Geotechnical

5.10.1 Groundwater

Groundwater levels in the vicinity of the Site are monitored by the Boston Groundwater Trust ("BGwT") in observation wells typically located in the public sidewalks. Groundwater levels reported by the BGwT in wells near the Site (along Lincoln Street) between 2003 and 2018 have generally ranged from Elevation 7 to Elevation 10 above the Boston City Base ("BCB") datum.

Groundwater levels in the area could be influenced by leakage into and out of sewers, storm drains and other below grade structures, as well as environmental factors such as precipitation, season, and temperature. Additional monitoring wells are planned to be installed during site assessment activities for measuring groundwater levels and to assess groundwater quality.

As discussed further in Chapter 7, *Infrastructure*, the Project is located within the GCOD and therefore will provide a recharge system designed to collect stormwater runoff and recharge to the groundwater table, to the extent feasible.

5.10.2 Geotechnical

Surrounding Conditions

Buildings in the vicinity of the Project Site are supported on a variety of foundation systems, including deep end-bearing concrete drilled shafts and H-piles bearing in glacial deposits or bedrock, and wood piles and belled concrete caissons founded in the upper marine clay. Municipal utilities are present beneath surrounding streets and sidewalks.

Subsurface Soil and Bedrock Conditions

Based on available subsurface data in the vicinity of the Project Site, subsurface soil strata anticipated to be present at the Site are listed below in Table 5-11, in order of increasing depth below ground surface:

Table 5-11 Subsurface Conditions

Generalized Strata	Approx. Range in Thickness (ft)
Miscellaneous Fill	15 to 28
Organic Deposits	0 to 5
Marine Clay	25 to 45
Glacial Till	15 to 30
Bedrock (Depth)	74 to 90
Bedrock (Top Elev. BCB)	El. -54 to -73

5.10.3 Proposed Construction

The foundation support requirements for the new building are still under design; however, based on available information and the currently planned heights of the proposed structures, we anticipate the proposed Building to be supported on a concrete mat foundation bearing in the Marine Clay or Glacial Till.

Excavation will be performed within the limits of the site. Therefore, a temporary lateral earth support system will be required to complete construction of below-grade space. It is anticipated that a concrete diaphragm wall ("slurry wall") will be used as both the temporary support and the permanent foundation wall. The above-noted support of excavation system (slurry wall) is a non-displacement method which reduces the potential for soil disturbance and vibrations during installation.

Temporary dewatering will be required during construction to remove groundwater and stormwater. A temporary construction dewatering permit will be obtained prior to discharge of temporary dewatering effluent from the Project Site. Testing of the effluent will be conducted prior to and during discharge.

5.10.4 Mitigation Measures

Mitigation measures will be incorporated into the design and construction of the Project to limit potential adverse impacts to abutting properties and structures, including the CA/T ramp wall immediately to the west of the project. Some of the anticipated mitigation measures may include the following:

- The Project Team will conduct studies, prepare designs and specifications, and monitor the contractor's performance for conformance to the Project's contract documents with specific attention to protecting nearby structures and facilities, and reducing impacts to groundwater levels.
- The proposed foundation system will likely consist of either a concrete mat foundation bearing on natural marine deposits or on load bearing elements which are installed within slurry-filled trenches. Each of these foundation types will minimize vibrations, noise, and soil disturbances (compared to driven foundations or vibrating steel sheets).
- Performance criteria will be established in the Project specifications for the system with respect to movements, and the construction sequence of the foundations. The contractor will be required to plan, employ, and modify as necessary, construction methods and take all necessary steps during the work to protect nearby buildings and other infrastructure.
- Performance criteria will be established for maintenance of groundwater levels during construction in the vicinity of the Project. The contractor will be required to implement necessary steps during the work to not lower groundwater levels outside the limits of the Site. The feasibility of recharging temporary dewatering effluent into the ground will be investigated during the design of the Project.

- Geotechnical instrumentation will be installed and monitored before and during the foundation installation portion of the work to observe the performance of the adjacent buildings and infrastructure.
- The I-93 CA/T Ramp wall adjacent to the site will be instrumented with lateral and vertical monitoring points to measure deflections during construction as well as crack gauges and vibration monitoring.

5.11 Construction

5.11.1 Overview

Most construction activities will be accommodated within current Project Site boundaries. Details of the overall construction schedule, work hours, number of construction workers, worker transportation and parking, number of construction vehicles and routes will be addressed in the Construction Management Plan ("CMP") to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

5.11.2 Air Quality

No adverse air quality impacts from the construction of the Project are anticipated. Fugitive dust mitigation measures may include, as necessary:

- Wet suppression to minimize the generation of dust from excavation operations and on-site vehicle traffic, with provisions for any runoff control;
- Spraying any piles of excavation materials with soil cement or calcium chloride overnight and on weekends, and securely covering long-term material stock piles;
- Compacting of the soil or the use of gravel to stabilize the site access points;
- Washing vehicle wheels before leaving the Project Site, as necessary, with provisions for runoff control;
- Periodic cleaning of paved streets near the entrances to the Project Site to minimize vehicle mud/dirt carryout;
- Installing fencing around the perimeter of the Project Site to assist in containing wind-blown dust;
- Requiring that trucks hauling excavated material from the Project Site install secure covers over their loads; and
- Encouraging the construction contractors for the Project to implement the Massachusetts Diesel Retrofit Program control measures for heavy-duty diesel equipment.

5.11.3 Noise

The construction of the Project will be performed in a manner that complies with the MassDEP and City of Boston noise regulations. To ensure compliance with these regulations during construction, the Proponent, to the extent practicable, will seek to incorporate into the general construction contract the following mitigation measures:

- Limited vehicle idling to five minutes;
- Limited construction vehicle warm-up to ten minutes;
- Ensuring construction vehicles have ambient leveling sensors on the back up alarms; and
- Limiting construction to the hours allowable by City of Boston regulations.

5.11.4 Traffic

To minimize impacts to abutters and the local community, the Proponent will consider all available measures, including information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans. Barricades, walkways, lighting and signage will be used to ensure public safety throughout the construction period.

Refer to Chapter 4, *Transportation,* Section 4.13, for additional detail on construction management relative to traffic and roadway access.

5.11.5 Odor

Odor issues are not anticipated due to the minimal presence of organic soils on the Project Site; however, if such soils are encountered, the Project Team will undertake appropriate mitigation measures to control the odor associated with their removal, such as:

- Cut and cover utility trenches whenever possible;
- Protection of excavated materials with plastic sheathing to encapsulate odors; and
- Removal of excavated materials from the site in a covered vehicle on a frequent basis.

5.11.6 Rodents

The City of Boston has declared the infestation of rodents a severe problem. To control this infestation, the City enforces the requirements established under the Massachusetts State Sanitary Code, Chapter 211, 105 CMR 410.550 and the State Building Code, Section 108.6. Policy Number 87-4 (City of Boston) established that preparation of a program for the extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation, and basement rehabilitation. The Proponent will prepare and adhere to a rodent control program prior to demolition and on a regular basis throughout the duration of construction.

5.11.7 Construction Staging – Public Safety

Prior to the beginning of construction, the Construction Manager will produce a Site-Specific Safety Plan to be reviewed and approved by the City as well as all other agencies impacted in conjunction with the CMP.

The entire perimeter of the construction site will be protected with a construction fence with debris net on top of concrete barriers to separate the construction activities and general public. Vehicular gates will be provided for construction traffic in alignment with the flow of traffic on perimeter roads to allow safe entrance and exiting for construction vehicles. Sidewalks around the Project Site perimeter will be maintained during construction, and overhead protection will be utilized in areas where the new construction is near the general public.

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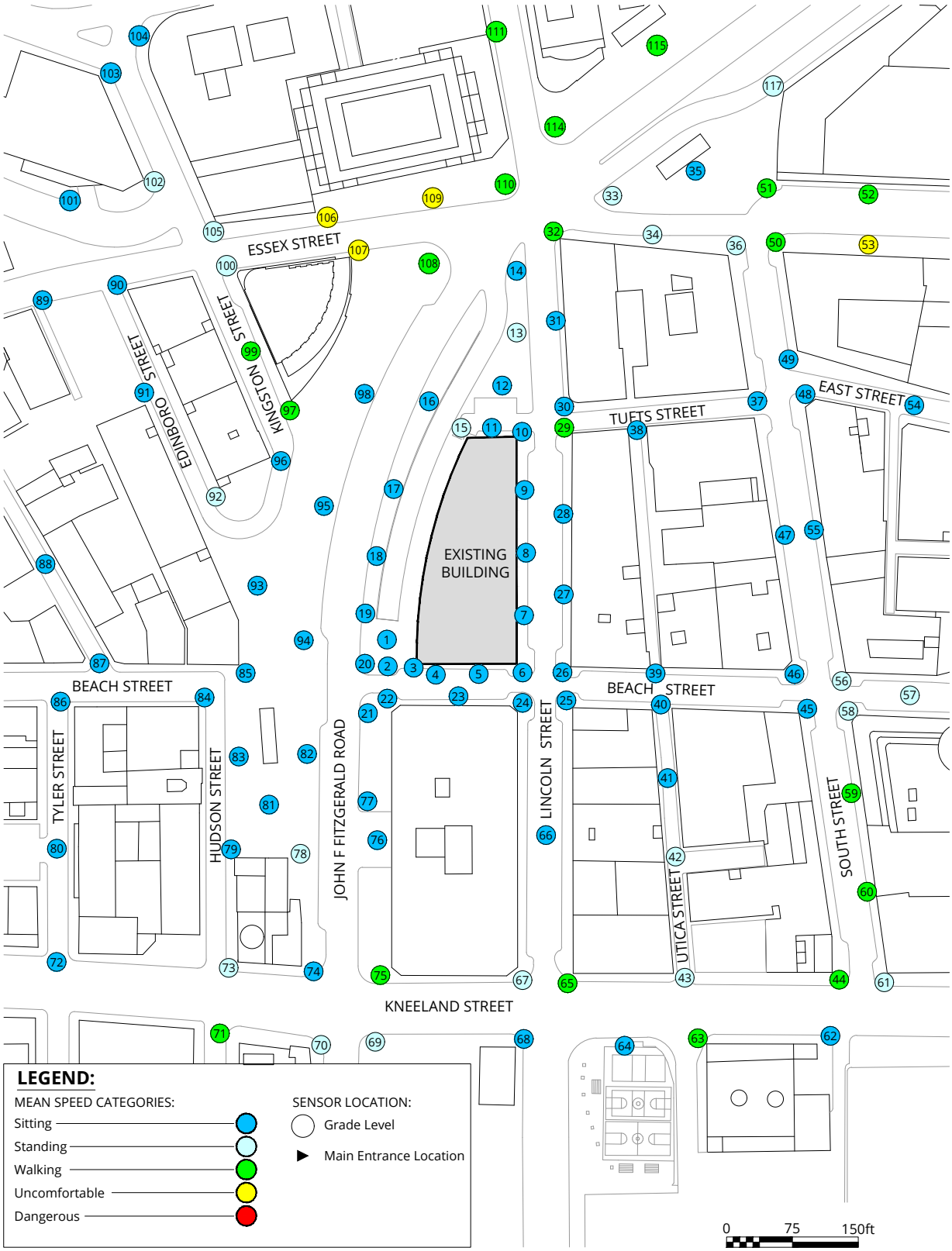
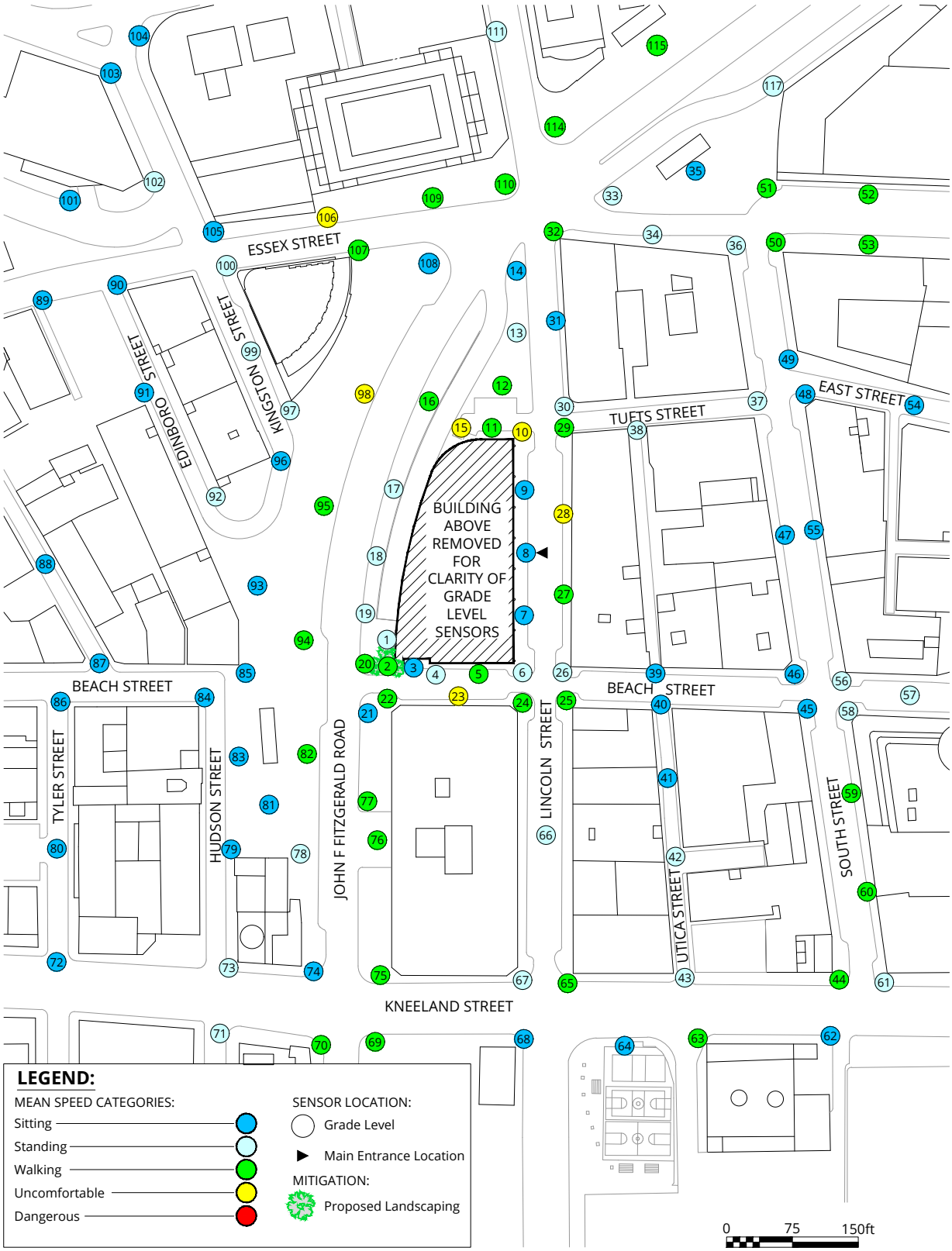


Source: RWDI

Figure 5.1a

Pedestrian Wind Conditions
Mean Speed - No-Build

Boston, Massachusetts



Source: RWDI

Figure 5.1b

Pedestrian Wind Conditions
Mean Speed - Build

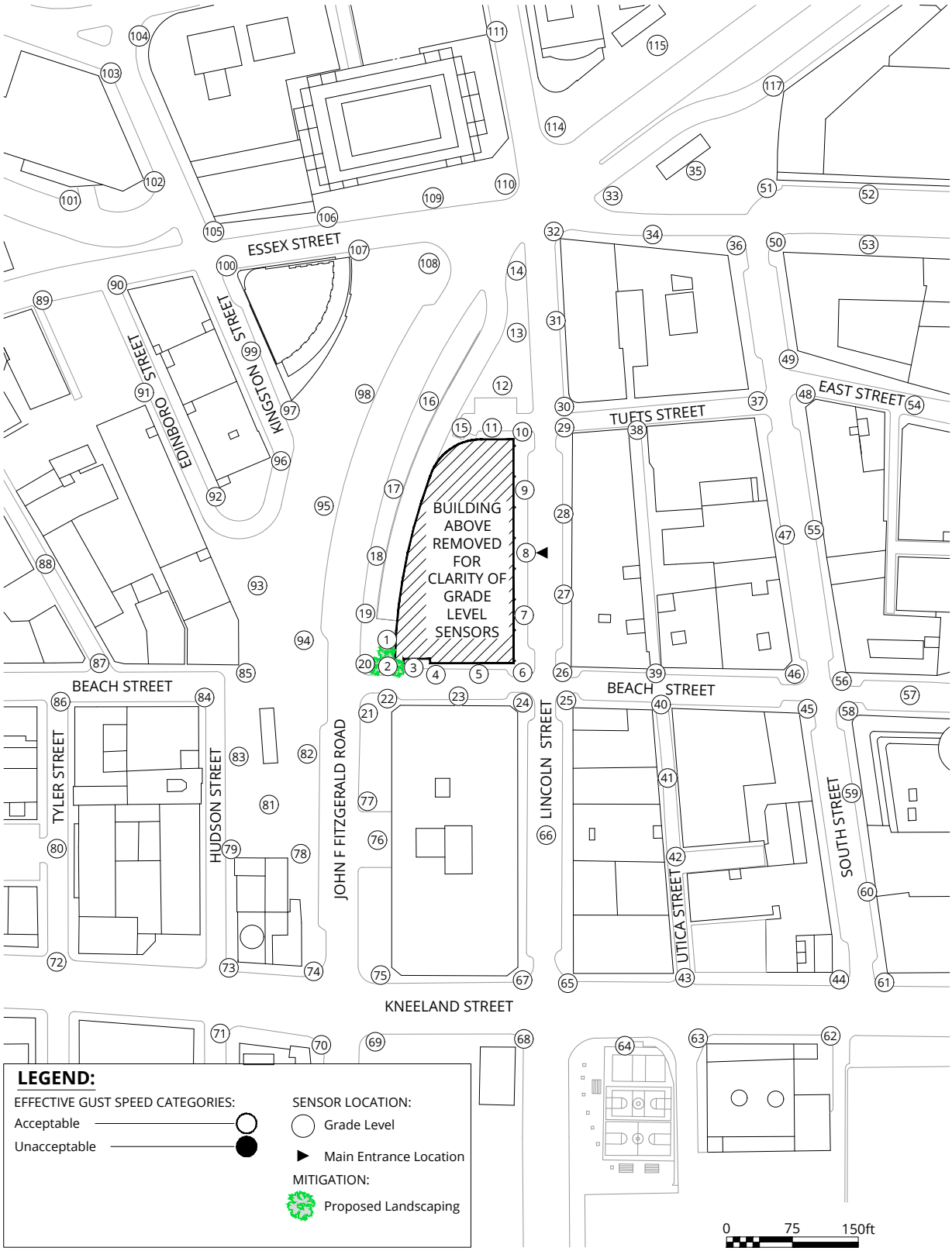
Boston, Massachusetts

Source: RWDI

Figure 5.1c

Pedestrian Wind Conditions
Effective Gust Speed - No-Build

Boston, Massachusetts

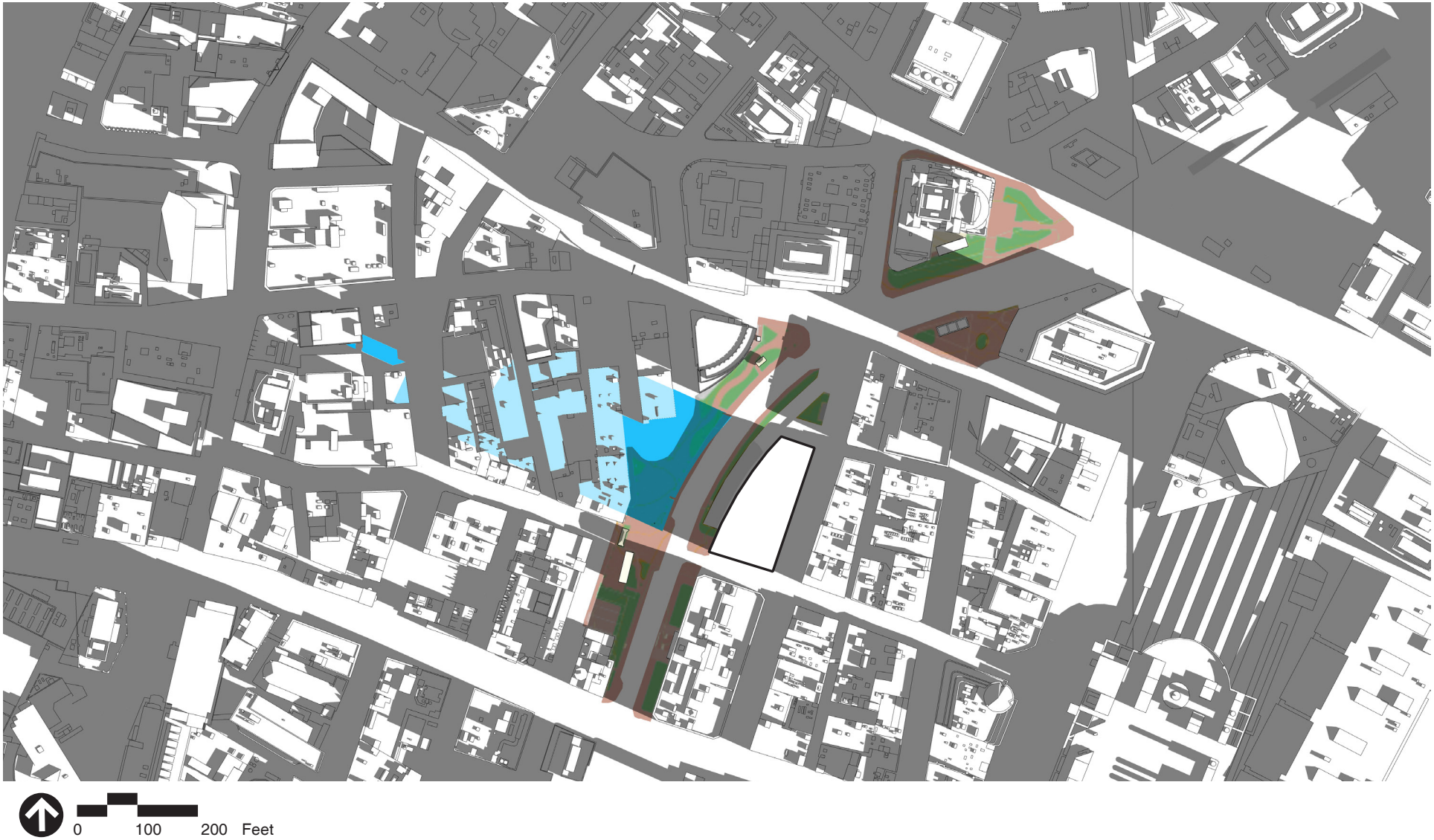


Source: RWDI

Figure 5.1d

Pedestrian Wind Conditions
Effective Gust Speed - Build

Boston, Massachusetts



Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2a

Shadow Impact Mar 21, 9am

125 Lincoln
Boston, Massachusetts

Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2b

Shadow Impact Mar 21, 12pm

125 Lincoln
Boston, Massachusetts

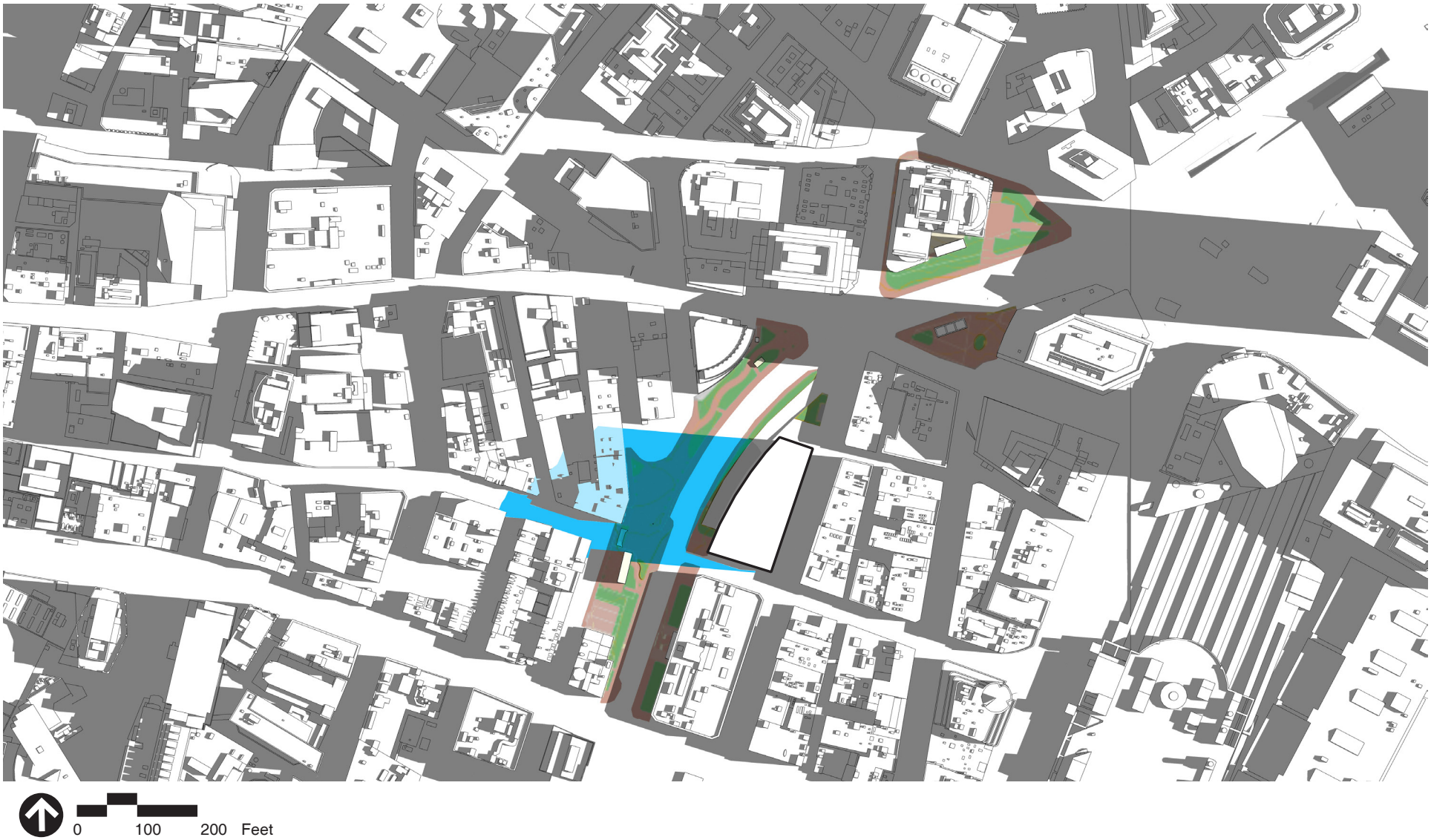
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2c

Shadow Impact Mar 21, 3pm

125 Lincoln
Boston, Massachusetts



Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2d

Shadow Impact Jun 21, 9am

125 Lincoln
Boston, Massachusetts

Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2e

Shadow Impact Jun 21, 12pm

125 Lincoln
Boston, Massachusetts

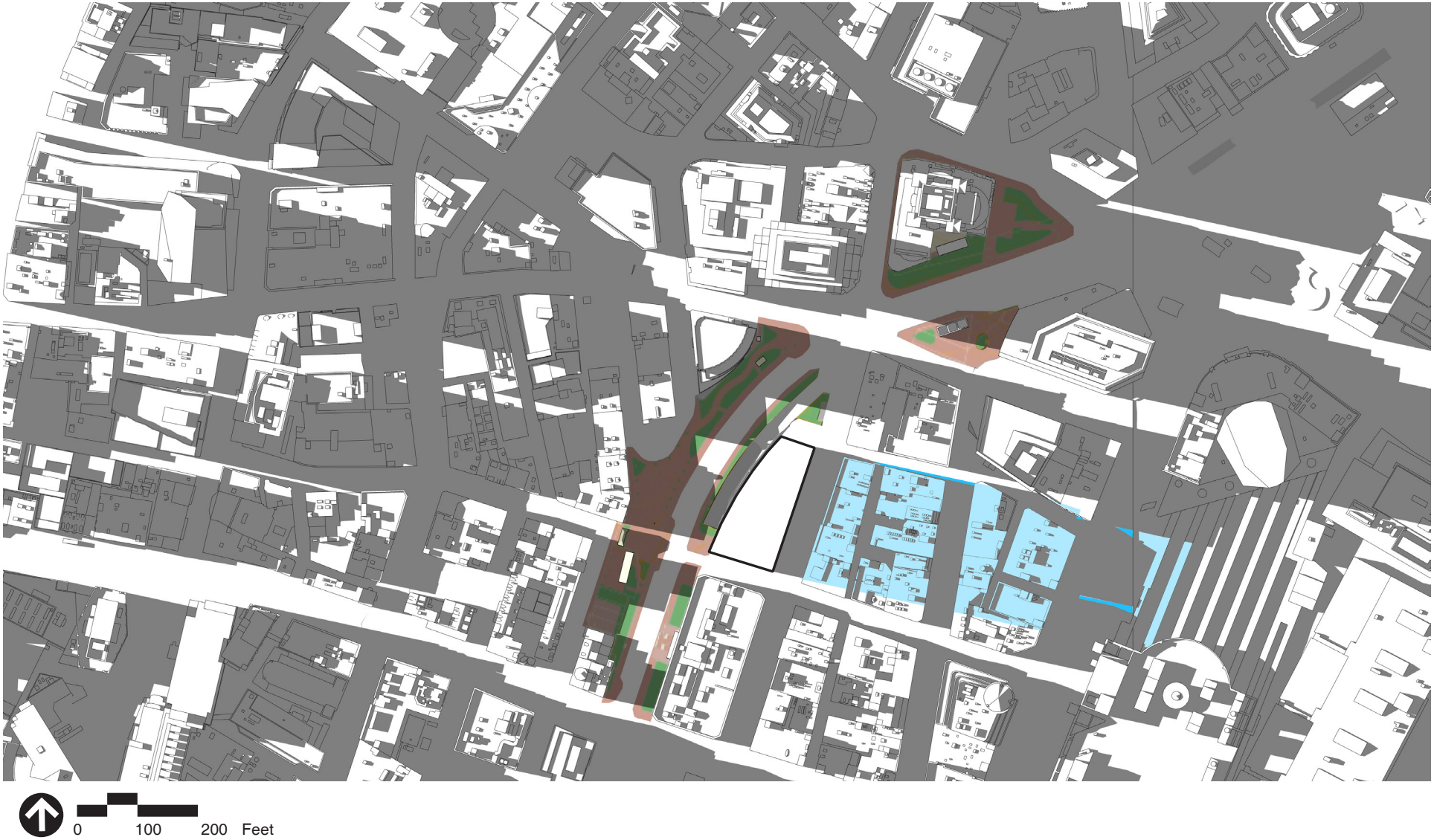
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2f

Shadow Impact Jun 21, 3pm

125 Lincoln
Boston, Massachusetts



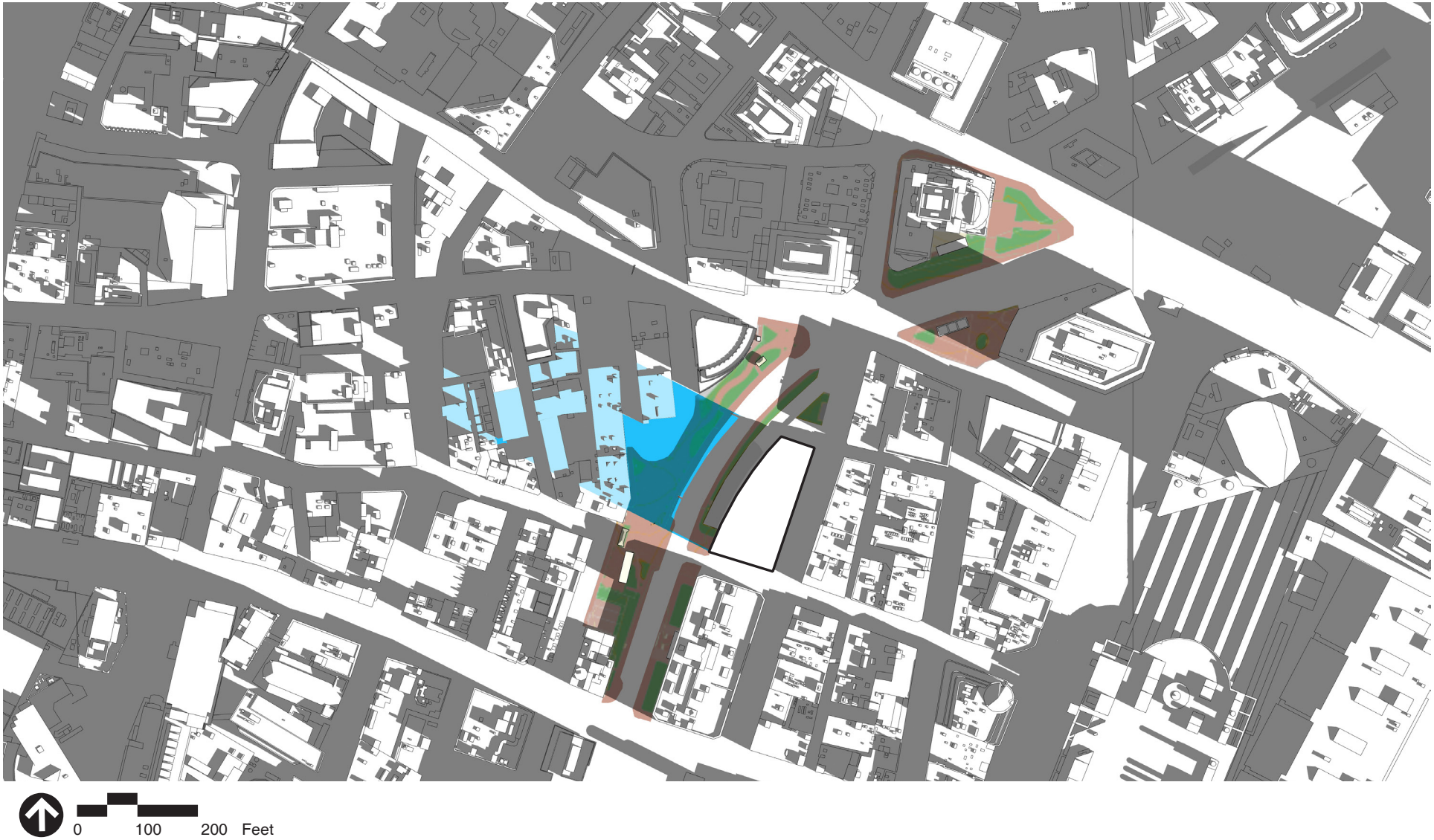
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2g

Shadow Impact Jun 21, 6pm

125 Lincoln
Boston, Massachusetts



Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2h

Shadow Impact Sep 21, 9am

125 Lincoln
Boston, Massachusetts

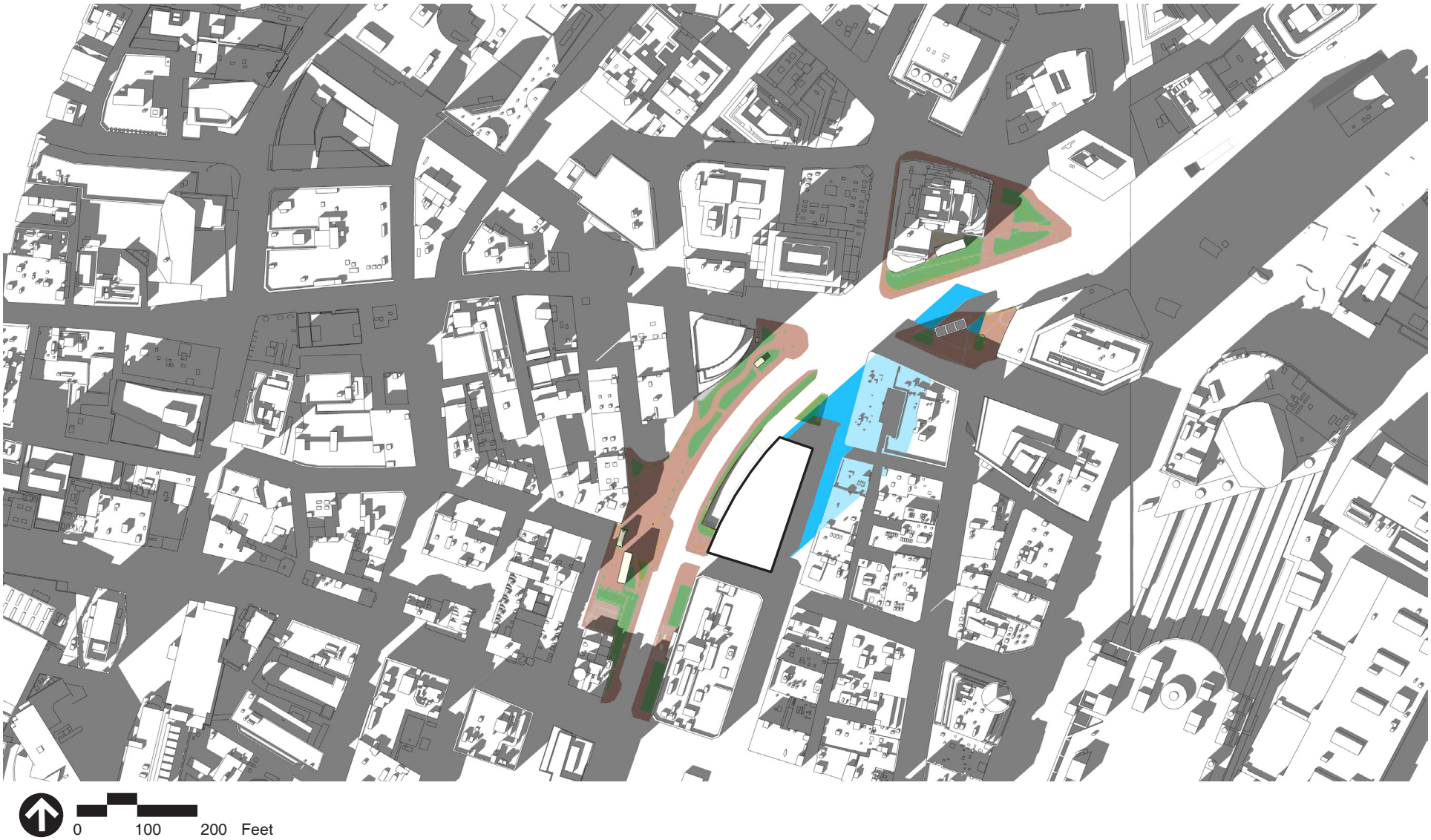
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2i

Shadow Impact Sep 21, 12pm

125 Lincoln
Boston, Massachusetts



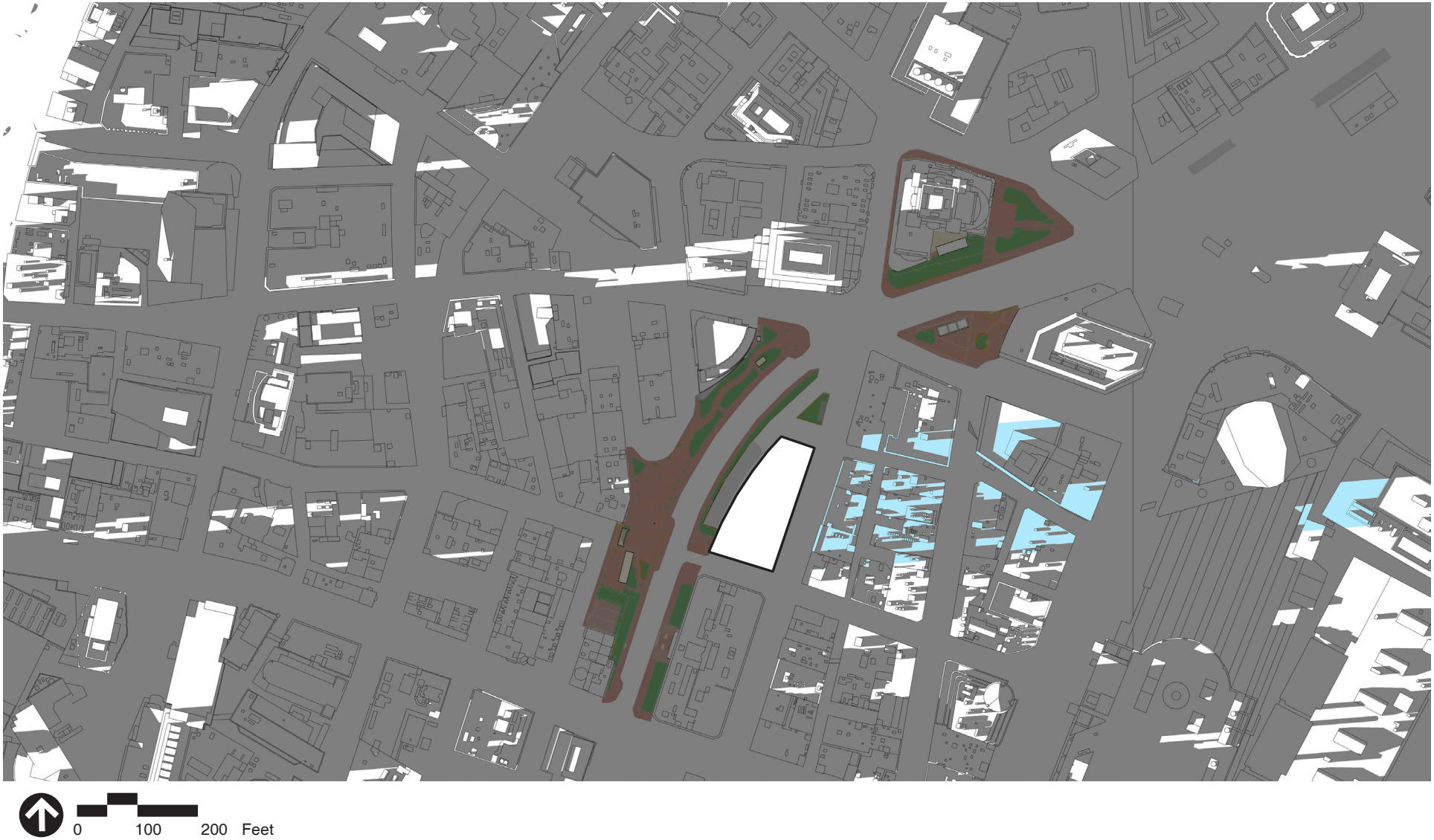
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2j

Shadow Impact Sep 21, 3pm

125 Lincoln
Boston, Massachusetts



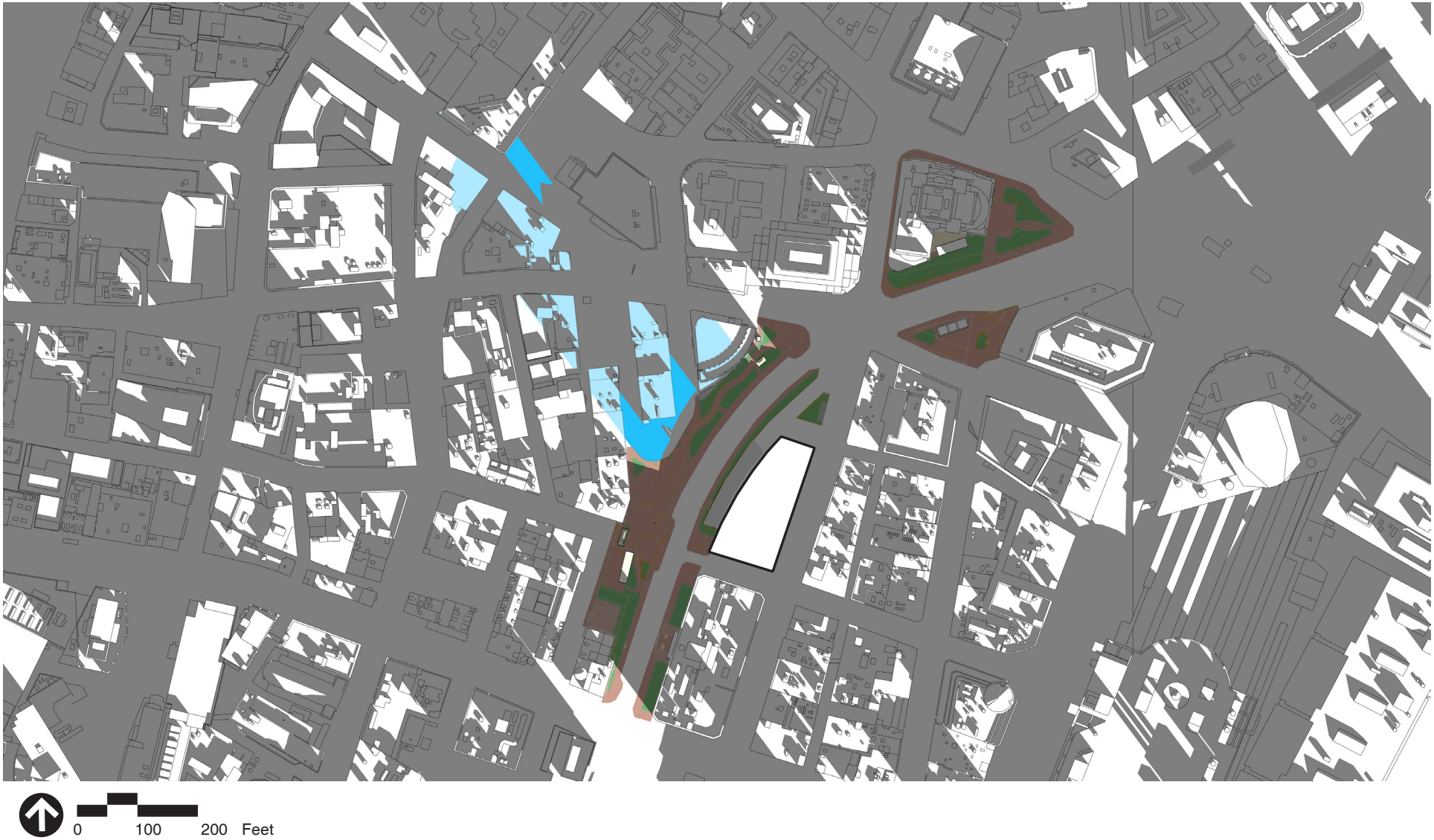
Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2k

Shadow Impact Sep 21, 6pm

125 Lincoln
Boston, Massachusetts



Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2I

Shadow Impact Dec 21, 9am

125 Lincoln
Boston, Massachusetts

Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

Figure 5.2m

Shadow Impact Dec 21, 12pm

125 Lincoln
Boston, Massachusetts

Existing Shadow
Net New Shadow (Street Level)
Net New Shadow (Rooftop)
Green Space

Gensler

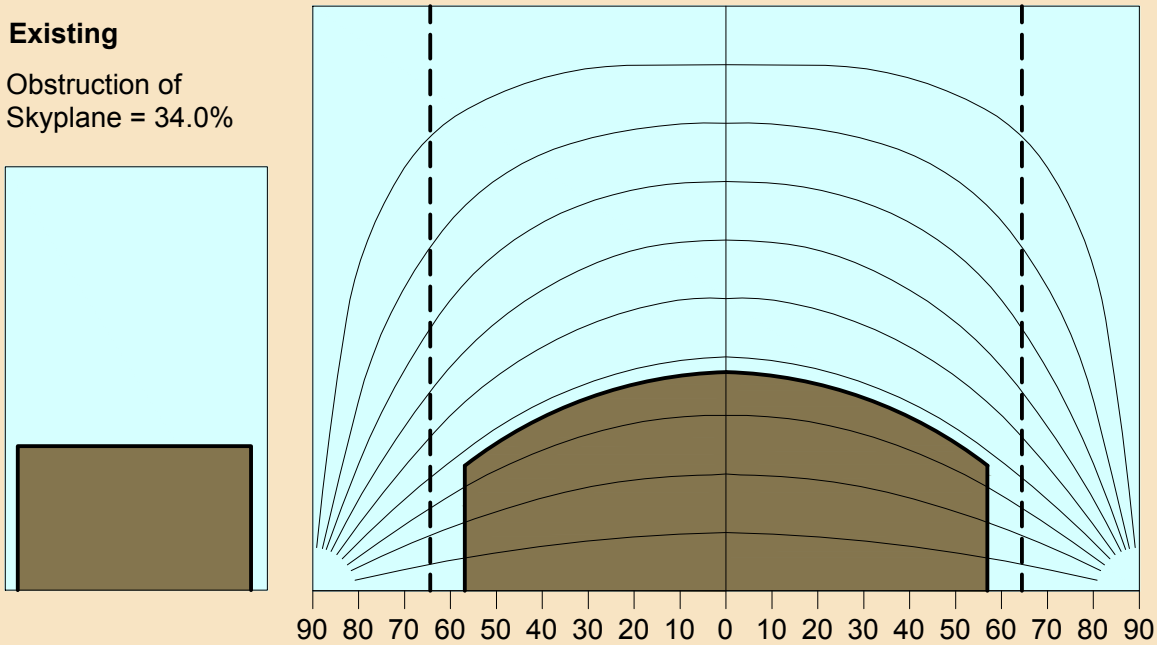
Figure 5.2n

Shadow Impact Dec 21, 3pm

125 Lincoln
Boston, Massachusetts

Existing

Obstruction of
Skyplane = 34.0%



Proposed

Obstruction of
Skyplane = 93.6%

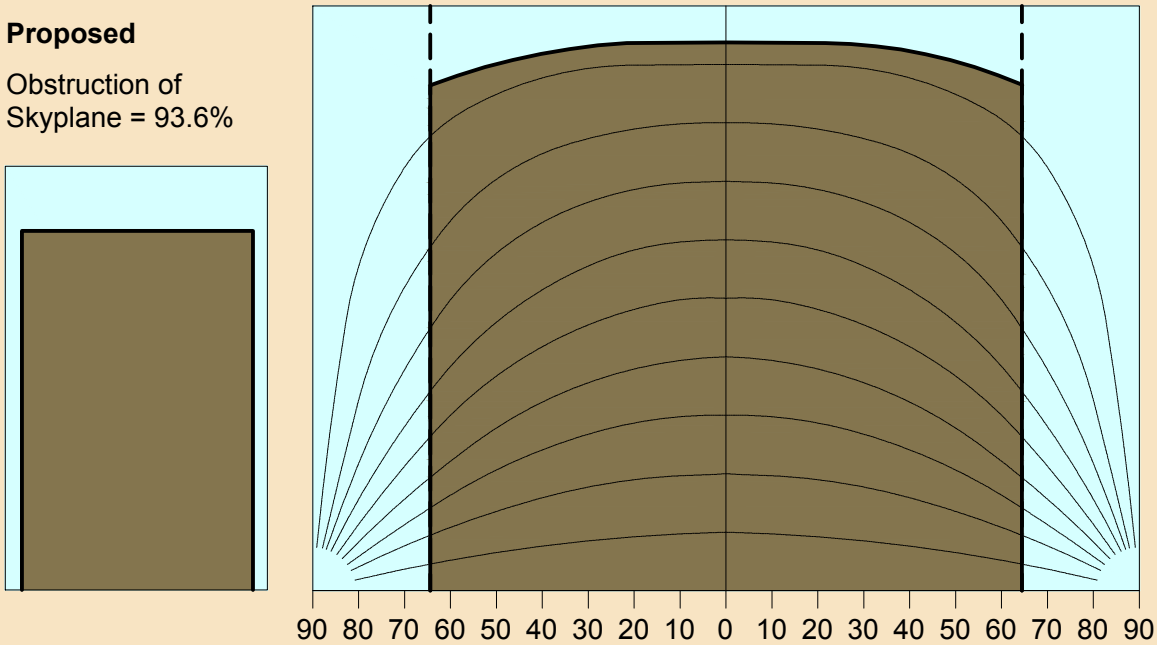


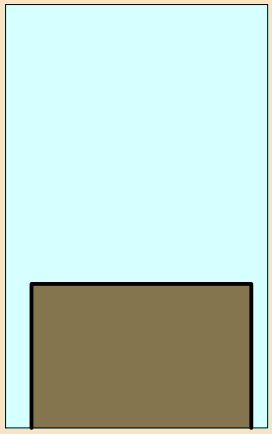
Figure 5.3a

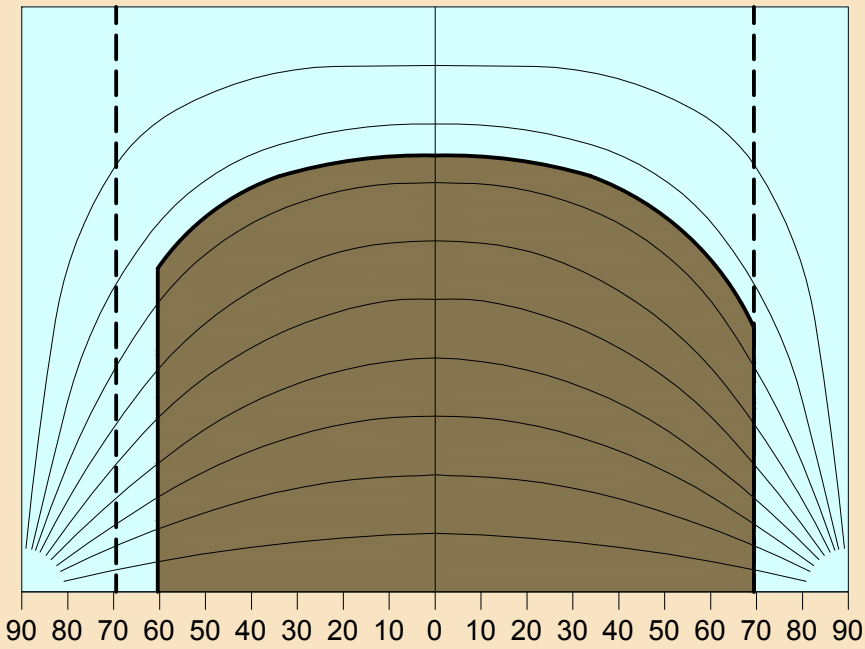
Daylighting Analysis
Center of Surface Road

Boston, Massachusetts

Existing

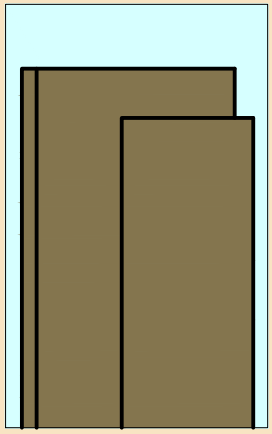
Obstruction of
Skyplane = 70.0%





Proposed

Obstruction of
Skyplane = 82.4%



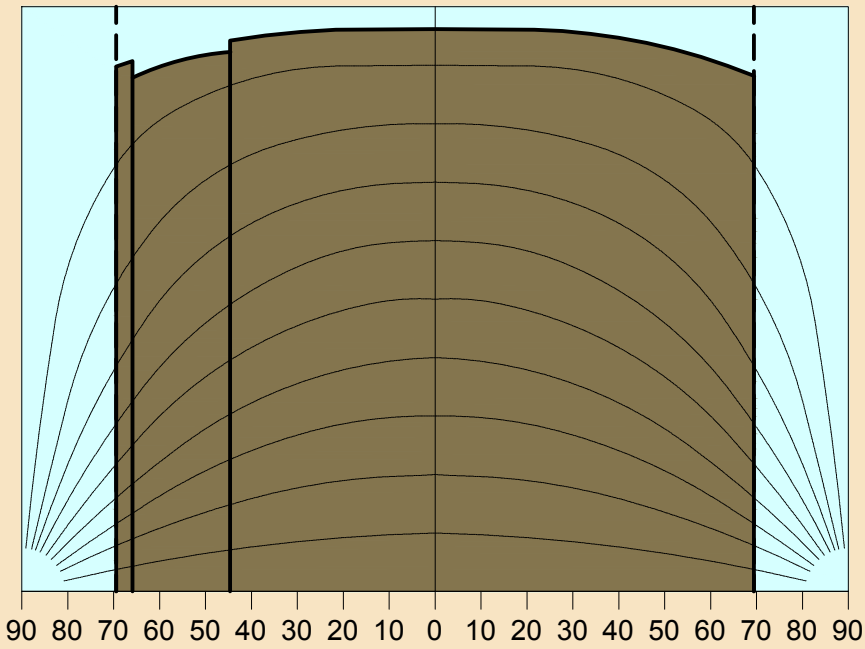


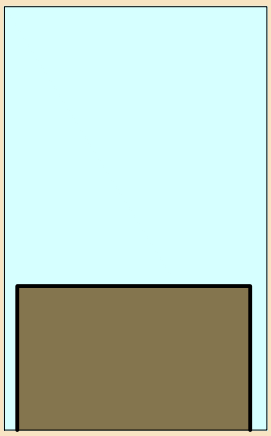
Figure 5.3b

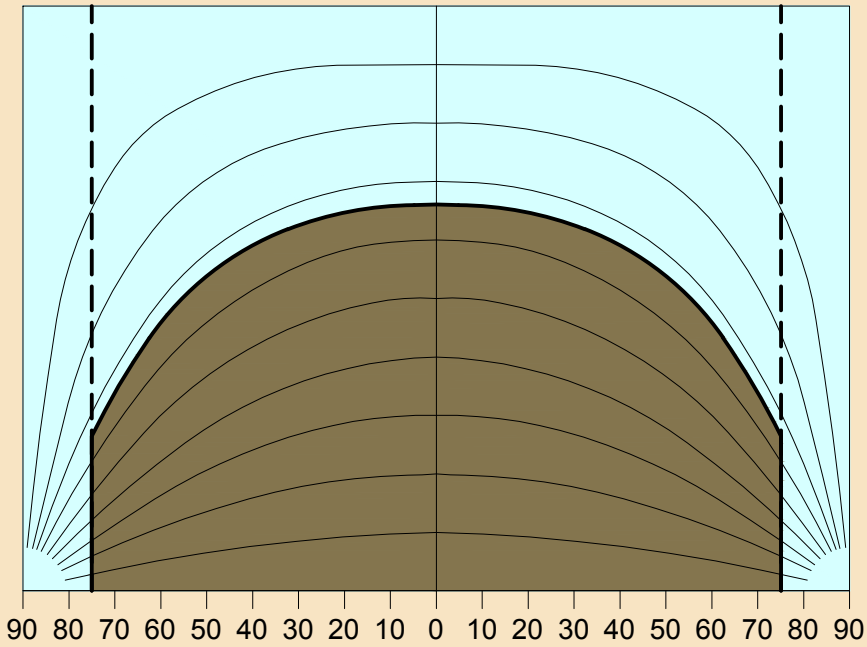
Daylighting Analysis
Center of Beach Street

Boston, Massachusetts

Existing

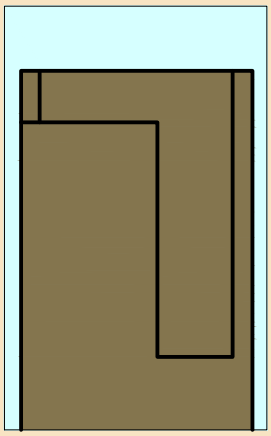
Obstruction of
Skyplane = 66.3%





Proposed

Obstruction of
Skyplane = 93.4%



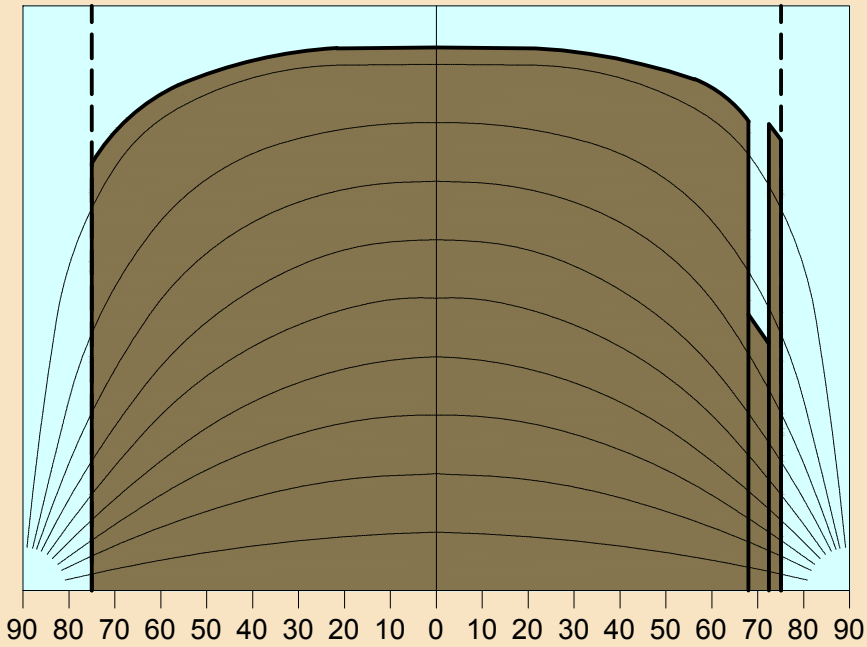


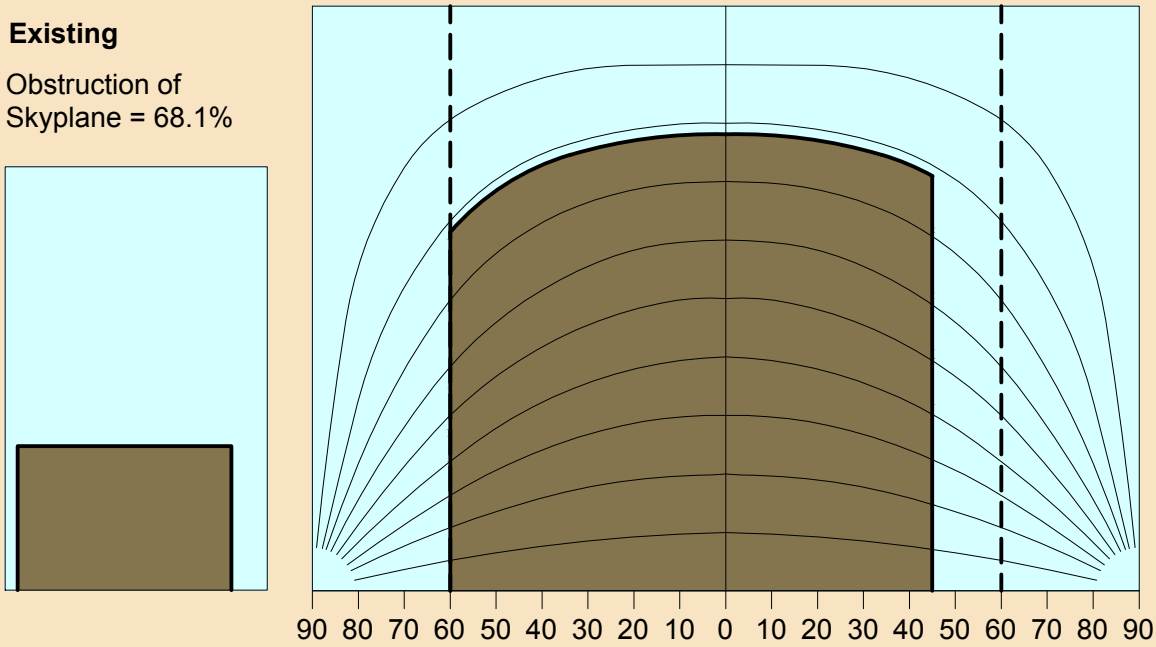
Figure 5.3c

Daylighting Analysis
Center of Lincoln Street

Boston, Massachusetts

Existing

Obstruction of
Skyplane = 68.1%



Proposed

Obstruction of
Skyplane = 97.4%

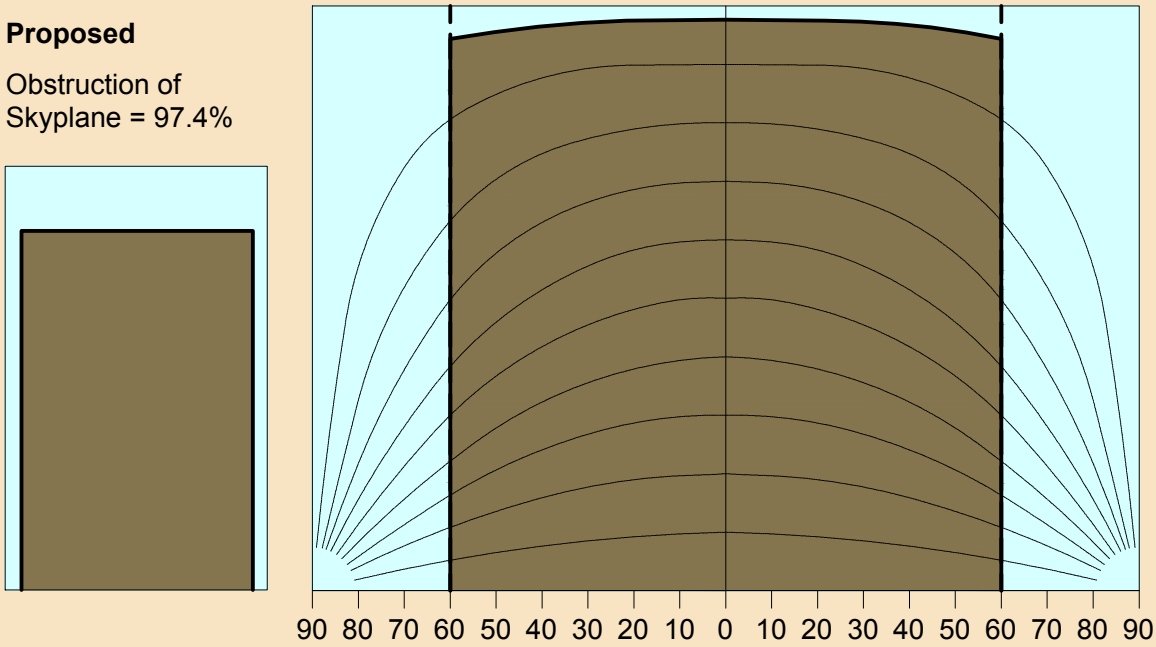


Figure 5.3d

Daylighting Analysis
Center of Tufts Street

Boston, Massachusetts

Source: Bing Aerial

M# Monitoring and Receptor Locations

Figure 5.4

Noise Monitoring Locations

Boston, Massachusetts

6

Historic Resources

This chapter identifies properties located within and in the vicinity of the Project Site that are listed in the National and State Registers of Historic Places and/or are included in the Inventory of Historic and Archaeological Assets of the Commonwealth (the "Inventory") and evaluates potential Project effects on those properties.

6.1 Summary of Key Findings and Benefits

The key findings and benefits of the Project related to historic resources are listed below.

- Demolition of existing garage and office structure will not have any direct impacts on historic resources.
- The Project Site contains one building, the Lincoln Street Garage, which is included in the Inventory, but has not been determined eligible for listing in the National Register of Historic Places (the "Register").
- Within a ¼-mile radius of the Project Site are six State and National Register-listed and eligible districts, 13 individually designated National Register or State Register properties, and 31 properties included in the Inventory.
- The Project has been designed to embrace the rich architectural character of the surrounding Leather District neighborhood
- The proposed foundation system will minimize vibrations, noise, and soil disturbances to nearby structures and infrastructure

6.2 Regulatory Context

6.2.1 Massachusetts Historical Commission

The Massachusetts Historical Commission ("MHC") has review authority over projects requiring state or federal funding, licensing, permitting, and/or approvals, in order to evaluate potential direct or indirect impacts to properties listed or eligible for listing in the National and State Registers of Historic Places, in compliance with State Register Review requirements (M.G.L. Chapter 9, Sections 27-27c, as amended by Chapter 254 of the Acts of 1988) and Section 106 of the National Historic Preservation Act of 1966. The Project is anticipated to require one or more state agency permits, and therefore is subject to MHC review. MHC review will be initiated by the submission of an MHC Project Notification Form.

6.2.2 Boston Landmarks Commission

The Boston Landmarks Commission ("BLC") will review the Project under the BPDA Article 80B, Large Project Review process, in association with the Boston Environment Department. In addition, the building on the Project Site is over 50 years old and is therefore subject to Article 85 of the Boston Zoning Code (Demolition Delay). An Article 85 application will be submitted to the BLC.

6.3 Historic Resources

A survey was undertaken to identify historic resources within and in the vicinity of the Project Site. There is one resource within the Project Site listed in the Inventory and the Project Site is immediately adjacent to the Leather District Historic District boundary to the south and east, which is listed in the State and National Registers of Historic Places.

Within a one quarter-mile radius of the Project Site are several additional properties and districts listed in the State and National Registers of Historic Places or included in the Inventory. The properties are listed in Table 6-1 and depicted in Figure 6.1.

6.3.1 Historic Resources within the Project Site

Lincoln Street Garage, 109–153 Lincoln Street (BOS.1849)

Completed in 1955, the garage is a five-story, rectangular-shaped, concrete-frame parking garage with storefronts at three elevations. The garage is exposed on all four elevations, located near the surface artery that divides the Leather District from the Chinatown District and Textile District. The building is included in the Inventory (BOS.1849).

The garage was originally constructed for retail and office space, as well as for parking. It was originally three stories with parking at the second, third, and roof (now fourth story) stories, but the fourth story was enclosed, and a fifth story constructed for office space was added in 1958. The ground story of the south, east, and north elevations are enclosed by aluminum and glass storefronts. Light steel framework screens the open parking at the second, third, and fourth stories. The fifth floor, which contains office space, and the northeast corner of the second story are enclosed by glass and aluminum curtain walls. The main entrance is at the center of the east elevation, fronting onto Lincoln Street. A ramp set along the curved rear (west) wall extends from the street level to the second story, providing vehicular access to the garage. In 1997, the garage was substantially renovated with an updated lobby core and new façade system on the second and fifth levels under architect Brian Healy.

The garage was surveyed by the BLC in 1980 and 2009. The 2009 survey recommendation was that the garage be considered for National Register eligibility when the 1997 renovation reaches the 50-year threshold, in 2047.

6.3.2 Historic Resources within One-Quarter-Mile Radius of the Project Site

The area surrounding the Project Site has been heavily documented, resulting in several listed and inventoried historic resources (Table 6-1; Figure 6.1), Nearly all the historic resources located within a ¼-mile radius of the Project Site contribute to a National Register-listed historic district, a National Register-eligible historic district, and/or a local historic district. Some of the resources within these districts also have an individual designation as a National Register individually-listed property and/or Boston Landmark. The properties are listed in Table 6-1 and depicted in Figure 6.1.

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

No.	Resource Name	Location	MHC Inventory No.	Designation
Properties listed in the State or National Register of Historic Places				
1	Liberty Tree Building	628-636 Washington St	BOS.2332	LL, NRDIS
2	Thomas Emerson Proctor Building	100 Bedford St	BOS.1558	LL, NRDOE
3	Bedford Building	89-103 Bedford St	BOS.1562	NR
4	Kennedy's Building	26-38 Summer St	BOS.2025	NRDOE
5	William C. Tebbetts Building	83-87 Summer St	BOS.2039	NRDOE
6	John C. Haynes Building	91-95 Summer St	BOS.2040	NRDOE
7	Kwong Kow School – Chinese Benevolent Society	88-90 Tyler St	BOS.2229	NRIND
8	Dill Building	11-25 Stuart St	BOS.2291	NRIND
9	Boylston Building	2-22 Boylston St	BOS.2245	LL, NRIND
10	Hayden Building	681-683 Washington St	BOS.2339	LL NRIND
11	United Shoe Machinery Corporation Building	160 Federal St	BOS.1787	LL, NRIND
12	South Station Waiting Room	620-690 Atlantic Ave	BOS.9003	NRIND
13	South Station Head House	620-690 Atlantic Ave	BOS.1517	NRIND
A	Church Green Buildings Historic District	Multiple	BOS.BC	LL, NRDIS
B	Textile District	Multiple	BOS.AX	NRDIS
C	Liberty Tree District	Multiple	BOS.BM	NRDIS
D	Beach – Knapp District	Multiple	BOS.BN	NRDIS
E	Leather District	Multiple	BOS.AP	NRDIS
F	Commercial Palace Historic District	Multiple	BOS.AM	NRDOE
Properties included in the Inventory of Historic and Archaeological Assets of the Commonwealth				
G	Chinatown District	Multiple		
H		70-85 Tyler St	BOS.ABI	
I		55-63 Harvard St	BOS.BF	
J		71-79 Hudson St	BOS.BG	
K		89-103 Hudson St	BOS.BH	
L		94-106 Tyler St	BOS.BI	

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

No.	Resource Name	Location	MHC Inventory No.	Designation
Properties included in the Inventory of Historic and Archaeological Assets of the Commonwealth				
M	38-48 Bennet St and 13-25 Harvard St	Multiple	BOS.RJ	
N	Saint James the Greater Roman Catholic Church	Multiple	BOS.VM	
	Federal Reserve Bank of Boston	556 Atlantic Ave	BOS.1516	
	Lafayette Place	1 Avenue de Lafayette	BOS.1522	
	One Financial Place	10 Dewey Sq	BOS.1692	
	U. S. Post Office – General Mail Facility	25 Dorchester Ave	BOS.1694	
	Pelham Building	80-82 Essex St	BOS.1706	
	Weld Building	172-180 Federal St	BOS.1722	
	Winthrop Square Parking Garage	115 Federal St	BOS.1724	
	Blue Cross-Blue Shield Bldg. – Union Warren Bank	133 Federal St	BOS.1725	
	Fiduciary Trust Building	175 Federal St	BOS.1726	
	Rice and Hutchins Shoe Company Headquarters	2-14 High St	BOS.1786	
	Chester Guild and Sons Hide and Leather Machine Company	51-53 High St	BOS.1793	
	Keystone Building	73-103 High Street	BOS.1794	
	Kneeland Street Steam Heating Plant	155 Kneeland St	BOS.1829	
	Lincoln Street Garage	109-153 Lincoln St	BOS.1849	
	Blue Cross – Blue Shield Building	100 Summer St	BOS.2035	
	Stone and Webster Building	245 Summer Street	BOS.2050	
	Jordan Marsh Department Store Building	1 Summer St	BOS.2120	
		12-18 LaGrange St	BOS.2281	
	Henry Siegel Department Store	590-622 Washington St	BOS.2330	
	South Station Under Subway Station	Summer St	BOS.926	
	Dewey Street Subway Substation #11	Summer St	BOS.928	
	Hudson Street Fitzgerald Expressway Tunnel Vent	51 Albany St	BOS.931	
	Summer Street Fitzgerald Expressway Tunnel Vent	17 South St	BOS.940	
	Essex Street Fitzgerald Expressway Tunnel Vent	29 South St	BOS.941	

NRIND National Register of Historic Places, Individual Listing
NRDIS National Register of Historic Places, District
NRDOE Determined eligible for listing in the National Register by the Keeper of the Register (listed in State Register of Historic Places)
LHD Local Historic District (listed in State Register of Historic Places)
LL Boston Local Landmark (listed in State Register of Historic Places)

6.3.3 Archaeological Resources

There are no known archaeological resources listed in the State and National Registers within the Project Site. New construction associated with the Project will be sited on a previously developed parcel consisting of filled land and, therefore, it is not anticipated that the Project site will impact archaeological resources.

6.4 Potential Impacts to Historic Resources

6.4.1 Demolition

The Project includes the demolition of the existing parking garage at 125 Lincoln Street. Demolition of the building will not have any direct impact on historic resources listed in the National or State Register of Historic Places. While the property is included in the Inventory, the BLC survey does not recommend the property as meeting National Register eligibility criteria.

The existing parking garage is over 50 years old and subject to Article 85 of the Boston Zoning Code (Demolition Delay). An Article 85 application will be submitted to the BLC.

6.4.2 Urban Design/Visual Impacts

The Project Site is located adjacent to the Leather District to the south and east. The Leather District is notable today as Boston's most intact and homogenous district of late nineteenth century vernacular commercial structures. Although the uses within the District have changed, the buildings have retained a high degree of architectural integrity and character.

As described in Chapter 2, *Urban Design*, the Project's location in the Leather District neighborhood provides the opportunity for a development that complements the historic neighborhood and introduces a vibrant office building on an underutilized site. The Project has been designed to embrace the rich architectural character of the surrounding neighborhood and bring diverse programming to the street. Consistent with Leather District Zoning, the building façades at the street level will align with the surrounding buildings and be similar in height. While modern in its overall design, the masonry base of the building celebrates the Leather District buildings and the overall development will be enriched by a material palette informed by the fabric of the neighborhood. Opaque portions of the facades will celebrate the colors of brick, terracotta, metal, and wood.

In addition to complementing the historic district to the south and east, the Project also expands the public realm and enhances the Chinatown Gate and park to the west.

6.4.3 Shadow Impacts

A shadow impact analysis was conducted for the Project, consistent with both Section 80B-2(c) and Section 41-16(1) of the Boston Building Code. The results of the shadow analysis are provided in Chapter 5, *Environmental Protection,* Section 5.3 Shadow. Shadow studies were conducted for four three-hour intervals on the dates of March 21st, June 21st, September 21st, and December 21st, representing the days in the year when the midday sun is at its highest (June 21st) and lowest point (December 21st), and dates when shadows are midway through a period of lengthening (March 21st and September 21st).

Shadow studies show a net increase in shadow production is likely to occur within the vicinity of the Chinatown District, Leather District, and the Textile District. Projections for March, June, September, and December show an increase in shadow cast within an approximate 2-3 block radius of the Project Site to the west and northwest at 9am, and a slight increase to the north at 12pm. This area falls within both the Chinatown District and the Textile District. The projections also show a consistent increase in shadow production within the Leather District at 3pm – centered on its northwestern extent. Other historic resources identified in the vicinity of the Project would see no show change.

6.4.4 Wind Impacts

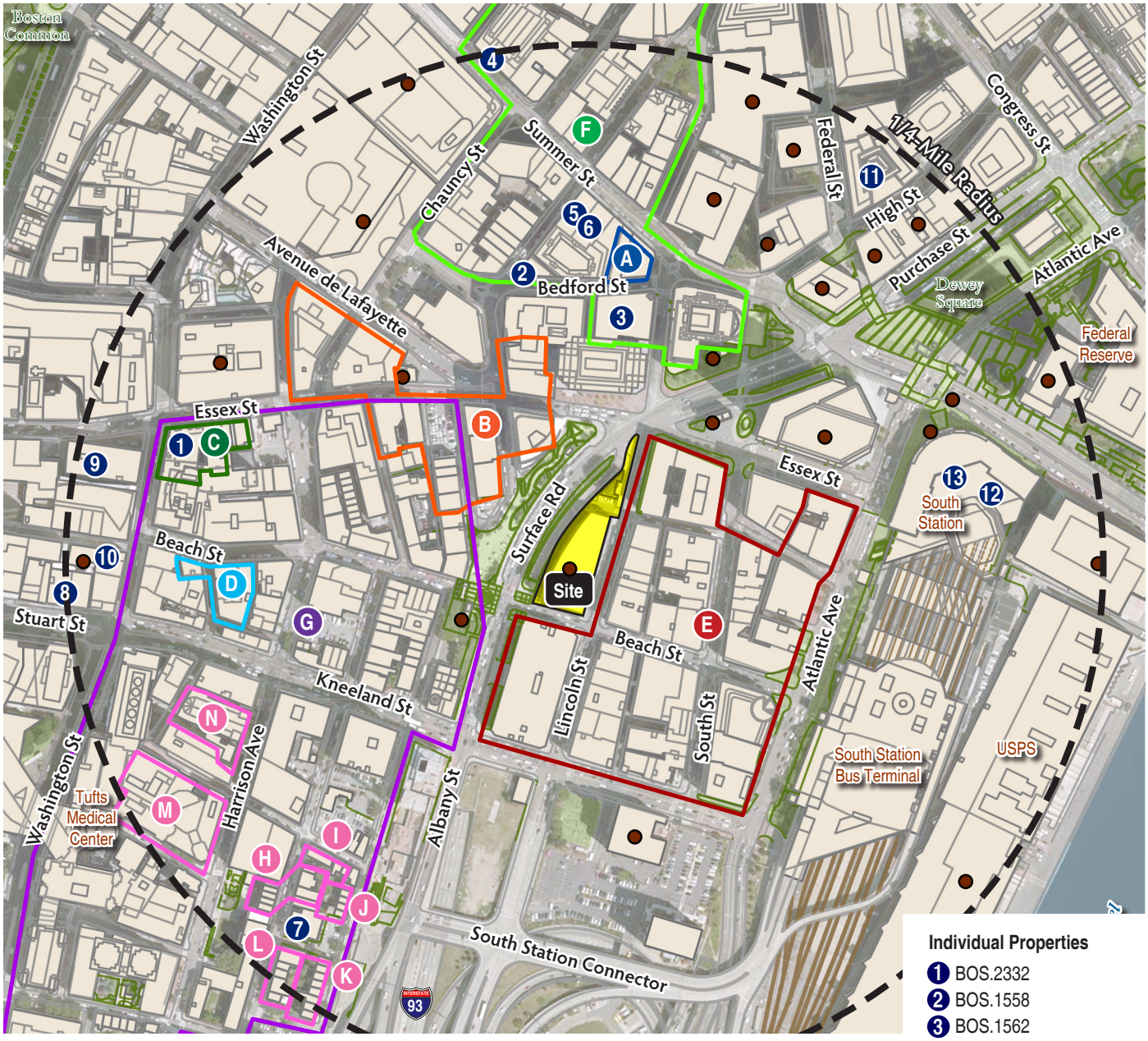
A wind tunnel analysis was conducted which compared existing and proposed conditions, pursuant to the Section B.1 of the BPDA Development Review guidelines. As described in Chapter 5, *Environmental Protection*. The Project will not result in any new unacceptable or unsafe wind conditions within the Project Site or in the surrounding historic Leather District neighborhood.

6.4.5 Geotechnical

As discussed in Chapter 5, *Environmental Protection,* the foundation design and construction methodology for the Project have taken into consideration the dense urban environment, abutting infrastructure, and proximity to nearby historic resources. The proposed foundation system will minimize vibrations, noise, and soil disturbances (as compared to driven foundations).

The geotechnical design and performance criteria are based on a thorough analysis of subsurface geotechnical conditions, as well as experience with successful implementation of projects that have protected nearby historic resources.

A preconstruction survey of abutting structures will be conducted to establish a baseline of geotechnical conditions. Geotechnical instrumentation will be installed and monitored before and during the foundation installation portion of the work to observe the performance of the adjacent buildings and infrastructure and to ensure that performance criteria are being met. This will allow for early detection of potential impacts, modification to procedures and, where applicable, implementation of additional mitigation measures.



Historic Districts

- A Church Green Buildings Historic District (BOS.BC)
- B Textile District (BOS.AX)
- C Liberty Tree District (BOS.BM)
- D Beach - Knapp District (BOS.BN)
- E Leather District (BOS.AP)
- F Commercial Palace Historic District (BOS.AM)

Survey Areas

- G Chinatown District
- H Tyler Street, 70-85 (BOS.ABI)
- I 55-63 Harvard Street (BOS.BF)
- J 71-79 Hudson Street (BOS.BG)
- K 89-103 Hudson Street (BOS.BH)
- L 94-106 Tyler Street (BOS.BI)
- M Bennet Street, 38-48 and Harvard Street, 13-25 (BOS.RJ)
- N Saint James the Greater Roman Catholic Church (BOS.VM)

Individual Properties

- 1 BOS.2332
- 2 BOS.1558
- 3 BOS.1562
- 4 BOS.2025
- 5 BOS.2039
- 6 BOS.2040
- 7 BOS.2229
- 8 BOS.2291
- 9 BOS.2245
- 10 BOS.2339
- 11 BOS.1787
- 12 BOS.9003
- 13 BOS.1517
- Inventoried Property

0 200 400 Feet

Source: City of Boston, MassGIS

Figure 6.1

Historic Resources

Boston, Massachusetts

7

Infrastructure

This chapter describes the existing infrastructure systems surrounding the Project Site and discusses utility aspects of the Project. This chapter includes the following: wastewater, water, stormwater management, natural gas, electricity, and telecommunications.

The infrastructure systems discussed herein includes those owned or managed by the Boston Water and Sewer Commission ("BWSC") and private utility companies. There will be further coordination with these entities as the Project is designed and constructed. Refer to Figure 7.1 for a site plan that shows the existing utility infrastructure at the Project Site based on available existing conditions survey and record utility information for the Project Site and the immediate surrounding area.

7.1 Summary of Key Findings and Benefits

The key findings related to infrastructure systems include:

- The Project Site is currently serviced by the BWSC for domestic water and fire protection, stormwater, and sanitary sewage conveyance.
- Based on the current development program, the Project is estimated to generate approximately 37,017 net new gallons of sanitary sewage per day and will require approximately 40,719 net new gallons of water per day.
- As the design develops, extensive coordination with the City and resident utility companies will be required to determine whether the existing infrastructure systems are adequately sized to accept the demand associated with the development and operation of the Project.

Key Project-related benefits associated with the infrastructure systems include:

- Construction of the Project will incorporate on-site stormwater management and treatment systems that will result in improved water quality as well as reduced stormwater runoff volumes and peak rates of runoff in comparison to existing conditions.
- The Project is not expected to result in the introduction of any increased peak flows, pollutants, or sediments that would potentially impact the local storm drainage systems. Further geotechnical investigations may be required to study additional potential environmental considerations.

- The proposed stormwater management system and associated infrastructure will be designed to promote phosphorus removal and provide for groundwater recharge, in accordance with the GCOD and City of Boston requirements.
- As recommended by the BPDA, the Proponent will work with the BWSC to evaluate Green Infrastructure elements capable of retaining a volume of stormwater infiltration capacity to the extent of 1.25 inches over the site impervious area.

7.2 Regulatory Context

The following is a summary of the regulatory framework of utility connection reviews and standards. A complete list of anticipated state and local permits associated with Project-related infrastructure is included in Chapter 1, *Project Description*.

- BWSC approval will be required for all water, sewer and stormwater systems.
- In accordance with GCOD requirements, as defined in Article 32 of the Zoning Code, stormwater management systems will promote groundwater recharge.
- The Boston Fire Department ("BFD") will review the Project with respect to fire protection measures such as Siamese connections, hydrants, and standpipes.
- Design of the Project Site access, hydrant locations, and energy systems (gas and electric) will also be coordinated with the respective system owners.
- Where new utility connections are needed, and existing connections are to be capped/discontinued in public ways, the excavation will be authorized by the Boston Public Works Department ("BPWD") through the street opening permit process, as required.

Improvements and connections to BWSC infrastructure will be submitted to the BWSC for review as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts. Additionally, in collaboration with the BWSC, the BPDA will review the Project under the Smart Utilities Policy for Article 80 Development Review, set forth by the BPDA and City of Boston.

7.3 Stormwater Management

7.3.1 Existing Drainage Conditions

Under existing conditions, the Project Site is occupied primarily by an above-grade mixed-use structure, asphalt paved surface parking lot, and hardscaped walkways, as well as a gravelly garden along the site's northern limits, known as the Lincoln Street Triangle on the Greenway. Based on the existing conditions survey and available BWSC record information, site stormwater controls appear to be very limited, and there is no clear evidence of stormwater treatment or infiltration systems on site. Stormwater runoff from the existing building's roof generally appears to be

collected on-site and conveyed to an existing 24-inch combined sewer main in Lincoln Street. The areas neighboring the Project Site appear to lack a dedicated storm drainage system and instead utilize BWSC-owned combined sewer ("CS") infrastructure.

According to BWSC system maps and record information, the BWSC owns and maintains the catch basins and additional drainage and sewer infrastructure in the public way which currently serve the Project Site. In addition to the 24-inch CS in Lincoln Street, 72-inch and 48x66-inch CS mains are located in Lincoln Street and Beach Street, respectively. A 15-inch storm drain conveys runoff from the Lincoln Street Triangle on the Greenway to the 24-inch CS in Lincoln Street. The 24-inch CS main in Lincoln Street conveys stormwater toward the 48x66-inch CS main downstream in Beach Street, which ultimately discharges into Boston's Fort Point Channel downstream at Combined Sewer outfall ("CSO") #064. Refer to Figure 7.1 for the existing on-site and City-owned drainage facilities serving the Project.

7.3.2 Proposed Stormwater Management Approach

In order to address the City of Boston's stormwater management requirements and Smart Utilities Policy, as well as DEP's stormwater guidelines, the Project will incorporate on-site stormwater management and treatment systems to the maximum extent practicable. Collectively, these systems will be designed to improve water quality, reduce runoff volume, and control peak rates of runoff in comparison to existing conditions. Additionally, where feasible, the Project will reduce peak runoff rates and volumes for various design storm events for the post-development condition, as compared to the pre-development condition, including the 2-, 10-, and 25-year design storms. Stormwater runoff from proposed and modified impervious surface areas within the site limits will be treated using new or modified infrastructure, including but not limited to deep-sump, hooded catch basins, subsurface infiltration basins, and/or proprietary treatment devices to promote phosphorus removal and reduce the Total Suspended Solids ("TSS") concentrations by at least 80 percent. Additionally, the Smart Utilities Policy recommends the use of green infrastructure, such as permeable pavement, bioretention basins and rainwater gardens, to retain on-site stormwater runoff, prior to discharge.

Construction of one inch of stormwater infiltration capacity within the site boundary is a general requirement of the BWSC, as well as a requirement of the Code for work within the GCOD. As the design progresses, a stormwater infiltration system, or equivalent system, will be designed to accommodate at least a volume of one inch of stormwater over the site's impervious area, consistent with the requirements of Section 32-6 of the Code. Furthermore, as recommended by the BPDA, the Proponent will work with the BWSC to evaluate Green Infrastructure elements capable of retaining a greater volume of stormwater infiltration capacity to the extent of 1.25 inches over the post-development condition site impervious area within the Project Site limits.

7.3.3 Compliance with DEP Stormwater Standards

The following section demonstrates how the Project-related stormwater management measures will be designed in accordance with DEP's Stormwater Policy and current Stormwater Management Standards and Massachusetts Stormwater Handbook. This policy, established in 1996, includes Stormwater Management Standards aimed at encouraging recharge and preventing stormwater discharges from causing or contributing to the pollution of the surface waters and groundwaters of the Commonwealth. Since the Project is considered a redevelopment project, not all of the following Standards are applicable. However, the Project will comply with all Standards to the maximum extent practicable.

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

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

  The Project will comply with this Standard through the implementation of appropriate stormwater control measures, including, but not limited to, subsurface infiltration or equivalent systems, stormwater treatment devices, and deep-sump, hooded catch basins.

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

- Compliance: To the maximum extent practicable, the Project will be designed to comply with this Standard. The Project is also required to comply with this stormwater standard by the BWSC. On-site infiltration systems or equivalent systems are expected to be designed to achieve these results for the Project.

Standard #3: Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post development Project Site should approximate the annual recharge from the pre-development or existing Project Site conditions, based on soil types.

- Compliance: The Project will be designed to comply with this Standard to the maximum extent practicable. Subsurface infiltration systems will be designed to promote groundwater recharge. Additional geotechnical explorations are planned to be conducted to aid this design.

Standard #4: Stormwater management systems shall be designed to remove 80 percent of the average annual post-construction load of Total Suspended Solids ("TSS"). This Standard is met when: a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and

thereafter are implemented and maintained; b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

- Compliance: The Project will include approved BMPs to achieve TSS removal to the maximum extent practicable. These BMPs may include subsurface infiltration systems, deep-sump, hooded catch basins, green infrastructure, proprietary water quality units designed and sized to collectively meet or exceed the 80 percent TSS removal requirement. **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 there under 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.
- Compliance: The Project does not include a land use with higher potential pollutant loads (LUHPPL). The Project's vehicular parking and loading areas will be located underground or within the proposed building footprint and protected from rainfall. The remainder of the Project Site will be treated through structural BMPs and subsurface infiltration, where feasible.

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

- Compliance: The Project does not discharge to a critical area, as defined by Standard 6.

Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2,

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

› Compliance: The Project is considered a redevelopment project and, therefore, will be designed to comply with these Stormwater Management Standards to the extent practicable. The Project will be designed to improve upon existing conditions.

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

› Compliance: The proposed design will comply with Standard 8. Sedimentation and erosion controls will be incorporated as part of the Project-related Construction Documents. The Site Operator will be responsible for employing appropriate measures during construction.

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

› Compliance: An O&M Plan will be developed during the design process of this Project to ensure proper maintenance and functioning of the proposed stormwater management system(s).

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

› Compliance: Currently there are no known illicit discharges associated with the Project. If any illicit discharges are encountered during the construction process, they will be eliminated.

7.4 Sanitary Sewage

7.4.1 Existing Sewer System

The BWSC owns and maintains the sanitary sewer infrastructure serving the Project Site. According to BWSC record drawings and maps, Lincoln Street contains one 24-inch CS and one 72-inch CS, the BWSC's "New East Side Interceptor," according to BWSC record plans. As noted in Section 7.3, the 24-inch CS in Lincoln Street serving the site connects to a 48x66-inch CS in Beach Street which ultimately discharges into Boston's Fort Point Channel downstream at CSO #064. Sanitary sewage from adjacent streets appears to discharge into both Lincoln and Beach Street's CS infrastructure. According to BWSC record plans, the New East Side Interceptor connects into MWRA-owned sewer infrastructure. Sanitary sewage from the 72-inch CS main is then conveyed to the Deer Island Wastewater Treatment Plant in Boston Harbor.

Two unidentified 10-inch sewer services, as well as a two-foot by two-foot wooden sewer, appear to traverse the Project Site within the footprint of the existing building, but do not appear to be active per BWSC record utility and the State's Central Artery Tunnel as-built drawings. These three sewer services appear to have been used to convey sanitary sewage below grade from infrastructure in Essex Street to the 24-inch CS in Lincoln Street as recently as 1915. Portions of (the roadway formerly known as) Essex Street have since been displaced, and it no longer runs parallel to Lincoln Street.

Based on record architectural drawings, the existing site generates approximately 22,486 gallons of sanitary sewage per day.

7.4.2 Proposed Sewage Flow and Connections

Based on the anticipated development program, the Project is estimated to generate approximately 59,503 total gallons of sanitary sewage per day, or approximately 37,017 net new gallons of sanitary sewage per day. Final flow estimates will be determined as the Project design moves forward.

Table 7-1 below summarizes the estimated existing and proposed wastewater generation rates based on Massachusetts State Environmental Code (Title 5) generation rates.

Table 7-1 Estimated Wastewater Generation

Program Type	Units	Generation Rate	Sewage Generation
Existing Site			
Office	25,315 SF	75 GPD/1,000 SF	1,899 GPD
Grocery	7,288 SF	97 GPD/1,000 SF	707 GPD
Restaurant	566 Seats	35 GPD/Seat	19,810 GPD
Retail	1,402 SF	50 GPD/1,000 SF	70 GPD
		Total Existing	**22,486 GPD**
Proposed Site			
Lobby/Publicly Accessible Indoor Space	13,000 SF	0 GPD/1000 SF	0 GPD
Restaurant/Café	273 Seats	35 GPD/Seat	9,555 GPD
Office	594,500 SF	75 GPD/1000 SF	44,588 GPD
Amenity Gym	268 Lockers	20 GPD/Locker	5,360 GPD
		Total Proposed	**59,503 GPD**
		NET NEW TOTAL	**37,017 GPD**

Note: Based on DEP 310 CMR 15.203 flow calculation factors
GPD = gallons per day; SF = square feet

To address the DEP's policy on Inflow and Infiltration ("I&I") for the proposed redevelopment, the BWSC requires projects generating net new flows of wastewater exceeding 15,000 gallons per day to perform I&I mitigation at a four to one ratio. Based on the Project's initial wastewater generate rate estimate, the Proponent will make a monetary contribution to the BWSC I&I fund for the purposes of advancing combined sewer separation projects in the City.

7.4.3 Inflow and Infiltration (I/I) Mitigation

Since the Project is expected to generate an increase of net new sanitary flows of approximately 37,017 gallons per day, certain required regulatory thresholds are triggered. BWSC requires projects generating greater than 15,000 net new gallons of wastewater per day to mitigate the impacts of the development by removing inflow and infiltration ("I/I") present in the existing sanitary sewer system. I/I is the component of flows in sanitary sewer systems that does not come from wastewater generated by building uses. I/I includes groundwater infiltration from leaking/broken sewer infrastructure as well as unidentified illicit stormwater connections from roof leaders and drainage infrastructure unassociated with the project. Following DEP and BWSC policy, projects that generate flows greater than the 15,000-gallon threshold are responsible for mitigating I/I at a ratio of 4:1 relative to the net-new wastewater generated. The Proponent is committed to working with BWSC to define the appropriate I/I mitigation.

7.5 Domestic Water and Fire Protection

7.5.1 Existing Water Supply System

The BWSC owns and maintains the water mains in the vicinity of the Project Site. According to BWSC record drawings, streets surrounding the Project Site are serviced by both Southern low ("SL") and high-pressure ("SH") water mains. These water mains range in size from 8- to 12-inch mains in Lincoln and Beach Streets adjacent to the Project Site. The installation dates and material of these mains vary from pit-cast iron ("PCI") pipe installed in 1915 and 1916 to ductile iron cement lined ("DICL") pipe installed in 2013. The adjacent streets also contain a 20-inch high pressure fire protection service system installed in 1914, which is currently being phased out of service by the BWSC. Additionally, there are approximately eight (8) existing fire hydrants located along streets adjacent to the Project Site.

7.5.2 Proposed Water Demand and Connections

Domestic water demand is based on estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other use. Based on standard sewage generation rates outlined in the DEP System Sewage Flow Design Criteria, 310 CMR 15.203, the Project will require approximately 40,719 net new gallons of water per day based on the estimated net new sewage generation. The Proponent will continue to consider and evaluate methods to conserve water use as building design evolves.

New water connections to BWSC infrastructure will be designed in accordance with BWSC design standards and requirements. New building water services will be metered in accordance with BWSC's Site Plan Requirements and associated Site Plan Review Process. This review process includes, but is not limited to, the sizing of domestic water and fire protection services, calculations associated with water meter sizing, backflow prevention design, and location of hydrants and Siamese connections to conform to BWSC and BFD requirements. The Proponent will accommodate the connection of the meter to the BWSC's automatic meter reading system. Fire protection connections on the Project Site will also need approval of the BFD. The Proponent will request record hydrant flow test information from the BWSC to aid in the preliminary water design. In addition, the Proponent will request new hydrant flow tests on the main to which the Proponent intends on connecting.

7.6 Other Utilities

7.6.1 Natural Gas Service

National gas service is provided by National Grid in the vicinity of the Project Site. According to National Grid record plans, a plastic ("PL"), low pressure 8-inch gas main was installed in 2016 in Lincoln Street, which feeds the existing building with 4-inch and 6-inch services. Additionally, a low-pressure 6-inch PL main is located in Beach Street adjacent to the Project Site. Additionally, according to record utility plans provided by the BWSC, two abandoned gas mains are located in Tufts Street adjacent to the Project Site.

The total estimated natural gas demand for the Project is unknown at this time. As the energy system designs for the proposed Building are developed, the Proponent will coordinate proposed service connections and system requirements with National Grid ensure adequate capacity for natural gas service is available to serve the Project, and the best means of obtaining a system connection. The final design and installation of natural gas services will similarly be coordinated with National Grid.

7.6.2 Electrical Service

Existing utility information indicated underground power facilities in Lincoln Street, as well as an approximately 7-foot by 17-foot subsurface electrical vault in the Lincoln Street sidewalk abutting the Project Site. This vault is owned and maintained by Eversource Energy, the resident electrical utility company. Eversource Energy has multiple active conduits serving the existing building that are fed from Lincoln Street.

As the Project design progresses, the configuration of proposed electrical services will need to be developed with Eversource Energy to determine whether their infrastructure can be used to service this Project, and the best means of obtaining a system connection. Any expansion, modification, and/or relocation of the existing electrical service and connections will need to be constructed in accordance with Eversource standards.

7.6.3 Telephone and Telecommunications

Telecommunication service is provided in the vicinity of the Project Site and available in Lincoln and Beach Streets.

The Proponent will select private telecommunications companies to provide telephone, cable TV and data services. Upon selection of a provider or providers, the Proponent will coordinate service connection locations and system requirements and obtain appropriate approvals.

7.6.4 Protection of Utilities During Construction

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be constructed in accordance with BWSC, BPWD, MassDOT, the Dig-Safe Program, and governing utility company requirements. Specific methods for constructing proposed utilities where they are near, or connect with existing water, sewer, and storm drain facilities are subject to review by the BWSC as part of its Site Plan Review process.

The Proponent will continue to coordinate with BWSC, MassDOT, and applicable private utility companies to ensure safe and coordinated utility operations in connection with the Project. Necessary permits will be obtained before the commencement of any work.

7.7 Smart Utilities Program

The following sections summarize the approach to addressing the City of Boston's Smart Utilities Policy within the Project. Additional information is provided within the Smart Utilities Checklist included in Appendix A.

7.7.1 Green Infrastructure

The Project will incorporate green infrastructure, where feasible, to assist in absorbing, delaying, detaining and treating stormwater to reduce flooding and pollution at the Project Site. The City of Boston Smart Utilities Policy recommends that projects utilize green infrastructure to retain, on site, a volume of runoff equal to 1.25 inches of rainfall times the total impervious area prior to discharge. As recommended by the BPDA, the Proponent will work with the BWSC to evaluate green infrastructure elements capable of retaining a greater volume of stormwater infiltration capacity to the extent of 1.25 inches over the Project Site impervious area.

7.7.2 Adaptive Signal Technologies

At intersections where new or fully upgraded signals are proposed as part of the Project, the new/upgraded signals will be equipped with Adaptive Signal Technologies ("AST") to allow these signals to be linked together in the future. AST,

as defined in the BPDA Smart Utilities Policy, utilizes intelligent signals, traffic cameras, pavement sensors, and visual monitoring equipment to manage real-time traffic flow of all transportation modes, including buses, pedestrians, and bicycles. The technologies are used to reduce wait time and facilitate throughput and safety at intersections.

7.7.3 Streetlight Installation

If street lights are included with the Project, it is anticipated that they will be designed with electrical and fiber optics connections. Smart sensors, Wi-Fi, or cameras will have the potential be installed on these street lights in the future, due to the availability of electrical and fiber optic connections. As the design progresses the Proponent will evaluate the feasibility of incorporating these features into street lights at the Project Site.

Smart sensors on streetlights can detect changes in air quality, noise pollution, gunshots and other important urban environment elements, and information captured can be used to improve the quality of life on and around the Project Site. Smart sensors can provide the potential to optimize the use of City resources in the most appropriate situation.

Public Wi-Fi access points may be installed on the light poles and embedded in building facades. The access points have potential to transmit Wi-Fi services to residents and businesses which would promote equitable access to data services on and around the Project Site.

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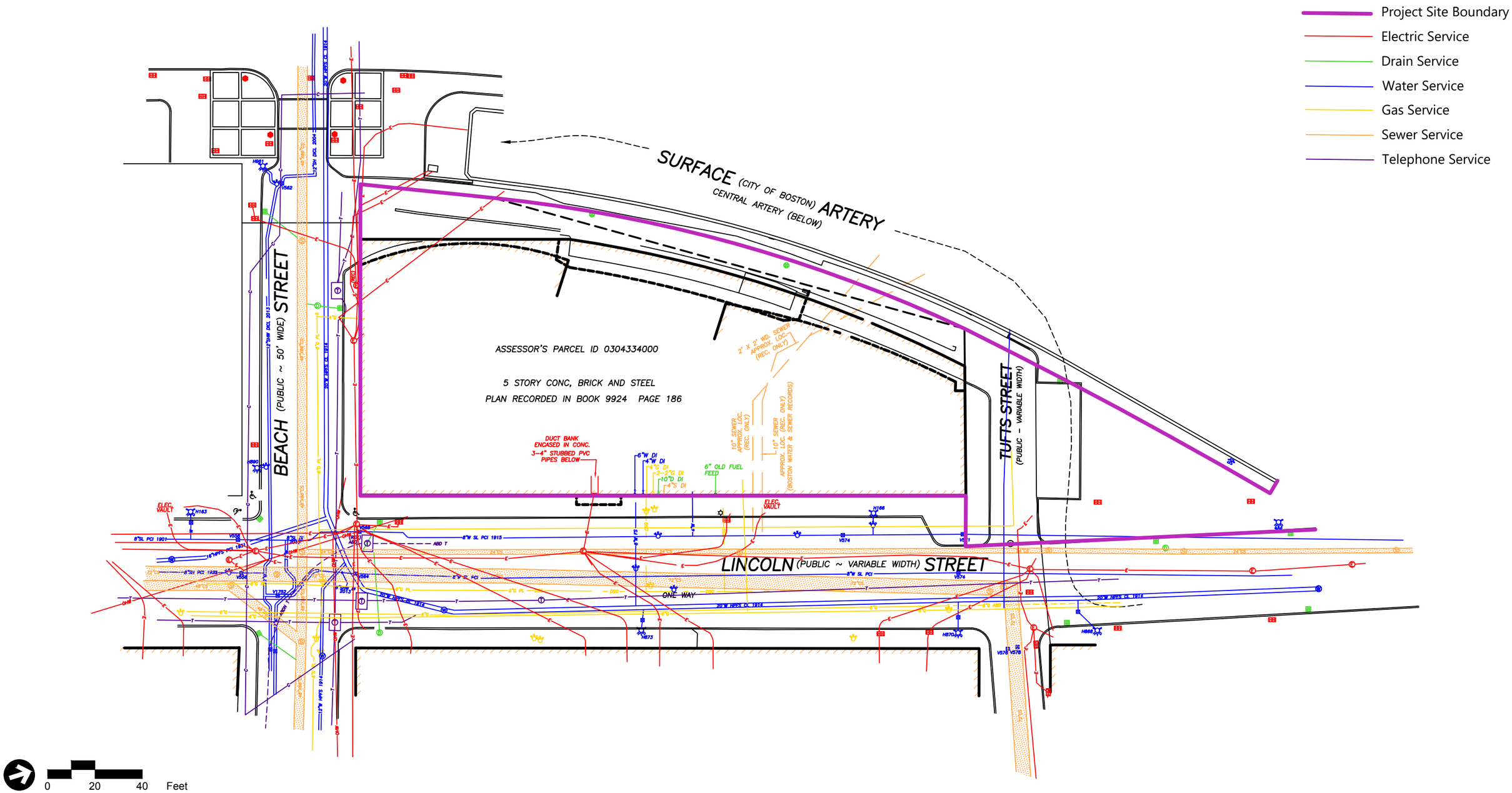

Figure 7.1
Existing Utility Infrastructure

125 Lincoln Street
Boston, MAssachusetts

Appendix A: BPDA Checklists

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA)
Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BDPA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
   http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Massachusetts State Building Code 780 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
4. Massachusetts Office of Disability – Disabled Parking Regulations
   http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
5. MBTA Fixed Route Accessible Transit Stations
   http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
   http://bostoncompletestreets.org/
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
   www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
   http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
   http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. ***Accessible Route*** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. ***Accessible Group 2 Units*** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. ***Accessible Guestrooms*** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. ***Inclusionary Development Policy (IDP)*** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: http://www.bostonplans.org/housing/overview
5. ***Public Improvement Commission (PIC)*** – The regulatory body in charge of managing the public right of way. For more information visit: https://www.boston.gov/pic
6. ***Visitability*** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.

1. Project Information:

If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.

Project Name:	125 Lincoln Street
Primary Project Address:	125 Lincoln Street, Boston, 02111
Total Number of Phases/Buildings:	1/1
Primary Contact (Name / Title / Company / Email / Phone):	Mark McGowan/Oxford Properties/ mmcgowan@oxfordproperties.com/ 617.447.0367
Owner / Developer:	Oxford Properties
Architect:	Gensler
Civil Engineer:	VHB
Landscape Architect:	Landworks
Permitting:	VHB
Construction Management:	Turner Construction

At what stage is the project at time of this questionnaire? Select below:

	PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:
Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	To be determined as design of the Project advances.		

2. Building Classification and Description:

This section identifies preliminary construction information about the project including size and uses.

What are the dimensions of the project?

Site Area:	*27,985 SF*	Building Area:	*625,000 SF*
Building Height:	*338 FT.*	Number of Stories:	*24 Flrs.*

First Floor Elevation:	TBD	Is there below grade space:		*Yes*
What is the Construction Type? (Select most appropriate type)				
	Wood Frame	Masonry	**Steel Frame**	Concrete
What are the principal building uses? (IBC definitions are below – select all appropriate that apply)				
	Residential – One - Three Unit	Residential - Multi-unit, Four +	Institutional	Educational
	Business	**Mercantile**	Factory	Hospitality
	Laboratory / Medical	Storage, Utility and Other		
List street-level uses of the building:				

3. Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	The surrounding neighborhood includes the Leather District to the east and south, Chinatown across Surface Rd to the west, and the Financial District to the north. The Leather District, the site's most proximate neighborhood, consists of historic turn-of-the-20th-century buildings that consist of a combination of retail, residential, and small offices uses.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	**South Station** (Red Line, Silver Line, Commuter Rail, multiple bus lines) – 0.2 miles. **Chinatown Station** (Orange Line) – 0.3 miles. **Downtown Crossing Station** (Orange Line, Red Line) – 0.3 miles. At least **18 bus line stops** within 0.3 miles.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	ASC A+ Program; Tufts Medical Center; Launch Academy; Sackler School of Graduate Biochemistry; Quincy Upper School; Spruce Street Nursery School; Greater Boston Chinese Golden Age Center; Boston Elder Info – Elder Care Alliance.
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	FEMA; Mass Health and Education; Disability Determination Services; US Postal Police/Office; MBTA; BPL Chinatown Branch; Tufts Univ. Hirsh Health Sciences Library; BCYF; Boston Chinatown Neighborhood Center; Jonathan Spack Community Conference Center.

4. Surrounding Site Conditions – Existing:

This section identifies current condition of the sidewalks and pedestrian ramps at the development site.

Is the development site within a historic district? ***If yes,*** identify which district:	No. The Project Site is immediately adjacent to the Leather District Historic District.
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	There are existing concrete sidewalks along Lincoln Street, Beach Street, and Tufts Street that range in width from approximately 7ft to 10ft wide. There are two existing concrete ramps – one at the corner of Lincoln and Beach Streets and the other at corner of Lincoln and Tufts Streets.
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	No. All existing sidewalks and pedestrian ways are to be removed and replaced. Any non-compliant conditions will also be improved and brought to compliance.
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	Yes. The proposed sidewalks along Lincoln Street and Beach street will be consistent with Boston Complete Street Guidelines. The Project proposes the elimination of Tufts Street – extending the proposed building construction on the existing western edge of the site and replacing the northern edge of the site with a new public realm improvements. All portions of the new public realm improvements will be consistent with Boston Complete Street Guidelines. Downtown Mixed-use street type will be applied.
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	To be determined as design of the Project advances.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	To be determined as design of the Project advances.

Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	To be determined as design of the Project advances.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	To be determined as design of the Project advances.
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	To be determined as design of the Project advances.
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	Up to 275 below grade garage parking spaces will be provided.
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	To be determined as design of the Project advances. The Project will meet all MAAB requirements.
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	No.
Where is the accessible visitor parking located?	To be determined as design of the Project advances. The Project will meet all MAAB requirements.
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Yes, a drop-off area will be provided along Lincoln Street and it will be accessible.
7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability-with neighbors*.	

Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	Flush conditions will be provided at each building entryway.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	All main building entries will have integrated access.
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	To be determined as design of the Project advances.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	No residential units are proposed as part of the Project.
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?	N/A
If a residential development, how many accessible Group 2 units are being proposed?	N/A
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	N/A
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	N/A
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs /	N/A

thresholds at entry, step to balcony, others. ***If yes,*** provide reason.	
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes,*** describe:	N/A
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community*.	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	To be determined as design of the project advances.
What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	To be determined as design of the project advances.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	Yes. The ground floor will include at least one single-stall, ADA compliant and designated as "Family"/"Companion" restroom. This will be developed further as design of the Project advances.
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	The Proponent has not yet met with the City of Boston Disability Commissioner/Staff but intends to.

Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	The Proponent has not yet presented the Project to the Disability Advisory Board but intends to.
10. Attachments *Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.*	
Accessibility diagrams will be developed as the design of the Project is advanced .	

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

For questions or comments about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or our office:

The Mayor's Commission for Persons with Disabilities
1 City Hall Square, Room 967,
Boston MA 02201.

Architectural Access staff can be reached at:

accessibility@boston.gov | patricia.mendez@boston.gov | sarah.leung@boston.gov | 617-635-3682

Climate Resiliency Checklist

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	125 Lincoln Street			
Project Address:	125 Lincoln Street, Boston, 02111			
Project Address Additional:				
Filing Type (*select*)	PNF			
Filing Contact	*Mark McGowan*	*Oxford Properties*	*mcgowan@oxfordproperties.com*	*617.447.0367*
Is MEPA approval required	*Yes/**no***		*May 29, 2019*	

A.3 - Project Team

Owner / Developer:	125 Lincoln Street Owner (DE) LLC
Architect:	Gensler
Engineer:	VHB
Sustainability / LEED:	The Green Engineer, Inc.
Permitting:	VHB
Construction Management:	Turner Construction

A.3 - Project Description and Design Conditions

List the principal Building Uses:	Office and Retail
List the First Floor Uses:	Retail, Office Lobby, Public Space/Winter Garden
List any Critical Site Infrastructure and or Building Uses:	N/A

Site and Building:

Site Area:	*27,985 SF*	Building Area:	*625,000 SF*
Building Height:	*338 Ft*	Building Height:	*24 Stories*
Existing Site Elevation – Low:	*11.3' Ft BCB*	Existing Site Elevation – High:	*17.5' Ft BCB*
Proposed Site Elevation – Low:	TBD	Proposed Site Elevation – High:	TBD
Proposed First Floor Elevation:	TBD	Below grade levels:	*4 Stories*

Article 37 Green Building:

LEED Version - Rating System :	LEED v4 BD+C: Core and Shell	LEED Certification:	*TBD*
Proposed LEED rating:	*Certified/Silver/ **Gold**/Platinum*	Proposed LEED point score:	*65 Pts.*

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	*R-30*	Exposed Floor:	*R-14.6ci*
Foundation Wall:	*R-7.5ci*	Slab Edge (at or below grade):	*R-15*

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	*31%*	Wall & Spandrel Assembly Value:	*U-0.16*
Area of Framed & Insulated / Standard Wall:	*NA*	Wall Value	*R-6.25*
Area of Vision Window:	*69%*	Window Glazing Assembly Value:	*U-0.33*
		Window Glazing SHGC:	*SHGC-0.33*
Area of Doors:	*<0.5%*	Door Assembly Value:	*U-0.77*

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*Whole building energy simulation adhering to ASHRAE 90.1-2013 Appendix G*		
Annual Electric:	*6,780,808 kWh*	Peak Electric:	*2150 kW*
Annual Heating:	*4,904 MMbtu*	Peak Heating:	*7 MMbtu*
Annual Cooling:	*1,995,500 Tons/hr*	Peak Cooling:	*1500 tons*
Energy Use - Below ASHRAE 90.1 - 2013:	*14%*	Have the local utilities reviewed the building energy performance?:	*No*
Energy Use - Below Mass. Code:	*14%*	Energy Use Intensity:	*33 kBtu/SF*

Back-up / Emergency Power System

Electrical Generation Output:	*750(kW)*	Number of Power Units:	1
System Type:	*Combustion engine*	Fuel Source:	Fuel oil

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	*750(kW)*	Heating:	*2500(MMbtu/hr)*
		Cooling:	*300 (Tons/hr)*

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: *494 Tons*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The Project Team used a whole building energy model analysis for an early assessment approach. Energy modeling was initiated during the conceptual design phase, to ensure there is opportunity to explore energy conservation measures in multiple combinations. This approach allows the developer and design team to make informed decisions regarding the building envelope and systems.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

The Project will include a high-performance building envelop and with high performance glazing.

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

High-efficiency Active Chilled Beam system; High-efficiency condensing boilers; Dedicated Outdoor Air System with Energy Recovery; Variable flow pumping system, low-flow plumbing fixtures; Reduced interior lighting power density.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The Project may explore the feasibility of installing Photovoltaic panels on the roof

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

None at this time

Describe any energy efficiency assistance or support provided or to be provided to the project:

At the appropriate time, the Project will engage with the local Utility companies to identify the incentive program best suited for the project. The Project will explore additional incentives and rebates that may be available through the MASS CEC

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

When, in the future, the original high efficiency base building system components need to be replaced, the new components will be state of the art (at the time) and in all likelihood, more energy efficient than the initial systems. The project will explore the feasibility of designing to accommodate all electric systems and equipment

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*7 Deg.*	Temperature Range - High:	*91 Deg.*
Annual Heating Degree Days:	5621	Annual Cooling Degree Days	2938

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*20*	Days – Above 100°:	*5*
Number of Heatwaves / Year:	*2*	Average Duration of Heatwave (Days):	*10*

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

The project includes extensive landscaping not only within the site boundary but also on a portion of an adjacent parcel. The project includes high albedo roofing materials.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

The building design will include a high performance envelope and high efficiency building systems such as lighting controls, ventilation, heating and cooling. During the design phases the systems selections will be refined with an eye towards the predicted climate change impacts to the New England region

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

The building envelope will enable the interior to stay warm or cool (pending the season) and will have a generator for emergency/life support systems.

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25”. There is a significant probability that this will increase to at least 6” by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm:	*4.90 In.*

Describe all building and site measures for reducing storm water run-off:

The Project Site is occupied primarily by an above-grade mixed-use structure, impervious surface parking areas and hardscaped walkways, as well as a gravelly

garden along the site's northern limits. Based on the existing conditions survey and available record information, site stormwater controls appear to be very limited, and there is no clear evidence of stormwater infiltration systems on site. Under existing conditions, stormwater runoff from the existing building's roof appears to be collected on site and conveyed to existing city infrastructure in Lincoln Street. Surface runoff from areas outside of the existing building appears to flow over land and collected in the street prior to being conveyed to a subsurface utility main in Lincoln Street.

Under proposed conditions, the Project will incorporate on-site stormwater management systems to the maximum extent practicable, designed to reduce runoff volume and control peak rates of runoff in comparison to existing conditions. Additionally, to further lessen the impacts of extreme precipitation events, the proponent intends to reduce overall site imperviousness by replacing existing hardscape with ground level green spaces and green infrastructure, where feasible.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

Refer to the response to D.1 above. The Project is anticipated to make use of on-site stormwater management systems to reduce the peak discharge rate of runoff.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes / **No***	What Zone:	A, AE, AH, AO, AR, A99, V, VE
		Current FEMA SFHA Zone Base Flood Elevation:	*Ft BCB*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	***Yes** / No*

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*18.9Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*19.9 Ft BCB*	First Floor Elevation:	*TBD*
Site Elevations at Building:	*15.6' to 17.5' Ft BCB*	Accessible Route Elevation:	*TBD*

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The Proponent is evaluating measures to floodproof the building to the DFE

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

To be determined

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

To be determined

Describe any strategies that would support rapid recovery after a weather event:

To be determined

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The Proponent is evaluating measures to floodproof the building to the DFE

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

The Proponent is evaluating measures to floodproof the building to the DFE

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact: John.Dalzell@boston.gov

Boston Smart Utilities Checklist

Date Submitted:	June 7, 2019
Submitted by:	SLattrell@vhb.com

Background

The Smart Utilities Checklist will facilitate the Boston Smart Utilities Steering Committee's review of:

a) compliance with the Smart Utilities Policy for Article 80 Development Review, which calls for the integration of five (5) Smart Utility Technologies (SUTs) into Article 80 developments

b) integration of the Smart Utility Standards

More information about the Boston Smart Utilities Vision project, including the Smart Utilities Policy and Smart Utility Standards, is available at: www.http://bostonplans.org/smart-utilities

Note: Any documents submitted via email to manuel.esquivel@boston.gov will not be attached to the pdf form generated after submission, but are available upon request.

Part 1 - General Project Information

1.1 Project Name	125 Lincoln Street
1.2 Project Address	125 Lincoln Street
1.3 Building Size (square feet) **For a multi-building development, enter total development size (square feet)*	Approx. 625,000 SF
1.4 Filing Stage	PNF

Boston Smart Utilities Checklist

1.5 Filing Contact Information

1.5a Name	Mark McGowan
1.5b Company	Oxford Properties
1.5c E-mail	mcgowan@oxfordproperties.com
1.5d Phone Number	617.447.0367

1.6 Project Team

1.6a Project Owner/Developer	125 Lincoln Street Owner (DE) LLC
1.6b Architect	Gensler
1.6c Permitting	VHB
1.6d Construction Management	Turner

Part 2 - District Energy Microgrids

Fill out this section if the proposed project's total development size is equal to or greater than 1.5 million square feet.

Note on submission requirements timeline:

Feasibility Assessment Part A should be submitted with PNF or any other initial filing.

Feasibility Assessment Part B should be submitted with any major filing during the Development Review stage (i.e., DPIR)

District Energy Microgrid Master Plan Part A should be submitted before submission of the Draft Board Memorandum by the BPDA Project Manager (Note: Draft Board Memorandums are due one month ahead of the BPDA Board meetings)

District Energy Microgrid Master Plan Part B should be submitted before applying for a Building Permit

Please email submission to manuel.esquivel@boston.gov

Boston Smart Utilities Checklist

2.1 Consultant Assessing/Designing District Energy Microgrid (if applicable)	N/A
2.2 Latest document submitted	N/A
2.3 Date of latest submission	N/A
2.4 Which of the following have you had engagement/review meetings with regarding District Energy Microgrids? (select all that apply)	N/A
2.5 What engagement meetings have you had with utilities and/or other agencies (i.e., MA DOER, MassCEC) regarding District Energy Microgrids? (Optional: include dates)	N/A

Part 3 - Telecommunications Utilidor

Fill out this section if the proposed project's total development size is equal to or greater than 1.5 million square feet OR if the project will include the construction of roadways equal to or greater than 0.5 miles in length.

Please submit a map/diagram highlighting the sections of the roads on the development area where a Telecom Utilidor will be installed, including access points to the Telcom Utilidor (i.e., manholes)

Please email submission to manuel.esquivel@boston.gov

3.1 Consultant Assessing/Designing Telecom Utilidor (if applicable)	N/A

Boston Smart Utilities Checklist

3.2 Date Telecom Utilidor Map/Diagram was submitted	N/A
3.3 Dimensions of Telecom Utilidor (include units)	
3.3a Cross-section (i.e., diameter, width X height)	N/A
3.3b Length	N/A
3.4 Capacity of Telecom Utilidor (i.e., number of interducts, 2 inch (ID) pipes, etc.)	N/A
3.5 Which of the following have you had engagement/review meetings with regarding the Telecom Utilidor? (select all that apply)	N/A
3.6 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding the Telecom Utilidor? (Optional: include dates)	N/A

Part 4 - Green Infrastructure

Fill out this section if the proposed project's total development size is equal to or greater than 100,000 square feet.

Please submit a map/diagram highlighting where on the development Green Infrastructure will be installed.

Please email submission to manuel.esquivel@boston.gov

Boston Smart Utilities Checklist

4.1 Consultant Assessing/Designing Green Infrastructure (if applicable)	VHB
4.2 Date Green Infrastructure Map/Diagram was submitted	To be evaluated as design advances
4.3 Types of Green Infrastructure included in the project (select all that apply)	To be evaluated as design advances
4.4 Total impervious area of the development (in square inches)	Approx. 4,029,840 square inches (or approx. 27,985 square feet)
4.5 Volume of stormwater that will be retained (in cubic inches)* **Note: Should equal to at least "Total impervious area (entered in section 4.3)" times "1.25 inches"*	The Project will seek to retain a volume of stormwater equivalent to approx. 5,037,300 cubic inches (or approx. 2,915 cubic feet).
4.6 Which of the following have you had engagement/review meetings with regarding Green Infrastructure? (select all that apply)	N/A
4.7 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding Green Infrastructure? (Optional: include dates)	Not at this time

Part 5 - Adaptive Signal Technology (AST)

Fill out this section if as part of your project BTD will require you to install new traffic signals or make significant improvements to the existing signal system.

Boston Smart Utilities Checklist

Please submit a map/diagram highlighting the context of AST around the proposed development area, as well as any areas within the development where new traffic signals will be installed or where significant improvements to traffic signals will be made.

Please email submission to manuel.esquivel@boston.gov

5.1 Consultant Assessing/Designing Adaptive Signal Technology (if applicable)	Undetermined if applicable
5.2 Date AST Map/Diagram was submitted	N/A
5.3 Describe how the AST system will benefit/impact the following transportation modes	
5.3a Pedestrians	N/A
5.3b Bicycles	N/A
5.3c Buses and other Public Transportation	N/A
5.3d Other Motorized Vehicles	N/A
5.4 Describe the components of the AST system (including system design and components)	N/A
5.5 Which of the following have you had engagement/review meetings with regarding AST? (select all that apply)	N/A
5.6 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding AST? (Optional: include dates)	N/A

Boston Smart Utilities Checklist

Part 6 - Smart Street Lights

Fill out this section if as part of your project PWD and PIC will require you to install new street lights or make significant improvements to the existing street light system.

Please submit a map/diagram highlighting where new street lights will be installed or where improvements to street lights will be made.

Please email submission to manuel.esquivel@boston.gov

6.1 Consultant Assessing/Designing Smart Street Lights (if applicable)	N/A
6.2 Date Smart Street Lights Map/Diagram was submitted	N/A
6.3 Which of the following have you had engagement/review meetings with regarding Smart Street Lights? (select all that apply)	N/A
6.4 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding Smart Street Lights? (Optional: include dates)	N/A

Part 7 - Smart Utility Standards

The Smart Utility Standards set forth guidelines for planning and integration of SUTs with existing utility infrastructure in existing or new streets, including cross-section, lateral, and intersection diagrams. The Smart Utility Standards are intended to serve as guidelines for developers, architects, engineers, and utility providers for planning, designing, and locating

utilities. The Smart Utility Standards will serve as the baseline for discussions on any deviations from the standards needed/proposed for any given utility infrastructure.

Please submit typical below and above grade cross section diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

Please submit typical below and above grade lateral diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

Please email submission to manuel.esquivel@boston.gov

7.1 Date Cross Section Diagram(s) was submitted	TBD
7.2 Date Lateral Diagram(s) was submitted	TBD

Appendix B: Environmental Supporting Documentation

- Pedestrian Wind Study
- Solar Glare Report

FINAL REPORT

125 LINCOLN STREET

BOSTON, MA

PEDESTRIAN WIND STUDY
RWDI # 1900101
May 24, 2019

SUBMITTED TO

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EXECUTIVE SUMMARY

The predicted annual wind comfort and safety conditions pertaining to the No Build and Build tested configurations are graphically depicted on site plans in Figures 1a through 2b. These conditions and the associated wind speeds are also numerically represented on an annual basis in Table 1 and on a seasonal basis in Table 2. The results presented can be summarized as follows:

Effective Gust

- In the No Build scenario, wind speeds that meet the effective gust criterion are expected at most test locations. An exception occurs at an isolated location on the north side of Essex Street, where wind speeds that exceed the gust criterion are predicted.
- In the Build scenario, the effective gust locations is predicted to be met at all test locations on an annual basis when localized landscaping is included at the southwest corner of the proposed development.

Mean Speed

- In the No Build scenario, wind comfort conditions are suitable for the intended pedestrian use at most areas near the project site. Uncomfortable wind conditions occur to the north of the project site along Essex Street on a seasonal, and annual basis.
- In the Build scenario, although the addition of the proposed development is expected to slightly increase wind speeds close to the project site, wind conditions are generally anticipated to remain comfortable for the intended pedestrian use.
- However, uncomfortable wind conditions are expected to occur at isolated locations to the northwest, north, east, and south of the proposed development. Two pre-existing uncomfortable locations along Essex Street in the No Build scenario are improved in the Build scenario.
- Should an improvement in uncomfortable conditions be desired by the design team, improved wind speeds can be achieved through the use of dense coniferous, marcescent landscaping or hardscaping placed in areas of elevated wind activity.

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Appendix A: Drawings List for Model Construction

1 INTRODUCTION

RWDI was retained by Gensler to conduct a Pedestrian Wind assessment for the proposed 125 Lincoln Street project in Boston, MA. This report presents the project objectives, background, approach, provides a discussion of the results from RWDI's assessment and provides conceptual wind control measures, where necessary. The criteria recommended by the Boston Planning and Development Agency (BPDA) were used in this study.

An initial investigation by RWDI was conducted in September 2018. At the time of the study, a simplified massing model of the development was used which incorporated a curved façade at the northwestern and southeastern corners of the building. Since then, the design has evolved to include balconies or cut-outs at the northern and southern ends of the building. Also, the northern nose or face of the building, which previously incorporated part of the curved façade, has now been flattened. The overall height and width of the building are the same as what was used in the wind tunnel study.

Comparing the updated building design to the previous massing model, in RWDI's opinion, the revised building design incorporates a variety of features that will either have a benign impact on the pedestrian wind environment or will be somewhat positive in terms of mitigating undesirable wind conditions. For example, the original study assumed the entire tower was a solid mass, with relatively uniform geometry. By incorporating the cut-outs or balconies into the design, this will effectively help breakup the wind shedding off the tower. In other words, this will effectively help reduce large vortices from shedding as the wind flows around the tower. Therefore, based on the original pedestrian wind comfort study carried out by RWDI, and comparing the original massing of the tower to the newly updated building design, we would consider the conclusions presented in this report to still be applicable, and to some degree, slightly conservative.

1.1 Project Description

The project (site shown in Image 1) consists of approximately 800,000 GSF of office/retail with three to four floors below-grade levels of parking. The building will be roughly 473 ft tall, situated on a site with roughly 27, 985 ft^2 with an additional 6,500 ft^2 of off-site landscape/hardscape improvements.

1.2 Objectives

The objective of the study was to assess the effect of the proposed development on local conditions in pedestrian areas around the study site and provide recommendations for minimizing adverse effects. The study involved wind simulations on a 1:400 scale model of the proposed building and surroundings. These simulations were conducted in RWDI's boundary-layer wind tunnel at Guelph, Ontario, to quantify local wind speed conditions and compare to appropriate criteria for gauging wind comfort in pedestrian areas. The assessment focused on critical pedestrian areas including main entrances, adjacent properties, and sidewalks along adjacent and nearby streets.

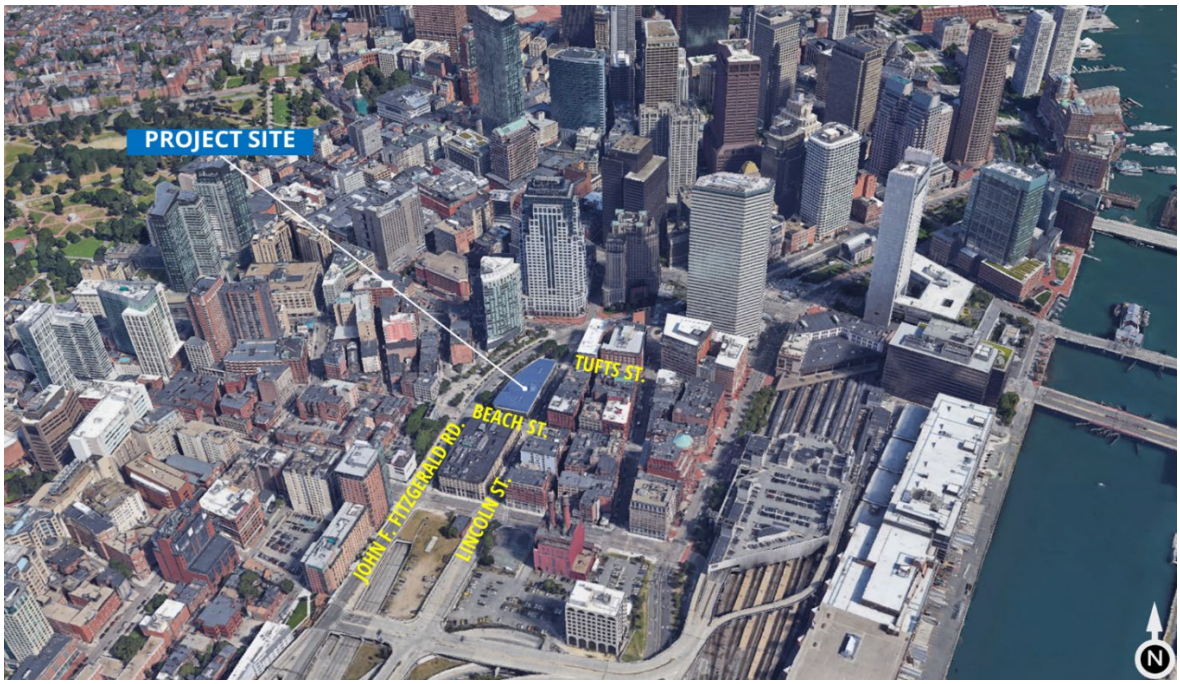


Image 1: Site Plan – Aerial View of Site and Surroundings (Courtesy of Google™ Earth)

2 BACKGROUND AND APPROACH

2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed project, a 1:400 scale model of the project site and surroundings was constructed for the wind tunnel test with the following configurations tested:

A – No Build: Existing site with existing surroundings, including buildings that are approved/under-construction (Image 2a).

B – Build: Proposed project with existing surroundings and landscaping at the southwest building corner, including buildings that are approved/under-construction (Image 2b).

The scale model of the proposed project (as shown in Image 2b) was constructed using the design information and drawings listed in ***Appendix A***. The wind tunnel model included all relevant surrounding buildings and topography within an approximate 1600 ft radius of the study site. The mean speed profile and turbulence of the natural wind approaching the modelled area were also simulated in RWDI's boundary layer wind tunnel. The scale model was equipped with 117 specially designed wind speed sensors that were connected to the wind tunnel's data acquisition system to record the mean and fluctuating components of wind speed at a full-scale height of 5 ft above grade in pedestrian areas throughout the study site. Wind speeds were measured for 36 wind directions, in 10-degree increments, starting from true north. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the reference wind speed in the free stream above the model. The placement of wind measurement locations was based on our experience and understanding of the pedestrian usage for this site and reviewed by Gensler.

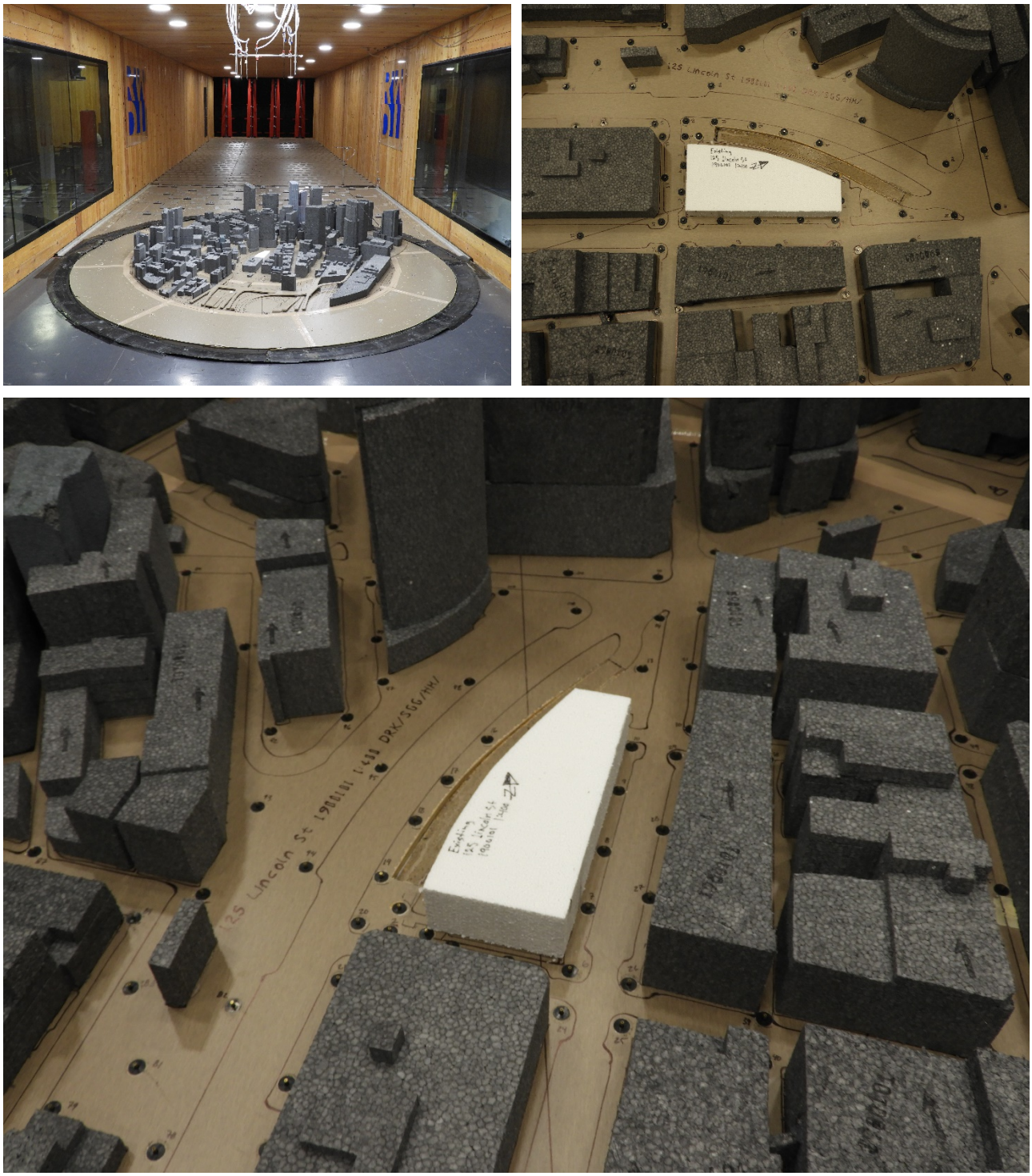


Image 2a: Wind Tunnel Study Model – No Build Configuration

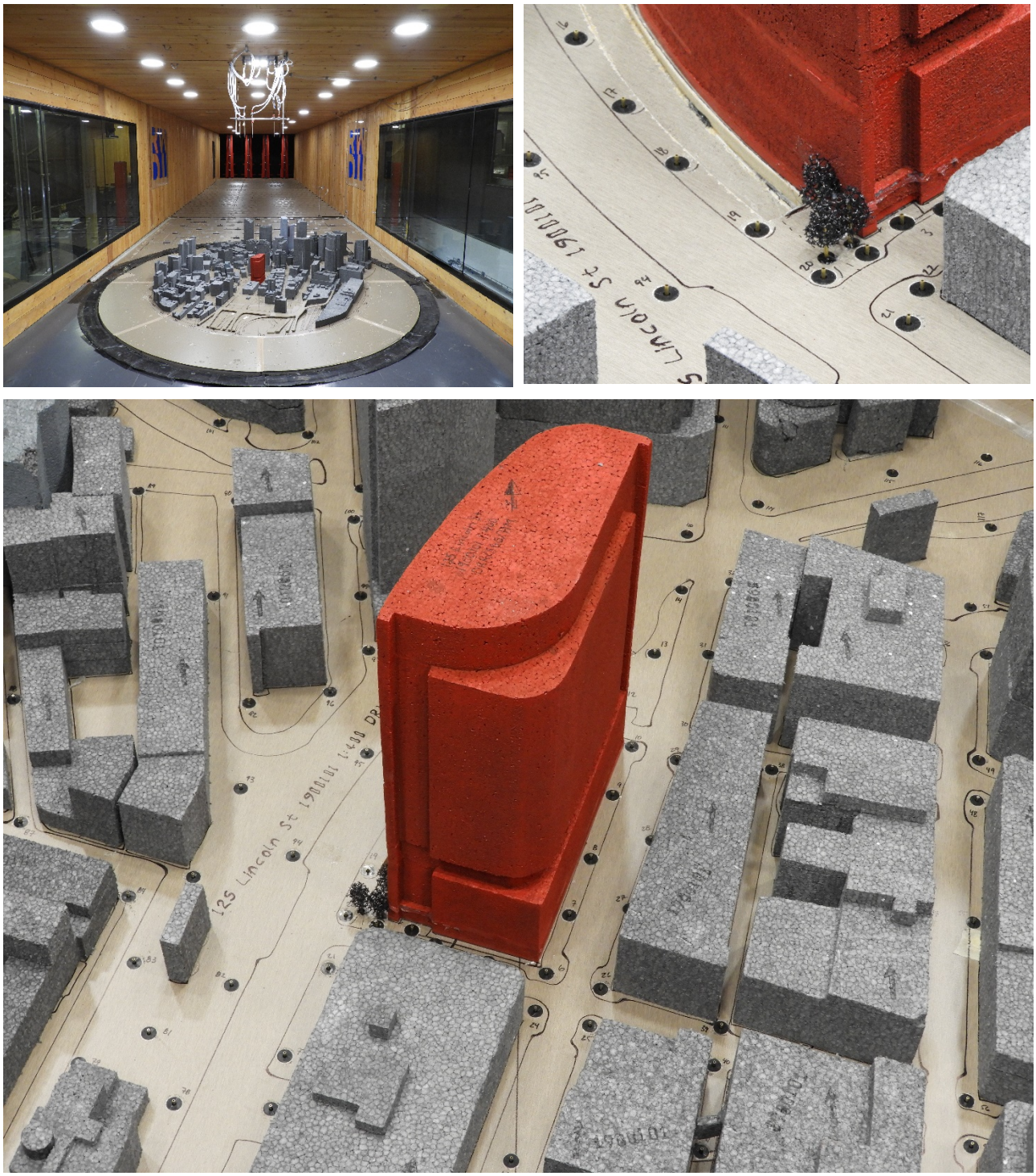
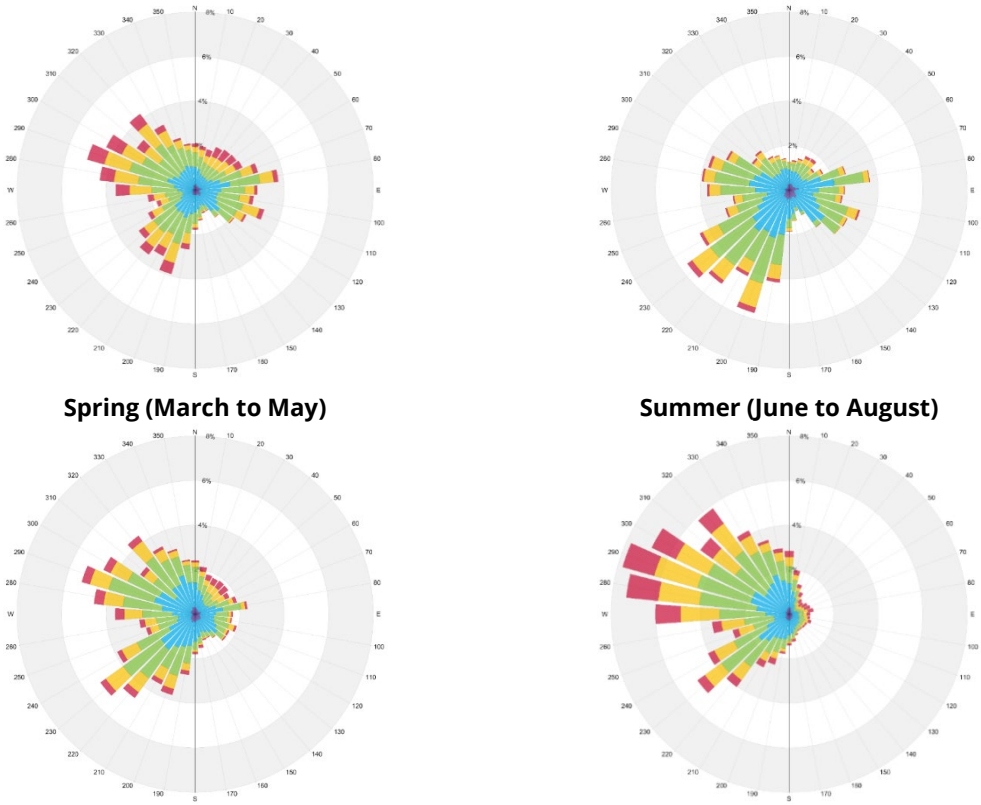


Image 2b: Wind Tunnel Study Model – Build Configuration

2.2 Meteorological Data

The results were then combined with long-term meteorological data, recorded during the years 1995 through 2017 at Boston's Logan International Airport to predict full scale wind conditions. The analysis was performed separately for each of the four seasons and for the entire year. Images 3 and 4 present "wind roses", summarizing the seasonal and annual wind climates in the Boston area respectively, based on the data from Logan Airport.

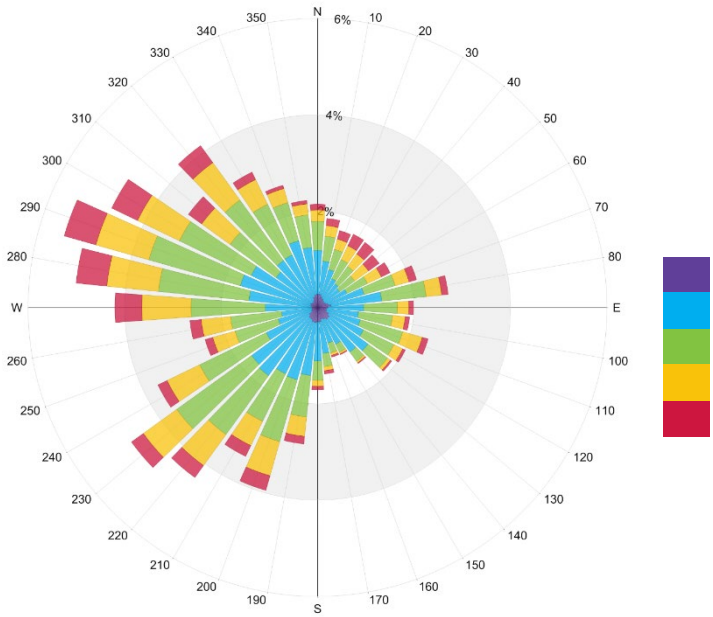
For example, the first wind rose in Image 3 summarizes the spring (March, April, and May) wind data which in general, indicate prevailing winds occurring from the northwest to south-southwest and northeast to east-southeast and strong winds (red bands), primarily occurring from the west-northwest, northwest, south-southwest and west directions.



Wind Speed (mph)	Probability (%) Spring	Summer	Fall	Winter
Calm	2.8	3.1	3.4	2.6
1-5	6.8	9.5	8.7	6.5
6-10	28.9	38.7	34.5	27.9
11-15	32.5	34.4	32.0	30.8
16-20	19.1	11.8	14.6	19.7
>20	10.0	2.6	6.8	12.4

Image 3: Seasonal Directional Distribution of Winds Approaching Boston Logan International Airport from 1995 through 2017

On an annual basis, the most common wind directions are those between north-northwest and south-southwest. Winds from the east-northeast to the east-southeast are also relatively common. In the case of strong winds, west-northwest, northwest and west are the dominant wind directions.



Wind Speed (mph)	Probability (%) Annual
Calm	Calm
1-5	1-5
6-10	6-10
11-15	11-15
16-20	16-20
>20	>20

Image 4: Annual Directional Distribution of Winds Approaching Boston Logan International Airport from 1995 through 2017

2.3 Wind Criteria

The BPDA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root-mean-square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BPDA to determine the acceptability of specific locations is based on the work of Melbourne. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). They are as follows:

BPDA Mean Wind Criteria*

Comfort Category	Mean Wind Speed (mph)
Dangerous	> 27
Uncomfortable for Walking	> 19 and ≤ 27
Comfortable for Walking	> 15 and ≤ 19
Comfortable for Standing	> 12 and ≤ 15
Comfortable for Sitting	< 12

* Applicable to the hourly mean wind speed exceeded 1% of the time.

The consideration of wind in planning outdoor activity areas is important since high winds in an area tend to deter pedestrian use. For example, winds should be light or relatively light in areas where people would be sitting, such as outdoor cafes or playgrounds. For bus stops and other locations where people would be standing, somewhat higher winds can be tolerated. For frequently used sidewalks, where people are primarily walking, stronger winds are acceptable. For infrequently used areas, the wind comfort criteria can be relaxed even further. The actual effects of wind can range from pedestrian inconvenience, due to the blowing of dust and other loose material in a moderate breeze, to severe difficulty with walking due to the wind forces on the pedestrian.

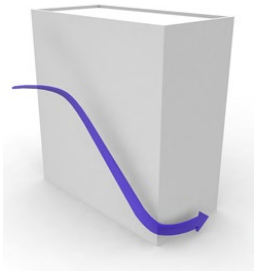
The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BPDA effective gust velocity criterion of 31 mph. However, without any mitigation measures, this wind climate is likely to be frequently uncomfortable for more passive activities such as sitting.

2.4 General Wind Flow Patterns

In our discussion of wind conditions, reference is made to the following generalized wind flows (Image 6):

Downwashing

Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level. This is often the main cause for wind accelerations around large buildings at the pedestrian level.



Corner Acceleration

When winds approach at an oblique angle to a tall façade and are deflected down, a localized increase in the wind activity or corner acceleration can be expected around the downwind building corner at the pedestrian level.

Image 6: Generalized Wind Flows

If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity. Design details such as tall trees with dense landscaping or deep canopies close to ground level (Image 7) can help reduce wind speeds. The choice and effectiveness of these measures would depend on the exposure and orientation of the site with respect to the prevailing wind directions and the size and massing of the proposed buildings.

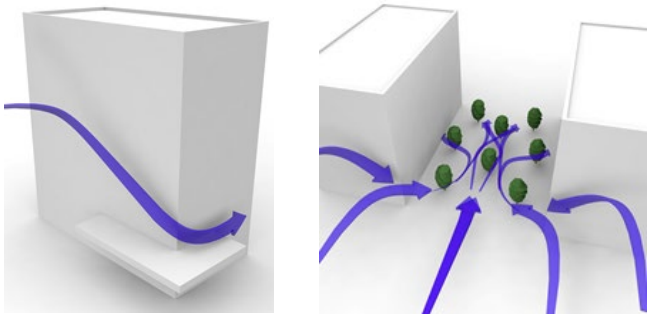


Image 5: Common Wind Control Measures

3 RESULTS AND DISCUSSION

The predicted wind comfort and safety conditions pertaining to the No Build and Build configurations assessed are graphically depicted on site plans in Figures 1a through 2b, located in the "***Figures***" section of this report. These conditions and the associated wind speeds are also presented in Tables 1 and 2, located in the "***Tables***" section. Typically, the summer and fall winds tend to be more comfortable than the annual winds while the winter and spring winds are less comfortable than the annual winds. The following summary of pedestrian wind comfort is based on the annual winds for each configuration tested.

The following is a detailed discussion of the suitability of the predicted wind comfort and safety conditions for the anticipated pedestrian use of each area of interest.

3.1 Mean Speed

Wind conditions comfortable for walking are appropriate for sidewalks and walkways around the project site as pedestrians will be active and less likely to remain in one area for prolonged periods of time. Lower wind speeds, conducive to standing, are preferred at main entrances where pedestrians are apt to linger.

3.1.1 No Build Configuration

Existing wind conditions are typically comfortable for sitting close to the project site, while higher wind speeds, generally comfortable for standing or walking, occur to the north and south. Uncomfortable wind speeds occur at four isolated locations to the north of the project site along Essex Street on an annual basis (Locations 53, 106, 107, and 109, Figure 1a).

3.1.2 Build Configuration

The main entrance to the proposed building is situated near Location 8 in Figures 1b and 2b. Mean wind speeds in this area are expected to be comfortable for sitting, which is appropriate for the intended pedestrian use.

Slightly higher wind speeds are expected with the addition of the proposed development and landscaping at the southwest building corner. Wind conditions are typically expected to be comfortable for walking or better on sidewalks close the building, which can be considered appropriate for the intended pedestrian use. Although conditions to the north and south are generally predicted to remain similar to those in the No Build scenario, conditions at three previously uncomfortable locations are anticipated to improve in the presence of the proposed development (Locations 53, 107, and 109, Figure 1b).

However, uncomfortable conditions are predicted at five isolated locations to the northwest, north, east, and south of the project site on an annual basis (Locations 10, 15, 23, 28, and 98, Figure 1b), as northwesterly prevailing winds downwash off the north and west building façades and accelerate around the northeast and southwest building corners. Improved wind conditions can be achieved through the use of design landscaping planted near areas of higher wind active if desired by the design team.

3.2 Effective Gust Speed

In the No Build scenario and on an annual basis, wind speeds that meet the effective gust criterion occur at most locations tested. An exception occurs at an isolated area on the north side of Essex Street, where wind speeds exceed the effective gust criterion (Location 106, Figure 2a). The pre-existing safety exceedance in the No Build scenario along the north side of Essex Street is improved in the Build scenario with the addition of the proposed development. With the addition of the proposed development including landscaping at the southwest building corner, wind speeds that meet the effective gust criterion are anticipated at all locations tested on an annual basis (Figure 2b).

If feasible, an alternative wind control measure includes the use of a deep canopy installed along the southwest building corner. Mitigation testing in the wind tunnel has also shown the effectiveness of this wind control measure in improving conditions at Location 23. Various architectural forms can be developed and tested during the detailed design stages of the project. Examples of canopies at building corners are shown in Image 8.

Image 8: Examples of Canopies at Building Corners

3.3 Landscaping

The efficacy of landscaping features for wind reduction is dependent on species, growing conditions and maintenance. The species of any selected trees for wind control is up to the discretion of the landscape architect as well as the project design team. The tree type that is selected will need to be capable of withstanding winds of a higher magnitude and planted correctly in a soil that is conducive to the effective growth of the tree in order to remain beneficial for wind control over time. Furthermore, suggested wind mitigation measures may be modified and updated as the project design evolves.

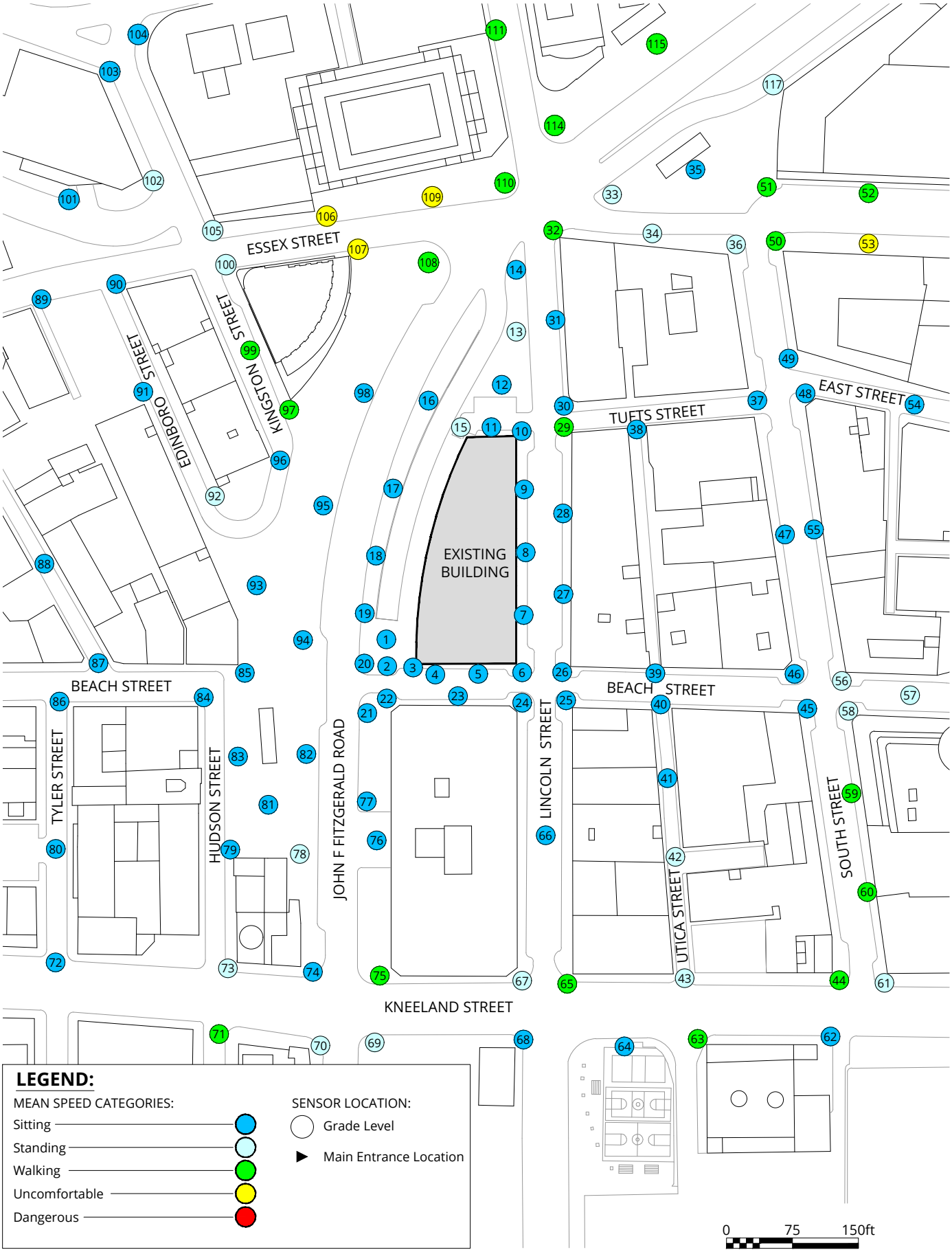
4 CONCLUSIONS

Based on the discussions on the predicted wind conditions, we recommend the following conceptual measures for wind control:

- Dense landscaping planted at the southwest building corner.
- If feasible, a deep canopy installed along the southwest building corner.
- Dense landscaping planted in areas of higher wind activity.

The wind conditions presented in this report pertain to the proposed 125 Lincoln Street as detailed in the architectural design drawings listed in Appendix A. Should there be any design changes that deviate from this list of drawings, the wind condition predictions presented may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

FIGURES



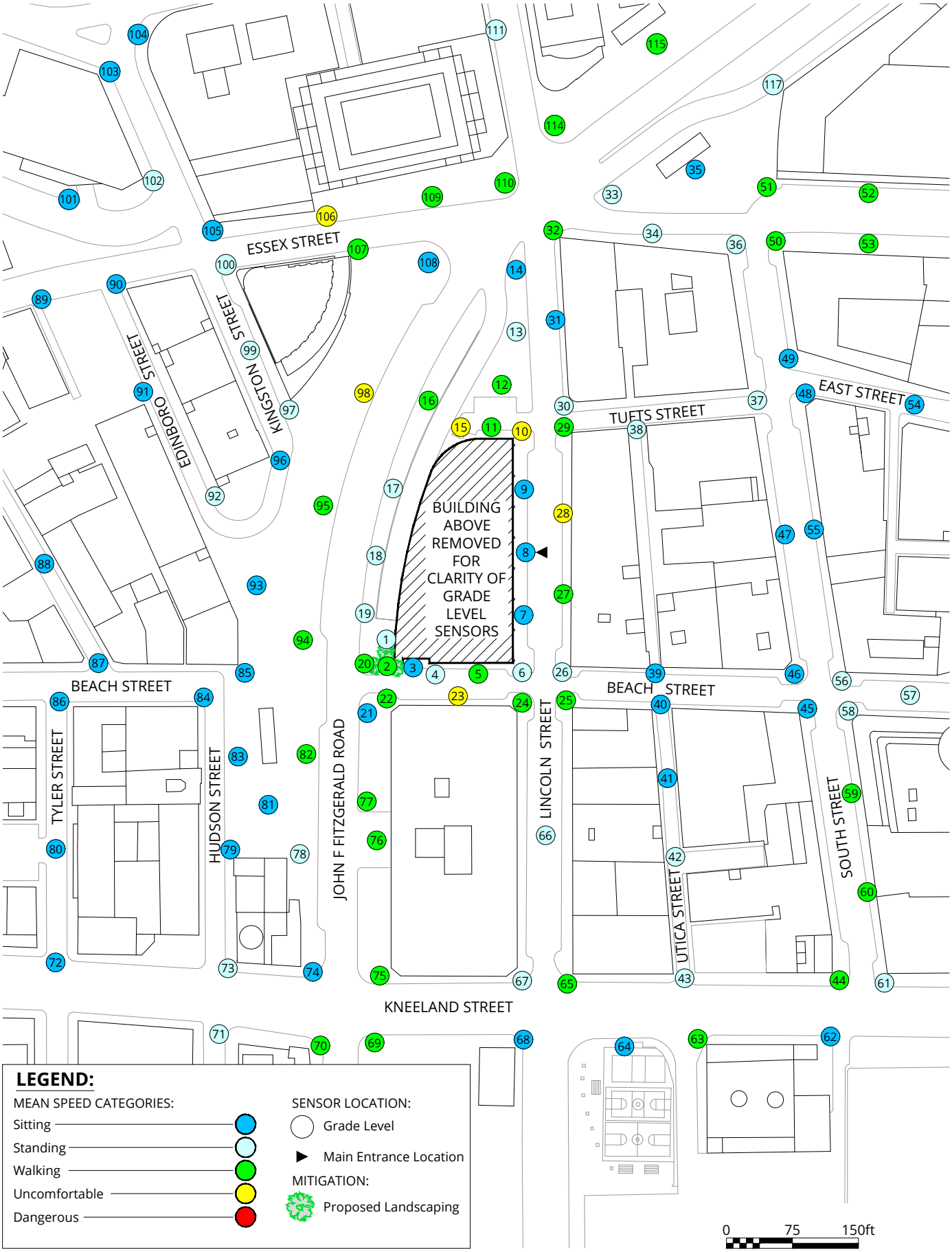
Pedestrian Wind Conditions - Mean Speed
No Build
Annual

125 Lincoln Street - Boston, MA

Project #1900101

True North

Drawn by: DBB	Figure: 1a
Approx. Scale:	1"=150'
Date Revised:	Sept. 13, 2018



Pedestrian Wind Conditions - Mean Speed
Build
Annual

125 Lincoln Street - Boston, MA

Project #1900084

True North

Drawn by: DBB	Figure: 1b
Approx. Scale:	1"=150'
Date Revised:	Sept. 21, 2018

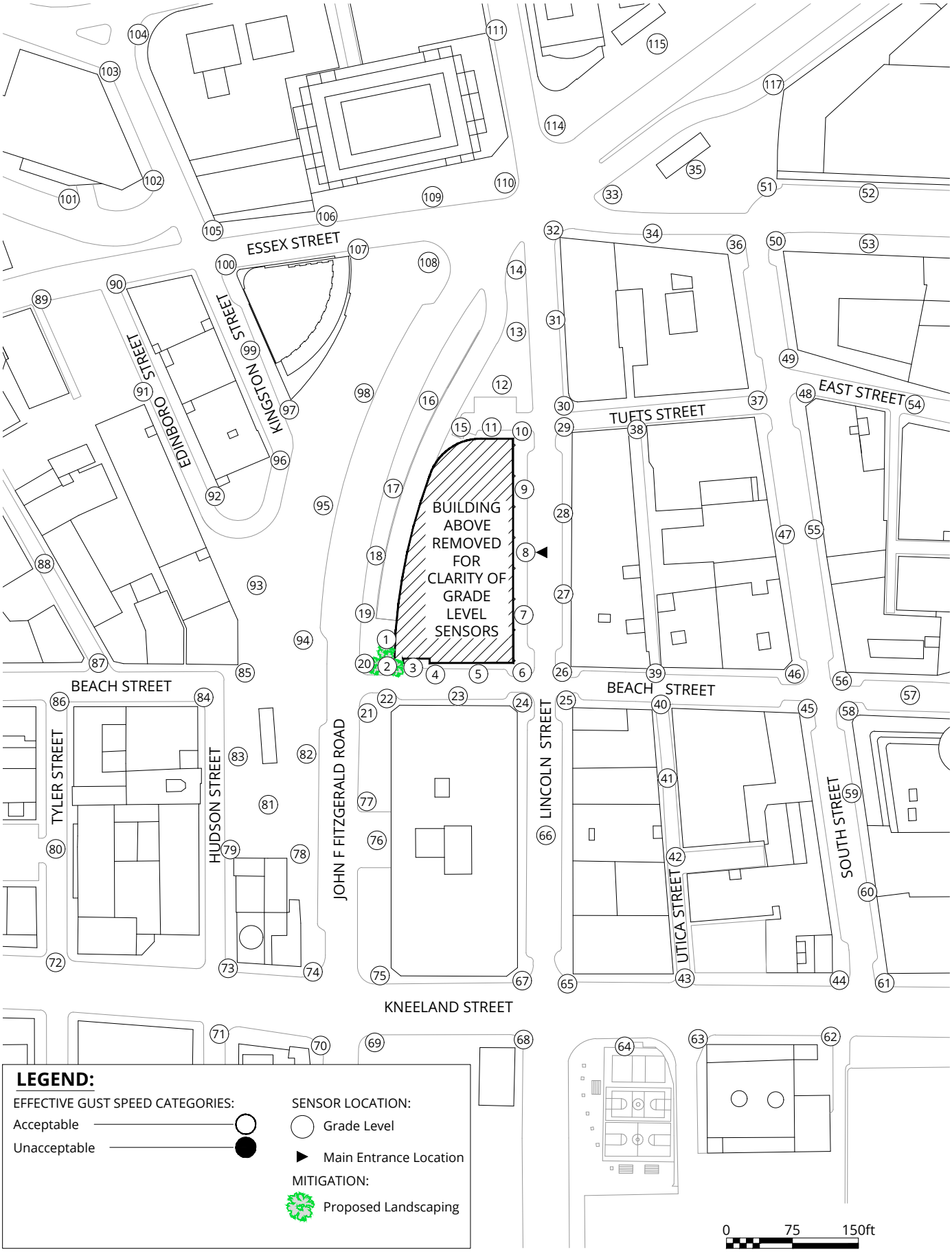
Pedestrian Wind Conditions - Effective Gust Speed
No Build
Annual

125 Lincoln Street - Boston, MA

Project #1900101

True North

Drawn by: DBB	Figure: 2a
Approx. Scale:	1"=150'
Date Revised:	Sept. 13, 2018



Pedestrian Wind Conditions - Effective Gust Speed
Build
Annual

125 Lincoln Street - Boston, MA

Project #1900084

True North

Drawn by: DBB	Figure: 2b
Approx. Scale:	1"=150'
Date Revised:	Sept. 21, 2018

TABLES

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
1	A	Annual	9		Sitting	16		Acceptable
	B	Annual	13	44%	Standing	19	19%	Acceptable
2	A	Annual	8		Sitting	15		Acceptable
	B	Annual	18	125%	Walking	24	60%	Acceptable
3	A	Annual	10		Sitting	17		Acceptable
	B	Annual	8	-20%	Sitting	15	-12%	Acceptable
4	A	Annual	9		Sitting	14		Acceptable
	B	Annual	13	44%	Standing	21	50%	Acceptable
5	A	Annual	9		Sitting	14		Acceptable
	B	Annual	18	100%	Walking	26	86%	Acceptable
6	A	Annual	8		Sitting	13		Acceptable
	B	Annual	13	62%	Standing	21	62%	Acceptable
7	A	Annual	10		Sitting	15		Acceptable
	B	Annual	9		Sitting	16		Acceptable
8	A	Annual	8		Sitting	14		Acceptable
	B	Annual	11	38%	Sitting	18	29%	Acceptable
9	A	Annual	7		Sitting	11		Acceptable
	B	Annual	11	57%	Sitting	17	55%	Acceptable
10	A	Annual	8		Sitting	14		Acceptable
	B	Annual	20	150%	Uncomfortable	27	93%	Acceptable
11	A	Annual	6		Sitting	11		Acceptable
	B	Annual	17	183%	Walking	24	118%	Acceptable
12	A	Annual	11		Sitting	17		Acceptable
	B	Annual	17	55%	Walking	25	47%	Acceptable
13	A	Annual	13		Standing	20		Acceptable
	B	Annual	13		Standing	21		Acceptable
14	A	Annual	11		Sitting	18		Acceptable
	B	Annual	11		Sitting	18		Acceptable
15	A	Annual	14		Standing	22		Acceptable
	B	Annual	20	43%	Uncomfortable	27	23%	Acceptable
16	A	Annual	12		Sitting	19		Acceptable
	B	Annual	18	50%	Walking	26	37%	Acceptable
17	A	Annual	9		Sitting	15		Acceptable
	B	Annual	15	67%	Standing	23	53%	Acceptable
18	A	Annual	8		Sitting	14		Acceptable
	B	Annual	15	88%	Standing	22	57%	Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
19	A	Annual	8		Sitting	14		Acceptable
	B	Annual	15	88%	Standing	22	57%	Acceptable
20	A	Annual	9		Sitting	14		Acceptable
	B	Annual	19	111%	Walking	26	86%	Acceptable
21	A	Annual	8		Sitting	14		Acceptable
	B	Annual	12	50%	Sitting	19	36%	Acceptable
22	A	Annual	8		Sitting	14		Acceptable
	B	Annual	17	112%	Walking	23	64%	Acceptable
23	A	Annual	11		Sitting	17		Acceptable
	B	Annual	22	100%	Uncomfortable	29	71%	Acceptable
24	A	Annual	9		Sitting	16		Acceptable
	B	Annual	18	100%	Walking	26	62%	Acceptable
25	A	Annual	9		Sitting	14		Acceptable
	B	Annual	16	78%	Walking	23	64%	Acceptable
26	A	Annual	11		Sitting	15		Acceptable
	B	Annual	14	27%	Standing	21	40%	Acceptable
27	A	Annual	6		Sitting	11		Acceptable
	B	Annual	18	200%	Walking	26	136%	Acceptable
28	A	Annual	7		Sitting	12		Acceptable
	B	Annual	22	214%	Uncomfortable	30	150%	Acceptable
29	A	Annual	19		Walking	23		Acceptable
	B	Annual	19		Walking	24		Acceptable
30	A	Annual	10		Sitting	17		Acceptable
	B	Annual	15	50%	Standing	22	29%	Acceptable
31	A	Annual	11		Sitting	18		Acceptable
	B	Annual	12		Sitting	20	11%	Acceptable
32	A	Annual	16		Walking	23		Acceptable
	B	Annual	18	12%	Walking	25		Acceptable
33	A	Annual	15		Standing	22		Acceptable
	B	Annual	14		Standing	21		Acceptable
34	A	Annual	15		Standing	21		Acceptable
	B	Annual	15		Standing	21		Acceptable
35	A	Annual	10		Sitting	16		Acceptable
	B	Annual	10		Sitting	16		Acceptable
36	A	Annual	14		Standing	20		Acceptable
	B	Annual	14		Standing	20		Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
37	A	Annual	9		Sitting	14		Acceptable
	B	Annual	13	44%	Standing	20	43%	Acceptable
38	A	Annual	7		Sitting	11		Acceptable
	B	Annual	14	100%	Standing	20	82%	Acceptable
39	A	Annual	10		Sitting	14		Acceptable
	B	Annual	9		Sitting	15		Acceptable
40	A	Annual	9		Sitting	15		Acceptable
	B	Annual	9		Sitting	14		Acceptable
41	A	Annual	7		Sitting	12		Acceptable
	B	Annual	9	29%	Sitting	13		Acceptable
42	A	Annual	14		Standing	20		Acceptable
	B	Annual	14		Standing	20		Acceptable
43	A	Annual	14		Standing	20		Acceptable
	B	Annual	14		Standing	20		Acceptable
44	A	Annual	16		Walking	23		Acceptable
	B	Annual	16		Walking	23		Acceptable
45	A	Annual	11		Sitting	17		Acceptable
	B	Annual	10		Sitting	16		Acceptable
46	A	Annual	11		Sitting	16		Acceptable
	B	Annual	11		Sitting	16		Acceptable
47	A	Annual	12		Sitting	17		Acceptable
	B	Annual	12		Sitting	17		Acceptable
48	A	Annual	10		Sitting	16		Acceptable
	B	Annual	10		Sitting	16		Acceptable
49	A	Annual	9		Sitting	14		Acceptable
	B	Annual	10	11%	Sitting	15		Acceptable
50	A	Annual	19		Walking	26		Acceptable
	B	Annual	19		Walking	26		Acceptable
51	A	Annual	17		Walking	24		Acceptable
	B	Annual	17		Walking	24		Acceptable
52	A	Annual	16		Walking	23		Acceptable
	B	Annual	16		Walking	23		Acceptable
53	A	Annual	20		Uncomfortable	25		Acceptable
	B	Annual	19		Walking	25		Acceptable
54	A	Annual	8		Sitting	13		Acceptable
	B	Annual	8		Sitting	13		Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
55	A	Annual	10		Sitting	15		Acceptable
	B	Annual	10		Sitting	17	13%	Acceptable
56	A	Annual	13		Standing	19		Acceptable
	B	Annual	14		Standing	20		Acceptable
57	A	Annual	13		Standing	17		Acceptable
	B	Annual	13		Standing	17		Acceptable
58	A	Annual	13		Standing	19		Acceptable
	B	Annual	13		Standing	20		Acceptable
59	A	Annual	16		Walking	24		Acceptable
	B	Annual	17		Walking	24		Acceptable
60	A	Annual	18		Walking	24		Acceptable
	B	Annual	18		Walking	24		Acceptable
61	A	Annual	13		Standing	20		Acceptable
	B	Annual	13		Standing	20		Acceptable
62	A	Annual	11		Sitting	18		Acceptable
	B	Annual	11		Sitting	18		Acceptable
63	A	Annual	19		Walking	26		Acceptable
	B	Annual	19		Walking	26		Acceptable
64	A	Annual	8		Sitting	14		Acceptable
	B	Annual	9	12%	Sitting	15		Acceptable
65	A	Annual	17		Walking	23		Acceptable
	B	Annual	16		Walking	22		Acceptable
66	A	Annual	12		Sitting	18		Acceptable
	B	Annual	14	17%	Standing	20	11%	Acceptable
67	A	Annual	15		Standing	21		Acceptable
	B	Annual	15		Standing	21		Acceptable
68	A	Annual	9		Sitting	14		Acceptable
	B	Annual	10	11%	Sitting	15		Acceptable
69	A	Annual	15		Standing	21		Acceptable
	B	Annual	16		Walking	23		Acceptable
70	A	Annual	14		Standing	19		Acceptable
	B	Annual	16	14%	Walking	22	16%	Acceptable
71	A	Annual	16		Walking	23		Acceptable
	B	Annual	15		Standing	23		Acceptable
72	A	Annual	10		Sitting	16		Acceptable
	B	Annual	10		Sitting	16		Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
73	A	Annual	15		Standing	21		Acceptable
	B	Annual	15		Standing	21		Acceptable
74	A	Annual	11		Sitting	17		Acceptable
	B	Annual	11		Sitting	17		Acceptable
75	A	Annual	18		Walking	24		Acceptable
	B	Annual	18		Walking	25		Acceptable
76	A	Annual	10		Sitting	16		Acceptable
	B	Annual	17	70%	Walking	25	56%	Acceptable
77	A	Annual	10		Sitting	15		Acceptable
	B	Annual	16	60%	Walking	23	53%	Acceptable
78	A	Annual	13		Standing	19		Acceptable
	B	Annual	14		Standing	20		Acceptable
79	A	Annual	9		Sitting	14		Acceptable
	B	Annual	10	11%	Sitting	15		Acceptable
80	A	Annual	8		Sitting	13		Acceptable
	B	Annual	7	-12%	Sitting	12		Acceptable
81	A	Annual	7		Sitting	11		Acceptable
	B	Annual	9	29%	Sitting	15	36%	Acceptable
82	A	Annual	10		Sitting	16		Acceptable
	B	Annual	16	60%	Walking	22	38%	Acceptable
83	A	Annual	10		Sitting	15		Acceptable
	B	Annual	11		Sitting	16		Acceptable
84	A	Annual	9		Sitting	14		Acceptable
	B	Annual	10	11%	Sitting	15		Acceptable
85	A	Annual	9		Sitting	14		Acceptable
	B	Annual	12	33%	Sitting	18	29%	Acceptable
86	A	Annual	7		Sitting	11		Acceptable
	B	Annual	7		Sitting	11		Acceptable
87	A	Annual	8		Sitting	13		Acceptable
	B	Annual	9	12%	Sitting	13		Acceptable
88	A	Annual	12		Sitting	17		Acceptable
	B	Annual	11		Sitting	17		Acceptable
89	A	Annual	9		Sitting	14		Acceptable
	B	Annual	8	-11%	Sitting	13		Acceptable
90	A	Annual	10		Sitting	17		Acceptable
	B	Annual	11		Sitting	19	12%	Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
91	A	Annual	11		Sitting	16		Acceptable
	B	Annual	11		Sitting	15		Acceptable
92	A	Annual	13		Standing	19		Acceptable
	B	Annual	13		Standing	19		Acceptable
93	A	Annual	9		Sitting	14		Acceptable
	B	Annual	11	22%	Sitting	18	29%	Acceptable
94	A	Annual	9		Sitting	14		Acceptable
	B	Annual	17	89%	Walking	25	79%	Acceptable
95	A	Annual	10		Sitting	17		Acceptable
	B	Annual	17	70%	Walking	27	59%	Acceptable
96	A	Annual	12		Sitting	18		Acceptable
	B	Annual	12		Sitting	18		Acceptable
97	A	Annual	18		Walking	24		Acceptable
	B	Annual	15	-17%	Standing	22		Acceptable
98	A	Annual	12		Sitting	19		Acceptable
	B	Annual	20	67%	Uncomfortable	28	47%	Acceptable
99	A	Annual	16		Walking	23		Acceptable
	B	Annual	13	-19%	Standing	20	-13%	Acceptable
100	A	Annual	14		Standing	21		Acceptable
	B	Annual	13		Standing	20		Acceptable
101	A	Annual	10		Sitting	16		Acceptable
	B	Annual	9		Sitting	15		Acceptable
102	A	Annual	15		Standing	23		Acceptable
	B	Annual	15		Standing	23		Acceptable
103	A	Annual	12		Sitting	18		Acceptable
	B	Annual	12		Sitting	18		Acceptable
104	A	Annual	12		Sitting	18		Acceptable
	B	Annual	11		Sitting	18		Acceptable
105	A	Annual	13		Standing	20		Acceptable
	B	Annual	12		Sitting	18		Acceptable
106	A	Annual	23		Uncomfortable	32		Unacceptable
	B	Annual	21		Uncomfortable	29		Acceptable
107	A	Annual	21		Uncomfortable	29		Acceptable
	B	Annual	18	-14%	Walking	26	-10%	Acceptable
108	A	Annual	17		Walking	25		Acceptable
	B	Annual	12	-29%	Sitting	20	-20%	Acceptable

Table 1: Mean Speed and Effective Gust Categories - Annual

Location	Configuration	Season	Mean Wind Speed			Effective Gust Wind Speed		
			Speed (mph)	% Change	Rating	Speed (mph)	% Change	Rating
109	A	Annual	20		Uncomfortable	28		Acceptable
	B	Annual	17	-15%	Walking	24	-14%	Acceptable
110	A	Annual	17		Walking	24		Acceptable
	B	Annual	16		Walking	22		Acceptable
111	A	Annual	17		Walking	23		Acceptable
	B	Annual	15	-12%	Standing	22		Acceptable
112	A	Annual	11		Sitting	17		Acceptable
	B	Annual	11		Sitting	17		Acceptable
113	A	Annual	15		Standing	23		Acceptable
	B	Annual	11	-27%	Sitting	18	-22%	Acceptable
114	A	Annual	18		Walking	26		Acceptable
	B	Annual	18		Walking	26		Acceptable
115	A	Annual	17		Walking	24		Acceptable
	B	Annual	16		Walking	22		Acceptable
116	A	Annual	18		Walking	25		Acceptable
	B	Annual	17		Walking	23		Acceptable
117	A	Annual	15		Standing	21		Acceptable
	B	Annual	14		Standing	20		Acceptable

Configurations	Mean Wind Criteria Speed (mph)		Effective Gust Criteria (mph)	
No Build	≤ 12	Comfortable for Sitting	≤ 31	Acceptable
With the existing site.	13 - 15	Comfortable for Standing	> 31	Unacceptable
Build	16 - 19	Comfortable for Walking		
With the proposed development and landscaping.	20 - 27	Uncomfortable for Walking		
	> 27	Dangerous Conditions		

Notes

1) Wind Speeds are for a 1% probability of exceedance

2) % Change is based on comparison with Configuration A

3) % changes less than 10% are excluded

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
1	A	10	7	9	10	16	13	15	17
	B	14	10	12	14	19	15	17	20
2	A	9	7	8	9	15	12	14	16
	B	18	14	16	20	25	18	23	27
3	A	11	9	9	11	18	14	16	18
	B	8	7	8	9	15	11	14	16
4	A	9	8	8	9	15	12	13	15
	B	13	10	12	14	22	17	20	24
5	A	10	8	9	9	15	13	14	15
	B	18	14	16	20	27	20	24	29
6	A	9	7	8	8	14	11	13	14
	B	14	11	13	14	21	17	20	22
7	A	11	10	9	9	17	15	14	14
	B	10	8	9	10	16	13	15	16
8	A	9	8	7	8	15	13	13	13
	B	11	9	10	12	19	14	17	20
9	A	7	6	7	7	12	10	11	12
	B	12	9	11	11	18	15	17	18
10	A	8	7	8	9	14	11	13	15
	B	20	15	19	21	27	21	25	29
11	A	7	5	6	7	12	9	11	13
	B	18	13	16	19	25	18	22	27
12	A	11	8	10	12	18	13	16	19
	B	17	13	16	19	26	19	24	28
13	A	14	10	12	14	21	16	19	23
	B	13	10	12	14	21	16	20	23
14	A	12	10	11	12	19	15	18	20
	B	11	10	11	12	18	15	17	19
15	A	14	11	13	15	22	17	20	24
	B	20	15	18	22	27	22	25	30
16	A	13	9	11	13	19	14	17	21
	B	18	14	16	19	27	21	24	28
17	A	9	8	9	10	16	13	14	17
	B	15	13	14	15	24	20	23	25
18	A	9	7	8	9	15	12	13	15
	B	16	14	14	14	24	21	22	23

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
19	A	8	7	8	9	14	11	13	15
	B	16	13	14	16	23	19	21	23
20	A	9	7	8	9	14	12	13	15
	B	20	15	18	21	27	20	24	28
21	A	9	7	8	9	15	12	14	16
	B	13	10	11	13	20	17	18	20
22	A	8	6	8	9	15	11	13	15
	B	18	16	16	16	24	21	22	22
23	A	11	8	10	12	18	13	16	19
	B	22	17	20	24	30	22	27	32
24	A	10	8	9	10	16	13	15	17
	B	19	15	17	20	27	21	25	29
25	A	9	7	8	9	15	12	13	15
	B	16	12	15	18	24	18	21	26
26	A	12	11	10	10	17	15	14	15
	B	15	11	13	16	22	16	20	23
27	A	6	5	6	7	11	9	10	11
	B	18	14	16	20	26	20	24	28
28	A	7	6	7	7	12	10	11	12
	B	23	17	21	25	31	23	28	33
29	A	20	15	19	21	24	18	22	25
	B	20	15	18	20	25	19	23	26
30	A	10	8	9	11	17	13	16	18
	B	15	12	14	17	23	18	21	24
31	A	11	8	10	12	19	14	17	20
	B	12	9	11	14	20	15	18	22
32	A	18	14	16	18	25	19	23	25
	B	18	15	17	19	26	21	24	27
33	A	15	12	14	17	23	18	21	24
	B	14	11	13	15	22	16	20	23
34	A	16	13	13	16	23	18	20	23
	B	16	13	14	16	23	18	20	23
35	A	10	8	9	11	17	13	16	17
	B	10	8	9	10	16	13	15	17
36	A	14	12	14	15	21	18	20	21
	B	15	13	14	15	21	18	20	21

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
37	A	9	7	9	9	15	12	14	15
	B	13	10	12	14	20	15	18	21
38	A	8	6	7	7	12	10	11	12
	B	15	11	13	16	21	16	19	22
39	A	11	10	9	10	16	13	14	15
	B	10	9	9	9	15	13	14	15
40	A	10	9	9	10	15	14	14	15
	B	9	8	9	9	15	13	14	15
41	A	8	7	7	7	12	11	12	12
	B	9	7	8	10	14	11	13	14
42	A	14	13	14	15	20	18	19	21
	B	15	13	14	15	21	18	20	21
43	A	15	13	14	15	21	18	20	21
	B	14	13	14	15	20	17	19	21
44	A	16	15	16	17	23	21	23	25
	B	16	15	16	17	24	22	23	25
45	A	12	10	10	11	17	15	16	17
	B	11	10	10	10	17	15	15	16
46	A	11	10	11	11	16	14	15	17
	B	12	10	11	12	16	15	16	17
47	A	14	12	11	10	19	16	16	15
	B	13	12	11	10	19	16	15	16
48	A	11	10	10	10	16	14	16	16
	B	11	9	10	11	16	13	15	17
49	A	10	8	10	10	15	13	14	15
	B	10	9	10	10	15	13	15	16
50	A	21	17	18	21	27	22	25	28
	B	21	17	19	21	27	22	25	28
51	A	18	16	17	17	25	22	24	25
	B	18	16	17	17	25	22	24	25
52	A	17	14	15	17	24	20	22	25
	B	17	14	15	17	24	20	22	24
53	A	21	16	19	21	27	21	24	27
	B	21	16	19	21	27	20	24	27
54	A	9	7	8	9	13	11	13	14
	B	8	7	8	9	13	11	13	14

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
55	A	11	10	9	9	15	14	14	15
	B	11	9	10	10	17	14	16	18
56	A	14	12	13	14	20	18	19	20
	B	14	13	13	14	20	18	20	21
57	A	14	12	13	13	19	16	17	18
	B	14	12	13	13	19	16	17	18
58	A	14	12	13	14	20	18	19	20
	B	14	13	13	14	20	18	19	21
59	A	17	16	16	17	24	22	23	25
	B	17	16	17	18	24	22	23	25
60	A	18	17	18	19	25	23	24	26
	B	18	17	17	19	24	22	24	26
61	A	13	11	13	14	21	18	20	22
	B	13	11	13	14	20	18	20	22
62	A	11	9	11	12	18	15	17	19
	B	11	9	11	12	18	15	17	19
63	A	19	18	18	20	26	24	26	27
	B	19	18	18	20	26	24	26	28
64	A	9	7	8	9	15	12	14	15
	B	9	8	9	10	15	13	14	16
65	A	18	15	17	18	24	21	23	24
	B	17	15	16	17	23	21	22	24
66	A	12	11	12	13	19	16	18	19
	B	14	11	13	16	21	16	19	23
67	A	16	14	14	15	22	19	20	21
	B	15	13	14	15	22	19	20	22
68	A	9	8	9	9	15	13	14	15
	B	10	8	9	10	16	13	15	17
69	A	15	13	15	16	22	18	21	23
	B	17	13	16	18	23	19	22	25
70	A	15	13	14	15	20	17	19	21
	B	17	15	16	17	23	19	22	24
71	A	17	14	16	17	24	20	22	25
	B	16	14	15	16	23	19	22	25
72	A	11	9	10	11	17	15	16	17
	B	11	9	10	11	17	14	16	17

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
73	A	15	13	15	15	22	18	21	23
	B	15	13	15	15	22	18	22	23
74	A	12	10	11	12	18	15	17	18
	B	12	10	11	12	18	15	17	18
75	A	19	16	18	19	25	22	24	25
	B	19	16	18	20	26	22	25	27
76	A	11	9	9	11	17	14	15	17
	B	18	13	16	19	25	19	23	27
77	A	11	9	9	10	16	13	15	16
	B	16	12	15	17	24	18	22	25
78	A	13	11	13	13	20	17	19	20
	B	14	11	14	15	21	17	20	21
79	A	10	8	9	9	15	13	14	15
	B	10	9	9	10	16	13	15	16
									17
80	A	8	7	7	8	13	11	13	14
	B	8	7	7	7	13	11	12	12
81	A	7	6	7	7	12	10	11	12
	B	9	7	9	10	15	12	14	16
82	A	10	9	10	10	16	14	16	16
	B	16	12	15	17	23	18	21	24
83	A	11	9	10	10	16	13	15	15
	B	12	10	11	11	16	14	15	16
84	A	10	8	9	9	15	13	14	14
	B	11	9	10	10	16	13	15	16
85	A	9	8	8	9	15	12	14	14
	B	13	10	12	13	18	15	17	19
86	A	8	6	7	7	12	10	11	12
	B	7	6	7	8	12	10	11	12
87	A	8	7	8	8	13	11	13	14
	B	9	7	9	9	14	11	13	14
88	A	12	9	11	13	18	13	16	19
	B	11	8	10	12	17	13	16	18
89	A	9	7	8	10	15	11	13	15
	B	9	7	8	9	14	11	13	14
90	A	10	8	9	11	17	13	16	19
	B	11	8	10	12	19	14	17	21

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
91	A	12	10	11	12	16	13	16	17
	B	12	10	11	12	16	13	15	16
92	A	14	12	13	14	20	17	19	20
	B	13	12	13	13	20	17	19	19
93	A	9	6	8	10	14	10	13	16
	B	12	9	11	12	18	14	17	19
94	A	9	7	9	9	14	12	14	15
	B	17	13	16	18	26	19	24	27
95	A	11	8	10	12	18	13	16	20
	B	18	14	17	19	28	21	26	29
96	A	12	9	11	13	18	14	17	20
	B	12	10	11	12	19	15	18	19
97	A	19	14	17	20	25	18	22	27
	B	15	11	14	16	23	17	21	25
98	A	12	9	11	13	19	14	18	21
	B	20	15	18	22	28	21	26	31
99	A	16	12	15	17	23	17	21	25
	B	14	10	12	14	21	16	19	22
100	A	15	11	13	16	22	16	19	23
	B	14	10	13	15	20	15	19	22
101	A	10	9	10	10	16	14	16	16
	B	10	8	9	10	15	14	15	16
102	A	16	12	15	17	23	18	22	25
	B	15	11	14	16	23	17	21	25
103	A	12	10	11	13	18	15	17	20
	B	12	11	12	13	19	16	18	20
104	A	12	9	11	13	19	14	17	21
	B	12	9	11	13	18	13	17	20
105	A	13	10	12	14	20	16	19	22
	B	12	9	11	13	19	14	18	20
106	A	24	18	22	25	33	24	30	35
	B	21	16	19	23	30	22	27	32
107	A	22	16	20	23	30	22	26	31
	B	18	14	17	20	27	20	24	28
108	A	17	13	16	19	25	19	23	27
	B	12	9	12	13	20	16	19	21

Table 2: Mean Speed and Effective Gust Categories - Seasonal

Location	Configuration	Mean Wind Speed (mph)				Effective Gust Wind Speed (mph)			
		Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
109	A	21	16	19	22	29	21	26	31
	B	18	13	16	19	25	19	23	26
110	A	19	15	17	18	26	22	24	25
	B	17	14	16	17	23	19	22	24
111	A	17	15	16	17	24	20	23	25
	B	16	12	15	17	22	17	21	24
112	A	11	9	11	12	17	13	17	18
	B	12	10	12	12	17	14	17	18
113	A	17	15	15	16	24	20	22	24
	B	12	10	11	12	18	15	17	19
114	A	19	15	18	20	27	22	25	29
	B	19	14	17	20	26	20	24	28
115	A	18	16	17	18	25	21	23	25
	B	16	14	15	17	23	19	21	24
116	A	19	16	18	19	26	22	25	26
	B	17	15	17	18	24	20	23	25
117	A	16	13	15	16	22	18	21	23
	B	15	12	14	15	21	17	20	21

Seasons	Months
Spring	March - May
Summer	June - August
Fall	September - November
Winter	December - February
Annual	January - December

Mean Wind Criteria Speed (mph)	
≤ 12	Comfortable for Sitting
13 - 15	Comfortable for Standing
16 - 19	Comfortable for Walking
20 - 27	Uncomfortable for Walking
> 27	Dangerous Conditions

Effective Gust Criteria (mph)	
≤ 31	Acceptable
> 31	Unacceptable

Configurations	
No Build	With the existing site.
Build	With the proposed development and landscaping at the southwest building corner.

Notes

1) Wind Speeds are for a 1% probability of exceedance

APPENDIX A

APPENDIX A:
DRAWING LIST FOR MODEL CONSTRUCTION

The drawings and information listed below were received from Gensler and were used to construct the scale model of the proposed 125 Lincoln Street. Should there be any design changes that deviate from this list of drawings, the results may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (dd/mm/yyyy)
1808016_RDWI Massings.skp	SketchUp	16/08/2018

REPORT

125 LINCOLN STREET

DETAILED SOLAR REFLECTION ANALYSIS

MAY 24, 2019
PROJECT #: 1900101

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EXECUTIVE SUMMARY

RWDI was retained to investigate the impact that solar reflections emanating from the proposed 125 Lincoln Street development will have on the surrounding urban realm.

Thermal Impacts on Pedestrians, Drivers, and Facades

The planar and convex nature of the facades of the proposed development ensure that reflected sunlight will not focus (multiply) in any particular area. Therefore, RWDI does not expect any significant thermal impacts (i.e. risks to human safety or property damage) to occur either on the site or in the surrounding neighborhood.

Visual Glare Impact on Drivers

As with the addition of any glazed building, drivers travelling in the vicinity of the buildings are expected to experience an increased level of visual glare impact. Some reflections with the potential for high visual impact were noted. Some of these impacts are expected to alter a driver's experience since the glare occurs at times when the sun would not ordinarily be within a driver's field-of-view. In particular, a driver's experience could be altered when:

- travelling south along Kingston St (see receptor D3 in Appendix A) from September through March (see Figure 13)
- travelling northeast along Lincoln St (receptors D5 and D6) in some mornings in a year (see Figure 14-15)

The reflections on receptor D3 are predicted to occur 171 days per year at most, and last up to 23 minutes in duration and occur between 1:30 pm and 5:00 pm EST. That said, we expect Kingston Street to have a lower traffic volume compared to busier streets which limits the number of drivers potentially effected. Also, the effected area is limited to only the southern most portion of Kingston.

The impacts on driver receptors D5 and D6 are infrequent and short in duration, and they all finish before 9:00 am EST. Completely eliminating the impacts on the receptors D3, D5, and D6 would require significant alterations to the facade.

Some of the reflection impacts are not expected to alter a driver's current experience as the sun will already be in the driver's line of sight. These events can occur to drivers:

- travelling southwest along John F Fitzgerald Surface Road (receptor D1) during afternoons in January, February, November, and December (refer to Figure 12).
- travelling northwest along Beach St during some afternoons from March to October (see Figure 16)

The simulations predict that these impacts would be brief and infrequent.

Visual Glare and thermal Impact on Pedestrians and Facades

Moderate levels of visual impact are predicted to fall on all the pedestrian and facade receptors studied. Some of these reflections can be frequent and relatively long in duration. The maximum frequency of glare occurrence found at these locations is approximately 17% of daytime hours. These types of reflections represent at worst a visual nuisance, as viewers can safely look away or close blinds.

Overall Impact of Reflections

The impacts of this development on its surrounds are typical of any modern building of this size. If mitigation is desired, particularly for the drivers and podium roofs, we have provided several strategies to minimize the reflection impacts. For further details, refer to the Mitigation Suggestions section on page 31.

We also note that this study investigated a worst case condition where the entire facade of the basis-of-design massing was glazed. We would expect the frequencies and durations predicted here to decrease once detailed facade materiality and form was included. In particular, vertical mullion fins could significantly reduce the frequency and intensity of many reflections predicted in this study. Mullion fins are discussed further in the Mitigation Suggestions section of this report.

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Appendix A: Detailed Reflection Results

Appendix B: Thermal Gain and Visual Glare Criteria

INTRODUCTION

This report provides the computer modeling results of reflected sunlight from the proposed 125 Lincoln Street development in Boston, MA. The development will be an office building located at the intersection of Lincoln St and Beach St (as shown in Figure 1). It is our understanding that the development will be surrounded by typical urban spaces such as busy roadways, and other buildings.

RWDI was retained to investigate the impact that solar reflections emanating from the proposed redevelopment will have on the surrounding urban terrain. An initial investigation by RWDI was conducted in September 2018. At the time of the study, a simplified massing model of the development was used which incorporated a curved façade at the northwestern and southeastern corners of the building. Since then, the design has evolved to include balconies or cut-outs at the northern and southern ends of the building. Also, the northern nose or face of the building, which previously incorporated part of the curved façade, has now been flattened. The overall height and width of the building are the same as what was used in the simulation.

Figure 1: Location of the Proposed Development

INTRODUCTION

Comparing the updated building design to the previous massing model, in RWDI's opinion, the revised building design incorporates a variety of features that will either have a benign impact on solar reflection or will be somewhat positive in terms of reducing solar reflections. For example, the original study assumed the entire tower was fully glazed over its entire height. By incorporating the cut-outs or balconies into the design, that will have differing material properties, this will effectively help breakup the reflections emanating from the tower. Moreover, by altering the curved facades into a more square essentially eliminates a 'pinwheeling' or 'spraying' effect of the reflections, in various directions at various times of day that was predicted by the previous study. Therefore, based on the original solar reflection study carried out by RWDI, and comparing the original massing of the tower to the newly updated building design, we would consider the conclusions presented in this report to still be applicable, and to some degree, slightly conservative.

A preliminary set of simulations was conducted to determine peak reflection intensities and the frequency of occurrence of reflections for a broad area around the development. This served to identify areas which may experience high intensity or very frequent reflections. This information informed the selection of 16 points for a more detailed analysis.

These receptor points represent drivers, pedestrians, and building facades and the detailed results allow us to quantify the frequency, intensity and duration of glare events at the receptors as well as the sources of those reflections.

Urban Reflections

While a common occurrence, solar reflections from buildings can lead to numerous visual and thermal issues.

Visual glare can:

- Impair the vision of motorists and others who cannot easily look away from the source;
- Cause nuisance to pedestrians or occupants of nearby buildings; and,
- Create undesirable patterns of light throughout the urban fabric.

Heat gain can:

- Affect human thermal comfort;
- Be a safety concern for people and materials, particularly if multiple reflections are focused in the same area; and
- Create increased cooling needs in conditioned spaces affected by the reflections.

The most significant safety concerns with solar reflections occur with concave facades (Figure 2) which act to focus the reflected light in a single area. RWDI does not expect issues with solar focusing to be present in this development as all surfaces on the are planar or convex.

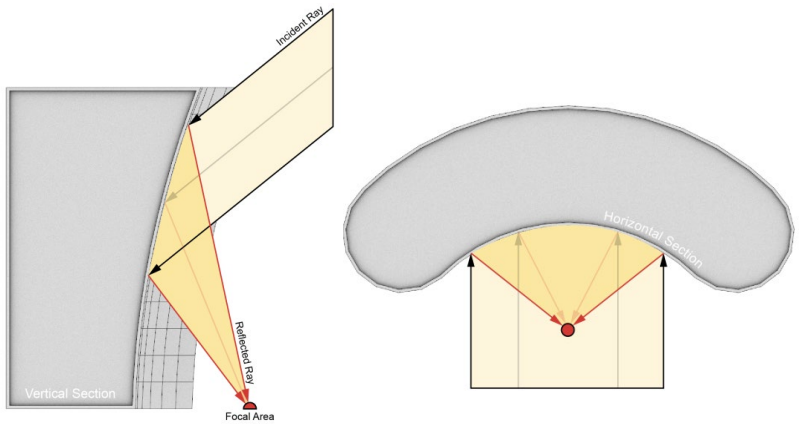


Figure 2: Illustration of Reflection Focusing Due to a Concave Facade

Methodology

RWDI assessed the potential reflection issues using RWDI's in-house proprietary *Eclipse* software, in two phases as per the steps outlined below:

- The Phase 1 "Screening" assessment began with the development of a 3D model of the area of interest (as shown in Figure 3). This was then subdivided into many smaller triangular patches (see Figure 4).
- For each hour in a year, the expected solar position was determined, and "virtual rays" were drawn from the sun to each triangular patch of the 3D model. Each ray that was considered to be "unobstructed" was reflected from the building surface and tracked through the surrounding area. The study domain included the entire pedestrian realm within 2000 feet of the proposed building.
- The total reflected energy at that hour from all of the patches was computed and its potential for visual and thermal impacts was assessed.
- Finally, a statistical analysis was performed to assess the frequency, and intensity of the glare events occurring throughout the year within the nearby airspace. The criteria used to assess the level of impact can be found in Appendix B of this report.

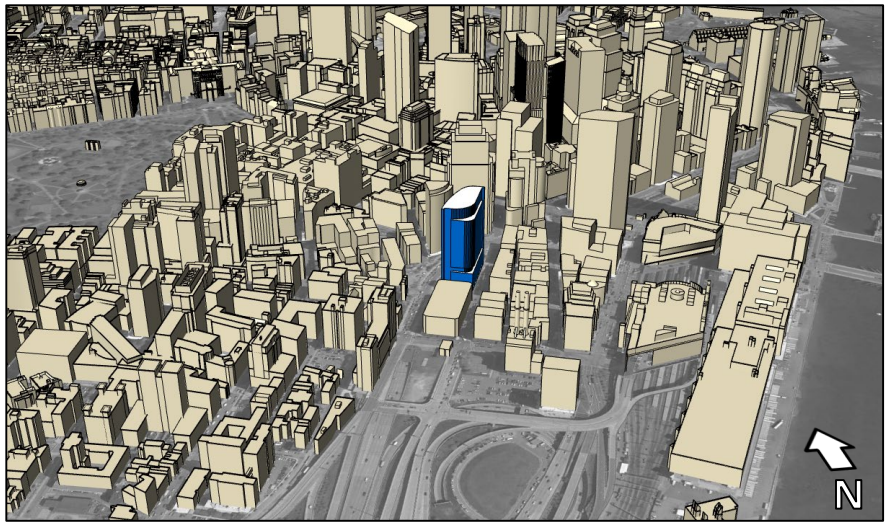


Figure 3: 3D Computer Model of the Proposed Development and Surrounding Context

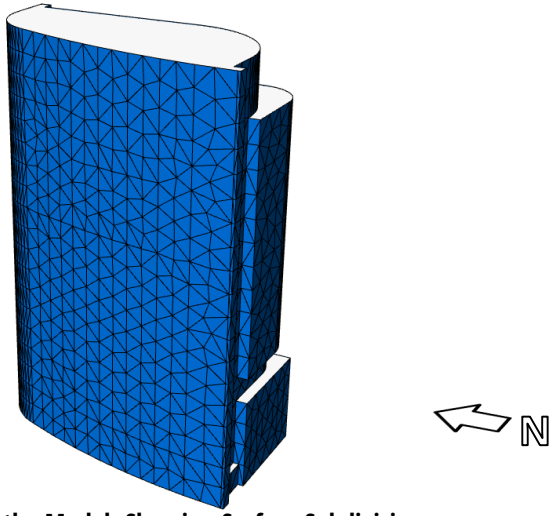


Figure 4: Close-up View of the Model, Showing Surface Subdivisions

Methodology (cont'd)

- Based on the findings of the Screening analysis, 16 representative 'receptor points' were selected to undergo the more detailed, Phase 2 analysis.

- The points were chosen to understand in greater detail how reflections from the building will impact drivers, pedestrians and other buildings (see Figure 5).

- The analysis process is similar in the detailed phase of work, except reflections are analyzed at 1 minute increments for the entire year.

- In addition to the frequency and duration of reflection impacts, the more detailed analysis allows for the prediction of when those impacts will occur, how long they occur for and which building element is the cause.

- These points are illustrated on the following page. For points that represent people undertaking tasks with a defined direction of view (i.e. motorists who must maintain forward visual contact) the assumed direction of view is indicated with an arrow.

Proposed Receptor Locations

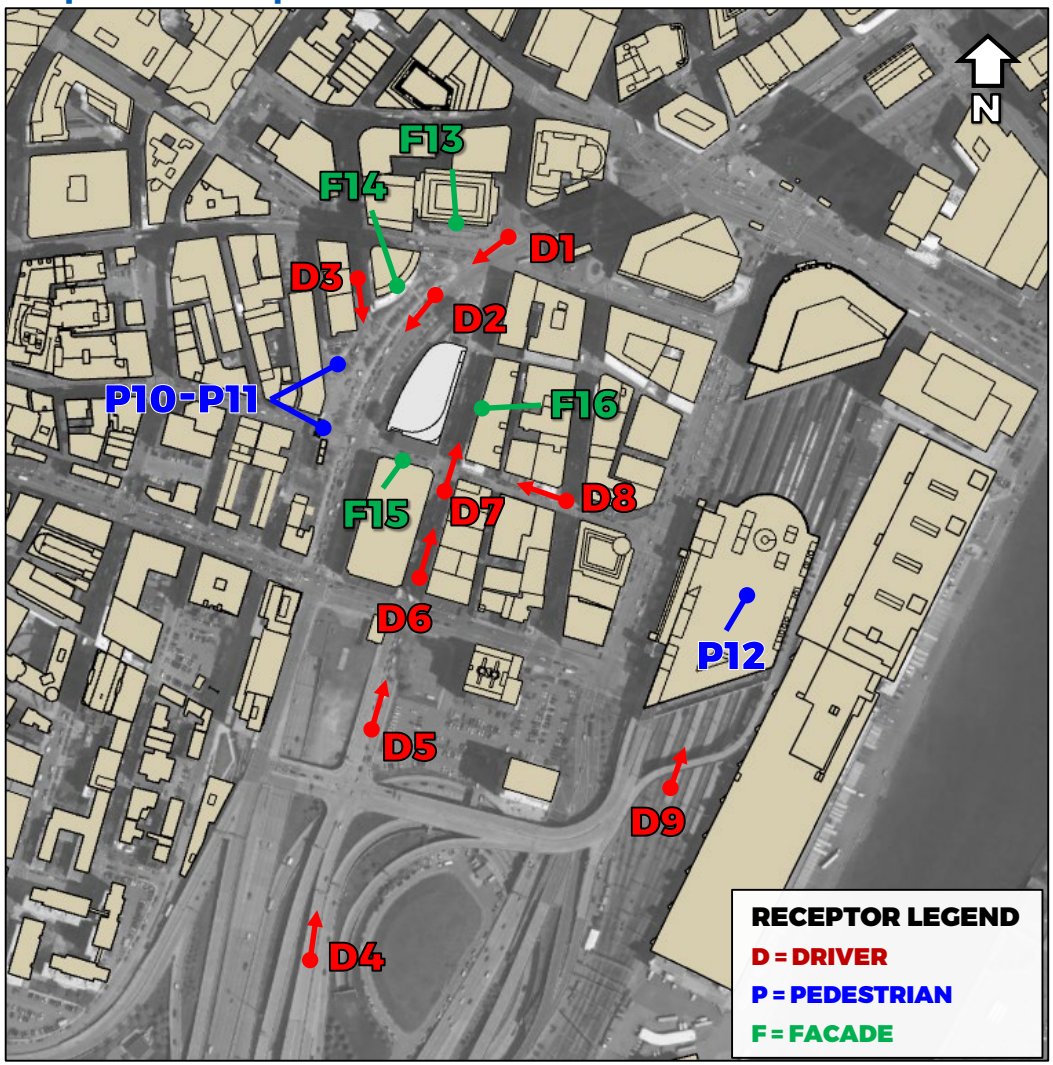


Figure 5: Proposed Receptor Locations

Table 1: Proposed Receptor Descriptions

Receptor Number	Receptor Description
D1-D2	Drivers travelling southwest along John F Fitzgerald Surface Road
D3	Drivers travelling southeast along Kingston St
D4-D7	Drivers travelling northeast along Lincoln St
D8	Drivers travelling northwest along Beach St
D9	Train drivers travelling northeast towards the South Station
P10-P11	Pedestrians in The Rose Kennedy Greenway near Chinatown Gate
P12	Pedestrians in the parking lot on top of the South Station Building
F13	Facade of 1 Lincoln St building
F14	Facade of 120 Kingston St building
F15	Facade of 179 Lincoln St building
F16	Facade of 132 Lincoln St building

Assumptions and Limitations

Meteorological Data

This analysis used 'clear sky' solar data computed at the location of Boston Logan International Airport. This approach uses mathematical algorithms to derive solar intensity values for a given location, ignoring local effects such as cloud cover. This provides a 'worst case' scenario showing the full extent of when and where glare could ever occur.

Radiation Model

RWDI's analysis is only applicable to the thermal and visual impacts of solar radiation (i.e. ultraviolet, visible and infrared wavelengths) on people and property in the vicinity of the development. It does not consider the impact of the building related to any other forms of radiation, such as cellular telephone signals, RADAR arrays, etc.

Study Building and Surrounds Models

The analysis was conducted based on a basis-of-design model of the proposed tower provided by Gensler to RWDI on August 16, 2018. No facade details (i.e. mullions) have been included at this stage.

The surroundings model was developed based on data made available by the City of Boston. The ground surface and the surrounding buildings were topographically corrected based on a high-resolution LiDAR survey conducted by the National Oceanic and Atmospheric Administration (NOAA) in 2013-2014. According to NOAA, the horizontal accuracy of this data set is stated as 16.5 inches at a 95% confidence level. Its vertical accuracy is stated as 4.8 inches at a 95% confidence level.

Potential reductions of solar reflections due to the presence of Vegetation or other non-architectural obstructions were not included, nor are reflections from other buildings. Light that has reflected off several surfaces is assumed to have a negligible impact. As such, only a single reflection from the development was included in the analysis.

Assumptions and Limitations (cont'd)

Facade Material Reflectance

The reflective properties of the glazing units located on the proposed tower facade were determined based on the glazing make-up information provided by Gensler to RWDI on August 22, 2018. Without detailed facade materially information, we have conservatively assumed that the entire facade is glazed with the above glazing units.

The reflectance properties of the glazing units are summarized in Table 2. Figure 6 shows the location of the reflective materials on the facades.

Applicability of Results

The results presented in this report are highly dependent on both the form and materiality of the facade. Should there be any design changes to the design, it is recommended that RWDI be contacted and requested to review their potential effects on solar reflection.

Assumptions and Limitations (cont'd)

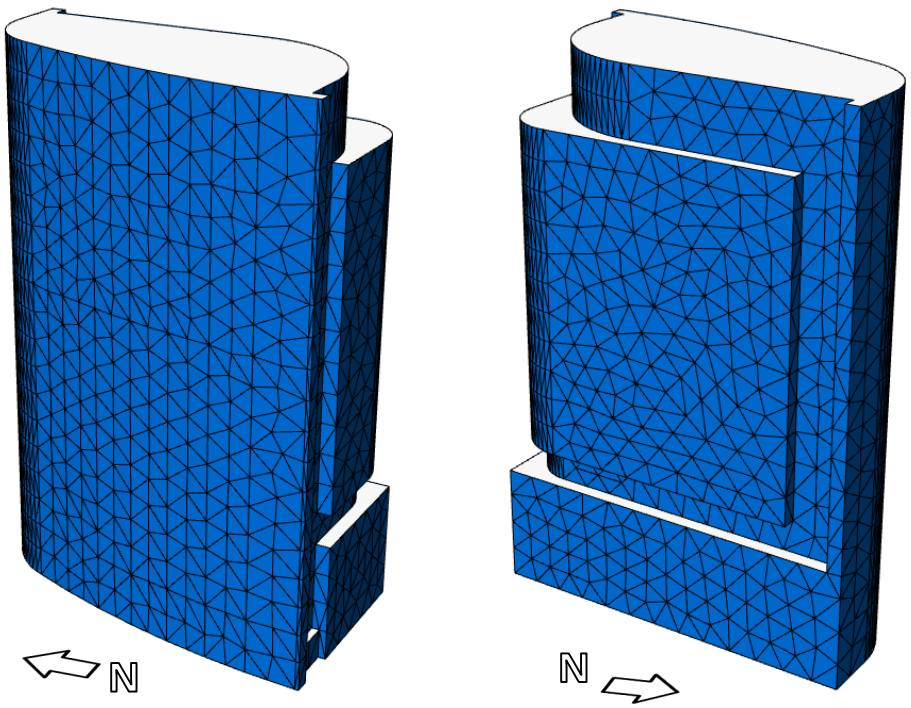


Figure 6: Locations of Reflective Building Elements

Table 2: Nominal Visible and Full Spectrum Reflectance Values of the Reflective Building Elements

Glazing Location	Glazing Unit	Visible Reflectance	Full Spectrum Reflectance
Entire Facade	Guardian HP Neutral 50/32 (6mm + 16mm +4mm)	23%	37%

Presentation of Results

This section presents the solar impacts for the following configurations with respect to the surrounding urban context. The following three plots are presented:

Peak Annual Reflected Irradiance

This plot displays the annual peak intensity of all reflections emanating from the development at a typical pedestrian height (5 ft.) above local grade or on the glazed facades of the development over an entire year. In order to attain a better understanding of the impact of the solar reflections from the development, other factors must be considered such as the frequency and duration of the reflections. These factors are analyzed in detail in the next stage of the study.

Two versions of this plot are included:

- **Visible Reflectance (Visual Glare):** This plot (Figure 7a) display the intensity of reflected visible light only. Depending on the ambient conditions, reflection intensities as low as 150 W/m² could be visible to people.

- **Full Spectrum Reflectance (Heat Gain):** This plot (Figure 7b) present the total intensity of a reflection, including both visible light and thermal energy which relates to the overall heat gain. For full spectrum reflectance, RWDI considers 1500 W/m² as a short term thermal comfort threshold and reflections above 2500 W/m² as a human safety threshold (refer to Appendix B).

Percentage of Daylit Hours (or Frequency) of Reflected Light

This plot (Figure 7c) identifies the locations of the most frequent significant reflections emanating from the facades. In this context a 'significant' reflection is one that is at least 50% as intense as one that would cause after imaging on a viewer (refer to Appendix B).

As this criteria is visually based, the visible light reflectance of the facades was used.

Peak Annual Reflected Irradiance - Visible Reflectance (Visual Glare)

Reflections as low as 150 W/m² may be visible to people, depending on ambient lighting levels.

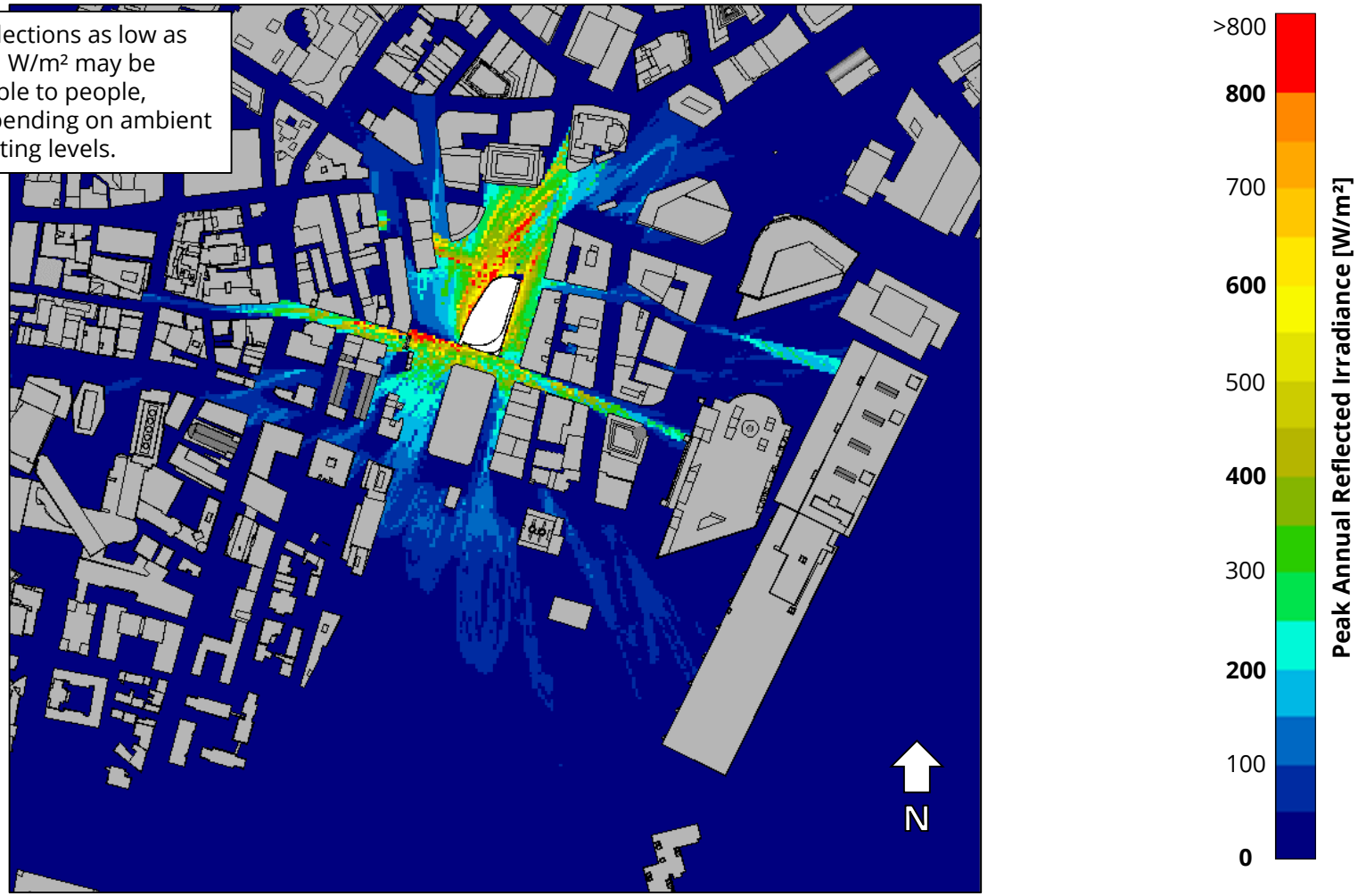


Figure 7a: Maximum Annual Intensity of Visible Reflections at Pedestrian Height

Peak Annual Reflected Irradiance - Full Spectrum Reflectance (Heat Gain)

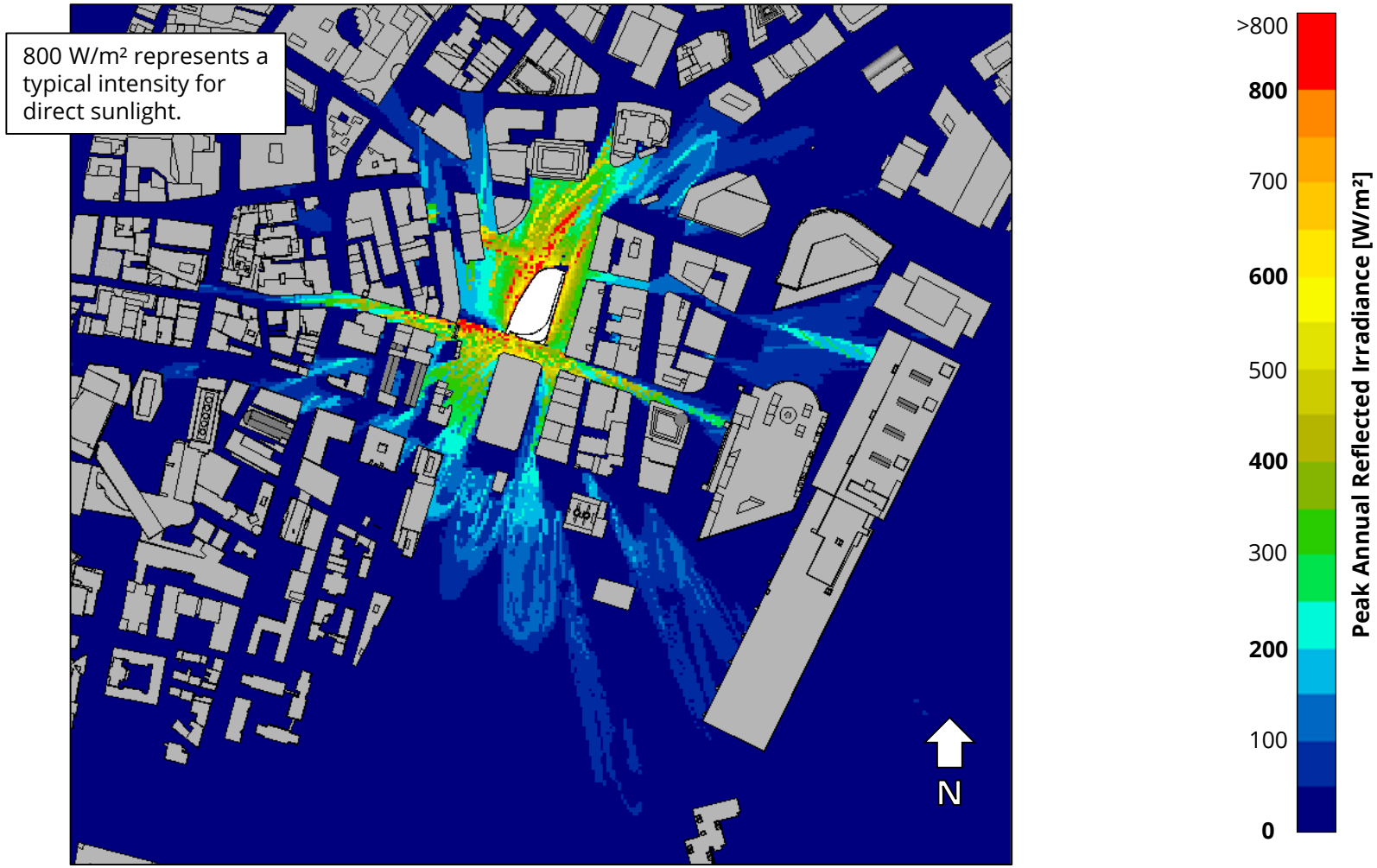


Figure 7b: Maximum Annual Intensity of Full Spectrum Reflections at Pedestrian Height

Percentage of Daylit Hours (Frequency) of Reflected Light - Visible Reflectance

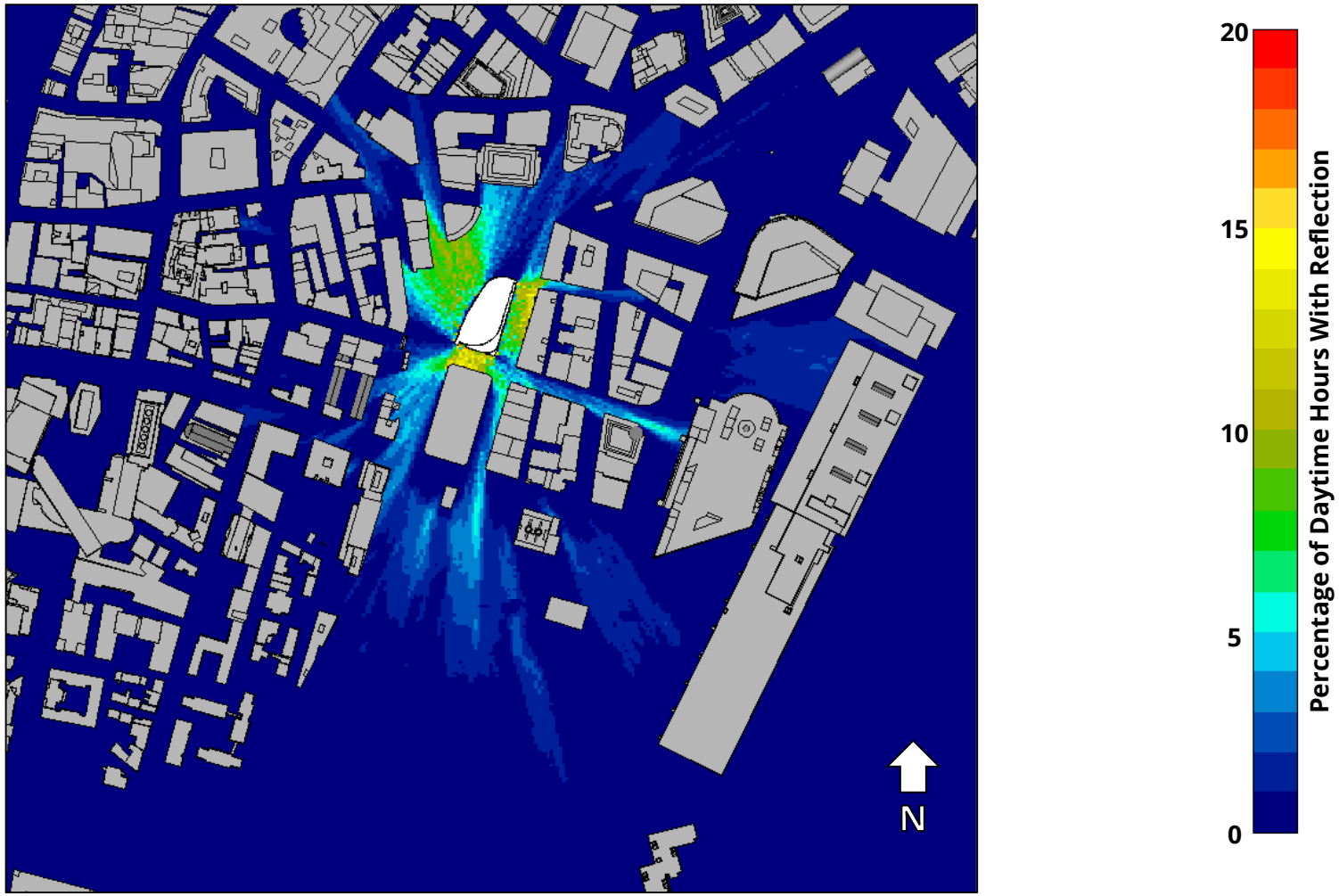


Figure 7c: Frequency (% of Daylit Hours) Where Significant Visible Reflections Can Occur

SCREENING ANALYSIS OBSERVATIONS

1. Like any contemporary building, the reflective surfaces of the proposed 125 Lincoln Street development are naturally causing solar reflections in the surrounding neighborhood.

2. The planar and convex nature of the facades of the proposed development prevents reflections emanating from the development from focusing (concentrating) in any particular area. Thus, RWDI does not anticipate any heat gain issues on people or property.

3. At pedestrian level, reflections are predicted to fall most frequently onto the area immediately east, south, and northwest of the development. The maximum frequency of glare occurrence found at pedestrian level is approximately 17% of daytime hours.

4. Reflections emanating from the northwest facade of the development as well as reflections from the southwest facades impact most significantly on John F Fitzgerald Surface Road and Kingston Street, respectively, and may affect motorists travelling towards the development. Similarly some reflections may impact drivers at some locations on Lincoln Street to the south of development at various times of day and days of the year. The impact of these reflections will be analyzed in detail in the following sections.

5. The occupants of the buildings located in the vicinity of the development are expected to experience visible reflections from the development. That being said, they do not pose a risk to safety, and are likely a nuisance at worst, as the occupants can look away or close blinds.

6. The current basis-of-design lacks any building-mounted shading feature such as horizontal or vertical fins and the facade has been considered fully glazed. A proper fin arrangement on the facade of the development could significantly aid in reducing the frequency and intensity of many reflections, particularly reflections occurring at glancing angles which will be the most intense.

Presentation of Results

The frequency, duration, and intensity of glare events throughout the year is illustrated using "annual glare impact diagrams" (see Figure 8 below for the general layout of these plots). The color of the plot for a given combination of date and time indicates the relative impact of any glare sources found. The horizontal axis of the diagram indicates the date, and the vertical axis indicates the hour of the day.

We note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.

The following pages present the impact categories for three types of Annual Impact Diagrams: Visual Impact, Thermal Impact on People, and Thermal Impact on Property. More information on RWDI's criteria is available in Appendix B.

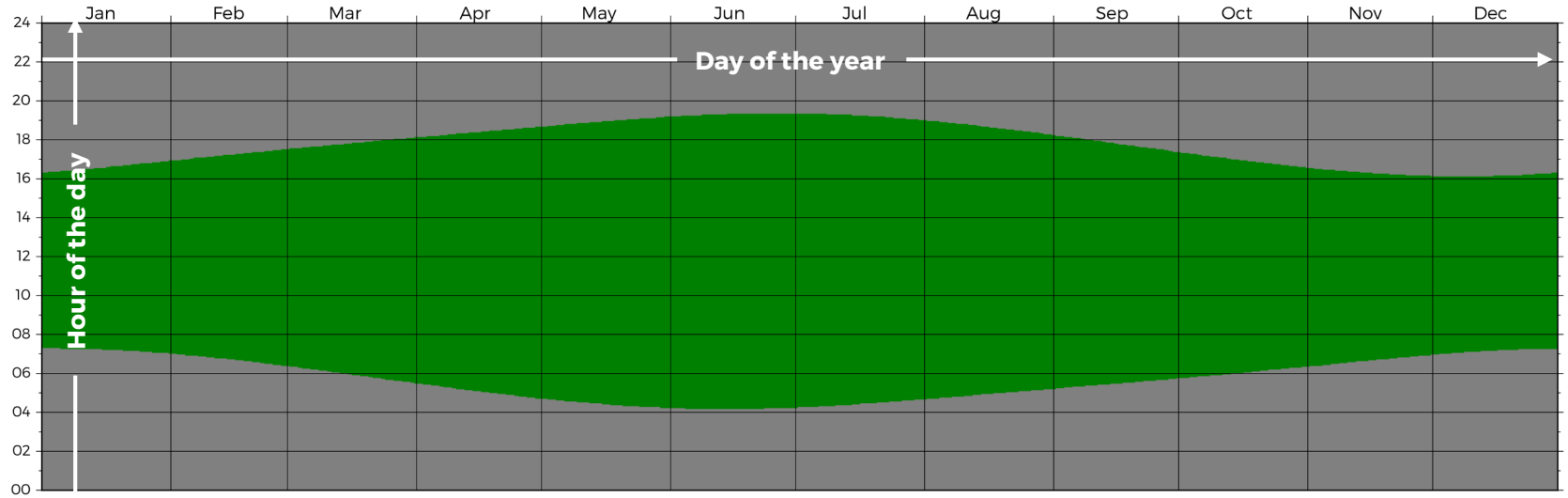


Figure 8: Layout of Annual Glare Impact Diagram

Visual Impact Categories

Low: Either no significant reflections occur or the reflections will have a minimal effect on a viewer, even when looking directly at the source.

Moderate: The reflections can cause some visual nuisance only to viewers looking directly at the source.

High: The reflections can reduce visual acuity for viewers operating vehicles or performing other high-risk tasks who are unable to look away from the source, posing a significant risk of distraction.

Damaging: The brightest glare source is bright enough to permanently damage the eye for a viewer looking directly at the source.

Hatched areas indicate times and dates when the sun would also be in a driver's field of view.

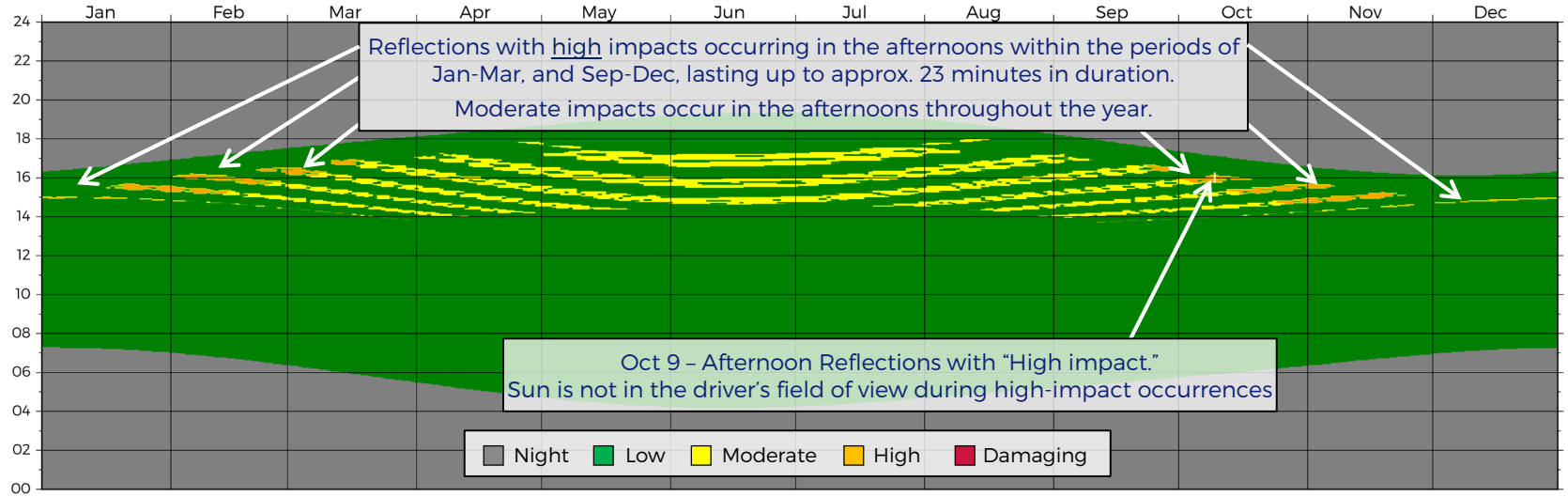


Figure 9: Example of Annual Visual Glare Impact Diagram – Receptor D3

Thermal Impact Categories for People

Low: Either no significant reflections occur or the reflection intensity is below the short-term exposure threshold of 1500 W/m².

Moderate: The reflection intensity is above the short-term exposure threshold of 1500 W/m² but below the safety threshold of 2500 W/m². Such reflections would quickly cause thermal discomfort in people.

High: The reflection intensity is above the safety threshold of 2500 W/m² but below 3500 W/m². This level of exposure to bare skin would lead to the onset of pain within 30 seconds.

Very High: Reflection intensity exceeds 3500 W/m². This level of exposure leads to second degree burns on bare skin within 1 minute.

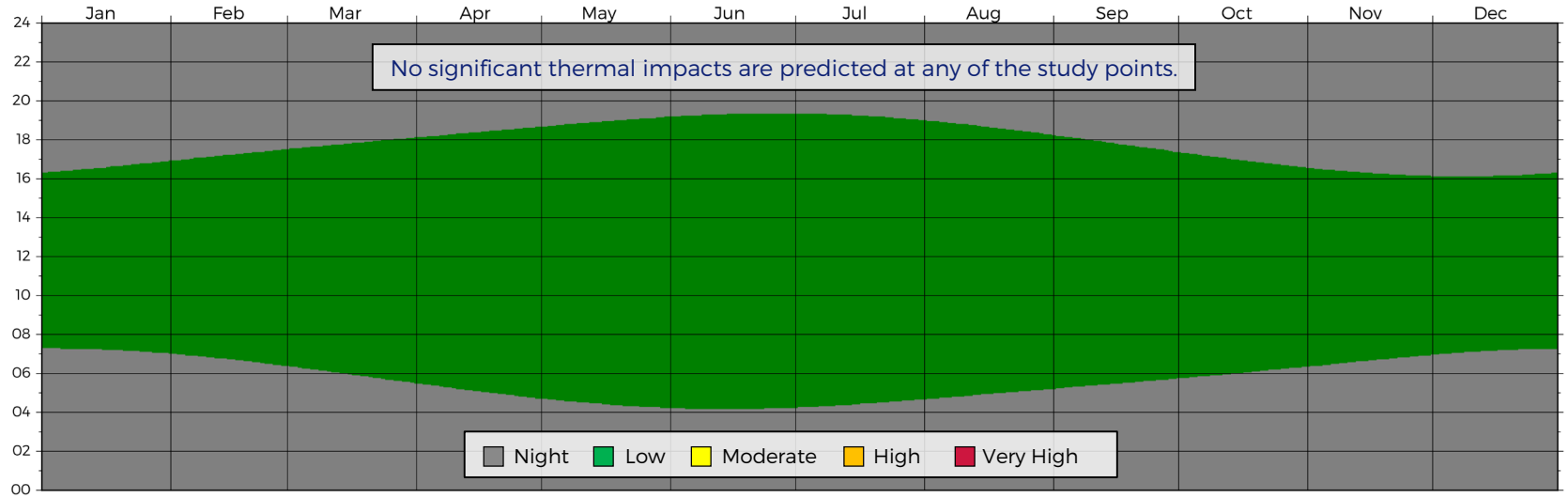


Figure 10: Example of Annual Pedestrian Thermal Impact Diagram – Receptor P15

Thermal Impact Categories for Property

A different scale is used to illustrate the reflected thermal energy on facades in order to provide further clarity on the potential for heat gain issues (Figure 11). The diagrams illustrate the irradiance levels of all predicted reflection events along with their frequency and duration.

The format of the diagram is similar to the diagrams described in the previous pages. The color of the plot for a given combination of date and time indicates the intensity of the reflected light at that point in time.

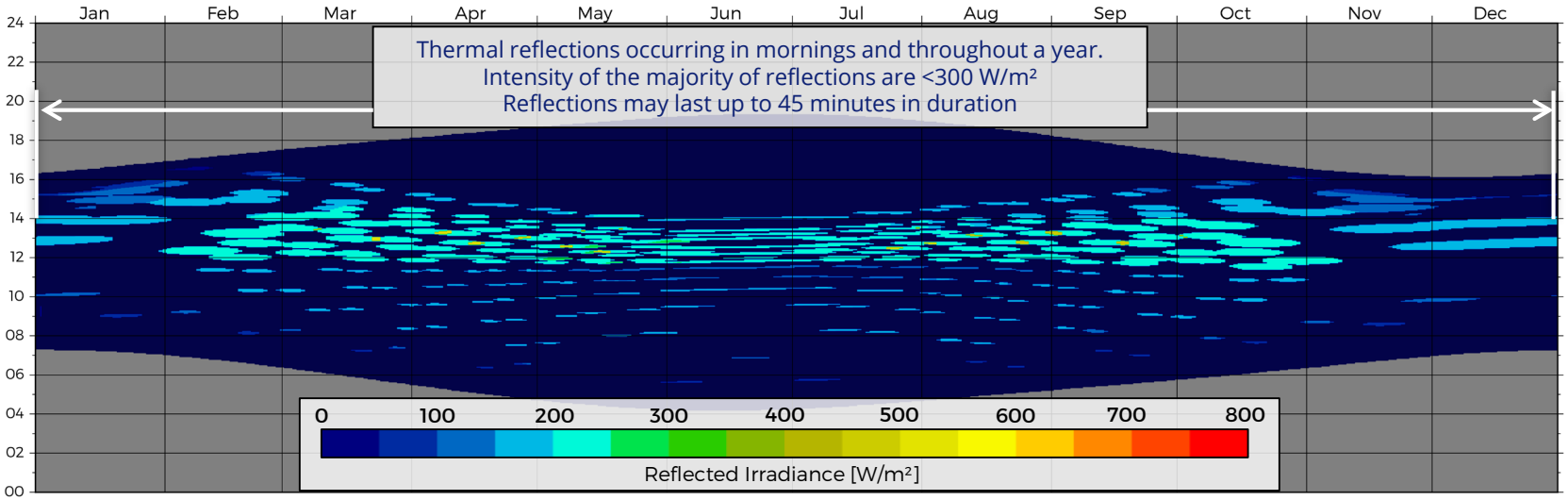


Figure 11: Example of Annual Property Thermal Impact Diagram – Receptor F15

DETAILED ANALYSIS OBSERVATIONS

Table 3 on the following page summarizes the level of overall visual and thermal impact predicted at the selected receptor locations. Visual and thermal impact diagrams for each of the receptor points are provided in Appendix A.

Figures 12-16 illustrates the sources of glare from the development on selected points at selected times. This is not an exhaustive list of all potential glare impacts, but rather serves to illustrate important results and observations.

DETAILED ANALYSIS OBSERVATIONS

Table 3: Summary of Overall Predicted Impacts on Receptors

Receptor Number	Receptor Type	Assumed Activity Risk Level	Assumed Ability to Self-Mitigate	Peak Reflected Light Visual Impact	Sun in Field of View During High Impact Reflection (Y/N)	Duration / Number of Days with High Impact Reflection	Peak Reflected Solar Thermal Impact on People	Peak Reflected Solar Thermal Impact on Facade
D1	Driver	High	Low	***High****	***Yes***	Longest Duration: **4 minutes** Average Duration: **3 minutes** No. of days: **49**	***Low***	N/A
D2	Driver	High	Low	***Moderate***	N/A	N/A	***Low***	N/A
D3	Driver	High	Low	***High***	***No***	Longest Duration: **23 minutes** Average Duration: **7 minutes** No. of days: **171**	***Low***	N/A
D4	Driver	High	Low	***Low***	N/A	N/A	***Low***	N/A
D5	Driver	High	Low	***High****	***No***	Longest Duration: **6 minutes** Average Duration: **4 minutes** No. of days: **77**	***Low***	N/A
D6	Driver	High	Low	***High****	***No***	Longest Duration: **6 minutes** Average Duration: **4 minutes** No. of days: **37**	***Low***	N/A
D7	Driver	High	Low	***Moderate***	N/A	N/A	***Low***	N/A
D8	Driver	High	Low	***High***	***Yes*****	Longest Duration: **12 minutes** Average Duration: **5 minutes** No. of days: **71**	***Low***	N/A
D9	Driver	High	Low	***Moderate***	N/A	N/A	***Low***	N/A
P10-P12	Pedestrian	Low	High	***Moderate***	N/A	N/A	***Low***	N/A
F13-F16	Facade	Low	High	***Moderate***	N/A	N/A	N/A	***Low***

* The high impact reflections are infrequent and short in duration.

** Sun is in the field of view for the majority impacts, but not entirely

OVERALL OBSERVATIONS & CONCLUSIONS

Thermal Impacts on Pedestrians, Drivers, and Facades

1. The planar and convex facades of the proposed development ensure that reflected sunlight will not focus (multiply) in any particular area. Therefore, RWDI does not expect any significant thermal impacts (i.e. risks to human safety or property damage) to occur either on the site of the development or in the surrounding neighborhood.

Visual Glare Impact on Drivers

2. As with the addition of any glazed building, drivers travelling in the vicinity of the buildings are expected to experience an increased level of visual glare impact. Some reflections with a high visual impact potential were noted. Some of these impacts are expected to alter a driver's experience since the glare occurs at times when the sun would not ordinarily be within a driver's field-of-view. In particular, a driver's experience could be altered when:

   - travelling south along Kingston St (receptor D3) within January-March and September-December periods (see Figure 13)
   - travelling northeast along Lincoln St (receptors D5 and D6) during some mornings in a year (see Figures 14-15)

   The reflections on receptor D3 are predicted to occur 171 days per year at most, and last up to 23 minutes in duration and occur between 1:30 pm and 5:00 pm EST. That said Kingston Street does not seem to be a major street, and therefore is expected to experience a lower traffic volume. Also, once the drivers have travelled slightly further southeast and turn to the west, which eliminates the potential for high impacts.

   The impacts on driver receptors D5 and D6 are infrequent and short in duration, and they all finish before 9:00 am EST. Completely eliminating the impacts on the receptors D3, D5, and D6 would require significant alterations to the facade

3. Some of the reflection impacts are not expected to alter a driver's current experience as the sun will already be in the driver's line of sight. These events occur to drivers:

   - travelling southwest along John F Fitzgerald Surface Road (receptor D1) during some afternoons in January, February, November, and December (refer to Figure 12).
   - travelling northwest along Beach St during some afternoons from March to October (see Figure 16)

   These impacts are brief and infrequent.

4. For the remainder of the driver receptors (driver receptors D2, and D9), visual glare impacts are moderate at worst, hence they are not expected to pose a safety concern to drivers. For further details refer to the visual impact diagram for driver receptors D1-D9 illustrated in Appendix A.

OVERALL OBSERVATIONS & CONCLUSIONS

Visual Glare and thermal Impact on Pedestrians and Facades

5. Moderate levels of visual impact are predicted to fall on the pedestrian and facade receptors in the surrounding neighborhood (receptors P10-P12, and F13-F16). Some of these reflections are frequent and relatively long in duration. The maximum frequency of glare occurrence found at pedestrian level and at the surrounding building is approximately 17% of daytime hours. That said, these types of reflections would occur for any glazed surface and represent at worst a visual nuisance, as viewers can safely look away or close blinds.

6. The majority of reflected solar energy at those areas are of a low intensity (<300 W/m^2). Hence, the potential for thermal impacts is expected to be low. That said, some of the reflections falling onto the surrounding facades will occur at times when they are exposed to the sun. This may increase the heat gains inside those buildings.

7. We also note that this study investigated a worst case condition where the entire facade of the basis-of-design massing was glazed. We would expect the frequencies and durations predicted here to decrease once detailed facade materiality and form was included. In particular, vertical mullion fins could significantly reduce the frequency and intensity of many reflections predicted in this study.

Glare Source Diagram for Selected Impacts on Driver Receptor D1

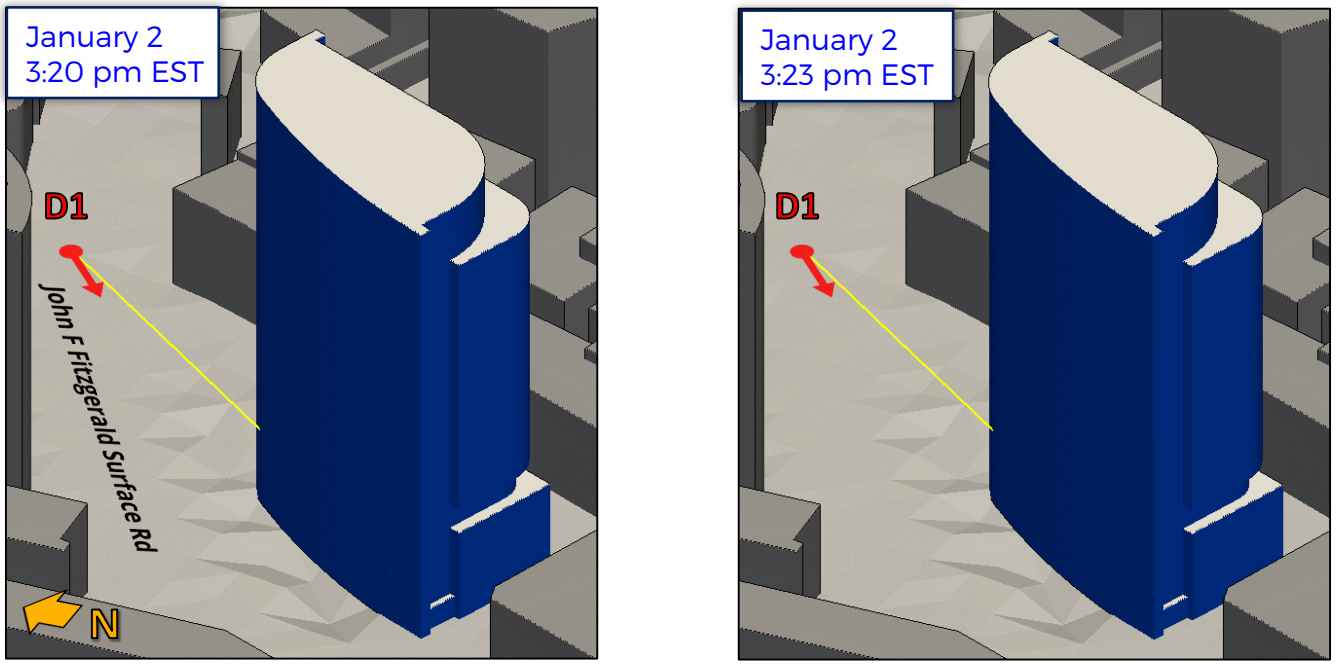


Figure 12: Illustration of High Impact Reflections on Receptor D1 During the Afternoon of January 2.

OVERALL OBSERVATIONS & CONCLUSIONS

Glare Source Diagram for Selected Impacts on Driver Receptor D3

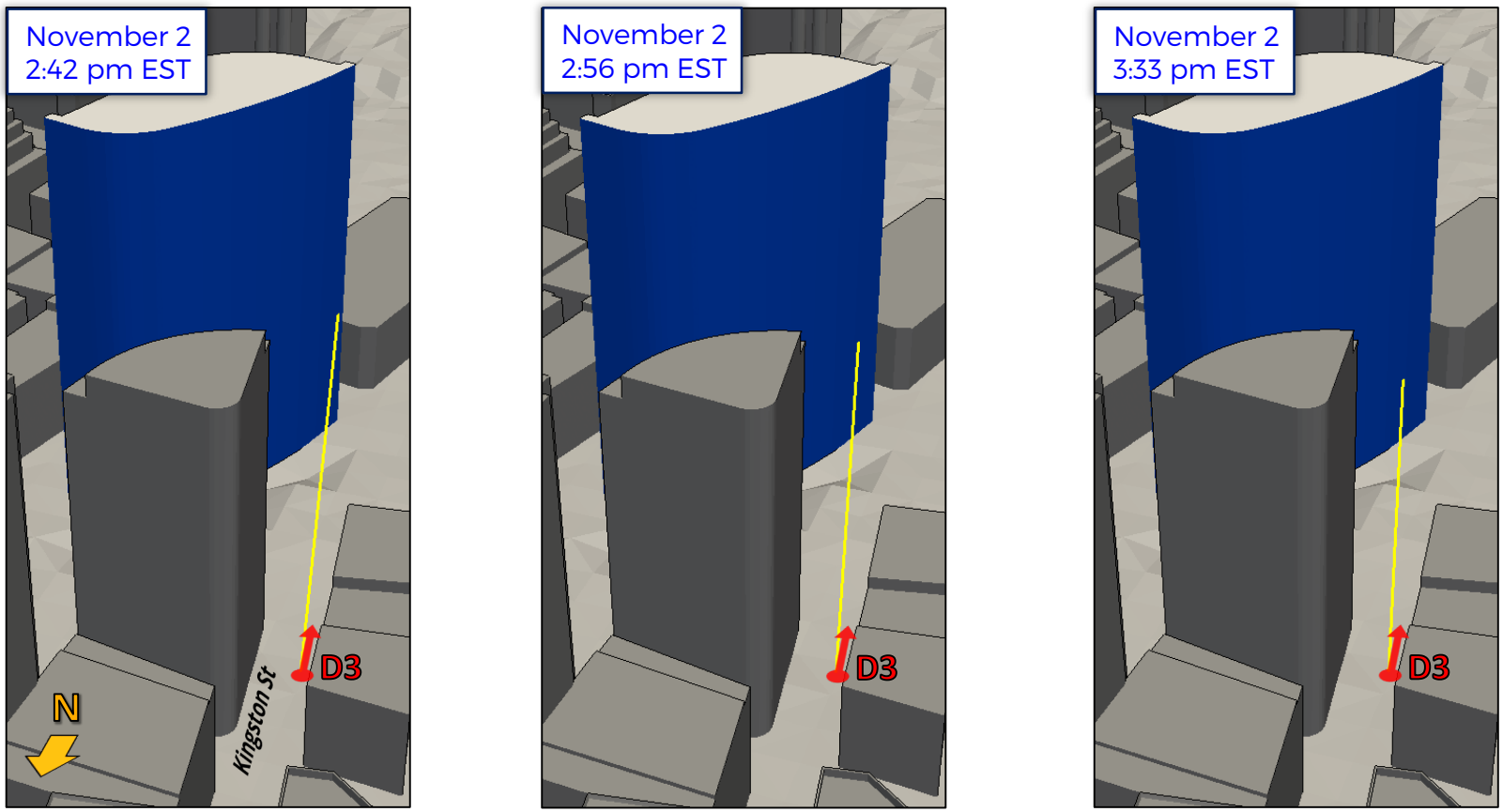


Figure 13: Illustration of High Impact Reflections on Receptor D3 During the Afternoon of November 2.

Glare Source Diagram for Selected Impacts on Driver Receptor D5

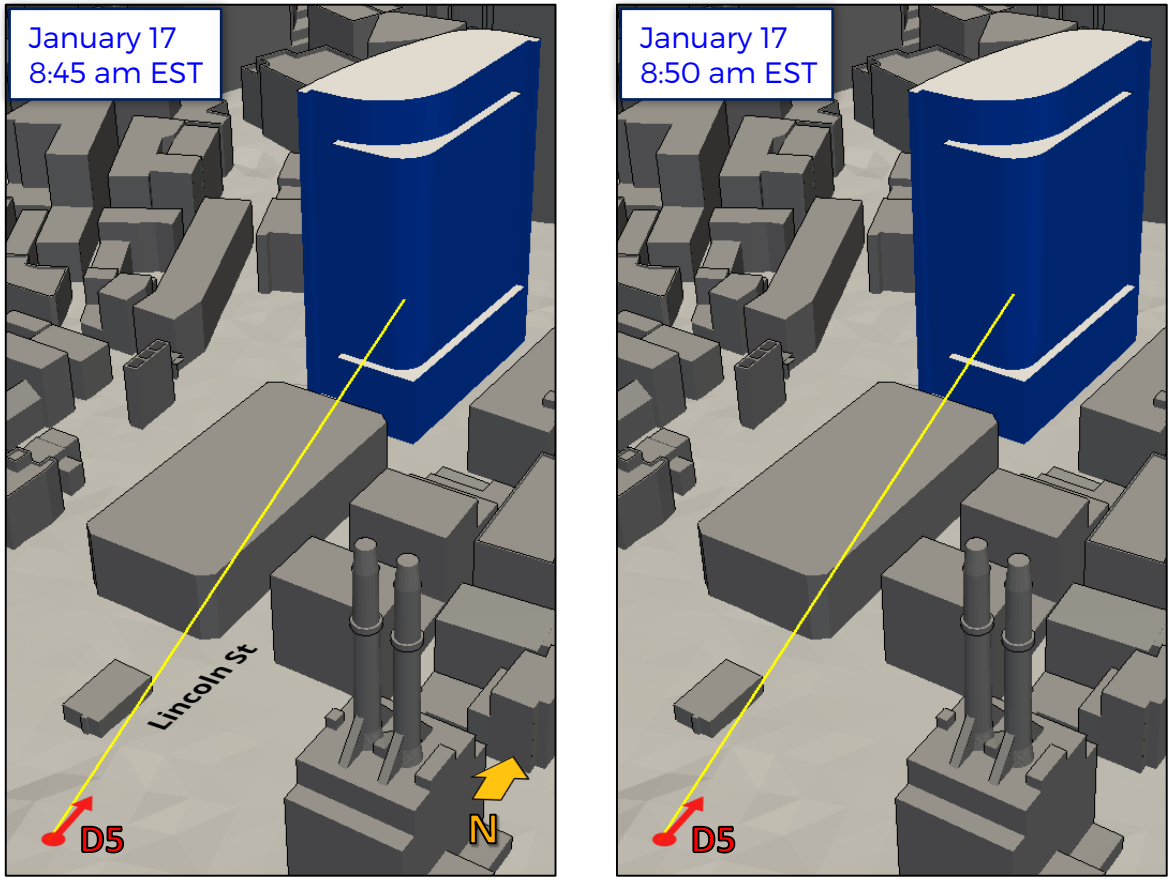


Figure 14: Illustration of High Impact Reflections on Receptor D5 During the Morning of January 17.

Glare Source Diagram for Selected Impacts on Driver Receptor D6

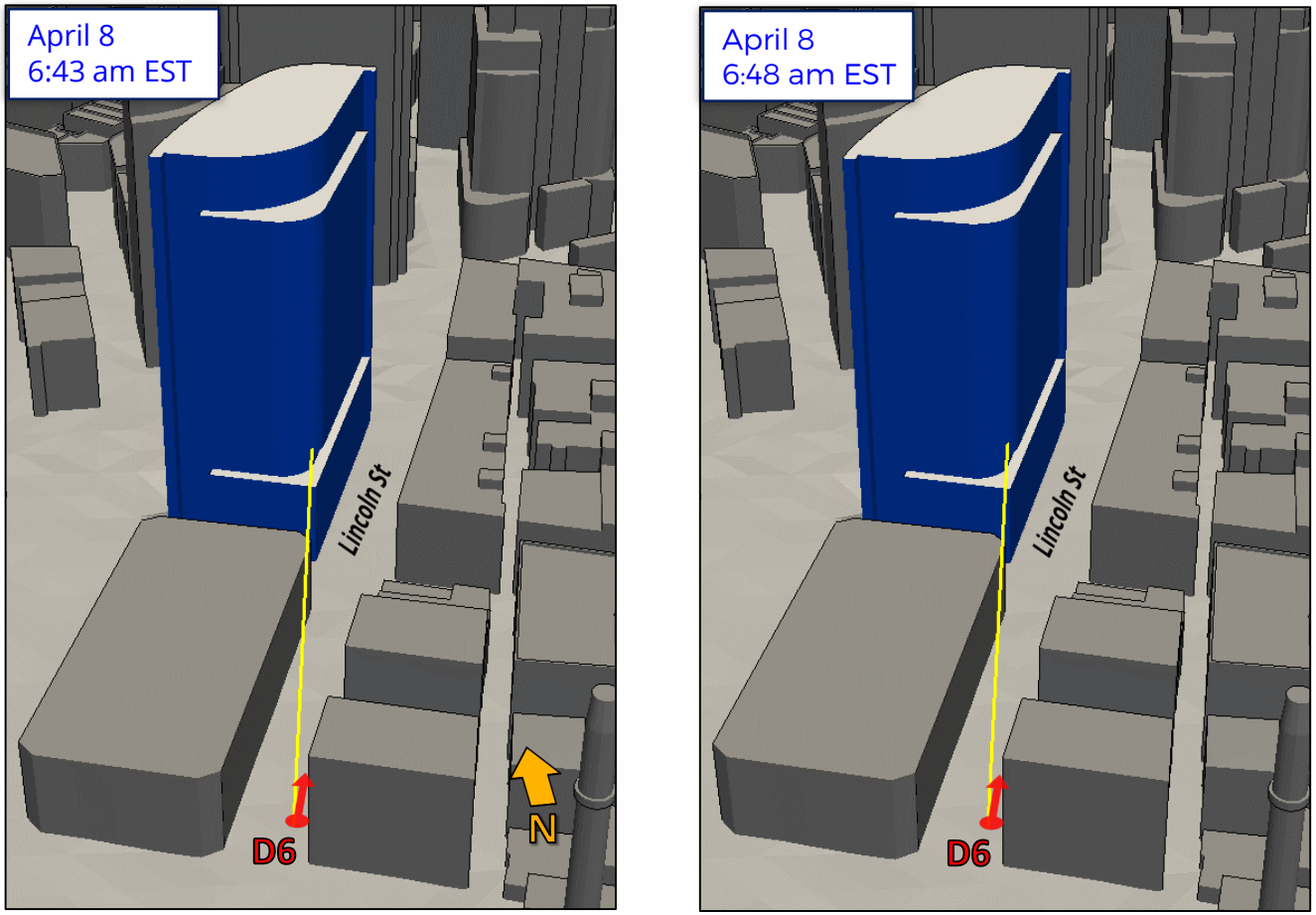


Figure 15: Illustration of High Impact Reflections on Receptor D6 During the Morning of April 8.

OVERALL OBSERVATIONS & CONCLUSIONS

Glare Source Diagram for Selected Impacts on Driver Receptor D8

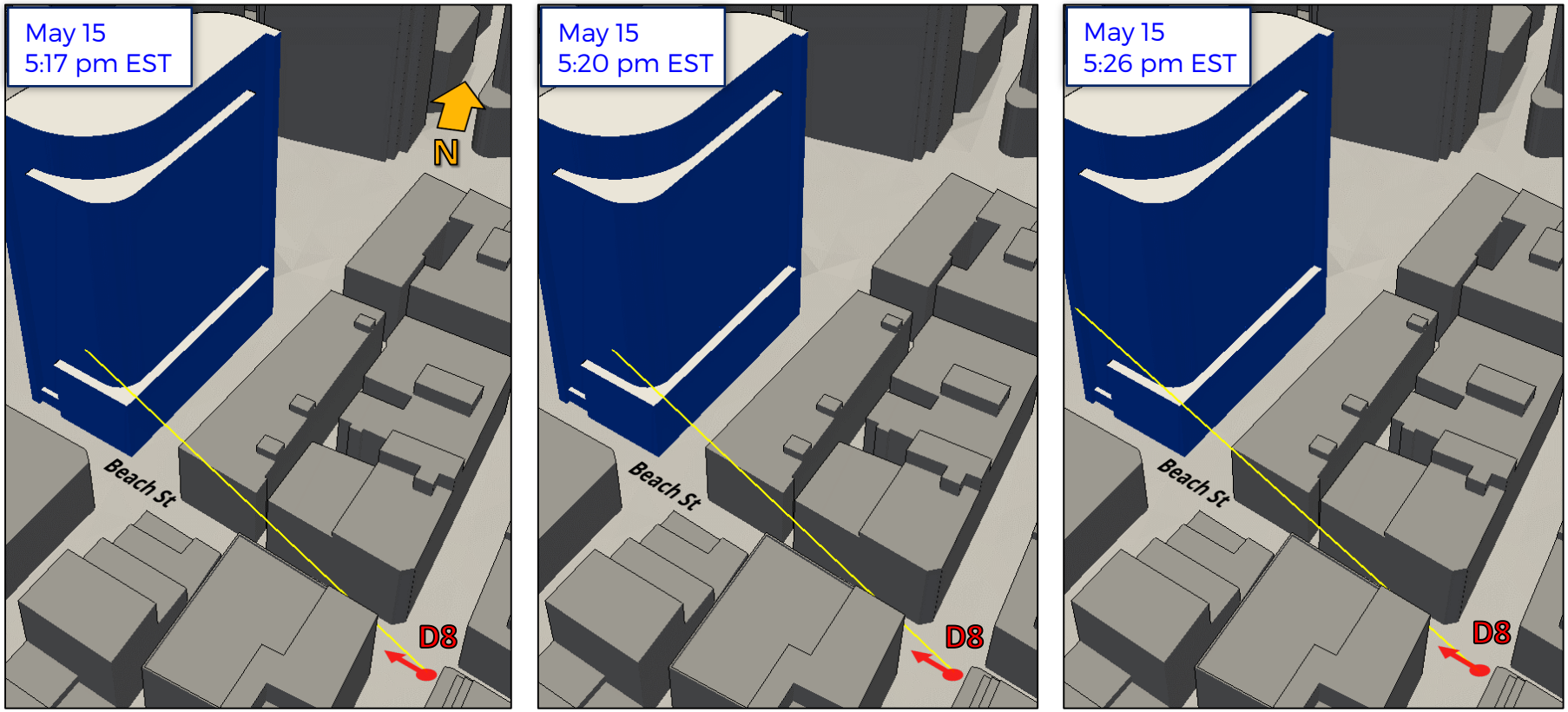


Figure 16: Illustration of High Impact Reflections on Receptor D8 During the Afternoon of May 15.

MITIGATION SUGGESTIONS

Overall, it is RWDI's opinion that the reflections emanating from the proposed 125 Lincoln Street development onto the surrounding neighborhood are comparable to reflections elsewhere in the city. If however, there are concerns about the predicted reflection impacts, RWDI offers the following suggestions for further consideration (refer to Figures 17 and 18 on the following two pages for a mark-up of these recommendations):

1. **Building Mounted Shading Devices:** Breaking up the reflections emanating from the northwest facades of the development (areas highlighted in white in Figure 17) which impact driver receptor D1 could be accomplished by constructing physical blockages. In particular, employing vertical fins approximately 6-8 inches deep with a spacing of 7 feet would aid in intercepting high-impact reflections falling onto this receptor during afternoon. Similar adjustment on the south and southwest facades (areas colored in yellow in Figure 17) would also aid in reducing the frequency of glancing reflections falling onto driver receptor D8.

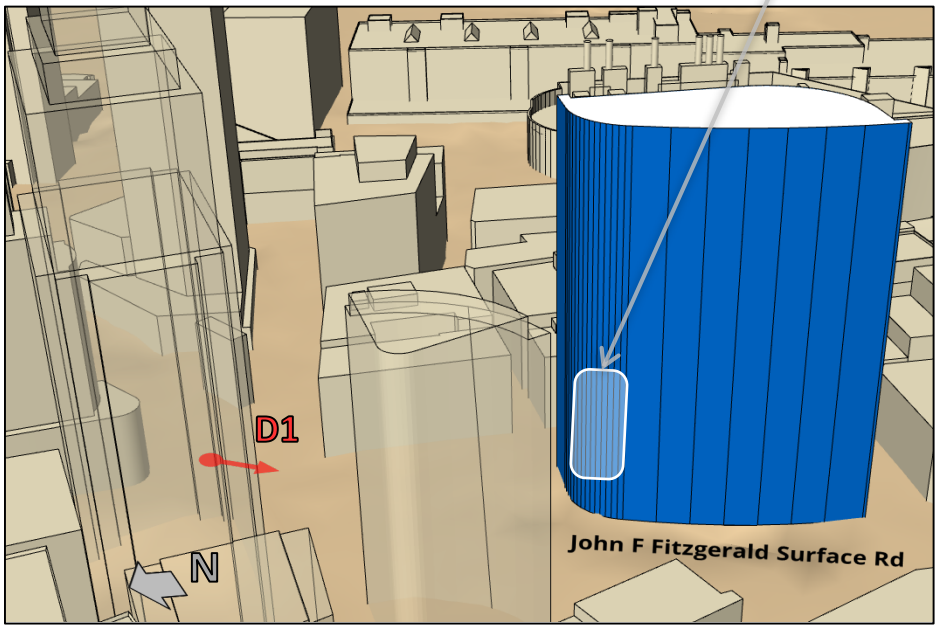
   It should be noted that building mounted shading devices need careful design to ensure that they do not lead to potential problems with wind induced noise or vibration, snow and ice build up, etc. Thus, if mitigation via facade mounted shading structures is desired, RWDI would recommend re-running the simulations with the proposed shading devices included to predict their effectiveness.

2. **Glazing Surface Modification:** Modifying the exterior surface of a section of the southwest facade highlighted in red in Figure 18 to diffuse reflected light rather than reflecting like a mirror (i.e. by "frosting" or roughening the exterior surface) could also help in reducing the frequency of reflections falling to the driver receptor D3. This could also be achieved through adding fritting or tinting to the glazing.

   A similar mitigation strategy on the curved section of the southeast facade (areas colored in white in Figure 18) would reduce the frequency and duration of high impacts on the drivers receptors D5 and D6 on Lincoln Street.

MITIGATION SUGGESTIONS

Employing vertical mullion fins on these facades can act to reduce the frequency and duration of the high impacts which occur at points D1 and D8. The required depth of the fins would be proportional to how far apart they are spaced. Assuming a window spacing of 7 ft, the fins need to be at least 6-8 inches deep to start having a noticeable effect.



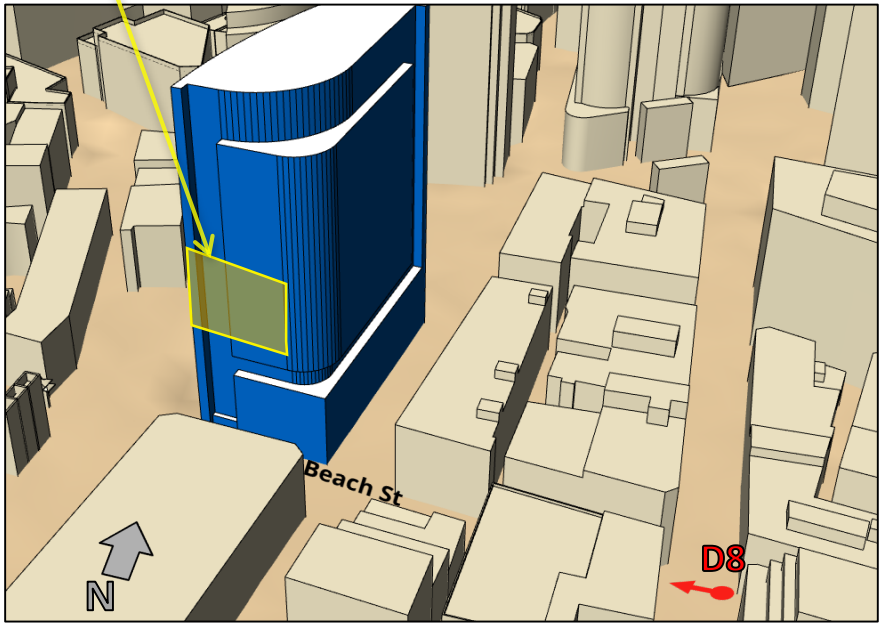
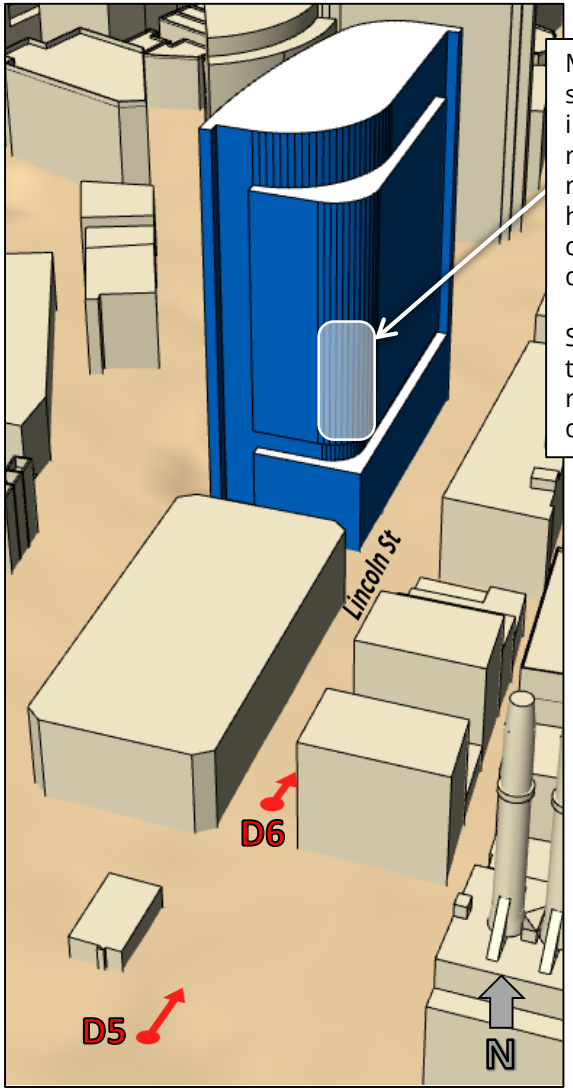


Figure 17: Markup of Facade Locations Where Building-mounted Shading Devices Would be an Appropriate Approach

MITIGATION SUGGESTIONS



Modifying the exterior surface of the southeast curved facade (area colored in white) to diffuse light rather than reflect directly (i.e. by "frosting" or roughening the exterior surface) could help in reducing the frequency and duration of reflections falling onto the drivers D5 and D6.

Similar modifications to the surface of the southwest facade (area coloured in red) could reduce the impacts on driver D3.

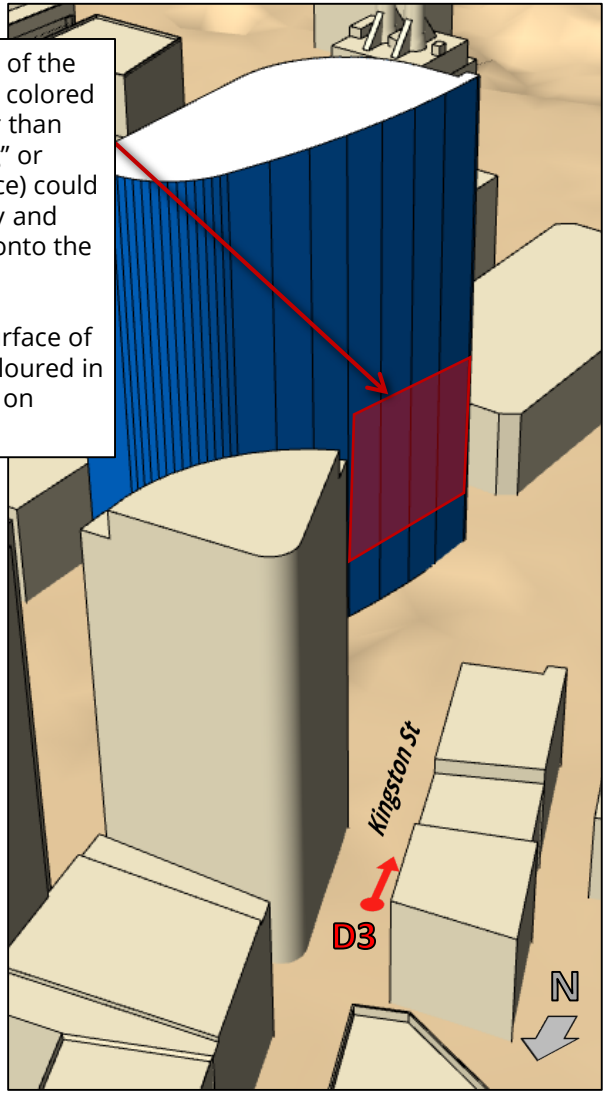


Figure 18: Markup of Facade Locations Where Exterior Surface Modification Would be an Appropriate Approach

APPENDIX A

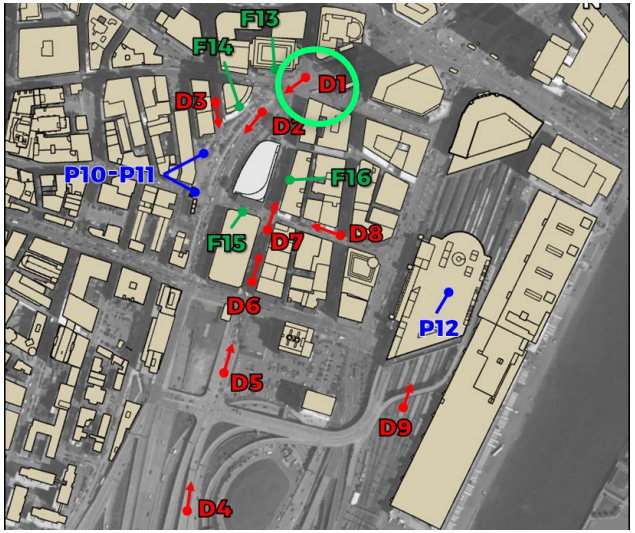
DETAILED REFLECTION RESULTS

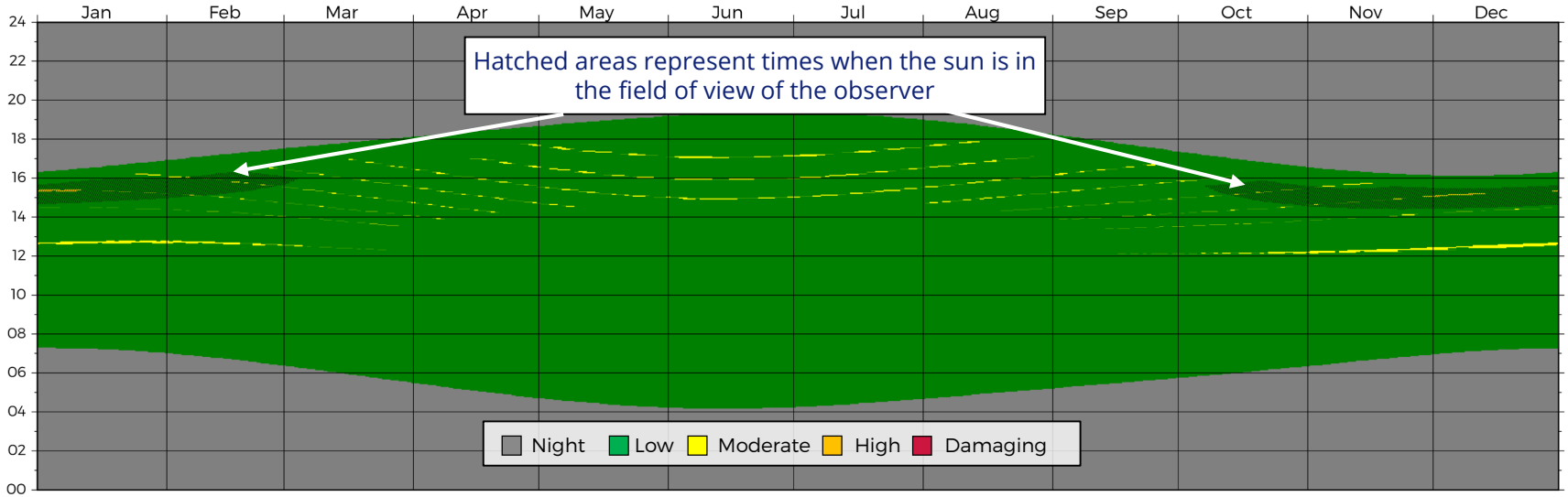
ANNUAL VISUAL IMPACT

Driver Receptor D1

Receptor D1 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling southwest along John F Fitzgerald Surface Rd.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



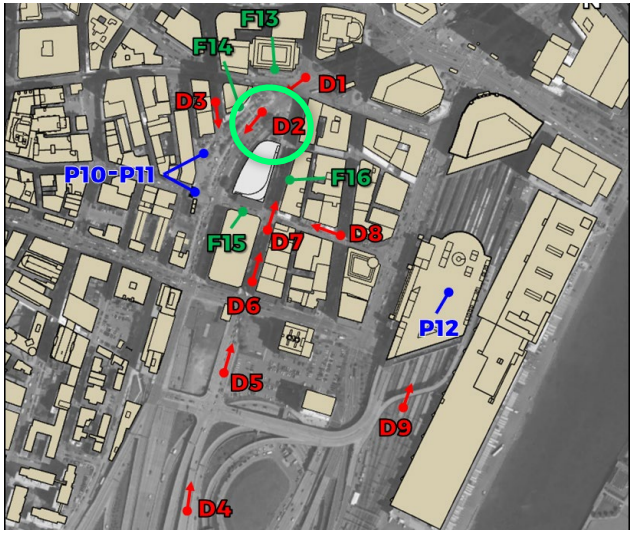


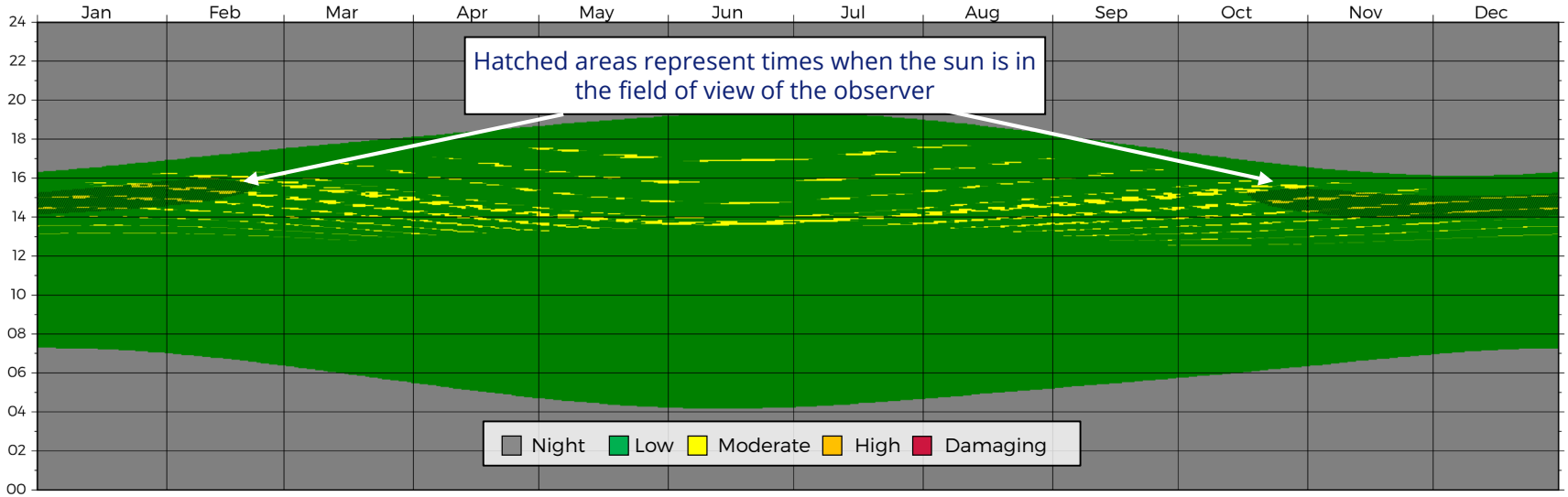
ANNUAL VISUAL IMPACT

Driver Receptor D2

Receptor D2 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling southwest along John F Fitzgerald Surface Rd.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



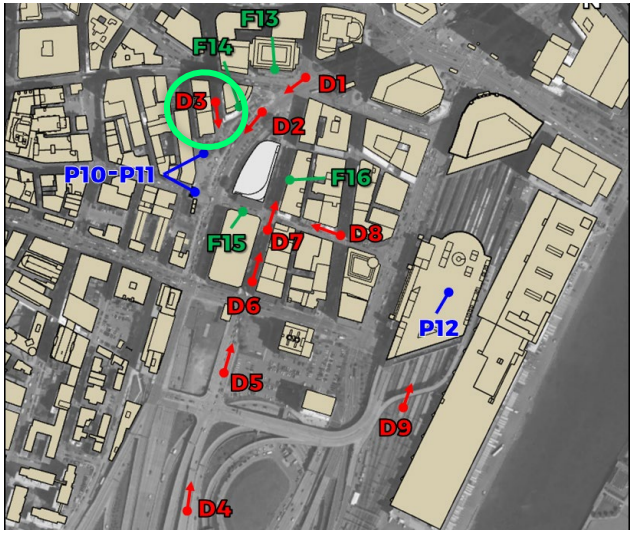


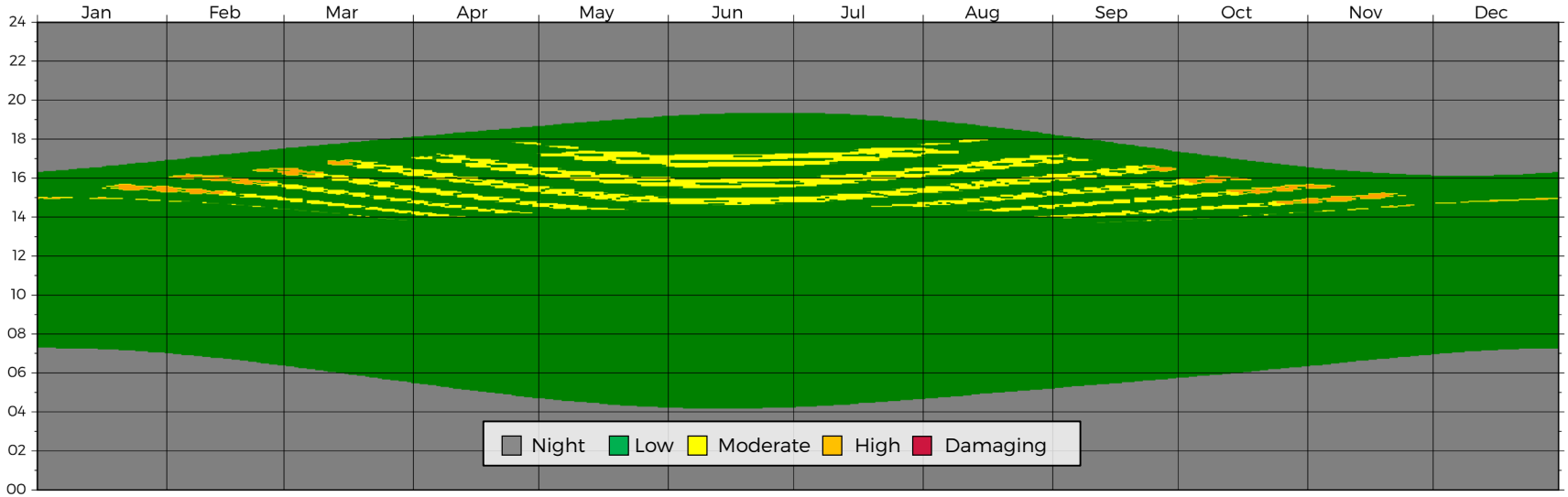
ANNUAL VISUAL IMPACT

Driver Receptor D3

Receptor D3 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling south along Kingston St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



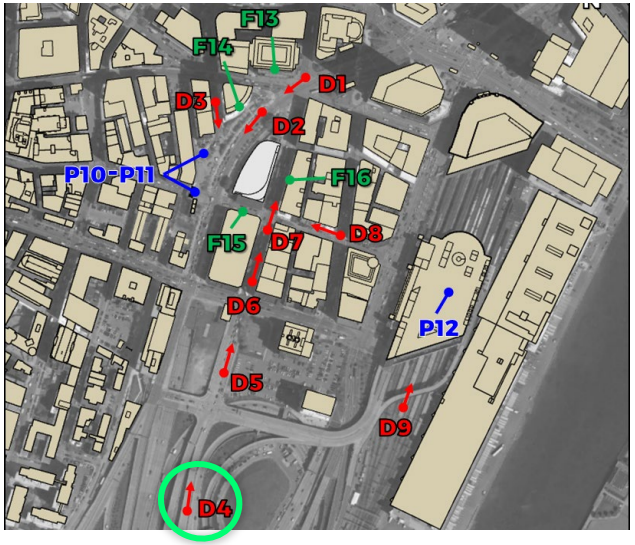


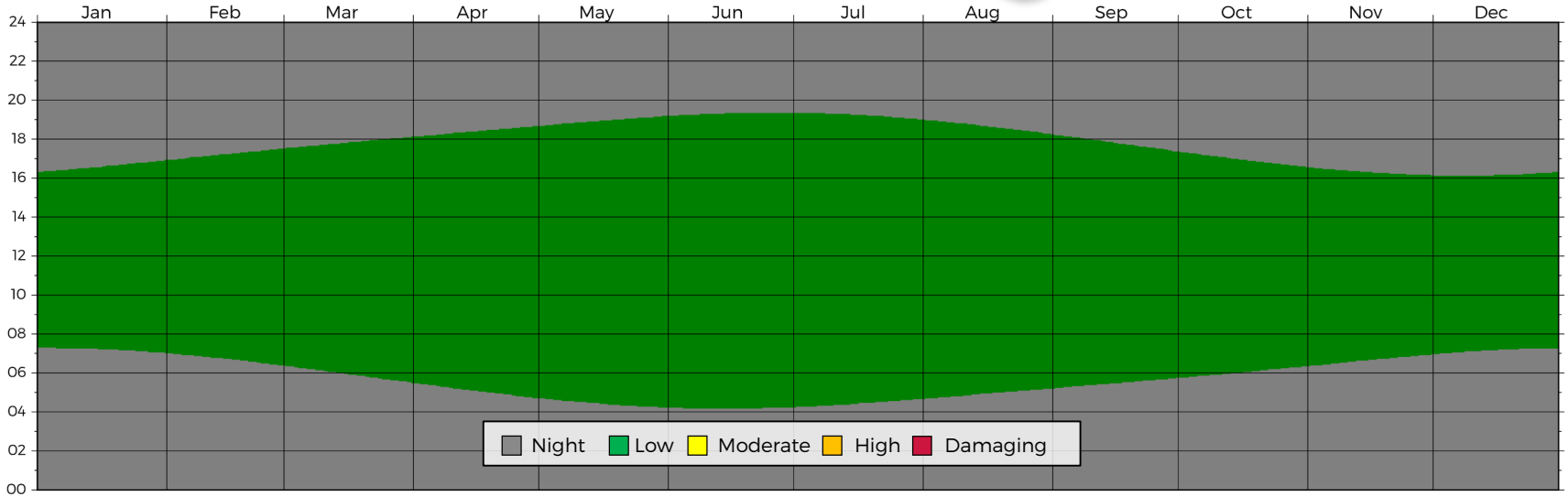
ANNUAL VISUAL IMPACT

Driver Receptor D4

Receptor D4 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling northeast along Lincoln St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



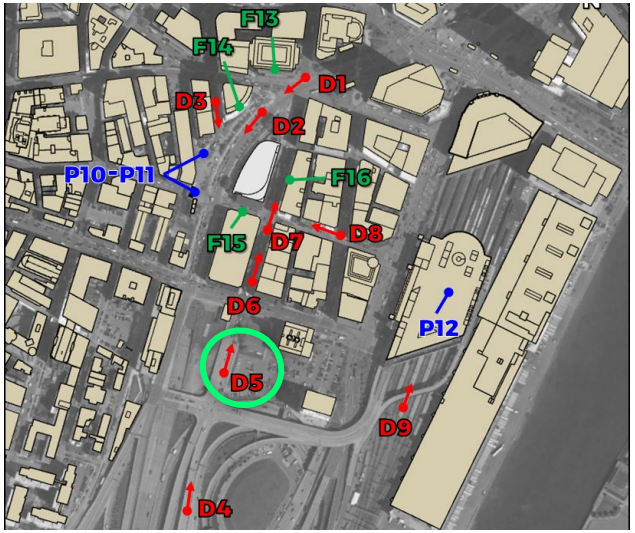


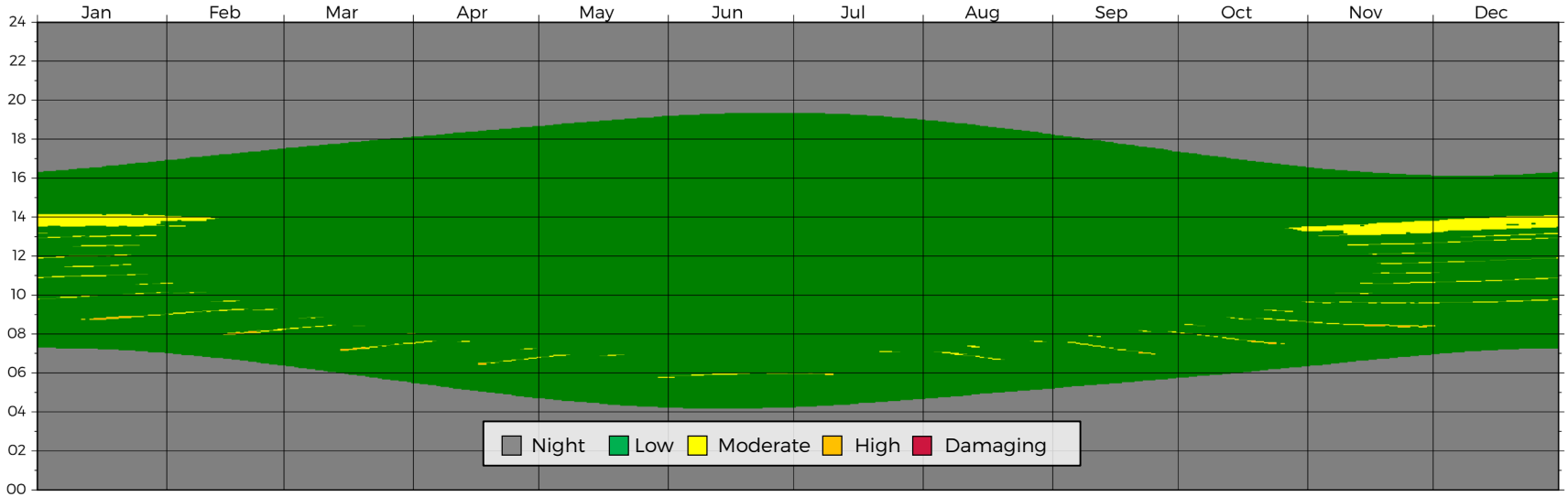
ANNUAL VISUAL IMPACT

Driver Receptor D5

Receptor D5 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling northeast along Lincoln St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



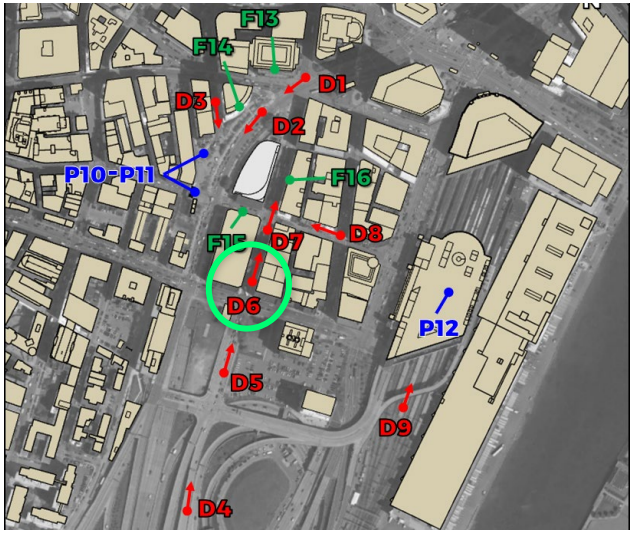


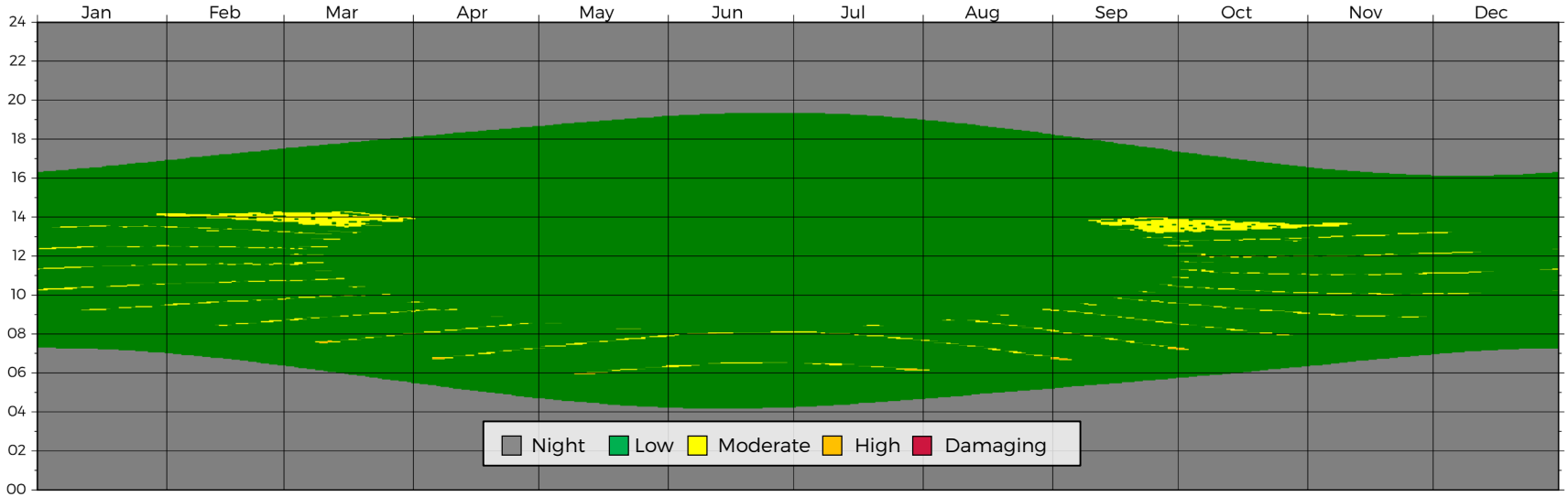
ANNUAL VISUAL IMPACT

Driver Receptor D6

Receptor D6 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling northeast along Lincoln St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



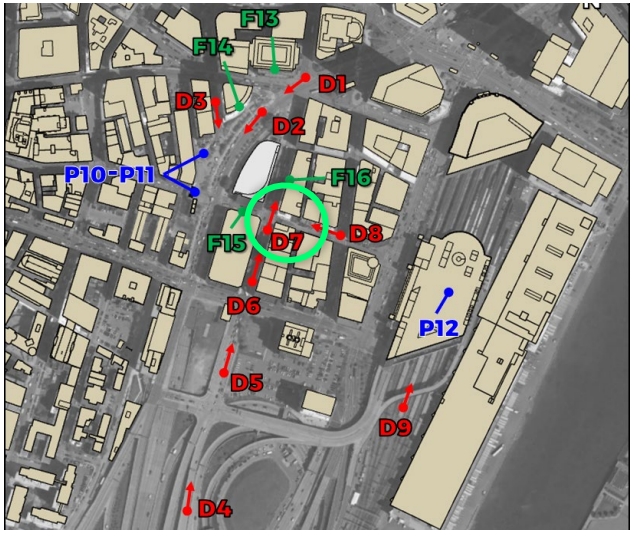


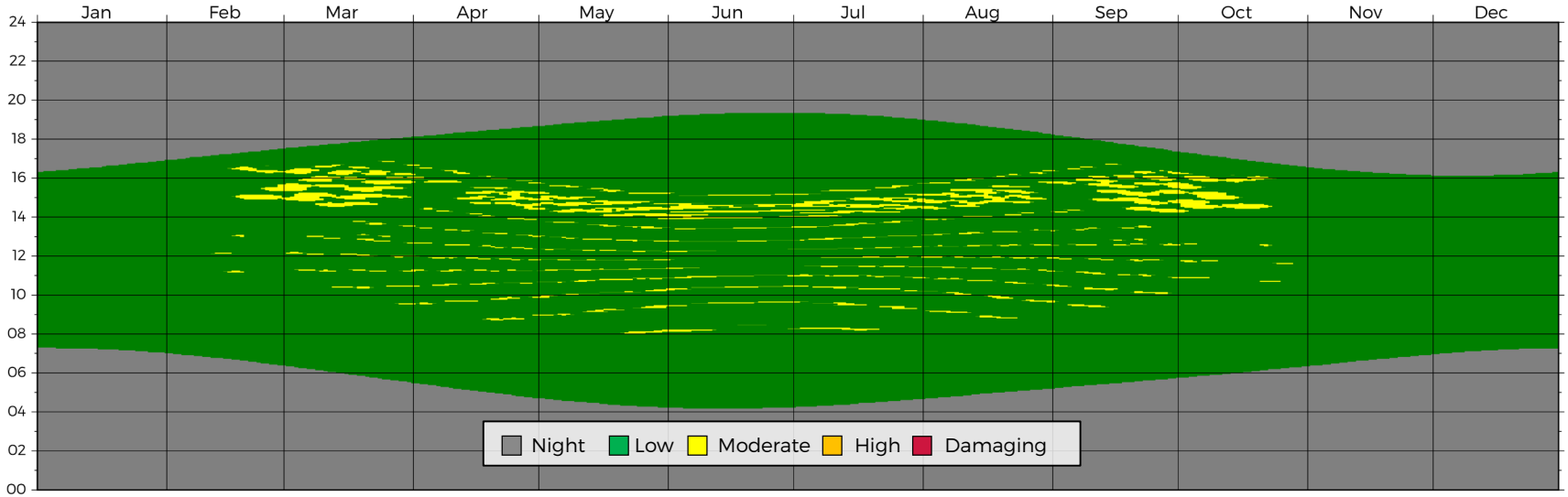
ANNUAL VISUAL IMPACT

Driver Receptor D7

Receptor D7 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling northeast along Lincoln St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



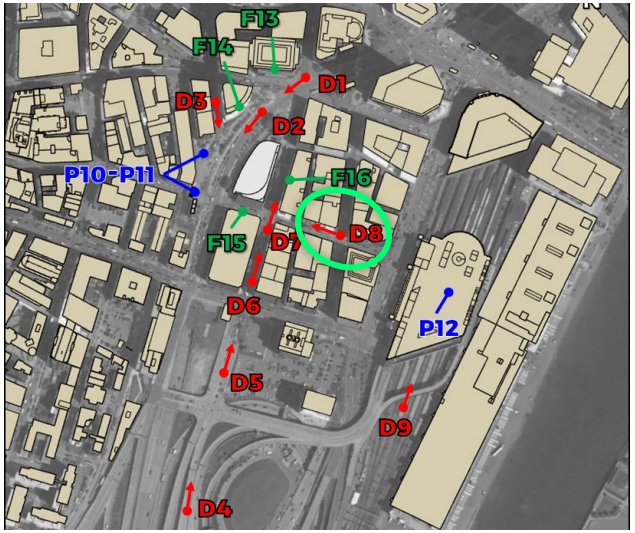


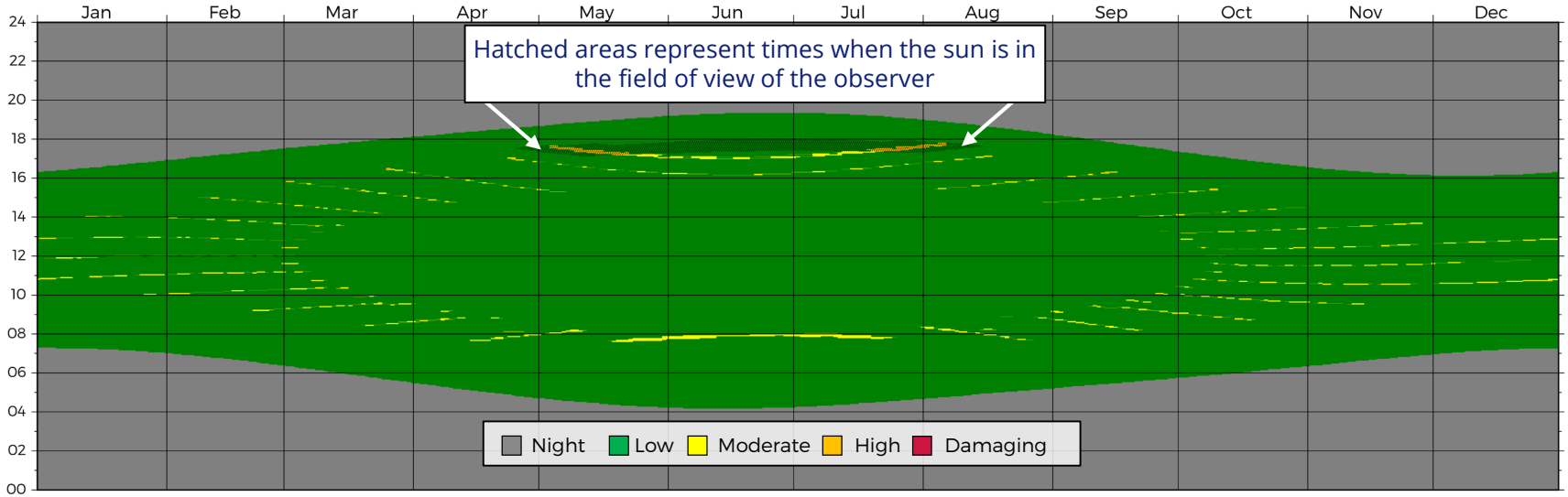
ANNUAL VISUAL IMPACT

Driver Receptor D8

Receptor D8 was chosen to assess the visual risk associated with solar reflections affecting drivers travelling northwest along Beach St.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



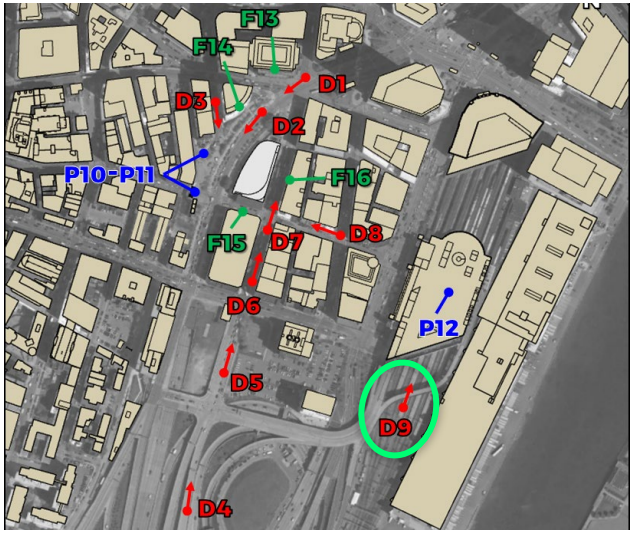


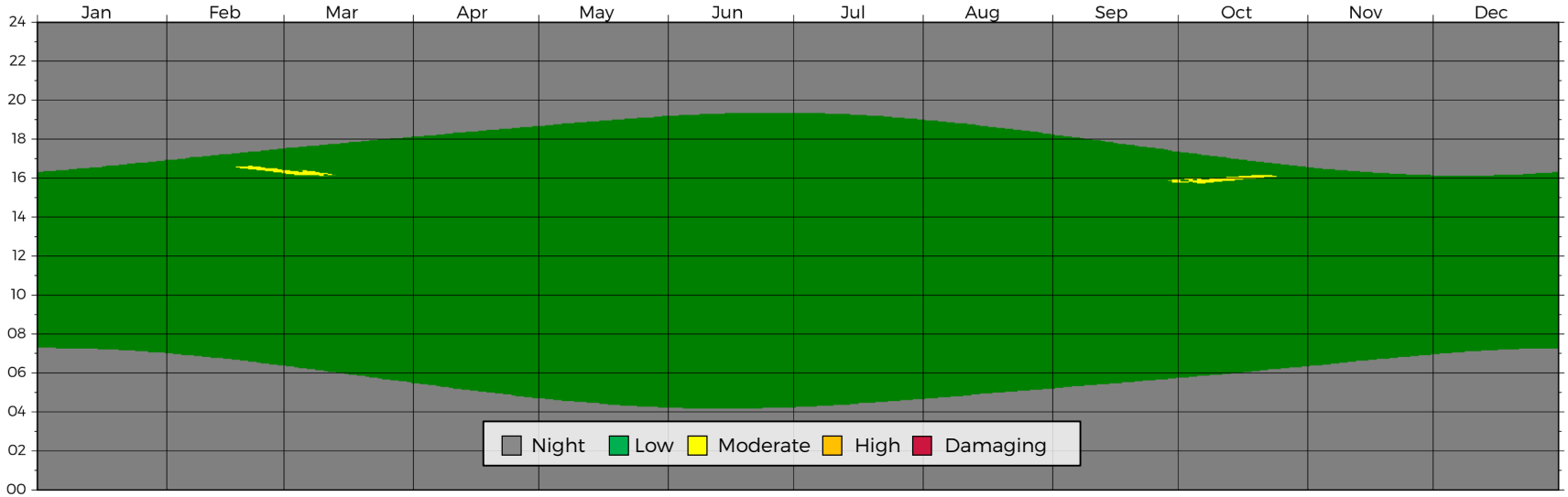
ANNUAL VISUAL IMPACT

Driver Receptor D9

Receptor D9 was chosen to assess the visual risk associated with solar reflections affecting train drivers travelling northeast towards the South Station.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



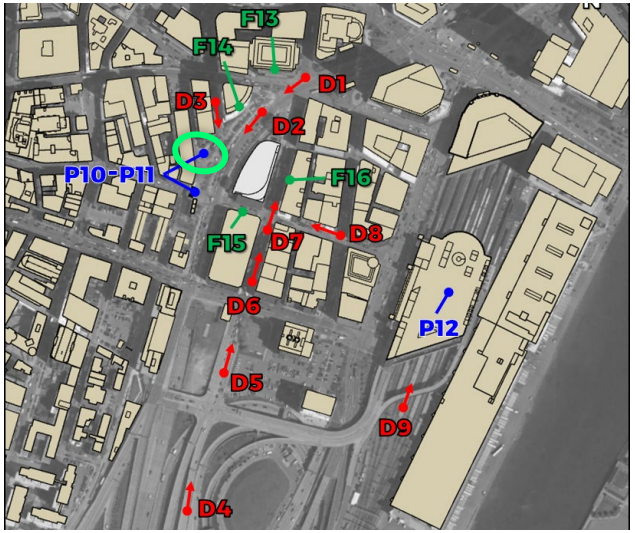


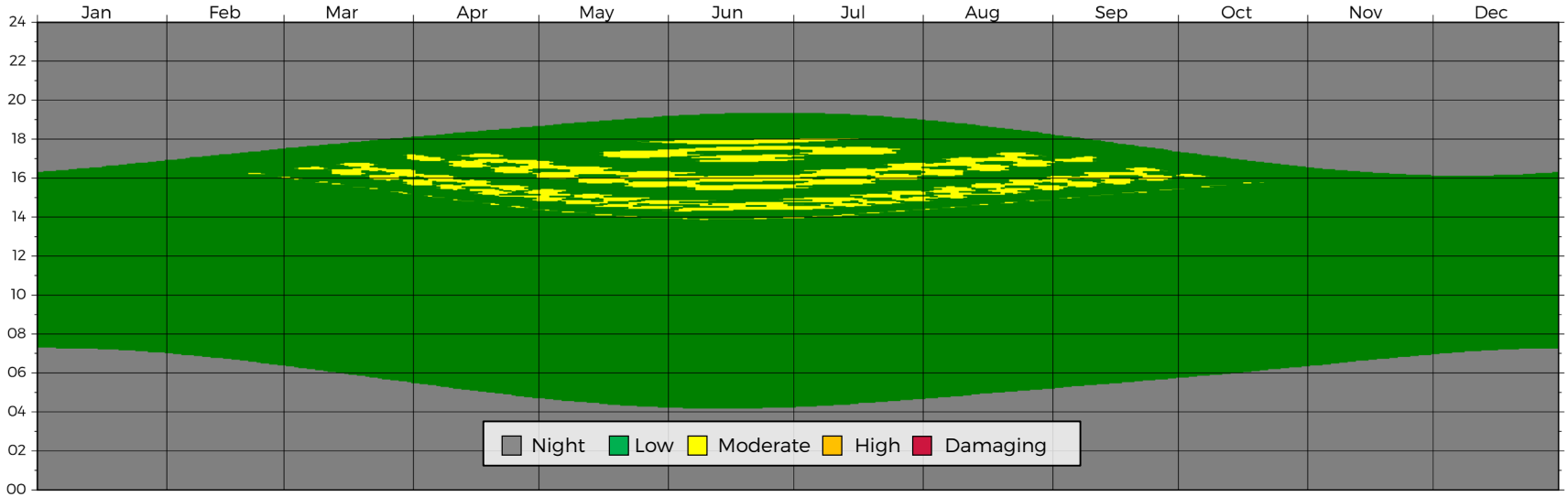
ANNUAL VISUAL IMPACT

Pedestrian Receptor P10

Receptor P10 was chosen to assess the visual risk associated with solar reflections affecting pedestrians in the vicinity of Chinatown Gate.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



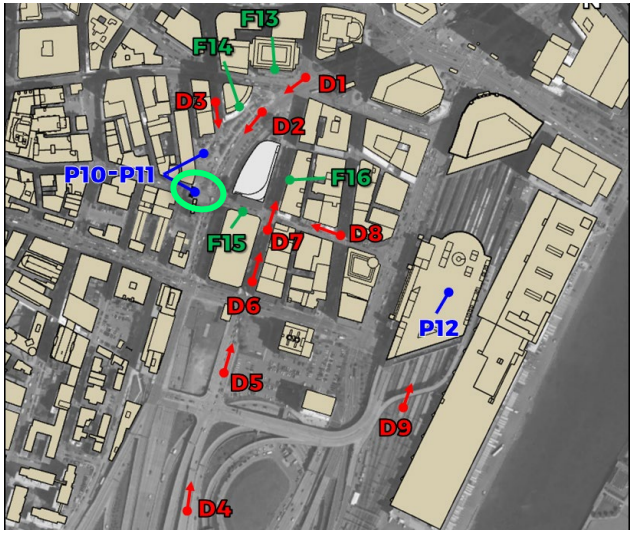


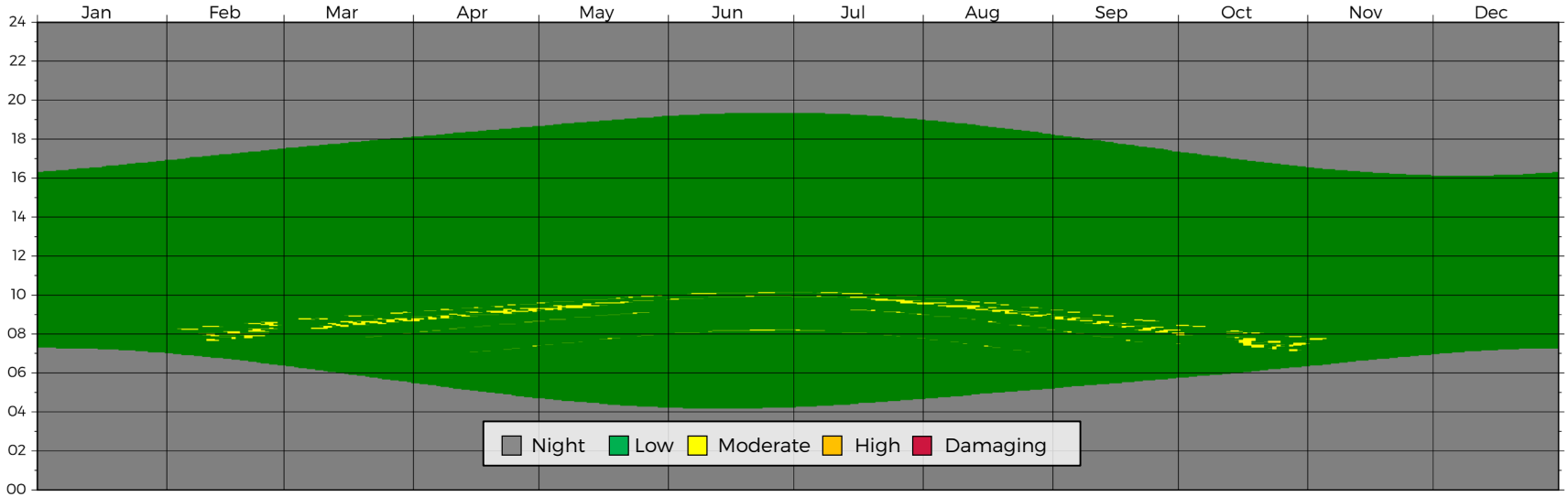
ANNUAL VISUAL IMPACT

Pedestrian Receptor P11

Receptor P11 was chosen to assess the visual risk associated with solar reflections affecting pedestrians in the vicinity of Chinatown Gate.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



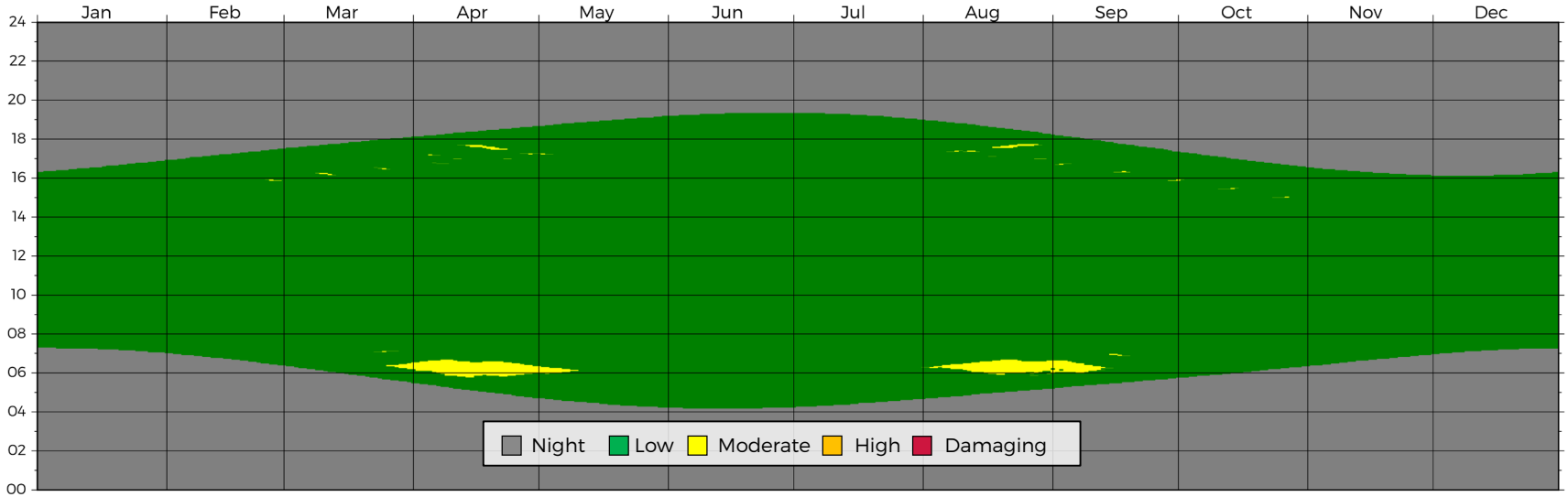


ANNUAL VISUAL IMPACT

Pedestrian Receptor P12

Receptor P12 was chosen to assess the visual risk associated with solar reflections affecting pedestrians at the parking lot on top of the South Station.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.

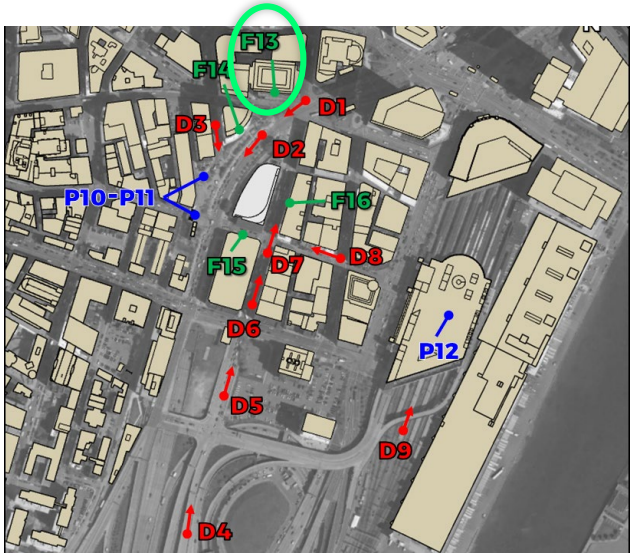


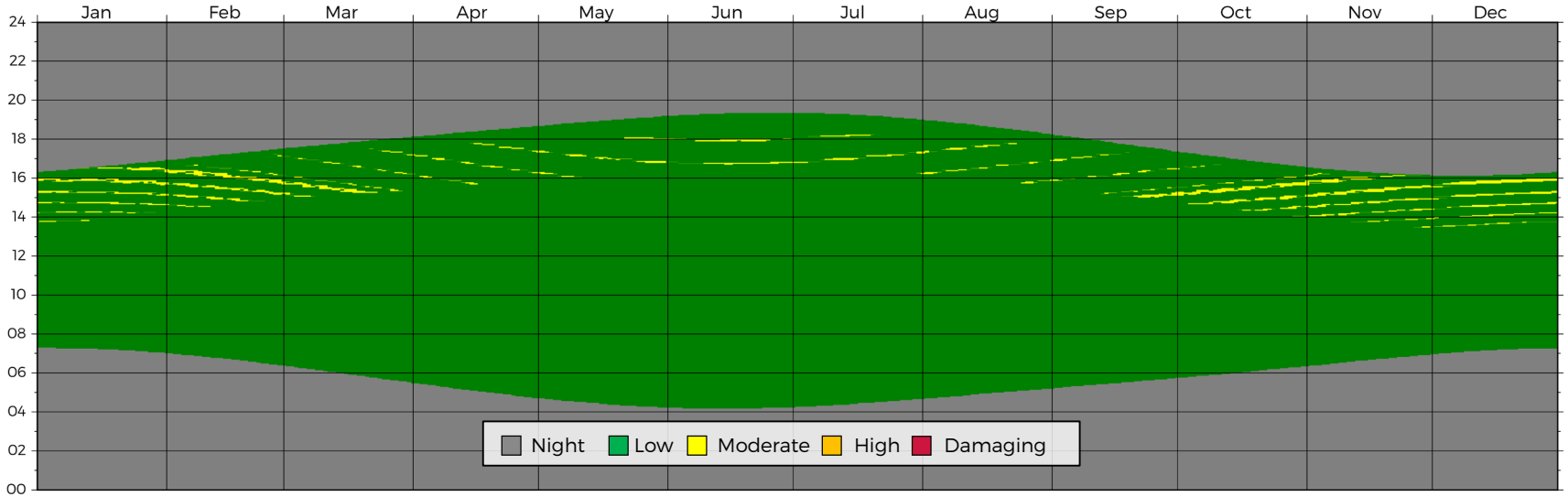
ANNUAL VISUAL IMPACT

Facade Receptor F13

Receptor F13 is a receptor placed on the facade of 1 Lincoln St building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.

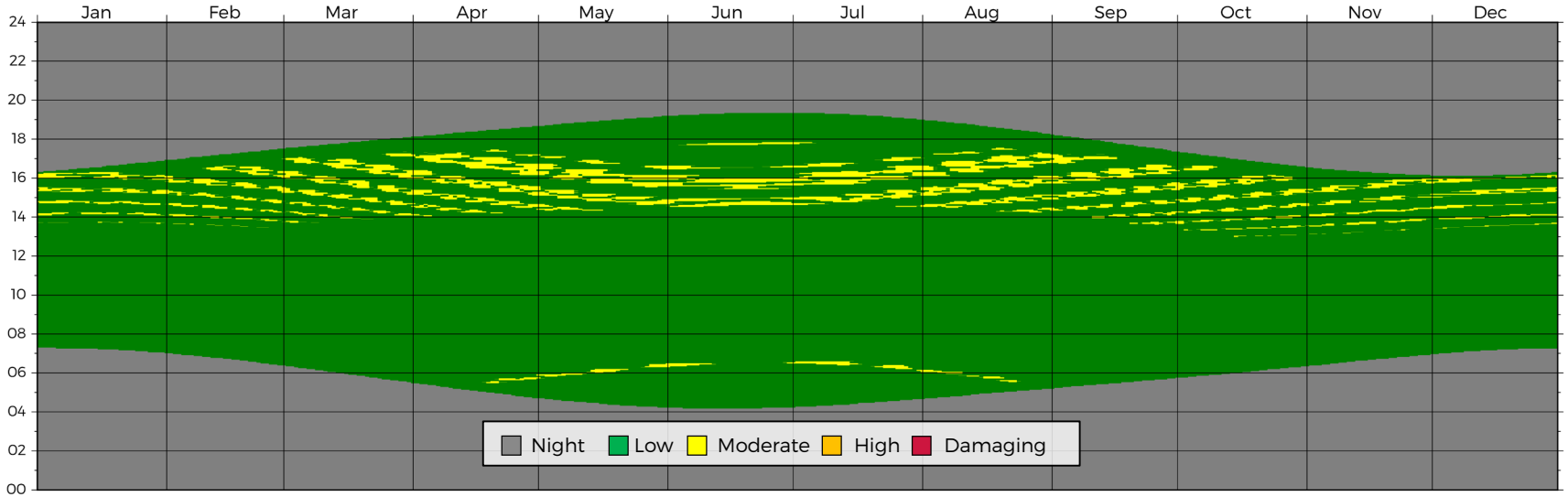




Facade Receptor F14

Receptor F14 is a receptor placed on the facade of 120 Kingston St building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.

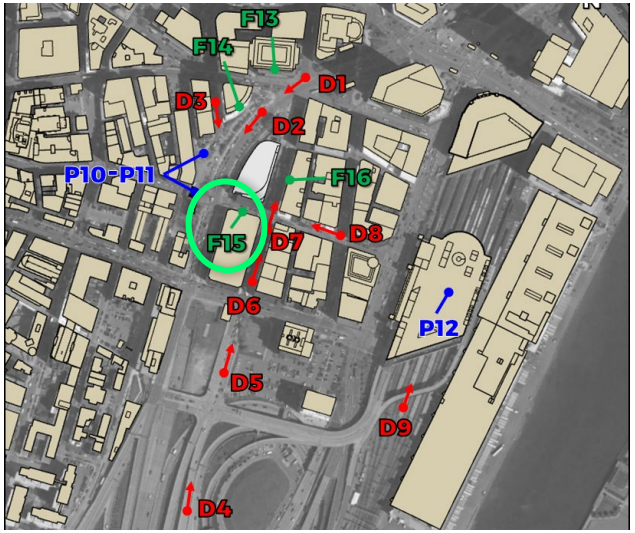


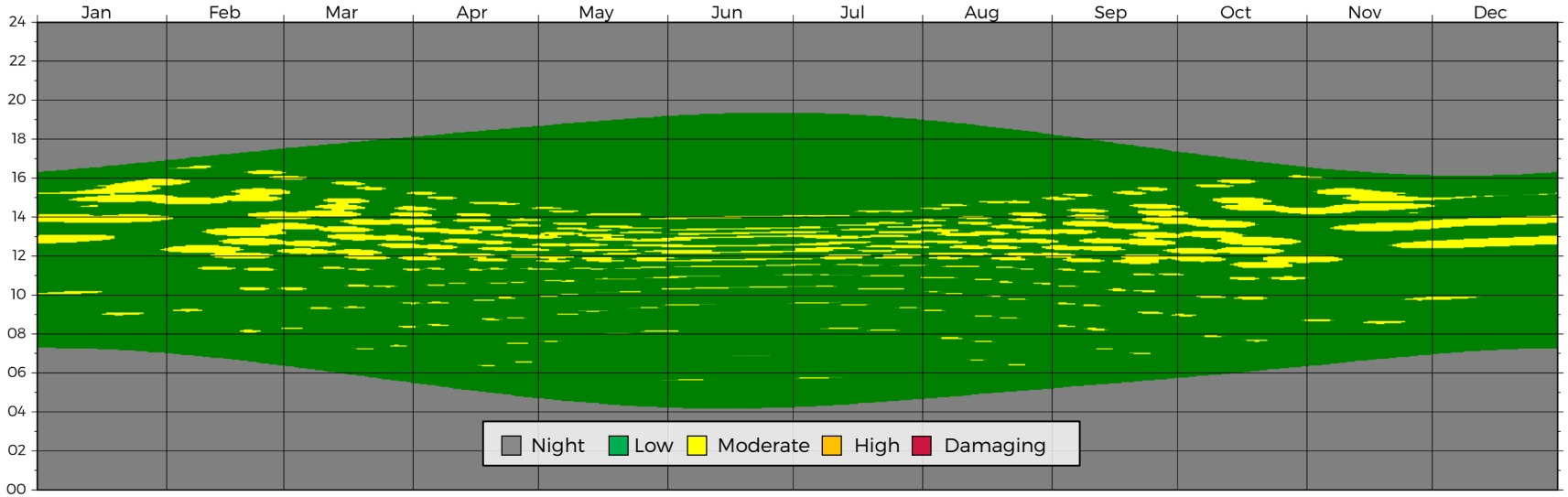
ANNUAL VISUAL IMPACT

Facade Receptor F15

Receptor F15 is a receptor placed on the facade of 179 Lincoln St building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



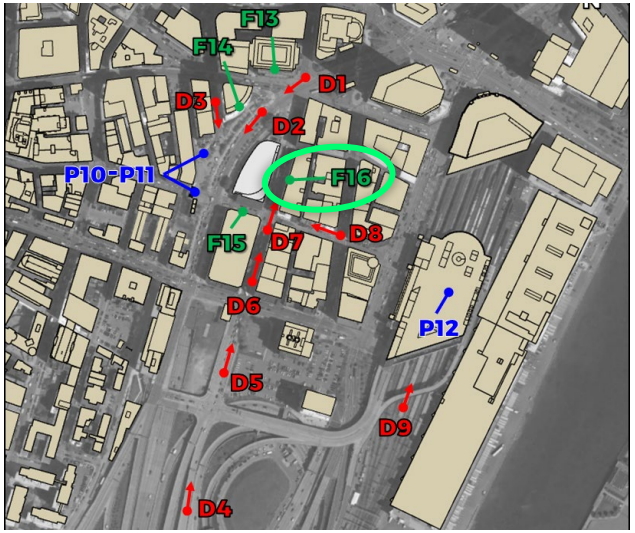


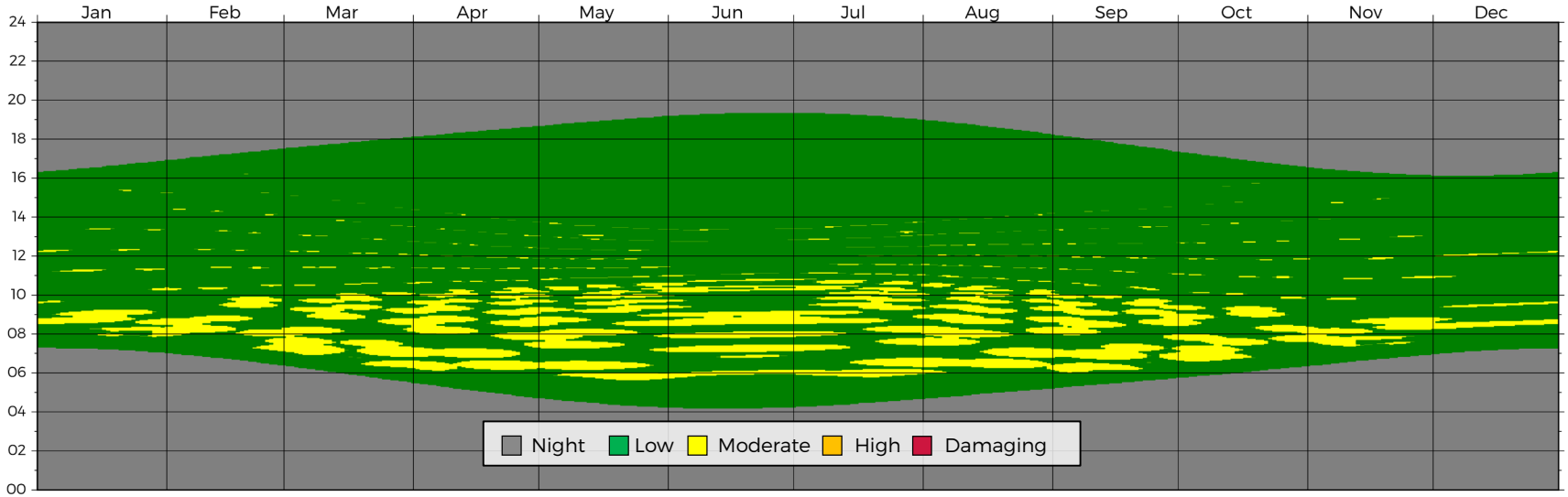
ANNUAL VISUAL IMPACT

Facade Receptor F16

Receptor F16 is a receptor placed on the facade of 132 Lincoln St building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



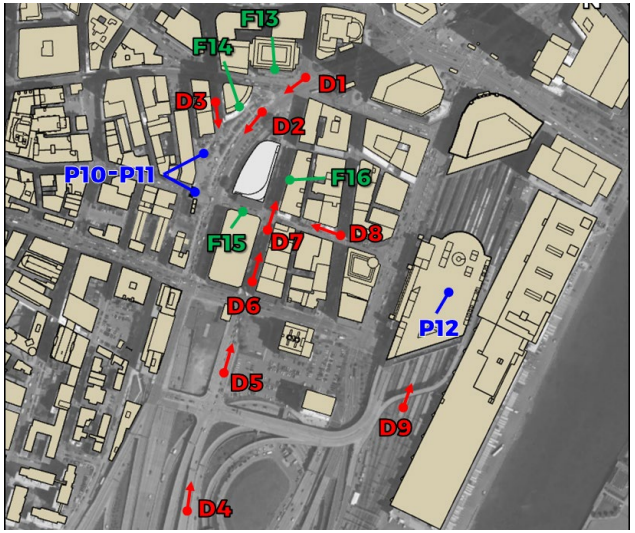


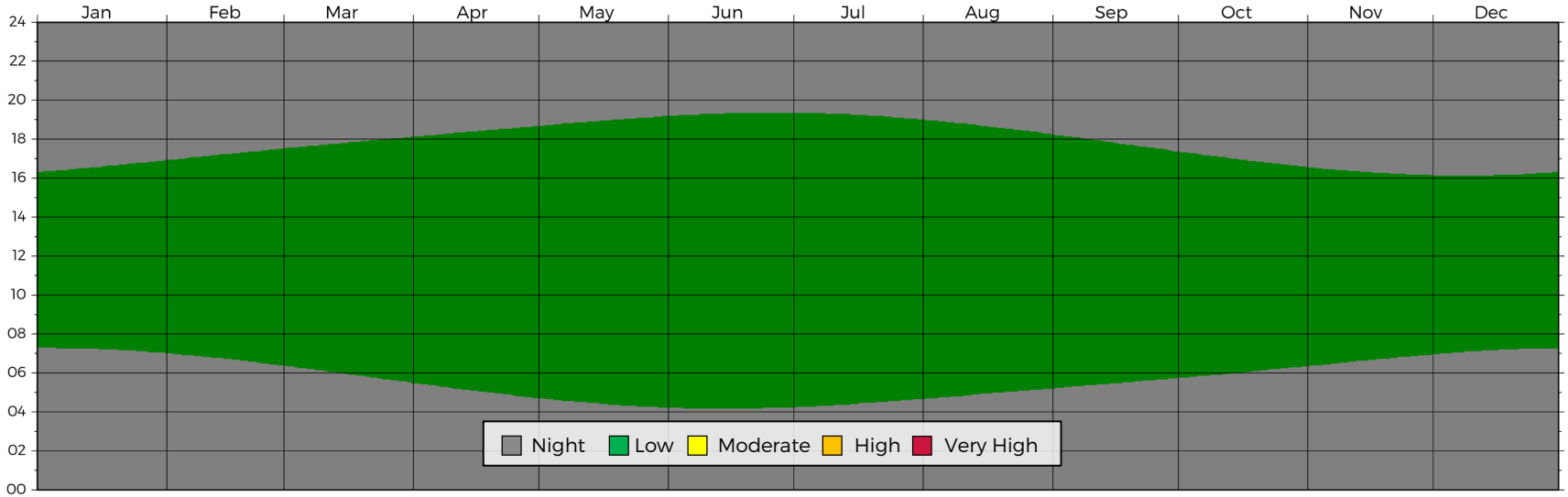
ANNUAL THERMAL IMPACT - PEOPLE

All Receptors

All reflection impacts at all receptors were found to have intensities below RWDI's short-term and human safety threshold values.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



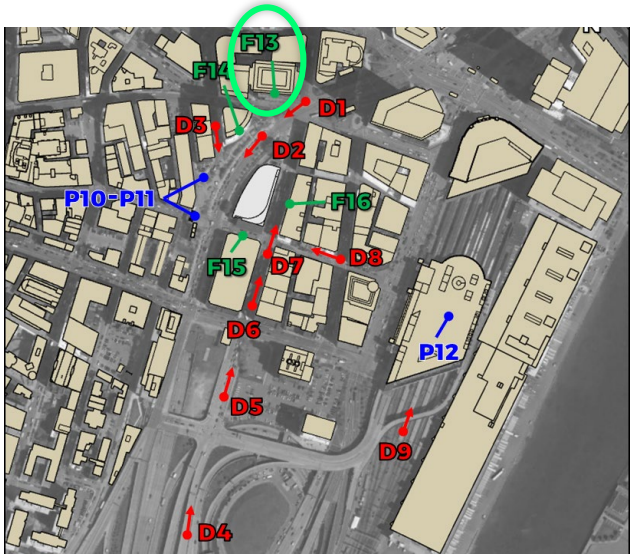


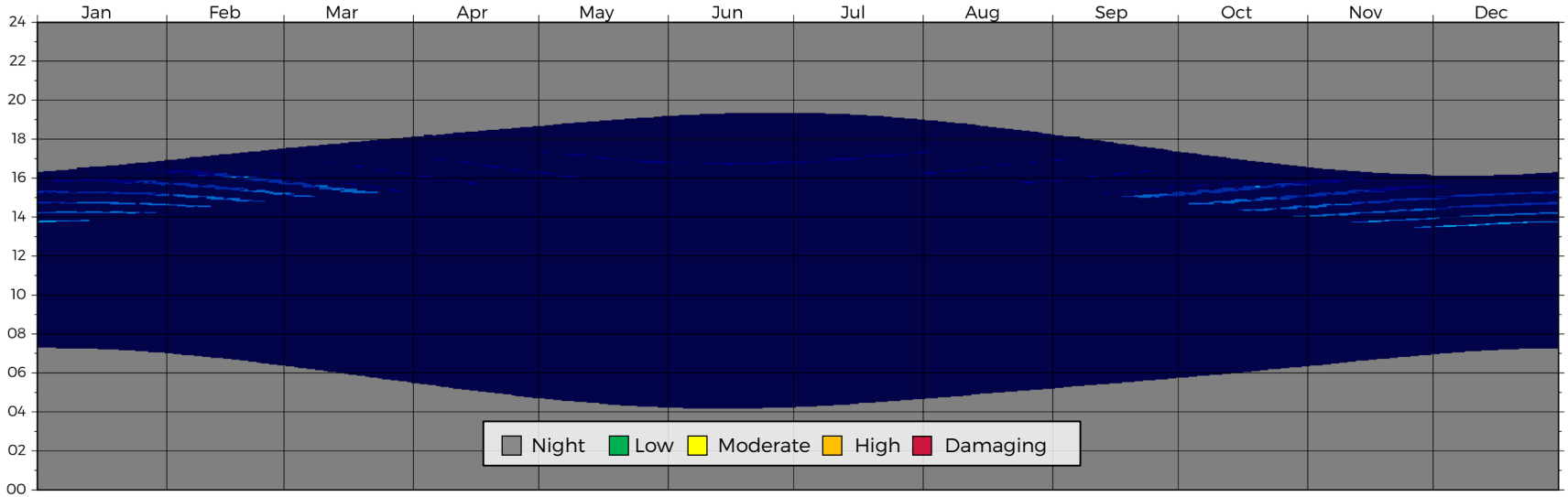
ANNUAL THERMAL IMPACT - FACADE

Facade Receptor F13

Receptor F13 is a receptor placed on the facade of 1 Lincoln St. building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



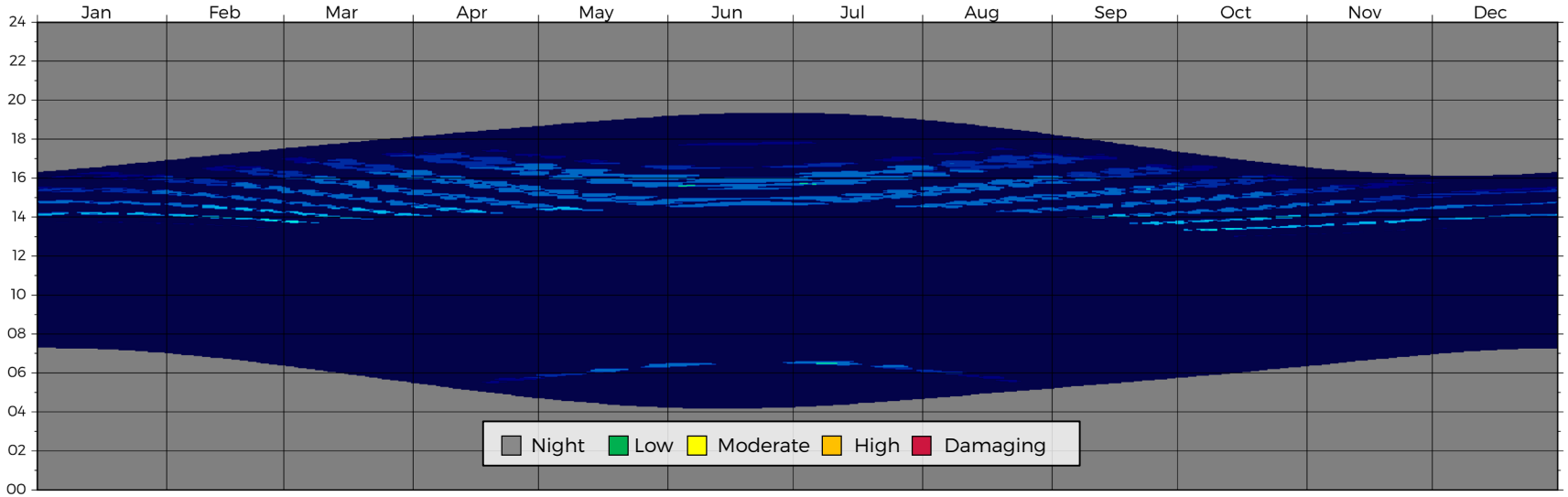


ANNUAL THERMAL IMPACT - FACADE

Facade Receptor F14

Receptor F14 is a receptor placed on the facade of 120 Kingston St. building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.

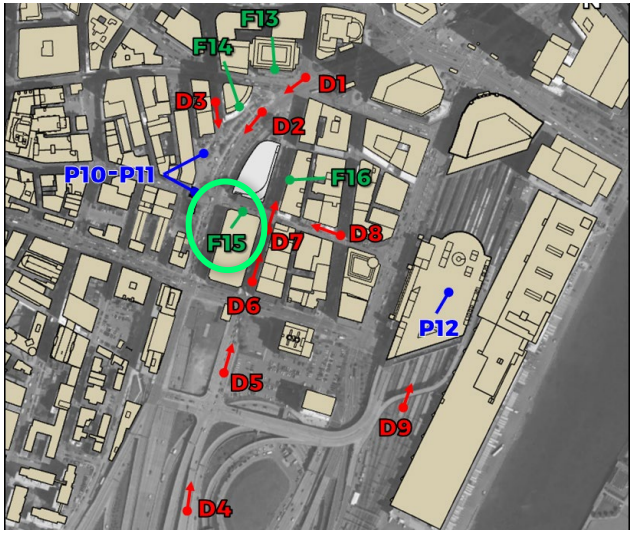


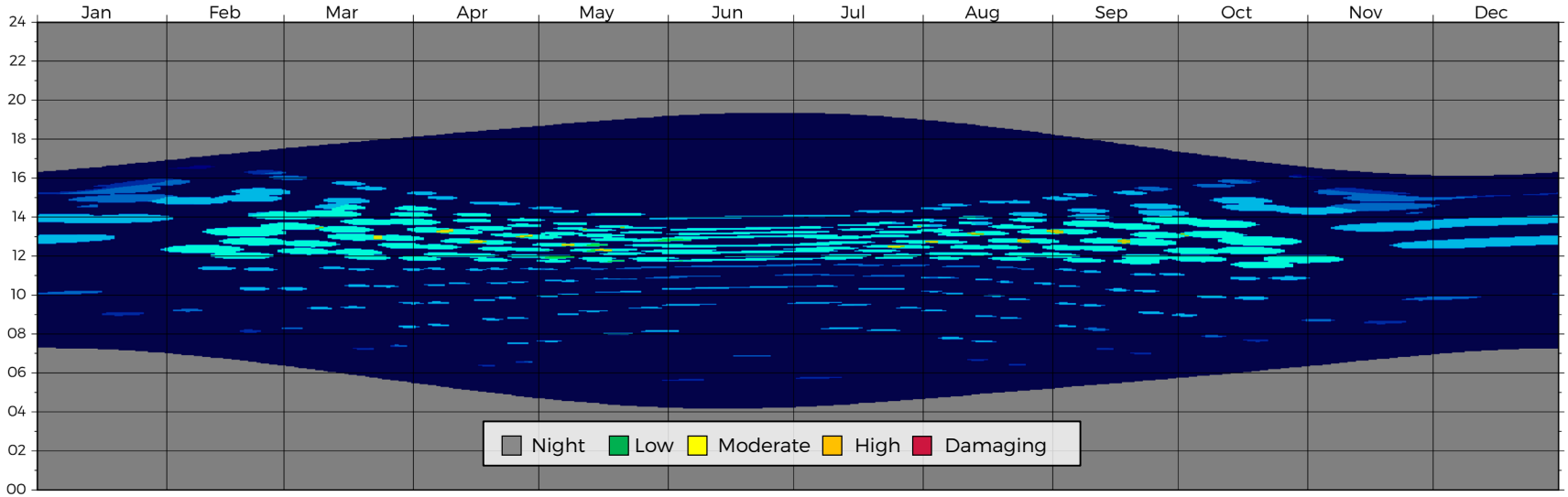
ANNUAL THERMAL IMPACT - FACADE

Facade Receptor F15

Receptor F15 is a receptor placed on the facade of 179 Lincoln St. building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.



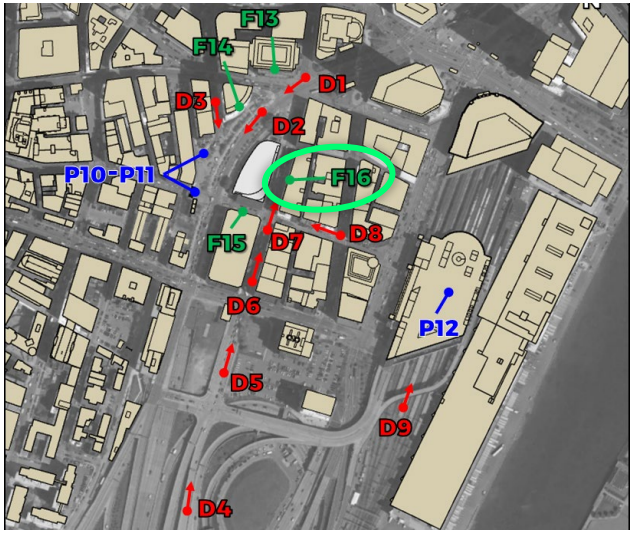


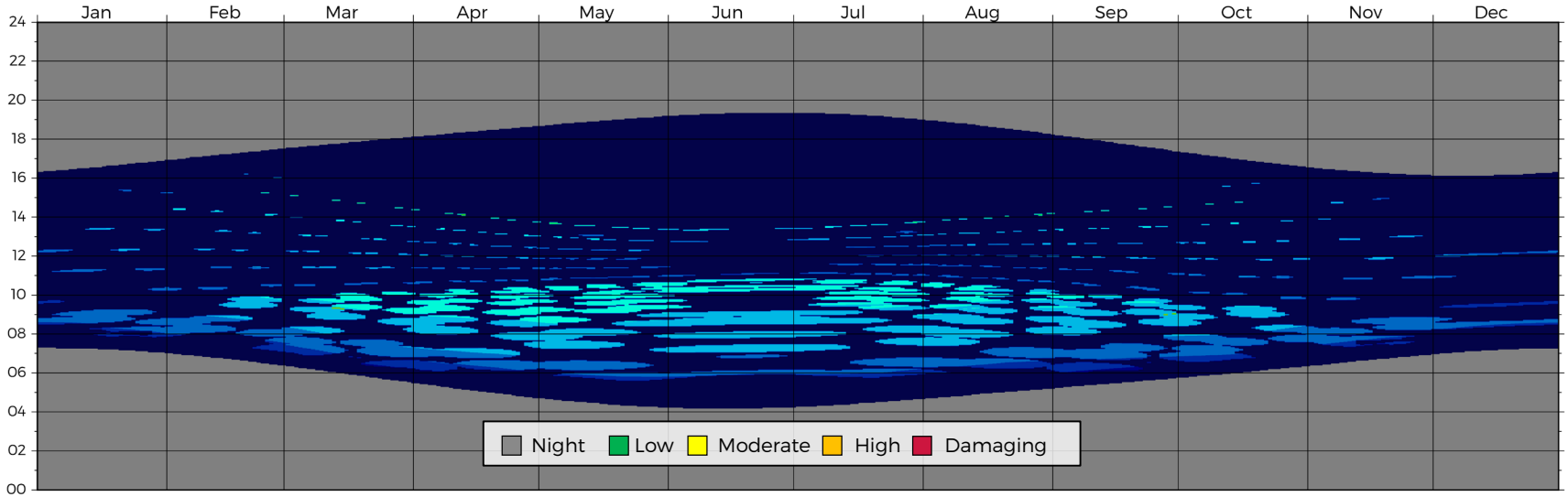
ANNUAL THERMAL IMPACT - FACADE

Facade Receptor F16

Receptor F16 is a receptor placed on the facade of 132 Lincoln St. building.

Please note that the referenced times are in local standard time, so in jurisdictions where Daylight Savings Time is used, the time should be shifted by an hour when appropriate.





APPENDIX B

RWDI REFLECTION CRITERIA

Visual Glare

There are currently no existing criteria or standards that define an "acceptable" level of reflected solar radiation from buildings. RWDI has conducted a literature review of available scientific sources[1] to determine levels of solar radiation that could be considered acceptable to individuals from a visual standpoint.

Many glare metrics are designed for interior use and have been found to not correlate well with the glare impact humans perceive from direct sun or in outdoor environments. RWDI uses the methodology of Ho et al[2], which defines glare impact based on a physical reaction rather than on a preference based correlation.

This methodology has also been adopted by the United States Federal Aviation Administration (FAA) for determining the risk of glare to pilots and other airport staff under FAA Interim Policy 78 FR 63276.

Based on the intensity of the glare source and the size of the source in the field of view (Figure B1), the risk of that source causing temporary flash blindness (i.e. the after images visible after one is exposed to a camera flash in a dark room) can be determined.

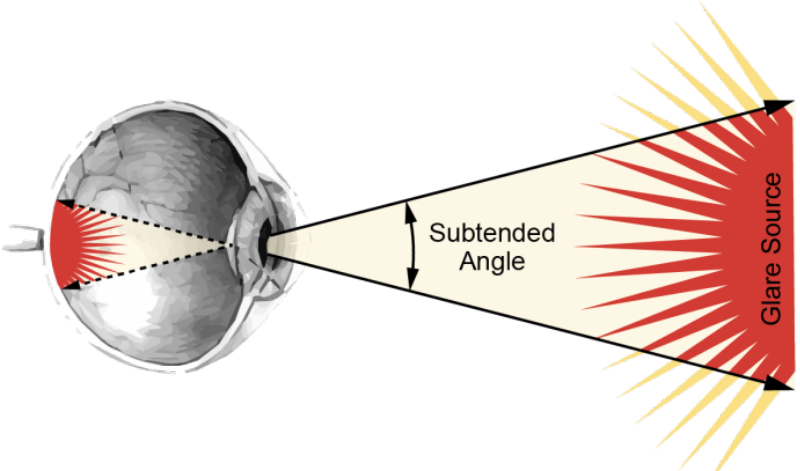


Figure B1: Schematic illustrating the subtended angle of a glare source

Visual Glare (cont'd)

At the screening level, we conservatively take any reflections at least 50% of the intensity required to cause after images as a "significant" reflection to be counted in the frequency analysis. In the detailed phase of work, we use the typical threshold level.

As a reference, point 1 on Figure B2 on the right illustrates where looking directly at the sun falls in terms of irradiance on the retina (on average about $8x10^4$ W/m²), and the size of the angle that the sun subtends in the sky (about 9.8 milliradians). This puts it just at the border of causing serious damage. This methodology assumes that the exposure time is equivalent to the length of an average person's blink response.

The rest of the points in Figure B2 correspond to the following:

2. Direct viewing of high-intensity car headlamp from 50 ft
3. Direct viewing of typical camera flash from 7 ft
4. Direct viewing of high-intensity car headlamp from 5 ft
5. Direct viewing of frosted 60W light bulb from 5 ft
6. Direct viewing of average computer monitor from 2ft

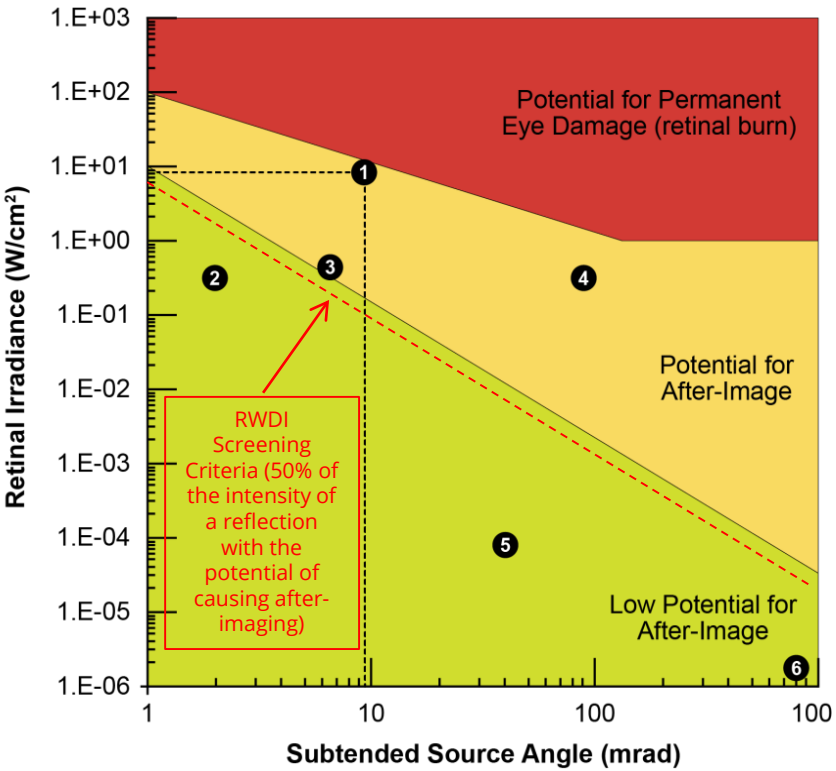


Figure B2: Plot showing the potential for glare sources of various sizes and intensities to cause after imaging

Thermal Impact (Heat Gain) on People

The primary sources for exposure limits to thermal radiation come from fire protection literature. The U.S. National Fire Protection Association (NFPA) defines 2,500 W/m² as an upper limit for a tenable egress environment[3]. That being said, while an individual could move through such an environment, they would not necessarily emerge unscathed. Both the British Standards Institution[4] and the U.S. Federal Energy Management Agency[5] indicate that individuals are likely to feel pain within 30 seconds at such exposure levels on bare skin. With second degree burns possible within minutes of exposure. Additionally, this level of additional heat flux can lead to rapid heating of exposed objects which could present a further risk to human safety.

It should be noted that these numbers are guideline values only, and that in reality many factors (skin color, age, clothing choice, etc.) influence how a person reacts to thermal radiation. **For our work RWDI has established 2,500 W/m² as a ceiling exposure limit which reflection intensity should not exceed for any length of time.**

Lower reflection intensities, while not posing as serious of a risk to human safety, can still negatively impact human comfort. There are no definitive guidelines or criteria with respect to this issue. We know this criterion should be less than 2,500 W/m² and greater than typical peak solar noon levels of 1,000 W/m² which people commonly experience. RWDI's opinion at this time is that a reasonable criterion is to limit reflected irradiance exposure to 1,500 W/m² or less. Based on our assessment, we believe at this level of irradiance most people would be able to tolerate it for several minutes before the onset of discomfort. Additionally reflections at this intensity level will heat surfaces more slowly.

Thus we feel reflections below 1,500 W/m² pose a reduced risk to people and should therefore be considered a short term exposure limit. We would conservatively define "short term" as 10 minutes or less which is slightly shorter than the standard 15 minute definition of short term used in the occupational safety context.

Thermal Impact (Heat Gain) on Property

The impact of solar irradiance on different materials is primarily based on the temperature gains to the material which can cause softening, deformation, melting, or in extreme cases, combustion. These temperature gains are difficult to predict as they are highly dependent on the convective heat transfer from air movement around the object and long-wave radiative heat transfer to the surroundings.

Generally, irradiance levels at or above 10,000 W/m² for more than 10 minutes are required to ignite common building and automotive materials in the presence of a pilot flame. That value increases to 25,000 W/m² when no pilot flame is present[6,7,8.] However, some materials like plastics and even some asphalts may begin to soften and deform at lower temperatures. For example, some plastics can deform at a temperature of 140°F (60°C), or lower if force is applied. The applied force typically comes from the thermal expansion of the material, the force of gravity acting on the material or an external mechanical force (i.e. someone or something pushing or pulling on it).

Aside from the risk of damage to the material itself, a hot surface poses a safety risk to any person who may come into contact with it. This is particularly important in an urban context as the individual may not expect the object to be heated. NASA[9] defines an upper limit of 111°F (44°C) for surfaces that require extended contact time with bare skin. Surface temperatures below this limit can be handled for any length of time without causing pain.

Because of the difficult nature of determining material temperatures, RWDI takes a conservative approach and uses a **threshold value of 1,000 W/m² which is approximately the peak intensity of natural sunlight that could be expected to occur over the course of a year**. Intensities beyond this value exceed the levels of irradiance that common exterior building materials are presumably designed for, and depending on the duration, may lead to deformation or damage. Though, as noted this would depend heavily on environmental conditions and the material properties of the exposed object or assembly.

References

1. Danks, R., Good, J., & Sinclair, R., "Assessing reflected sunlight from building facades: A literature review and proposed criteria." Building and Environment, 103, 193-202, 2016.

2. Ho, C., Ghanbari, C. and Diver, R., "Methodology to Assess Potential Glint and Glare Hazards From Concentrating Solar Power Plants: Analytical Models and Experimental Validation," *J. Sol. Energy Eng.,* vol. 133, no. 3, 2011.

3. National Fire Protection Association. (2003). NFPA 130: standard for fixed guideway transit and passenger rail systems. NFPA.

4. The application of fire safety engineering principles to fire safety design of buildings – Part 6: Human Factors' PD 7974-6:2004, British Standards Institution 2004.

5. Federal Emergency Management Agency, U.S. Department of Transportation, and U.S. Environmental Protection Agency. 1988. Handbook of Chemical Hazard Analysis Procedures. Washington, D.C.: Federal Emergency Management Agency Publications Office.

6. Building Research Establishment: 'Fire spread in car parks' BD2552, Department of Communities and Local Government 2010

7. SFPE Handbook of Fire Protection Engineering 4th Edition NFPA/SPFE 2008 USA

8. V. Babrauskas 'Ignition Handbook' Fire Science Publishers + SFP , 2003

9. E Ungar, K Stroud 'A New Approach to Defining Human Touch Temperature Standards' National Aeronautics and Space Agency , 2010

Appendix C: Transportation Supporting Documentation

125 Lincoln Street

Technical Appendix

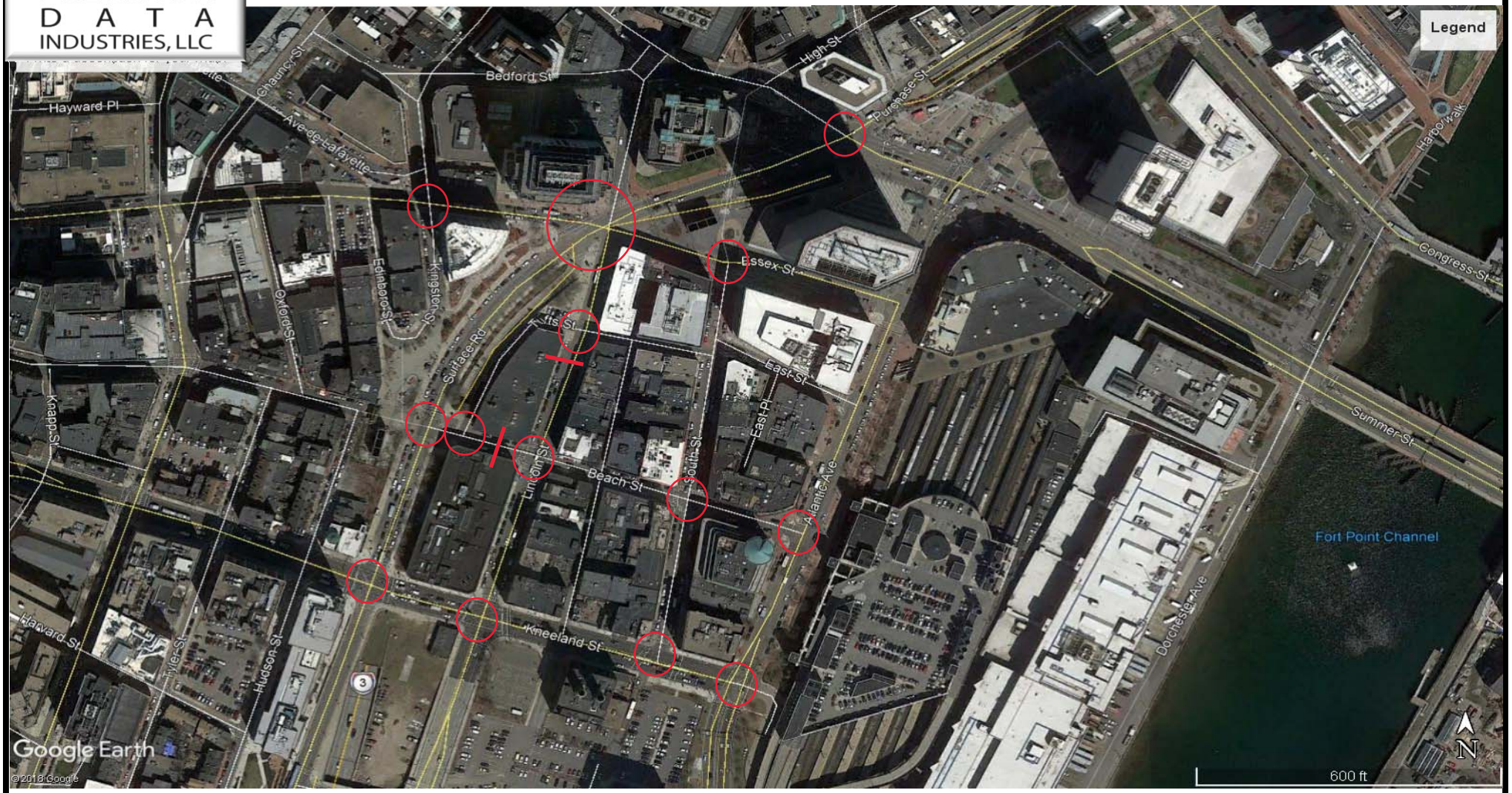
Traffic Counts
Synchro Results:
- 2018 Existing Conditions
- 2025 No-Build Conditions
- 2025 Build Conditions
- 2025 Build Mitigated Conditions

Transit Trip Distribution
Truck Turn Analysis

Traffic Counts

PRECISION DATA INDUSTRIES, LLC
Office: 508.875.0100 Fax: 508.875.0118
Email: datarequests@pdillc.com

Traffic Counts with Precision



Client:	Engineer:	Site Code:	Date:	PDI Job Number:	City, State:
VHB	A. Santiago	13962.00	Tues 9/18 thru Wed 9/19/18	186481	Boston, MA

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Lincoln Street
south of Tufts Street
City, State: Boston, MA
Client: VHB/ A. Santiago
NB

186481 A Class
Site Code: 13962.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
09/19/1														
8	109	2	2	0	0	0	0	0	0	0	0	0	0	113
01:00	47	3	0	0	0	0	0	0	0	0	0	0	0	50
02:00	30	5	1	0	0	0	0	0	0	0	0	0	0	36
03:00	48	5	1	0	0	0	0	0	0	0	0	0	0	54
04:00	115	9	0	0	0	0	0	0	0	0	0	0	0	124
05:00	232	15	0	0	0	0	0	0	0	0	0	0	0	247
06:00	375	23	0	0	0	0	0	0	0	0	0	0	0	398
07:00	499	45	1	0	0	0	0	0	0	0	0	0	0	545
08:00	582	43	1	0	0	0	0	0	0	0	0	0	0	626
09:00	626	54	0	0	0	0	0	0	0	0	0	0	0	680
10:00	488	30	1	0	0	0	0	0	0	0	0	0	0	519
11:00	435	30	0	0	0	0	0	0	0	0	0	0	0	465
12 PM	412	24	1	0	0	0	0	0	0	0	0	0	0	437
13:00	473	29	2	0	0	0	0	0	0	0	0	0	0	504
14:00	559	33	0	0	0	0	0	0	0	0	0	0	0	592
15:00	457	32	1	0	0	0	0	0	0	0	0	0	0	490
16:00	399	47	1	0	0	0	0	0	0	0	0	0	0	447
17:00	395	43	0	0	0	0	0	0	0	0	0	0	0	438
18:00	308	39	0	0	0	0	0	0	0	0	0	0	0	347
19:00	256	28	0	0	0	0	0	0	0	0	0	0	0	284
20:00	220	13	0	0	0	0	0	0	0	0	0	0	0	233
21:00	182	9	0	0	0	0	0	0	0	0	0	0	0	191
22:00	185	6	0	0	0	0	0	0	0	0	0	0	0	191
23:00	93	4	0	0	0	0	0	0	0	0	0	0	0	97
Total	7525	571	12	0	0	0	0	0	0	0	0	0	0	8108
Percent	92.8%	7.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	09:00	00:00											09:00
Vol.	626	54	2											680
PM Peak	14:00	16:00	13:00											14:00
Vol.	559	47	2											592

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Lincoln Street
south of Tufts Street
City, State: Boston, MA
Client: VHB/ A. Santiago
NB

186481 A Class
Site Code: 13962.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
09/20/1														
8	54	0	0	0	0	0	0	0	0	0	0	0	0	54
01:00	28	4	0	0	0	0	0	0	0	0	0	0	0	32
02:00	31	2	0	0	0	0	0	0	0	0	0	0	0	33
03:00	31	8	0	0	0	0	0	0	0	0	0	0	0	39
04:00	79	5	0	0	0	0	0	0	0	0	0	0	0	84
05:00	255	16	0	0	0	0	0	0	0	0	0	0	0	271
06:00	334	33	1	0	0	0	0	0	0	0	0	0	0	368
07:00	494	43	2	0	0	0	0	0	0	0	0	0	0	539
08:00	578	55	0	0	0	0	0	0	0	0	0	0	0	633
09:00	549	48	1	0	0	0	0	0	0	0	0	0	0	598
10:00	564	30	1	0	0	0	0	0	0	0	0	0	0	595
11:00	528	29	0	0	0	0	0	0	0	0	0	0	0	557
12 PM	499	23	0	0	0	0	0	0	0	0	0	0	0	522
13:00	336	23	1	0	0	0	0	0	0	0	0	0	0	360
14:00	441	24	1	0	0	0	0	0	0	0	0	0	0	466
15:00	458	34	3	0	0	0	0	0	0	0	0	0	0	495
16:00	421	44	0	0	0	0	0	0	0	0	0	0	0	465
17:00	413	36	0	0	0	0	0	0	0	0	0	0	0	449
18:00	327	41	0	0	0	0	0	0	0	0	0	0	0	368
19:00	277	17	0	0	0	0	0	0	0	0	0	0	0	294
20:00	226	13	0	0	0	0	0	0	0	0	0	0	0	239
21:00	208	9	1	0	0	0	0	0	0	0	0	0	0	218
22:00	188	6	0	0	0	0	0	0	0	0	0	0	0	194
23:00	124	8	0	0	0	0	0	0	0	0	0	0	0	132
Total	7443	551	11	0	0	0	0	0	0	0	0	0	0	8005
Percent	93.0%	6.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00											08:00
Vol.	578	55	2											633
PM Peak	12:00	16:00	15:00											12:00
Vol.	499	44	3											522

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Lincoln Street
south of Tufts Street
City, State: Boston, MA
Client: VHB/ A. Santiago

186481 A Volume
Site Code: 13962.00

Start Time	A.M.	NB	P.M.											Wed 9/19/2018
12:00	31		118											
12:15	25		110											
12:30	38		100											
12:45	19	113	109	437										
01:00	11		123											
01:15	16		98											
01:30	9		121											
01:45	14	50	162	504										
02:00	8		137											
02:15	6		158											
02:30	8		159											
02:45	14	36	138	592										
03:00	12		122											
03:15	11		130											
03:30	8		115											
03:45	23	54	123	490										
04:00	10		103											
04:15	31		109											
04:30	30		120											
04:45	53	124	115	447										
05:00	41		125											
05:15	44		114											
05:30	64		109											
05:45	98	247	90	438										
06:00	95		101											
06:15	71		86											
06:30	94		90											
06:45	138	398	70	347										
07:00	113		78											
07:15	160		79											
07:30	129		69											
07:45	143	545	58	284										
08:00	146		64											
08:15	159		58											
08:30	166		58											
08:45	155	626	53	233										
09:00	199		49											
09:15	144		47											
09:30	179		41											
09:45	158	680	54	191										
10:00	133		56											
10:15	131		45											
10:30	134		44											
10:45	121	519	46	191										
11:00	113		27											
11:15	112		25											
11:30	123		24											
11:45	117	465	21	97										
Total	3857		4251											
Percent			100.0 %		0.0%		0.0%							
Day Total		8108												
Peak	09:00	-	01:45	-	-	-	-	-	-	-	-	-	-	-
Vol.	680	-	616	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.854		0.951											

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Lincoln Street
south of Tufts Street
City, State: Boston, MA
Client: VHB/ A. Santiago

186481 A Volume
Site Code: 13962.00

Start Time	A.M.	NB	P.M.											Thu 9/20/2018
12:00	8		133											
12:15	12		121											
12:30	21		140											
12:45	13	54	128	522										
01:00	5		82											
01:15	9		106											
01:30	11		95											
01:45	7	32	77	360										
02:00	4		103											
02:15	8		130											
02:30	13		119											
02:45	8	33	114	466										
03:00	4		133											
03:15	10		122											
03:30	11		118											
03:45	14	39	122	495										
04:00	6		116											
04:15	14		100											
04:30	26		130											
04:45	38	84	119	465										
05:00	56		105											
05:15	63		129											
05:30	65		111											
05:45	87	271	104	449										
06:00	83		100											
06:15	90		98											
06:30	92		96											
06:45	103	368	74	368										
07:00	116		60											
07:15	147		78											
07:30	130		83											
07:45	146	539	73	294										
08:00	157		72											
08:15	152		61											
08:30	163		57											
08:45	161	633	49	239										
09:00	168		54											
09:15	149		64											
09:30	144		44											
09:45	137	598	56	218										
10:00	145		53											
10:15	140		47											
10:30	175		52											
10:45	135	595	42	194										
11:00	135		35											
11:15	142		32											
11:30	149		31											
11:45	131	557	34	132										
Total	3803		4202											
Percent			100.0 %		0.0%		0.0%							
Day Total		8005												
Peak	08:15	-	12:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	644	-	522	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.958		0.932											

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Beach Street
west of Lincoln Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

186481 B Class
Site Code: 13962.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
09/19/1														
8	17	0	0	0	0	0	0	0	0	0	0	0	0	17
01:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
02:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	6	1	0	0	0	0	0	0	0	0	0	0	0	7
04:00	18	3	0	0	0	0	0	0	0	0	0	0	0	21
05:00	15	2	0	0	0	0	0	0	0	0	0	0	0	17
06:00	27	2	0	0	0	0	0	0	0	0	0	0	0	29
07:00	39	4	0	0	0	0	0	0	0	0	0	0	0	43
08:00	74	2	0	0	0	0	0	0	0	0	0	0	0	76
09:00	104	8	0	0	0	0	0	0	0	0	0	0	0	112
10:00	110	4	0	0	0	0	0	0	0	0	0	0	0	114
11:00	82	3	0	0	0	0	0	0	0	0	0	0	0	85
12 PM	74	4	0	0	0	0	0	0	0	0	0	0	0	78
13:00	76	2	0	0	0	0	0	0	0	0	0	0	0	78
14:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
15:00	61	1	0	0	0	0	0	0	0	0	0	0	0	62
16:00	55	2	0	0	0	0	0	0	0	0	0	0	0	57
17:00	66	3	0	0	0	0	0	0	0	0	0	0	0	69
18:00	57	2	0	0	0	0	0	0	0	0	0	0	0	59
19:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
20:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
21:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
22:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
23:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
Total	1178	45	0	0	0	0	0	0	0	0	0	0	0	1223
Percent	96.3%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	09:00												10:00
Vol.	110	8												114
PM Peak	13:00	12:00												12:00
Vol.	76	4												78

PRECISION DATA INDUSTRIES, LLC
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Beach Street
west of Lincoln Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

186481 B Class
Site Code: 13962.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
09/20/1														
8	21	0	0	0	0	0	0	0	0	0	0	0	0	21
01:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
02:00	8	1	0	0	0	0	0	0	0	0	0	0	0	9
03:00	5	2	0	0	0	0	0	0	0	0	0	0	0	7
04:00	8	2	0	0	0	0	0	0	0	0	0	0	0	10
05:00	23	1	0	0	0	0	0	0	0	0	0	0	0	24
06:00	16	2	0	0	0	0	0	0	0	0	0	0	0	18
07:00	45	3	0	0	0	0	0	0	0	0	0	0	0	48
08:00	65	4	0	0	0	0	0	0	0	0	0	0	0	69
09:00	91	2	0	0	0	0	0	0	0	0	0	0	0	93
10:00	85	5	0	0	0	0	0	0	0	0	0	0	0	90
11:00	79	5	1	0	0	0	0	0	0	0	0	0	0	85
12 PM	80	2	0	0	0	0	0	0	0	0	0	0	0	82
13:00	76	3	0	0	0	0	0	0	0	0	0	0	0	79
14:00	50	6	0	0	0	0	0	0	0	0	0	0	0	56
15:00	63	1	0	0	0	0	0	0	0	0	0	0	0	64
16:00	59	2	0	0	0	0	0	0	0	0	0	0	0	61
17:00	71	3	0	0	0	0	0	0	0	0	0	0	0	74
18:00	62	5	0	0	0	0	0	0	0	0	0	0	0	67
19:00	72	1	0	0	0	0	0	0	0	0	0	0	0	73
20:00	57	1	0	0	0	0	0	0	0	0	0	0	0	58
21:00	58	1	0	0	0	0	0	0	0	0	0	0	0	59
22:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
23:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
Total	1222	52	1	0	0	0	0	0	0	0	0	0	0	1275
Percent	95.8%	4.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	10:00	11:00											09:00
Vol.	91	5	1											93
PM Peak	12:00	14:00												12:00
Vol.	80	6												82

PRECISION DATA INDUSTRIES, LLC
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Beach Street
west of Lincoln Street
City, State: Boston, MA
Client: VHB/ A. Santiago

186481 B Volume
Site Code: 13962.00

Start Time	A.M.	WB	P.M.											Wed 9/19/2018
12:00	3		17											
12:15	6		27											
12:30	2		15											
12:45	6	17	19	78										
01:00	6		26											
01:15	10		20											
01:30	5		20											
01:45	5	26	12	78										
02:00	1		19											
02:15	2		19											
02:30	0		15											
02:45	5	8	16	69										
03:00	2		16											
03:15	1		16											
03:30	3		12											
03:45	1	7	18	62										
04:00	4		12											
04:15	8		10											
04:30	5		19											
04:45	4	21	16	57										
05:00	2		23											
05:15	3		17											
05:30	7		17											
05:45	5	17	12	69										
06:00	8		13											
06:15	3		19											
06:30	9		14											
06:45	9	29	13	59										
07:00	5		13											
07:15	13		16											
07:30	12		6											
07:45	13	43	12	47										
08:00	21		6											
08:15	18		8											
08:30	17		11											
08:45	20	76	10	35										
09:00	36		7											
09:15	24		12											
09:30	28		9											
09:45	24	112	24	52										
10:00	31		14											
10:15	27		12											
10:30	31		6											
10:45	25	114	6	38										
11:00	21		9											
11:15	17		5											
11:30	26		6											
11:45	21	85	4	24										
Total	555		668											
Percent			100.0 %		0.0%		0.0%							
Day Total		1223												
Peak	10:00	-	00:15	-	-	-	-	-	-	-	-	-	-	-
Vol.	114	-	87	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.919		0.806											

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Beach Street
west of Lincoln Street
City, State: Boston, MA
Client: VHB/ A. Santiago

186481 B Volume
Site Code: 13962.00

Start Time	A.M.	WB	P.M.											Thu 9/20/2018
12:00	4		24											
12:15	3		17											
12:30	4		23											
12:45	10	21	18	82										
01:00	2		25											
01:15	2		23											
01:30	4		18											
01:45	2	10	13	79										
02:00	4		11											
02:15	3		13											
02:30	1		15											
02:45	1	9	17	56										
03:00	3		19											
03:15	2		16											
03:30	1		19											
03:45	1	7	10	64										
04:00	0		21											
04:15	4		9											
04:30	2		16											
04:45	4	10	15	61										
05:00	0		26											
05:15	5		19											
05:30	7		12											
05:45	12	24	17	74										
06:00	3		25											
06:15	3		11											
06:30	8		14											
06:45	4	18	17	67										
07:00	13		10											
07:15	7		20											
07:30	14		24											
07:45	14	48	19	73										
08:00	13		15											
08:15	12		16											
08:30	24		17											
08:45	20	69	10	58										
09:00	28		16											
09:15	18		13											
09:30	21		13											
09:45	26	93	17	59										
10:00	21		20											
10:15	29		18											
10:30	19		14											
10:45	21	90	10	62										
11:00	23		20											
11:15	20		20											
11:30	21		9											
11:45	21	85	7	56										
Total	484		791											
Percent			100.0 %		0.0%		0.0%							
Day Total		1275												
Peak	09:30	-	00:30	-	-	-	-	-	-	-	-	-	-	-
Vol.	97	-	89	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.836		0.890											

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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Cars and Heavy Vehicles (Combined)

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	6	46	0	52	0	0	0	0	0	0	0	0	0	0	0	91	0	0	91	143
7:15 AM	0	5	31	0	36	0	0	0	0	0	0	0	0	0	0	1	85	0	0	86	122
7:30 AM	1	2	41	0	44	0	0	0	0	0	0	0	0	0	0	2	96	0	0	98	142
7:45 AM	0	9	43	0	52	0	0	0	0	0	1	0	0	0	1	0	104	0	0	104	157
Total	1	22	161	0	184	0	0	0	0	0	1	0	0	0	1	3	376	0	0	379	564
8:00 AM	0	1	30	0	31	0	0	0	0	0	0	0	0	0	0	7	125	0	0	132	163
8:15 AM	0	4	54	0	58	0	0	0	0	0	0	0	0	0	0	2	111	0	0	113	171
8:30 AM	0	3	40	0	43	0	0	0	0	0	0	0	0	0	0	7	123	0	0	130	173
8:45 AM	0	8	45	0	53	0	0	0	0	0	0	0	0	0	0	3	126	0	0	129	182
Total	0	16	169	0	185	0	0	0	0	0	0	0	0	0	0	19	485	0	0	504	689
Grand Total	1	38	330	0	369	0	0	0	0	0	1	0	0	0	1	22	861	0	0	883	1253
Approach %	0.3	10.3	89.4	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		2.5	97.5	0.0	0.0		
Total %	0.1	3.0	26.3	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	1.8	68.7	0.0	0.0	70.5	
Exiting Leg Total					0					1192					60					1	1253
Cars	1	37	262	0	300	0	0	0	0	0	1	0	0	0	1	22	795	0	0	817	1118
% Cars	100.0	97.4	79.4	0.0	81.3	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	92.3	0.0	0.0	92.5	89.2
Exiting Leg Total					0					1058					59					1	1118
Heavy Vehicles	0	1	68	0	69	0	0	0	0	0	0	0	0	0	0	0	66	0	0	66	135
% Heavy Vehicles	0.0	2.6	20.6	0.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	7.5	10.8
Exiting Leg Total					0					134					1					0	135

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	1	30	0	31	0	0	0	0	0	0	0	0	0	0	7	125	0	0	132	163
8:15 AM	0	4	54	0	58	0	0	0	0	0	0	0	0	0	0	2	111	0	0	113	171
8:30 AM	0	3	40	0	43	0	0	0	0	0	0	0	0	0	0	7	123	0	0	130	173
8:45 AM	0	8	45	0	53	0	0	0	0	0	0	0	0	0	0	3	126	0	0	129	182
Total Volume	0	16	169	0	185	0	0	0	0	0	0	0	0	0	0	19	485	0	0	504	689
% Approach Total	0.0	8.6	91.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.8	96.2	0.0	0.0		
PHF	0.000	0.500	0.782	0.000	0.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.962	0.000	0.000	0.955	0.946
Cars	0	16	130	0	146	0	0	0	0	0	0	0	0	0	0	19	450	0	0	469	615
Cars %	0.0	100.0	76.9	0.0	78.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	92.8	0.0	0.0	93.1	89.3
Heavy Vehicles	0	0	39	0	39	0	0	0	0	0	0	0	0	0	0	0	35	0	0	35	74
Heavy Vehicles %	0.0	0.0	23.1	0.0	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	0.0	6.9	10.7
Cars Enter Leg	0	16	130	0	146	0	0	0	0	0	0	0	0	0	0	19	450	0	0	469	615
Heavy Enter Leg	0	0	39	0	39	0	0	0	0	0	0	0	0	0	0	0	35	0	0	35	74
Total Entering Leg	0	16	169	0	185	0	0	0	0	0	0	0	0	0	0	19	485	0	0	504	689
Cars Exiting Leg					0					580					35					0	615
Heavy Exiting Leg					0					74					0					0	74
Total Exiting Leg					0					654					35					0	689

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	5	39	0	44	0	0	0	0	0	0	0	0	0	0	0	85	0	0	85	129
7:15 AM	0	5	25	0	30	0	0	0	0	0	0	0	0	0	0	1	76	0	0	77	107
7:30 AM	1	2	33	0	36	0	0	0	0	0	0	0	0	0	0	2	93	0	0	95	131
7:45 AM	0	9	35	0	44	0	0	0	0	0	1	0	0	0	1	0	91	0	0	91	136
Total	1	21	132	0	154	0	0	0	0	0	1	0	0	0	1	3	345	0	0	348	503
8:00 AM	0	1	21	0	22	0	0	0	0	0	0	0	0	0	0	7	117	0	0	124	146
8:15 AM	0	4	40	0	44	0	0	0	0	0	0	0	0	0	0	2	96	0	0	98	142
8:30 AM	0	3	33	0	36	0	0	0	0	0	0	0	0	0	0	7	118	0	0	125	161
8:45 AM	0	8	36	0	44	0	0	0	0	0	0	0	0	0	0	3	119	0	0	122	166
Total	0	16	130	0	146	0	0	0	0	0	0	0	0	0	0	19	450	0	0	469	615
Grand Total	1	37	262	0	300	0	0	0	0	0	1	0	0	0	1	22	795	0	0	817	1118
Approach %	0.3	12.3	87.3	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		2.7	97.3	0.0	0.0		
Total %	0.1	3.3	23.4	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	2.0	71.1	0.0	0.0	73.1	
Exiting Leg Total					0					1058					59					1	1118

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	1	21	0	22	0	0	0	0	0	0	0	0	0	0	7	117	0	0	124	146
8:15 AM	0	4	40	0	44	0	0	0	0	0	0	0	0	0	0	2	96	0	0	98	142
8:30 AM	0	3	33	0	36	0	0	0	0	0	0	0	0	0	0	7	118	0	0	125	161
8:45 AM	0	8	36	0	44	0	0	0	0	0	0	0	0	0	0	3	119	0	0	122	166
Total Volume	0	16	130	0	146	0	0	0	0	0	0	0	0	0	0	19	450	0	0	469	615
% Approach Total	0.0	11.0	89.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		4.1	95.9	0.0	0.0		
PHF	0.000	0.500	0.813	0.000	0.830	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.945	0.000	0.000	0.938	0.926
Entering Leg	0	16	130	0	146	0	0	0	0	0	0	0	0	0	0	19	450	0	0	469	615
Exiting Leg					0					580					35					0	615
Total					146					580					35					469	1230

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	7	0	8	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	14
7:15 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	15
7:30 AM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	11
7:45 AM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	21
Total	0	1	29	0	30	0	0	0	0	0	0	0	0	0	0	0	31	0	0	31	61
8:00 AM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	17
8:15 AM	0	0	14	0	14	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	29
8:30 AM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
8:45 AM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	16
Total	0	0	39	0	39	0	0	0	0	0	0	0	0	0	0	0	35	0	0	35	74
Grand Total	0	1	68	0	69	0	0	0	0	0	0	0	0	0	0	0	66	0	0	66	135
Approach %	0.0	1.4	98.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.7	50.4	0.0	51.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.9	0.0	0.0	48.9	
Exiting Leg Total					0					134					1					0	135
Buses	0	0	58	0	58	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	82
% Buses	0.0	0.0	85.3	0.0	84.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	0.0	0.0	36.4	60.7
Exiting Leg Total					0					82					0					0	82
Single-Unit Trucks	0	1	10	0	11	0	0	0	0	0	0	0	0	0	0	0	39	0	0	39	50
% Single-Unit	0.0	100.0	14.7	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.1	0.0	0.0	59.1	37.0
Exiting Leg Total					0					49					1					0	50
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.5	2.2
Exiting Leg Total					0					3					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	21
8:00 AM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	17
8:15 AM	0	0	14	0	14	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	29
8:30 AM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
Total Volume	0	0	38	0	38	0	0	0	0	0	0	0	0	0	0	0	41	0	0	41	79
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.679	0.000	0.679	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.000	0.683	0.681
Buses	0	0	31	0	31	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	48
Buses %	0.0	0.0	81.6	0.0	81.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	0.0	0.0	41.5	60.8
Single-Unit Trucks	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	29
Single-Unit %	0.0	0.0	18.4	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.7	0.0	0.0	53.7	36.7
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	4.9	2.5
Buses	0	0	31	0	31	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	48
Single-Unit Trucks	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	29
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Entering Leg	0	0	38	0	38	0	0	0	0	0	0	0	0	0	0	0	41	0	0	41	79
Buses					0					48					0					0	48
Single-Unit Trucks					0					29					0					0	29
Articulated Trucks					0					2					0					0	2
Total Exiting Leg					0					79					0					0	79

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	5	33	0	38	0	0	0	0	0	0	0	0	0	0	0	78	0	0	78	116
7:15 AM	0	4	22	0	26	0	0	0	0	0	0	0	0	0	0	0	72	0	0	72	98
7:30 AM	1	2	31	0	34	0	0	0	0	0	0	0	0	0	0	2	87	0	0	89	123
7:45 AM	0	8	29	0	37	0	0	0	0	0	1	0	0	0	1	0	86	0	0	86	124
Total	1	19	115	0	135	0	0	0	0	0	1	0	0	0	1	2	323	0	0	325	461
8:00 AM	0	0	20	0	20	0	0	0	0	0	0	0	0	0	0	7	107	0	0	114	134
8:15 AM	0	4	35	0	39	0	0	0	0	0	0	0	0	0	0	1	86	0	0	87	126
8:30 AM	0	3	33	0	36	0	0	0	0	0	0	0	0	0	0	5	108	0	0	113	149
8:45 AM	0	8	36	0	44	0	0	0	0	0	0	0	0	0	0	2	110	0	0	112	156
Total	0	15	124	0	139	0	0	0	0	0	0	0	0	0	0	15	411	0	0	426	565
Grand Total	1	34	239	0	274	0	0	0	0	0	1	0	0	0	1	17	734	0	0	751	1026
Approach %	0.4	12.4	87.2	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		2.3	97.7	0.0	0.0		
Total %	0.1	3.3	23.3	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	1.7	71.5	0.0	0.0	73.2	
Exiting Leg Total					0					974					51					1	1026

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	20	0	20	0	0	0	0	0	0	0	0	0	0	7	107	0	0	114	134
8:15 AM	0	4	35	0	39	0	0	0	0	0	0	0	0	0	0	1	86	0	0	87	126
8:30 AM	0	3	33	0	36	0	0	0	0	0	0	0	0	0	0	5	108	0	0	113	149
8:45 AM	0	8	36	0	44	0	0	0	0	0	0	0	0	0	0	2	110	0	0	112	156
Total Volume	0	15	124	0	139	0	0	0	0	0	0	0	0	0	0	15	411	0	0	426	565
% Approach Total	0.0	10.8	89.2	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.5	96.5	0.0	0.0		
PHF	0.000	0.469	0.861	0.000	0.790	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.536	0.934	0.000	0.000	0.934	0.905
Entering Leg	0	15	124	0	139	0	0	0	0	0	0	0	0	0	0	15	411	0	0	426	565
Exiting Leg					0					535					30					0	565
Total					139					535					30					426	1130

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	13
7:15 AM	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	9
7:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
7:45 AM	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	11
Total	0	2	17	0	19	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	41
8:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	11
8:15 AM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	13
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	0	9	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	9
Total	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	4	31	0	0	35	42
Grand Total	0	3	23	0	26	0	0	0	0	0	0	0	0	0	0	5	52	0	0	57	83
Approach %	0.0	11.5	88.5	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		8.8	91.2	0.0	0.0		
Total %	0.0	3.6	27.7	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	62.7	0.0	0.0	68.7	
Exiting Leg Total					0					75					8					0	83

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	11
8:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	11
8:15 AM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	13
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	0	9	9
Total Volume	0	2	12	0	14	0	0	0	0	0	0	0	0	0	0	3	27	0	0	30	44
% Approach Total	0.0	14.3	85.7	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		10.0	90.0	0.0	0.0		
PHF	0.000	0.500	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.750	0.000	0.000	0.833	0.846
Entering Leg	0	2	12	0	14	0	0	0	0	0	0	0	0	0	0	3	27	0	0	30	44
Exiting Leg					0					39					5					0	44
Total					14					39					5					30	88

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
7:15 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9
7:30 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
7:45 AM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	10
Total	0	0	25	0	25	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	33
8:00 AM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
8:15 AM	0	0	12	0	12	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	19
8:30 AM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	7
8:45 AM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	11
Total	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	49
Grand Total	0	0	58	0	58	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	82
Approach %	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	70.7	0.0	70.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3	0.0	0.0	29.3	
Exiting Leg Total					0					82					0					0	82

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
8:15 AM	0	0	12	0	12	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	19
8:30 AM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	7
8:45 AM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	11
Total Volume	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	49
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.688	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.000	0.571	0.645
Entering Leg	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	49
Exiting Leg					0					49					0					0	49
Total					33					49					0					16	98

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	6
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	6
7:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	10
Total	0	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0	21	0	0	21	26
8:00 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
8:15 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	9
8:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	18	0	0	18	24
Grand Total	0	1	10	0	11	0	0	0	0	0	0	0	0	0	0	0	39	0	0	39	50
Approach %	0.0	9.1	90.9	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	2.0	20.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.0	0.0	0.0	78.0	
Exiting Leg Total					0					49					1					0	50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	10
8:00 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
8:15 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	9
8:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
Total Volume	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	29
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.875	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.611	0.000	0.000	0.611	0.725
Entering Leg	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	29
Exiting Leg					0					29					0					0	29
Total					7					29					0					22	58

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					3					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Exiting Leg					0					2					0					0	2
Total					0					2					0					2	4

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Kingston Street from North							Essex Street from East							Kingston Street from South							Essex Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	9
7:15 AM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	16	18
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	15	0	0	0	0	15	16
7:45 AM	0	1	0	0	0	1	2	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	17	0	0	0	0	17	21
Total	0	2	0	0	0	2	4	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	57	0	0	0	0	57	64
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	24	0	0	0	0	25	26
8:15 AM	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	44	47
8:30 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	42	0	0	0	0	47	49
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	36	0	0	0	0	38	39
Total	0	1	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8	146	0	0	0	0	154	161
Grand Total	0	3	5	0	0	2	10	0	0	0	0	1	2	3	0	0	0	0	0	1	1	8	203	0	0	0	0	211	225
Approach %	0.0	30.0	50.0	0.0	0.0	20.0		0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0	100.0		3.8	96.2	0.0	0.0	0.0	0.0		
Total %	0.0	1.3	2.2	0.0	0.0	0.9	4.4	0.0	0.0	0.0	0.0	0.4	0.9	1.3	0.0	0.0	0.0	0.0	0.0	0.4	0.4	3.6	90.2	0.0	0.0	0.0	0.0	93.8	
Exiting Leg Total							2							211							12							0	225

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North							Essex Street from East							Kingston Street from South							Essex Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	24	0	0	0	0	25	26
8:15 AM	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	44	47
8:30 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	42	0	0	0	0	47	49
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	36	0	0	0	0	38	39
Total Volume	0	1	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8	146	0	0	0	0	154	161
% Approach Total	0.0	16.7	83.3	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		5.2	94.8	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.625	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.400	0.830	0.000	0.000	0.000	0.000	0.819	0.821
Entering Leg	0	1	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8	146	0	0	0	0	154	161
Exiting Leg							0							151							10							0	161
Total							6							151							11							154	322

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Kingston Street from North							Essex Street from East							Kingston Street from South							Essex Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	12	19	31	0	0	0	0	5	5	10	0	0	0	0	23	8	31	0	0	0	0	7	4	11	83
7:15 AM	0	0	0	0	31	13	44	0	0	0	0	2	2	4	0	0	0	0	22	13	35	0	0	0	0	8	4	12	95
7:30 AM	0	0	0	0	35	9	44	0	0	0	0	3	10	13	0	0	0	0	27	33	60	0	0	0	0	14	11	25	142
7:45 AM	0	0	0	0	46	41	87	0	0	0	0	5	7	12	0	0	0	0	39	13	52	0	0	0	0	18	9	27	178
Total	0	0	0	0	124	82	206	0	0	0	0	15	24	39	0	0	0	0	111	67	178	0	0	0	0	47	28	75	498
8:00 AM	0	0	0	0	75	28	103	0	0	0	0	4	7	11	0	0	0	0	46	35	81	0	0	0	0	9	11	20	215
8:15 AM	0	0	0	0	62	85	147	0	0	0	0	10	11	21	0	0	0	0	94	40	134	0	0	0	0	17	17	34	336
8:30 AM	0	0	0	0	90	49	139	0	0	0	0	11	11	22	0	0	0	0	58	41	99	0	0	0	0	27	22	49	309
8:45 AM	0	0	0	0	101	63	164	0	0	0	0	10	18	28	0	0	0	0	73	47	120	0	0	0	0	31	34	65	377
Total	0	0	0	0	328	225	553	0	0	0	0	35	47	82	0	0	0	0	271	163	434	0	0	0	0	84	84	168	1237
Grand Total	0	0	0	0	452	307	759	0	0	0	0	50	71	121	0	0	0	0	382	230	612	0	0	0	0	131	112	243	1735
Approach %	0	0	0	0	59.6	40.4		0	0	0	0	41.3	58.7		0	0	0	0	62.4	37.6		0	0	0	0	53.9	46.1		
Total %	0	0	0	0	26.1	17.7	43.7	0	0	0	0	2.88	4.09	6.97	0	0	0	0	22	13.3	35.3	0	0	0	0	7.55	6.46	14	
Exiting Leg Total							759							121							612							243	1735

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Kingston Street from North							Essex Street from East							Kingston Street from South							Essex Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	75	28	103	0	0	0	0	4	7	11	0	0	0	0	46	35	81	0	0	0	0	9	11	20	215
8:15 AM	0	0	0	0	62	85	147	0	0	0	0	10	11	21	0	0	0	0	94	40	134	0	0	0	0	17	17	34	336
8:30 AM	0	0	0	0	90	49	139	0	0	0	0	11	11	22	0	0	0	0	58	41	99	0	0	0	0	27	22	49	309
8:45 AM	0	0	0	0	101	63	164	0	0	0	0	10	18	28	0	0	0	0	73	47	120	0	0	0	0	31	34	65	377
Total Volume	0	0	0	0	328	225	553	0	0	0	0	35	47	82	0	0	0	0	271	163	434	0	0	0	0	84	84	168	1237
% Approach Total	0.0	0.0	0.0	0.0	59.3	40.7		0.0	0.0	0.0	0.0	42.7	57.3		0.0	0.0	0.0	0.0	62.4	37.6		0.0	0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.812	0.662	0.843	0.000	0.000	0.000	0.000	0.795	0.653	0.732	0.000	0.000	0.000	0.000	0.721	0.867	0.810	0.000	0.000	0.000	0.000	0.677	0.618	0.646	0.820
Entering Leg	0	0	0	0	328	225	553	0	0	0	0	35	47	82	0	0	0	0	271	163	434	0	0	0	0	84	84	168	1237
Exiting Leg							553							82							434							168	1237
Total							1106							164							868							336	2474

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars and Heavy Vehicles (Combined)

	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	4	92	0	96	0	0	0	0	0	0	0	0	0	0	1	135	0	0	136	232
4:15 PM	0	3	89	0	92	0	0	0	0	0	0	0	0	0	0	4	137	0	0	141	233
4:30 PM	0	3	92	0	95	0	0	0	0	0	0	0	0	0	0	3	134	0	0	137	232
4:45 PM	0	4	99	0	103	0	1	0	0	1	0	0	0	0	0	3	143	0	0	146	250
Total	0	14	372	0	386	0	1	0	0	1	0	0	0	0	0	11	549	0	0	560	947
5:00 PM	0	5	102	0	107	0	0	0	0	0	0	0	0	0	0	6	145	0	0	151	258
5:15 PM	0	2	104	0	106	0	0	0	0	0	0	0	0	0	0	4	149	0	0	153	259
5:30 PM	0	0	108	0	108	0	0	0	0	0	0	0	0	0	0	7	170	0	0	177	285
5:45 PM	0	5	113	0	118	0	0	0	0	0	0	0	0	0	0	7	121	0	0	128	246
Total	0	12	427	0	439	0	0	0	0	0	0	0	0	0	0	24	585	0	0	609	1048
Grand Total	0	26	799	0	825	0	1	0	0	1	0	0	0	0	0	35	1134	0	0	1169	1995
Approach %	0.0	3.2	96.8	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		3.0	97.0	0.0	0.0		
Total %	0.0	1.3	40.1	0.0	41.4	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.8	56.8	0.0	0.0	58.6	
Exiting Leg Total					0					1933					61					1	1995
Cars	0	25	731	0	756	0	1	0	0	1	0	0	0	0	0	34	1085	0	0	1119	1876
% Cars	0.0	96.2	91.5	0.0	91.6	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	97.1	95.7	0.0	0.0	95.7	94.0
Exiting Leg Total					0					1816					59					1	1876
Heavy Vehicles	0	1	68	0	69	0	0	0	0	0	0	0	0	0	0	1	49	0	0	50	119
% Heavy Vehicles	0.0	3.8	8.5	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	4.3	0.0	0.0	4.3	6.0
Exiting Leg Total					0					117					2					0	119

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	0	4	99	0	103	0	1	0	0	1	0	0	0	0	0	3	143	0	0	146	250
5:00 PM	0	5	102	0	107	0	0	0	0	0	0	0	0	0	0	6	145	0	0	151	258
5:15 PM	0	2	104	0	106	0	0	0	0	0	0	0	0	0	0	4	149	0	0	153	259
5:30 PM	0	0	108	0	108	0	0	0	0	0	0	0	0	0	0	7	170	0	0	177	285
Total Volume	0	11	413	0	424	0	1	0	0	1	0	0	0	0	0	20	607	0	0	627	1052
% Approach Total	0.0	2.6	97.4	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		3.2	96.8	0.0	0.0		
PHF	0.000	0.550	0.956	0.000	0.981	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.714	0.893	0.000	0.000	0.886	0.923
Cars	0	11	378	0	389	0	1	0	0	1	0	0	0	0	0	19	583	0	0	602	992
Cars %	0.0	100.0	91.5	0.0	91.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	95.0	96.0	0.0	0.0	96.0	94.3
Heavy Vehicles	0	0	35	0	35	0	0	0	0	0	0	0	0	0	0	1	24	0	0	25	60
Heavy Vehicles %	0.0	0.0	8.5	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	4.0	0.0	0.0	4.0	5.7
Cars Enter Leg	0	11	378	0	389	0	1	0	0	1	0	0	0	0	0	19	583	0	0	602	992
Heavy Enter Leg	0	0	35	0	35	0	0	0	0	0	0	0	0	0	0	1	24	0	0	25	60
Total Entering Leg	0	11	413	0	424	0	1	0	0	1	0	0	0	0	0	20	607	0	0	627	1052
Cars Exiting Leg					0					961					30					1	992
Heavy Exiting Leg					0					59					1					0	60
Total Exiting Leg					0					1020					31					1	1052

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars-Combined (Motorcycles, Cars, Light Goods)

	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	4	84	0	88	0	0	0	0	0	0	0	0	0	0	1	128	0	0	129	217
4:15 PM	0	3	82	0	85	0	0	0	0	0	0	0	0	0	0	4	128	0	0	132	217
4:30 PM	0	3	83	0	86	0	0	0	0	0	0	0	0	0	0	3	131	0	0	134	220
4:45 PM	0	4	90	0	94	0	1	0	0	1	0	0	0	0	0	2	136	0	0	138	233
Total	0	14	339	0	353	0	1	0	0	1	0	0	0	0	0	10	523	0	0	533	887
5:00 PM	0	5	95	0	100	0	0	0	0	0	0	0	0	0	0	6	140	0	0	146	246
5:15 PM	0	2	97	0	99	0	0	0	0	0	0	0	0	0	0	4	141	0	0	145	244
5:30 PM	0	0	96	0	96	0	0	0	0	0	0	0	0	0	0	7	166	0	0	173	269
5:45 PM	0	4	104	0	108	0	0	0	0	0	0	0	0	0	0	7	115	0	0	122	230
Total	0	11	392	0	403	0	0	0	0	0	0	0	0	0	0	24	562	0	0	586	989
Grand Total	0	25	731	0	756	0	1	0	0	1	0	0	0	0	0	34	1085	0	0	1119	1876
Approach %	0.0	3.3	96.7	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		3.0	97.0	0.0	0.0		
Total %	0.0	1.3	39.0	0.0	40.3	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.8	57.8	0.0	0.0	59.6	
Exiting Leg Total					0					1816					59					1	1876

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	0	4	90	0	94	0	1	0	0	1	0	0	0	0	0	2	136	0	0	138	233
5:00 PM	0	5	95	0	100	0	0	0	0	0	0	0	0	0	0	6	140	0	0	146	246
5:15 PM	0	2	97	0	99	0	0	0	0	0	0	0	0	0	0	4	141	0	0	145	244
5:30 PM	0	0	96	0	96	0	0	0	0	0	0	0	0	0	0	7	166	0	0	173	269
Total Volume	0	11	378	0	389	0	1	0	0	1	0	0	0	0	0	19	583	0	0	602	992
% Approach Total	0.0	2.8	97.2	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		3.2	96.8	0.0	0.0		
PHF	0.000	0.550	0.974	0.000	0.973	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.679	0.878	0.000	0.000	0.870	0.922
Entering Leg	0	11	378	0	389	0	1	0	0	1	0	0	0	0	0	19	583	0	0	602	992
Exiting Leg					0					961					30					1	992
Total					389					962					30					603	1984

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	15
4:15 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	16
4:30 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	12
4:45 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	17
Total	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	1	26	0	0	27	60
5:00 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
5:15 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	15
5:30 PM	0	0	12	0	12	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	16
5:45 PM	0	1	9	0	10	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	16
Total	0	1	35	0	36	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	59
Grand Total	0	1	68	0	69	0	0	0	0	0	0	0	0	0	0	1	49	0	0	50	119
Approach %	0.0	1.4	98.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.0	98.0	0.0	0.0		
Total %	0.0	0.8	57.1	0.0	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	41.2	0.0	0.0	42.0	
Exiting Leg Total					0					117					2					0	119
Buses	0	1	61	0	62	0	0	0	0	0	0	0	0	0	0	0	18	0	0	18	80
% Buses	0.0	100.0	89.7	0.0	89.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	0.0	0.0	36.0	67.2
Exiting Leg Total					0					79					1					0	80
Single-Unit Trucks	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	1	31	0	0	32	39
% Single-Unit	0.0	0.0	10.3	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	63.3	0.0	0.0	64.0	32.8
Exiting Leg Total					0					38					1					0	39
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	15
4:15 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	16
4:30 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	12
4:45 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	17
Total Volume	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	1	26	0	0	27	60
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.7	96.3	0.0	0.0		
PHF	0.000	0.000	0.917	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.722	0.000	0.000	0.750	0.882
Buses	0	0	28	0	28	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	36
Buses %	0.0	0.0	84.8	0.0	84.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8	0.0	0.0	29.6	60.0
Single-Unit Trucks	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	18	0	0	19	24
Single-Unit %	0.0	0.0	15.2	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	69.2	0.0	0.0	70.4	40.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	28	0	28	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	36
Single-Unit Trucks	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	18	0	0	19	24
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	1	26	0	0	27	60
Buses					0					36					0					0	36
Single-Unit Trucks					0					23					1					0	24
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					59					1					0	60

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	4	75	0	79	0	0	0	0	0	0	0	0	0	0	1	122	0	0	123	202
4:15 PM	0	3	76	0	79	0	0	0	0	0	0	0	0	0	0	3	116	0	0	119	198
4:30 PM	0	2	77	0	79	0	0	0	0	0	0	0	0	0	0	3	123	0	0	126	205
4:45 PM	0	4	82	0	86	0	1	0	0	1	0	0	0	0	0	2	129	0	0	131	218
Total	0	13	310	0	323	0	1	0	0	1	0	0	0	0	0	9	490	0	0	499	823
5:00 PM	0	5	90	0	95	0	0	0	0	0	0	0	0	0	0	6	136	0	0	142	237
5:15 PM	0	2	95	0	97	0	0	0	0	0	0	0	0	0	0	3	133	0	0	136	233
5:30 PM	0	0	96	0	96	0	0	0	0	0	0	0	0	0	0	7	158	0	0	165	261
5:45 PM	0	4	99	0	103	0	0	0	0	0	0	0	0	0	0	7	110	0	0	117	220
Total	0	11	380	0	391	0	0	0	0	0	0	0	0	0	0	23	537	0	0	560	951
Grand Total	0	24	690	0	714	0	1	0	0	1	0	0	0	0	0	32	1027	0	0	1059	1774
Approach %	0.0	3.4	96.6	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		3.0	97.0	0.0	0.0		
Total %	0.0	1.4	38.9	0.0	40.2	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.8	57.9	0.0	0.0	59.7	
Exiting Leg Total					0					1717					56					1	1774

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	5	90	0	95	0	0	0	0	0	0	0	0	0	0	6	136	0	0	142	237
5:15 PM	0	2	95	0	97	0	0	0	0	0	0	0	0	0	0	3	133	0	0	136	233
5:30 PM	0	0	96	0	96	0	0	0	0	0	0	0	0	0	0	7	158	0	0	165	261
5:45 PM	0	4	99	0	103	0	0	0	0	0	0	0	0	0	0	7	110	0	0	117	220
Total Volume	0	11	380	0	391	0	0	0	0	0	0	0	0	0	0	23	537	0	0	560	951
% Approach Total	0.0	2.8	97.2	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		4.1	95.9	0.0	0.0		
PHF	0.000	0.550	0.960	0.000	0.949	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.821	0.850	0.000	0.000	0.848	0.911
Entering Leg	0	11	380	0	391	0	0	0	0	0	0	0	0	0	0	23	537	0	0	560	951
Exiting Leg					0					917					34					0	951
Total					391					917					34					560	1902

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Light Goods Vehicle

	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	15
4:15 PM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	1	12	0	0	13	19
4:30 PM	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	14
4:45 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	15
Total	0	1	28	0	29	0	0	0	0	0	0	0	0	0	0	1	33	0	0	34	63
5:00 PM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	9
5:15 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
5:45 PM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	9
Total	0	0	12	0	12	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	34
Grand Total	0	1	40	0	41	0	0	0	0	0	0	0	0	0	0	2	54	0	0	56	97
Approach %	0.0	2.4	97.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.6	96.4	0.0	0.0		
Total %	0.0	1.0	41.2	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	55.7	0.0	0.0	57.7	
Exiting Leg Total					0					94					3					0	97

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	15
4:15 PM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	1	12	0	0	13	19
4:30 PM	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	14
4:45 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	15
Total Volume	0	1	28	0	29	0	0	0	0	0	0	0	0	0	0	1	33	0	0	34	63
% Approach Total	0.0	3.4	96.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.9	97.1	0.0	0.0		
PHF	0.000	0.250	0.778	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.688	0.000	0.000	0.654	0.829
Entering Leg	0	1	28	0	29	0	0	0	0	0	0	0	0	0	0	1	33	0	0	34	63
Exiting Leg					0					61					2					0	63
Total					29					61					2					34	126

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Buses

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	10
4:15 PM	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	9
4:30 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:45 PM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	9
Total	0	0	28	0	28	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	36
5:00 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	9
5:15 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	10
5:30 PM	0	0	11	0	11	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	13
5:45 PM	0	1	8	0	9	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	12
Total	0	1	33	0	34	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	44
Grand Total	0	1	61	0	62	0	0	0	0	0	0	0	0	0	0	0	18	0	0	18	80
Approach %	0.0	1.6	98.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	1.3	76.3	0.0	77.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	0.0	0.0	22.5	
Exiting Leg Total					0					79					1					0	80

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	9
5:15 PM	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	10
5:30 PM	0	0	11	0	11	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	13
5:45 PM	0	1	8	0	9	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	12
Total Volume	0	1	33	0	34	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	44
% Approach Total	0.0	2.9	97.1	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.750	0.000	0.773	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.833	0.000	0.000	0.833	0.846
Entering Leg	0	1	33	0	34	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	44
Exiting Leg					0					43					1					0	44
Total					34					43					1					10	88

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Single-Unit Trucks

	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	7
4:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	8
Total	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	18	0	0	19	24
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	15
Grand Total	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	1	31	0	0	32	39
Approach %	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.1	96.9	0.0	0.0		
Total %	0.0	0.0	17.9	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	79.5	0.0	0.0	82.1	
Exiting Leg Total					0					38					1					0	39

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Kingston Street					Essex Street					Kingston Street					Essex Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	5
4:15 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	7
4:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	8
Total Volume	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	18	0	0	19	24
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		5.3	94.7	0.0	0.0		
PHF	0.000	0.000	0.625	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.679	0.750
Entering Leg	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	18	0	0	19	24
Exiting Leg					0					23					1					0	24
Total					5					23					1					19	48

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Articulated Trucks

	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Kingston Street from North					Essex Street from East					Kingston Street from South					Essex Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Bicycles (on Roadway and Crosswalks)

	Kingston Street							Essex Street							Kingston Street							Essex Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
4:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2	4
4:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5	6
4:45 PM	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	7	0	0	0	0	7	11
Total	2	3	2	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	18	0	0	0	0	19	28
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	5	0	0	1	0	6	9
5:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10	0	0	0	1	12	14
5:30 PM	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	7	0	0	0	0	7	10
5:45 PM	0	2	0	0	1	1	4	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	7	0	0	1	0	8	14
Total	0	4	0	0	3	2	9	1	0	0	0	0	0	1	0	0	0	0	2	2	4	1	29	0	0	2	1	33	47
Grand Total	2	7	2	0	3	2	16	1	0	0	0	0	0	1	0	0	0	0	2	4	6	2	47	0	0	2	1	52	75
Approach %	12.5	43.8	12.5	0.0	18.8	12.5		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	33.3	66.7		3.8	90.4	0.0	0.0	3.8	1.9		
Total %	2.7	9.3	2.7	0.0	4.0	2.7	21.3	1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	2.7	5.3	8.0	2.7	62.7	0.0	0.0	2.7	1.3	69.3	
Exiting Leg Total							6							49							15							5	75

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Kingston Street							Essex Street							Kingston Street							Essex Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	5	0	0	1	0	6	9
5:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10	0	0	0	1	12	14
5:30 PM	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	7	0	0	0	0	7	10
5:45 PM	0	2	0	0	1	1	4	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	7	0	0	1	0	8	14
Total Volume	0	4	0	0	3	2	9	1	0	0	0	0	0	1	0	0	0	0	2	2	4	1	29	0	0	2	1	33	47
% Approach Total	0.0	44.4	0.0	0.0	33.3	22.2		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		3.0	87.9	0.0	0.0	6.1	3.0		
PHF	0.000	0.500	0.000	0.000	0.750	0.500	0.563	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.500	0.500	0.250	0.725	0.000	0.000	0.500	0.250	0.688	0.839
Entering Leg	0	4	0	0	3	2	9	1	0	0	0	0	0	1	0	0	0	0	2	2	4	1	29	0	0	2	1	33	47
Exiting Leg							6							29							9							3	47
Total							15							30							13							36	94

PDI File #: **186481 A**
Location: **N: Kingston Street S: Kingston Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Pedestrians

	Kingston Street							Essex Street							Kingston Street							Essex Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	43	39	82	0	0	0	0	8	4	12	0	0	0	0	25	63	88	0	0	0	0	14	22	36	218
4:15 PM	0	0	0	0	35	67	102	0	0	0	0	9	5	14	0	0	0	0	30	58	88	0	0	0	0	12	23	35	239
4:30 PM	0	0	0	0	52	35	87	0	0	0	0	16	8	24	0	0	0	0	27	90	117	0	0	0	0	16	27	43	271
4:45 PM	0	0	0	0	57	56	113	0	0	0	0	16	6	22	0	0	0	0	27	67	94	0	0	0	0	21	17	38	267
Total	0	0	0	0	187	197	384	0	0	0	0	49	23	72	0	0	0	0	109	278	387	0	0	0	0	63	89	152	995
5:00 PM	0	0	0	0	67	123	190	0	0	0	0	23	14	37	0	0	0	0	43	71	114	0	0	0	0	33	21	54	395
5:15 PM	0	0	0	0	59	105	164	0	0	0	0	18	8	26	0	0	0	0	41	85	126	0	0	0	0	35	29	64	380
5:30 PM	0	0	0	0	34	81	115	0	0	0	0	12	10	22	0	0	0	0	38	71	109	0	0	0	0	17	37	54	300
5:45 PM	0	0	0	0	42	68	110	0	0	0	0	20	19	39	0	0	0	0	36	41	77	0	0	0	0	24	56	80	306
Total	0	0	0	0	202	377	579	0	0	0	0	73	51	124	0	0	0	0	158	268	426	0	0	0	0	109	143	252	1381
Grand Total	0	0	0	0	389	574	963	0	0	0	0	122	74	196	0	0	0	0	267	546	813	0	0	0	0	172	232	404	2376
Approach %	0	0	0	0	40.4	59.6		0	0	0	0	62.2	37.8		0	0	0	0	32.8	67.2		0	0	0	0	42.6	57.4		
Total %	0	0	0	0	16.4	24.2	40.5	0	0	0	0	5.13	3.11	8.25	0	0	0	0	11.2	23	34.2	0	0	0	0	7.24	9.76	17	
Exiting Leg Total							963							196							813							404	2376

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Kingston Street							Essex Street							Kingston Street							Essex Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	67	123	190	0	0	0	0	23	14	37	0	0	0	0	43	71	114	0	0	0	0	33	21	54	395
5:15 PM	0	0	0	0	59	105	164	0	0	0	0	18	8	26	0	0	0	0	41	85	126	0	0	0	0	35	29	64	380
5:30 PM	0	0	0	0	34	81	115	0	0	0	0	12	10	22	0	0	0	0	38	71	109	0	0	0	0	17	37	54	300
5:45 PM	0	0	0	0	42	68	110	0	0	0	0	20	19	39	0	0	0	0	36	41	77	0	0	0	0	24	56	80	306
Total Volume	0	0	0	0	202	377	579	0	0	0	0	73	51	124	0	0	0	0	158	268	426	0	0	0	0	109	143	252	1381
% Approach Total	0.0	0.0	0.0	0.0	34.9	65.1		0.0	0.0	0.0	0.0	58.9	41.1		0.0	0.0	0.0	0.0	37.1	62.9		0.0	0.0	0.0	0.0	43.3	56.7		
PHF	0.000	0.000	0.000	0.000	0.754	0.766	0.762	0.000	0.000	0.000	0.000	0.793	0.671	0.795	0.000	0.000	0.000	0.000	0.919	0.788	0.845	0.000	0.000	0.000	0.000	0.779	0.638	0.788	0.874
Entering Leg	0	0	0	0	202	377	579	0	0	0	0	73	51	124	0	0	0	0	158	268	426	0	0	0	0	109	143	252	1381
Exiting Leg							579							124							426							252	1381
Total							1158							248							852							504	2762

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: dataequest@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	21	0	134	14	0	27	0	0	196	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	9	0	101	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	30	0	36	29	0	11	0	130	0	0	0	0	0	0	0	0	0	443
7:15 AM	13	0	112	11	0	26	1	0	163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	25	0	104	0	1	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	22	1	32	28	0	16	0	119	0	0	0	0	0	0	0	0	0	420
7:30 AM	22	0	120	24	0	32	0	0	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	17	0	117	0	0	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	17	0	37	32	0	16	0	127	0	0	0	0	0	0	0	0	0	467
7:45 AM	20	0	134	11	0	24	0	0	189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	21	0	110	0	1	0	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	22	0	51	30	0	29	0	159	0	0	0	0	0	0	0	0	0	485
Total	76	0	500	60	0	109	1	0	746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	72	0	432	0	2	0	0	534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	91	1	156	119	0	72	0	535	0	0	0	0	0	0	0	0	0	1815
8:00 AM	18	0	132	9	0	27	0	0	186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	29	0	118	0	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	14	0	59	34	0	25	0	157	0	0	0	0	0	0	0	0	0	495
8:15 AM	21	0	155	16	0	29	0	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	19	0	118	0	1	1	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	31	0	50	34	0	13	0	158	0	0	0	0	0	0	0	0	0	527
8:30 AM	20	0	135	15	0	43	0	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27	0	104	0	0	0	0	144	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	20	33	0	50	28	0	27	0	158	0	0	0	0	0	0	0	0	0	516
8:45 AM	20	0	137	12	0	30	0	0	199	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	36	0	109	0	0	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	19	0	48	28	0	23	0	153	0	0	0	0	0	0	0	0	0	511
Total	79	0	559	52	0	129	0	0	819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	111	0	449	0	1	1	0	603	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	110	97	0	207	124	0	88	0	626	0	0	0	0	0	0	0	0	0	2049
Grand Total	155	0	1059	112	0	238	1	0	1565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	183	0	881	0	3	1	0	1137	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	206	188	1	363	243	0	160	0	1161	0	0	0	0	0	0	0	0	0	3864
Approach %	9.9	0.0	67.7	7.2	0.0	15.2	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.1	16.1	0.0	77.5	0.0	0.3	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		17.7	16.2	0.1	31.3	20.9	0.0	13.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	4.0	0.0	27.4	2.9	0.0	6.2	0.0	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.7	0.0	22.8	0.0	0.1	0.0	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	4.9	0.0	9.4	6.3	0.0	4.1	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									427									670								1									301									1269									0									1196	3864
Cars	151	0	961	104	0	226	1	0	1443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	166	0	809	0	3	1	0	1039	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	154	178	1	322	223	0	155	0	1033	0	0	0	0	0	0	0	0	0	3516
% Cars	97.4	0.0	90.7	92.9	0.0	95.0	100.0	0.0	92.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.0	90.7	0.0	91.8	0.0	100.0	100.0	0.0	91.4	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	74.8	94.7	100.0	88.7	91.8	0.0	96.9	0.0	89.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.0
Exiting Leg Total									0									380									608								1									283									1119									0									1115	3516
Heavy Vehicles	4	0	98	8	0	12	0	0	122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	17	0	72	0	0	0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	10	0	41	20	0	5	0	128	0	0	0	0	0	0	0	0	0	348
% Heavy Vehicles	2.6	0.0	9.3	7.1	0.0	5.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	9.3	0.0	8.2	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.2	5.3	0.0	11.3	8.2	0.0	3.1	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0
Exiting Leg Total									0									37									62								0									18									150									0									81	348

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
8:00 AM	18	0	132	9	0	27	0	0	186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	29	0	118	0	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	14	0	59	34	0	25	0	157	0	0	0	0	0	0	0	0	0	495
8:15 AM	21	0	155	16	0	29	0	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	19	0	118	0	1	1	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	31	0	50	34	0	13	0	158	0	0	0	0	0	0	0	0	0	527
8:30 AM	20	0	135	15	0	43	0	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27	0	104	0	0	0	0	144	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	20	33	0	50	28	0	27	0	158	0	0	0	0	0	0	0	0	0	516
8:45 AM	20	0	137	12	0	30	0	0	199	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	36	0	109	0	0	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	19	0	48	28	0	23	0	153	0	0	0	0	0	0	0	0	0	511
Total Volume	79	0	559	52	0	129	0	0	819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	111	0	449	0	1	1	0	603	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	110	97	0	207	124	0	88	0	626	0	0	0	0	0	0	0	0	0	2049
% Approach Total	9.6	0.0	68.3	6.3	0.0	15.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.8	18.4	0.0	74.5	0.0	0.2	0.2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		17.6	15.5	0.0	33.1	19.8	0.0	14.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.940	0.000	0.902	0.813	0.000	0.750	0.000	0.000	0.926	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.771	0.000	0.951	0.000	0.250	0.250	0.000	0.948	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.735	0.000	0.877	0.912	0.000	0.815	0.000	0.991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.972
Cars	78	0	507	48	0	124	0	0	757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	101	0	411	0	1	1	0	551	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	83	91	0	182	113	0	88	0	557	0	0	0	0	0	0	0	0	0	1866
Cars %	98.7	0.0	90.7	92.3	0.0	96.1	0.0	0.0	92.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.2	91.0	0.0	91.5	0.0	100.0	100.0	0.0	91.4	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.5	93.8	0.0	87.9	91.1	0.0	100.0	0.0	89.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.1
Heavy Vehicles	1	0	52	4	0	5	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10	0	38	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	6	0	25	11	0	0	0	69	0	0	0	0	0	0	0	0	0	183
Heavy Vehicles %	1.3	0.0	9.3	7.7	0.0	3.9	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	9.0	0.0	8.5	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	6.2	0.0	12.1	8.9	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9
Cars Enter Leg	78	0	507	48	0	124	0	0	757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	101	0	411	0	1	1	0	551	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	83	91	0	182	113	0	88	0	557	0	0	0	0	0	0	0	0	0	1866
Heavy Enter Leg	1	0	52	4	0	5	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10	0	38	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	6	0	25	11	0	0	0	69	0	0	0	0	0	0	0	0	0	183
Total Entering Leg	79	0	559	52	0	129	0	0	819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	111	0	449	0	1	1	0	603	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	110	97	0	207	124	0	88	0	626	0	0	0	0	0	0	0	0	0	2049
Cars Exiting Leg									0									214									343								0									140									592									0									577	1866
Heavy Exiting Leg									0									21									34								0									10									79									0									39	183
Total Exiting Leg									0									235									377								0									150									671									0									616	2049

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	21	0	118	12	0	25	0	0	176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	0	92	0	0	0	0	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	27	0	33	29	0	11	0	117	0	0	0	0	0	0	0	0	0	399
7:15 AM	12	0	105	10	0	24	1	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	23	0	100	0	1	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	22	1	27	27	0	14	0	106	0	0	0	0	0	0	0	0	0	389
7:30 AM	20	0	106	24	0	30	0	0	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	15	0	105	0	0	0	0	126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	17	0	33	29	0	16	0	115	0	0	0	0	0	0	0	0	0	421
7:45 AM	20	0	125	10	0	23	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	19	0	101	0	1	0	0	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	21	0	47	25	0	26	0	138	0	0	0	0	0	0	0	0	0	441
Total	73	0	454	56	0	102	1	0	686	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	65	0	398	0	2	0	0	488	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	87	1	140	110	0	67	0	476	0	0	0	0	0	0	0	0	0	1650
8:00 AM	18	0	118	8	0	24	0	0	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	0	109	0	0	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	14	0	52	32	0	25	0	141	0	0	0	0	0	0	0	0	0	447
8:15 AM	21	0	137	14	0	28	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	19	0	111	0	1	1	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	28	0	41	31	0	13	0	133	0	0	0	0	0	0	0	0	0	473
8:30 AM	20	0	123	15	0	42	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27	0	91	0	0	0	0	131	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	18	31	0	47	25	0	27	0	148	0	0	0	0	0	0	0	0	0	480
8:45 AM	19	0	129	11	0	30	0	0	189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	30	0	100	0	0	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	18	0	42	25	0	23	0	135	0	0	0	0	0	0	0	0	0	466
Total	78	0	507	48	0	124	0	0	757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	101	0	411	0	1	1	0	551	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	83	91	0	182	113	0	88	0	557	0	0	0	0	0	0	0	0	0	1866
Grand Total	151	0	961	104	0	226	1	0	1443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	166	0	809	0	3	1	0	1039	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	154	178	1	322	223	0	155	0	1033	0	0	0	0	0	0	0	0	0	3516
Approach %	10.5	0.0	66.6	7.2	0.0	15.7	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		5.8	16.0	0.0	77.9	0.0	0.3	0.1	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			14.9	17.2	0.1	31.2	21.6	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	4.3	0.0	27.3	3.0	0.0	6.4	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.7	0.0	23.0	0.0	0.1	0.0	0.0	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	5.1	0.0	9.2	6.3	0.0	4.4	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									390									608								1									283									1119								0									1115	3516

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
8:00 AM	18	0	118	8	0	24	0	0	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	0	109	0	0	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	14	0	52	32	0	25	0	141	0	0	0	0	0	0	0	0	0	447
8:15 AM	21	0	137	14	0	28	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	19	0	111	0	1	1	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	28	0	41	31	0	13	0	133	0	0	0	0	0	0	0	0	0	473
8:30 AM	20	0	123	15	0	42	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27	0	91	0	0	0	0	131	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	18	31	0	47	25	0	27	0	148	0	0	0	0	0	0	0	0	0	480
8:45 AM	19	0	129	11	0	30	0	0	189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	30	0	100	0	0	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	18	0	42	25	0	23	0	135	0	0	0	0	0	0	0	0	0	466
Total Volume	78	0	507	48	0	124	0	0	757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	101	0	411	0	1	1	0	551	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	83	91	0	182	113	0	88	0	557	0	0	0	0	0	0	0	0	0	1866
% Approach Total	10.3	0.0	67.0	6.3	0.0	16.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.7	18.3	0.0	74.6	0.0	0.2	0.2	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			14.9	16.3	0.0	32.7	20.3	0.0	15.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.929	0.000	0.925	0.800	0.000	0.738	0.000	0.000	0.946	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.712	0.842	0.000	0.926	0.000	0.250	0.250	0.000	0.970	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.769	0.734	0.000	0.875	0.883	0.000	0.815	0.000	0.941	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.972
Entering Leg	78	0	507	48	0	124	0	0	757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	101	0	411	0	1	1	0	551	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	83	91	0	182	113	0	88	0	557	0	0	0	0	0	0	0	0	0	1866
Exiting Leg									0									214									343								0									140									592								0									577	1866
Total									757									214									343								551									141									592								557									577	3732

PDI File #: 186481 B
Location: N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street
Location: E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road
City, State: Boston, MA
Client: VHB/ A. Santiago
Site Code: 13962.00
Count Date: Wednesday, September 19, 2018
Start Time: 7:00 AM
End Time: 9:00 AM
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Surface Road									I-93 NB Onramp								
	from North									from Northeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:00 AM	0	0	16	2	0	2	0	0	20	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	7	1	0	2	0	0	11	0	0	0	0	0	0	0	0	0
7:30 AM	2	0	14	0	0	2	0	0	18	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	9	1	0	1	0	0	11	0	0	0	0	0	0	0	0	0
Total	3	0	46	4	0	7	0	0	60	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	14	1	0	3	0	0	18	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	18	2	0	1	0	0	21	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	12	0	0	1	0	0	13	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	8	1	0	0	0	0	10	0	0	0	0	0	0	0	0	0
Total	1	0	52	4	0	5	0	0	62	0	0	0	0	0	0	0	0	0
Grand Total	4	0	98	8	0	12	0	0	122	0	0	0	0	0	0	0	0	0
Approach %	3.3	0.0	80.3	6.6	0.0	9.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	1.1	0.0	28.2	2.3	0.0	3.4	0.0	0.0	35.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									37
Buses	1	0	36	0	0	2	0	0	39	0	0	0	0	0	0	0	0	0
% Buses	25.0	0.0	36.7	0.0	0.0	16.7	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									13
Single-Unit Trucks	2	0	61	7	0	10	0	0	80	0	0	0	0	0	0	0	0	0
% Single-Unit	50.0	0.0	62.2	87.5	0.0	83.3	0.0	0.0	65.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									22
Articulated Trucks	1	0	1	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
% Articulated	25.0	0.0	1.0	12.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									2

	Essex Street									Lincoln Street								
	from East									from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	9	0	0	0	0	11
7:15 AM	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	2	2	0	12	0	0	0	0	16
7:45 AM	0	0	0	0	0	0	0	0	0	1	2	0	9	0	0	0	0	12
Total	0	0	0	0	0	0	0	0	0	5	7	0	34	0	0	0	0	46
8:00 AM	0	0	0	0	0	0	0	0	0	1	4	0	9	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	7	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13
8:45 AM	0	0	0	0	0	0	0	0	0	2	6	0	9	0	0	0	0	17
Total	0	0	0	0	0	0	0	0	0	4	10	0	38	0	0	0	0	52
Grand Total	0	0	0	0	0	0	0	0	0	9	17	0	72	0	0	0	0	98
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		9.2	17.3	0.0	73.5	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	4.9	0.0	20.7	0.0	0.0	0.0	0.0	28.2
Exiting Leg Total									62									0
Buses	0	0	0	0	0	0	0	0	0	1	8	0	53	0	0	0	0	62
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	47.1	0.0	73.6	0.0	0.0	0.0	0.0	63.3
Exiting Leg Total									33									0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	8	9	0	17	0	0	0	0	34
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.9	52.9	0.0	23.6	0.0	0.0	0.0	0.0	34.7
Exiting Leg Total									29									0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	2.0
Exiting Leg Total									0									0

	I-93 SB Onramp									Surface Road								
	from South									from Southwest								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									18									150
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									3									81
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									13									67
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									2									2

	Essex Street									Lincoln Street									
	from West									from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	7	3	0	3	0	0	0	0	13	0	0	0	0	0	0	0	0	0	44
7:15 AM	5	0	0	5	1	0	2	0	13	0	0	0	0	0	0	0	0	0	31
7:30 AM	5	0	0	4	3	0	0	0	12	0	0	0	0	0	0	0	0	0	46
7:45 AM	8	1	0	4	5	0	3	0	21	0	0	0	0	0	0	0	0	0	44
Total	25	4	0	16	9	0	5	0	59	0	0	0	0	0	0	0	0	0	165
8:00 AM	7	0	0	7	2	0	0	0	16	0	0	0	0	0	0	0	0	0	48
8:15 AM	10	3	0	9	3	0	0	0	25	0	0	0	0	0	0	0	0	0	54
8:30 AM	2	2	0	3	3	0	0	0	10	0	0	0	0	0	0	0	0	0	36
8:45 AM	8	1	0	6	3	0	0	0	18	0	0	0	0	0	0	0	0	0	45
Total	27	6	0	25	11	0	0	0	69	0	0	0	0	0	0	0	0	0	183
Grand Total	52	10	0	41	20	0	5	0	128	0	0	0	0	0	0	0	0	0	348
Approach %	40.6	7.8	0.0	32.0	15.6	0.0	3.9	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	14.9	2.9	0.0	11.8	5.7	0.0	1.4	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									81	348
Buses	45	3	0	30	5	0	0	0	83	0	0	0	0	0	0	0	0	0	184
% Buses	86.5	30.0	0.0	73.2	25.0	0.0	0.0	0.0	64.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9
Exiting Leg Total									0									54	184
Single-Unit Trucks	6	6	0	11	13	0	5	0	41	0	0	0	0	0	0	0	0	0	155
% Single-Unit	11.5	60.0	0.0	26.8	65.0	0.0	100.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5
Exiting Leg Total									0									24	155
Articulated Trucks	1	1	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	9
% Articulated	1.9	10.0	0.0	0.0	10.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Exiting Leg Total									0									3	9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road									I-93 NB Onramp								
	from North									from Northeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:30 AM	2	0	14	0	0	2	0	0	18	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	9	1	0	1	0	0	11	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	14	1	0	3	0	0	18	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	18	2	0	1	0	0	21	0	0	0	0	0	0	0	0	0
Total Volume	2	0	55	4	0	7	0	0	68	0	0	0	0	0	0	0	0	0
% Approach Total	2.9	0.0	80.9	5.9	0.0	10.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.764	0.500	0.000	0.583	0.000	0.000	0.810	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	1	0	23	0	0	1	0	0	25	0	0	0	0	0	0	0	0	0
Buses %	50.0	0.0	41.8	0.0	0.0	14.3	0.0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	31	3	0	6	0	0	40	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	56.4	75.0	0.0	85.7	0.0	0.0	58.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	1	0	1	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Articulated %	50.0	0.0	1.8	25.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	1	0	23	0	0	1	0	0	25	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	31	3	0	6	0	0	40	0	0	0	0	0	0	0	0	0
Articulated Trucks	1	0	1	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Total Entering Leg	2	0	55	4	0	7	0	0	68	0	0	0	0	0	0	0	0	0
Buses									0									8
Single-Unit Trucks									0									11
Articulated Trucks									0									2
Total Exiting Leg									0									21

	Essex Street									Lincoln Street								
	from East									from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:30 AM	0	0	0	0	0	0	0	0	0	2	2	0	12	0	0	0	0	16
7:45 AM	0	0	0	0	0	0	0	0	0	1	2	0	9	0	0	0	0	12
8:00 AM	0	0	0	0	0	0	0	0	0	1	4	0	9	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	7	0	0	0	0	8
Total Volume	0	0	0	0	0	0	0	0	0	5	8	0	37	0	0	0	0	50
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		10.0	16.0	0.0	74.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.500	0.000	0.771	0.000	0.000	0.000	0.000	0.781
Buses	0	0	0	0	0	0	0	0	0	1	5	0	30	0	0	0	0	36
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	62.5	0.0	81.1	0.0	0.0	0.0	0.0	72.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	4	3	0	5	0	0	0	0	12
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	37.5	0.0	13.5	0.0	0.0	0.0	0.0	24.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	4.0
Buses	0	0	0	0	0	0	0	0	0	1	5	0	30	0	0	0	0	36
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	4	3	0	5	0	0	0	0	12
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Total Entering Leg	0	0	0	0	0	0	0	0	0	5	8	0	37	0	0	0	0	50
Buses									20									0
Single-Unit Trucks									16									0
Articulated Trucks									0									0
Total Exiting Leg									36									0

	I-93 SB Onramp									Surface Road								
	from South									from Southwest								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses									2									50
Single-Unit Trucks									5									34
Articulated Trucks									1									1
Total Exiting Leg									8									85

	Essex Street									Lincoln Street									
	from West									from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:30 AM	5	0	0	4	3	0	0	0	12	0	0	0	0	0	0	0	0	0	46
7:45 AM	8	1	0	4	5	0	3	0	21	0	0	0	0	0	0	0	0	0	44
8:00 AM	7	0	0	7	2	0	0	0	16	0	0	0	0	0	0	0	0	0	48
8:15 AM	10	3	0	9	3	0	0	0	25	0	0	0	0	0	0	0	0	0	54
Total Volume	30	4	0	24	13	0	3	0	74	0	0	0	0	0	0	0	0	0	192
% Approach Total	40.5	5.4	0.0	32.4	17.6	0.0	4.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.750	0.333	0.000	0.667	0.650	0.000	0.250	0.000	0.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.889
Buses	27	2	0	18	3	0	0	0	50	0	0	0	0	0	0	0	0	0	111
Buses %	90.0	50.0	0.0	75.0	23.1	0.0	0.0	0.0	67.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.8
Single-Unit Trucks	3	2	0	6	8	0	3	0	22	0	0	0	0	0	0	0	0	0	74
Single-Unit %	10.0	50.0	0.0	25.0	61.5	0.0	100.0	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5
Articulated Trucks	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	7
Articulated %	0.0	0.0	0.0	0.0	15.4	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
Buses	27	2	0	18	3	0	0	0	50	0	0	0	0	0	0	0	0	0	111
Single-Unit Trucks	3	2	0	6	8	0	3	0	22	0	0	0	0	0	0	0	0	0	74
Articulated Trucks	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	7
Total Entering Leg	30	4	0	24	13	0	3	0	74	0	0	0	0	0	0	0	0	0	192
Buses									0									31	111
Single-Unit Trucks									0									8	74
Articulated Trucks									0									3	7
Total Exiting Leg									0									42	192

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	21	0	100	12	0	23	0	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	0	84	0	0	0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	25	0	28	28	0	10	0	103	0	0	0	0	0	0	0	0	0	357
7:15 AM	11	0	81	10	0	21	1	0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	21	0	89	0	1	0	0	118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	21	0	25	25	0	12	0	95	0	0	0	0	0	0	0	0	0	337
7:30 AM	19	0	96	20	0	26	0	0	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	14	0	93	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	15	0	29	28	0	16	0	107	0	0	0	0	0	0	0	0	0	381
7:45 AM	19	0	107	8	0	19	0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14	0	92	0	1	0	0	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	20	0	45	22	0	23	0	128	0	0	0	0	0	0	0	0	0	392
Total	70	0	384	50	0	89	1	0	594	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	57	0	358	0	2	0	0	440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	81	0	127	103	0	61	0	433	0	0	0	0	0	0	0	0	0	1467
8:00 AM	18	0	107	7	0	23	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	0	105	0	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	14	0	48	28	0	23	0	130	0	0	0	0	0	0	0	0	0	419
8:15 AM	21	0	127	11	0	25	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	17	0	105	0	1	1	0	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	25	0	40	27	0	12	0	123	0	0	0	0	0	0	0	0	0	439
8:30 AM	19	0	111	11	0	40	0	0	181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	23	0	87	0	0	0	0	123	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	18	31	0	46	22	0	25	0	142	0	0	0	0	0	0	0	0	0	447
8:45 AM	18	0	115	9	0	28	0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	27	0	92	0	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	18	0	40	25	0	23	0	132	0	0	0	0	0	0	0	0	0	432
Total	76	0	460	38	0	116	0	0	690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	92	0	389	0	1	1	0	519	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	80	88	0	174	102	0	83	0	527	0	0	0	0	0	0	0	0	0	1737
Grand Total	146	0	844	88	0	205	1	0	1284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	149	0	747	0	3	1	0	959	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	141	169	0	301	205	0	144	0	960	0	0	0	0	0	0	0	0	0	3204
Approach %	11.4	0.0	65.7	6.9	0.0	16.0	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.2	15.5	0.0	77.9	0.0	0.3	0.1	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		14.7	17.6	0.0	31.4	21.4	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	4.6	0.0	26.3	2.7	0.0	6.4	0.0	0.0	40.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.7	0.0	23.3	0.0	0.1	0.0	0.0	29.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	5.3	0.0	9.4	6.4	0.0	4.5	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									355									565								0									258									989									0									1037	3204

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
8:00 AM	18	0	107	7	0	23	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	0	105	0	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	14	0	48	28	0	23	0	130	0	0	0	0	0	0	0	0	0	419
8:15 AM	21	0	127	11	0	25	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	17	0	105	0	1	1	0	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	25	0	40	27	0	12	0	123	0	0	0	0	0	0	0	0	0	439
8:30 AM	19	0	111	11	0	40	0	0	181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	23	0	87	0	0	0	0	123	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	18	31	0	46	22	0	25	0	142	0	0	0	0	0	0	0	0	0	447
8:45 AM	18	0	115	9	0	28	0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	27	0	92	0	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	18	0	40	25	0	23	0	132	0	0	0	0	0	0	0	0	0	432
Total Volume	76	0	460	38	0	116	0	0	690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	92	0	389	0	1	1	0	519	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	80	88	0	174	102	0	83	0	527	0	0	0	0	0	0	0	0	0	1737
% Approach Total	11.0	0.0	66.7	5.5	0.0	16.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.9	17.7	0.0	75.0	0.0	0.2	0.2	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		15.2	16.7	0.0	33.0	19.4	0.0	15.7	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.905	0.000	0.906	0.864	0.000	0.725	0.000	0.000	0.938	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.692	0.852	0.000	0.926	0.000	0.250	0.250	0.000	0.968	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.769	0.710	0.000	0.906	0.911	0.000	0.830	0.000	0.928	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.971
Entering Leg	76	0	460	38	0	116	0	0	690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	92	0	389	0	1	1	0	519	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	80	88	0	174	102	0	83	0	527	0	0	0	0	0	0	0	0	0	1737
Exiting Leg									0									194									326								519									127									542									0									548	1737
Total									690									194									326								519									128									542									527									548	3474

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	18	0	0	2	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	5	1	0	1	0	14	0	0	0	0	0	0	0	0	0	42
7:15 AM	1	0	23	0	0	3	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	11	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	2	2	0	2	0	11	0	0	0	0	0	0	0	0	0	51
7:30 AM	1	0	10	4	0	4	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	12	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	4	1	0	0	0	8	0	0	0	0	0	0	0	0	0	40
7:45 AM	1	0	17	2	0	4	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	9	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	0	2	0	9	0	0	0	0	0	0	0	0	0	47
Total	3	0	68	6	0	13	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	40	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	6	1	13	7	0	5	0	42	0	0	0	0	0	0	0	0	0	180
8:00 AM	0	0	10	1	0	1	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	0	2	0	9	0	0	0	0	0	0	0	0	0	25
8:15 AM	0	0	10	3	0	2	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	4	0	1	0	10	0	0	0	0	0	0	0	0	0	32
8:30 AM	0	0	10	4	0	2	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	2	0	6	0	0	0	0	0	0	0	0	0	29
8:45 AM	1	0	14	2	0	2	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	8	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	34
Total	1	0	44	10	0	7	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	20	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	11	0	5	0	28	0	0	0	0	0	0	0	0	0	120
Grand Total	4	0	112	16	0	20	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	0	60	0	0	0	0	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	9	1	19	18	0	10	0	70	0	0	0	0	0	0	0	0	0	300
Approach %	2.6	0.0	73.7	10.5	0.0	13.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0			1.3	21.8	0.0	76.9	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		18.6	12.9	1.4	27.1	25.7	0.0	14.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	1.3	0.0	37.3	5.3	0.0	6.7	0.0	0.0	50.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.7	0.0	20.0	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	3.0	0.3	6.3	6.0	0.0	3.3	0.0	23.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									35									40								1									25									125								0									74	300

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	18	0	0	2	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	5	1	0	1	0	14	0	0	0	0	0	0	0	0	0	42
7:15 AM	1	0	23	0	0	3	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	11	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	2	2	0	2	0	11	0	0	0	0	0	0	0	0	0	51
7:30 AM	1	0	10	4	0	4	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	12	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	4	1	0	0	0	8	0	0	0	0	0	0	0	0	0	40
7:45 AM	1	0	17	2	0	4	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	9	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	0	2	0	9	0	0	0	0	0	0	0	0	0	47
Total Volume	3	0	68	6	0	13	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	40	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	6	1	13	7	0	5	0	42	0	0	0	0	0	0	0	0	0	180
% Approach Total	3.3	0.0	75.6	6.7	0.0	14.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	16.7	0.0	83.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		23.8	14.3	2.4	31.0	16.7	0.0	11.9	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.750	0.000	0.739	0.375	0.000	0.813	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.400	0.000	0.833	0.000	0.000	0.000	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.750	0.250	0.650	0.583	0.000	0.625	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.882
Entering Leg	3	0	68	6	0	13	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	40	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	6	1	13	7	0	5	0	42	0	0	0	0	0	0	0	0	0	180
Exiting Leg									0									15									26								1									12									78								0									48	180
Total									90									15									26								49									12									78								42									48	360

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	16
7:15 AM	0	0	3	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	8	0	0	0	0	0	0	0	0	0	16
7:30 AM	1	0	5	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0	24
7:45 AM	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	0	4	0	0	0	0	12	0	0	0	0	0	0	0	0	0	23
Total	1	0	13	0	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	27	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	2	0	11	0	0	0	0	34	0	0	0	0	0	0	0	0	0	79
8:00 AM	0	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	6	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	2	0	0	0	12	0	0	0	0	0	0	0	0	0	30
8:15 AM	0	0	8	0	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	7	1	0	0	0	19	0	0	0	0	0	0	0	0	0	34
8:30 AM	0	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	5	0	0	0	0	0	0	0	0	0	18
8:45 AM	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	5	1	0	0	0	13	0	0	0	0	0	0	0	0	0	23
Total	0	0	23	0	0	1	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	26	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	19	5	0	0	0	49	0	0	0	0	0	0	0	0	0	105
Grand Total	1	0	36	0	0	2	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	53	0	0	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	3	0	30	5	0	0	0	83	0	0	0	0	0	0	0	0	0	184
Approach %	2.6	0.0	92.3	0.0	0.0	5.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.6	12.9	0.0	85.5	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		54.2	3.6	0.0	36.1	6.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.5	0.0	19.6	0.0	0.0	1.1	0.0	0.0	21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.3	0.0	28.8	0.0	0.0	0.0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.5	1.6	0.0	16.3	2.7	0.0	0.0	0.0	45.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									13									33								0									3									81								0									54	184

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:30 AM	1	0	5	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0	24
7:45 AM	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	0	4	0	0	0	0	12	0	0	0	0	0	0	0	0	0	23
8:00 AM	0	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	6	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	2	0	0	0	12	0	0	0	0	0	0	0	0	0	30
8:15 AM	0	0	8	0	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	7	1	0	0	0	19	0	0	0	0	0	0	0	0	0	34
Total Volume	1	0	23	0	0	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	30	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	2	0	18	3	0	0	0	50	0	0	0	0	0	0	0	0	0	111
% Approach Total	4.0	0.0	92.0	0.0	0.0	4.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		2.8	13.9	0.0	83.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		54.0	4.0	0.0	36.0	6.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.719	0.000	0.000	0.250	0.000	0.000	0.694	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.417	0.000	0.750	0.000	0.000	0.000	0.000	0.818	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.675	0.500	0.000	0.643	0.375	0.000	0.000	0.000	0.658	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.816
Entering Leg	1	0	23	0	0	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	30	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	2	0	18	3	0	0	0	50	0	0	0	0	0	0	0	0	0	111
Exiting Leg									0									8									20								0									2									50								0									31	111
Total									25									8									20								36									2									50								50									31	222

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	13	2	0	2	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	27
7:15 AM	1	0	4	1	0	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	2	0	5	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	0	8	0	0	2	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	5	0	0	0	0	0	0	0	0	0	19
7:45 AM	0	0	7	1	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	3	0	7	0	0	0	0	0	0	0	0	0	18
Total	1	0	32	4	0	6	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	0	5	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	7	0	5	0	22	0	0	0	0	0	0	0	0	0	79
8:00 AM	0	0	6	1	0	3	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	18
8:15 AM	0	0	10	1	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	6	0	0	0	0	0	0	0	0	0	19
8:30 AM	0	0	7	0	0	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	4	0	0	0	0	0	0	0	0	0	17
8:45 AM	1	0	6	1	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	3	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0	0	0	5	0	0	0	0	0	0	0	0	0	22
Total	1	0	29	3	0	4	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	12	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	6	6	0	0	0	19	0	0	0	0	0	0	0	0	0	76
Grand Total	2	0	61	7	0	10	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	9	0	17	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	11	13	0	5	0	41	0	0	0	0	0	0	0	0	0	155
Approach %	2.5	0.0	76.3	8.8	0.0	12.5	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		23.5	26.5	0.0	50.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		14.6	14.6	0.0	26.8	31.7	0.0	12.2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	1.3	0.0	39.4	4.5	0.0	6.5	0.0	0.0	51.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.8	0.0	11.0	0.0	0.0	0.0	0.0	21.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	3.9	0.0	7.1	8.4	0.0	3.2	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									22									29								0									13									67								0								24	155

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	13	2	0	2	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	27
7:15 AM	1	0	4	1	0	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	2	0	5	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	0	8	0	0	2	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	5	0	0	0	0	0	0	0	0	0	19
7:45 AM	0	0	7	1	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	3	0	7	0	0	0	0	0	0	0	0	0	18
Total Volume	1	0	32	4	0	6	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	0	5	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	7	0	5	0	22	0	0	0	0	0	0	0	0	0	79
% Approach Total	2.3	0.0	74.4	9.3	0.0	14.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		35.7	28.6	0.0	35.7	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		13.6	9.1	0.0	22.7	31.8	0.0	22.7	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.615	0.500	0.000	0.750	0.000	0.000	0.632	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.500	0.000	0.313	0.000	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.625	0.583	0.000	0.417	0.000	0.786	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.731
Entering Leg	1	0	32	4	0	6	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	0	5	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	7	0	5	0	22	0	0	0	0	0	0	0	0	0	79
Exiting Leg									0									11									16								0									6									35								0								11	79
Total									43									11									16								14									6									35								22								11	158

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Grand Total	1	0	1	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	9
Approach %	33.3	0.0	33.3	33.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		25.0	25.0	0.0	0.0	50.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	11.1	0.0	11.1	11.1	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	11.1	0.0	0.0	22.2	0.0	0.0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									2									0								0									2									2									0									3	9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	7
% Approach Total	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		33.3	0.0	0.0	0.0	66.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
Entering Leg	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	7
Exiting Leg									0									2									0								0									2									2									0									3	7
Total									2									2									0								2									0									2									3									3	14

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

Surface Road — from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
7:00 AM	0	0	5	0	0	0	0	0	0	0	5
7:15 AM	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	1	0	0	1	0	0	0	0	2
7:45 AM	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	9	0	0	1	0	0	0	0	10
8:00 AM	1	0	1	0	1	1	0	0	0	0	4
8:15 AM	0	0	0	0	0	1	0	0	1	0	2
8:30 AM	0	0	3	0	1	2	0	0	1	0	7
8:45 AM	0	0	0	0	0	1	0	0	0	0	1
Total	1	0	4	0	2	5	0	0	2	0	14
Grand Total	1	0	13	0	2	6	0	0	2	0	24
Approach %	4.2	0.0	54.2	0.0	8.3	25.0	0.0	0.0	8.3	0.0	
Total %	0.5	0.0	5.9	0.0	0.9	2.7	0.0	0.0	0.9	0.0	11.0
Exiting Leg Total											3

I-93 NB Onramp — from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	1	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	3	0	3
8:30 AM	0	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	6	0	6
Grand Total	0	0	0	0	0	0	0	0	7	1	8
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.5	12.5	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.5	3.7
Exiting Leg Total											8

Essex Street — from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	1	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5
Exiting Leg Total											165

Lincoln Street — from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
7:00 AM	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	1	1	0	0	0	0	0	1	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	2	4
8:00 AM	0	0	0	3	0	0	0	0	0	0	3
8:15 AM	2	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	2	0	0	0	0	0	0	2
8:45 AM	0	0	0	1	0	0	0	0	0	0	1
Total	2	0	0	6	0	0	0	0	0	0	8
Grand Total	2	0	1	7	0	0	0	0	0	2	12
Approach %	16.7	0.0	8.3	58.3	0.0	0.0	0.0	0.0	0.0	16.7	
Total %	0.9	0.0	0.5	3.2	0.0	0.0	0.0	0.0	0.0	0.9	5.5
Exiting Leg Total											4

I-93 SB Onramp — from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	2	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	3	0	3
Grand Total	0	0	0	0	0	0	0	0	3	0	3
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	1.4
Exiting Leg Total											3

Surface Road — from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
7:00 AM	0	0	1	0	0	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	2	1	3
Grand Total	0	0	1	0	0	0	0	0	2	2	5
Approach %	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	40.0	40.0	
Total %	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.9	0.9	2.3
Exiting Leg Total											19

Essex Street — from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
7:00 AM	0	0	0	6	0	0	1	0	0	0	7
7:15 AM	1	0	0	13	0	0	0	0	0	0	14
7:30 AM	0	0	0	14	0	0	1	0	0	1	16
7:45 AM	0	0	0	12	0	0	0	0	1	0	13
Total	1	0	0	45	0	0	2	0	1	1	50
8:00 AM	0	0	0	17	0	0	0	0	1	0	18
8:15 AM	0	0	0	34	0	0	0	0	0	0	34
8:30 AM	0	0	0	36	0	0	0	0	1	0	37
8:45 AM	0	0	0	24	0	0	1	0	0	0	25
Total	0	0	0	111	0	0	1	0	2	0	114
Grand Total	1	0	0	156	0	0	3	0	3	1	164
Approach %	0.6	0.0	0.0	95.1	0.0	0.0	1.8	0.0	1.8	0.6	
Total %	0.5	0.0	0.0	71.2	0.0	0.0	1.4	0.0	1.4	0.5	74.9
Exiting Leg Total											4

Lincoln Street — from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	15
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	19
7:30 AM	0	0	0	0	0	0	0	0	0	1	1	19
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	16
Total	0	0	0	0	0	0	0	0	0	1	1	69
8:00 AM	0	0	0	0	0	0	0	0	0	1	1	29
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	43
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	49
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	29
Total	0	0	0	0	0	0	0	0	0	1	1	150
Grand Total	0	0	0	0	0	0	0	0	0	2	2	219
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	
Exiting Leg Total											13	219

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM

Surface Road — from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
8:00 AM	1	0	1	0	1	1	0	0	0	0	4
8:15 AM	0	0	0	0	0	1	0	0	1	0	2
8:30 AM	0	0	3	0	1	2	0	0	1	0	7
8:45 AM	0	0	0	0	0	1	0	0	0	0	1
Total Volume	1	0	4	0	2	5	0	0	2	0	14
% Approach Total	7.1	0.0	28.6	0.0	14.3	35.7	0.0	0.0	14.3	0.0	
PHF	0.250	0.000	0.333	0.000	0.500	0.625	0.000	0.000	0.500	0.000	0.500
Entering Leg	1	0	4	0	2	5	0	0	2	0	14
Exiting Leg											2
Total											16

I-93 NB Onramp — from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	3	0	3
8:30 AM	0	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	6	0	6
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	6	0	6
Exiting Leg											6
Total											12

Essex Street — from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	0	0	0	0	1
Exiting Leg											118
Total											119

Lincoln Street — from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
8:00 AM	0	0	0	3	0	0	0	0	0	0	3
8:15 AM	2	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	2	0	0	0	0	0	0	2
8:45 AM	0	0	0	1	0	0	0	0	0	0	1
Total Volume	2	0	0	6	0	0	0	0	0	0	8
% Approach Total	25.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	2	0	0	6	0	0	0	0	0	0	8
Exiting Leg											2
Total											10

I-93 SB Onramp — from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
8:00 AM	0	0	0	0	0	0	0	0	2	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	0	0	3	0	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.375
Entering Leg	0	0	0	0	0	0	0	0	3	0	3
Exiting Leg											3
Total											6

Surface Road — from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
8:00 AM	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	0	0	2	1	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.750
Entering Leg	0	0	0	0	0	0	0	0	2	1	3
Exiting Leg											8
Total											11

Essex Street — from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
8:00 AM	0	0	0	17	0	0	0	0	1	0	18
8:15 AM	0	0	0	34	0	0	0	0	0	0	34
8:30 AM	0	0	0	36	0	0	0	0	1	0	37
8:45 AM	0	0	0	24	0	0	1	0	0	0	25
Total Volume	0	0	0	111	0	0	1	0	2	0	114
% Approach Total	0.0	0.0	0.0	97.4	0.0	0.0	0.9	0.0	1.8	0.0	
PHF	0.000	0.000	0.000	0.771	0.000	0.000	0.250	0.000	0.500	0.000	0.770
Entering Leg	0	0	0	111	0	0	1	0	2	0	114
Exiting Leg											2
Total											116

Lincoln Street — from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	1	1	29
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	43
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	49
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	29
Total Volume	0	0	0	0	0	0	0	0	0	1	1	150
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.765
Entering Leg	0	0	0	0	0	0	0	0	0	1	1	150
Exiting Leg											9	150
Total											10	300

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

Surface Road — from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
7:00 AM	0	0	0	0	0	0	0	0	17	54	71
7:15 AM	0	0	0	0	0	0	0	0	20	76	96
7:30 AM	0	0	0	0	0	0	0	0	46	83	129
7:45 AM	0	0	0	0	0	0	0	0	41	94	135
Total	0	0	0	0	0	0	0	0	124	307	431
8:00 AM	0	0	0	0	0	0	0	0	78	112	190
8:15 AM	0	0	0	0	0	0	0	0	57	245	302
8:30 AM	0	0	0	0	0	0	0	0	103	141	244
8:45 AM	0	0	1	0	0	0	0	0	100	130	231
Total	0	0	1	0	0	0	0	0	338	628	967
Grand Total	0	0	1	0	0	0	0	0	462	935	1398
Approach %	0	0	0.07	0	0	0	0	0	33	66.9	
Total %	0	0	0.02	0	0	0	0	0	7.65	15.5	23.1
Exiting Leg Total											1397

I-93 NB Onramp — from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
7:00 AM	0	0	0	0	0	0	0	0	17	58	75
7:15 AM	0	0	0	0	0	0	0	0	23	54	77
7:30 AM	0	0	0	0	0	0	0	0	47	83	130
7:45 AM	0	0	0	0	0	0	0	0	45	95	140
Total	0	0	0	0	0	0	0	0	132	290	422
8:00 AM	0	0	0	0	0	0	0	0	71	105	176
8:15 AM	0	0	0	0	0	0	0	0	58	233	291
8:30 AM	0	0	0	0	0	0	0	0	92	121	213
8:45 AM	0	0	0	0	0	0	0	0	85	121	206
Total	0	0	0	0	0	0	0	0	306	580	886
Grand Total	0	0	0	0	0	0	0	0	438	870	1308
Approach %	0	0	0	0	0	0	0	0	33.5	66.5	
Total %	0	0	0	0	0	0	0	0	7.25	14.4	21.6
Exiting Leg Total											1308

Essex Street — from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
7:00 AM	0	0	0	0	0	0	0	0	4	18	22
7:15 AM	0	0	0	0	0	0	0	0	11	22	33
7:30 AM	0	0	0	0	0	0	0	0	13	27	40
7:45 AM	0	0	0	0	0	0	0	0	10	44	54
Total	0	0	0	0	0	0	0	0	38	111	149
8:00 AM	0	0	0	0	0	0	0	0	17	69	86
8:15 AM	0	0	0	0	0	0	0	0	18	62	80
8:30 AM	0	0	0	0	0	0	0	0	20	75	95
8:45 AM	0	0	0	0	0	0	0	0	26	39	65
Total	0	0	0	0	0	0	0	0	81	245	326
Grand Total	0	0	0	0	0	0	0	0	119	356	475
Approach %	0	0	0	0	0	0	0	0	25.1	74.9	
Total %	0	0	0	0	0	0	0	0	1.97	5.89	7.86
Exiting Leg Total											475

Lincoln Street — from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
7:00 AM	0	0	0	0	0	0	0	0	42	12	54
7:15 AM	0	0	0	0	0	0	0	0	36	12	48
7:30 AM	0	0	0	0	0	0	0	0	51	22	73
7:45 AM	0	0	0	0	0	0	0	0	67	20	87
Total	0	0	0	0	0	0	0	0	196	66	262
8:00 AM	0	0	0	0	0	0	0	0	85	39	124
8:15 AM	0	0	0	0	0	0	0	0	124	47	171
8:30 AM	0	0	0	0	0	0	0	0	92	48	140
8:45 AM	0	0	0	0	0	0	0	0	92	48	140
Total	0	0	0	0	0	0	0	0	393	182	575
Grand Total	0	0	0	0	0	0	0	0	589	248	837
Approach %	0	0	0	0	0	0	0	0	70.4	29.6	
Total %	0	0	0	0	0	0	0	0	9.75	4.1	13.9
Exiting Leg Total											837

I-93 SB Onramp — from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
7:00 AM	0	0	0	0	0	0	0	0	20	6	26
7:15 AM	0	0	0	0	0	0	0	0	14	12	26
7:30 AM	0	0	0	0	0	0	0	0	28	21	49
7:45 AM	0	0	0	0	0	0	0	0	17	17	34
Total	0	0	0	0	0	0	0	0	79	56	135
8:00 AM	0	0	0	0	0	0	0	0	36	36	72
8:15 AM	0	0	0	0	0	0	0	0	49	45	94
8:30 AM	0	0	0	0	0	0	0	0	42	38	80
8:45 AM	0	0	0	0	0	0	0	0	38	59	97
Total	0	0	0	0	0	0	0	0	165	178	343
Grand Total	0	0	0	0	0	0	0	0	244	234	478
Approach %	0	0	0	0	0	0	0	0	51	49	
Total %	0	0	0	0	0	0	0	0	4.04	3.87	7.91
Exiting Leg Total											478

Surface Road — from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
7:00 AM	0	0	0	0	0	0	0	0	26	7	33
7:15 AM	0	0	0	0	0	0	0	0	14	9	23
7:30 AM	0	0	0	0	0	0	0	0	31	19	50
7:45 AM	0	0	0	0	0	0	0	0	19	12	31
Total	0	0	0	0	0	0	0	0	90	47	137
8:00 AM	0	0	0	0	0	0	0	0	32	24	56
8:15 AM	0	0	0	0	0	0	0	0	40	26	66
8:30 AM	0	0	0	0	0	0	0	0	42	33	75
8:45 AM	0	0	0	0	0	0	0	0	37	46	83
Total	0	0	0	0	0	0	0	0	151	129	280
Grand Total	0	0	0	0	0	0	0	0	241	176	417
Approach %	0	0	0	0	0	0	0	0	57.8	42.2	
Total %	0	0	0	0	0	0	0	0	3.99	2.91	6.9
Exiting Leg Total											418

Essex Street — from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
7:00 AM	0	0	0	0	0	0	0	0	6	4	10
7:15 AM	0	0	0	0	0	0	0	0	5	3	8
7:30 AM	0	0	0	0	0	0	0	0	21	7	28
7:45 AM	0	0	0	0	0	0	0	0	25	8	33
Total	0	0	0	0	0	0	0	0	57	22	79
8:00 AM	0	0	0	0	0	0	0	0	24	14	38
8:15 AM	0	0	0	0	0	0	0	0	47	16	63
8:30 AM	0	0	0	0	0	0	0	0	33	18	51
8:45 AM	0	0	0	0	0	0	0	0	33	24	57
Total	0	0	0	0	0	0	0	0	137	72	209
Grand Total	0	0	0	0	0	0	0	0	194	94	288
Approach %	0	0	0	0	0	0	0	0	67.4	32.6	
Total %	0	0	0	0	0	0	0	0	3.21	1.56	4.77
Exiting Leg Total											288

Lincoln Street — from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total
7:00 AM	0	0	0	0	0	0	0	0	10	13	23
7:15 AM	0	0	0	0	0	0	0	0	25	17	42
7:30 AM	0	0	0	0	0	0	0	0	35	13	48
7:45 AM	0	0	0	0	0	0	0	0	30	20	50
Total	0	0	0	0	0	0	0	0	100	63	163
8:00 AM	0	0	0	0	0	0	0	0	64	45	109
8:15 AM	0	0	0	0	0	0	0	0	90	62	152
8:30 AM	0	0	0	0	0	0	0	0	112	91	203
8:45 AM	0	0	0	0	0	0	0	0	118	97	215
Total	0	0	0	0	0	0	0	0	384	295	679
Grand Total	0	0	0	0	0	0	0	0	484	358	842
Approach %	0	0	0	0	0	0	0	0	57.5	42.5	
Total %	0	0	0	0	0	0	0	0	8.01	5.92	13.9
Exiting Leg Total											842

	Total
7:00 AM	314
7:15 AM	353
7:30 AM	547
7:45 AM	564
Total	1778
8:00 AM	851
8:15 AM	1219
8:30 AM	1101
8:45 AM	1094
Total	4265
Grand Total	6043
Approach %	
Total %	
Exiting Leg Total	6043

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM

Surface Road — from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
8:00 AM	0	0	0	0	0	0	0	0	78	112	190
8:15 AM	0	0	0	0	0	0	0	0	57	245	302
8:30 AM	0	0	0	0	0	0	0	0	103	141	244
8:45 AM	0	0	1	0	0	0	0	0	100	130	231
Total Volume	0	0	1	0	0	0	0	0	338	628	967
% Approach Total	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	35.0	64.9	
PHF	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.820	0.641	0.800
Entering Leg	0	0	1	0	0	0	0	0	338	628	967
Exiting Leg											966
Total											1933

I-93 NB Onramp — from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
8:00 AM	0	0	0	0	0	0	0	0	71	105	176
8:15 AM	0	0	0	0	0	0	0	0	58	233	291
8:30 AM	0	0	0	0	0	0	0	0	92	121	213
8:45 AM	0	0	0	0	0	0	0	0	85	121	206
Total Volume	0	0	0	0	0	0	0	0	306	580	886
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5	65.5	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.832	0.622	0.761
Entering Leg	0	0	0	0	0	0	0	0	306	580	886
Exiting Leg											886
Total											1772

Essex Street — from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
8:00 AM	0	0	0	0	0	0	0	0	17	69	86
8:15 AM	0	0	0	0	0	0	0	0	18	62	80
8:30 AM	0	0	0	0	0	0	0	0	20	75	95
8:45 AM	0	0	0	0	0	0	0	0	26	39	65
Total Volume	0	0	0	0	0	0	0	0	81	245	326
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	75.2	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.779	0.817	0.858
Entering Leg	0	0	0	0	0	0	0	0	81	245	326
Exiting Leg											326
Total											652

Lincoln Street — from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
8:00 AM	0	0	0	0	0	0	0	0	85	39	124
8:15 AM	0	0	0	0	0	0	0	0	124	47	171
8:30 AM	0	0	0	0	0	0	0	0	92	48	140
8:45 AM	0	0	0	0	0	0	0	0	92	48	140
Total Volume	0	0	0	0	0	0	0	0	393	182	575
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	68.3	31.7	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.792	0.948	0.841
Entering Leg	0	0	0	0	0	0	0	0	393	182	575
Exiting Leg											575
Total											1150

I-93 SB Onramp — from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
8:00 AM	0	0	0	0	0	0	0	0	36	36	72
8:15 AM	0	0	0	0	0	0	0	0	49	45	94
8:30 AM	0	0	0	0	0	0	0	0	42	38	80
8:45 AM	0	0	0	0	0	0	0	0	38	59	97
Total Volume	0	0	0	0	0	0	0	0	165	178	343
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	51.9	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.842	0.754	0.884
Entering Leg	0	0	0	0	0	0	0	0	165	178	343
Exiting Leg											343
Total											686

Surface Road — from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
8:00 AM	0	0	0	0	0	0	0	0	32	24	56
8:15 AM	0	0	0	0	0	0	0	0	40	26	66
8:30 AM	0	0	0	0	0	0	0	0	42	33	75
8:45 AM	0	0	0	0	0	0	0	0	37	46	83
Total Volume	0	0	0	0	0	0	0	0	151	129	280
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.9	46.1	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.899	0.701	0.843
Entering Leg	0	0	0	0	0	0	0	0	151	129	280
Exiting Leg											281
Total											561

Essex Street — from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
8:00 AM	0	0	0	0	0	0	0	0	24	14	38
8:15 AM	0	0	0	0	0	0	0	0	47	16	63
8:30 AM	0	0	0	0	0	0	0	0	33	18	51
8:45 AM	0	0	0	0	0	0	0	0	33	24	57
Total Volume	0	0	0	0	0	0	0	0	137	72	209
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.6	34.4	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.729	0.750	0.829
Entering Leg	0	0	0	0	0	0	0	0	137	72	209
Exiting Leg											209
Total											418

Lincoln Street — from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total
8:00 AM	0	0	0	0	0	0	0	0	64	45	109
8:15 AM	0	0	0	0	0	0	0	0	90	62	152
8:30 AM	0	0	0	0	0	0	0	0	112	91	203
8:45 AM	0	0	0	0	0	0	0	0	118	97	215
Total Volume	0	0	0	0	0	0	0	0	384	295	679
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.6	43.4	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.814	0.760	0.790
Entering Leg	0	0	0	0	0	0	0	0	384	295	679
Exiting Leg											679
Total											1358

	Total
8:00 AM	851
8:15 AM	1219
8:30 AM	1101
8:45 AM	1094
Total Volume	4265
% Approach Total	
PHF	0.875
Entering Leg	4265
Exiting Leg	4265
Total	8530

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	11	0	170	36	0	18	0	0	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	46	0	57	0	1	0	0	113	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	60	48	0	50	79	0	16	0	253	0	0	0	0	0	0	0	0	0	602
4:15 PM	5	0	198	39	0	17	0	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	53	0	41	0	0	0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	44	0	42	73	0	12	0	228	0	0	0	0	0	0	0	0	0	585
4:30 PM	7	0	184	34	0	26	0	0	251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	44	0	65	0	1	0	0	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	39	0	37	61	0	22	0	222	0	0	0	0	0	0	0	0	0	594
4:45 PM	10	0	205	30	0	24	0	0	269	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	9	41	0	59	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	24	0	56	70	0	19	0	232	0	0	0	0	0	0	0	0	0	611
Total	33	0	757	139	0	85	0	0	1014	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	33	184	0	222	0	2	0	0	441	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	243	155	0	185	283	0	69	0	935	0	0	0	0	0	0	0	0	0	2392
5:00 PM	13	0	190	33	0	30	0	0	266	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	44	0	61	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	41	0	54	74	0	17	0	238	0	0	0	0	0	0	0	0	0	621
5:15 PM	11	0	179	35	0	14	1	0	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	59	0	59	0	0	0	0	119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	46	0	50	69	0	18	0	254	0	0	0	0	0	0	0	0	0	613
5:30 PM	12	0	176	35	0	22	2	0	247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	54	0	48	0	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	46	0	59	100	0	12	0	296	0	0	0	0	0	0	0	0	0	653
5:45 PM	7	0	192	30	0	21	2	0	252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	46	0	54	0	1	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	45	0	43	87	0	7	0	245	0	0	0	0	0	0	0	0	0	600
Total	43	0	737	133	0	87	5	0	1005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	203	0	222	0	1	0	0	449	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265	178	0	206	330	0	54	0	1033	0	0	0	0	0	0	0	0	0	2487
Grand Total	76	0	1494	272	0	172	5	0	2019	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	56	387	0	444	0	3	0	0	890	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	508	333	0	391	613	0	123	0	1968	0	0	0	0	0	0	0	0	0	4879
Approach %	3.8	0.0	74.0	13.5	0.0	8.5	0.2	0.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.3	43.5	0.0	49.9	0.0	0.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		25.8	16.9	0.0	19.9	31.1	0.0	6.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	1.6	0.0	30.6	5.6	0.0	3.5	0.1	0.0	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	7.9	0.0	9.1	0.0	0.1	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	6.8	0.0	8.0	12.6	0.0	2.5	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									1005									620								0									606									2005								0									643	4879
Cars	75	0	1424	268	0	169	5	0	1941	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	55	360	0	395	0	3	0	0	813	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	452	329	0	358	592	0	120	0	1851	0	0	0	0	0	0	0	0	0	4607
% Cars	98.7	0.0	95.3	98.5	0.0	98.3	100.0	0.0	96.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.2	93.0	0.0	89.0	0.0	100.0	0.0	0.0	91.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.0	98.8	0.0	91.6	96.6	0.0	97.6	0.0	94.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.4
Exiting Leg Total									0									957									583								0									598									1879								0									580	4607
Heavy Vehicles	1	0	70	4	0	3	0	0	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	27	0	49	0	0	0	0	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	4	0	33	21	0	3	0	117	0	0	0	0	0	0	0	0	0	272
% Heavy Vehicles	1.3	0.0	4.7	1.5	0.0	1.7	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	7.0	0.0	11.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	1.2	0.0	8.4	3.4	0.0	2.4	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
Exiting Leg Total									0									48									37								0									8									126								0									53	272

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:45 PM	10	0	205	30	0	24	0	0	269	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	9	41	0	59	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	24	0	56	70	0	19	0	232	0	0	0	0	0	0	0	0	0	611
5:00 PM	13	0	190	33	0	30	0	0	266	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	44	0	61	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	41	0	54	74	0	17	0	238	0	0	0	0	0	0	0	0	0	621
5:15 PM	11	0	179	35	0	14	1	0	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	59	0	59	0	0	0	0	119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	46	0	50	69	0	18	0	254	0	0	0	0	0	0	0	0	0	613
5:30 PM	12	0	176	35	0	22	2	0	247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	54	0	48	0	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	46	0	59	100	0	12	0	296	0	0	0	0	0	0	0	0	0	653
Total Volume	46	0	750	133	0	90	3	0	1022	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	198	0	227	0	0	0	0	455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265	157	0	219	313	0	66	0	1020	0	0	0	0	0	0	0	0	0	2498
% Approach Total	4.5	0.0	73.4	13.0	0.0	8.8	0.3	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		6.6	43.5	0.0	49.9	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		26.0	15.4	0.0	21.5	30.7	0.0	6.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.885	0.000	0.915	0.950	0.000	0.750	0.375	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.839	0.000	0.930	0.000	0.000	0.000	0.000	0.956	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.839	0.853	0.000	0.928	0.783	0.000	0.868	0.000	0.861	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.956
Cars	46	0	717	132	0	88	3	0	986	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	187	0	202	0	0	0	0	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	156	0	205	299	0	65	0	961	0	0	0	0	0	0	0	0	0	2367
Cars %	100.0	0.0	95.6	99.2	0.0	97.8	100.0	0.0	96.5	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	94.4	0.0	89.0	0.0	0.0	0.0	0.0	92.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.1	99.4	0.0	93.6	95.5	0.0	98.5	0.0	94.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.8
Heavy Vehicles	0	0	33	1	0	2	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	25	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	1	0	14	14	0	1	0	59	0	0	0	0	0	0	0	0	0	131
Heavy Vehicles %	0.0	0.0	4.4	0.8	0.0	2.2	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	11.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.6	0.0	6.4	4.5	0.0	1.5	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
Cars Enter Leg	46	0	717	132	0	88	3	0	986	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	187	0	202	0	0	0	0	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	156	0	205	299	0	65	0	961	0	0	0	0	0	0	0	0	0	2367
Heavy Enter Leg	0	0	33	1	0	2	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	25	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	1	0	14	14	0	1	0	59	0	0	0	0	0	0	0	0	0	131
Total Entering Leg	46	0	750	133	0	90	3	0	1022	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	198	0	227	0	0	0	0	455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265	157	0	219	313	0	66	0	1020	0	0	0	0	0	0	0	0	0	2498
Cars Exiting Leg									0									489									324								0									288									953								0									313	2367
Heavy Exiting Leg									0									25									16								0									2									62								0									26	131
Total Exiting Leg									0									514									340								0									290									1015								0									339	2498

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	10	0	155	36	0	18	0	0	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	42	0	52	0	1	0	0	104	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	52	48	0	46	76	0	16	0	238	0	0	0	0	0	0	0	0	0	562
4:15 PM	5	0	186	38	0	17	0	0	246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	50	0	38	0	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	44	0	36	70	0	12	0	213	0	0	0	0	0	0	0	0	0	550
4:30 PM	7	0	179	32	0	26	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	38	0	55	0	1	0	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	37	0	33	61	0	22	0	211	0	0	0	0	0	0	0	0	0	560
4:45 PM	10	0	198	30	0	22	0	0	260	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	9	39	0	53	0	0	0	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	24	0	52	65	0	18	0	217	0	0	0	0	0	0	0	0	0	579
Total	32	0	718	136	0	83	0	0	969	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	32	169	0	198	0	2	0	0	401	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	219	153	0	167	272	0	68	0	879	0	0	0	0	0	0	0	0	0	2251
5:00 PM	13	0	183	33	0	30	0	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	42	0	55	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	41	0	51	72	0	17	0	225	0	0	0	0	0	0	0	0	0	593
5:15 PM	11	0	171	34	0	14	1	0	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	55	0	53	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	46	0	47	65	0	18	0	239	0	0	0	0	0	0	0	0	0	579
5:30 PM	12	0	165	35	0	22	2	0	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	51	0	41	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	45	0	55	97	0	12	0	280	0	0	0	0	0	0	0	0	0	616
5:45 PM	7	0	187	30	0	20	2	0	246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43	0	48	0	1	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	44	0	38	86	0	5	0	228	0	0	0	0	0	0	0	0	0	568
Total	43	0	706	132	0	86	5	0	972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	191	0	197	0	1	0	0	412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233	176	0	191	320	0	52	0	972	0	0	0	0	0	0	0	0	0	2356
Grand Total	75	0	1424	268	0	169	5	0	1941	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	55	360	0	395	0	3	0	0	813	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	452	329	0	358	592	0	120	0	1851	0	0	0	0	0	0	0	0	0	4607
Approach %	3.9	0.0	73.4	13.8	0.0	8.7	0.3	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			6.8	44.3	0.0	48.6	0.0	0.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		24.4	17.8	0.0	19.3	32.0	0.0	6.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	1.6	0.0	30.9	5.8	0.0	3.7	0.1	0.0	42.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	7.8	0.0	8.6	0.0	0.1	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	7.1	0.0	7.8	12.9	0.0	2.6	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									957									583								0									598								1879								0									590	4607

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:45 PM	10	0	198	30	0	22	0	0	260	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	9	39	0	53	0	0	0	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	24	0	52	65	0	18	0	217	0	0	0	0	0	0	0	0	0	579
5:00 PM	13	0	183	33	0	30	0	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	42	0	55	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	41	0	51	72	0	17	0	225	0	0	0	0	0	0	0	0	0	593
5:15 PM	11	0	171	34	0	14	1	0	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	55	0	53	0	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	46	0	47	65	0	18	0	239	0	0	0	0	0	0	0	0	0	579
5:30 PM	12	0	165	35	0	22	2	0	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	51	0	41	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	45	0	55	97	0	12	0	280	0	0	0	0	0	0	0	0	0	616
Total Volume	46	0	717	132	0	88	3	0	986	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	187	0	202	0	0	0	0	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	156	0	205	299	0	65	0	961	0	0	0	0	0	0	0	0	0	2367
% Approach Total	4.7	0.0	72.7	13.4	0.0	8.9	0.3	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			7.2	44.6	0.0	48.2	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		24.6	16.2	0.0	21.3	31.1	0.0	6.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.885	0.000	0.905	0.943	0.000	0.733	0.375	0.000	0.948	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.850	0.000	0.918	0.000	0.000	0.000	0.000	0.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.831	0.848	0.000	0.932	0.771	0.000	0.903	0.000	0.858	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.961
Entering Leg	46	0	717	132	0	88	3	0	986	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	30	187	0	202	0	0	0	0	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	156	0	205	299	0	65	0	961	0	0	0	0	0	0	0	0	0	2367
Exiting Leg									0									489									324								0									288								953								0									313	2367
Total									986									490									324								419									288								953								961									313	4734

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Surface Road									I-93 NB Onramp								
	from North									from Northeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	1	0	15	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	12	1	0	0	0	0	13	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	7	0	0	2	0	0	9	0	0	0	0	0	0	0	0	0
Total	1	0	39	3	0	2	0	0	45	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	8	1	0	0	0	0	9	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	5	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0
Total	0	0	31	1	0	1	0	0	33	0	0	0	0	0	0	0	0	0
Grand Total	1	0	70	4	0	3	0	0	78	0	0	0	0	0	0	0	0	0
Approach %	1.3	0.0	89.7	5.1	0.0	3.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.4	0.0	25.7	1.5	0.0	1.1	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									48
Buses	0	0	44	0	0	1	0	0	45	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	62.9	0.0	0.0	33.3	0.0	0.0	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									30
Single-Unit Trucks	1	0	26	4	0	2	0	0	33	0	0	0	0	0	0	0	0	0
% Single-Unit	100.0	0.0	37.1	100.0	0.0	66.7	0.0	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									18
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									0

	Essex Street									Lincoln Street								
	from East									from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	1	3	0	3	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	10	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	1	15	0	24	0	0	0	0	40
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	6	0	0	0	0	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	7	0	0	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	6	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	12	0	25	0	0	0	0	37
Grand Total	0	0	0	0	0	0	0	0	0	1	27	0	49	0	0	0	0	77
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.3	35.1	0.0	63.6	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	9.9	0.0	18.0	0.0	0.0	0.0	0.0	28.3
Exiting Leg Total									37									0
Buses	0	0	0	0	0	0	0	0	0	0	25	0	46	0	0	0	0	71
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	0.0	93.9	0.0	0.0	0.0	0.0	92.2
Exiting Leg Total									22									0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	6
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	7.4	0.0	6.1	0.0	0.0	0.0	0.0	7.8
Exiting Leg Total									15									0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									0

	I-93 SB Onramp									Surface Road								
	from South									from Southwest								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									8									126
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									2									94
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									6									32
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									0

	Essex Street									Lincoln Street									
	from West									from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	8	0	0	4	3	0	0	0	15	0	0	0	0	0	0	0	0	0	40
4:15 PM	6	0	0	6	3	0	0	0	15	0	0	0	0	0	0	0	0	0	35
4:30 PM	5	2	0	4	0	0	0	0	11	0	0	0	0	0	0	0	0	0	34
4:45 PM	5	0	0	4	5	0	1	0	15	0	0	0	0	0	0	0	0	0	32
Total	24	2	0	18	11	0	1	0	56	0	0	0	0	0	0	0	0	0	141
5:00 PM	8	0	0	3	2	0	0	0	13	0	0	0	0	0	0	0	0	0	28
5:15 PM	8	0	0	3	4	0	0	0	15	0	0	0	0	0	0	0	0	0	34
5:30 PM	8	1	0	4	3	0	0	0	16	0	0	0	0	0	0	0	0	0	37
5:45 PM	8	1	0	5	1	0	2	0	17	0	0	0	0	0	0	0	0	0	32
Total	32	2	0	15	10	0	2	0	61	0	0	0	0	0	0	0	0	0	131
Grand Total	56	4	0	33	21	0	3	0	117	0	0	0	0	0	0	0	0	0	272
Approach %	47.9	3.4	0.0	28.2	17.9	0.0	2.6	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	20.6	1.5	0.0	12.1	7.7	0.0	1.1	0.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									53	272
Buses	50	2	0	21	5	0	0	0	78	0	0	0	0	0	0	0	0	0	194
% Buses	89.3	50.0	0.0	63.6	23.8	0.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.3
Exiting Leg Total									0									46	194
Single-Unit Trucks	6	2	0	12	16	0	3	0	39	0	0	0	0	0	0	0	0	0	78
% Single-Unit	10.7	50.0	0.0	36.4	76.2	0.0	100.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.7
Exiting Leg Total									0									7	78
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total									0									0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM

	Surface Road									I-93 NB Onramp								
	from North									from Northeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	1	0	15	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	12	1	0	0	0	0	13	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	7	0	0	2	0	0	9	0	0	0	0	0	0	0	0	0
Total Volume	1	0	39	3	0	2	0	0	45	0	0	0	0	0	0	0	0	0
% Approach Total	2.2	0.0	86.7	6.7	0.0	4.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.650	0.375	0.000	0.250	0.000	0.000	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	25	0	0	1	0	0	26	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	64.1	0.0	0.0	50.0	0.0	0.0	57.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	1	0	14	3	0	1	0	0	19	0	0	0	0	0	0	0	0	0
Single-Unit %	100.0	0.0	35.9	100.0	0.0	50.0	0.0	0.0	42.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	25	0	0	1	0	0	26	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	1	0	14	3	0	1	0	0	19	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	0	39	3	0	2	0	0	45	0	0	0	0	0	0	0	0	0
Buses									0									16
Single-Unit Trucks									0									10
Articulated Trucks									0									0
Total Exiting Leg									0									26

	Essex Street									Lincoln Street								
	from East									from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	1	3	0	3	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	10	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8
Total Volume	0	0	0	0	0	0	0	0	0	1	15	0	24	0	0	0	0	40
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		2.5	37.5	0.0	60.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.625	0.000	0.600	0.000	0.000	0.000	0.000	0.625
Buses	0	0	0	0	0	0	0	0	0	0	14	0	23	0	0	0	0	37
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.3	0.0	95.8	0.0	0.0	0.0	0.0	92.5
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	6.7	0.0	4.2	0.0	0.0	0.0	0.0	7.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	14	0	23	0	0	0	0	37
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	1	15	0	24	0	0	0	0	40
Buses									12									0
Single-Unit Trucks									9									0
Articulated Trucks									0									0
Total Exiting Leg									21									0

	I-93 SB Onramp									Surface Road								
	from South									from Southwest								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses									0									47
Single-Unit Trucks									5									16
Articulated Trucks									0									0
Total Exiting Leg									5									63

	Essex Street									Lincoln Street									
	from West									from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	8	0	0	4	3	0	0	0	15	0	0	0	0	0	0	0	0	0	40
4:15 PM	6	0	0	6	3	0	0	0	15	0	0	0	0	0	0	0	0	0	35
4:30 PM	5	2	0	4	0	0	0	0	11	0	0	0	0	0	0	0	0	0	34
4:45 PM	5	0	0	4	5	0	1	0	15	0	0	0	0	0	0	0	0	0	32
Total Volume	24	2	0	18	11	0	1	0	56	0	0	0	0	0	0	0	0	0	141
% Approach Total	42.9	3.6	0.0	32.1	19.6	0.0	1.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.750	0.250	0.000	0.750	0.550	0.000	0.250	0.000	0.933	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.881
Buses	22	0	0	11	2	0	0	0	35	0	0	0	0	0	0	0	0	0	98
Buses %	91.7	0.0	0.0	61.1	18.2	0.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	69.5
Single-Unit Trucks	2	2	0	7	9	0	1	0	21	0	0	0	0	0	0	0	0	0	43
Single-Unit %	8.3	100.0	0.0	38.9	81.8	0.0	100.0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	22	0	0	11	2	0	0	0	35	0	0	0	0	0	0	0	0	0	98
Single-Unit Trucks	2	2	0	7	9	0	1	0	21	0	0	0	0	0	0	0	0	0	43
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	24	2	0	18	11	0	1	0	56	0	0	0	0	0	0	0	0	0	141
Buses									0									23	98
Single-Unit Trucks									0									3	43
Articulated Trucks									0									0	0
Total Exiting Leg									0									26	141

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	10	0	146	31	0	17	0	0	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	40	0	48	0	1	0	0	98	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	50	42	0	45	70	0	15	0	222	0	0	0	0	0	0	0	0	0	525
4:15 PM	5	0	175	36	0	17	0	0	233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	48	0	36	0	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	41	0	33	60	0	10	0	193	0	0	0	0	0	0	0	0	0	513
4:30 PM	7	0	165	31	0	25	0	0	228	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	36	0	52	0	1	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	35	0	32	56	0	21	0	198	0	0	0	0	0	0	0	0	0	526
4:45 PM	10	0	184	28	0	22	0	0	244	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	9	35	0	50	0	0	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	23	0	50	59	0	17	0	205	0	0	0	0	0	0	0	0	0	544
Total	32	0	670	126	0	81	0	0	909	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	32	159	0	186	0	2	0	0	379	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	209	141	0	160	245	0	63	0	818	0	0	0	0	0	0	0	0	0	2108
5:00 PM	11	0	174	32	0	28	0	0	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	40	0	53	0	0	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	38	0	46	70	0	16	0	210	0	0	0	0	0	0	0	0	0	558
5:15 PM	11	0	163	31	0	14	1	0	220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	51	0	50	0	0	0	0	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	44	0	45	61	0	17	0	227	0	0	0	0	0	0	0	0	0	549
5:30 PM	12	0	156	33	0	21	2	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	47	0	41	0	0	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	43	0	52	95	0	12	0	272	0	0	0	0	0	0	0	0	0	592
5:45 PM	7	0	179	28	0	20	2	0	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	38	0	45	0	1	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	44	0	36	83	0	5	0	219	0	0	0	0	0	0	0	0	0	541
Total	41	0	672	124	0	83	5	0	925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	176	0	189	0	1	0	0	387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	169	0	179	309	0	50	0	928	0	0	0	0	0	0	0	0	0	2240
Grand Total	73	0	1342	250	0	164	5	0	1834	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	53	335	0	375	0	3	0	0	766	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	430	310	0	339	554	0	113	0	1746	0	0	0	0	0	0	0	0	0	4348
Approach %	4.0	0.0	73.2	13.6	0.0	8.9	0.3	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			6.9	43.7	0.0	49.0	0.0	0.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		24.6	17.8	0.0	19.4	31.7	0.0	6.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	1.7	0.0	30.9	5.7	0.0	3.8	0.1	0.0	42.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	7.7	0.0	8.6	0.0	0.1	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	7.1	0.0	7.8	12.7	0.0	2.6	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									894									557								0									561									1775								0									561	4348

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:45 PM	10	0	184	28	0	22	0	0	244	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	9	35	0	50	0	0	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	23	0	50	59	0	17	0	205	0	0	0	0	0	0	0	0	0	544
5:00 PM	11	0	174	32	0	28	0	0	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	40	0	53	0	0	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	38	0	46	70	0	16	0	210	0	0	0	0	0	0	0	0	0	558
5:15 PM	11	0	163	31	0	14	1	0	220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	51	0	50	0	0	0	0	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	44	0	45	61	0	17	0	227	0	0	0	0	0	0	0	0	0	549
5:30 PM	12	0	156	33	0	21	2	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	47	0	41	0	0	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	43	0	52	95	0	12	0	272	0	0	0	0	0	0	0	0	0	592
Total Volume	44	0	677	124	0	85	3	0	933	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	28	173	0	194	0	0	0	0	395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	148	0	193	285	0	62	0	914	0	0	0	0	0	0	0	0	0	2243
% Approach Total	4.7	0.0	72.6	13.3	0.0	9.1	0.3	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0			7.1	43.8	0.0	49.1	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		24.7	16.2	0.0	21.1	31.2	0.0	6.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.917	0.000	0.920	0.939	0.000	0.759	0.375	0.000	0.952	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.848	0.000	0.915	0.000	0.000	0.000	0.000	0.959	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.807	0.841	0.000	0.928	0.750	0.000	0.912	0.000	0.840	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.947
Entering Leg	44	0	677	124	0	85	3	0	933	0	0	0	0	0	1	0	1		0	0	0	0	0	0	0	0	0	28	173	0	194	0	0	0	0	395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	148	0	193	285	0	62	0	914	0	0	0	0	0	0	0	0	0	2243
Exiting Leg									0									461									307																		272									903								0									300	2243
Total									933									462									307								395									272									903								914									300	4486

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	9	5	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	1	6	0	1	0	16	0	0	0	0	0	0	0	0	0	37
4:15 PM	0	0	11	2	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	3	10	0	2	0	20	0	0	0	0	0	0	0	0	0	37
4:30 PM	0	0	13	1	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	1	5	0	1	0	13	0	0	0	0	0	0	0	0	0	33
4:45 PM	0	0	13	2	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	6	0	1	0	10	0	0	0	0	0	0	0	0	0	32
Total	0	0	46	10	0	2	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	12	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	12	0	5	27	0	5	0	59	0	0	0	0	0	0	0	0	0	139
5:00 PM	2	0	7	1	0	2	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	2	2	0	1	0	12	0	0	0	0	0	0	0	0	0	30
5:15 PM	0	0	7	3	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2	3	0	1	0	10	0	0	0	0	0	0	0	0	0	26
5:30 PM	0	0	6	2	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	2	0	0	0	8	0	0	0	0	0	0	0	0	0	21
5:45 PM	0	0	8	2	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	23
Total	2	0	28	8	0	3	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	0	8	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	7	0	7	10	0	2	0	37	0	0	0	0	0	0	0	0	0	100
Grand Total	2	0	74	18	0	5	0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	22	0	20	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	19	0	12	37	0	7	0	96	0	0	0	0	0	0	0	0	0	239
Approach %	2.0	0.0	74.7	18.2	0.0	5.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		4.5	50.0	0.0	45.5	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		21.9	19.8	0.0	12.5	38.5	0.0	7.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.8	0.0	31.0	7.5	0.0	2.1	0.0	0.0	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	9.2	0.0	8.4	0.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	7.9	0.0	5.0	15.5	0.0	2.9	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									59									19								0									37									95								0									29	239

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	9	5	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	1	6	0	1	0	16	0	0	0	0	0	0	0	0	0	37
4:15 PM	0	0	11	2	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	3	10	0	2	0	20	0	0	0	0	0	0	0	0	0	37
4:30 PM	0	0	13	1	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	1	5	0	1	0	13	0	0	0	0	0	0	0	0	0	33
4:45 PM	0	0	13	2	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	6	0	1	0	10	0	0	0	0	0	0	0	0	0	32
Total Volume	0	0	46	10	0	2	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	12	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	12	0	5	27	0	5	0	59	0	0	0	0	0	0	0	0	0	139
% Approach Total	0.0	0.0	79.3	17.2	0.0	3.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	45.5	0.0	54.5	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		16.9	20.3	0.0	8.5	45.8	0.0	8.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.885	0.500	0.000	0.500	0.000	0.000	0.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.750	0.000	0.000	0.000	0.000	0.786	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.500	0.000	0.417	0.675	0.000	0.625	0.000	0.738	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.939
Entering Leg	0	0	46	10	0	2	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	12	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	12	0	5	27	0	5	0	59	0	0	0	0	0	0	0	0	0	139
Exiting Leg									0									37									7								22									22									56								0									17	139
Total									58									37									7								22									22									56								59									17	278

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	3	0	0	0	0	10	0	0	0	0	0	0	0	0	0	27
4:15 PM	0	0	9	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	3	1	0	0	0	9	0	0	0	0	0	0	0	0	0	24
4:30 PM	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	9	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	3	0	0	0	0	8	0	0	0	0	0	0	0	0	0	26
4:45 PM	0	0	4	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	1	0	0	0	8	0	0	0	0	0	0	0	0	0	21
Total	0	0	25	0	0	1	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	23	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	11	2	0	0	0	35	0	0	0	0	0	0	0	0	0	98
5:00 PM	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	2	0	0	0	0	9	0	0	0	0	0	0	0	0	0	23
5:15 PM	0	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	6	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	2	1	0	0	0	9	0	0	0	0	0	0	0	0	0	26
5:30 PM	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	6	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	0	3	2	0	0	0	13	0	0	0	0	0	0	0	0	0	26
5:45 PM	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	3	0	0	0	0	12	0	0	0	0	0	0	0	0	0	21
Total	0	0	19	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	23	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	2	0	10	3	0	0	0	43	0	0	0	0	0	0	0	0	0	96
Grand Total	0	0	44	0	0	1	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	46	0	0	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	2	0	21	5	0	0	0	78	0	0	0	0	0	0	0	0	0	194
Approach %	0.0	0.0	97.8	0.0	0.0	2.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	35.2	0.0	64.8	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		64.1	2.6	0.0	26.9	6.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	22.7	0.0	0.0	0.5	0.0	0.0	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	0.0	23.7	0.0	0.0	0.0	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.8	1.0	0.0	10.8	2.6	0.0	0.0	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									30									22								0									2								94								0								46	194

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	3	0	0	0	0	10	0	0	0	0	0	0	0	0	0	27
4:15 PM	0	0	9	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	3	1	0	0	0	9	0	0	0	0	0	0	0	0	0	24
4:30 PM	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	9	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	3	0	0	0	0	8	0	0	0	0	0	0	0	0	0	26
4:45 PM	0	0	4	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	1	0	0	0	8	0	0	0	0	0	0	0	0	0	21
Total Volume	0	0	25	0	0	1	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	23	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	11	2	0	0	0	35	0	0	0	0	0	0	0	0	0	98
% Approach Total	0.0	0.0	96.2	0.0	0.0	3.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	37.8	0.0	62.2	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		62.9	0.0	0.0	31.4	5.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.694	0.000	0.000	0.250	0.000	0.000	0.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.639	0.000	0.000	0.000	0.000	0.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.000	0.000	0.917	0.500	0.000	0.000	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.907
Entering Leg	0	0	25	0	0	1	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	23	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	11	2	0	0	0	35	0	0	0	0	0	0	0	0	0	98
Exiting Leg									0									16									12								37									0								47								0								47								35								23	98
Total									26									16									12								37									0								47								35								23	196

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	1	0	7	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	3	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
4:45 PM	0	0	3	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	14	3	0	1	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
5:00 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	3	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	0	12	1	0	1	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	3
Grand Total	1	0	26	4	0	2	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	3.0	0.0	78.8	12.1	0.0	6.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		16.7	33.3	0.0	50.0	0.0	0.0	0.0	0.0	
Total %	1.3	0.0	33.3	5.1	0.0	2.6	0.0	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.6	0.0	3.8	0.0	0.0	0.0	0.0	7.7
Exiting Leg Total									0									18									15									0

	I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0	5	0	0	0	0	0	0	0	0	0	13
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	2	0	0	0	6	0	0	0	0	0	0	0	0	0	11
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	8
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	1	0	7	0	0	0	0	0	0	0	0	0	11
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	7	9	0	1	0	21	0	0	0	0	0	0	0	0	0	43
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	4	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3	0	0	0	6	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	2	0	5	0	0	0	0	0	0	0	0	0	11
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	5	7	0	2	0	18	0	0	0	0	0	0	0	0	0	35
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	12	16	0	3	0	39	0	0	0	0	0	0	0	0	0	78
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		15.4	5.1	0.0	30.8	41.0	0.0	7.7	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	2.6	0.0	15.4	20.5	0.0	3.8	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									32									0									7	78

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast								
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total
4:00 PM	1	0	7	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	3	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
4:45 PM	0	0	3	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	14	3	0	1	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
% Approach Total	5.3	0.0	73.7	15.8	0.0	5.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		33.3	33.3	0.0	33.3	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.500	0.375	0.000	0.250	0.000	0.000	0.594	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.375
Entering Leg	1	0	14	3	0	1	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
Exiting Leg									0									10									9									0
Total									19									10									9									3

	I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0	5	0	0	0	0	0	0	0	0	0	13
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	2	0	0	0	6	0	0	0	0	0	0	0	0	0	11
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	8
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	1	0	7	0	0	0	0	0	0	0	0	0	11
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	7	9	0	1	0	21	0	0	0	0	0	0	0	0	0	43
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		9.5	9.5	0.0	33.3	42.9	0.0	4.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.583	0.563	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.827
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	7	9	0	1	0	21	0	0	0	0	0	0	0	0	0	43
Exiting Leg									5									16									0									3	43
Total									5									16									21									3	86

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total									0									0									0									0									0									0									0									0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North									I-93 NB Onramp from Northeast									Essex Street from East									Lincoln Street from Southeast									I-93 SB Onramp from South									Surface Road from Southwest									Essex Street from West									Lincoln Street from Northwest									
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg									0									0									0									0									0									0									0									0	0
Total									0									0									0									0									0									0									0									0	0

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

Surface Road from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
4:00 PM	0	0	4	0	0	0	0	0	0	0	4
4:15 PM	0	0	3	0	0	1	0	0	1	0	5
4:30 PM	0	0	5	0	0	0	0	0	1	0	6
4:45 PM	0	0	10	0	0	1	0	0	1	1	13
Total	0	0	22	0	0	2	0	0	3	1	28
5:00 PM	0	0	6	0	0	1	0	0	0	1	8
5:15 PM	0	0	6	0	0	0	0	0	1	0	7
5:30 PM	0	0	7	0	0	0	0	0	0	0	7
5:45 PM	0	0	5	0	0	0	0	0	0	0	5
Total	0	0	24	0	0	1	0	0	1	1	27
Grand Total	0	0	46	0	0	3	0	0	4	2	55
Approach %	0.0	0.0	83.6	0.0	0.0	5.5	0.0	0.0	7.3	3.6	
Total %	0.0	0.0	36.5	0.0	0.0	2.4	0.0	0.0	3.2	1.6	43.7
Exiting Leg Total											6

I-93 NB Onramp from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	0	0	2	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	2	2	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	3.2
Exiting Leg Total											4

Essex Street from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	1	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Exiting Leg Total											51

Lincoln Street from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	2	0	0	0	0	0	0	2
5:30 PM	0	0	0	3	0	0	0	0	1	0	4
5:45 PM	2	0	0	1	0	0	0	0	0	0	3
Total	3	0	0	6	0	0	0	0	1	0	10
Grand Total	3	0	0	7	0	0	0	0	1	0	11
Approach %	27.3	0.0	0.0	63.6	0.0	0.0	0.0	0.0	9.1	0.0	
Total %	2.4	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.8	0.0	8.7
Exiting Leg Total											1

I-93 SB Onramp from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.8
Exiting Leg Total											1

Surface Road from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.8
Exiting Leg Total											49

Essex Street from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
4:00 PM	0	0	0	4	0	0	0	0	0	0	4
4:15 PM	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	2	0	0	0	0	0	0	2
4:45 PM	0	0	0	6	0	0	0	0	1	0	7
Total	0	0	0	13	0	0	0	0	1	0	14
5:00 PM	0	0	0	7	0	0	0	0	0	1	8
5:15 PM	0	0	0	8	0	0	0	0	0	2	10
5:30 PM	0	0	0	7	0	0	0	0	0	0	7
5:45 PM	0	0	0	10	0	0	0	0	0	1	11
Total	0	0	0	32	0	0	0	0	0	4	36
Grand Total	0	0	0	45	0	0	0	0	1	4	50
Approach %	0.0	0.0	0.0	90.0	0.0	0.0	0.0	0.0	2.0	8.0	
Total %	0.0	0.0	0.0	35.7	0.0	0.0	0.0	0.0	0.8	3.2	39.7
Exiting Leg Total											5

Lincoln Street from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
4:00 PM	0	1	0	0	0	0	0	0	0	0	1	10
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	8
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	10
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	22
Total	0	1	0	0	0	0	0	0	0	0	1	50
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	17
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	19
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	19
5:45 PM	0	0	0	0	0	0	0	0	0	2	2	21
Total	0	0	0	0	0	0	0	0	0	2	2	76
Grand Total	0	1	0	0	0	0	0	0	0	2	3	126
Approach %	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7		
Total %	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.4	
Exiting Leg Total											9	126

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM

Surface Road from North

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total
4:45 PM	0	0	10	0	0	1	0	0	1	1	13
5:00 PM	0	0	6	0	0	1	0	0	0	1	8
5:15 PM	0	0	6	0	0	0	0	0	1	0	7
5:30 PM	0	0	7	0	0	0	0	0	0	0	7
Total Volume	0	0	29	0	0	2	0	0	2	2	35
% Approach Total	0.0	0.0	82.9	0.0	0.0	5.7	0.0	0.0	5.7	5.7	
PHF	0.000	0.000	0.725	0.000	0.000	0.500	0.000	0.000	0.500	0.500	0.673
Entering Leg	0	0	29	0	0	2	0	0	2	2	35
Exiting Leg											4
Total											39

I-93 NB Onramp from Northeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
4:45 PM	0	0	0	0	0	0	0	0	1	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	1	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	1	1	2
Exiting Leg											2
Total											4

Essex Street from East

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	0	0	0	0	1
Exiting Leg											31
Total											32

Lincoln Street from Southeast

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	2	0	0	0	0	0	0	2
5:30 PM	0	0	0	3	0	0	0	0	1	0	4
Total Volume	1	0	0	5	0	0	0	0	1	0	7
% Approach Total	14.3	0.0	0.0	71.4	0.0	0.0	0.0	0.0	14.3	0.0	
PHF	0.250	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.250	0.000	0.438
Entering Leg	1	0	0	5	0	0	0	0	1	0	7
Exiting Leg											1
Total											8

I-93 SB Onramp from South

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg											0
Total											0

Surface Road from Southwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg											30
Total											30

Essex Street from West

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total
4:45 PM	0	0	0	6	0	0	0	0	1	0	7
5:00 PM	0	0	0	7	0	0	0	0	0	1	8
5:15 PM	0	0	0	8	0	0	0	0	0	2	10
5:30 PM	0	0	0	7	0	0	0	0	0	0	7
Total Volume	0	0	0	28	0	0	0	0	1	3	32
% Approach Total	0.0	0.0	0.0	87.5	0.0	0.0	0.0	0.0	3.1	9.4	
PHF	0.000	0.000	0.000	0.875	0.000	0.000	0.000	0.000	0.250	0.375	0.800
Entering Leg	0	0	0	28	0	0	0	0	1	3	32
Exiting Leg											4
Total											36

Lincoln Street from Northwest

	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	22
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	17
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	19
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	19
Total Volume	0	0	0	0	0	0	0	0	0	0	0	77
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	77
Exiting Leg											5	77
Total											5	154

PDI File #: **186481 B**
Location: **N: Surface Road S: I-93 SB Onramp NE: I-93 NB Onramp NW: Lincoln Street**
Location: **E: Essex Street W: Essex Street SE: Lincoln Street SW: Surface Road**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Surface Road											I-93 NB Onramp										
	from North											from Northeast										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
4:00 PM	0	0	0	0	0	0	0	0	102	43	145	0	0	0	0	0	0	0	0	95	41	136
4:15 PM	0	0	0	0	0	0	0	0	83	43	126	0	0	0	0	0	0	0	0	81	56	137
4:30 PM	0	0	0	0	0	0	0	0	163	41	204	0	0	0	0	0	0	0	0	167	49	216
4:45 PM	0	0	0	0	0	0	0	0	204	48	252	0	0	0	0	0	0	0	0	199	73	272
Total	0	0	0	0	0	0	0	0	552	175	727	0	0	0	0	0	0	0	0	542	219	761
5:00 PM	0	0	0	0	0	0	0	0	161	82	243	0	0	0	0	0	0	0	0	171	79	250
5:15 PM	0	0	0	0	0	0	0	0	114	61	175	0	0	0	0	0	0	0	0	142	62	204
5:30 PM	0	0	0	0	0	0	0	0	144	68	212	0	0	0	0	0	0	0	0	159	70	229
5:45 PM	0	0	0	0	0	0	0	0	54	42	96	0	0	0	0	0	0	0	0	64	44	108
Total	0	0	0	0	0	0	0	0	473	253	726	0	0	0	0	0	0	0	0	536	255	791
Grand Total	0	0	0	0	0	0	0	0	1025	428	1453	0	0	0	0	0	0	0	0	1078	474	1552
Approach %	0	0	0	0	0	0	0	0	70.5	29.5		0	0	0	0	0	0	0	0	69.5	30.5	
Total %	0	0	0	0	0	0	0	0	15.5	6.45	21.9	0	0	0	0	0	0	0	0	16.2	7.15	23.4
Exiting Leg Total											1453											1552

	Essex Street											Lincoln Street										
	from East											from Southeast										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
4:00 PM	0	0	0	0	0	0	0	0	18	36	54	0	0	0	0	0	0	0	0	38	104	142
4:15 PM	0	0	0	0	0	0	0	0	15	27	42	0	0	0	0	0	0	0	0	29	85	114
4:30 PM	0	0	0	0	0	0	0	0	13	25	38	0	0	0	0	0	0	0	0	46	108	154
4:45 PM	0	0	0	0	0	0	0	0	23	23	46	0	0	0	0	0	0	0	0	47	96	143
Total	0	0	0	0	0	0	0	0	69	111	180	0	0	0	0	0	0	0	0	160	393	553
5:00 PM	0	0	0	0	0	0	0	0	24	24	48	0	0	0	0	0	0	0	0	59	109	168
5:15 PM	0	0	0	0	0	0	0	0	18	37	55	0	0	0	0	0	0	0	0	73	98	171
5:30 PM	0	0	0	0	0	0	0	0	21	27	48	0	0	0	0	0	0	0	0	55	91	146
5:45 PM	0	0	0	0	0	0	0	0	16	37	53	0	0	0	0	0	0	0	0	48	54	102
Total	0	0	0	0	0	0	0	0	79	125	204	0	0	0	0	0	0	0	0	235	352	587
Grand Total	0	0	0	0	0	0	0	0	148	236	384	0	0	0	0	0	0	0	0	395	745	1140
Approach %	0	0	0	0	0	0	0	0	38.5	61.5		0	0	0	0	0	0	0	0	34.6	65.4	
Total %	0	0	0	0	0	0	0	0	2.23	3.56	5.79	0	0	0	0	0	0	0	0	5.95	11.2	17.2
Exiting Leg Total											384											1140

	I-93 SB Onramp											Surface Road										
	from South											from Southwest										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
4:00 PM	0	0	0	0	0	0	0	0	23	47	70	0	0	0	0	0	0	0	0	17	43	60
4:15 PM	0	0	0	0	0	0	0	0	16	42	58	0	0	0	0	0	0	0	0	20	29	49
4:30 PM	0	0	0	0	0	0	0	0	23	48	71	0	0	0	0	0	0	0	0	28	44	72
4:45 PM	0	0	0	0	0	0	0	0	27	43	70	0	0	0	0	0	0	0	0	28	39	67
Total	0	0	0	0	0	0	0	0	89	180	269	0	0	0	0	0	0	0	0	93	155	248
5:00 PM	0	0	0	0	0	0	0	0	47	74	121	0	0	0	0	0	0	0	0	54	66	120
5:15 PM	0	0	0	0	0	0	0	0	55	63	118	0	0	0	0	0	0	0	0	54	42	96
5:30 PM	0	0	0	0	0	0	0	0	49	51	100	0	0	0	0	0	0	0	0	47	48	95
5:45 PM	0	0	0	0	0	0	0	0	38	45	83	0	0	0	0	0	0	0	0	39	37	76
Total	0	0	0	0	0	0	0	0	189	233	422	0	0	0	0	0	0	0	0	194	193	387
Grand Total	0	0	0	0	0	0	0	0	278	413	691	0	0	0	0	0	0	0	0	287	348	635
Approach %	0	0	0	0	0	0	0	0	40.2	59.8		0	0	0	0	0	0	0	0	45.2	54.8	
Total %	0	0	0	0	0	0	0	0	4.19	6.23	10.4	0	0	0	0	0	0	0	0	4.33	5.25	9.57
Exiting Leg Total											691											635

	Essex Street											Lincoln Street											
	from West											from Northwest											
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	13	20	33	0	0	0	0	0	0	0	0	27	4	31	671
4:15 PM	0	0	0	0	0	0	0	0	19	29	48	0	0	0	0	0	0	0	0	29	12	41	615
4:30 PM	0	0	0	0	0	0	0	0	9	25	34	0	0	0	0	0	0	0	0	7	7	14	803
4:45 PM	0	0	0	0	0	0	0	0	11	45	56	0	0	0	0	0	0	0	0	18	21	39	945
Total	0	0	0	0	0	0	0	0	52	119	171	0	0	0	0	0	0	0	0	81	44	125	3034
5:00 PM	0	0	0	0	0	0	0	0	24	52	76	0	0	0	0	0	0	0	0	44	10	54	1080
5:15 PM	0	0	0	0	0	0	0	0	10	60	70	0	0	0	0	0	0	0	0	41	4	45	934
5:30 PM	0	0	0	0	0	0	0	0	24	46	70	0	0	0	0	0	0	0	0	26	19	45	945
5:45 PM	0	0	0	0	0	0	0	0	17	58	75	0	0	0	0	0	0	0	0	26	22	48	641
Total	0	0	0	0	0	0	0	0	75	216	291	0	0	0	0	0	0	0	0	137	55	192	3600
Grand Total	0	0	0	0	0	0	0	0	127	335	462	0	0	0	0	0	0	0	0	218	99	317	6634
Approach %	0	0	0	0	0	0	0	0	27.5	72.5		0	0	0	0	0	0	0	0	68.8	31.2		
Total %	0	0	0	0	0	0	0	0	1.91	5.05	6.96	0	0	0	0	0	0	0	0	3.29	1.49	4.78	
Exiting Leg Total											462											317	6634

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Surface Road											I-93 NB Onramp										
	from North											from Northeast										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total
4:45 PM	0	0	0	0	0	0	0	0	204	48	252	0	0	0	0	0	0	0	0	199	73	272
5:00 PM	0	0	0	0	0	0	0	0	161	82	243	0	0	0	0	0	0	0	0	171	79	250
5:15 PM	0	0	0	0	0	0	0	0	114	61	175	0	0	0	0	0	0	0	0	142	62	204
5:30 PM	0	0	0	0	0	0	0	0	144	68	212	0	0	0	0	0	0	0	0	159	70	229
Total Volume	0	0	0	0	0	0	0	0	623	259	882	0	0	0	0	0	0	0	0	671	284	955
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.6	29.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.3	29.7	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.763	0.790	0.875	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.843	0.899	0.878
Entering Leg	0	0	0	0	0	0	0	0	623	259	882	0	0	0	0	0	0	0	0	671	284	955
Exiting Leg											882											955
Total											1764											1910

4:45 PM	Essex Street											Lincoln Street										
	from East											from Southeast										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total
4:45 PM	0	0	0	0	0	0	0	0	23	23	46	0	0	0	0	0	0	0	0	47	96	143
5:00 PM	0	0	0	0	0	0	0	0	24	24	48	0	0	0	0	0	0	0	0	59	109	168
5:15 PM	0	0	0	0	0	0	0	0	18	37	55	0	0	0	0	0	0	0	0	73	98	171
5:30 PM	0	0	0	0	0	0	0	0	21	27	48	0	0	0	0	0	0	0	0	55	91	146
Total Volume	0	0	0	0	0	0	0	0	86	111	197	0	0	0	0	0	0	0	0	234	394	628
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.7	56.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	62.7	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.896	0.750	0.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.801	0.904	0.918
Entering Leg	0	0	0	0	0	0	0	0	86	111	197	0	0	0	0	0	0	0	0	234	394	628
Exiting Leg											197											628
Total											394											1256

4:45 PM	I-93 SB Onramp											Surface Road										
	from South											from Southwest										
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total
4:45 PM	0	0	0	0	0	0	0	0	27	43	70	0	0	0	0	0	0	0	0	28	39	67
5:00 PM	0	0	0	0	0	0	0	0	47	74	121	0	0	0	0	0	0	0	0	54	66	120
5:15 PM	0	0	0	0	0	0	0	0	55	63	118	0	0	0	0	0	0	0	0	54	42	96
5:30 PM	0	0	0	0	0	0	0	0	49	51	100	0	0	0	0	0	0	0	0	47	48	95
Total Volume	0	0	0	0	0	0	0	0	178	231	409	0	0	0	0	0	0	0	0	183	195	378
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	56.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	51.6	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.809	0.780	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.847	0.739	0.788
Entering Leg	0	0	0	0	0	0	0	0	178	231	409	0	0	0	0	0	0	0	0	183	195	378
Exiting Leg											409											378
Total											818											756

4:45 PM	Essex Street											Lincoln Street											
	from West											from Northwest											
	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Right	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	11	45	56	0	0	0	0	0	0	0	0	18	21	39	945
5:00 PM	0	0	0	0	0	0	0	0	24	52	76	0	0	0	0	0	0	0	0	44	10	54	1080
5:15 PM	0	0	0	0	0	0	0	0	10	60	70	0	0	0	0	0	0	0	0	41	4	45	934
5:30 PM	0	0	0	0	0	0	0	0	24	46	70	0	0	0	0	0	0	0	0	26	19	45	945
Total Volume	0	0	0	0	0	0	0	0	69	203	272	0	0	0	0	0	0	0	0	129	54	183	3904
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	74.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.5	29.5		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.846	0.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.733	0.643	0.847	0.904
Entering Leg	0	0	0	0	0	0	0	0	69	203	272	0	0	0	0	0	0	0	0	129	54	183	3904
Exiting Leg											272											183	3904
Total											544											366	7808

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	12	0	12	0	0	0	0	19	52	0	71	83
7:15 AM	0	17	0	17	0	0	0	0	20	48	0	68	85
7:30 AM	0	15	0	15	0	0	0	0	19	58	0	77	92
7:45 AM	0	16	0	16	0	0	0	0	23	52	0	75	91
Total	0	60	0	60	0	0	0	0	81	210	0	291	351
8:00 AM	0	15	0	15	0	0	0	0	27	65	0	92	107
8:15 AM	0	17	0	17	0	0	0	0	24	74	0	98	115
8:30 AM	0	17	0	17	0	0	0	0	31	79	0	110	127
8:45 AM	0	22	1	23	0	0	0	0	19	75	0	94	117
Total	0	71	1	72	0	0	0	0	101	293	0	394	466
Grand Total	0	131	1	132	0	0	0	0	182	503	0	685	817
Approach %	0.0	99.2	0.8		0.0	0.0	0.0		26.6	73.4	0.0		
Total %	0.0	16.0	0.1	16.2	0.0	0.0	0.0	0.0	22.3	61.6	0.0	83.8	
Exiting Leg Total				504				313				0	817
Cars	0	120	1	121	0	0	0	0	174	445	0	619	740
% Cars	0.0	91.6	100.0	91.7	0.0	0.0	0.0	0.0	95.6	88.5	0.0	90.4	90.6
Exiting Leg Total				446				294				0	740
Heavy Vehicles	0	11	0	11	0	0	0	0	8	58	0	66	77
% Heavy Vehicles	0.0	8.4	0.0	8.3	0.0	0.0	0.0	0.0	4.4	11.5	0.0	9.6	9.4
Exiting Leg Total				58				19				0	77

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	15	0	15	0	0	0	0	27	65	0	92	107
8:15 AM	0	17	0	17	0	0	0	0	24	74	0	98	115
8:30 AM	0	17	0	17	0	0	0	0	31	79	0	110	127
8:45 AM	0	22	1	23	0	0	0	0	19	75	0	94	117
Total Volume	0	71	1	72	0	0	0	0	101	293	0	394	466
% Approach Total	0.0	98.6	1.4		0.0	0.0	0.0		25.6	74.4	0.0		
PHF	0.000	0.807	0.250	0.783	0.000	0.000	0.000	0.000	0.815	0.927	0.000	0.895	0.917
Cars	0	66	1	67	0	0	0	0	99	258	0	357	424
Cars %	0.0	93.0	100.0	93.1	0.0	0.0	0.0	0.0	98.0	88.1	0.0	90.6	91.0
Heavy Vehicles	0	5	0	5	0	0	0	0	2	35	0	37	42
Heavy Vehicles %	0.0	7.0	0.0	6.9	0.0	0.0	0.0	0.0	2.0	11.9	0.0	9.4	9.0
Cars Enter Leg	0	66	1	67	0	0	0	0	99	258	0	357	424
Heavy Enter Leg	0	5	0	5	0	0	0	0	2	35	0	37	42
Total Entering Leg	0	71	1	72	0	0	0	0	101	293	0	394	466
Cars Exiting Leg				259				165				0	424
Heavy Exiting Leg				35				7				0	42
Total Exiting Leg				294				172				0	466

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	12	0	12	0	0	0	0	18	47	0	65	77
7:15 AM	0	13	0	13	0	0	0	0	18	42	0	60	73
7:30 AM	0	13	0	13	0	0	0	0	19	50	0	69	82
7:45 AM	0	16	0	16	0	0	0	0	20	48	0	68	84
Total	0	54	0	54	0	0	0	0	75	187	0	262	316
8:00 AM	0	14	0	14	0	0	0	0	25	55	0	80	94
8:15 AM	0	15	0	15	0	0	0	0	24	61	0	85	100
8:30 AM	0	15	0	15	0	0	0	0	31	75	0	106	121
8:45 AM	0	22	1	23	0	0	0	0	19	67	0	86	109
Total	0	66	1	67	0	0	0	0	99	258	0	357	424
Grand Total	0	120	1	121	0	0	0	0	174	445	0	619	740
Approach %	0.0	99.2	0.8		0.0	0.0	0.0		28.1	71.9	0.0		
Total %	0.0	16.2	0.1	16.4	0.0	0.0	0.0	0.0	23.5	60.1	0.0	83.6	
Exiting Leg Total				446				294				0	740

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	14	0	14	0	0	0	0	25	55	0	80	94
8:15 AM	0	15	0	15	0	0	0	0	24	61	0	85	100
8:30 AM	0	15	0	15	0	0	0	0	31	75	0	106	121
8:45 AM	0	22	1	23	0	0	0	0	19	67	0	86	109
Total Volume	0	66	1	67	0	0	0	0	99	258	0	357	424
% Approach Total	0.0	98.5	1.5		0.0	0.0	0.0		27.7	72.3	0.0		
PHF	0.000	0.750	0.250	0.728	0.000	0.000	0.000	0.000	0.798	0.860	0.000	0.842	0.876
Entering Leg	0	66	1	67	0	0	0	0	99	258	0	357	424
Exiting Leg				259				165				0	424
Total				326				165				357	848

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Essex Street				South Street				Essex Street				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	5	0	6	6
7:15 AM	0	4	0	4	0	0	0	0	2	6	0	8	12
7:30 AM	0	2	0	2	0	0	0	0	0	8	0	8	10
7:45 AM	0	0	0	0	0	0	0	0	3	4	0	7	7
Total	0	6	0	6	0	0	0	0	6	23	0	29	35
8:00 AM	0	1	0	1	0	0	0	0	2	10	0	12	13
8:15 AM	0	2	0	2	0	0	0	0	0	13	0	13	15
8:30 AM	0	2	0	2	0	0	0	0	0	4	0	4	6
8:45 AM	0	0	0	0	0	0	0	0	0	8	0	8	8
Total	0	5	0	5	0	0	0	0	2	35	0	37	42
Grand Total	0	11	0	11	0	0	0	0	8	58	0	66	77
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		12.1	87.9	0.0		
Total %	0.0	14.3	0.0	14.3	0.0	0.0	0.0	0.0	10.4	75.3	0.0	85.7	
Exiting Leg Total				58				19				0	77
Buses	0	2	0	2	0	0	0	0	2	32	0	34	36
% Buses	0.0	18.2	0.0	18.2	0.0	0.0	0.0	0.0	25.0	55.2	0.0	51.5	46.8
Exiting Leg Total				32				4				0	36
Single-Unit Trucks	0	9	0	9	0	0	0	0	6	26	0	32	41
% Single-Unit	0.0	81.8	0.0	81.8	0.0	0.0	0.0	0.0	75.0	44.8	0.0	48.5	53.2
Exiting Leg Total				26				15				0	41
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Essex Street				South Street				Essex Street				
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	0	2	0	2	0	0	0	0	0	8	0	8	10
7:45 AM	0	0	0	0	0	0	0	0	3	4	0	7	7
8:00 AM	0	1	0	1	0	0	0	0	2	10	0	12	13
8:15 AM	0	2	0	2	0	0	0	0	0	13	0	13	15
Total Volume	0	5	0	5	0	0	0	0	5	35	0	40	45
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		12.5	87.5	0.0		
PHF	0.000	0.625	0.000	0.625	0.000	0.000	0.000	0.000	0.417	0.673	0.000	0.769	0.750
Buses	0	1	0	1	0	0	0	0	2	19	0	21	22
Buses %	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	40.0	54.3	0.0	52.5	48.9
Single-Unit Trucks	0	4	0	4	0	0	0	0	3	16	0	19	23
Single-Unit %	0.0	80.0	0.0	80.0	0.0	0.0	0.0	0.0	60.0	45.7	0.0	47.5	51.1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	1	0	1	0	0	0	0	2	19	0	21	22
Single-Unit Trucks	0	4	0	4	0	0	0	0	3	16	0	19	23
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	5	0	5	0	0	0	0	5	35	0	40	45
Buses				19				3				0	22
Single-Unit Trucks				16				7				0	23
Articulated Trucks				0				0				0	0
Total Exiting Leg				35				10				0	45

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	11	0	11	0	0	0	0	18	40	0	58	69
7:15 AM	0	13	0	13	0	0	0	0	16	39	0	55	68
7:30 AM	0	11	0	11	0	0	0	0	16	45	0	61	72
7:45 AM	0	13	0	13	0	0	0	0	17	46	0	63	76
Total	0	48	0	48	0	0	0	0	67	170	0	237	285
8:00 AM	0	13	0	13	0	0	0	0	23	51	0	74	87
8:15 AM	0	15	0	15	0	0	0	0	22	55	0	77	92
8:30 AM	0	15	0	15	0	0	0	0	28	72	0	100	115
8:45 AM	0	21	1	22	0	0	0	0	18	61	0	79	101
Total	0	64	1	65	0	0	0	0	91	239	0	330	395
Grand Total	0	112	1	113	0	0	0	0	158	409	0	567	680
Approach %	0.0	99.1	0.9		0.0	0.0	0.0		27.9	72.1	0.0		
Total %	0.0	16.5	0.1	16.6	0.0	0.0	0.0	0.0	23.2	60.1	0.0	83.4	
Exiting Leg Total				410				270				0	680

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	13	0	13	0	0	0	0	23	51	0	74	87
8:15 AM	0	15	0	15	0	0	0	0	22	55	0	77	92
8:30 AM	0	15	0	15	0	0	0	0	28	72	0	100	115
8:45 AM	0	21	1	22	0	0	0	0	18	61	0	79	101
Total Volume	0	64	1	65	0	0	0	0	91	239	0	330	395
% Approach Total	0.0	98.5	1.5		0.0	0.0	0.0		27.6	72.4	0.0		
PHF	0.000	0.762	0.250	0.739	0.000	0.000	0.000	0.000	0.813	0.830	0.000	0.825	0.859
Entering Leg	0	64	1	65	0	0	0	0	91	239	0	330	395
Exiting Leg				240				155				0	395
Total				305				155				330	790

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	1	0	1	0	0	0	0	0	7	0	7	8
7:15 AM	0	0	0	0	0	0	0	0	2	3	0	5	5
7:30 AM	0	2	0	2	0	0	0	0	3	5	0	8	10
7:45 AM	0	3	0	3	0	0	0	0	3	2	0	5	8
Total	0	6	0	6	0	0	0	0	8	17	0	25	31
8:00 AM	0	1	0	1	0	0	0	0	2	3	0	5	6
8:15 AM	0	0	0	0	0	0	0	0	1	3	0	4	4
8:30 AM	0	0	0	0	0	0	0	0	2	2	0	4	4
8:45 AM	0	1	0	1	0	0	0	0	1	6	0	7	8
Total	0	2	0	2	0	0	0	0	6	14	0	20	22
Grand Total	0	8	0	8	0	0	0	0	14	31	0	45	53
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		31.1	68.9	0.0		
Total %	0.0	15.1	0.0	15.1	0.0	0.0	0.0	0.0	26.4	58.5	0.0	84.9	
Exiting Leg Total				31				22				0	53

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	1	0	1	0	0	0	0	0	7	0	7	8
7:15 AM	0	0	0	0	0	0	0	0	2	3	0	5	5
7:30 AM	0	2	0	2	0	0	0	0	3	5	0	8	10
7:45 AM	0	3	0	3	0	0	0	0	3	2	0	5	8
Total Volume	0	6	0	6	0	0	0	0	8	17	0	25	31
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		32.0	68.0	0.0		
PHF	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.667	0.607	0.000	0.781	0.775
Entering Leg	0	6	0	6	0	0	0	0	8	17	0	25	31
Exiting Leg				17				14				0	31
Total				23				14				25	62

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
7:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	3
7:45 AM	0	0	0	0	0	0	0	0	2	3	0	5	5
Total	0	1	0	1	0	0	0	0	2	11	0	13	14
8:00 AM	0	0	0	0	0	0	0	0	0	6	0	6	6
8:15 AM	0	0	0	0	0	0	0	0	0	8	0	8	8
8:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
Total	0	1	0	1	0	0	0	0	0	21	0	21	22
Grand Total	0	2	0	2	0	0	0	0	2	32	0	34	36
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		5.9	94.1	0.0		
Total %	0.0	5.6	0.0	5.6	0.0	0.0	0.0	0.0	5.6	88.9	0.0	94.4	
Exiting Leg Total				32				4				0	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	3
7:45 AM	0	0	0	0	0	0	0	0	2	3	0	5	5
8:00 AM	0	0	0	0	0	0	0	0	0	6	0	6	6
8:15 AM	0	0	0	0	0	0	0	0	0	8	0	8	8
Total Volume	0	1	0	1	0	0	0	0	2	19	0	21	22
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		9.5	90.5	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.594	0.000	0.656	0.688
Entering Leg	0	1	0	1	0	0	0	0	2	19	0	21	22
Exiting Leg				19				3				0	22
Total				20				3				21	44

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	4	0	5	5
7:15 AM	0	4	0	4	0	0	0	0	2	1	0	3	7
7:30 AM	0	1	0	1	0	0	0	0	0	6	0	6	7
7:45 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	0	5	0	5	0	0	0	0	4	12	0	16	21
8:00 AM	0	1	0	1	0	0	0	0	2	4	0	6	7
8:15 AM	0	2	0	2	0	0	0	0	0	5	0	5	7
8:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	0	4	0	4	0	0	0	0	2	14	0	16	20
Grand Total	0	9	0	9	0	0	0	0	6	26	0	32	41
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		18.8	81.3	0.0		
Total %	0.0	22.0	0.0	22.0	0.0	0.0	0.0	0.0	14.6	63.4	0.0	78.0	
Exiting Leg Total				26				15				0	41

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	0	4	0	4	0	0	0	0	2	1	0	3	7
7:30 AM	0	1	0	1	0	0	0	0	0	6	0	6	7
7:45 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
8:00 AM	0	1	0	1	0	0	0	0	2	4	0	6	7
Total Volume	0	6	0	6	0	0	0	0	5	12	0	17	23
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		29.4	70.6	0.0		
PHF	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.625	0.500	0.000	0.708	0.821
Entering Leg	0	6	0	6	0	0	0	0	5	12	0	17	23
Exiting Leg				12				11				0	23
Total				18				11				17	46

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	8	0	0	0	8	9
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	1	12	12
7:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	12	0	0	0	14	15
7:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	14	0	0	0	16	17
Total	0	3	0	0	0	3	0	0	0	0	0	0	4	45	0	0	1	50	53
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	5	15	0	0	0	20	21
8:15 AM	0	3	0	0	0	3	2	0	0	0	0	2	7	32	0	0	0	39	44
8:30 AM	0	3	0	0	0	3	0	0	0	0	0	0	9	37	0	0	0	46	49
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	5	22	0	1	0	28	29
Total	0	7	0	0	0	7	2	1	0	0	0	3	26	106	0	1	0	133	143
Grand Total	0	10	0	0	0	10	2	1	0	0	0	3	30	151	0	1	1	183	196
Approach %	0.0	100.0	0.0	0.0	0.0		66.7	33.3	0.0	0.0	0.0		16.4	82.5	0.0	0.5	0.5		
Total %	0.0	5.1	0.0	0.0	0.0	5.1	1.0	0.5	0.0	0.0	0.0	1.5	15.3	77.0	0.0	0.5	0.5	93.4	
Exiting Leg Total						153						40						3	196

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	5	15	0	0	0	20	21
8:15 AM	0	3	0	0	0	3	2	0	0	0	0	2	7	32	0	0	0	39	44
8:30 AM	0	3	0	0	0	3	0	0	0	0	0	0	9	37	0	0	0	46	49
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	5	22	0	1	0	28	29
Total Volume	0	7	0	0	0	7	2	1	0	0	0	3	26	106	0	1	0	133	143
% Approach Total	0.0	100.0	0.0	0.0	0.0		66.7	33.3	0.0	0.0	0.0		19.5	79.7	0.0	0.8	0.0		
PHF	0.000	0.583	0.000	0.000	0.000	0.583	0.250	0.250	0.000	0.000	0.000	0.375	0.722	0.716	0.000	0.250	0.000	0.723	0.730
Entering Leg	0	7	0	0	0	7	2	1	0	0	0	3	26	106	0	1	0	133	143
Exiting Leg						108						33						2	143
Total						115						36						135	286

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Essex Street from East						South Street from South						Essex Street from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	1	11	12	0	0	0	59	16	75	0	0	0	18	6	24	111
7:15 AM	0	0	0	6	13	19	0	0	0	49	19	68	0	0	0	26	10	36	123
7:30 AM	0	0	0	6	20	26	0	0	0	54	46	100	0	0	0	26	13	39	165
7:45 AM	0	0	0	11	21	32	0	0	0	90	32	122	0	0	0	33	21	54	208
Total	0	0	0	24	65	89	0	0	0	252	113	365	0	0	0	103	50	153	607
8:00 AM	0	0	0	13	25	38	0	0	0	105	38	143	0	0	0	29	27	56	237
8:15 AM	0	0	0	19	48	67	0	0	0	205	40	245	0	0	0	42	17	59	371
8:30 AM	0	0	0	14	42	56	0	0	0	105	72	177	0	0	0	31	33	64	297
8:45 AM	0	0	0	27	36	63	0	0	0	89	69	158	0	0	0	30	59	89	310
Total	0	0	0	73	151	224	0	0	0	504	219	723	0	0	0	132	136	268	1215
Grand Total	0	0	0	97	216	313	0	0	0	756	332	1088	0	0	0	235	186	421	1822
Approach %	0	0	0	30.99	69.01		0	0	0	69.485	30.515		0	0	0	55.819	44.181		
Total %	0	0	0	5.3238	11.855	17.179	0	0	0	41.493	18.222	59.715	0	0	0	12.898	10.209	23.106	
Exiting Leg Total						313						1088						421	1822

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Essex Street from East						South Street from South						Essex Street from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	13	25	38	0	0	0	105	38	143	0	0	0	29	27	56	237
8:15 AM	0	0	0	19	48	67	0	0	0	205	40	245	0	0	0	42	17	59	371
8:30 AM	0	0	0	14	42	56	0	0	0	105	72	177	0	0	0	31	33	64	297
8:45 AM	0	0	0	27	36	63	0	0	0	89	69	158	0	0	0	30	59	89	310
Total Volume	0	0	0	73	151	224	0	0	0	504	219	723	0	0	0	132	136	268	1215
% Approach Total	0.0	0.0	0.0	32.6	67.4		0.0	0.0	0.0	69.7	30.3		0.0	0.0	0.0	49.3	50.7		
PHF	0.000	0.000	0.000	0.676	0.786	0.836	0.000	0.000	0.000	0.615	0.760	0.738	0.000	0.000	0.000	0.786	0.576	0.753	0.819
Entering Leg	0	0	0	73	151	224	0	0	0	504	219	723	0	0	0	132	136	268	1215
Exiting Leg						224						723						268	1215
Total						448						1446						536	2430

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	29	0	29	0	0	0	0	29	49	0	78	107
4:15 PM	0	24	0	24	0	0	0	0	21	47	0	68	92
4:30 PM	0	31	0	31	0	0	0	0	24	48	0	72	103
4:45 PM	0	28	0	28	0	0	0	0	28	65	0	93	121
Total	0	112	0	112	0	0	0	0	102	209	0	311	423
5:00 PM	0	34	1	35	0	0	0	0	39	52	0	91	126
5:15 PM	0	29	1	30	0	0	0	0	21	46	0	67	97
5:30 PM	0	35	1	36	0	0	0	0	25	57	0	82	118
5:45 PM	0	29	0	29	0	0	0	0	18	49	0	67	96
Total	0	127	3	130	0	0	0	0	103	204	0	307	437
Grand Total	0	239	3	242	0	0	0	0	205	413	0	618	860
Approach %	0.0	98.8	1.2		0.0	0.0	0.0		33.2	66.8	0.0		
Total %	0.0	27.8	0.3	28.1	0.0	0.0	0.0	0.0	23.8	48.0	0.0	71.9	
Exiting Leg Total				416				444				0	860
Cars	0	236	3	239	0	0	0	0	202	381	0	583	822
% Cars	0.0	98.7	100.0	98.8	0.0	0.0	0.0	0.0	98.5	92.3	0.0	94.3	95.6
Exiting Leg Total				384				438				0	822
Heavy Vehicles	0	3	0	3	0	0	0	0	3	32	0	35	38
% Heavy Vehicles	0.0	1.3	0.0	1.2	0.0	0.0	0.0	0.0	1.5	7.7	0.0	5.7	4.4
Exiting Leg Total				32				6				0	38

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:45 PM	0	28	0	28	0	0	0	0	28	65	0	93	121
5:00 PM	0	34	1	35	0	0	0	0	39	52	0	91	126
5:15 PM	0	29	1	30	0	0	0	0	21	46	0	67	97
5:30 PM	0	35	1	36	0	0	0	0	25	57	0	82	118
Total Volume	0	126	3	129	0	0	0	0	113	220	0	333	462
% Approach Total	0.0	97.7	2.3		0.0	0.0	0.0		33.9	66.1	0.0		
PHF	0.000	0.900	0.750	0.896	0.000	0.000	0.000	0.000	0.724	0.846	0.000	0.895	0.917
Cars	0	123	3	126	0	0	0	0	112	205	0	317	443
Cars %	0.0	97.6	100.0	97.7	0.0	0.0	0.0	0.0	99.1	93.2	0.0	95.2	95.9
Heavy Vehicles	0	3	0	3	0	0	0	0	1	15	0	16	19
Heavy Vehicles %	0.0	2.4	0.0	2.3	0.0	0.0	0.0	0.0	0.9	6.8	0.0	4.8	4.1
Cars Enter Leg	0	123	3	126	0	0	0	0	112	205	0	317	443
Heavy Enter Leg	0	3	0	3	0	0	0	0	1	15	0	16	19
Total Entering Leg	0	126	3	129	0	0	0	0	113	220	0	333	462
Cars Exiting Leg				208				235				0	443
Heavy Exiting Leg				15				4				0	19
Total Exiting Leg				223				239				0	462

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	29	0	29	0	0	0	0	29	45	0	74	103
4:15 PM	0	24	0	24	0	0	0	0	20	42	0	62	86
4:30 PM	0	31	0	31	0	0	0	0	23	44	0	67	98
4:45 PM	0	28	0	28	0	0	0	0	27	60	0	87	115
Total	0	112	0	112	0	0	0	0	99	191	0	290	402
5:00 PM	0	33	1	34	0	0	0	0	39	49	0	88	122
5:15 PM	0	29	1	30	0	0	0	0	21	43	0	64	94
5:30 PM	0	33	1	34	0	0	0	0	25	53	0	78	112
5:45 PM	0	29	0	29	0	0	0	0	18	45	0	63	92
Total	0	124	3	127	0	0	0	0	103	190	0	293	420
Grand Total	0	236	3	239	0	0	0	0	202	381	0	583	822
Approach %	0.0	98.7	1.3		0.0	0.0	0.0		34.6	65.4	0.0		
Total %	0.0	28.7	0.4	29.1	0.0	0.0	0.0	0.0	24.6	46.4	0.0	70.9	
Exiting Leg Total				384				438				0	822

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:45 PM	0	28	0	28	0	0	0	0	27	60	0	87	115
5:00 PM	0	33	1	34	0	0	0	0	39	49	0	88	122
5:15 PM	0	29	1	30	0	0	0	0	21	43	0	64	94
5:30 PM	0	33	1	34	0	0	0	0	25	53	0	78	112
Total Volume	0	123	3	126	0	0	0	0	112	205	0	317	443
% Approach Total	0.0	97.6	2.4		0.0	0.0	0.0		35.3	64.7	0.0		
PHF	0.000	0.932	0.750	0.926	0.000	0.000	0.000	0.000	0.718	0.854	0.000	0.901	0.908
Entering Leg	0	123	3	126	0	0	0	0	112	205	0	317	443
Exiting Leg				208				235				0	443
Total				334				235				317	886

PDI File #: **186481 C**
Location: **S: South Street**
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City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:15 PM	0	0	0	0	0	0	0	0	1	5	0	6	6
4:30 PM	0	0	0	0	0	0	0	0	1	4	0	5	5
4:45 PM	0	0	0	0	0	0	0	0	1	5	0	6	6
Total	0	0	0	0	0	0	0	0	3	18	0	21	21
5:00 PM	0	1	0	1	0	0	0	0	0	3	0	3	4
5:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
5:30 PM	0	2	0	2	0	0	0	0	0	4	0	4	6
5:45 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
Total	0	3	0	3	0	0	0	0	0	14	0	14	17
Grand Total	0	3	0	3	0	0	0	0	3	32	0	35	38
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		8.6	91.4	0.0		
Total %	0.0	7.9	0.0	7.9	0.0	0.0	0.0	0.0	7.9	84.2	0.0	92.1	
Exiting Leg Total				32				6				0	38
Buses	0	2	0	2	0	0	0	0	1	21	0	22	24
% Buses	0.0	66.7	0.0	66.7	0.0	0.0	0.0	0.0	33.3	65.6	0.0	62.9	63.2
Exiting Leg Total				21				3				0	24
Single-Unit Trucks	0	1	0	1	0	0	0	0	2	11	0	13	14
% Single-Unit	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	66.7	34.4	0.0	37.1	36.8
Exiting Leg Total				11				3				0	14
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:15 PM	0	0	0	0	0	0	0	0	1	5	0	6	6
4:30 PM	0	0	0	0	0	0	0	0	1	4	0	5	5
4:45 PM	0	0	0	0	0	0	0	0	1	5	0	6	6
Total Volume	0	0	0	0	0	0	0	0	3	18	0	21	21
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		14.3	85.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.900	0.000	0.875	0.875
Buses	0	0	0	0	0	0	0	0	1	11	0	12	12
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	61.1	0.0	57.1	57.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	2	7	0	9	9
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	38.9	0.0	42.9	42.9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	1	11	0	12	12
Single-Unit Trucks	0	0	0	0	0	0	0	0	2	7	0	9	9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	3	18	0	21	21
Buses				11				1				0	12
Single-Unit Trucks				7				2				0	9
Articulated Trucks				0				0				0	0
Total Exiting Leg				18				3				0	21

PDI File #: **186481 C**
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City, State: **Boston, MA**
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Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	28	0	28	0	0	0	0	28	45	0	73	101
4:15 PM	0	24	0	24	0	0	0	0	19	40	0	59	83
4:30 PM	0	31	0	31	0	0	0	0	23	42	0	65	96
4:45 PM	0	28	0	28	0	0	0	0	27	57	0	84	112
Total	0	111	0	111	0	0	0	0	97	184	0	281	392
5:00 PM	0	33	1	34	0	0	0	0	37	47	0	84	118
5:15 PM	0	28	1	29	0	0	0	0	20	42	0	62	91
5:30 PM	0	31	1	32	0	0	0	0	24	53	0	77	109
5:45 PM	0	29	0	29	0	0	0	0	17	41	0	58	87
Total	0	121	3	124	0	0	0	0	98	183	0	281	405
Grand Total	0	232	3	235	0	0	0	0	195	367	0	562	797
Approach %	0.0	98.7	1.3		0.0	0.0	0.0		34.7	65.3	0.0		
Total %	0.0	29.1	0.4	29.5	0.0	0.0	0.0	0.0	24.5	46.0	0.0	70.5	
Exiting Leg Total				370				427				0	797

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:45 PM	0	28	0	28	0	0	0	0	27	57	0	84	112
5:00 PM	0	33	1	34	0	0	0	0	37	47	0	84	118
5:15 PM	0	28	1	29	0	0	0	0	20	42	0	62	91
5:30 PM	0	31	1	32	0	0	0	0	24	53	0	77	109
Total Volume	0	120	3	123	0	0	0	0	108	199	0	307	430
% Approach Total	0.0	97.6	2.4		0.0	0.0	0.0		35.2	64.8	0.0		
PHF	0.000	0.909	0.750	0.904	0.000	0.000	0.000	0.000	0.730	0.873	0.000	0.914	0.911
Entering Leg	0	120	3	123	0	0	0	0	108	199	0	307	430
Exiting Leg				202				228				0	430
Total				325				228				307	860

PDI File #: **186481 C**
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City, State: **Boston, MA**
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Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
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PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	0	0	0	2	5	0	7	8
5:00 PM	0	0	0	0	0	0	0	0	2	2	0	4	4
5:15 PM	0	1	0	1	0	0	0	0	1	1	0	2	3
5:30 PM	0	2	0	2	0	0	0	0	1	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total	0	3	0	3	0	0	0	0	5	5	0	10	13
Grand Total	0	4	0	4	0	0	0	0	7	10	0	17	21
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		41.2	58.8	0.0		
Total %	0.0	19.0	0.0	19.0	0.0	0.0	0.0	0.0	33.3	47.6	0.0	81.0	
Exiting Leg Total				10				11				0	21

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	2	2	0	4	4
5:15 PM	0	1	0	1	0	0	0	0	1	1	0	2	3
5:30 PM	0	2	0	2	0	0	0	0	1	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total Volume	0	3	0	3	0	0	0	0	5	5	0	10	13
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.625	0.625	0.000	0.625	0.813
Entering Leg	0	3	0	3	0	0	0	0	5	5	0	10	13
Exiting Leg				5				8				0	13
Total				8				8				10	26

PDI File #: **186481 C**
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Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Buses

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:45 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total	0	0	0	0	0	0	0	0	1	11	0	12	12
5:00 PM	0	1	0	1	0	0	0	0	0	2	0	2	3
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:30 PM	0	1	0	1	0	0	0	0	0	3	0	3	4
5:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	0	2	0	2	0	0	0	0	0	10	0	10	12
Grand Total	0	2	0	2	0	0	0	0	1	21	0	22	24
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		4.5	95.5	0.0		
Total %	0.0	8.3	0.0	8.3	0.0	0.0	0.0	0.0	4.2	87.5	0.0	91.7	
Exiting Leg Total				21				3				0	24

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:45 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
Total Volume	0	0	0	0	0	0	0	0	1	11	0	12	12
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		8.3	91.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.917	0.000	1.000	1.000
Entering Leg	0	0	0	0	0	0	0	0	1	11	0	12	12
Exiting Leg				11				1				0	12
Total				11				1				12	24

PDI File #: **186481 C**
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Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

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Email: datarequests@pdillc.com

Single-Unit Trucks

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
4:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	0	0	0	0	0	0	0	0	2	7	0	9	9
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	0	0	0	0	4	0	4	5
Grand Total	0	1	0	1	0	0	0	0	2	11	0	13	14
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		15.4	84.6	0.0		
Total %	0.0	7.1	0.0	7.1	0.0	0.0	0.0	0.0	14.3	78.6	0.0	92.9	
Exiting Leg Total				11				3				0	14

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
4:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total Volume	0	0	0	0	0	0	0	0	2	7	0	9	9
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		22.2	77.8	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.583	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	0	0	0	2	7	0	9	9
Exiting Leg				7				2				0	9
Total				7				2				9	18

PDI File #: **186481 C**
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Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
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Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Essex Street from East				South Street from South				Essex Street from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	2	5	0	0	0	7	10
4:15 PM	0	1	0	0	0	1	1	0	0	0	1	2	1	2	0	0	0	3	6
4:30 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	6	0	0	0	6	8
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	1	9	0	0	0	10	11
Total	0	7	0	0	0	7	1	0	0	0	1	2	4	22	0	0	0	26	35
5:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	11	0	0	0	11	14
5:15 PM	0	6	0	0	0	6	0	0	0	1	0	1	0	10	0	0	0	10	17
5:30 PM	2	3	0	0	0	5	0	0	0	0	1	1	0	6	0	1	0	7	13
5:45 PM	0	1	0	0	0	1	0	0	0	0	1	1	1	10	0	0	0	11	13
Total	2	13	0	0	0	15	0	0	0	1	2	3	1	37	0	1	0	39	57
Grand Total	2	20	0	0	0	22	1	0	0	1	3	5	5	59	0	1	0	65	92
Approach %	9.1	90.9	0.0	0.0	0.0		20.0	0.0	0.0	20.0	60.0		7.7	90.8	0.0	1.5	0.0		
Total %	2.2	21.7	0.0	0.0	0.0	23.9	1.1	0.0	0.0	1.1	3.3	5.4	5.4	64.1	0.0	1.1	0.0	70.7	
Exiting Leg Total						60						29						3	92

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	11	0	0	0	11	14
5:15 PM	0	6	0	0	0	6	0	0	0	1	0	1	0	10	0	0	0	10	17
5:30 PM	2	3	0	0	0	5	0	0	0	0	1	1	0	6	0	1	0	7	13
5:45 PM	0	1	0	0	0	1	0	0	0	0	1	1	1	10	0	0	0	11	13
Total Volume	2	13	0	0	0	15	0	0	0	1	2	3	1	37	0	1	0	39	57
% Approach Total	13.3	86.7	0.0	0.0	0.0		0.0	0.0	0.0	33.3	66.7		2.6	94.9	0.0	2.6	0.0		
PHF	0.250	0.542	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.250	0.500	0.750	0.250	0.841	0.000	0.250	0.000	0.886	0.838
Entering Leg	2	13	0	0	0	15	0	0	0	1	2	3	1	37	0	1	0	39	57
Exiting Leg						37						17						3	57
Total						52						20						42	114

PDI File #: **186481 C**
Location: **S: South Street**
Location: **E: Essex Street W: Essex Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	32	12	44	0	0	0	22	138	160	0	0	0	27	42	69	273
4:15 PM	0	0	0	11	23	34	0	0	0	29	128	157	0	0	0	23	22	45	236
4:30 PM	0	0	0	32	18	50	0	0	0	28	189	217	0	0	0	24	37	61	328
4:45 PM	0	0	0	46	21	67	0	0	0	36	204	240	0	0	0	36	51	87	394
Total	0	0	0	121	74	195	0	0	0	115	659	774	0	0	0	110	152	262	1231
5:00 PM	0	0	0	15	35	50	0	0	0	47	177	224	0	0	0	55	68	123	397
5:15 PM	0	0	0	9	23	32	0	0	0	51	149	200	0	0	0	50	49	99	331
5:30 PM	0	0	0	24	30	54	0	0	0	55	156	211	0	0	0	51	66	117	382
5:45 PM	0	0	0	7	20	27	0	0	0	36	64	100	0	0	0	29	25	54	181
Total	0	0	0	55	108	163	0	0	0	189	546	735	0	0	0	185	208	393	1291
Grand Total	0	0	0	176	182	358	0	0	0	304	1205	1509	0	0	0	295	360	655	2522
Approach %	0	0	0	49.162	50.838		0	0	0	20.146	79.854		0	0	0	45.038	54.962		
Total %	0	0	0	6.9786	7.2165	14.195	0	0	0	12.054	47.78	59.833	0	0	0	11.697	14.274	25.971	
Exiting Leg Total						358						1509						655	2522

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Essex Street						South Street						Essex Street						
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	46	21	67	0	0	0	36	204	240	0	0	0	36	51	87	394
5:00 PM	0	0	0	15	35	50	0	0	0	47	177	224	0	0	0	55	68	123	397
5:15 PM	0	0	0	9	23	32	0	0	0	51	149	200	0	0	0	50	49	99	331
5:30 PM	0	0	0	24	30	54	0	0	0	55	156	211	0	0	0	51	66	117	382
Total Volume	0	0	0	94	109	203	0	0	0	189	686	875	0	0	0	192	234	426	1504
% Approach Total	0.0	0.0	0.0	46.3	53.7		0.0	0.0	0.0	21.6	78.4		0.0	0.0	0.0	45.1	54.9		
PHF	0.000	0.000	0.000	0.511	0.779	0.757	0.000	0.000	0.000	0.859	0.841	0.911	0.000	0.000	0.000	0.873	0.860	0.866	0.947
Entering Leg	0	0	0	94	109	203	0	0	0	189	686	875	0	0	0	192	234	426	1504
Exiting Leg						203						875						426	1504
Total						406						1750						852	3008

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	58	143	90	0	291	0	78	46	2	126	0	0	0	0	0	4	15	0	0	19	436
7:15 AM	55	114	83	0	252	0	75	45	1	121	0	0	0	0	0	7	12	0	0	19	392
7:30 AM	42	128	69	0	239	0	78	49	1	128	0	0	0	0	0	11	23	0	0	34	401
7:45 AM	46	121	75	0	242	0	87	57	1	145	0	0	0	0	0	9	22	0	0	31	418
Total	201	506	317	0	1024	0	318	197	5	520	0	0	0	0	0	31	72	0	0	103	1647
8:00 AM	70	147	98	0	315	0	69	48	1	118	0	0	0	0	0	2	11	0	0	13	446
8:15 AM	67	153	94	0	314	0	112	41	3	156	0	0	0	0	0	5	19	0	0	24	494
8:30 AM	59	167	81	0	307	0	97	32	1	130	0	0	0	0	0	15	21	0	0	36	473
8:45 AM	65	145	102	0	312	0	96	38	1	135	0	0	0	0	0	16	19	0	0	35	482
Total	261	612	375	0	1248	0	374	159	6	539	0	0	0	0	0	38	70	0	0	108	1895
Grand Total	462	1118	692	0	2272	0	692	356	11	1059	0	0	0	0	0	69	142	0	0	211	3542
Approach %	20.3	49.2	30.5	0.0		0.0	65.3	33.6	1.0		0.0	0.0	0.0	0.0		32.7	67.3	0.0	0.0		
Total %	13.0	31.6	19.5	0.0	64.1	0.0	19.5	10.1	0.3	29.9	0.0	0.0	0.0	0.0	0.0	1.9	4.0	0.0	0.0	6.0	
Exiting Leg Total					0					845					1543					1154	3542
Cars	434	1039	670	0	2143	0	633	333	11	977	0	0	0	0	0	59	116	0	0	175	3295
% Cars	93.9	92.9	96.8	0.0	94.3	0.0	91.5	93.5	100.0	92.3	0.0	0.0	0.0	0.0	0.0	85.5	81.7	0.0	0.0	82.9	93.0
Exiting Leg Total					0					797					1431					1067	3295
Heavy Vehicles	28	79	22	0	129	0	59	23	0	82	0	0	0	0	0	10	26	0	0	36	247
% Heavy Vehicles	6.1	7.1	3.2	0.0	5.7	0.0	8.5	6.5	0.0	7.7	0.0	0.0	0.0	0.0	0.0	14.5	18.3	0.0	0.0	17.1	7.0
Exiting Leg Total					0					48					112					87	247

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	70	147	98	0	315	0	69	48	1	118	0	0	0	0	0	2	11	0	0	13	446
8:15 AM	67	153	94	0	314	0	112	41	3	156	0	0	0	0	0	5	19	0	0	24	494
8:30 AM	59	167	81	0	307	0	97	32	1	130	0	0	0	0	0	15	21	0	0	36	473
8:45 AM	65	145	102	0	312	0	96	38	1	135	0	0	0	0	0	16	19	0	0	35	482
Total Volume	261	612	375	0	1248	0	374	159	6	539	0	0	0	0	0	38	70	0	0	108	1895
% Approach Total	20.9	49.0	30.0	0.0		0.0	69.4	29.5	1.1		0.0	0.0	0.0	0.0		35.2	64.8	0.0	0.0		
PHF	0.932	0.916	0.919	0.000	0.990	0.000	0.835	0.828	0.500	0.864	0.000	0.000	0.000	0.000	0.000	0.594	0.833	0.000	0.000	0.750	0.959
Cars	250	569	361	0	1180	0	343	149	6	498	0	0	0	0	0	35	60	0	0	95	1773
Cars %	95.8	93.0	96.3	0.0	94.6	0.0	91.7	93.7	100.0	92.4	0.0	0.0	0.0	0.0	0.0	92.1	85.7	0.0	0.0	88.0	93.6
Heavy Vehicles	11	43	14	0	68	0	31	10	0	41	0	0	0	0	0	3	10	0	0	13	122
Heavy Vehicles %	4.2	7.0	3.7	0.0	5.4	0.0	8.3	6.3	0.0	7.6	0.0	0.0	0.0	0.0	0.0	7.9	14.3	0.0	0.0	12.0	6.4
Cars Enter Leg	250	569	361	0	1180	0	343	149	6	498	0	0	0	0	0	35	60	0	0	95	1773
Heavy Enter Leg	11	43	14	0	68	0	31	10	0	41	0	0	0	0	0	3	10	0	0	13	122
Total Entering Leg	261	612	375	0	1248	0	374	159	6	539	0	0	0	0	0	38	70	0	0	108	1895
Cars Exiting Leg					0					427					753					593	1773
Heavy Exiting Leg					0					24					56					42	122
Total Exiting Leg					0					451					809					635	1895

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	54	128	90	0	272	0	74	43	2	119	0	0	0	0	0	2	11	0	0	13	404
7:15 AM	52	109	81	0	242	0	70	41	1	112	0	0	0	0	0	6	10	0	0	16	370
7:30 AM	36	119	65	0	220	0	69	44	1	114	0	0	0	0	0	10	17	0	0	27	361
7:45 AM	42	114	73	0	229	0	77	56	1	134	0	0	0	0	0	6	18	0	0	24	387
Total	184	470	309	0	963	0	290	184	5	479	0	0	0	0	0	24	56	0	0	80	1522
8:00 AM	68	133	93	0	294	0	63	45	1	109	0	0	0	0	0	1	10	0	0	11	414
8:15 AM	64	141	91	0	296	0	101	38	3	142	0	0	0	0	0	4	17	0	0	21	459
8:30 AM	55	156	78	0	289	0	90	31	1	122	0	0	0	0	0	15	19	0	0	34	445
8:45 AM	63	139	99	0	301	0	89	35	1	125	0	0	0	0	0	15	14	0	0	29	455
Total	250	569	361	0	1180	0	343	149	6	498	0	0	0	0	0	35	60	0	0	95	1773
Grand Total	434	1039	670	0	2143	0	633	333	11	977	0	0	0	0	0	59	116	0	0	175	3295
Approach %	20.3	48.5	31.3	0.0		0.0	64.8	34.1	1.1		0.0	0.0	0.0	0.0		33.7	66.3	0.0	0.0		
Total %	13.2	31.5	20.3	0.0	65.0	0.0	19.2	10.1	0.3	29.7	0.0	0.0	0.0	0.0	0.0	1.8	3.5	0.0	0.0	5.3	
Exiting Leg Total					0					797					1431					1067	3295

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	68	133	93	0	294	0	63	45	1	109	0	0	0	0	0	1	10	0	0	11	414
8:15 AM	64	141	91	0	296	0	101	38	3	142	0	0	0	0	0	4	17	0	0	21	459
8:30 AM	55	156	78	0	289	0	90	31	1	122	0	0	0	0	0	15	19	0	0	34	445
8:45 AM	63	139	99	0	301	0	89	35	1	125	0	0	0	0	0	15	14	0	0	29	455
Total Volume	250	569	361	0	1180	0	343	149	6	498	0	0	0	0	0	35	60	0	0	95	1773
% Approach Total	21.2	48.2	30.6	0.0		0.0	68.9	29.9	1.2		0.0	0.0	0.0	0.0		36.8	63.2	0.0	0.0		
PHF	0.919	0.912	0.912	0.000	0.980	0.000	0.849	0.828	0.500	0.877	0.000	0.000	0.000	0.000	0.000	0.583	0.789	0.000	0.000	0.699	0.966
Entering Leg	250	569	361	0	1180	0	343	149	6	498	0	0	0	0	0	35	60	0	0	95	1773
Exiting Leg					0					427					753					593	1773
Total					1180					925					753					688	3546

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	15	0	0	19	0	4	3	0	7	0	0	0	0	0	2	4	0	0	6	32
7:15 AM	3	5	2	0	10	0	5	4	0	9	0	0	0	0	0	1	2	0	0	3	22
7:30 AM	6	9	4	0	19	0	9	5	0	14	0	0	0	0	0	1	6	0	0	7	40
7:45 AM	4	7	2	0	13	0	10	1	0	11	0	0	0	0	0	3	4	0	0	7	31
Total	17	36	8	0	61	0	28	13	0	41	0	0	0	0	0	7	16	0	0	23	125
8:00 AM	2	14	5	0	21	0	6	3	0	9	0	0	0	0	0	1	1	0	0	2	32
8:15 AM	3	12	3	0	18	0	11	3	0	14	0	0	0	0	0	1	2	0	0	3	35
8:30 AM	4	11	3	0	18	0	7	1	0	8	0	0	0	0	0	0	2	0	0	2	28
8:45 AM	2	6	3	0	11	0	7	3	0	10	0	0	0	0	0	1	5	0	0	6	27
Total	11	43	14	0	68	0	31	10	0	41	0	0	0	0	0	3	10	0	0	13	122
Grand Total	28	79	22	0	129	0	59	23	0	82	0	0	0	0	0	10	26	0	0	36	247
Approach %	21.7	61.2	17.1	0.0		0.0	72.0	28.0	0.0		0.0	0.0	0.0	0.0		27.8	72.2	0.0	0.0		
Total %	11.3	32.0	8.9	0.0	52.2	0.0	23.9	9.3	0.0	33.2	0.0	0.0	0.0	0.0	0.0	4.0	10.5	0.0	0.0	14.6	
Exiting Leg Total					0					48					112					87	247
Buses	1	29	2	0	32	0	25	9	0	34	0	0	0	0	0	1	16	0	0	17	83
% Buses	3.6	36.7	9.1	0.0	24.8	0.0	42.4	39.1	0.0	41.5	0.0	0.0	0.0	0.0	0.0	10.0	61.5	0.0	0.0	47.2	33.6
Exiting Leg Total					0					18					39					26	83
Single-Unit Trucks	27	49	16	0	92	0	34	13	0	47	0	0	0	0	0	9	9	0	0	18	157
% Single-Unit	96.4	62.0	72.7	0.0	71.3	0.0	57.6	56.5	0.0	57.3	0.0	0.0	0.0	0.0	0.0	90.0	34.6	0.0	0.0	50.0	63.6
Exiting Leg Total					0					25					71					61	157
Articulated Trucks	0	1	4	0	5	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	7
% Articulated	0.0	1.3	18.2	0.0	3.9	0.0	0.0	4.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	2.8	2.8
Exiting Leg Total					0					5					2					0	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	6	9	4	0	19	0	9	5	0	14	0	0	0	0	0	1	6	0	0	7	40
7:45 AM	4	7	2	0	13	0	10	1	0	11	0	0	0	0	0	3	4	0	0	7	31
8:00 AM	2	14	5	0	21	0	6	3	0	9	0	0	0	0	0	1	1	0	0	2	32
8:15 AM	3	12	3	0	18	0	11	3	0	14	0	0	0	0	0	1	2	0	0	3	35
Total Volume	15	42	14	0	71	0	36	12	0	48	0	0	0	0	0	6	13	0	0	19	138
% Approach Total	21.1	59.2	19.7	0.0		0.0	75.0	25.0	0.0		0.0	0.0	0.0	0.0		31.6	68.4	0.0	0.0		
PHF	0.625	0.750	0.700	0.000	0.845	0.000	0.818	0.600	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.500	0.542	0.000	0.000	0.679	0.863
Buses	1	19	1	0	21	0	11	5	0	16	0	0	0	0	0	0	9	0	0	9	46
Buses %	6.7	45.2	7.1	0.0	29.6	0.0	30.6	41.7	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	69.2	0.0	0.0	47.4	33.3
Single-Unit Trucks	14	22	11	0	47	0	25	6	0	31	0	0	0	0	0	6	3	0	0	9	87
Single-Unit %	93.3	52.4	78.6	0.0	66.2	0.0	69.4	50.0	0.0	64.6	0.0	0.0	0.0	0.0	0.0	100.0	23.1	0.0	0.0	47.4	63.0
Articulated Trucks	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	5
Articulated %	0.0	2.4	14.3	0.0	4.2	0.0	0.0	8.3	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	5.3	3.6
Buses	1	19	1	0	21	0	11	5	0	16	0	0	0	0	0	0	9	0	0	9	46
Single-Unit Trucks	14	22	11	0	47	0	25	6	0	31	0	0	0	0	0	6	3	0	0	9	87
Articulated Trucks	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	5
Total Entering Leg	15	42	14	0	71	0	36	12	0	48	0	0	0	0	0	6	13	0	0	19	138
Buses					0					10					24					12	46
Single-Unit Trucks					0					14					34					39	87
Articulated Trucks					0					3					2					0	5
Total Exiting Leg					0					27					60					51	138

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	46	110	81	0	237	0	69	36	2	107	0	0	0	0	0	2	10	0	0	12	356
7:15 AM	45	87	71	0	203	0	63	36	1	100	0	0	0	0	0	4	8	0	0	12	315
7:30 AM	26	102	59	0	187	0	63	41	1	105	0	0	0	0	0	7	15	0	0	22	314
7:45 AM	36	99	65	0	200	0	74	47	1	122	0	0	0	0	0	5	17	0	0	22	344
Total	153	398	276	0	827	0	269	160	5	434	0	0	0	0	0	18	50	0	0	68	1329
8:00 AM	60	119	84	0	263	0	57	40	1	98	0	0	0	0	0	1	8	0	0	9	370
8:15 AM	62	125	80	0	267	0	98	35	3	136	0	0	0	0	0	4	15	0	0	19	422
8:30 AM	53	141	74	0	268	0	79	28	1	108	0	0	0	0	0	13	17	0	0	30	406
8:45 AM	57	123	86	0	266	0	80	31	1	112	0	0	0	0	0	12	6	0	0	18	396
Total	232	508	324	0	1064	0	314	134	6	454	0	0	0	0	0	30	46	0	0	76	1594
Grand Total	385	906	600	0	1891	0	583	294	11	888	0	0	0	0	0	48	96	0	0	144	2923
Approach %	20.4	47.9	31.7	0.0		0.0	65.7	33.1	1.2		0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		
Total %	13.2	31.0	20.5	0.0	64.7	0.0	19.9	10.1	0.4	30.4	0.0	0.0	0.0	0.0	0.0	1.6	3.3	0.0	0.0	4.9	
Exiting Leg Total					0					707					1248					968	2923

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	60	119	84	0	263	0	57	40	1	98	0	0	0	0	0	1	8	0	0	9	370
8:15 AM	62	125	80	0	267	0	98	35	3	136	0	0	0	0	0	4	15	0	0	19	422
8:30 AM	53	141	74	0	268	0	79	28	1	108	0	0	0	0	0	13	17	0	0	30	406
8:45 AM	57	123	86	0	266	0	80	31	1	112	0	0	0	0	0	12	6	0	0	18	396
Total Volume	232	508	324	0	1064	0	314	134	6	454	0	0	0	0	0	30	46	0	0	76	1594
% Approach Total	21.8	47.7	30.5	0.0		0.0	69.2	29.5	1.3		0.0	0.0	0.0	0.0		39.5	60.5	0.0	0.0		
PHF	0.935	0.901	0.942	0.000	0.993	0.000	0.801	0.838	0.500	0.835	0.000	0.000	0.000	0.000	0.000	0.577	0.676	0.000	0.000	0.633	0.944
Entering Leg	232	508	324	0	1064	0	314	134	6	454	0	0	0	0	0	30	46	0	0	76	1594
Exiting Leg					0					376					672					546	1594
Total					1064					830					672					622	3188

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	8	18	9	0	35	0	4	7	0	11	0	0	0	0	0	0	1	0	0	1	47
7:15 AM	7	22	10	0	39	0	6	5	0	11	0	0	0	0	0	1	2	0	0	3	53
7:30 AM	10	17	6	0	33	0	6	3	0	9	0	0	0	0	0	3	2	0	0	5	47
7:45 AM	6	14	8	0	28	0	3	8	0	11	0	0	0	0	0	1	1	0	0	2	41
Total	31	71	33	0	135	0	19	23	0	42	0	0	0	0	0	5	6	0	0	11	188
8:00 AM	8	13	9	0	30	0	4	5	0	9	0	0	0	0	0	0	2	0	0	2	41
8:15 AM	2	15	11	0	28	0	1	3	0	4	0	0	0	0	0	0	2	0	0	2	34
8:30 AM	2	12	4	0	18	0	11	3	0	14	0	0	0	0	0	2	2	0	0	4	36
8:45 AM	6	16	11	0	33	0	9	4	0	13	0	0	0	0	0	3	8	0	0	11	57
Total	18	56	35	0	109	0	25	15	0	40	0	0	0	0	0	5	14	0	0	19	168
Grand Total	49	127	68	0	244	0	44	38	0	82	0	0	0	0	0	10	20	0	0	30	356
Approach %	20.1	52.0	27.9	0.0		0.0	53.7	46.3	0.0		0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		
Total %	13.8	35.7	19.1	0.0	68.5	0.0	12.4	10.7	0.0	23.0	0.0	0.0	0.0	0.0	0.0	2.8	5.6	0.0	0.0	8.4	
Exiting Leg Total					0					88					175					93	356

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	8	18	9	0	35	0	4	7	0	11	0	0	0	0	0	0	1	0	0	1	47
7:15 AM	7	22	10	0	39	0	6	5	0	11	0	0	0	0	0	1	2	0	0	3	53
7:30 AM	10	17	6	0	33	0	6	3	0	9	0	0	0	0	0	3	2	0	0	5	47
7:45 AM	6	14	8	0	28	0	3	8	0	11	0	0	0	0	0	1	1	0	0	2	41
Total Volume	31	71	33	0	135	0	19	23	0	42	0	0	0	0	0	5	6	0	0	11	188
% Approach Total	23.0	52.6	24.4	0.0		0.0	45.2	54.8	0.0		0.0	0.0	0.0	0.0		45.5	54.5	0.0	0.0		
PHF	0.775	0.807	0.825	0.000	0.865	0.000	0.792	0.719	0.000	0.955	0.000	0.000	0.000	0.000	0.000	0.417	0.750	0.000	0.000	0.550	0.887
Entering Leg	31	71	33	0	135	0	19	23	0	42	0	0	0	0	0	5	6	0	0	11	188
Exiting Leg					0					39					99					50	188
Total					135					81					99					61	376

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	4	0	0	4	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	8
7:15 AM	0	1	0	0	1	0	5	2	0	7	0	0	0	0	0	1	1	0	0	2	10
7:30 AM	1	4	1	0	6	0	4	1	0	5	0	0	0	0	0	0	4	0	0	4	15
7:45 AM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	9
Total	1	11	1	0	13	0	15	3	0	18	0	0	0	0	0	1	10	0	0	11	42
8:00 AM	0	6	0	0	6	0	0	3	0	3	0	0	0	0	0	0	1	0	0	1	10
8:15 AM	0	7	0	0	7	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	12
8:30 AM	0	4	1	0	5	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	11
8:45 AM	0	1	0	0	1	0	3	1	0	4	0	0	0	0	0	0	3	0	0	3	8
Total	0	18	1	0	19	0	10	6	0	16	0	0	0	0	0	0	6	0	0	6	41
Grand Total	1	29	2	0	32	0	25	9	0	34	0	0	0	0	0	1	16	0	0	17	83
Approach %	3.1	90.6	6.3	0.0		0.0	73.5	26.5	0.0		0.0	0.0	0.0	0.0		5.9	94.1	0.0	0.0		
Total %	1.2	34.9	2.4	0.0	38.6	0.0	30.1	10.8	0.0	41.0	0.0	0.0	0.0	0.0	0.0	1.2	19.3	0.0	0.0	20.5	
Exiting Leg Total					0					18					39					26	83

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	1	4	1	0	6	0	4	1	0	5	0	0	0	0	0	0	4	0	0	4	15
7:45 AM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	9
8:00 AM	0	6	0	0	6	0	0	3	0	3	0	0	0	0	0	0	1	0	0	1	10
8:15 AM	0	7	0	0	7	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	12
Total Volume	1	19	1	0	21	0	11	5	0	16	0	0	0	0	0	0	9	0	0	9	46
% Approach Total	4.8	90.5	4.8	0.0		0.0	68.8	31.3	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.679	0.250	0.000	0.750	0.000	0.688	0.417	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.563	0.767
Entering Leg	1	19	1	0	21	0	11	5	0	16	0	0	0	0	0	0	9	0	0	9	46
Exiting Leg					0					10					24					12	46
Total					21					26					24					21	92

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	4	11	0	0	15	0	2	3	0	5	0	0	0	0	0	2	2	0	0	4	24
7:15 AM	3	4	1	0	8	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	11
7:30 AM	5	4	3	0	12	0	5	4	0	9	0	0	0	0	0	1	2	0	0	3	24
7:45 AM	4	5	1	0	10	0	6	1	0	7	0	0	0	0	0	3	0	0	0	3	20
Total	16	24	5	0	45	0	13	10	0	23	0	0	0	0	0	6	5	0	0	11	79
8:00 AM	2	8	5	0	15	0	6	0	0	6	0	0	0	0	0	1	0	0	0	1	22
8:15 AM	3	5	2	0	10	0	8	1	0	9	0	0	0	0	0	1	1	0	0	2	21
8:30 AM	4	7	1	0	12	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	16
8:45 AM	2	5	3	0	10	0	4	2	0	6	0	0	0	0	0	1	2	0	0	3	19
Total	11	25	11	0	47	0	21	3	0	24	0	0	0	0	0	3	4	0	0	7	78
Grand Total	27	49	16	0	92	0	34	13	0	47	0	0	0	0	0	9	9	0	0	18	157
Approach %	29.3	53.3	17.4	0.0		0.0	72.3	27.7	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		
Total %	17.2	31.2	10.2	0.0	58.6	0.0	21.7	8.3	0.0	29.9	0.0	0.0	0.0	0.0	0.0	5.7	5.7	0.0	0.0	11.5	
Exiting Leg Total					0					25					71					61	157

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	5	4	3	0	12	0	5	4	0	9	0	0	0	0	0	1	2	0	0	3	24
7:45 AM	4	5	1	0	10	0	6	1	0	7	0	0	0	0	0	3	0	0	0	3	20
8:00 AM	2	8	5	0	15	0	6	0	0	6	0	0	0	0	0	1	0	0	0	1	22
8:15 AM	3	5	2	0	10	0	8	1	0	9	0	0	0	0	0	1	1	0	0	2	21
Total Volume	14	22	11	0	47	0	25	6	0	31	0	0	0	0	0	6	3	0	0	9	87
% Approach Total	29.8	46.8	23.4	0.0		0.0	80.6	19.4	0.0		0.0	0.0	0.0	0.0		66.7	33.3	0.0	0.0		
PHF	0.700	0.688	0.550	0.000	0.783	0.000	0.781	0.375	0.000	0.861	0.000	0.000	0.000	0.000	0.000	0.500	0.375	0.000	0.000	0.750	0.906
Entering Leg	14	22	11	0	47	0	25	6	0	31	0	0	0	0	0	6	3	0	0	9	87
Exiting Leg					0					14					34					39	87
Total					47					45					34					48	174

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	1	4	0	5	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	7
Approach %	0.0	20.0	80.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	14.3	57.1	0.0	71.4	0.0	0.0	14.3	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	14.3	
Exiting Leg Total					0					5					2					0	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	5
% Approach Total	0.0	33.3	66.7	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.500	0.000	0.750	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.625
Entering Leg	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	5
Exiting Leg					0					3					2					0	5
Total					3					4					2					1	10

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	5	2	0	0	0	7	0	1	1	0	1	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	2	12
7:15 AM	0	3	1	0	0	0	4	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	2	7
7:30 AM	0	2	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:45 AM	2	3	1	0	0	0	6	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	10
Total	2	13	4	0	0	0	19	0	7	1	0	1	0	9	0	0	0	0	0	0	0	0	4	0	0	1	1	6	34
8:00 AM	1	1	0	0	0	0	2	0	3	2	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	0	4	11
8:15 AM	0	6	1	0	0	0	7	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	7	0	0	0	0	7	18
8:30 AM	0	5	0	0	0	0	5	0	6	2	0	0	0	8	0	0	0	0	0	0	0	2	6	0	0	0	0	8	21
8:45 AM	0	1	4	0	0	0	5	0	3	1	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	1	0	5	14
Total	1	13	5	0	0	0	19	0	16	5	0	0	0	21	0	0	0	0	0	0	0	2	19	0	0	3	0	24	64
Grand Total	3	26	9	0	0	0	38	0	23	6	0	1	0	30	0	0	0	0	0	0	0	2	23	0	0	4	1	30	98
Approach %	7.9	68.4	23.7	0.0	0.0	0.0		0.0	76.7	20.0	0.0	3.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0		6.7	76.7	0.0	0.0	13.3	3.3		
Total %	3.1	26.5	9.2	0.0	0.0	0.0	38.8	0.0	23.5	6.1	0.0	1.0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	23.5	0.0	0.0	4.1	1.0	30.6	
Exiting Leg Total							0							33							34							31	98

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	1	1	0	0	0	0	2	0	3	2	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	0	4	11
8:15 AM	0	6	1	0	0	0	7	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	7	0	0	0	0	7	18
8:30 AM	0	5	0	0	0	0	5	0	6	2	0	0	0	8	0	0	0	0	0	0	0	2	6	0	0	0	0	8	21
8:45 AM	0	1	4	0	0	0	5	0	3	1	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	1	0	5	14
Total Volume	1	13	5	0	0	0	19	0	16	5	0	0	0	21	0	0	0	0	0	0	0	2	19	0	0	3	0	24	64
% Approach Total	5.3	68.4	26.3	0.0	0.0	0.0		0.0	76.2	23.8	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		8.3	79.2	0.0	0.0	12.5	0.0		
PHF	0.250	0.542	0.313	0.000	0.000	0.000	0.679	0.000	0.667	0.625	0.000	0.000	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.679	0.000	0.000	0.375	0.000	0.750	0.762
Entering Leg	1	13	5	0	0	0	19	0	16	5	0	0	0	21	0	0	0	0	0	0	0	2	19	0	0	3	0	24	64
Exiting Leg							0							24							20							20	64
Total							19							45							20							44	128

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	22	20	42	0	0	0	0	8	15	23	0	0	0	0	161	33	194	0	0	0	0	2	8	10	269
7:15 AM	0	0	0	0	17	23	40	0	0	0	0	5	11	16	0	0	0	0	171	41	212	0	0	0	0	8	12	20	288
7:30 AM	0	0	0	0	31	38	69	0	0	0	0	6	20	26	0	0	0	0	179	82	261	0	0	0	0	23	16	39	395
7:45 AM	0	0	0	0	39	47	86	0	0	0	0	14	9	23	0	0	0	0	245	98	343	0	0	0	0	19	19	38	490
Total	0	0	0	0	109	128	237	0	0	0	0	33	55	88	0	0	0	0	756	254	1010	0	0	0	0	52	55	107	1442
8:00 AM	0	0	0	0	45	103	148	0	0	0	0	14	48	62	0	0	0	0	278	67	345	0	0	0	0	21	29	50	605
8:15 AM	0	0	0	0	58	158	216	0	0	0	0	24	86	110	0	0	0	0	503	83	586	0	0	0	0	33	37	70	982
8:30 AM	0	0	0	0	63	114	177	0	0	0	0	33	35	68	0	0	0	0	372	91	463	0	0	0	0	32	36	68	776
8:45 AM	0	0	0	0	46	147	193	0	0	0	0	25	56	81	0	0	0	0	304	98	402	0	0	0	0	33	56	89	765
Total	0	0	0	0	212	522	734	0	0	0	0	96	225	321	0	0	0	0	1457	339	1796	0	0	0	0	119	158	277	3128
Grand Total	0	0	0	0	321	650	971	0	0	0	0	129	280	409	0	0	0	0	2213	593	2806	0	0	0	0	171	213	384	4570
Approach %	0	0	0	0	33.1	66.9		0	0	0	0	31.5	68.5		0	0	0	0	78.9	21.1		0	0	0	0	44.5	55.5		
Total %	0	0	0	0	7.02	14.2	21.2	0	0	0	0	2.82	6.13	8.95	0	0	0	0	48.4	13	61.4	0	0	0	0	3.74	4.66	8.4	
Exiting Leg Total							971							409							2806							384	4570

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	45	103	148	0	0	0	0	14	48	62	0	0	0	0	278	67	345	0	0	0	0	21	29	50	605
8:15 AM	0	0	0	0	58	158	216	0	0	0	0	24	86	110	0	0	0	0	503	83	586	0	0	0	0	33	37	70	982
8:30 AM	0	0	0	0	63	114	177	0	0	0	0	33	35	68	0	0	0	0	372	91	463	0	0	0	0	32	36	68	776
8:45 AM	0	0	0	0	46	147	193	0	0	0	0	25	56	81	0	0	0	0	304	98	402	0	0	0	0	33	56	89	765
Total Volume	0	0	0	0	212	522	734	0	0	0	0	96	225	321	0	0	0	0	1457	339	1796	0	0	0	0	119	158	277	3128
% Approach Total	0.0	0.0	0.0	0.0	28.9	71.1		0.0	0.0	0.0	0.0	29.9	70.1		0.0	0.0	0.0	0.0	81.1	18.9		0.0	0.0	0.0	0.0	43.0	57.0		
PHF	0.000	0.000	0.000	0.000	0.841	0.826	0.850	0.000	0.000	0.000	0.000	0.727	0.654	0.730	0.000	0.000	0.000	0.000	0.724	0.865	0.766	0.000	0.000	0.000	0.000	0.902	0.705	0.778	0.796
Entering Leg	0	0	0	0	212	522	734	0	0	0	0	96	225	321	0	0	0	0	1457	339	1796	0	0	0	0	119	158	277	3128
Exiting Leg							734							321							1796							277	3128
Total							1468							642							3592							554	6256

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	24	165	68	0	257	0	47	59	2	108	0	0	0	0	0	10	23	0	0	33	398
4:15 PM	20	189	63	0	272	0	51	63	0	114	0	0	0	0	0	18	18	0	0	36	422
4:30 PM	26	166	66	0	258	0	62	61	1	124	0	0	0	0	0	14	25	0	0	39	421
4:45 PM	40	173	74	0	287	0	72	67	0	139	0	0	0	0	0	11	22	0	0	33	459
Total	110	693	271	0	1074	0	232	250	3	485	0	0	0	0	0	53	88	0	0	141	1700
5:00 PM	34	166	83	0	283	0	59	65	0	124	0	0	0	0	0	23	27	0	0	50	457
5:15 PM	44	170	75	0	289	0	58	63	1	122	0	0	0	0	0	13	27	0	0	40	451
5:30 PM	45	166	75	0	286	0	59	70	2	131	0	0	0	0	0	25	21	0	0	46	463
5:45 PM	32	166	87	0	285	0	55	71	1	127	0	0	0	0	0	20	28	0	0	48	460
Total	155	668	320	0	1143	0	231	269	4	504	0	0	0	0	0	81	103	0	0	184	1831
Grand Total	265	1361	591	0	2217	0	463	519	7	989	0	0	0	0	0	134	191	0	0	325	3531
Approach %	12.0	61.4	26.7	0.0		0.0	46.8	52.5	0.7		0.0	0.0	0.0	0.0		41.2	58.8	0.0	0.0		
Total %	7.5	38.5	16.7	0.0	62.8	0.0	13.1	14.7	0.2	28.0	0.0	0.0	0.0	0.0	0.0	3.8	5.4	0.0	0.0	9.2	
Exiting Leg Total					0					789					2014					728	3531
Cars	258	1303	560	0	2121	0	417	503	7	927	0	0	0	0	0	131	156	0	0	287	3335
% Cars	97.4	95.7	94.8	0.0	95.7	0.0	90.1	96.9	100.0	93.7	0.0	0.0	0.0	0.0	0.0	97.8	81.7	0.0	0.0	88.3	94.4
Exiting Leg Total					0					723					1937					675	3335
Heavy Vehicles	7	58	31	0	96	0	46	16	0	62	0	0	0	0	0	3	35	0	0	38	196
% Heavy Vehicles	2.6	4.3	5.2	0.0	4.3	0.0	9.9	3.1	0.0	6.3	0.0	0.0	0.0	0.0	0.0	2.2	18.3	0.0	0.0	11.7	5.6
Exiting Leg Total					0					66					77					53	196

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	34	166	83	0	283	0	59	65	0	124	0	0	0	0	0	23	27	0	0	50	457
5:15 PM	44	170	75	0	289	0	58	63	1	122	0	0	0	0	0	13	27	0	0	40	451
5:30 PM	45	166	75	0	286	0	59	70	2	131	0	0	0	0	0	25	21	0	0	46	463
5:45 PM	32	166	87	0	285	0	55	71	1	127	0	0	0	0	0	20	28	0	0	48	460
Total Volume	155	668	320	0	1143	0	231	269	4	504	0	0	0	0	0	81	103	0	0	184	1831
% Approach Total	13.6	58.4	28.0	0.0		0.0	45.8	53.4	0.8		0.0	0.0	0.0	0.0		44.0	56.0	0.0	0.0		
PHF	0.861	0.982	0.920	0.000	0.989	0.000	0.979	0.947	0.500	0.962	0.000	0.000	0.000	0.000	0.000	0.810	0.920	0.000	0.000	0.920	0.989
Cars	149	641	305	0	1095	0	205	265	4	474	0	0	0	0	0	81	85	0	0	166	1735
Cars %	96.1	96.0	95.3	0.0	95.8	0.0	88.7	98.5	100.0	94.0	0.0	0.0	0.0	0.0	0.0	100.0	82.5	0.0	0.0	90.2	94.8
Heavy Vehicles	6	27	15	0	48	0	26	4	0	30	0	0	0	0	0	0	18	0	0	18	96
Heavy Vehicles %	3.9	4.0	4.7	0.0	4.2	0.0	11.3	1.5	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	0.0	9.8	5.2
Cars Enter Leg	149	641	305	0	1095	0	205	265	4	474	0	0	0	0	0	81	85	0	0	166	1735
Heavy Enter Leg	6	27	15	0	48	0	26	4	0	30	0	0	0	0	0	0	18	0	0	18	96
Total Entering Leg	155	668	320	0	1143	0	231	269	4	504	0	0	0	0	0	81	103	0	0	184	1831
Cars Exiting Leg					0					394					987					354	1735
Heavy Exiting Leg					0					33					31					32	96
Total Exiting Leg					0					427					1018					386	1831

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	24	153	63	0	240	0	44	57	2	103	0	0	0	0	0	9	19	0	0	28	371
4:15 PM	19	179	56	0	254	0	45	59	0	104	0	0	0	0	0	18	14	0	0	32	390
4:30 PM	26	164	64	0	254	0	57	58	1	116	0	0	0	0	0	12	21	0	0	33	403
4:45 PM	40	166	72	0	278	0	66	64	0	130	0	0	0	0	0	11	17	0	0	28	436
Total	109	662	255	0	1026	0	212	238	3	453	0	0	0	0	0	50	71	0	0	121	1600
5:00 PM	34	161	80	0	275	0	52	64	0	116	0	0	0	0	0	23	23	0	0	46	437
5:15 PM	42	162	71	0	275	0	55	62	1	118	0	0	0	0	0	13	22	0	0	35	428
5:30 PM	42	158	70	0	270	0	51	69	2	122	0	0	0	0	0	25	19	0	0	44	436
5:45 PM	31	160	84	0	275	0	47	70	1	118	0	0	0	0	0	20	21	0	0	41	434
Total	149	641	305	0	1095	0	205	265	4	474	0	0	0	0	0	81	85	0	0	166	1735
Grand Total	258	1303	560	0	2121	0	417	503	7	927	0	0	0	0	0	131	156	0	0	287	3335
Approach %	12.2	61.4	26.4	0.0		0.0	45.0	54.3	0.8		0.0	0.0	0.0	0.0		45.6	54.4	0.0	0.0		
Total %	7.7	39.1	16.8	0.0	63.6	0.0	12.5	15.1	0.2	27.8	0.0	0.0	0.0	0.0	0.0	3.9	4.7	0.0	0.0	8.6	
Exiting Leg Total					0					723					1937					675	3335

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	40	166	72	0	278	0	66	64	0	130	0	0	0	0	0	11	17	0	0	28	436
5:00 PM	34	161	80	0	275	0	52	64	0	116	0	0	0	0	0	23	23	0	0	46	437
5:15 PM	42	162	71	0	275	0	55	62	1	118	0	0	0	0	0	13	22	0	0	35	428
5:30 PM	42	158	70	0	270	0	51	69	2	122	0	0	0	0	0	25	19	0	0	44	436
Total Volume	158	647	293	0	1098	0	224	259	3	486	0	0	0	0	0	72	81	0	0	153	1737
% Approach Total	14.4	58.9	26.7	0.0		0.0	46.1	53.3	0.6		0.0	0.0	0.0	0.0		47.1	52.9	0.0	0.0		
PHF	0.940	0.974	0.916	0.000	0.987	0.000	0.848	0.938	0.375	0.935	0.000	0.000	0.000	0.000	0.000	0.720	0.880	0.000	0.000	0.832	0.994
Entering Leg	158	647	293	0	1098	0	224	259	3	486	0	0	0	0	0	72	81	0	0	153	1737
Exiting Leg					0					377					978					382	1737
Total					1098					863					978					535	3474

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	12	5	0	17	0	3	2	0	5	0	0	0	0	0	1	4	0	0	5	27
4:15 PM	1	10	7	0	18	0	6	4	0	10	0	0	0	0	0	0	4	0	0	4	32
4:30 PM	0	2	2	0	4	0	5	3	0	8	0	0	0	0	0	2	4	0	0	6	18
4:45 PM	0	7	2	0	9	0	6	3	0	9	0	0	0	0	0	0	5	0	0	5	23
Total	1	31	16	0	48	0	20	12	0	32	0	0	0	0	0	3	17	0	0	20	100
5:00 PM	0	5	3	0	8	0	7	1	0	8	0	0	0	0	0	0	4	0	0	4	20
5:15 PM	2	8	4	0	14	0	3	1	0	4	0	0	0	0	0	0	5	0	0	5	23
5:30 PM	3	8	5	0	16	0	8	1	0	9	0	0	0	0	0	0	2	0	0	2	27
5:45 PM	1	6	3	0	10	0	8	1	0	9	0	0	0	0	0	0	7	0	0	7	26
Total	6	27	15	0	48	0	26	4	0	30	0	0	0	0	0	0	18	0	0	18	96
Grand Total	7	58	31	0	96	0	46	16	0	62	0	0	0	0	0	3	35	0	0	38	196
Approach %	7.3	60.4	32.3	0.0		0.0	74.2	25.8	0.0		0.0	0.0	0.0	0.0		7.9	92.1	0.0	0.0		
Total %	3.6	29.6	15.8	0.0	49.0	0.0	23.5	8.2	0.0	31.6	0.0	0.0	0.0	0.0	0.0	1.5	17.9	0.0	0.0	19.4	
Exiting Leg Total					0					66					77					53	196
Buses	1	31	16	0	48	0	35	13	0	48	0	0	0	0	0	1	26	0	0	27	123
% Buses	14.3	53.4	51.6	0.0	50.0	0.0	76.1	81.3	0.0	77.4	0.0	0.0	0.0	0.0	0.0	33.3	74.3	0.0	0.0	71.1	62.8
Exiting Leg Total					0					42					45					36	123
Single-Unit Trucks	6	27	12	0	45	0	11	3	0	14	0	0	0	0	0	2	9	0	0	11	70
% Single-Unit	85.7	46.6	38.7	0.0	46.9	0.0	23.9	18.8	0.0	22.6	0.0	0.0	0.0	0.0	0.0	66.7	25.7	0.0	0.0	28.9	35.7
Exiting Leg Total					0					21					32					17	70
Articulated Trucks	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% Articulated	0.0	0.0	9.7	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Exiting Leg Total					0					3					0					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	12	5	0	17	0	3	2	0	5	0	0	0	0	0	1	4	0	0	5	27
4:15 PM	1	10	7	0	18	0	6	4	0	10	0	0	0	0	0	0	4	0	0	4	32
4:30 PM	0	2	2	0	4	0	5	3	0	8	0	0	0	0	0	2	4	0	0	6	18
4:45 PM	0	7	2	0	9	0	6	3	0	9	0	0	0	0	0	0	5	0	0	5	23
Total Volume	1	31	16	0	48	0	20	12	0	32	0	0	0	0	0	3	17	0	0	20	100
% Approach Total	2.1	64.6	33.3	0.0		0.0	62.5	37.5	0.0		0.0	0.0	0.0	0.0		15.0	85.0	0.0	0.0		
PHF	0.250	0.646	0.571	0.000	0.667	0.000	0.833	0.750	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.375	0.850	0.000	0.000	0.833	0.781
Buses	0	17	10	0	27	0	15	9	0	24	0	0	0	0	0	1	10	0	0	11	62
Buses %	0.0	54.8	62.5	0.0	56.3	0.0	75.0	75.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	33.3	58.8	0.0	0.0	55.0	62.0
Single-Unit Trucks	1	14	6	0	21	0	5	3	0	8	0	0	0	0	0	2	7	0	0	9	38
Single-Unit %	100.0	45.2	37.5	0.0	43.8	0.0	25.0	25.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	66.7	41.2	0.0	0.0	45.0	38.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	17	10	0	27	0	15	9	0	24	0	0	0	0	0	1	10	0	0	11	62
Single-Unit Trucks	1	14	6	0	21	0	5	3	0	8	0	0	0	0	0	2	7	0	0	9	38
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	31	16	0	48	0	20	12	0	32	0	0	0	0	0	3	17	0	0	20	100
Buses					0					20					27					15	62
Single-Unit Trucks					0					13					19					6	38
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					33					46					21	100

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	23	144	58	0	225	0	41	54	2	97	0	0	0	0	0	7	18	0	0	25	347
4:15 PM	19	167	52	0	238	0	43	58	0	101	0	0	0	0	0	17	12	0	0	29	368
4:30 PM	26	156	60	0	242	0	56	56	1	113	0	0	0	0	0	11	19	0	0	30	385
4:45 PM	38	158	69	0	265	0	66	62	0	128	0	0	0	0	0	9	16	0	0	25	418
Total	106	625	239	0	970	0	206	230	3	439	0	0	0	0	0	44	65	0	0	109	1518
5:00 PM	32	151	76	0	259	0	49	63	0	112	0	0	0	0	0	23	21	0	0	44	415
5:15 PM	40	150	67	0	257	0	53	62	1	116	0	0	0	0	0	13	21	0	0	34	407
5:30 PM	41	152	65	0	258	0	50	62	2	114	0	0	0	0	0	24	19	0	0	43	415
5:45 PM	30	148	80	0	258	0	46	67	1	114	0	0	0	0	0	19	21	0	0	40	412
Total	143	601	288	0	1032	0	198	254	4	456	0	0	0	0	0	79	82	0	0	161	1649
Grand Total	249	1226	527	0	2002	0	404	484	7	895	0	0	0	0	0	123	147	0	0	270	3167
Approach %	12.4	61.2	26.3	0.0		0.0	45.1	54.1	0.8		0.0	0.0	0.0	0.0		45.6	54.4	0.0	0.0		
Total %	7.9	38.7	16.6	0.0	63.2	0.0	12.8	15.3	0.2	28.3	0.0	0.0	0.0	0.0	0.0	3.9	4.6	0.0	0.0	8.5	
Exiting Leg Total					0					681					1833					653	3167

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	38	158	69	0	265	0	66	62	0	128	0	0	0	0	0	9	16	0	0	25	418
5:00 PM	32	151	76	0	259	0	49	63	0	112	0	0	0	0	0	23	21	0	0	44	415
5:15 PM	40	150	67	0	257	0	53	62	1	116	0	0	0	0	0	13	21	0	0	34	407
5:30 PM	41	152	65	0	258	0	50	62	2	114	0	0	0	0	0	24	19	0	0	43	415
Total Volume	151	611	277	0	1039	0	218	249	3	470	0	0	0	0	0	69	77	0	0	146	1655
% Approach Total	14.5	58.8	26.7	0.0		0.0	46.4	53.0	0.6		0.0	0.0	0.0	0.0		47.3	52.7	0.0	0.0		
PHF	0.921	0.967	0.911	0.000	0.980	0.000	0.826	0.988	0.375	0.918	0.000	0.000	0.000	0.000	0.000	0.719	0.917	0.000	0.000	0.830	0.990
Entering Leg	151	611	277	0	1039	0	218	249	3	470	0	0	0	0	0	69	77	0	0	146	1655
Exiting Leg					0					357					929					369	1655
Total					1039					827					929					515	3310

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	9	5	0	15	0	2	3	0	5	0	0	0	0	0	2	1	0	0	3	23
4:15 PM	0	12	3	0	15	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	21
4:30 PM	0	7	4	0	11	0	1	2	0	3	0	0	0	0	0	1	0	0	0	1	15
4:45 PM	2	7	3	0	12	0	0	2	0	2	0	0	0	0	0	2	1	0	0	3	17
Total	3	35	15	0	53	0	5	8	0	13	0	0	0	0	0	6	4	0	0	10	76
5:00 PM	2	8	3	0	13	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	17
5:15 PM	2	12	3	0	17	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	20
5:30 PM	1	5	5	0	11	0	1	5	0	6	0	0	0	0	0	1	0	0	0	1	18
5:45 PM	1	10	4	0	15	0	1	3	0	4	0	0	0	0	0	1	0	0	0	1	20
Total	6	35	15	0	56	0	7	9	0	16	0	0	0	0	0	2	1	0	0	3	75
Grand Total	9	70	30	0	109	0	12	17	0	29	0	0	0	0	0	8	5	0	0	13	151
Approach %	8.3	64.2	27.5	0.0		0.0	41.4	58.6	0.0		0.0	0.0	0.0	0.0		61.5	38.5	0.0	0.0		
Total %	6.0	46.4	19.9	0.0	72.2	0.0	7.9	11.3	0.0	19.2	0.0	0.0	0.0	0.0	0.0	5.3	3.3	0.0	0.0	8.6	
Exiting Leg Total					0					35					95					21	151

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	9	5	0	15	0	2	3	0	5	0	0	0	0	0	2	1	0	0	3	23
4:15 PM	0	12	3	0	15	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	21
4:30 PM	0	7	4	0	11	0	1	2	0	3	0	0	0	0	0	1	0	0	0	1	15
4:45 PM	2	7	3	0	12	0	0	2	0	2	0	0	0	0	0	2	1	0	0	3	17
Total Volume	3	35	15	0	53	0	5	8	0	13	0	0	0	0	0	6	4	0	0	10	76
% Approach Total	5.7	66.0	28.3	0.0		0.0	38.5	61.5	0.0		0.0	0.0	0.0	0.0		60.0	40.0	0.0	0.0		
PHF	0.375	0.729	0.750	0.000	0.883	0.000	0.625	0.667	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.000	0.833	0.826
Entering Leg	3	35	15	0	53	0	5	8	0	13	0	0	0	0	0	6	4	0	0	10	76
Exiting Leg					0					19					49					8	76
Total					53					32					49					18	152

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	4	0	10	0	2	2	0	4	0	0	0	0	0	0	2	0	0	2	16
4:15 PM	0	5	4	0	9	0	5	4	0	9	0	0	0	0	0	0	2	0	0	2	20
4:30 PM	0	2	2	0	4	0	3	1	0	4	0	0	0	0	0	1	3	0	0	4	12
4:45 PM	0	4	0	0	4	0	5	2	0	7	0	0	0	0	0	0	3	0	0	3	14
Total	0	17	10	0	27	0	15	9	0	24	0	0	0	0	0	1	10	0	0	11	62
5:00 PM	0	4	1	0	5	0	3	1	0	4	0	0	0	0	0	0	4	0	0	4	13
5:15 PM	0	6	2	0	8	0	2	1	0	3	0	0	0	0	0	0	5	0	0	5	16
5:30 PM	0	3	3	0	6	0	8	1	0	9	0	0	0	0	0	0	1	0	0	1	16
5:45 PM	1	1	0	0	2	0	7	1	0	8	0	0	0	0	0	0	6	0	0	6	16
Total	1	14	6	0	21	0	20	4	0	24	0	0	0	0	0	0	16	0	0	16	61
Grand Total	1	31	16	0	48	0	35	13	0	48	0	0	0	0	0	1	26	0	0	27	123
Approach %	2.1	64.6	33.3	0.0		0.0	72.9	27.1	0.0		0.0	0.0	0.0	0.0		3.7	96.3	0.0	0.0		
Total %	0.8	25.2	13.0	0.0	39.0	0.0	28.5	10.6	0.0	39.0	0.0	0.0	0.0	0.0	0.0	0.8	21.1	0.0	0.0	22.0	
Exiting Leg Total					0					42					45					36	123

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	4	0	10	0	2	2	0	4	0	0	0	0	0	0	2	0	0	2	16
4:15 PM	0	5	4	0	9	0	5	4	0	9	0	0	0	0	0	0	2	0	0	2	20
4:30 PM	0	2	2	0	4	0	3	1	0	4	0	0	0	0	0	1	3	0	0	4	12
4:45 PM	0	4	0	0	4	0	5	2	0	7	0	0	0	0	0	0	3	0	0	3	14
Total Volume	0	17	10	0	27	0	15	9	0	24	0	0	0	0	0	1	10	0	0	11	62
% Approach Total	0.0	63.0	37.0	0.0		0.0	62.5	37.5	0.0		0.0	0.0	0.0	0.0		9.1	90.9	0.0	0.0		
PHF	0.000	0.708	0.625	0.000	0.675	0.000	0.750	0.563	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.250	0.833	0.000	0.000	0.688	0.775
Entering Leg	0	17	10	0	27	0	15	9	0	24	0	0	0	0	0	1	10	0	0	11	62
Exiting Leg					0					20					27					15	62
Total					27					44					27					26	124

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	1	0	7	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	11
4:15 PM	1	5	3	0	9	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	12
4:30 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	1	0	0	2	6
4:45 PM	0	3	2	0	5	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	9
Total	1	14	6	0	21	0	5	3	0	8	0	0	0	0	0	2	7	0	0	9	38
5:00 PM	0	1	2	0	3	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	7
5:15 PM	2	2	2	0	6	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	9
5:45 PM	0	5	2	0	7	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	9
Total	5	13	6	0	24	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	32
Grand Total	6	27	12	0	45	0	11	3	0	14	0	0	0	0	0	2	9	0	0	11	70
Approach %	13.3	60.0	26.7	0.0		0.0	78.6	21.4	0.0		0.0	0.0	0.0	0.0		18.2	81.8	0.0	0.0		
Total %	8.6	38.6	17.1	0.0	64.3	0.0	15.7	4.3	0.0	20.0	0.0	0.0	0.0	0.0	0.0	2.9	12.9	0.0	0.0	15.7	
Exiting Leg Total					0					21					32					17	70

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	6	1	0	7	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	11
4:15 PM	1	5	3	0	9	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	12
4:30 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	1	0	0	2	6
4:45 PM	0	3	2	0	5	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	9
Total Volume	1	14	6	0	21	0	5	3	0	8	0	0	0	0	0	2	7	0	0	9	38
% Approach Total	4.8	66.7	28.6	0.0		0.0	62.5	37.5	0.0		0.0	0.0	0.0	0.0		22.2	77.8	0.0	0.0		
PHF	0.250	0.583	0.500	0.000	0.583	0.000	0.625	0.375	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.875	0.000	0.000	0.750	0.792
Entering Leg	1	14	6	0	21	0	5	3	0	8	0	0	0	0	0	2	7	0	0	9	38
Exiting Leg					0					13					19					6	38
Total					21					21					19					15	76

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Approach %	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					3					0					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Purchase Street					Summer Street					Surface Road					Summer Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Exiting Leg					0					3					0					0	3
Total					3					3					0					0	6

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	3	1	0	0	0	4	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	1	1	4	13
4:15 PM	0	1	2	0	0	0	3	0	4	4	0	0	0	8	0	0	0	0	0	0	0	0	8	0	0	1	0	9	20
4:30 PM	0	5	2	0	0	0	7	0	4	2	0	0	0	6	0	0	0	0	0	1	1	0	4	0	0	0	1	5	19
4:45 PM	0	8	0	0	0	0	8	0	3	2	0	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	0	4	17
Total	0	17	5	0	0	0	22	0	15	9	0	0	0	24	0	0	0	0	0	1	1	0	18	0	0	2	2	22	69
5:00 PM	0	8	3	0	0	1	12	0	12	3	0	0	0	15	0	0	0	0	0	0	0	0	5	0	0	0	2	7	34
5:15 PM	0	4	3	0	0	0	7	0	11	2	0	0	0	13	0	0	0	0	0	0	0	0	6	0	0	0	0	6	26
5:30 PM	1	6	1	0	0	0	8	0	10	3	0	0	0	13	0	0	0	0	1	0	1	0	4	0	0	0	1	5	27
5:45 PM	2	15	2	0	0	0	19	0	17	3	0	0	0	20	0	0	0	0	1	0	1	0	5	0	0	0	0	5	45
Total	3	33	9	0	0	1	46	0	50	11	0	0	0	61	0	0	0	0	2	0	2	0	20	0	0	0	3	23	132
Grand Total	3	50	14	0	0	1	68	0	65	20	0	0	0	85	0	0	0	0	2	1	3	0	38	0	0	2	5	45	201
Approach %	4.4	73.5	20.6	0.0	0.0	1.5		0.0	76.5	23.5	0.0	0.0	0.0		0.0	0.0	0.0	0.0	66.7	33.3		0.0	84.4	0.0	0.0	4.4	11.1		
Total %	1.5	24.9	7.0	0.0	0.0	0.5	33.8	0.0	32.3	10.0	0.0	0.0	0.0	42.3	0.0	0.0	0.0	0.0	1.0	0.5	1.5	0.0	18.9	0.0	0.0	1.0	2.5	22.4	
Exiting Leg Total							1							52							73							75	201

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	8	3	0	0	1	12	0	12	3	0	0	0	15	0	0	0	0	0	0	0	0	5	0	0	0	2	7	34
5:15 PM	0	4	3	0	0	0	7	0	11	2	0	0	0	13	0	0	0	0	0	0	0	0	6	0	0	0	0	6	26
5:30 PM	1	6	1	0	0	0	8	0	10	3	0	0	0	13	0	0	0	0	1	0	1	0	4	0	0	0	1	5	27
5:45 PM	2	15	2	0	0	0	19	0	17	3	0	0	0	20	0	0	0	0	1	0	1	0	5	0	0	0	0	5	45
Total Volume	3	33	9	0	0	1	46	0	50	11	0	0	0	61	0	0	0	0	2	0	2	0	20	0	0	0	3	23	132
% Approach Total	6.5	71.7	19.6	0.0	0.0	2.2		0.0	82.0	18.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	87.0	0.0	0.0	0.0	13.0		
PHF	0.375	0.550	0.750	0.000	0.000	0.250	0.605	0.000	0.735	0.917	0.000	0.000	0.000	0.763	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.833	0.000	0.000	0.000	0.375	0.821	0.733
Entering Leg	3	33	9	0	0	1	46	0	50	11	0	0	0	61	0	0	0	0	2	0	2	0	20	0	0	0	3	23	132
Exiting Leg							1							29							46							56	132
Total							47							90							48							79	264

PDI File #: **186481 D**
Location: **N: Purchase Street S: Surface Road**
Location: **E: Summer Street W: Summer Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	40	44	84	0	0	0	0	11	15	26	0	0	0	0	87	243	330	0	0	0	0	26	15	41	481
4:15 PM	0	0	0	0	48	63	111	0	0	0	0	3	14	17	0	0	0	0	97	204	301	0	0	0	0	27	25	52	481
4:30 PM	0	0	0	0	61	51	112	0	0	0	0	16	9	25	0	0	0	0	90	254	344	0	0	0	0	14	18	32	513
4:45 PM	0	0	0	0	64	76	140	0	0	0	0	5	16	21	0	0	0	0	95	220	315	0	0	0	0	14	22	36	512
Total	0	0	0	0	213	234	447	0	0	0	0	35	54	89	0	0	0	0	369	921	1290	0	0	0	0	81	80	161	1987
5:00 PM	0	0	0	0	97	126	223	0	0	0	0	26	30	56	0	0	0	0	247	385	632	0	0	0	0	23	46	69	980
5:15 PM	0	0	0	0	89	108	197	0	0	0	0	22	16	38	0	0	0	0	168	354	522	0	0	0	0	22	35	57	814
5:30 PM	0	0	0	0	85	102	187	0	0	0	0	25	18	43	0	0	0	0	155	338	493	0	0	0	0	20	44	64	787
5:45 PM	0	0	0	0	70	86	156	0	0	0	0	11	18	29	0	0	0	0	113	229	342	0	0	0	0	15	28	43	570
Total	0	0	0	0	341	422	763	0	0	0	0	84	82	166	0	0	0	0	683	1306	1989	0	0	0	0	80	153	233	3151
Grand Total	0	0	0	0	554	656	1210	0	0	0	0	119	136	255	0	0	0	0	1052	2227	3279	0	0	0	0	161	233	394	5138
Approach %	0	0	0	0	45.8	54.2		0	0	0	0	46.7	53.3		0	0	0	0	32.1	67.9		0	0	0	0	40.9	59.1		
Total %	0	0	0	0	10.8	12.8	23.6	0	0	0	0	2.32	2.65	4.96	0	0	0	0	20.5	43.3	63.8	0	0	0	0	3.13	4.53	7.67	
Exiting Leg Total							1210							255							3279							394	5138

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Purchase Street							Summer Street							Surface Road							Summer Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	97	126	223	0	0	0	0	26	30	56	0	0	0	0	247	385	632	0	0	0	0	23	46	69	980
5:15 PM	0	0	0	0	89	108	197	0	0	0	0	22	16	38	0	0	0	0	168	354	522	0	0	0	0	22	35	57	814
5:30 PM	0	0	0	0	85	102	187	0	0	0	0	25	18	43	0	0	0	0	155	338	493	0	0	0	0	20	44	64	787
5:45 PM	0	0	0	0	70	86	156	0	0	0	0	11	18	29	0	0	0	0	113	229	342	0	0	0	0	15	28	43	570
Total Volume	0	0	0	0	341	422	763	0	0	0	0	84	82	166	0	0	0	0	683	1306	1989	0	0	0	0	80	153	233	3151
% Approach Total	0.0	0.0	0.0	0.0	44.7	55.3		0.0	0.0	0.0	0.0	50.6	49.4		0.0	0.0	0.0	0.0	34.3	65.7		0.0	0.0	0.0	0.0	34.3	65.7		
PHF	0.000	0.000	0.000	0.000	0.879	0.837	0.855	0.000	0.000	0.000	0.000	0.808	0.683	0.741	0.000	0.000	0.000	0.000	0.691	0.848	0.787	0.000	0.000	0.000	0.000	0.870	0.832	0.844	0.804
Entering Leg	0	0	0	0	341	422	763	0	0	0	0	84	82	166	0	0	0	0	683	1306	1989	0	0	0	0	80	153	233	3151
Exiting Leg							763							166							1989							233	3151
Total							1526							332							3978							466	6302

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	151	0	0	151	0	14	0	14	0	0	0	0	165
7:15 AM	148	0	0	148	0	5	0	5	0	0	0	0	153
7:30 AM	146	0	0	146	0	14	0	14	0	0	0	0	160
7:45 AM	162	0	0	162	0	13	0	13	0	0	0	0	175
Total	607	0	0	607	0	46	0	46	0	0	0	0	653
8:00 AM	151	0	0	151	0	13	0	13	0	0	0	0	164
8:15 AM	162	0	0	162	0	13	0	13	0	0	0	0	175
8:30 AM	170	0	0	170	0	24	0	24	0	0	0	0	194
8:45 AM	172	0	0	172	0	19	0	19	0	0	0	0	191
Total	655	0	0	655	0	69	0	69	0	0	0	0	724
Grand Total	1262	0	0	1262	0	115	0	115	0	0	0	0	1377
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	91.6	0.0	0.0	91.6	0.0	8.4	0.0	8.4	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1377	1377
Cars	1115	0	0	1115	0	107	0	107	0	0	0	0	1222
% Cars	88.4	0.0	0.0	88.4	0.0	93.0	0.0	93.0	0.0	0.0	0.0	0.0	88.7
Exiting Leg Total				0				0				1222	1222
Heavy Vehicles	147	0	0	147	0	8	0	8	0	0	0	0	155
% Heavy Vehicles	11.6	0.0	0.0	11.6	0.0	7.0	0.0	7.0	0.0	0.0	0.0	0.0	11.3
Exiting Leg Total				0				0				155	155

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	151	0	0	151	0	13	0	13	0	0	0	0	164
8:15 AM	162	0	0	162	0	13	0	13	0	0	0	0	175
8:30 AM	170	0	0	170	0	24	0	24	0	0	0	0	194
8:45 AM	172	0	0	172	0	19	0	19	0	0	0	0	191
Total Volume	655	0	0	655	0	69	0	69	0	0	0	0	724
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.952	0.000	0.000	0.952	0.000	0.719	0.000	0.719	0.000	0.000	0.000	0.000	0.933
Cars	578	0	0	578	0	65	0	65	0	0	0	0	643
Cars %	88.2	0.0	0.0	88.2	0.0	94.2	0.0	94.2	0.0	0.0	0.0	0.0	88.8
Heavy Vehicles	77	0	0	77	0	4	0	4	0	0	0	0	81
Heavy Vehicles %	11.8	0.0	0.0	11.8	0.0	5.8	0.0	5.8	0.0	0.0	0.0	0.0	11.2
Cars Enter Leg	578	0	0	578	0	65	0	65	0	0	0	0	643
Heavy Enter Leg	77	0	0	77	0	4	0	4	0	0	0	0	81
Total Entering Leg	655	0	0	655	0	69	0	69	0	0	0	0	724
Cars Exiting Leg				0				0				643	643
Heavy Exiting Leg				0				0				81	81
Total Exiting Leg				0				0				724	724

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	129	0	0	129	0	13	0	13	0	0	0	0	142
7:15 AM	136	0	0	136	0	5	0	5	0	0	0	0	141
7:30 AM	129	0	0	129	0	12	0	12	0	0	0	0	141
7:45 AM	143	0	0	143	0	12	0	12	0	0	0	0	155
Total	537	0	0	537	0	42	0	42	0	0	0	0	579
8:00 AM	131	0	0	131	0	12	0	12	0	0	0	0	143
8:15 AM	137	0	0	137	0	11	0	11	0	0	0	0	148
8:30 AM	155	0	0	155	0	24	0	24	0	0	0	0	179
8:45 AM	155	0	0	155	0	18	0	18	0	0	0	0	173
Total	578	0	0	578	0	65	0	65	0	0	0	0	643
Grand Total	1115	0	0	1115	0	107	0	107	0	0	0	0	1222
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	91.2	0.0	0.0	91.2	0.0	8.8	0.0	8.8	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1222	1222

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	131	0	0	131	0	12	0	12	0	0	0	0	143
8:15 AM	137	0	0	137	0	11	0	11	0	0	0	0	148
8:30 AM	155	0	0	155	0	24	0	24	0	0	0	0	179
8:45 AM	155	0	0	155	0	18	0	18	0	0	0	0	173
Total Volume	578	0	0	578	0	65	0	65	0	0	0	0	643
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.932	0.000	0.000	0.932	0.000	0.677	0.000	0.677	0.000	0.000	0.000	0.000	0.898
Entering Leg	578	0	0	578	0	65	0	65	0	0	0	0	643
Exiting Leg				0				0				643	643
Total				578				65				643	1286

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	22	0	0	22	0	1	0	1	0	0	0	0	23
7:15 AM	12	0	0	12	0	0	0	0	0	0	0	0	12
7:30 AM	17	0	0	17	0	2	0	2	0	0	0	0	19
7:45 AM	19	0	0	19	0	1	0	1	0	0	0	0	20
Total	70	0	0	70	0	4	0	4	0	0	0	0	74
8:00 AM	20	0	0	20	0	1	0	1	0	0	0	0	21
8:15 AM	25	0	0	25	0	2	0	2	0	0	0	0	27
8:30 AM	15	0	0	15	0	0	0	0	0	0	0	0	15
8:45 AM	17	0	0	17	0	1	0	1	0	0	0	0	18
Total	77	0	0	77	0	4	0	4	0	0	0	0	81
Grand Total	147	0	0	147	0	8	0	8	0	0	0	0	155
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	94.8	0.0	0.0	94.8	0.0	5.2	0.0	5.2	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				155	155
Buses	82	0	0	82	0	3	0	3	0	0	0	0	85
% Buses	55.8	0.0	0.0	55.8	0.0	37.5	0.0	37.5	0.0	0.0	0.0	0.0	54.8
Exiting Leg Total				0				0				85	85
Single-Unit Trucks	62	0	0	62	0	5	0	5	0	0	0	0	67
% Single-Unit	42.2	0.0	0.0	42.2	0.0	62.5	0.0	62.5	0.0	0.0	0.0	0.0	43.2
Exiting Leg Total				0				0				67	67
Articulated Trucks	3	0	0	3	0	0	0	0	0	0	0	0	3
% Articulated	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Exiting Leg Total				0				0				3	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	17	0	0	17	0	2	0	2	0	0	0	0	19
7:45 AM	19	0	0	19	0	1	0	1	0	0	0	0	20
8:00 AM	20	0	0	20	0	1	0	1	0	0	0	0	21
8:15 AM	25	0	0	25	0	2	0	2	0	0	0	0	27
Total Volume	81	0	0	81	0	6	0	6	0	0	0	0	87
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.810	0.000	0.000	0.810	0.000	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.806
Buses	49	0	0	49	0	2	0	2	0	0	0	0	51
Buses %	60.5	0.0	0.0	60.5	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	58.6
Single-Unit Trucks	31	0	0	31	0	4	0	4	0	0	0	0	35
Single-Unit %	38.3	0.0	0.0	38.3	0.0	66.7	0.0	66.7	0.0	0.0	0.0	0.0	40.2
Articulated Trucks	1	0	0	1	0	0	0	0	0	0	0	0	1
Articulated %	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Buses	49	0	0	49	0	2	0	2	0	0	0	0	51
Single-Unit Trucks	31	0	0	31	0	4	0	4	0	0	0	0	35
Articulated Trucks	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Entering Leg	81	0	0	81	0	6	0	6	0	0	0	0	87
Buses				0				0				51	51
Single-Unit Trucks				0				0				35	35
Articulated Trucks				0				0				1	1
Total Exiting Leg				0				0				87	87

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	103	0	0	103	0	13	0	13	0	0	0	0	116
7:15 AM	103	0	0	103	0	5	0	5	0	0	0	0	108
7:30 AM	116	0	0	116	0	12	0	12	0	0	0	0	128
7:45 AM	123	0	0	123	0	12	0	12	0	0	0	0	135
Total	445	0	0	445	0	42	0	42	0	0	0	0	487
8:00 AM	119	0	0	119	0	12	0	12	0	0	0	0	131
8:15 AM	126	0	0	126	0	10	0	10	0	0	0	0	136
8:30 AM	137	0	0	137	0	24	0	24	0	0	0	0	161
8:45 AM	136	0	0	136	0	17	0	17	0	0	0	0	153
Total	518	0	0	518	0	63	0	63	0	0	0	0	581
Grand Total	963	0	0	963	0	105	0	105	0	0	0	0	1068
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	90.2	0.0	0.0	90.2	0.0	9.8	0.0	9.8	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1068	1068

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	119	0	0	119	0	12	0	12	0	0	0	0	131
8:15 AM	126	0	0	126	0	10	0	10	0	0	0	0	136
8:30 AM	137	0	0	137	0	24	0	24	0	0	0	0	161
8:45 AM	136	0	0	136	0	17	0	17	0	0	0	0	153
Total Volume	518	0	0	518	0	63	0	63	0	0	0	0	581
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.945	0.000	0.000	0.945	0.000	0.656	0.000	0.656	0.000	0.000	0.000	0.000	0.902
Entering Leg	518	0	0	518	0	63	0	63	0	0	0	0	581
Exiting Leg				0				0				581	581
Total				518				63				581	1162

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	26	0	0	26	0	0	0	0	0	0	0	0	26
7:15 AM	32	0	0	32	0	0	0	0	0	0	0	0	32
7:30 AM	13	0	0	13	0	0	0	0	0	0	0	0	13
7:45 AM	19	0	0	19	0	0	0	0	0	0	0	0	19
Total	90	0	0	90	0	0	0	0	0	0	0	0	90
8:00 AM	11	0	0	11	0	0	0	0	0	0	0	0	11
8:15 AM	11	0	0	11	0	0	0	0	0	0	0	0	11
8:30 AM	17	0	0	17	0	0	0	0	0	0	0	0	17
8:45 AM	19	0	0	19	0	1	0	1	0	0	0	0	20
Total	58	0	0	58	0	1	0	1	0	0	0	0	59
Grand Total	148	0	0	148	0	1	0	1	0	0	0	0	149
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	99.3	0.0	0.0	99.3	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				149	149

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	26	0	0	26	0	0	0	0	0	0	0	0	26
7:15 AM	32	0	0	32	0	0	0	0	0	0	0	0	32
7:30 AM	13	0	0	13	0	0	0	0	0	0	0	0	13
7:45 AM	19	0	0	19	0	0	0	0	0	0	0	0	19
Total Volume	90	0	0	90	0	0	0	0	0	0	0	0	90
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.703	0.000	0.000	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.703
Entering Leg	90	0	0	90	0	0	0	0	0	0	0	0	90
Exiting Leg				0				0				90	90
Total				90				0				90	180

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	9	0	0	9	0	0	0	0	0	0	0	0	9
7:15 AM	7	0	0	7	0	0	0	0	0	0	0	0	7
7:30 AM	10	0	0	10	0	1	0	1	0	0	0	0	11
7:45 AM	9	0	0	9	0	0	0	0	0	0	0	0	9
Total	35	0	0	35	0	1	0	1	0	0	0	0	36
8:00 AM	13	0	0	13	0	1	0	1	0	0	0	0	14
8:15 AM	17	0	0	17	0	0	0	0	0	0	0	0	17
8:30 AM	8	0	0	8	0	0	0	0	0	0	0	0	8
8:45 AM	9	0	0	9	0	1	0	1	0	0	0	0	10
Total	47	0	0	47	0	2	0	2	0	0	0	0	49
Grand Total	82	0	0	82	0	3	0	3	0	0	0	0	85
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	96.5	0.0	0.0	96.5	0.0	3.5	0.0	3.5	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				85	85

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	10	0	0	10	0	1	0	1	0	0	0	0	11
7:45 AM	9	0	0	9	0	0	0	0	0	0	0	0	9
8:00 AM	13	0	0	13	0	1	0	1	0	0	0	0	14
8:15 AM	17	0	0	17	0	0	0	0	0	0	0	0	17
Total Volume	49	0	0	49	0	2	0	2	0	0	0	0	51
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.721	0.000	0.000	0.721	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.750
Entering Leg	49	0	0	49	0	2	0	2	0	0	0	0	51
Exiting Leg				0				0				51	51
Total				49				2				51	102

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	12	0	0	12	0	1	0	1	0	0	0	0	13
7:15 AM	5	0	0	5	0	0	0	0	0	0	0	0	5
7:30 AM	6	0	0	6	0	1	0	1	0	0	0	0	7
7:45 AM	10	0	0	10	0	1	0	1	0	0	0	0	11
Total	33	0	0	33	0	3	0	3	0	0	0	0	36
8:00 AM	7	0	0	7	0	0	0	0	0	0	0	0	7
8:15 AM	8	0	0	8	0	2	0	2	0	0	0	0	10
8:30 AM	6	0	0	6	0	0	0	0	0	0	0	0	6
8:45 AM	8	0	0	8	0	0	0	0	0	0	0	0	8
Total	29	0	0	29	0	2	0	2	0	0	0	0	31
Grand Total	62	0	0	62	0	5	0	5	0	0	0	0	67
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	92.5	0.0	0.0	92.5	0.0	7.5	0.0	7.5	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				67	67

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	12	0	0	12	0	1	0	1	0	0	0	0	13
7:15 AM	5	0	0	5	0	0	0	0	0	0	0	0	5
7:30 AM	6	0	0	6	0	1	0	1	0	0	0	0	7
7:45 AM	10	0	0	10	0	1	0	1	0	0	0	0	11
Total Volume	33	0	0	33	0	3	0	3	0	0	0	0	36
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.688	0.000	0.000	0.688	0.000	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.692
Entering Leg	33	0	0	33	0	3	0	3	0	0	0	0	36
Exiting Leg				0				0				36	36
Total				33				3				36	72

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	3	0	0	3	0	0	0	0	0	0	0	0	3
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				3	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	2	0	0	0	0	0	0	0	0	2
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	2	0	0	2	0	0	0	0	0	0	0	0	2
Exiting Leg				0				0				2	2
Total				2				0				2	4

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:00 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	3	0	0	0	0	3	0	1	0	0	0	1	0	0	0	0	0	0	4
7:30 AM	0	1	0	0	2	3	0	2	0	0	0	2	0	0	0	0	0	0	5
7:45 AM	1	1	0	2	0	4	0	1	0	0	0	1	0	0	0	1	1	2	7
Total	7	2	0	2	2	13	0	4	0	0	0	4	0	0	0	1	1	2	19
8:00 AM	3	0	0	1	0	4	0	2	0	0	0	2	0	0	0	0	0	0	6
8:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2	4
8:30 AM	4	0	0	0	2	6	0	0	0	0	1	1	0	0	0	1	1	2	9
8:45 AM	1	0	0	1	0	2	0	0	0	0	2	2	0	0	0	1	0	1	5
Total	8	0	0	4	2	14	0	2	0	0	3	5	0	0	0	2	3	5	24
Grand Total	15	2	0	6	4	27	0	6	0	0	3	9	0	0	0	3	4	7	43
Approach %	55.6	7.4	0.0	22.2	14.8		0.0	66.7	0.0	0.0	33.3		0.0	0.0	0.0	42.9	57.1		
Total %	34.9	4.7	0.0	14.0	9.3	62.8	0.0	14.0	0.0	0.0	7.0	20.9	0.0	0.0	0.0	7.0	9.3	16.3	
Exiting Leg Total						10						5						28	43

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:45 AM	1	1	0	2	0	4	0	1	0	0	0	1	0	0	0	1	1	2	7
8:00 AM	3	0	0	1	0	4	0	2	0	0	0	2	0	0	0	0	0	0	6
8:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2	4
8:30 AM	4	0	0	0	2	6	0	0	0	0	1	1	0	0	0	1	1	2	9
Total Volume	8	1	0	5	2	16	0	3	0	0	1	4	0	0	0	2	4	6	26
% Approach Total	50.0	6.3	0.0	31.3	12.5		0.0	75.0	0.0	0.0	25.0		0.0	0.0	0.0	33.3	66.7		
PHF	0.500	0.250	0.000	0.625	0.250	0.667	0.000	0.375	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.500	0.500	0.750	0.722
Entering Leg	8	1	0	5	2	16	0	3	0	0	1	4	0	0	0	2	4	6	26
Exiting Leg						7						2						17	26
Total						23						6						23	52

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:00 AM	0	0	0	8	14	22	0	0	0	4	1	5	0	0	0	12	6	18	45
7:15 AM	0	0	0	8	23	31	0	0	0	0	5	5	0	0	0	13	6	19	55
7:30 AM	0	0	0	8	28	36	0	0	0	6	4	10	0	0	0	13	8	21	67
7:45 AM	0	0	0	29	30	59	0	0	0	3	5	8	0	0	0	17	23	40	107
Total	0	0	0	53	95	148	0	0	0	13	15	28	0	0	0	55	43	98	274
8:00 AM	0	0	0	37	29	66	0	0	0	8	6	14	0	0	0	23	24	47	127
8:15 AM	0	0	0	34	40	74	0	0	0	11	12	23	0	0	0	31	16	47	144
8:30 AM	0	0	0	48	46	94	0	0	0	8	15	23	0	0	0	32	16	48	165
8:45 AM	0	0	0	42	41	83	0	0	0	11	11	22	0	0	0	10	27	37	142
Total	0	0	0	161	156	317	0	0	0	38	44	82	0	0	0	96	83	179	578
Grand Total	0	0	0	214	251	465	0	0	0	51	59	110	0	0	0	151	126	277	852
Approach %	0	0	0	46.022	53.978		0	0	0	46.364	53.636		0	0	0	54.513	45.487		
Total %	0	0	0	25.117	29.46	54.577	0	0	0	5.9859	6.9249	12.911	0	0	0	17.723	14.789	32.512	
Exiting Leg Total						465						110						277	852

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
8:00 AM	0	0	0	37	29	66	0	0	0	8	6	14	0	0	0	23	24	47	127
8:15 AM	0	0	0	34	40	74	0	0	0	11	12	23	0	0	0	31	16	47	144
8:30 AM	0	0	0	48	46	94	0	0	0	8	15	23	0	0	0	32	16	48	165
8:45 AM	0	0	0	42	41	83	0	0	0	11	11	22	0	0	0	10	27	37	142
Total Volume	0	0	0	161	156	317	0	0	0	38	44	82	0	0	0	96	83	179	578
% Approach Total	0.0	0.0	0.0	50.8	49.2		0.0	0.0	0.0	46.3	53.7		0.0	0.0	0.0	53.6	46.4		
PHF	0.000	0.000	0.000	0.839	0.848	0.843	0.000	0.000	0.000	0.864	0.733	0.891	0.000	0.000	0.000	0.750	0.769	0.932	0.876
Entering Leg	0	0	0	161	156	317	0	0	0	38	44	82	0	0	0	96	83	179	578
Exiting Leg						317						82						179	578
Total						634						164						358	1156

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	230	0	0	230	0	18	0	18	0	0	0	0	248
4:15 PM	254	0	0	254	0	12	0	12	0	0	0	0	266
4:30 PM	242	0	0	242	0	16	0	16	0	0	0	0	258
4:45 PM	241	0	0	241	0	15	0	15	0	0	0	0	256
Total	967	0	0	967	0	61	0	61	0	0	0	0	1028
5:00 PM	262	0	0	262	0	25	0	25	0	0	0	0	287
5:15 PM	243	0	0	243	0	17	0	17	0	0	0	0	260
5:30 PM	250	0	0	250	0	13	0	13	0	0	0	0	263
5:45 PM	253	0	0	253	0	17	0	17	0	0	0	0	270
Total	1008	0	0	1008	0	72	0	72	0	0	0	0	1080
Grand Total	1975	0	0	1975	0	133	0	133	0	0	0	0	2108
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	93.7	0.0	0.0	93.7	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				2108	2108
Cars	1851	0	0	1851	0	128	0	128	0	0	0	0	1979
% Cars	93.7	0.0	0.0	93.7	0.0	96.2	0.0	96.2	0.0	0.0	0.0	0.0	93.9
Exiting Leg Total				0				0				1979	1979
Heavy Vehicles	124	0	0	124	0	5	0	5	0	0	0	0	129
% Heavy Vehicles	6.3	0.0	0.0	6.3	0.0	3.8	0.0	3.8	0.0	0.0	0.0	0.0	6.1
Exiting Leg Total				0				0				129	129

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
5:00 PM	262	0	0	262	0	25	0	25	0	0	0	0	287
5:15 PM	243	0	0	243	0	17	0	17	0	0	0	0	260
5:30 PM	250	0	0	250	0	13	0	13	0	0	0	0	263
5:45 PM	253	0	0	253	0	17	0	17	0	0	0	0	270
Total Volume	1008	0	0	1008	0	72	0	72	0	0	0	0	1080
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.962	0.000	0.000	0.962	0.000	0.720	0.000	0.720	0.000	0.000	0.000	0.000	0.941
Cars	947	0	0	947	0	69	0	69	0	0	0	0	1016
Cars %	93.9	0.0	0.0	93.9	0.0	95.8	0.0	95.8	0.0	0.0	0.0	0.0	94.1
Heavy Vehicles	61	0	0	61	0	3	0	3	0	0	0	0	64
Heavy Vehicles %	6.1	0.0	0.0	6.1	0.0	4.2	0.0	4.2	0.0	0.0	0.0	0.0	5.9
Cars Enter Leg	947	0	0	947	0	69	0	69	0	0	0	0	1016
Heavy Enter Leg	61	0	0	61	0	3	0	3	0	0	0	0	64
Total Entering Leg	1008	0	0	1008	0	72	0	72	0	0	0	0	1080
Cars Exiting Leg				0				0				1016	1016
Heavy Exiting Leg				0				0				64	64
Total Exiting Leg				0				0				1080	1080

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	208	0	0	208	0	18	0	18	0	0	0	0	226
4:15 PM	235	0	0	235	0	12	0	12	0	0	0	0	247
4:30 PM	232	0	0	232	0	14	0	14	0	0	0	0	246
4:45 PM	229	0	0	229	0	15	0	15	0	0	0	0	244
Total	904	0	0	904	0	59	0	59	0	0	0	0	963
5:00 PM	247	0	0	247	0	24	0	24	0	0	0	0	271
5:15 PM	227	0	0	227	0	16	0	16	0	0	0	0	243
5:30 PM	233	0	0	233	0	13	0	13	0	0	0	0	246
5:45 PM	240	0	0	240	0	16	0	16	0	0	0	0	256
Total	947	0	0	947	0	69	0	69	0	0	0	0	1016
Grand Total	1851	0	0	1851	0	128	0	128	0	0	0	0	1979
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	93.5	0.0	0.0	93.5	0.0	6.5	0.0	6.5	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1979	1979

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
5:00 PM	247	0	0	247	0	24	0	24	0	0	0	0	271
5:15 PM	227	0	0	227	0	16	0	16	0	0	0	0	243
5:30 PM	233	0	0	233	0	13	0	13	0	0	0	0	246
5:45 PM	240	0	0	240	0	16	0	16	0	0	0	0	256
Total Volume	947	0	0	947	0	69	0	69	0	0	0	0	1016
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.959	0.000	0.000	0.959	0.000	0.719	0.000	0.719	0.000	0.000	0.000	0.000	0.937
Entering Leg	947	0	0	947	0	69	0	69	0	0	0	0	1016
Exiting Leg				0				0				1016	1016
Total				947				69				1016	2032

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	22	0	0	22	0	0	0	0	0	0	0	0	22
4:15 PM	19	0	0	19	0	0	0	0	0	0	0	0	19
4:30 PM	10	0	0	10	0	2	0	2	0	0	0	0	12
4:45 PM	12	0	0	12	0	0	0	0	0	0	0	0	12
Total	63	0	0	63	0	2	0	2	0	0	0	0	65
5:00 PM	15	0	0	15	0	1	0	1	0	0	0	0	16
5:15 PM	16	0	0	16	0	1	0	1	0	0	0	0	17
5:30 PM	17	0	0	17	0	0	0	0	0	0	0	0	17
5:45 PM	13	0	0	13	0	1	0	1	0	0	0	0	14
Total	61	0	0	61	0	3	0	3	0	0	0	0	64
Grand Total	124	0	0	124	0	5	0	5	0	0	0	0	129
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	96.1	0.0	0.0	96.1	0.0	3.9	0.0	3.9	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				129	129
Buses	94	0	0	94	0	3	0	3	0	0	0	0	97
% Buses	75.8	0.0	0.0	75.8	0.0	60.0	0.0	60.0	0.0	0.0	0.0	0.0	75.2
Exiting Leg Total				0				0				97	97
Single-Unit Trucks	30	0	0	30	0	2	0	2	0	0	0	0	32
% Single-Unit	24.2	0.0	0.0	24.2	0.0	40.0	0.0	40.0	0.0	0.0	0.0	0.0	24.8
Exiting Leg Total				0				0				32	32
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	22	0	0	22	0	0	0	0	0	0	0	0	22
4:15 PM	19	0	0	19	0	0	0	0	0	0	0	0	19
4:30 PM	10	0	0	10	0	2	0	2	0	0	0	0	12
4:45 PM	12	0	0	12	0	0	0	0	0	0	0	0	12
Total Volume	63	0	0	63	0	2	0	2	0	0	0	0	65
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.716	0.000	0.000	0.716	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.739
Buses	47	0	0	47	0	1	0	1	0	0	0	0	48
Buses %	74.6	0.0	0.0	74.6	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	73.8
Single-Unit Trucks	16	0	0	16	0	1	0	1	0	0	0	0	17
Single-Unit %	25.4	0.0	0.0	25.4	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	26.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	47	0	0	47	0	1	0	1	0	0	0	0	48
Single-Unit Trucks	16	0	0	16	0	1	0	1	0	0	0	0	17
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	63	0	0	63	0	2	0	2	0	0	0	0	65
Buses				0				0				48	48
Single-Unit Trucks				0				0				17	17
Articulated Trucks				0				0				0	0
Total Exiting Leg				0				0				65	65

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	194	0	0	194	0	17	0	17	0	0	0	0	211
4:15 PM	223	0	0	223	0	12	0	12	0	0	0	0	235
4:30 PM	211	0	0	211	0	13	0	13	0	0	0	0	224
4:45 PM	218	0	0	218	0	14	0	14	0	0	0	0	232
Total	846	0	0	846	0	56	0	56	0	0	0	0	902
5:00 PM	229	0	0	229	0	23	0	23	0	0	0	0	252
5:15 PM	214	0	0	214	0	16	0	16	0	0	0	0	230
5:30 PM	224	0	0	224	0	12	0	12	0	0	0	0	236
5:45 PM	223	0	0	223	0	16	0	16	0	0	0	0	239
Total	890	0	0	890	0	67	0	67	0	0	0	0	957
Grand Total	1736	0	0	1736	0	123	0	123	0	0	0	0	1859
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	93.4	0.0	0.0	93.4	0.0	6.6	0.0	6.6	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1859	1859

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
5:00 PM	229	0	0	229	0	23	0	23	0	0	0	0	252
5:15 PM	214	0	0	214	0	16	0	16	0	0	0	0	230
5:30 PM	224	0	0	224	0	12	0	12	0	0	0	0	236
5:45 PM	223	0	0	223	0	16	0	16	0	0	0	0	239
Total Volume	890	0	0	890	0	67	0	67	0	0	0	0	957
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.972	0.000	0.000	0.972	0.000	0.728	0.000	0.728	0.000	0.000	0.000	0.000	0.949
Entering Leg	890	0	0	890	0	67	0	67	0	0	0	0	957
Exiting Leg				0				0				957	957
Total				890				67				957	1914

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	14	0	0	14	0	1	0	1	0	0	0	0	15
4:15 PM	11	0	0	11	0	0	0	0	0	0	0	0	11
4:30 PM	19	0	0	19	0	1	0	1	0	0	0	0	20
4:45 PM	11	0	0	11	0	1	0	1	0	0	0	0	12
Total	55	0	0	55	0	3	0	3	0	0	0	0	58
5:00 PM	16	0	0	16	0	0	0	0	0	0	0	0	16
5:15 PM	11	0	0	11	0	0	0	0	0	0	0	0	11
5:30 PM	7	0	0	7	0	0	0	0	0	0	0	0	7
5:45 PM	17	0	0	17	0	0	0	0	0	0	0	0	17
Total	51	0	0	51	0	0	0	0	0	0	0	0	51
Grand Total	106	0	0	106	0	3	0	3	0	0	0	0	109
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	97.2	0.0	0.0	97.2	0.0	2.8	0.0	2.8	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				109	109

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:15 PM	11	0	0	11	0	0	0	0	0	0	0	0	11
4:30 PM	19	0	0	19	0	1	0	1	0	0	0	0	20
4:45 PM	11	0	0	11	0	1	0	1	0	0	0	0	12
5:00 PM	16	0	0	16	0	0	0	0	0	0	0	0	16
Total Volume	57	0	0	57	0	2	0	2	0	0	0	0	59
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.750	0.000	0.000	0.750	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.738
Entering Leg	57	0	0	57	0	2	0	2	0	0	0	0	59
Exiting Leg				0				0				59	59
Total				57				2				59	118

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	14	0	0	14	0	0	0	0	0	0	0	0	14
4:15 PM	15	0	0	15	0	0	0	0	0	0	0	0	15
4:30 PM	9	0	0	9	0	1	0	1	0	0	0	0	10
4:45 PM	9	0	0	9	0	0	0	0	0	0	0	0	9
Total	47	0	0	47	0	1	0	1	0	0	0	0	48
5:00 PM	13	0	0	13	0	0	0	0	0	0	0	0	13
5:15 PM	14	0	0	14	0	1	0	1	0	0	0	0	15
5:30 PM	11	0	0	11	0	0	0	0	0	0	0	0	11
5:45 PM	9	0	0	9	0	1	0	1	0	0	0	0	10
Total	47	0	0	47	0	2	0	2	0	0	0	0	49
Grand Total	94	0	0	94	0	3	0	3	0	0	0	0	97
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	96.9	0.0	0.0	96.9	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				97	97

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
5:00 PM	13	0	0	13	0	0	0	0	0	0	0	0	13
5:15 PM	14	0	0	14	0	1	0	1	0	0	0	0	15
5:30 PM	11	0	0	11	0	0	0	0	0	0	0	0	11
5:45 PM	9	0	0	9	0	1	0	1	0	0	0	0	10
Total Volume	47	0	0	47	0	2	0	2	0	0	0	0	49
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.839	0.000	0.000	0.839	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.817
Entering Leg	47	0	0	47	0	2	0	2	0	0	0	0	49
Exiting Leg				0				0				49	49
Total				47				2				49	98

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	8	0	0	8	0	0	0	0	0	0	0	0	8
4:15 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
4:30 PM	1	0	0	1	0	1	0	1	0	0	0	0	2
4:45 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
Total	16	0	0	16	0	1	0	1	0	0	0	0	17
5:00 PM	2	0	0	2	0	1	0	1	0	0	0	0	3
5:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	6	0	0	6	0	0	0	0	0	0	0	0	6
5:45 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
Total	14	0	0	14	0	1	0	1	0	0	0	0	15
Grand Total	30	0	0	30	0	2	0	2	0	0	0	0	32
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	93.8	0.0	0.0	93.8	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				32	32

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	8	0	0	8	0	0	0	0	0	0	0	0	8
4:15 PM	4	0	0	4	0	0	0	0	0	0	0	0	4
4:30 PM	1	0	0	1	0	1	0	1	0	0	0	0	2
4:45 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
Total Volume	16	0	0	16	0	1	0	1	0	0	0	0	17
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.531
Entering Leg	16	0	0	16	0	1	0	1	0	0	0	0	17
Exiting Leg				0				0				17	17
Total				16				1				17	34

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North				Beach Street from East				Surface Road from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	1	0	0	0	2	3	0	0	0	0	1	1	0	0	0	0	0	0	4
4:30 PM	4	1	0	0	1	6	0	2	0	0	1	3	0	0	0	0	0	0	9
4:45 PM	5	0	0	0	0	5	0	1	0	0	0	1	0	0	0	0	0	0	6
Total	12	1	0	0	3	16	0	3	0	0	2	5	0	0	0	0	0	0	21
5:00 PM	5	0	0	0	2	7	0	0	0	0	0	0	0	0	0	2	0	2	9
5:15 PM	12	0	0	1	0	13	0	0	0	2	0	2	0	0	0	0	0	0	15
5:30 PM	12	0	0	0	1	13	0	3	0	0	1	4	0	0	0	0	0	0	17
5:45 PM	12	0	0	1	1	14	0	1	0	0	0	1	1	0	0	1	2	4	19
Total	41	0	0	2	4	47	0	4	0	2	1	7	1	0	0	3	2	6	60
Grand Total	53	1	0	2	7	63	0	7	0	2	3	12	1	0	0	3	2	6	81
Approach %	84.1	1.6	0.0	3.2	11.1		0.0	58.3	0.0	16.7	25.0		16.7	0.0	0.0	50.0	33.3		
Total %	65.4	1.2	0.0	2.5	8.6	77.8	0.0	8.6	0.0	2.5	3.7	14.8	1.2	0.0	0.0	3.7	2.5	7.4	
Exiting Leg Total						9						7						65	81

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
5:00 PM	5	0	0	0	2	7	0	0	0	0	0	0	0	0	0	2	0	2	9
5:15 PM	12	0	0	1	0	13	0	0	0	2	0	2	0	0	0	0	0	0	15
5:30 PM	12	0	0	0	1	13	0	3	0	0	1	4	0	0	0	0	0	0	17
5:45 PM	12	0	0	1	1	14	0	1	0	0	0	1	1	0	0	1	2	4	19
Total Volume	41	0	0	2	4	47	0	4	0	2	1	7	1	0	0	3	2	6	60
% Approach Total	87.2	0.0	0.0	4.3	8.5		0.0	57.1	0.0	28.6	14.3		16.7	0.0	0.0	50.0	33.3		
PHF	0.854	0.000	0.000	0.500	0.500	0.839	0.000	0.333	0.000	0.250	0.250	0.438	0.250	0.000	0.000	0.375	0.250	0.375	0.789
Entering Leg	41	0	0	2	4	47	0	4	0	2	1	7	1	0	0	3	2	6	60
Exiting Leg						6						4						50	60
Total						53						11						56	120

PDI File #: **186481 E**
Location: **N: Surface Road S: Surface Road**
Location: **E: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	0	0	0	63	59	122	0	0	0	1	9	10	0	0	0	25	11	36	168
4:15 PM	0	0	0	50	45	95	0	0	0	5	9	14	0	0	0	20	21	41	150
4:30 PM	0	0	0	57	50	107	0	0	0	1	10	11	0	0	0	31	19	50	168
4:45 PM	0	0	0	73	48	121	0	0	0	4	7	11	0	0	0	36	14	50	182
Total	0	0	0	243	202	445	0	0	0	11	35	46	0	0	0	112	65	177	668
5:00 PM	0	0	0	62	74	136	0	0	0	12	17	29	0	0	0	57	16	73	238
5:15 PM	0	0	0	62	73	135	0	0	0	4	16	20	0	0	0	50	22	72	227
5:30 PM	0	0	0	42	59	101	0	0	0	5	16	21	0	0	0	43	12	55	177
5:45 PM	0	0	0	63	55	118	0	0	0	5	14	19	0	0	0	43	16	59	196
Total	0	0	0	229	261	490	0	0	0	26	63	89	0	0	0	193	66	259	838
Grand Total	0	0	0	472	463	935	0	0	0	37	98	135	0	0	0	305	131	436	1506
Approach %	0	0	0	50.481	49.519		0	0	0	27.407	72.593		0	0	0	69.954	30.046		
Total %	0	0	0	31.341	30.744	62.085	0	0	0	2.4568	6.5073	8.9641	0	0	0	20.252	8.6985	28.951	
Exiting Leg Total						935						135						436	1506

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North						Beach Street from East						Surface Road from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
5:00 PM	0	0	0	62	74	136	0	0	0	12	17	29	0	0	0	57	16	73	238
5:15 PM	0	0	0	62	73	135	0	0	0	4	16	20	0	0	0	50	22	72	227
5:30 PM	0	0	0	42	59	101	0	0	0	5	16	21	0	0	0	43	12	55	177
5:45 PM	0	0	0	63	55	118	0	0	0	5	14	19	0	0	0	43	16	59	196
Total Volume	0	0	0	229	261	490	0	0	0	26	63	89	0	0	0	193	66	259	838
% Approach Total	0.0	0.0	0.0	46.7	53.3		0.0	0.0	0.0	29.2	70.8		0.0	0.0	0.0	74.5	25.5		
PHF	0.000	0.000	0.000	0.909	0.882	0.901	0.000	0.000	0.000	0.542	0.926	0.767	0.000	0.000	0.000	0.846	0.750	0.887	0.880
Entering Leg	0	0	0	229	261	490	0	0	0	26	63	89	0	0	0	193	66	259	838
Exiting Leg						490						89						259	838
Total						980						178						518	1676

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	10	10	0	0	20	0	107	7	0	114	0	0	0	0	0	134
7:15 AM	0	0	0	0	0	17	5	0	0	22	0	128	3	0	131	0	0	0	0	0	153
7:30 AM	0	0	0	0	0	18	10	0	0	28	0	119	10	0	129	0	0	0	0	0	157
7:45 AM	0	0	0	0	0	12	3	0	0	15	0	132	11	0	143	0	0	0	0	0	158
Total	0	0	0	0	0	57	28	0	0	85	0	486	31	0	517	0	0	0	0	0	602
8:00 AM	0	0	0	0	0	20	12	0	0	32	0	145	10	0	155	0	0	0	0	0	187
8:15 AM	0	0	0	0	0	18	10	0	0	28	0	128	12	0	140	0	0	0	0	0	168
8:30 AM	0	0	0	0	0	33	24	0	0	57	0	133	10	0	143	0	0	0	1	1	201
8:45 AM	0	0	0	0	0	25	13	0	0	38	0	138	20	0	158	0	0	0	0	0	196
Total	0	0	0	0	0	96	59	0	0	155	0	544	52	0	596	0	0	0	1	1	752
Grand Total	0	0	0	0	0	153	87	0	0	240	0	1030	83	0	1113	0	0	0	1	1	1354
Approach %	0.0	0.0	0.0	0.0		63.8	36.3	0.0	0.0		0.0	92.5	7.5	0.0		0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	11.3	6.4	0.0	0.0	17.7	0.0	76.1	6.1	0.0	82.2	0.0	0.0	0.0	0.1	0.1	
Exiting Leg Total					1183					0					0					171	1354
Cars	0	0	0	0	0	145	87	0	0	232	0	935	77	0	1012	0	0	0	1	1	1245
% Cars	0.0	0.0	0.0	0.0	0.0	94.8	100.0	0.0	0.0	96.7	0.0	90.8	92.8	0.0	90.9	0.0	0.0	0.0	100.0	100.0	91.9
Exiting Leg Total					1080					0					0					165	1245
Heavy Vehicles	0	0	0	0	0	8	0	0	0	8	0	95	6	0	101	0	0	0	0	0	109
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	3.3	0.0	9.2	7.2	0.0	9.1	0.0	0.0	0.0	0.0	0.0	8.1
Exiting Leg Total					103					0					0					6	109

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	20	12	0	0	32	0	145	10	0	155	0	0	0	0	0	187
8:15 AM	0	0	0	0	0	18	10	0	0	28	0	128	12	0	140	0	0	0	0	0	168
8:30 AM	0	0	0	0	0	33	24	0	0	57	0	133	10	0	143	0	0	0	1	1	201
8:45 AM	0	0	0	0	0	25	13	0	0	38	0	138	20	0	158	0	0	0	0	0	196
Total Volume	0	0	0	0	0	96	59	0	0	155	0	544	52	0	596	0	0	0	1	1	752
% Approach Total	0.0	0.0	0.0	0.0		61.9	38.1	0.0	0.0		0.0	91.3	8.7	0.0		0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.727	0.615	0.000	0.000	0.680	0.000	0.938	0.650	0.000	0.943	0.000	0.000	0.000	0.250	0.250	0.935
Cars	0	0	0	0	0	91	59	0	0	150	0	493	48	0	541	0	0	0	1	1	692
Cars %	0.0	0.0	0.0	0.0	0.0	94.8	100.0	0.0	0.0	96.8	0.0	90.6	92.3	0.0	90.8	0.0	0.0	0.0	100.0	100.0	92.0
Heavy Vehicles	0	0	0	0	0	5	0	0	0	5	0	51	4	0	55	0	0	0	0	0	60
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	3.2	0.0	9.4	7.7	0.0	9.2	0.0	0.0	0.0	0.0	0.0	8.0
Cars Enter Leg	0	0	0	0	0	91	59	0	0	150	0	493	48	0	541	0	0	0	1	1	692
Heavy Enter Leg	0	0	0	0	0	5	0	0	0	5	0	51	4	0	55	0	0	0	0	0	60
Total Entering Leg	0	0	0	0	0	96	59	0	0	155	0	544	52	0	596	0	0	0	1	1	752
Cars Exiting Leg					584					0					0					108	692
Heavy Exiting Leg					56					0					0					4	60
Total Exiting Leg					640					0					0					112	752

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	9	10	0	0	19	0	95	6	0	101	0	0	0	0	0	120
7:15 AM	0	0	0	0	0	17	5	0	0	22	0	114	3	0	117	0	0	0	0	0	139
7:30 AM	0	0	0	0	0	16	10	0	0	26	0	113	9	0	122	0	0	0	0	0	148
7:45 AM	0	0	0	0	0	12	3	0	0	15	0	120	11	0	131	0	0	0	0	0	146
Total	0	0	0	0	0	54	28	0	0	82	0	442	29	0	471	0	0	0	0	0	553
8:00 AM	0	0	0	0	0	18	12	0	0	30	0	131	8	0	139	0	0	0	0	0	169
8:15 AM	0	0	0	0	0	18	10	0	0	28	0	119	11	0	130	0	0	0	0	0	158
8:30 AM	0	0	0	0	0	32	24	0	0	56	0	121	10	0	131	0	0	0	1	1	188
8:45 AM	0	0	0	0	0	23	13	0	0	36	0	122	19	0	141	0	0	0	0	0	177
Total	0	0	0	0	0	91	59	0	0	150	0	493	48	0	541	0	0	0	1	1	692
Grand Total	0	0	0	0	0	145	87	0	0	232	0	935	77	0	1012	0	0	0	1	1	1245
Approach %	0.0	0.0	0.0	0.0		62.5	37.5	0.0	0.0		0.0	92.4	7.6	0.0		0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	11.6	7.0	0.0	0.0	18.6	0.0	75.1	6.2	0.0	81.3	0.0	0.0	0.0	0.1	0.1	
Exiting Leg Total					1080					0					0					165	1245

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	18	12	0	0	30	0	131	8	0	139	0	0	0	0	0	169
8:15 AM	0	0	0	0	0	18	10	0	0	28	0	119	11	0	130	0	0	0	0	0	158
8:30 AM	0	0	0	0	0	32	24	0	0	56	0	121	10	0	131	0	0	0	1	1	188
8:45 AM	0	0	0	0	0	23	13	0	0	36	0	122	19	0	141	0	0	0	0	0	177
Total Volume	0	0	0	0	0	91	59	0	0	150	0	493	48	0	541	0	0	0	1	1	692
% Approach Total	0.0	0.0	0.0	0.0		60.7	39.3	0.0	0.0		0.0	91.1	8.9	0.0		0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.711	0.615	0.000	0.000	0.670	0.000	0.941	0.632	0.000	0.959	0.000	0.000	0.000	0.250	0.250	0.920
Entering Leg	0	0	0	0	0	91	59	0	0	150	0	493	48	0	541	0	0	0	1	1	692
Exiting Leg					584					0					0					108	692
Total					584					150					541					109	1384

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	0	0	0	1	0	12	1	0	13	0	0	0	0	0	14
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
7:30 AM	0	0	0	0	0	2	0	0	0	2	0	6	1	0	7	0	0	0	0	0	9
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
Total	0	0	0	0	0	3	0	0	0	3	0	44	2	0	46	0	0	0	0	0	49
8:00 AM	0	0	0	0	0	2	0	0	0	2	0	14	2	0	16	0	0	0	0	0	18
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	10
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	13
8:45 AM	0	0	0	0	0	2	0	0	0	2	0	16	1	0	17	0	0	0	0	0	19
Total	0	0	0	0	0	5	0	0	0	5	0	51	4	0	55	0	0	0	0	0	60
Grand Total	0	0	0	0	0	8	0	0	0	8	0	95	6	0	101	0	0	0	0	0	109
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	94.1	5.9	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	7.3	0.0	87.2	5.5	0.0	92.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					103					0					0					6	109
Buses	0	0	0	0	0	0	0	0	0	0	0	62	3	0	65	0	0	0	0	0	65
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.3	50.0	0.0	64.4	0.0	0.0	0.0	0.0	0.0	59.6
Exiting Leg Total					62					0					0					3	65
Single-Unit Trucks	0	0	0	0	0	8	0	0	0	8	0	30	3	0	33	0	0	0	0	0	41
% Single-Unit	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	31.6	50.0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	37.6
Exiting Leg Total					38					0					0					3	41
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	2.8
Exiting Leg Total					3					0					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	2	0	0	0	2	0	14	2	0	16	0	0	0	0	0	18
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	10
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	13
8:45 AM	0	0	0	0	0	2	0	0	0	2	0	16	1	0	17	0	0	0	0	0	19
Total Volume	0	0	0	0	0	5	0	0	0	5	0	51	4	0	55	0	0	0	0	0	60
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	92.7	7.3	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.797	0.500	0.000	0.809	0.000	0.000	0.000	0.000	0.000	0.789
Buses	0	0	0	0	0	0	0	0	0	0	0	33	2	0	35	0	0	0	0	0	35
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.7	50.0	0.0	63.6	0.0	0.0	0.0	0.0	0.0	58.3
Single-Unit Trucks	0	0	0	0	0	5	0	0	0	5	0	17	2	0	19	0	0	0	0	0	24
Single-Unit %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	33.3	50.0	0.0	34.5	0.0	0.0	0.0	0.0	0.0	40.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.7
Buses	0	0	0	0	0	0	0	0	0	0	0	33	2	0	35	0	0	0	0	0	35
Single-Unit Trucks	0	0	0	0	0	5	0	0	0	5	0	17	2	0	19	0	0	0	0	0	24
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	5	0	0	0	5	0	51	4	0	55	0	0	0	0	0	60
Buses					33					0					0					2	35
Single-Unit Trucks					22					0					0					2	24
Articulated Trucks					1					0					0					0	1
Total Exiting Leg					56					0					0					4	60

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	9	10	0	0	19	0	83	6	0	89	0	0	0	0	0	108
7:15 AM	0	0	0	0	0	17	5	0	0	22	0	104	2	0	106	0	0	0	0	0	128
7:30 AM	0	0	0	0	0	14	10	0	0	24	0	102	9	0	111	0	0	0	0	0	135
7:45 AM	0	0	0	0	0	12	3	0	0	15	0	105	11	0	116	0	0	0	0	0	131
Total	0	0	0	0	0	52	28	0	0	80	0	394	28	0	422	0	0	0	0	0	502
8:00 AM	0	0	0	0	0	18	12	0	0	30	0	125	8	0	133	0	0	0	0	0	163
8:15 AM	0	0	0	0	0	18	9	0	0	27	0	114	10	0	124	0	0	0	0	0	151
8:30 AM	0	0	0	0	0	30	23	0	0	53	0	111	10	0	121	0	0	0	0	0	174
8:45 AM	0	0	0	0	0	22	11	0	0	33	0	110	18	0	128	0	0	0	0	0	161
Total	0	0	0	0	0	88	55	0	0	143	0	460	46	0	506	0	0	0	0	0	649
Grand Total	0	0	0	0	0	140	83	0	0	223	0	854	74	0	928	0	0	0	0	0	1151
Approach %	0.0	0.0	0.0	0.0		62.8	37.2	0.0	0.0		0.0	92.0	8.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	12.2	7.2	0.0	0.0	19.4	0.0	74.2	6.4	0.0	80.6	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					994					0					0					157	1151

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	18	12	0	0	30	0	125	8	0	133	0	0	0	0	0	163
8:15 AM	0	0	0	0	0	18	9	0	0	27	0	114	10	0	124	0	0	0	0	0	151
8:30 AM	0	0	0	0	0	30	23	0	0	53	0	111	10	0	121	0	0	0	0	0	174
8:45 AM	0	0	0	0	0	22	11	0	0	33	0	110	18	0	128	0	0	0	0	0	161
Total Volume	0	0	0	0	0	88	55	0	0	143	0	460	46	0	506	0	0	0	0	0	649
% Approach Total	0.0	0.0	0.0	0.0		61.5	38.5	0.0	0.0		0.0	90.9	9.1	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.733	0.598	0.000	0.000	0.675	0.000	0.920	0.639	0.000	0.951	0.000	0.000	0.000	0.000	0.000	0.932
Entering Leg	0	0	0	0	0	88	55	0	0	143	0	460	46	0	506	0	0	0	0	0	649
Exiting Leg					548					0					0					101	649
Total					548					143					506					101	1298

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	11
7:30 AM	0	0	0	0	0	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
Total	0	0	0	0	0	2	0	0	0	2	0	48	1	0	49	0	0	0	0	0	51
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	1	1	0	0	2	0	9	0	0	9	0	0	0	0	0	11
8:45 AM	0	0	0	0	0	1	2	0	0	3	0	12	1	0	13	0	0	0	0	0	16
Total	0	0	0	0	0	2	3	0	0	5	0	31	1	0	32	0	0	0	0	0	37
Grand Total	0	0	0	0	0	4	3	0	0	7	0	79	2	0	81	0	0	0	0	0	88
Approach %	0.0	0.0	0.0	0.0		57.1	42.9	0.0	0.0		0.0	97.5	2.5	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.5	3.4	0.0	0.0	8.0	0.0	89.8	2.3	0.0	92.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					83					0					0					5	88

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	11
7:30 AM	0	0	0	0	0	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
Total Volume	0	0	0	0	0	2	0	0	0	2	0	48	1	0	49	0	0	0	0	0	51
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	98.0	2.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.800	0.250	0.000	0.817	0.000	0.000	0.000	0.000	0.000	0.850
Entering Leg	0	0	0	0	0	2	0	0	0	2	0	48	1	0	49	0	0	0	0	0	51
Exiting Leg					50					0					0					1	51
Total					50					2					49					1	102

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	0	29	1	0	30	0	0	0	0	0	30
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	12
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	0	33	2	0	35	0	0	0	0	0	35
Grand Total	0	0	0	0	0	0	0	0	0	0	0	62	3	0	65	0	0	0	0	0	65
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	95.4	4.6	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.4	4.6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					62					0					0					3	65

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	12
Total Volume	0	0	0	0	0	0	0	0	0	0	0	33	2	0	35	0	0	0	0	0	35
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.3	5.7	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.729	0.000	0.000	0.000	0.000	0.000	0.729
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	33	2	0	35	0	0	0	0	0	35
Exiting Leg					33					0					0					2	35
Total					33					0					35					2	70

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	0	0	0	1	0	5	1	0	6	0	0	0	0	0	7
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	3	0	0	0	3	0	13	1	0	14	0	0	0	0	0	17
8:00 AM	0	0	0	0	0	2	0	0	0	2	0	3	1	0	4	0	0	0	0	0	6
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	2	0	0	0	2	0	7	0	0	7	0	0	0	0	0	9
Total	0	0	0	0	0	5	0	0	0	5	0	17	2	0	19	0	0	0	0	0	24
Grand Total	0	0	0	0	0	8	0	0	0	8	0	30	3	0	33	0	0	0	0	0	41
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	90.9	9.1	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	19.5	0.0	0.0	0.0	19.5	0.0	73.2	7.3	0.0	80.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					38					0					0					3	41

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	2	0	0	0	2	0	3	1	0	4	0	0	0	0	0	6
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	2	0	0	0	2	0	7	0	0	7	0	0	0	0	0	9
Total Volume	0	0	0	0	0	5	0	0	0	5	0	17	2	0	19	0	0	0	0	0	24
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	89.5	10.5	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.607	0.500	0.000	0.679	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	0	5	0	0	0	5	0	17	2	0	19	0	0	0	0	0	24
Exiting Leg					22					0					0					2	24
Total					22					5					19					2	48

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					3					0					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Exiting Leg					2					0					0					0	2
Total					2					0					2					0	4

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	2	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	4	0	0	0	1	5	0	0	0	0	0	0	0	10
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	4	0	0	0	0	4	0	1	1	0	0	0	2	8
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2	0	0	0	0	2	0	3	0	0	0	0	3	7
8:30 AM	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	0	0	1	3	0	0	0	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	1	0	0	0	1	4
Total	1	0	0	0	0	0	1	0	6	0	0	0	0	6	0	9	1	0	0	1	11	0	4	2	0	0	0	6	24
Grand Total	1	0	0	0	0	0	1	0	11	0	0	0	0	11	0	13	1	0	0	2	16	0	4	2	0	0	0	6	34
Approach %	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	81.3	6.3	0.0	0.0	12.5		0.0	66.7	33.3	0.0	0.0	0.0		
Total %	2.9	0.0	0.0	0.0	0.0	0.0	2.9	0.0	32.4	0.0	0.0	0.0	0.0	32.4	0.0	38.2	2.9	0.0	0.0	5.9	47.1	0.0	11.8	5.9	0.0	0.0	0.0	17.6	
Exiting Leg Total							15							4							2							13	34

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	4	0	0	0	0	4	0	1	1	0	0	0	2	8
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2	0	0	0	0	2	0	3	0	0	0	0	3	7
8:30 AM	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	0	0	1	3	0	0	0	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	1	0	0	0	1	4
Total Volume	1	0	0	0	0	0	1	0	6	0	0	0	0	6	0	9	1	0	0	1	11	0	4	2	0	0	0	6	24
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	81.8	9.1	0.0	0.0	9.1		0.0	66.7	33.3	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.563	0.250	0.000	0.000	0.250	0.688	0.000	0.333	0.500	0.000	0.000	0.000	0.500	0.750
Entering Leg	1	0	0	0	0	0	1	0	6	0	0	0	0	6	0	9	1	0	0	1	11	0	4	2	0	0	0	6	24
Exiting Leg							11							4							1							8	24
Total							12							10							12							14	48

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	5	13	18	0	0	0	0	1	1	2	0	0	0	0	9	5	14	0	0	0	0	2	3	5	39
7:15 AM	0	0	0	0	8	28	36	0	0	0	0	8	3	11	0	0	0	0	17	9	26	0	0	0	0	6	6	12	85
7:30 AM	0	0	0	0	8	23	31	0	0	0	0	8	0	8	0	0	0	0	23	9	32	0	0	0	0	1	10	11	82
7:45 AM	0	0	0	0	17	31	48	0	0	0	0	7	11	18	0	0	0	0	25	16	41	0	0	0	0	4	15	19	126
Total	0	0	0	0	38	95	133	0	0	0	0	24	15	39	0	0	0	0	74	39	113	0	0	0	0	13	34	47	332
8:00 AM	0	0	0	0	31	31	62	0	0	0	0	18	15	33	0	0	0	0	32	26	58	0	0	0	0	2	9	11	164
8:15 AM	0	0	0	0	24	49	73	0	0	0	0	17	15	32	0	0	0	0	55	20	75	0	0	0	0	5	20	25	205
8:30 AM	0	0	0	0	37	43	80	0	0	0	0	14	10	24	0	0	0	0	47	20	67	0	0	0	0	13	22	35	206
8:45 AM	0	0	0	0	26	32	58	0	0	0	0	20	9	29	0	0	0	0	38	49	87	0	0	0	0	8	19	27	201
Total	0	0	0	0	118	155	273	0	0	0	0	69	49	118	0	0	0	0	172	115	287	0	0	0	0	28	70	98	776
Grand Total	0	0	0	0	156	250	406	0	0	0	0	93	64	157	0	0	0	0	246	154	400	0	0	0	0	41	104	145	1108
Approach %	0	0	0	0	38.4	61.6		0	0	0	0	59.2	40.8		0	0	0	0	61.5	38.5		0	0	0	0	28.3	71.7		
Total %	0	0	0	0	14.1	22.6	36.6	0	0	0	0	8.39	5.78	14.2	0	0	0	0	22.2	13.9	36.1	0	0	0	0	3.7	9.39	13.1	
Exiting Leg Total							406							157							400							145	1108

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	31	31	62	0	0	0	0	18	15	33	0	0	0	0	32	26	58	0	0	0	0	2	9	11	164
8:15 AM	0	0	0	0	24	49	73	0	0	0	0	17	15	32	0	0	0	0	55	20	75	0	0	0	0	5	20	25	205
8:30 AM	0	0	0	0	37	43	80	0	0	0	0	14	10	24	0	0	0	0	47	20	67	0	0	0	0	13	22	35	206
8:45 AM	0	0	0	0	26	32	58	0	0	0	0	20	9	29	0	0	0	0	38	49	87	0	0	0	0	8	19	27	201
Total Volume	0	0	0	0	118	155	273	0	0	0	0	69	49	118	0	0	0	0	172	115	287	0	0	0	0	28	70	98	776
% Approach Total	0.0	0.0	0.0	0.0	43.2	56.8		0.0	0.0	0.0	0.0	58.5	41.5		0.0	0.0	0.0	0.0	59.9	40.1		0.0	0.0	0.0	0.0	28.6	71.4		
PHF	0.000	0.000	0.000	0.000	0.797	0.791	0.853	0.000	0.000	0.000	0.000	0.863	0.817	0.894	0.000	0.000	0.000	0.000	0.782	0.587	0.825	0.000	0.000	0.000	0.000	0.538	0.795	0.700	0.942
Entering Leg	0	0	0	0	118	155	273	0	0	0	0	69	49	118	0	0	0	0	172	115	287	0	0	0	0	28	70	98	776
Exiting Leg							273							118							287							98	776
Total							546							236							574							196	1552

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	17	8	0	0	25	0	102	9	0	111	0	0	0	0	0	136
4:15 PM	0	0	0	0	0	9	4	0	0	13	0	93	4	0	97	0	0	0	0	0	110
4:30 PM	0	0	0	0	0	14	10	0	0	24	0	118	9	0	127	0	0	0	0	0	151
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	104	4	0	108	0	0	0	0	0	127
Total	0	0	0	0	0	49	32	0	0	81	0	417	26	0	443	0	0	0	0	0	524
5:00 PM	0	0	0	0	0	17	16	0	0	33	0	95	10	0	105	0	0	0	0	0	138
5:15 PM	0	0	0	0	0	13	11	0	0	24	0	116	10	0	126	0	0	0	0	0	150
5:30 PM	0	0	0	0	0	8	3	0	0	11	0	100	4	0	104	0	0	0	0	0	115
5:45 PM	0	0	0	0	0	17	10	0	0	27	0	86	8	0	94	0	0	1	0	1	122
Total	0	0	0	0	0	55	40	0	0	95	0	397	32	0	429	0	0	1	0	1	525
Grand Total	0	0	0	0	0	104	72	0	0	176	0	814	58	0	872	0	0	1	0	1	1049
Approach %	0.0	0.0	0.0	0.0		59.1	40.9	0.0	0.0		0.0	93.3	6.7	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	9.9	6.9	0.0	0.0	16.8	0.0	77.6	5.5	0.0	83.1	0.0	0.0	0.1	0.0	0.1	
Exiting Leg Total					919					0					0					130	1049
Cars	0	0	0	0	0	100	71	0	0	171	0	740	56	0	796	0	0	1	0	1	968
% Cars	0.0	0.0	0.0	0.0	0.0	96.2	98.6	0.0	0.0	97.2	0.0	90.9	96.6	0.0	91.3	0.0	0.0	100.0	0.0	100.0	92.3
Exiting Leg Total					841					0					0					127	968
Heavy Vehicles	0	0	0	0	0	4	1	0	0	5	0	74	2	0	76	0	0	0	0	0	81
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	3.8	1.4	0.0	0.0	2.8	0.0	9.1	3.4	0.0	8.7	0.0	0.0	0.0	0.0	0.0	7.7
Exiting Leg Total					78					0					0					3	81

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	14	10	0	0	24	0	118	9	0	127	0	0	0	0	0	151
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	104	4	0	108	0	0	0	0	0	127
5:00 PM	0	0	0	0	0	17	16	0	0	33	0	95	10	0	105	0	0	0	0	0	138
5:15 PM	0	0	0	0	0	13	11	0	0	24	0	116	10	0	126	0	0	0	0	0	150
Total Volume	0	0	0	0	0	53	47	0	0	100	0	433	33	0	466	0	0	0	0	0	566
% Approach Total	0.0	0.0	0.0	0.0		53.0	47.0	0.0	0.0		0.0	92.9	7.1	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.779	0.734	0.000	0.000	0.758	0.000	0.917	0.825	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.937
Cars	0	0	0	0	0	51	46	0	0	97	0	393	31	0	424	0	0	0	0	0	521
Cars %	0.0	0.0	0.0	0.0	0.0	96.2	97.9	0.0	0.0	97.0	0.0	90.8	93.9	0.0	91.0	0.0	0.0	0.0	0.0	0.0	92.0
Heavy Vehicles	0	0	0	0	0	2	1	0	0	3	0	40	2	0	42	0	0	0	0	0	45
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	3.8	2.1	0.0	0.0	3.0	0.0	9.2	6.1	0.0	9.0	0.0	0.0	0.0	0.0	0.0	8.0
Cars Enter Leg	0	0	0	0	0	51	46	0	0	97	0	393	31	0	424	0	0	0	0	0	521
Heavy Enter Leg	0	0	0	0	0	2	1	0	0	3	0	40	2	0	42	0	0	0	0	0	45
Total Entering Leg	0	0	0	0	0	53	47	0	0	100	0	433	33	0	466	0	0	0	0	0	566
Cars Exiting Leg					444					0					0					77	521
Heavy Exiting Leg					42					0					0					3	45
Total Exiting Leg					486					0					0					80	566

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	17	8	0	0	25	0	93	9	0	102	0	0	0	0	0	127
4:15 PM	0	0	0	0	0	7	4	0	0	11	0	85	4	0	89	0	0	0	0	0	100
4:30 PM	0	0	0	0	0	13	9	0	0	22	0	102	8	0	110	0	0	0	0	0	132
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	97	4	0	101	0	0	0	0	0	120
Total	0	0	0	0	0	46	31	0	0	77	0	377	25	0	402	0	0	0	0	0	479
5:00 PM	0	0	0	0	0	17	16	0	0	33	0	87	9	0	96	0	0	0	0	0	129
5:15 PM	0	0	0	0	0	12	11	0	0	23	0	107	10	0	117	0	0	0	0	0	140
5:30 PM	0	0	0	0	0	8	3	0	0	11	0	90	4	0	94	0	0	0	0	0	105
5:45 PM	0	0	0	0	0	17	10	0	0	27	0	79	8	0	87	0	0	1	0	1	115
Total	0	0	0	0	0	54	40	0	0	94	0	363	31	0	394	0	0	1	0	1	489
Grand Total	0	0	0	0	0	100	71	0	0	171	0	740	56	0	796	0	0	1	0	1	968
Approach %	0.0	0.0	0.0	0.0		58.5	41.5	0.0	0.0		0.0	93.0	7.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	10.3	7.3	0.0	0.0	17.7	0.0	76.4	5.8	0.0	82.2	0.0	0.0	0.1	0.0	0.1	
Exiting Leg Total					841					0					0					127	968

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	13	9	0	0	22	0	102	8	0	110	0	0	0	0	0	132
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	97	4	0	101	0	0	0	0	0	120
5:00 PM	0	0	0	0	0	17	16	0	0	33	0	87	9	0	96	0	0	0	0	0	129
5:15 PM	0	0	0	0	0	12	11	0	0	23	0	107	10	0	117	0	0	0	0	0	140
Total Volume	0	0	0	0	0	51	46	0	0	97	0	393	31	0	424	0	0	0	0	0	521
% Approach Total	0.0	0.0	0.0	0.0		52.6	47.4	0.0	0.0		0.0	92.7	7.3	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.719	0.000	0.000	0.735	0.000	0.918	0.775	0.000	0.906	0.000	0.000	0.000	0.000	0.000	0.930
Entering Leg	0	0	0	0	0	51	46	0	0	97	0	393	31	0	424	0	0	0	0	0	521
Exiting Leg					444					0					0					77	521
Total					444					97					424					77	1042

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	16	1	0	17	0	0	0	0	0	19
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	3	1	0	0	4	0	40	1	0	41	0	0	0	0	0	45
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
5:15 PM	0	0	0	0	0	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	1	0	0	0	1	0	34	1	0	35	0	0	0	0	0	36
Grand Total	0	0	0	0	0	4	1	0	0	5	0	74	2	0	76	0	0	0	0	0	81
Approach %	0.0	0.0	0.0	0.0		80.0	20.0	0.0	0.0		0.0	97.4	2.6	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.9	1.2	0.0	0.0	6.2	0.0	91.4	2.5	0.0	93.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					78					0					0					3	81
Buses	0	0	0	0	0	0	0	0	0	0	0	70	1	0	71	0	0	0	0	0	71
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.6	50.0	0.0	93.4	0.0	0.0	0.0	0.0	0.0	87.7
Exiting Leg Total					70					0					0					1	71
Single-Unit Trucks	0	0	0	0	0	4	1	0	0	5	0	4	1	0	5	0	0	0	0	0	10
% Single-Unit	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	5.4	50.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	12.3
Exiting Leg Total					8					0					0					2	10
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	16	1	0	17	0	0	0	0	0	19
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total Volume	0	0	0	0	0	3	1	0	0	4	0	40	1	0	41	0	0	0	0	0	45
% Approach Total	0.0	0.0	0.0	0.0		75.0	25.0	0.0	0.0		0.0	97.6	2.4	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.500	0.000	0.625	0.250	0.000	0.603	0.000	0.000	0.000	0.000	0.000	0.592
Buses	0	0	0	0	0	0	0	0	0	0	0	38	1	0	39	0	0	0	0	0	39
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.0	100.0	0.0	95.1	0.0	0.0	0.0	0.0	0.0	86.7
Single-Unit Trucks	0	0	0	0	0	3	1	0	0	4	0	2	0	0	2	0	0	0	0	0	6
Single-Unit %	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	5.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	13.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	38	1	0	39	0	0	0	0	0	39
Single-Unit Trucks	0	0	0	0	0	3	1	0	0	4	0	2	0	0	2	0	0	0	0	0	6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	3	1	0	0	4	0	40	1	0	41	0	0	0	0	0	45
Buses					38					0					0					1	39
Single-Unit Trucks					5					0					0					1	6
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					43					0					0					2	45

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	16	8	0	0	24	0	87	9	0	96	0	0	0	0	0	120
4:15 PM	0	0	0	0	0	7	4	0	0	11	0	80	4	0	84	0	0	0	0	0	95
4:30 PM	0	0	0	0	0	13	8	0	0	21	0	94	6	0	100	0	0	0	0	0	121
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	91	4	0	95	0	0	0	0	0	114
Total	0	0	0	0	0	45	30	0	0	75	0	352	23	0	375	0	0	0	0	0	450
5:00 PM	0	0	0	0	0	17	14	0	0	31	0	80	9	0	89	0	0	0	0	0	120
5:15 PM	0	0	0	0	0	12	11	0	0	23	0	99	10	0	109	0	0	0	0	0	132
5:30 PM	0	0	0	0	0	8	3	0	0	11	0	84	4	0	88	0	0	0	0	0	99
5:45 PM	0	0	0	0	0	16	10	0	0	26	0	74	7	0	81	0	0	1	0	1	108
Total	0	0	0	0	0	53	38	0	0	91	0	337	30	0	367	0	0	1	0	1	459
Grand Total	0	0	0	0	0	98	68	0	0	166	0	689	53	0	742	0	0	1	0	1	909
Approach %	0.0	0.0	0.0	0.0		59.0	41.0	0.0	0.0		0.0	92.9	7.1	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	10.8	7.5	0.0	0.0	18.3	0.0	75.8	5.8	0.0	81.6	0.0	0.0	0.1	0.0	0.1	
Exiting Leg Total					788					0					0					121	909

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	13	8	0	0	21	0	94	6	0	100	0	0	0	0	0	121
4:45 PM	0	0	0	0	0	9	10	0	0	19	0	91	4	0	95	0	0	0	0	0	114
5:00 PM	0	0	0	0	0	17	14	0	0	31	0	80	9	0	89	0	0	0	0	0	120
5:15 PM	0	0	0	0	0	12	11	0	0	23	0	99	10	0	109	0	0	0	0	0	132
Total Volume	0	0	0	0	0	51	43	0	0	94	0	364	29	0	393	0	0	0	0	0	487
% Approach Total	0.0	0.0	0.0	0.0		54.3	45.7	0.0	0.0		0.0	92.6	7.4	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.768	0.000	0.000	0.758	0.000	0.919	0.725	0.000	0.901	0.000	0.000	0.000	0.000	0.000	0.922
Entering Leg	0	0	0	0	0	51	43	0	0	94	0	364	29	0	393	0	0	0	0	0	487
Exiting Leg					415					0					0					72	487
Total					415					94					393					72	974

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	7
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	8	2	0	10	0	0	0	0	0	11
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	1	1	0	0	2	0	25	2	0	27	0	0	0	0	0	29
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	23	1	0	24	0	0	0	0	0	24
Grand Total	0	0	0	0	0	1	1	0	0	2	0	48	3	0	51	0	0	0	0	0	53
Approach %	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	94.1	5.9	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0	0.0	3.8	0.0	90.6	5.7	0.0	96.2	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					49					0					0					4	53

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	7
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	8	2	0	10	0	0	0	0	0	11
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total Volume	0	0	0	0	0	1	1	0	0	2	0	25	2	0	27	0	0	0	0	0	29
% Approach Total	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	92.6	7.4	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.781	0.250	0.000	0.675	0.000	0.000	0.000	0.000	0.000	0.659
Entering Leg	0	0	0	0	0	1	1	0	0	2	0	25	2	0	27	0	0	0	0	0	29
Exiting Leg					26					0					0					3	29
Total					26					2					27					3	58

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	15	1	0	16	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	0	0	38	1	0	39	0	0	0	0	0	39
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	32
Grand Total	0	0	0	0	0	0	0	0	0	0	0	70	1	0	71	0	0	0	0	0	71
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.6	1.4	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.6	1.4	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					70					0					0					1	71

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	15	1	0	16	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
Total Volume	0	0	0	0	0	0	0	0	0	0	0	39	1	0	40	0	0	0	0	0	40
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.5	2.5	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	39	1	0	40	0	0	0	0	0	40
Exiting Leg					39					0					0					1	40
Total					39					0					40					1	80

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	1	0	0	4	0	2	0	0	2	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	4
Grand Total	0	0	0	0	0	4	1	0	0	5	0	4	1	0	5	0	0	0	0	0	10
Approach %	0.0	0.0	0.0	0.0		80.0	20.0	0.0	0.0		0.0	80.0	20.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	40.0	10.0	0.0	0.0	50.0	0.0	40.0	10.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					8					0					0					2	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	1	0	0	4	0	2	1	0	3	0	0	0	0	0	7
% Approach Total	0.0	0.0	0.0	0.0		75.0	25.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.500	0.000	0.500	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.583
Entering Leg	0	0	0	0	0	3	1	0	0	4	0	2	1	0	3	0	0	0	0	0	7
Exiting Leg					5					0					0					2	7
Total					5					4					3					2	14

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Beach Street from East					Lincoln Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
4:15 PM	0	0	1	0	0	0	1	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	2	2	0	0	0	0	4	0	1	0	0	0	0	1	0	0	0	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	0	0	1	2	9	0	0	0	0	11	0	1	0	0	0	0	1	0	1	0	0	0	0	1	14
5:00 PM	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	4	0	0	1	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	1	7	0	0	0	0	8	0	1	0	0	0	0	1	0	0	0	0	0	0	0	9
5:45 PM	1	0	0	0	0	0	1	3	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	1	0	2	8
Total	2	0	0	0	0	0	2	4	15	0	0	1	0	20	0	3	1	0	0	0	4	0	0	1	0	1	0	2	28
Grand Total	2	0	1	0	0	0	3	6	24	0	0	1	0	31	0	4	1	0	0	0	5	0	1	1	0	1	0	3	42
Approach %	66.7	0.0	33.3	0.0	0.0	0.0		19.4	77.4	0.0	0.0	3.2	0.0		0.0	80.0	20.0	0.0	0.0	0.0		0.0	33.3	33.3	0.0	33.3	0.0		
Total %	4.8	0.0	2.4	0.0	0.0	0.0	7.1	14.3	57.1	0.0	0.0	2.4	0.0	73.8	0.0	9.5	2.4	0.0	0.0	0.0	11.9	0.0	2.4	2.4	0.0	2.4	0.0	7.1	
Exiting Leg Total							11							3							0							28	42

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	4	0	0	1	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	1	7	0	0	0	0	8	0	1	0	0	0	0	1	0	0	0	0	0	0	0	9
5:45 PM	1	0	0	0	0	0	1	3	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	1	0	2	8
Total Volume	2	0	0	0	0	0	2	4	15	0	0	1	0	20	0	3	1	0	0	0	4	0	0	1	0	1	0	2	28
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0		20.0	75.0	0.0	0.0	5.0	0.0		0.0	75.0	25.0	0.0	0.0	0.0		0.0	0.0	50.0	0.0	50.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.333	0.536	0.000	0.000	0.250	0.000	0.625	0.000	0.750	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.778
Entering Leg	2	0	0	0	0	0	2	4	15	0	0	1	0	20	0	3	1	0	0	0	4	0	0	1	0	1	0	2	28
Exiting Leg							8							1							0							19	28
Total							10							21							4							21	56

PDI File #: **186481 F**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	30	33	63	0	0	0	0	14	19	33	0	0	0	0	28	25	53	0	0	0	0	2	3	5	154
4:15 PM	0	0	0	0	32	22	54	0	0	0	0	9	9	18	0	0	0	0	37	38	75	0	0	0	0	11	3	14	161
4:30 PM	0	0	0	0	52	32	84	0	0	0	0	13	9	22	0	0	0	0	33	31	64	0	0	0	0	8	4	12	182
4:45 PM	0	0	0	0	30	28	58	0	0	0	0	10	13	23	0	0	0	0	28	43	71	0	0	0	0	8	5	13	165
Total	0	0	0	0	144	115	259	0	0	0	0	46	50	96	0	0	0	0	126	137	263	0	0	0	0	29	15	44	662
5:00 PM	0	0	0	0	52	50	102	0	0	0	0	26	22	48	0	0	0	0	44	41	85	0	0	0	0	16	5	21	256
5:15 PM	0	0	0	0	37	35	72	0	0	0	0	6	16	22	0	0	0	0	42	54	96	0	0	0	0	16	6	22	212
5:30 PM	0	0	0	0	34	32	66	0	0	0	0	20	17	37	0	0	0	0	37	42	79	0	0	0	0	14	11	25	207
5:45 PM	0	0	0	0	36	35	71	0	0	0	0	6	14	20	0	0	0	0	38	26	64	0	0	0	0	15	7	22	177
Total	0	0	0	0	159	152	311	0	0	0	0	58	69	127	0	0	0	0	161	163	324	0	0	0	0	61	29	90	852
Grand Total	0	0	0	0	303	267	570	0	0	0	0	104	119	223	0	0	0	0	287	300	587	0	0	0	0	90	44	134	1514
Approach %	0	0	0	0	53.2	46.8		0	0	0	0	46.6	53.4		0	0	0	0	48.9	51.1		0	0	0	0	67.2	32.8		
Total %	0	0	0	0	20	17.6	37.6	0	0	0	0	6.87	7.86	14.7	0	0	0	0	19	19.8	38.8	0	0	0	0	5.94	2.91	8.85	
Exiting Leg Total							570							223							587							134	1514

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lincoln Street from North							Beach Street from East							Lincoln Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	52	50	102	0	0	0	0	26	22	48	0	0	0	0	44	41	85	0	0	0	0	16	5	21	256
5:15 PM	0	0	0	0	37	35	72	0	0	0	0	6	16	22	0	0	0	0	42	54	96	0	0	0	0	16	6	22	212
5:30 PM	0	0	0	0	34	32	66	0	0	0	0	20	17	37	0	0	0	0	37	42	79	0	0	0	0	14	11	25	207
5:45 PM	0	0	0	0	36	35	71	0	0	0	0	6	14	20	0	0	0	0	38	26	64	0	0	0	0	15	7	22	177
Total Volume	0	0	0	0	159	152	311	0	0	0	0	58	69	127	0	0	0	0	161	163	324	0	0	0	0	61	29	90	852
% Approach Total	0.0	0.0	0.0	0.0	51.1	48.9		0.0	0.0	0.0	0.0	45.7	54.3		0.0	0.0	0.0	0.0	49.7	50.3		0.0	0.0	0.0	0.0	67.8	32.2		
PHF	0.000	0.000	0.000	0.000	0.764	0.760	0.762	0.000	0.000	0.000	0.000	0.558	0.784	0.661	0.000	0.000	0.000	0.000	0.915	0.755	0.844	0.000	0.000	0.000	0.000	0.953	0.659	0.900	0.832
Entering Leg	0	0	0	0	159	152	311	0	0	0	0	58	69	127	0	0	0	0	161	163	324	0	0	0	0	61	29	90	852
Exiting Leg							311							127							324							90	852
Total							622							254							648							180	1704

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	7	17	0	0	24	0	14	6	0	20	0	0	0	0	0	0	0	0	0	0	44
7:15 AM	2	24	0	0	26	0	19	5	0	24	0	0	0	0	0	0	0	0	0	0	50
7:30 AM	11	25	0	0	36	0	13	10	0	23	0	0	0	0	0	0	0	0	0	0	59
7:45 AM	7	28	0	0	35	0	11	16	0	27	0	0	0	0	0	0	0	0	0	0	62
Total	27	94	0	0	121	0	57	37	0	94	0	0	0	0	0	0	0	0	0	0	215
8:00 AM	11	23	0	0	34	0	25	11	0	36	0	0	0	0	0	0	0	0	0	0	70
8:15 AM	11	28	0	0	39	0	8	9	0	17	0	0	0	0	0	0	0	0	0	0	56
8:30 AM	28	19	0	0	47	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	82
8:45 AM	18	22	0	0	40	0	21	12	0	33	0	0	0	0	0	0	0	0	0	0	73
Total	68	92	0	0	160	0	78	43	0	121	0	0	0	0	0	0	0	0	0	0	281
Grand Total	95	186	0	0	281	0	135	80	0	215	0	0	0	0	0	0	0	0	0	0	496
Approach %	33.8	66.2	0.0	0.0		0.0	62.8	37.2	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	19.2	37.5	0.0	0.0	56.7	0.0	27.2	16.1	0.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					266					230	496
Cars	90	176	0	0	266	0	129	80	0	209	0	0	0	0	0	0	0	0	0	0	475
% Cars	94.7	94.6	0.0	0.0	94.7	0.0	95.6	100.0	0.0	97.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.8
Exiting Leg Total					0					0					256					219	475
Heavy Vehicles	5	10	0	0	15	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	21
% Heavy Vehicles	5.3	5.4	0.0	0.0	5.3	0.0	4.4	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
Exiting Leg Total					0					0					10					11	21

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	11	23	0	0	34	0	25	11	0	36	0	0	0	0	0	0	0	0	0	0	70
8:15 AM	11	28	0	0	39	0	8	9	0	17	0	0	0	0	0	0	0	0	0	0	56
8:30 AM	28	19	0	0	47	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	82
8:45 AM	18	22	0	0	40	0	21	12	0	33	0	0	0	0	0	0	0	0	0	0	73
Total Volume	68	92	0	0	160	0	78	43	0	121	0	0	0	0	0	0	0	0	0	0	281
% Approach Total	42.5	57.5	0.0	0.0		0.0	64.5	35.5	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.607	0.821	0.000	0.000	0.851	0.000	0.780	0.896	0.000	0.840	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.857
Cars	66	87	0	0	153	0	72	43	0	115	0	0	0	0	0	0	0	0	0	0	268
Cars %	97.1	94.6	0.0	0.0	95.6	0.0	92.3	100.0	0.0	95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.4
Heavy Vehicles	2	5	0	0	7	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	13
Heavy Vehicles %	2.9	5.4	0.0	0.0	4.4	0.0	7.7	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
Cars Enter Leg	66	87	0	0	153	0	72	43	0	115	0	0	0	0	0	0	0	0	0	0	268
Heavy Enter Leg	2	5	0	0	7	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	13
Total Entering Leg	68	92	0	0	160	0	78	43	0	121	0	0	0	0	0	0	0	0	0	0	281
Cars Exiting Leg					0					0					130					138	268
Heavy Exiting Leg					0					0					5					8	13
Total Exiting Leg					0					0					135					146	281

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	17	0	0	23	0	14	6	0	20	0	0	0	0	0	0	0	0	0	0	43
7:15 AM	2	21	0	0	23	0	19	5	0	24	0	0	0	0	0	0	0	0	0	0	47
7:30 AM	9	24	0	0	33	0	13	10	0	23	0	0	0	0	0	0	0	0	0	0	56
7:45 AM	7	27	0	0	34	0	11	16	0	27	0	0	0	0	0	0	0	0	0	0	61
Total	24	89	0	0	113	0	57	37	0	94	0	0	0	0	0	0	0	0	0	0	207
8:00 AM	10	22	0	0	32	0	23	11	0	34	0	0	0	0	0	0	0	0	0	0	66
8:15 AM	11	27	0	0	38	0	8	9	0	17	0	0	0	0	0	0	0	0	0	0	55
8:30 AM	27	17	0	0	44	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	79
8:45 AM	18	21	0	0	39	0	17	12	0	29	0	0	0	0	0	0	0	0	0	0	68
Total	66	87	0	0	153	0	72	43	0	115	0	0	0	0	0	0	0	0	0	0	268
Grand Total	90	176	0	0	266	0	129	80	0	209	0	0	0	0	0	0	0	0	0	0	475
Approach %	33.8	66.2	0.0	0.0		0.0	61.7	38.3	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	18.9	37.1	0.0	0.0	56.0	0.0	27.2	16.8	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					256					219	475

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	10	22	0	0	32	0	23	11	0	34	0	0	0	0	0	0	0	0	0	0	66
8:15 AM	11	27	0	0	38	0	8	9	0	17	0	0	0	0	0	0	0	0	0	0	55
8:30 AM	27	17	0	0	44	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	79
8:45 AM	18	21	0	0	39	0	17	12	0	29	0	0	0	0	0	0	0	0	0	0	68
Total Volume	66	87	0	0	153	0	72	43	0	115	0	0	0	0	0	0	0	0	0	0	268
% Approach Total	43.1	56.9	0.0	0.0		0.0	62.6	37.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.611	0.806	0.000	0.000	0.869	0.000	0.750	0.896	0.000	0.821	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.848
Entering Leg	66	87	0	0	153	0	72	43	0	115	0	0	0	0	0	0	0	0	0	0	268
Exiting Leg					0					0					130					138	268
Total					153					115					130					138	536

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:00 AM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Total	2	5	0	0	7	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	13
Grand Total	5	10	0	0	15	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	21
Approach %	33.3	66.7	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	23.8	47.6	0.0	0.0	71.4	0.0	28.6	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					10					11	21
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Buses	0.0	10.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Exiting Leg Total					0					0					1					0	1
Single-Unit Trucks	5	9	0	0	14	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	20
% Single-Unit	100.0	90.0	0.0	0.0	93.3	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.2
Exiting Leg Total					0					0					9					11	20
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Total Volume	2	5	0	0	7	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	13
% Approach Total	28.6	71.4	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.500	0.625	0.000	0.000	0.583	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Buses %	0.0	20.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Single-Unit Trucks	2	4	0	0	6	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	12
Single-Unit %	100.0	80.0	0.0	0.0	85.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Single-Unit Trucks	2	4	0	0	6	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	12
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	2	5	0	0	7	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	13
Buses					0					0					1					0	1
Single-Unit Trucks					0					0					4					8	12
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					5					8	13

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	15	0	0	21	0	13	6	0	19	0	0	0	0	0	0	0	0	0	0	40
7:15 AM	2	21	0	0	23	0	19	3	0	22	0	0	0	0	0	0	0	0	0	0	45
7:30 AM	7	22	0	0	29	0	12	10	0	22	0	0	0	0	0	0	0	0	0	0	51
7:45 AM	4	26	0	0	30	0	11	14	0	25	0	0	0	0	0	0	0	0	0	0	55
Total	19	84	0	0	103	0	55	33	0	88	0	0	0	0	0	0	0	0	0	0	191
8:00 AM	10	21	0	0	31	0	23	11	0	34	0	0	0	0	0	0	0	0	0	0	65
8:15 AM	11	27	0	0	38	0	7	9	0	16	0	0	0	0	0	0	0	0	0	0	54
8:30 AM	23	17	0	0	40	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	75
8:45 AM	18	19	0	0	37	0	17	12	0	29	0	0	0	0	0	0	0	0	0	0	66
Total	62	84	0	0	146	0	71	43	0	114	0	0	0	0	0	0	0	0	0	0	260
Grand Total	81	168	0	0	249	0	126	76	0	202	0	0	0	0	0	0	0	0	0	0	451
Approach %	32.5	67.5	0.0	0.0		0.0	62.4	37.6	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	18.0	37.3	0.0	0.0	55.2	0.0	27.9	16.9	0.0	44.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					244					207	451

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	10	21	0	0	31	0	23	11	0	34	0	0	0	0	0	0	0	0	0	0	65
8:15 AM	11	27	0	0	38	0	7	9	0	16	0	0	0	0	0	0	0	0	0	0	54
8:30 AM	23	17	0	0	40	0	24	11	0	35	0	0	0	0	0	0	0	0	0	0	75
8:45 AM	18	19	0	0	37	0	17	12	0	29	0	0	0	0	0	0	0	0	0	0	66
Total Volume	62	84	0	0	146	0	71	43	0	114	0	0	0	0	0	0	0	0	0	0	260
% Approach Total	42.5	57.5	0.0	0.0		0.0	62.3	37.7	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.674	0.778	0.000	0.000	0.913	0.000	0.740	0.896	0.000	0.814	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.867
Entering Leg	62	84	0	0	146	0	71	43	0	114	0	0	0	0	0	0	0	0	0	0	260
Exiting Leg					0					0					127					133	260
Total					146					114					127					133	520

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	2	2	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	3	1	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
Total	5	5	0	0	10	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	15
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Grand Total	8	8	0	0	16	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	21
Approach %	50.0	50.0	0.0	0.0		0.0	40.0	60.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	38.1	38.1	0.0	0.0	76.2	0.0	9.5	14.3	0.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					11					10	21

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	2	2	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	3	1	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
Total Volume	5	5	0	0	10	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	15
% Approach Total	50.0	50.0	0.0	0.0		0.0	40.0	60.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.417	0.625	0.000	0.000	0.625	0.000	0.500	0.375	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	5	5	0	0	10	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	15
Exiting Leg					0					0					8					7	15
Total					10					5					8					7	30

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					1					0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					1					0	1
Total					1					0					1					0	2

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:00 AM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Total	2	4	0	0	6	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	12
Grand Total	5	9	0	0	14	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	20
Approach %	35.7	64.3	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	25.0	45.0	0.0	0.0	70.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					9					11	20

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Total Volume	2	4	0	0	6	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	12
% Approach Total	33.3	66.7	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.500	1.000	0.000	0.000	0.750	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.600
Entering Leg	2	4	0	0	6	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	12
Exiting Leg					0					0					4					8	12
Total					6					6					4					8	24

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	1	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:45 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
Total	2	3	0	0	0	0	5	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	2	9
8:00 AM	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
8:15 AM	1	6	0	0	1	0	8	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	3	14
8:30 AM	1	9	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
8:45 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	2	19	0	0	1	0	22	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	4	0	0	0	0	4	32
Grand Total	4	22	0	0	1	0	27	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	6	0	0	0	0	6	41
Approach %	14.8	81.5	0.0	0.0	3.7	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	9.8	53.7	0.0	0.0	2.4	0.0	65.9	0.0	19.5	0.0	0.0	0.0	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	14.6	
Exiting Leg Total							1							6							22							12	41

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	1	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
8:15 AM	1	6	0	0	1	0	8	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	3	14
8:30 AM	1	9	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
8:45 AM	0	3	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	2	19	0	0	1	0	22	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	4	0	0	0	0	4	32
% Approach Total	9.1	86.4	0.0	0.0	4.5	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.500	0.528	0.000	0.000	0.250	0.000	0.550	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.333	0.571
Entering Leg	2	19	0	0	1	0	22	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	4	0	0	0	0	4	32
Exiting Leg							1							4							19							8	32
Total							23							10							19							12	64

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	6	13	19	0	0	0	0	3	1	4	0	0	0	0	13	6	19	0	0	0	0	5	3	8	50
7:15 AM	0	0	0	0	18	21	39	0	0	0	0	4	4	8	0	0	0	0	14	6	20	0	0	0	0	1	5	6	73
7:30 AM	0	0	0	0	12	29	41	0	0	0	0	4	14	18	0	0	0	0	20	11	31	0	0	0	0	8	7	15	105
7:45 AM	0	0	0	0	24	27	51	0	0	0	0	8	8	16	0	0	0	0	16	13	29	0	0	0	0	4	9	13	109
Total	0	0	0	0	60	90	150	0	0	0	0	19	27	46	0	0	0	0	63	36	99	0	0	0	0	18	24	42	337
8:00 AM	0	0	0	0	30	27	57	0	0	0	0	12	1	13	0	0	0	0	20	13	33	0	0	0	0	5	11	16	119
8:15 AM	0	0	0	0	26	50	76	0	0	0	0	14	5	19	0	0	0	0	60	19	79	0	0	0	0	1	7	8	182
8:30 AM	0	0	0	0	39	38	77	0	0	0	0	31	12	43	0	0	0	0	46	22	68	0	0	0	0	7	28	35	223
8:45 AM	0	0	0	0	19	22	41	0	0	0	0	22	16	38	0	0	0	0	42	29	71	0	0	0	0	6	30	36	186
Total	0	0	0	0	114	137	251	0	0	0	0	79	34	113	0	0	0	0	168	83	251	0	0	0	0	19	76	95	710
Grand Total	0	0	0	0	174	227	401	0	0	0	0	98	61	159	0	0	0	0	231	119	350	0	0	0	0	37	100	137	1047
Approach %	0	0	0	0	43.4	56.6		0	0	0	0	61.6	38.4		0	0	0	0	66	34		0	0	0	0	27	73		
Total %	0	0	0	0	16.6	21.7	38.3	0	0	0	0	9.36	5.83	15.2	0	0	0	0	22.1	11.4	33.4	0	0	0	0	3.53	9.55	13.1	
Exiting Leg Total							401							159							350							137	1047

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	30	27	57	0	0	0	0	12	1	13	0	0	0	0	20	13	33	0	0	0	0	5	11	16	119
8:15 AM	0	0	0	0	26	50	76	0	0	0	0	14	5	19	0	0	0	0	60	19	79	0	0	0	0	1	7	8	182
8:30 AM	0	0	0	0	39	38	77	0	0	0	0	31	12	43	0	0	0	0	46	22	68	0	0	0	0	7	28	35	223
8:45 AM	0	0	0	0	19	22	41	0	0	0	0	22	16	38	0	0	0	0	42	29	71	0	0	0	0	6	30	36	186
Total Volume	0	0	0	0	114	137	251	0	0	0	0	79	34	113	0	0	0	0	168	83	251	0	0	0	0	19	76	95	710
% Approach Total	0.0	0.0	0.0	0.0	45.4	54.6		0.0	0.0	0.0	0.0	69.9	30.1		0.0	0.0	0.0	0.0	66.9	33.1		0.0	0.0	0.0	0.0	20.0	80.0		
PHF	0.000	0.000	0.000	0.000	0.731	0.685	0.815	0.000	0.000	0.000	0.000	0.637	0.531	0.657	0.000	0.000	0.000	0.000	0.700	0.716	0.794	0.000	0.000	0.000	0.000	0.679	0.633	0.660	0.796
Entering Leg	0	0	0	0	114	137	251	0	0	0	0	79	34	113	0	0	0	0	168	83	251	0	0	0	0	19	76	95	710
Exiting Leg							251							113							251							95	710
Total							502							226							502							190	1420

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	40	0	0	56	0	8	8	0	16	0	0	0	0	0	0	0	0	0	0	72
4:15 PM	3	39	0	0	42	0	8	15	0	23	0	0	0	0	0	0	0	0	0	0	65
4:30 PM	15	42	0	0	57	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	72
4:45 PM	16	38	0	0	54	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	67
Total	50	159	0	0	209	0	25	42	0	67	0	0	0	0	0	0	0	0	0	0	276
5:00 PM	19	54	0	0	73	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	95
5:15 PM	15	40	0	0	55	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	66
5:30 PM	6	44	0	0	50	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	63
5:45 PM	16	35	0	0	51	0	13	5	0	18	0	0	0	0	0	0	0	0	0	0	69
Total	56	173	0	0	229	0	34	30	0	64	0	0	0	0	0	0	0	0	0	0	293
Grand Total	106	332	0	0	438	0	59	72	0	131	0	0	0	0	0	0	0	0	0	0	569
Approach %	24.2	75.8	0.0	0.0		0.0	45.0	55.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	18.6	58.3	0.0	0.0	77.0	0.0	10.4	12.7	0.0	23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					404					165	569
Cars	103	329	0	0	432	0	58	72	0	130	0	0	0	0	0	0	0	0	0	0	562
% Cars	97.2	99.1	0.0	0.0	98.6	0.0	98.3	100.0	0.0	99.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.8
Exiting Leg Total					0					0					401					161	562
Heavy Vehicles	3	3	0	0	6	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	7
% Heavy Vehicles	2.8	0.9	0.0	0.0	1.4	0.0	1.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Exiting Leg Total					0					0					3					4	7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	15	42	0	0	57	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	72
4:45 PM	16	38	0	0	54	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	67
5:00 PM	19	54	0	0	73	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	95
5:15 PM	15	40	0	0	55	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	66
Total Volume	65	174	0	0	239	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	300
% Approach Total	27.2	72.8	0.0	0.0		0.0	42.6	57.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.855	0.806	0.000	0.000	0.818	0.000	0.722	0.673	0.000	0.693	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.789
Cars	63	173	0	0	236	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	297
Cars %	96.9	99.4	0.0	0.0	98.7	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.0
Heavy Vehicles	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Heavy Vehicles %	3.1	0.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Cars Enter Leg	63	173	0	0	236	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	297
Heavy Enter Leg	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Entering Leg	65	174	0	0	239	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	300
Cars Exiting Leg					0					0					208					89	297
Heavy Exiting Leg					0					0					1					2	3
Total Exiting Leg					0					0					209					91	300

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	40	0	0	56	0	8	8	0	16	0	0	0	0	0	0	0	0	0	0	72
4:15 PM	2	39	0	0	41	0	7	15	0	22	0	0	0	0	0	0	0	0	0	0	63
4:30 PM	14	42	0	0	56	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	71
4:45 PM	16	37	0	0	53	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	66
Total	48	158	0	0	206	0	24	42	0	66	0	0	0	0	0	0	0	0	0	0	272
5:00 PM	19	54	0	0	73	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	95
5:15 PM	14	40	0	0	54	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	65
5:30 PM	6	42	0	0	48	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	61
5:45 PM	16	35	0	0	51	0	13	5	0	18	0	0	0	0	0	0	0	0	0	0	69
Total	55	171	0	0	226	0	34	30	0	64	0	0	0	0	0	0	0	0	0	0	290
Grand Total	103	329	0	0	432	0	58	72	0	130	0	0	0	0	0	0	0	0	0	0	562
Approach %	23.8	76.2	0.0	0.0		0.0	44.6	55.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	18.3	58.5	0.0	0.0	76.9	0.0	10.3	12.8	0.0	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					401					161	562

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	14	42	0	0	56	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	71
4:45 PM	16	37	0	0	53	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	66
5:00 PM	19	54	0	0	73	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	95
5:15 PM	14	40	0	0	54	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	65
Total Volume	63	173	0	0	236	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	297
% Approach Total	26.7	73.3	0.0	0.0		0.0	42.6	57.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.829	0.801	0.000	0.000	0.808	0.000	0.722	0.673	0.000	0.693	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.782
Entering Leg	63	173	0	0	236	0	26	35	0	61	0	0	0	0	0	0	0	0	0	0	297
Exiting Leg					0					0					208					89	297
Total					236					61					208					89	594

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	3	3	0	0	6	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	7
Approach %	50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	42.9	42.9	0.0	0.0	85.7	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					3					4	7
Buses	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Buses	0.0	66.7	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6
Exiting Leg Total					0					0					2					0	2
Single-Unit Trucks	3	1	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
% Single-Unit	100.0	33.3	0.0	0.0	66.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.4
Exiting Leg Total					0					0					1					4	5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
% Approach Total	66.7	33.3	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.500	0.250	0.000	0.000	0.750	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Buses %	0.0	100.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
Single-Unit Trucks	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Single-Unit %	100.0	0.0	0.0	0.0	66.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Single-Unit Trucks	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Buses					0					0					1					0	1
Single-Unit Trucks					0					0					0					3	3
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					1					3	4

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	39	0	0	55	0	8	8	0	16	0	0	0	0	0	0	0	0	0	0	71
4:15 PM	2	39	0	0	41	0	7	15	0	22	0	0	0	0	0	0	0	0	0	0	63
4:30 PM	14	42	0	0	56	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	71
4:45 PM	16	34	0	0	50	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	63
Total	48	154	0	0	202	0	24	42	0	66	0	0	0	0	0	0	0	0	0	0	268
5:00 PM	18	51	0	0	69	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	91
5:15 PM	14	37	0	0	51	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	62
5:30 PM	6	42	0	0	48	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	61
5:45 PM	15	33	0	0	48	0	13	5	0	18	0	0	0	0	0	0	0	0	0	0	66
Total	53	163	0	0	216	0	34	30	0	64	0	0	0	0	0	0	0	0	0	0	280
Grand Total	101	317	0	0	418	0	58	72	0	130	0	0	0	0	0	0	0	0	0	0	548
Approach %	24.2	75.8	0.0	0.0		0.0	44.6	55.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	18.4	57.8	0.0	0.0	76.3	0.0	10.6	13.1	0.0	23.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					389					159	548

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	2	39	0	0	41	0	7	15	0	22	0	0	0	0	0	0	0	0	0	0	63
4:30 PM	14	42	0	0	56	0	5	10	0	15	0	0	0	0	0	0	0	0	0	0	71
4:45 PM	16	34	0	0	50	0	4	9	0	13	0	0	0	0	0	0	0	0	0	0	63
5:00 PM	18	51	0	0	69	0	9	13	0	22	0	0	0	0	0	0	0	0	0	0	91
Total Volume	50	166	0	0	216	0	25	47	0	72	0	0	0	0	0	0	0	0	0	0	288
% Approach Total	23.1	76.9	0.0	0.0		0.0	34.7	65.3	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.694	0.814	0.000	0.000	0.783	0.000	0.694	0.783	0.000	0.818	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.791
Entering Leg	50	166	0	0	216	0	25	47	0	72	0	0	0	0	0	0	0	0	0	0	288
Exiting Leg					0					0					213					75	288
Total					216					72					213					75	576

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Grand Total	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					12					0	12

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Exiting Leg					0					0					9					0	9
Total					9					0					9					0	18

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					2					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	South Street from North					Beach Street from East					South Street from South					Beach Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg					0					0					2					0	2
Total					2					0					2					0	4

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	3	1	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
Approach %	75.0	25.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	60.0	20.0	0.0	0.0	80.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					1					4	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Exiting Leg					0					0					0					3	3
Total					2					1					0					3	6

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street					Beach Street					South Street					Beach Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	2	3	0	0	0	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7
4:15 PM	1	2	0	0	0	0	3	1	1	0	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	6
4:30 PM	2	1	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:45 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	6	6	0	0	0	0	12	1	3	0	0	0	0	4	0	1	0	0	0	0	1	0	1	0	0	0	0	1	18
5:00 PM	0	2	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	6	0	0	0	0	6	0	3	1	0	0	0	4	0	1	0	0	0	0	1	0	0	0	0	0	0	0	11
5:30 PM	0	2	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
5:45 PM	1	0	0	0	0	1	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total	1	10	0	0	0	1	12	0	5	2	0	1	0	8	0	1	0	0	0	0	1	0	0	1	0	1	0	2	23
Grand Total	7	16	0	0	0	1	24	1	8	2	0	1	0	12	0	2	0	0	0	0	2	0	1	1	0	1	0	3	41
Approach %	29.2	66.7	0.0	0.0	0.0	4.2		8.3	66.7	16.7	0.0	8.3	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	33.3	33.3	0.0	33.3	0.0		
Total %	17.1	39.0	0.0	0.0	0.0	2.4	58.5	2.4	19.5	4.9	0.0	2.4	0.0	29.3	0.0	4.9	0.0	0.0	0.0	0.0	4.9	0.0	2.4	2.4	0.0	2.4	0.0	7.3	
Exiting Leg Total							5							2							18							16	41

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	2	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	6	0	0	0	0	6	0	3	1	0	0	0	4	0	1	0	0	0	0	1	0	0	0	0	0	0	0	11
5:30 PM	0	2	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
5:45 PM	1	0	0	0	0	1	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total Volume	1	10	0	0	0	1	12	0	5	2	0	1	0	8	0	1	0	0	0	0	1	0	0	1	0	1	0	2	23
% Approach Total	8.3	83.3	0.0	0.0	0.0	8.3		0.0	62.5	25.0	0.0	12.5	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	50.0	0.0	50.0	0.0		
PHF	0.250	0.417	0.000	0.000	0.000	0.250	0.500	0.000	0.417	0.500	0.000	0.250	0.000	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.523
Entering Leg	1	10	0	0	0	1	12	0	5	2	0	1	0	8	0	1	0	0	0	0	1	0	0	1	0	1	0	2	23
Exiting Leg							3							1							12							7	23
Total							15							9							13							9	46

PDI File #: **186481 G**
Location: **N: South Street S: South Street**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	27	20	47	0	0	0	0	12	7	19	0	0	0	0	24	35	59	0	0	0	0	7	17	24	149
4:15 PM	0	0	0	0	31	16	47	0	0	0	0	5	21	26	0	0	0	0	26	23	49	0	0	0	0	8	2	10	132
4:30 PM	0	0	0	0	49	24	73	0	0	0	0	4	1	5	0	0	0	0	21	25	46	0	0	0	0	10	8	18	142
4:45 PM	0	0	0	0	37	16	53	0	0	0	0	8	15	23	0	0	0	0	21	32	53	0	0	0	0	15	5	20	149
Total	0	0	0	0	144	76	220	0	0	0	0	29	44	73	0	0	0	0	92	115	207	0	0	0	0	40	32	72	572
5:00 PM	0	0	0	0	41	32	73	0	0	0	0	1	20	21	0	0	0	0	41	38	79	0	0	0	0	24	13	37	210
5:15 PM	0	0	0	0	57	26	83	0	0	0	0	10	25	35	0	0	0	0	25	41	66	0	0	0	0	20	8	28	212
5:30 PM	0	0	0	0	45	21	66	0	0	0	0	8	18	26	0	0	0	0	21	32	53	0	0	0	0	24	11	35	180
5:45 PM	0	0	0	0	35	24	59	0	0	0	0	8	12	20	0	0	0	0	13	17	30	0	0	0	0	11	1	12	121
Total	0	0	0	0	178	103	281	0	0	0	0	27	75	102	0	0	0	0	100	128	228	0	0	0	0	79	33	112	723
Grand Total	0	0	0	0	322	179	501	0	0	0	0	56	119	175	0	0	0	0	192	243	435	0	0	0	0	119	65	184	1295
Approach %	0	0	0	0	64.3	35.7		0	0	0	0	32	68		0	0	0	0	44.1	55.9		0	0	0	0	64.7	35.3		
Total %	0	0	0	0	24.9	13.8	38.7	0	0	0	0	4.32	9.19	13.5	0	0	0	0	14.8	18.8	33.6	0	0	0	0	9.19	5.02	14.2	
Exiting Leg Total							501							175							435							184	1295

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	South Street from North							Beach Street from East							South Street from South							Beach Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	37	16	53	0	0	0	0	8	15	23	0	0	0	0	21	32	53	0	0	0	0	15	5	20	149
5:00 PM	0	0	0	0	41	32	73	0	0	0	0	1	20	21	0	0	0	0	41	38	79	0	0	0	0	24	13	37	210
5:15 PM	0	0	0	0	57	26	83	0	0	0	0	10	25	35	0	0	0	0	25	41	66	0	0	0	0	20	8	28	212
5:30 PM	0	0	0	0	45	21	66	0	0	0	0	8	18	26	0	0	0	0	21	32	53	0	0	0	0	24	11	35	180
Total Volume	0	0	0	0	180	95	275	0	0	0	0	27	78	105	0	0	0	0	108	143	251	0	0	0	0	83	37	120	751
% Approach Total	0.0	0.0	0.0	0.0	65.5	34.5		0.0	0.0	0.0	0.0	25.7	74.3		0.0	0.0	0.0	0.0	43.0	57.0		0.0	0.0	0.0	0.0	69.2	30.8		
PHF	0.000	0.000	0.000	0.000	0.789	0.742	0.828	0.000	0.000	0.000	0.000	0.675	0.780	0.750	0.000	0.000	0.000	0.000	0.659	0.872	0.794	0.000	0.000	0.000	0.000	0.865	0.712	0.811	0.886
Entering Leg	0	0	0	0	180	95	275	0	0	0	0	27	78	105	0	0	0	0	108	143	251	0	0	0	0	83	37	120	751
Exiting Leg							275							105							251							120	751
Total							550							210							502							240	1502

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	239	20	0	259	0	0	0	0	259
7:15 AM	0	0	0	0	259	24	0	283	0	0	0	0	283
7:30 AM	0	0	0	0	254	22	0	276	0	0	0	0	276
7:45 AM	0	0	0	0	239	25	0	264	0	0	0	0	264
Total	0	0	0	0	991	91	0	1082	0	0	0	0	1082
8:00 AM	0	0	0	0	253	36	0	289	0	0	0	0	289
8:15 AM	0	0	0	0	223	19	0	242	0	0	0	0	242
8:30 AM	0	0	0	0	267	44	0	311	0	0	0	0	311
8:45 AM	0	0	0	0	260	32	0	292	0	0	0	0	292
Total	0	0	0	0	1003	131	0	1134	0	0	0	0	1134
Grand Total	0	0	0	0	1994	222	0	2216	0	0	0	0	2216
Approach %	0.0	0.0	0.0		90.0	10.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	90.0	10.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1994				0				222	2216
Cars	0	0	0	0	1886	217	0	2103	0	0	0	0	2103
% Cars	0.0	0.0	0.0	0.0	94.6	97.7	0.0	94.9	0.0	0.0	0.0	0.0	94.9
Exiting Leg Total				1886				0				217	2103
Heavy Vehicles	0	0	0	0	108	5	0	113	0	0	0	0	113
% Heavy Vehicles	0.0	0.0	0.0	0.0	5.4	2.3	0.0	5.1	0.0	0.0	0.0	0.0	5.1
Exiting Leg Total				108				0				5	113

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	253	36	0	289	0	0	0	0	289
8:15 AM	0	0	0	0	223	19	0	242	0	0	0	0	242
8:30 AM	0	0	0	0	267	44	0	311	0	0	0	0	311
8:45 AM	0	0	0	0	260	32	0	292	0	0	0	0	292
Total Volume	0	0	0	0	1003	131	0	1134	0	0	0	0	1134
% Approach Total	0.0	0.0	0.0		88.4	11.6	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.939	0.744	0.000	0.912	0.000	0.000	0.000	0.000	0.912
Cars	0	0	0	0	943	127	0	1070	0	0	0	0	1070
Cars %	0.0	0.0	0.0	0.0	94.0	96.9	0.0	94.4	0.0	0.0	0.0	0.0	94.4
Heavy Vehicles	0	0	0	0	60	4	0	64	0	0	0	0	64
Heavy Vehicles %	0.0	0.0	0.0	0.0	6.0	3.1	0.0	5.6	0.0	0.0	0.0	0.0	5.6
Cars Enter Leg	0	0	0	0	943	127	0	1070	0	0	0	0	1070
Heavy Enter Leg	0	0	0	0	60	4	0	64	0	0	0	0	64
Total Entering Leg	0	0	0	0	1003	131	0	1134	0	0	0	0	1134
Cars Exiting Leg				943				0				127	1070
Heavy Exiting Leg				60				0				4	64
Total Exiting Leg				1003				0				131	1134

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	230	20	0	250	0	0	0	0	250
7:15 AM	0	0	0	0	248	24	0	272	0	0	0	0	272
7:30 AM	0	0	0	0	237	21	0	258	0	0	0	0	258
7:45 AM	0	0	0	0	228	25	0	253	0	0	0	0	253
Total	0	0	0	0	943	90	0	1033	0	0	0	0	1033
8:00 AM	0	0	0	0	236	34	0	270	0	0	0	0	270
8:15 AM	0	0	0	0	203	19	0	222	0	0	0	0	222
8:30 AM	0	0	0	0	261	43	0	304	0	0	0	0	304
8:45 AM	0	0	0	0	243	31	0	274	0	0	0	0	274
Total	0	0	0	0	943	127	0	1070	0	0	0	0	1070
Grand Total	0	0	0	0	1886	217	0	2103	0	0	0	0	2103
Approach %	0.0	0.0	0.0		89.7	10.3	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	89.7	10.3	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1886				0				217	2103

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	236	34	0	270	0	0	0	0	270
8:15 AM	0	0	0	0	203	19	0	222	0	0	0	0	222
8:30 AM	0	0	0	0	261	43	0	304	0	0	0	0	304
8:45 AM	0	0	0	0	243	31	0	274	0	0	0	0	274
Total Volume	0	0	0	0	943	127	0	1070	0	0	0	0	1070
% Approach Total	0.0	0.0	0.0		88.1	11.9	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.903	0.738	0.000	0.880	0.000	0.000	0.000	0.000	0.880
Entering Leg	0	0	0	0	943	127	0	1070	0	0	0	0	1070
Exiting Leg				943				0				127	1070
Total				943				1070				127	2140

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	9	0	0	9	0	0	0	0	9
7:15 AM	0	0	0	0	11	0	0	11	0	0	0	0	11
7:30 AM	0	0	0	0	17	1	0	18	0	0	0	0	18
7:45 AM	0	0	0	0	11	0	0	11	0	0	0	0	11
Total	0	0	0	0	48	1	0	49	0	0	0	0	49
8:00 AM	0	0	0	0	17	2	0	19	0	0	0	0	19
8:15 AM	0	0	0	0	20	0	0	20	0	0	0	0	20
8:30 AM	0	0	0	0	6	1	0	7	0	0	0	0	7
8:45 AM	0	0	0	0	17	1	0	18	0	0	0	0	18
Total	0	0	0	0	60	4	0	64	0	0	0	0	64
Grand Total	0	0	0	0	108	5	0	113	0	0	0	0	113
Approach %	0.0	0.0	0.0		95.6	4.4	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	95.6	4.4	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				108				0				5	113
Buses	0	0	0	0	20	0	0	20	0	0	0	0	20
% Buses	0.0	0.0	0.0	0.0	18.5	0.0	0.0	17.7	0.0	0.0	0.0	0.0	17.7
Exiting Leg Total				20				0				0	20
Single-Unit Trucks	0	0	0	0	77	5	0	82	0	0	0	0	82
% Single-Unit	0.0	0.0	0.0	0.0	71.3	100.0	0.0	72.6	0.0	0.0	0.0	0.0	72.6
Exiting Leg Total				77				0				5	82
Articulated Trucks	0	0	0	0	11	0	0	11	0	0	0	0	11
% Articulated	0.0	0.0	0.0	0.0	10.2	0.0	0.0	9.7	0.0	0.0	0.0	0.0	9.7
Exiting Leg Total				11				0				0	11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	17	1	0	18	0	0	0	0	18
7:45 AM	0	0	0	0	11	0	0	11	0	0	0	0	11
8:00 AM	0	0	0	0	17	2	0	19	0	0	0	0	19
8:15 AM	0	0	0	0	20	0	0	20	0	0	0	0	20
Total Volume	0	0	0	0	65	3	0	68	0	0	0	0	68
% Approach Total	0.0	0.0	0.0		95.6	4.4	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.813	0.375	0.000	0.850	0.000	0.000	0.000	0.000	0.850
Buses	0	0	0	0	8	0	0	8	0	0	0	0	8
Buses %	0.0	0.0	0.0	0.0	12.3	0.0	0.0	11.8	0.0	0.0	0.0	0.0	11.8
Single-Unit Trucks	0	0	0	0	51	3	0	54	0	0	0	0	54
Single-Unit %	0.0	0.0	0.0	0.0	78.5	100.0	0.0	79.4	0.0	0.0	0.0	0.0	79.4
Articulated Trucks	0	0	0	0	6	0	0	6	0	0	0	0	6
Articulated %	0.0	0.0	0.0	0.0	9.2	0.0	0.0	8.8	0.0	0.0	0.0	0.0	8.8
Buses	0	0	0	0	8	0	0	8	0	0	0	0	8
Single-Unit Trucks	0	0	0	0	51	3	0	54	0	0	0	0	54
Articulated Trucks	0	0	0	0	6	0	0	6	0	0	0	0	6
Total Entering Leg	0	0	0	0	65	3	0	68	0	0	0	0	68
Buses				8				0				0	8
Single-Unit Trucks				51				0				3	54
Articulated Trucks				6				0				0	6
Total Exiting Leg				65				0				3	68

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	214	18	0	232	0	0	0	0	232
7:15 AM	0	0	0	0	233	22	0	255	0	0	0	0	255
7:30 AM	0	0	0	0	221	21	0	242	0	0	0	0	242
7:45 AM	0	0	0	0	204	23	0	227	0	0	0	0	227
Total	0	0	0	0	872	84	0	956	0	0	0	0	956
8:00 AM	0	0	0	0	222	33	0	255	0	0	0	0	255
8:15 AM	0	0	0	0	193	19	0	212	0	0	0	0	212
8:30 AM	0	0	0	0	244	42	0	286	0	0	0	0	286
8:45 AM	0	0	0	0	232	30	0	262	0	0	0	0	262
Total	0	0	0	0	891	124	0	1015	0	0	0	0	1015
Grand Total	0	0	0	0	1763	208	0	1971	0	0	0	0	1971
Approach %	0.0	0.0	0.0		89.4	10.6	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	89.4	10.6	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1763				0				208	1971

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	222	33	0	255	0	0	0	0	255
8:15 AM	0	0	0	0	193	19	0	212	0	0	0	0	212
8:30 AM	0	0	0	0	244	42	0	286	0	0	0	0	286
8:45 AM	0	0	0	0	232	30	0	262	0	0	0	0	262
Total Volume	0	0	0	0	891	124	0	1015	0	0	0	0	1015
% Approach Total	0.0	0.0	0.0		87.8	12.2	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.913	0.738	0.000	0.887	0.000	0.000	0.000	0.000	0.887
Entering Leg	0	0	0	0	891	124	0	1015	0	0	0	0	1015
Exiting Leg				891				0				124	1015
Total				891				1015				124	2030

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	16	2	0	18	0	0	0	0	18
7:15 AM	0	0	0	0	13	2	0	15	0	0	0	0	15
7:30 AM	0	0	0	0	14	0	0	14	0	0	0	0	14
7:45 AM	0	0	0	0	23	1	0	24	0	0	0	0	24
Total	0	0	0	0	66	5	0	71	0	0	0	0	71
8:00 AM	0	0	0	0	13	0	0	13	0	0	0	0	13
8:15 AM	0	0	0	0	9	0	0	9	0	0	0	0	9
8:30 AM	0	0	0	0	17	1	0	18	0	0	0	0	18
8:45 AM	0	0	0	0	11	1	0	12	0	0	0	0	12
Total	0	0	0	0	50	2	0	52	0	0	0	0	52
Grand Total	0	0	0	0	116	7	0	123	0	0	0	0	123
Approach %	0.0	0.0	0.0		94.3	5.7	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	94.3	5.7	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				116				0				7	123

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	16	2	0	18	0	0	0	0	18
7:15 AM	0	0	0	0	13	2	0	15	0	0	0	0	15
7:30 AM	0	0	0	0	14	0	0	14	0	0	0	0	14
7:45 AM	0	0	0	0	23	1	0	24	0	0	0	0	24
Total Volume	0	0	0	0	66	5	0	71	0	0	0	0	71
% Approach Total	0.0	0.0	0.0		93.0	7.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.717	0.625	0.000	0.740	0.000	0.000	0.000	0.000	0.740
Entering Leg	0	0	0	0	66	5	0	71	0	0	0	0	71
Exiting Leg				66				0				5	71
Total				66				71				5	142

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	5	0	0	5	0	0	0	0	5
8:00 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	9	0	0	9	0	0	0	0	9
Total	0	0	0	0	15	0	0	15	0	0	0	0	15
Grand Total	0	0	0	0	20	0	0	20	0	0	0	0	20
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				20				0				0	20

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	9	0	0	9	0	0	0	0	9
Total Volume	0	0	0	0	15	0	0	15	0	0	0	0	15
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.417
Entering Leg	0	0	0	0	15	0	0	15	0	0	0	0	15
Exiting Leg				15				0				0	15
Total				15				15				0	30

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	8	0	0	8	0	0	0	0	8
7:15 AM	0	0	0	0	9	0	0	9	0	0	0	0	9
7:30 AM	0	0	0	0	14	1	0	15	0	0	0	0	15
7:45 AM	0	0	0	0	10	0	0	10	0	0	0	0	10
Total	0	0	0	0	41	1	0	42	0	0	0	0	42
8:00 AM	0	0	0	0	11	2	0	13	0	0	0	0	13
8:15 AM	0	0	0	0	16	0	0	16	0	0	0	0	16
8:30 AM	0	0	0	0	3	1	0	4	0	0	0	0	4
8:45 AM	0	0	0	0	6	1	0	7	0	0	0	0	7
Total	0	0	0	0	36	4	0	40	0	0	0	0	40
Grand Total	0	0	0	0	77	5	0	82	0	0	0	0	82
Approach %	0.0	0.0	0.0		93.9	6.1	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	93.9	6.1	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				77				0				5	82

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	14	1	0	15	0	0	0	0	15
7:45 AM	0	0	0	0	10	0	0	10	0	0	0	0	10
8:00 AM	0	0	0	0	11	2	0	13	0	0	0	0	13
8:15 AM	0	0	0	0	16	0	0	16	0	0	0	0	16
Total Volume	0	0	0	0	51	3	0	54	0	0	0	0	54
% Approach Total	0.0	0.0	0.0		94.4	5.6	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.797	0.375	0.000	0.844	0.000	0.000	0.000	0.000	0.844
Entering Leg	0	0	0	0	51	3	0	54	0	0	0	0	54
Exiting Leg				51				0				3	54
Total				51				54				3	108

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
8:00 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:15 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	9	0	0	9	0	0	0	0	9
Grand Total	0	0	0	0	11	0	0	11	0	0	0	0	11
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				11				0				0	11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:15 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
8:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	0	0	0	0	9	0	0	9	0	0	0	0	9
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	0	0	9	0	0	9	0	0	0	0	9
Exiting Leg				9				0				0	9
Total				9				9				0	18

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	1	3	0	0	0	0	3	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
Total	0	0	0	0	1	1	6	0	0	0	0	6	0	0	0	0	0	0	7
8:00 AM	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4
8:15 AM	0	0	0	1	0	1	5	0	0	0	0	5	0	2	0	0	0	2	8
8:30 AM	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	1	1	8
8:45 AM	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
Total	0	0	0	1	0	1	25	0	0	0	0	25	0	2	0	0	1	3	29
Grand Total	0	0	0	1	1	2	31	0	0	0	0	31	0	2	0	0	1	3	36
Approach %	0.0	0.0	0.0	50.0	50.0		100.0	0.0	0.0	0.0	0.0		0.0	66.7	0.0	0.0	33.3		
Total %	0.0	0.0	0.0	2.8	2.8	5.6	86.1	0.0	0.0	0.0	0.0	86.1	0.0	5.6	0.0	0.0	2.8	8.3	
Exiting Leg Total						35						0						1	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4
8:15 AM	0	0	0	1	0	1	5	0	0	0	0	5	0	2	0	0	0	2	8
8:30 AM	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	1	1	8
8:45 AM	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
Total Volume	0	0	0	1	0	1	25	0	0	0	0	25	0	2	0	0	1	3	29
% Approach Total	0.0	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	66.7	0.0	0.0	33.3		
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.694	0.000	0.000	0.000	0.000	0.694	0.000	0.250	0.000	0.000	0.250	0.375	0.806
Entering Leg	0	0	0	1	0	1	25	0	0	0	0	25	0	2	0	0	1	3	29
Exiting Leg						28						0						1	29
Total						29						25						4	58

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	3	11	14	0	0	0	10	3	13	0	0	0	8	8	16	43
7:15 AM	0	0	0	8	15	23	0	0	0	10	2	12	0	0	0	2	16	18	53
7:30 AM	0	0	0	9	20	29	0	0	0	18	4	22	0	0	0	7	27	34	85
7:45 AM	0	0	0	17	20	37	0	0	0	13	7	20	0	0	0	14	41	55	112
Total	0	0	0	37	66	103	0	0	0	51	16	67	0	0	0	31	92	123	293
8:00 AM	0	0	0	13	28	41	0	0	0	21	0	21	0	0	0	12	44	56	118
8:15 AM	0	0	0	12	61	73	0	0	0	46	8	54	0	0	0	10	78	88	215
8:30 AM	0	0	0	23	43	66	0	0	0	27	4	31	0	0	0	18	72	90	187
8:45 AM	0	0	0	10	42	52	0	0	0	32	5	37	0	0	0	24	68	92	181
Total	0	0	0	58	174	232	0	0	0	126	17	143	0	0	0	64	262	326	701
Grand Total	0	0	0	95	240	335	0	0	0	177	33	210	0	0	0	95	354	449	994
Approach %	0	0	0	28.358	71.642		0	0	0	84.286	15.714		0	0	0	21.158	78.842		
Total %	0	0	0	9.5573	24.145	33.702	0	0	0	17.807	3.3199	21.127	0	0	0	9.5573	35.614	45.171	
Exiting Leg Total						335						210						449	994

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	13	28	41	0	0	0	21	0	21	0	0	0	12	44	56	118
8:15 AM	0	0	0	12	61	73	0	0	0	46	8	54	0	0	0	10	78	88	215
8:30 AM	0	0	0	23	43	66	0	0	0	27	4	31	0	0	0	18	72	90	187
8:45 AM	0	0	0	10	42	52	0	0	0	32	5	37	0	0	0	24	68	92	181
Total Volume	0	0	0	58	174	232	0	0	0	126	17	143	0	0	0	64	262	326	701
% Approach Total	0.0	0.0	0.0	25.0	75.0		0.0	0.0	0.0	88.1	11.9		0.0	0.0	0.0	19.6	80.4		
PHF	0.000	0.000	0.000	0.630	0.713	0.795	0.000	0.000	0.000	0.685	0.531	0.662	0.000	0.000	0.000	0.667	0.840	0.886	0.815
Entering Leg	0	0	0	58	174	232	0	0	0	126	17	143	0	0	0	64	262	326	701
Exiting Leg						232						143						326	701
Total						464						286						652	1402

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	149	19	0	168	0	0	0	0	168
4:15 PM	0	0	0	0	163	21	0	184	0	0	0	0	184
4:30 PM	0	0	0	0	187	17	0	204	0	0	0	0	204
4:45 PM	0	0	0	0	181	18	0	199	0	0	0	0	199
Total	0	0	0	0	680	75	0	755	0	0	0	0	755
5:00 PM	0	0	0	0	185	19	0	204	0	0	0	0	204
5:15 PM	0	0	0	0	157	13	0	170	0	0	0	0	170
5:30 PM	0	0	0	0	163	12	0	175	0	0	0	0	175
5:45 PM	0	0	0	0	175	18	0	193	0	0	0	0	193
Total	0	0	0	0	680	62	0	742	0	0	0	0	742
Grand Total	0	0	0	0	1360	137	0	1497	0	0	0	0	1497
Approach %	0.0	0.0	0.0		90.8	9.2	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	90.8	9.2	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1360				0				137	1497
Cars	0	0	0	0	1316	137	0	1453	0	0	0	0	1453
% Cars	0.0	0.0	0.0	0.0	96.8	100.0	0.0	97.1	0.0	0.0	0.0	0.0	97.1
Exiting Leg Total				1316				0				137	1453
Heavy Vehicles	0	0	0	0	44	0	0	44	0	0	0	0	44
% Heavy Vehicles	0.0	0.0	0.0	0.0	3.2	0.0	0.0	2.9	0.0	0.0	0.0	0.0	2.9
Exiting Leg Total				44				0				0	44

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	163	21	0	184	0	0	0	0	184
4:30 PM	0	0	0	0	187	17	0	204	0	0	0	0	204
4:45 PM	0	0	0	0	181	18	0	199	0	0	0	0	199
5:00 PM	0	0	0	0	185	19	0	204	0	0	0	0	204
Total Volume	0	0	0	0	716	75	0	791	0	0	0	0	791
% Approach Total	0.0	0.0	0.0		90.5	9.5	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.957	0.893	0.000	0.969	0.000	0.000	0.000	0.000	0.969
Cars	0	0	0	0	690	75	0	765	0	0	0	0	765
Cars %	0.0	0.0	0.0	0.0	96.4	100.0	0.0	96.7	0.0	0.0	0.0	0.0	96.7
Heavy Vehicles	0	0	0	0	26	0	0	26	0	0	0	0	26
Heavy Vehicles %	0.0	0.0	0.0	0.0	3.6	0.0	0.0	3.3	0.0	0.0	0.0	0.0	3.3
Cars Enter Leg	0	0	0	0	690	75	0	765	0	0	0	0	765
Heavy Enter Leg	0	0	0	0	26	0	0	26	0	0	0	0	26
Total Entering Leg	0	0	0	0	716	75	0	791	0	0	0	0	791
Cars Exiting Leg				690				0				75	765
Heavy Exiting Leg				26				0				0	26
Total Exiting Leg				716				0				75	791

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	146	19	0	165	0	0	0	0	165
4:15 PM	0	0	0	0	156	21	0	177	0	0	0	0	177
4:30 PM	0	0	0	0	182	17	0	199	0	0	0	0	199
4:45 PM	0	0	0	0	176	18	0	194	0	0	0	0	194
Total	0	0	0	0	660	75	0	735	0	0	0	0	735
5:00 PM	0	0	0	0	176	19	0	195	0	0	0	0	195
5:15 PM	0	0	0	0	152	13	0	165	0	0	0	0	165
5:30 PM	0	0	0	0	155	12	0	167	0	0	0	0	167
5:45 PM	0	0	0	0	173	18	0	191	0	0	0	0	191
Total	0	0	0	0	656	62	0	718	0	0	0	0	718
Grand Total	0	0	0	0	1316	137	0	1453	0	0	0	0	1453
Approach %	0.0	0.0	0.0		90.6	9.4	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	90.6	9.4	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1316				0				137	1453

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	156	21	0	177	0	0	0	0	177
4:30 PM	0	0	0	0	182	17	0	199	0	0	0	0	199
4:45 PM	0	0	0	0	176	18	0	194	0	0	0	0	194
5:00 PM	0	0	0	0	176	19	0	195	0	0	0	0	195
Total Volume	0	0	0	0	690	75	0	765	0	0	0	0	765
% Approach Total	0.0	0.0	0.0		90.2	9.8	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.948	0.893	0.000	0.961	0.000	0.000	0.000	0.000	0.961
Entering Leg	0	0	0	0	690	75	0	765	0	0	0	0	765
Exiting Leg				690				0				75	765
Total				690				765				75	1530

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
4:15 PM	0	0	0	0	7	0	0	7	0	0	0	0	7
4:30 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
4:45 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
Total	0	0	0	0	20	0	0	20	0	0	0	0	20
5:00 PM	0	0	0	0	9	0	0	9	0	0	0	0	9
5:15 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
5:30 PM	0	0	0	0	8	0	0	8	0	0	0	0	8
5:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	24	0	0	24	0	0	0	0	24
Grand Total	0	0	0	0	44	0	0	44	0	0	0	0	44
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				44				0				0	44
Buses	0	0	0	0	23	0	0	23	0	0	0	0	23
% Buses	0.0	0.0	0.0	0.0	52.3	0.0	0.0	52.3	0.0	0.0	0.0	0.0	52.3
Exiting Leg Total				23				0				0	23
Single-Unit Trucks	0	0	0	0	17	0	0	17	0	0	0	0	17
% Single-Unit	0.0	0.0	0.0	0.0	38.6	0.0	0.0	38.6	0.0	0.0	0.0	0.0	38.6
Exiting Leg Total				17				0				0	17
Articulated Trucks	0	0	0	0	4	0	0	4	0	0	0	0	4
% Articulated	0.0	0.0	0.0	0.0	9.1	0.0	0.0	9.1	0.0	0.0	0.0	0.0	9.1
Exiting Leg Total				4				0				0	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:45 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
5:00 PM	0	0	0	0	9	0	0	9	0	0	0	0	9
5:15 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
5:30 PM	0	0	0	0	8	0	0	8	0	0	0	0	8
Total Volume	0	0	0	0	27	0	0	27	0	0	0	0	27
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750
Buses	0	0	0	0	15	0	0	15	0	0	0	0	15
Buses %	0.0	0.0	0.0	0.0	55.6	0.0	0.0	55.6	0.0	0.0	0.0	0.0	55.6
Single-Unit Trucks	0	0	0	0	10	0	0	10	0	0	0	0	10
Single-Unit %	0.0	0.0	0.0	0.0	37.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	37.0
Articulated Trucks	0	0	0	0	2	0	0	2	0	0	0	0	2
Articulated %	0.0	0.0	0.0	0.0	7.4	0.0	0.0	7.4	0.0	0.0	0.0	0.0	7.4
Buses	0	0	0	0	15	0	0	15	0	0	0	0	15
Single-Unit Trucks	0	0	0	0	10	0	0	10	0	0	0	0	10
Articulated Trucks	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Entering Leg	0	0	0	0	27	0	0	27	0	0	0	0	27
Buses				15				0				0	15
Single-Unit Trucks				10				0				0	10
Articulated Trucks				2				0				0	2
Total Exiting Leg				27				0				0	27

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	142	19	0	161	0	0	0	0	161
4:15 PM	0	0	0	0	146	20	0	166	0	0	0	0	166
4:30 PM	0	0	0	0	175	17	0	192	0	0	0	0	192
4:45 PM	0	0	0	0	173	18	0	191	0	0	0	0	191
Total	0	0	0	0	636	74	0	710	0	0	0	0	710
5:00 PM	0	0	0	0	171	19	0	190	0	0	0	0	190
5:15 PM	0	0	0	0	148	13	0	161	0	0	0	0	161
5:30 PM	0	0	0	0	151	12	0	163	0	0	0	0	163
5:45 PM	0	0	0	0	165	18	0	183	0	0	0	0	183
Total	0	0	0	0	635	62	0	697	0	0	0	0	697
Grand Total	0	0	0	0	1271	136	0	1407	0	0	0	0	1407
Approach %	0.0	0.0	0.0		90.3	9.7	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	90.3	9.7	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				1271				0				136	1407

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	146	20	0	166	0	0	0	0	166
4:30 PM	0	0	0	0	175	17	0	192	0	0	0	0	192
4:45 PM	0	0	0	0	173	18	0	191	0	0	0	0	191
5:00 PM	0	0	0	0	171	19	0	190	0	0	0	0	190
Total Volume	0	0	0	0	665	74	0	739	0	0	0	0	739
% Approach Total	0.0	0.0	0.0		90.0	10.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.950	0.925	0.000	0.962	0.000	0.000	0.000	0.000	0.962
Entering Leg	0	0	0	0	665	74	0	739	0	0	0	0	739
Exiting Leg				665				0				74	739
Total				665				739				74	1478

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
4:15 PM	0	0	0	0	9	1	0	10	0	0	0	0	10
4:30 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
4:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	19	1	0	20	0	0	0	0	20
5:00 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
5:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:30 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	7	0	0	7	0	0	0	0	7
Total	0	0	0	0	20	0	0	20	0	0	0	0	20
Grand Total	0	0	0	0	39	1	0	40	0	0	0	0	40
Approach %	0.0	0.0	0.0		97.5	2.5	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	97.5	2.5	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				39				0				1	40

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	9	1	0	10	0	0	0	0	10
4:30 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
4:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	5	0	0	5	0	0	0	0	5
Total Volume	0	0	0	0	21	1	0	22	0	0	0	0	22
% Approach Total	0.0	0.0	0.0		95.5	4.5	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.583	0.250	0.000	0.550	0.000	0.000	0.000	0.000	0.550
Entering Leg	0	0	0	0	21	1	0	22	0	0	0	0	22
Exiting Leg				21				0				1	22
Total				21				22				1	44

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	7	0	0	7	0	0	0	0	7
5:00 PM	0	0	0	0	6	0	0	6	0	0	0	0	6
5:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:30 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	16	0	0	16	0	0	0	0	16
Grand Total	0	0	0	0	23	0	0	23	0	0	0	0	23
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				23				0				0	23

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	6	0	0	6	0	0	0	0	6
5:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:30 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	0	0	0	0	16	0	0	16	0	0	0	0	16
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	16	0	0	16	0	0	0	0	16
Exiting Leg				16				0				0	16
Total				16				16				0	32

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
Total	0	0	0	0	11	0	0	11	0	0	0	0	11
5:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	6	0	0	6	0	0	0	0	6
Grand Total	0	0	0	0	17	0	0	17	0	0	0	0	17
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				17				0				0	17

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
Total Volume	0	0	0	0	11	0	0	11	0	0	0	0	11
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.688
Entering Leg	0	0	0	0	11	0	0	11	0	0	0	0	11
Exiting Leg				11				0				0	11
Total				11				11				0	22

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
Grand Total	0	0	0	0	4	0	0	4	0	0	0	0	4
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				4				0				0	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue from North				Atlantic Avenue from South				Beach Street from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	3	0	0	3	0	0	0	0	3
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	0	0	0	3	0	0	3	0	0	0	0	3
Exiting Leg				3				0				0	3
Total				3				3				0	6

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	1	1	6	0	0	0	0	6	0	0	0	0	1	1	8
4:45 PM	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4
Total	0	0	0	1	1	2	13	0	0	0	0	13	0	0	0	0	1	1	16
5:00 PM	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	1	1	6
5:15 PM	0	0	0	0	0	0	3	2	0	0	0	5	0	0	0	0	1	1	6
5:30 PM	0	0	0	0	0	0	4	0	0	1	0	5	0	0	0	1	1	2	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	12	2	0	1	0	15	0	0	0	1	3	4	19
Grand Total	0	0	0	1	1	2	25	2	0	1	0	28	0	0	0	1	4	5	35
Approach %	0.0	0.0	0.0	50.0	50.0		89.3	7.1	0.0	3.6	0.0		0.0	0.0	0.0	20.0	80.0		
Total %	0.0	0.0	0.0	2.9	2.9	5.7	71.4	5.7	0.0	2.9	0.0	80.0	0.0	0.0	0.0	2.9	11.4	14.3	
Exiting Leg Total						27						1						7	35

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	1	1	6	0	0	0	0	6	0	0	0	0	1	1	8
4:45 PM	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	1	1	6
5:15 PM	0	0	0	0	0	0	3	2	0	0	0	5	0	0	0	0	1	1	6
Total Volume	0	0	0	0	1	1	18	2	0	0	0	20	0	0	0	0	3	3	24
% Approach Total	0.0	0.0	0.0	0.0	100.0		90.0	10.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.750	0.250	0.000	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.750	0.750	0.750
Entering Leg	0	0	0	0	1	1	18	2	0	0	0	20	0	0	0	0	3	3	24
Exiting Leg						19						0						5	24
Total						20						20						8	48

PDI File #: **186481 H**
Location: **N: Atlantic Avenue S: Atlantic Avenue**
Location: **W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	47	15	62	0	0	0	17	29	46	0	0	0	32	23	55	163
4:15 PM	0	0	0	35	18	53	0	0	0	7	33	40	0	0	0	25	18	43	136
4:30 PM	0	0	0	52	19	71	0	0	0	11	32	43	0	0	0	50	15	65	179
4:45 PM	0	0	0	59	12	71	0	0	0	13	49	62	0	0	0	43	12	55	188
Total	0	0	0	193	64	257	0	0	0	48	143	191	0	0	0	150	68	218	666
5:00 PM	0	0	0	69	11	80	0	0	0	13	41	54	0	0	0	77	20	97	231
5:15 PM	0	0	0	56	19	75	0	0	0	7	45	52	0	0	0	75	17	92	219
5:30 PM	0	0	0	62	16	78	0	0	0	6	42	48	0	0	0	60	19	79	205
5:45 PM	0	0	0	34	19	53	0	0	0	7	21	28	0	0	0	41	15	56	137
Total	0	0	0	221	65	286	0	0	0	33	149	182	0	0	0	253	71	324	792
Grand Total	0	0	0	414	129	543	0	0	0	81	292	373	0	0	0	403	139	542	1458
Approach %	0	0	0	76.243	23.757		0	0	0	21.716	78.284		0	0	0	74.354	25.646		
Total %	0	0	0	28.395	8.8477	37.243	0	0	0	5.5556	20.027	25.583	0	0	0	27.641	9.5336	37.174	
Exiting Leg Total						543						373						542	1458

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Atlantic Avenue from North						Atlantic Avenue from South						Beach Street from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	59	12	71	0	0	0	13	49	62	0	0	0	43	12	55	188
5:00 PM	0	0	0	69	11	80	0	0	0	13	41	54	0	0	0	77	20	97	231
5:15 PM	0	0	0	56	19	75	0	0	0	7	45	52	0	0	0	75	17	92	219
5:30 PM	0	0	0	62	16	78	0	0	0	6	42	48	0	0	0	60	19	79	205
Total Volume	0	0	0	246	58	304	0	0	0	39	177	216	0	0	0	255	68	323	843
% Approach Total	0.0	0.0	0.0	80.9	19.1		0.0	0.0	0.0	18.1	81.9		0.0	0.0	0.0	78.9	21.1		
PHF	0.000	0.000	0.000	0.891	0.763	0.950	0.000	0.000	0.000	0.750	0.903	0.871	0.000	0.000	0.000	0.828	0.850	0.832	0.912
Entering Leg	0	0	0	246	58	304	0	0	0	39	177	216	0	0	0	255	68	323	843
Exiting Leg						304						216						323	843
Total						608						432						646	1686

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	64	68	26	0	158	0	155	29	0	184	0	0	0	0	0	29	34	0	0	63	405
7:15 AM	76	55	14	0	145	0	176	24	0	200	0	0	0	0	0	23	61	0	0	84	429
7:30 AM	84	55	21	0	160	0	176	30	0	206	0	0	0	0	0	35	65	0	0	100	466
7:45 AM	93	62	14	0	169	0	205	30	0	235	0	0	0	0	0	33	65	0	0	98	502
Total	317	240	75	0	632	0	712	113	0	825	0	0	0	0	0	120	225	0	0	345	1802
8:00 AM	80	67	10	0	157	0	183	21	0	204	0	0	0	0	0	25	74	0	0	99	460
8:15 AM	87	74	17	0	178	0	188	17	0	205	0	0	0	0	0	32	70	0	0	102	485
8:30 AM	108	59	23	0	190	0	188	20	0	208	0	0	0	0	0	29	69	0	0	98	496
8:45 AM	88	70	25	0	183	0	215	33	0	248	0	0	0	0	0	32	71	0	0	103	534
Total	363	270	75	0	708	0	774	91	0	865	0	0	0	0	0	118	284	0	0	402	1975
Grand Total	680	510	150	0	1340	0	1486	204	0	1690	0	0	0	0	0	238	509	0	0	747	3777
Approach %	50.7	38.1	11.2	0.0		0.0	87.9	12.1	0.0		0.0	0.0	0.0	0.0		31.9	68.1	0.0	0.0		
Total %	18.0	13.5	4.0	0.0	35.5	0.0	39.3	5.4	0.0	44.7	0.0	0.0	0.0	0.0	0.0	6.3	13.5	0.0	0.0	19.8	
Exiting Leg Total					0					659					952					2166	3777
Cars	624	421	145	0	1190	0	1412	195	0	1607	0	0	0	0	0	207	469	0	0	676	3473
% Cars	91.8	82.5	96.7	0.0	88.8	0.0	95.0	95.6	0.0	95.1	0.0	0.0	0.0	0.0	0.0	87.0	92.1	0.0	0.0	90.5	92.0
Exiting Leg Total					0					614					823					2036	3473
Heavy Vehicles	56	89	5	0	150	0	74	9	0	83	0	0	0	0	0	31	40	0	0	71	304
% Heavy Vehicles	8.2	17.5	3.3	0.0	11.2	0.0	5.0	4.4	0.0	4.9	0.0	0.0	0.0	0.0	0.0	13.0	7.9	0.0	0.0	9.5	8.0
Exiting Leg Total					0					45					129					130	304

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	80	67	10	0	157	0	183	21	0	204	0	0	0	0	0	25	74	0	0	99	460
8:15 AM	87	74	17	0	178	0	188	17	0	205	0	0	0	0	0	32	70	0	0	102	485
8:30 AM	108	59	23	0	190	0	188	20	0	208	0	0	0	0	0	29	69	0	0	98	496
8:45 AM	88	70	25	0	183	0	215	33	0	248	0	0	0	0	0	32	71	0	0	103	534
Total Volume	363	270	75	0	708	0	774	91	0	865	0	0	0	0	0	118	284	0	0	402	1975
% Approach Total	51.3	38.1	10.6	0.0		0.0	89.5	10.5	0.0		0.0	0.0	0.0	0.0		29.4	70.6	0.0	0.0		
PHF	0.840	0.912	0.750	0.000	0.932	0.000	0.900	0.689	0.000	0.872	0.000	0.000	0.000	0.000	0.000	0.922	0.959	0.000	0.000	0.976	0.925
Cars	336	223	73	0	632	0	736	88	0	824	0	0	0	0	0	103	261	0	0	364	1820
Cars %	92.6	82.6	97.3	0.0	89.3	0.0	95.1	96.7	0.0	95.3	0.0	0.0	0.0	0.0	0.0	87.3	91.9	0.0	0.0	90.5	92.2
Heavy Vehicles	27	47	2	0	76	0	38	3	0	41	0	0	0	0	0	15	23	0	0	38	155
Heavy Vehicles %	7.4	17.4	2.7	0.0	10.7	0.0	4.9	3.3	0.0	4.7	0.0	0.0	0.0	0.0	0.0	12.7	8.1	0.0	0.0	9.5	7.8
Cars Enter Leg	336	223	73	0	632	0	736	88	0	824	0	0	0	0	0	103	261	0	0	364	1820
Heavy Enter Leg	27	47	2	0	76	0	38	3	0	41	0	0	0	0	0	15	23	0	0	38	155
Total Entering Leg	363	270	75	0	708	0	774	91	0	865	0	0	0	0	0	118	284	0	0	402	1975
Cars Exiting Leg					0					334					414					1072	1820
Heavy Exiting Leg					0					25					65					65	155
Total Exiting Leg					0					359					479					1137	1975

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	55	55	26	0	136	0	151	27	0	178	0	0	0	0	0	26	31	0	0	57	371
7:15 AM	72	48	13	0	133	0	161	23	0	184	0	0	0	0	0	21	55	0	0	76	393
7:30 AM	77	45	19	0	141	0	168	30	0	198	0	0	0	0	0	30	61	0	0	91	430
7:45 AM	84	50	14	0	148	0	196	27	0	223	0	0	0	0	0	27	61	0	0	88	459
Total	288	198	72	0	558	0	676	107	0	783	0	0	0	0	0	104	208	0	0	312	1653
8:00 AM	74	55	10	0	139	0	173	20	0	193	0	0	0	0	0	21	66	0	0	87	419
8:15 AM	75	57	17	0	149	0	183	17	0	200	0	0	0	0	0	30	65	0	0	95	444
8:30 AM	100	54	22	0	176	0	176	20	0	196	0	0	0	0	0	23	66	0	0	89	461
8:45 AM	87	57	24	0	168	0	204	31	0	235	0	0	0	0	0	29	64	0	0	93	496
Total	336	223	73	0	632	0	736	88	0	824	0	0	0	0	0	103	261	0	0	364	1820
Grand Total	624	421	145	0	1190	0	1412	195	0	1607	0	0	0	0	0	207	469	0	0	676	3473
Approach %	52.4	35.4	12.2	0.0		0.0	87.9	12.1	0.0		0.0	0.0	0.0	0.0		30.6	69.4	0.0	0.0		
Total %	18.0	12.1	4.2	0.0	34.3	0.0	40.7	5.6	0.0	46.3	0.0	0.0	0.0	0.0	0.0	6.0	13.5	0.0	0.0	19.5	
Exiting Leg Total					0					614					823					2036	3473

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	74	55	10	0	139	0	173	20	0	193	0	0	0	0	0	21	66	0	0	87	419
8:15 AM	75	57	17	0	149	0	183	17	0	200	0	0	0	0	0	30	65	0	0	95	444
8:30 AM	100	54	22	0	176	0	176	20	0	196	0	0	0	0	0	23	66	0	0	89	461
8:45 AM	87	57	24	0	168	0	204	31	0	235	0	0	0	0	0	29	64	0	0	93	496
Total Volume	336	223	73	0	632	0	736	88	0	824	0	0	0	0	0	103	261	0	0	364	1820
% Approach Total	53.2	35.3	11.6	0.0		0.0	89.3	10.7	0.0		0.0	0.0	0.0	0.0		28.3	71.7	0.0	0.0		
PHF	0.840	0.978	0.760	0.000	0.898	0.000	0.902	0.710	0.000	0.877	0.000	0.000	0.000	0.000	0.000	0.858	0.989	0.000	0.000	0.958	0.917
Entering Leg	336	223	73	0	632	0	736	88	0	824	0	0	0	0	0	103	261	0	0	364	1820
Exiting Leg					0					334					414					1072	1820
Total					632					1158					414					1436	3640

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	9	13	0	0	22	0	4	2	0	6	0	0	0	0	0	3	3	0	0	6	34
7:15 AM	4	7	1	0	12	0	15	1	0	16	0	0	0	0	0	2	6	0	0	8	36
7:30 AM	7	10	2	0	19	0	8	0	0	8	0	0	0	0	0	5	4	0	0	9	36
7:45 AM	9	12	0	0	21	0	9	3	0	12	0	0	0	0	0	6	4	0	0	10	43
Total	29	42	3	0	74	0	36	6	0	42	0	0	0	0	0	16	17	0	0	33	149
8:00 AM	6	12	0	0	18	0	10	1	0	11	0	0	0	0	0	4	8	0	0	12	41
8:15 AM	12	17	0	0	29	0	5	0	0	5	0	0	0	0	0	2	5	0	0	7	41
8:30 AM	8	5	1	0	14	0	12	0	0	12	0	0	0	0	0	6	3	0	0	9	35
8:45 AM	1	13	1	0	15	0	11	2	0	13	0	0	0	0	0	3	7	0	0	10	38
Total	27	47	2	0	76	0	38	3	0	41	0	0	0	0	0	15	23	0	0	38	155
Grand Total	56	89	5	0	150	0	74	9	0	83	0	0	0	0	0	31	40	0	0	71	304
Approach %	37.3	59.3	3.3	0.0		0.0	89.2	10.8	0.0		0.0	0.0	0.0	0.0		43.7	56.3	0.0	0.0		
Total %	18.4	29.3	1.6	0.0	49.3	0.0	24.3	3.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	10.2	13.2	0.0	0.0	23.4	
Exiting Leg Total					0					45					129					130	304
Buses	21	61	1	0	83	0	27	3	0	30	0	0	0	0	0	20	13	0	0	33	146
% Buses	37.5	68.5	20.0	0.0	55.3	0.0	36.5	33.3	0.0	36.1	0.0	0.0	0.0	0.0	0.0	64.5	32.5	0.0	0.0	46.5	48.0
Exiting Leg Total					0					14					84					48	146
Single-Unit Trucks	35	26	4	0	65	0	45	5	0	50	0	0	0	0	0	11	25	0	0	36	151
% Single-Unit	62.5	29.2	80.0	0.0	43.3	0.0	60.8	55.6	0.0	60.2	0.0	0.0	0.0	0.0	0.0	35.5	62.5	0.0	0.0	50.7	49.7
Exiting Leg Total					0					29					42					80	151
Articulated Trucks	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	7
% Articulated	0.0	2.2	0.0	0.0	1.3	0.0	2.7	11.1	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	2.8	2.3
Exiting Leg Total					0					2					3					2	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	7	10	2	0	19	0	8	0	0	8	0	0	0	0	0	5	4	0	0	9	36
7:45 AM	9	12	0	0	21	0	9	3	0	12	0	0	0	0	0	6	4	0	0	10	43
8:00 AM	6	12	0	0	18	0	10	1	0	11	0	0	0	0	0	4	8	0	0	12	41
8:15 AM	12	17	0	0	29	0	5	0	0	5	0	0	0	0	0	2	5	0	0	7	41
Total Volume	34	51	2	0	87	0	32	4	0	36	0	0	0	0	0	17	21	0	0	38	161
% Approach Total	39.1	58.6	2.3	0.0		0.0	88.9	11.1	0.0		0.0	0.0	0.0	0.0		44.7	55.3	0.0	0.0		
PHF	0.708	0.750	0.250	0.000	0.750	0.000	0.800	0.333	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.708	0.656	0.000	0.000	0.792	0.936
Buses	14	36	1	0	51	0	12	2	0	14	0	0	0	0	0	12	7	0	0	19	84
Buses %	41.2	70.6	50.0	0.0	58.6	0.0	37.5	50.0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	70.6	33.3	0.0	0.0	50.0	52.2
Single-Unit Trucks	20	14	1	0	35	0	19	1	0	20	0	0	0	0	0	5	13	0	0	18	73
Single-Unit %	58.8	27.5	50.0	0.0	40.2	0.0	59.4	25.0	0.0	55.6	0.0	0.0	0.0	0.0	0.0	29.4	61.9	0.0	0.0	47.4	45.3
Articulated Trucks	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
Articulated %	0.0	2.0	0.0	0.0	1.1	0.0	3.1	25.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	2.6	2.5
Buses	14	36	1	0	51	0	12	2	0	14	0	0	0	0	0	12	7	0	0	19	84
Single-Unit Trucks	20	14	1	0	35	0	19	1	0	20	0	0	0	0	0	5	13	0	0	18	73
Articulated Trucks	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
Total Entering Leg	34	51	2	0	87	0	32	4	0	36	0	0	0	0	0	17	21	0	0	38	161
Buses					0					8					50					26	84
Single-Unit Trucks					0					14					20					39	73
Articulated Trucks					0					1					2					1	4
Total Exiting Leg					0					23					72					66	161

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	44	53	23	0	120	0	128	24	0	152	0	0	0	0	0	24	31	0	0	55	327
7:15 AM	56	40	13	0	109	0	133	18	0	151	0	0	0	0	0	20	51	0	0	71	331
7:30 AM	68	44	17	0	129	0	145	28	0	173	0	0	0	0	0	28	54	0	0	82	384
7:45 AM	71	48	10	0	129	0	176	26	0	202	0	0	0	0	0	24	57	0	0	81	412
Total	239	185	63	0	487	0	582	96	0	678	0	0	0	0	0	96	193	0	0	289	1454
8:00 AM	66	51	10	0	127	0	154	18	0	172	0	0	0	0	0	19	63	0	0	82	381
8:15 AM	72	52	17	0	141	0	166	15	0	181	0	0	0	0	0	27	60	0	0	87	409
8:30 AM	92	50	21	0	163	0	161	20	0	181	0	0	0	0	0	21	63	0	0	84	428
8:45 AM	77	50	24	0	151	0	187	29	0	216	0	0	0	0	0	25	62	0	0	87	454
Total	307	203	72	0	582	0	668	82	0	750	0	0	0	0	0	92	248	0	0	340	1672
Grand Total	546	388	135	0	1069	0	1250	178	0	1428	0	0	0	0	0	188	441	0	0	629	3126
Approach %	51.1	36.3	12.6	0.0		0.0	87.5	12.5	0.0		0.0	0.0	0.0	0.0		29.9	70.1	0.0	0.0		
Total %	17.5	12.4	4.3	0.0	34.2	0.0	40.0	5.7	0.0	45.7	0.0	0.0	0.0	0.0	0.0	6.0	14.1	0.0	0.0	20.1	
Exiting Leg Total					0					576					754					1796	3126

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	66	51	10	0	127	0	154	18	0	172	0	0	0	0	0	19	63	0	0	82	381
8:15 AM	72	52	17	0	141	0	166	15	0	181	0	0	0	0	0	27	60	0	0	87	409
8:30 AM	92	50	21	0	163	0	161	20	0	181	0	0	0	0	0	21	63	0	0	84	428
8:45 AM	77	50	24	0	151	0	187	29	0	216	0	0	0	0	0	25	62	0	0	87	454
Total Volume	307	203	72	0	582	0	668	82	0	750	0	0	0	0	0	92	248	0	0	340	1672
% Approach Total	52.7	34.9	12.4	0.0		0.0	89.1	10.9	0.0		0.0	0.0	0.0	0.0		27.1	72.9	0.0	0.0		
PHF	0.834	0.976	0.750	0.000	0.893	0.000	0.893	0.707	0.000	0.868	0.000	0.000	0.000	0.000	0.000	0.852	0.984	0.000	0.000	0.977	0.921
Entering Leg	307	203	72	0	582	0	668	82	0	750	0	0	0	0	0	92	248	0	0	340	1672
Exiting Leg					0					320					377					975	1672
Total					582					1070					377					1315	3344

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	11	2	3	0	16	0	23	3	0	26	0	0	0	0	0	2	0	0	0	2	44
7:15 AM	15	8	0	0	23	0	28	5	0	33	0	0	0	0	0	1	3	0	0	4	60
7:30 AM	9	1	2	0	12	0	22	2	0	24	0	0	0	0	0	2	6	0	0	8	44
7:45 AM	13	2	3	0	18	0	19	1	0	20	0	0	0	0	0	3	3	0	0	6	44
Total	48	13	8	0	69	0	92	11	0	103	0	0	0	0	0	8	12	0	0	20	192
8:00 AM	8	4	0	0	12	0	19	2	0	21	0	0	0	0	0	2	2	0	0	4	37
8:15 AM	3	3	0	0	6	0	17	2	0	19	0	0	0	0	0	3	5	0	0	8	33
8:30 AM	7	4	1	0	12	0	15	0	0	15	0	0	0	0	0	2	3	0	0	5	32
8:45 AM	10	6	0	0	16	0	16	2	0	18	0	0	0	0	0	4	2	0	0	6	40
Total	28	17	1	0	46	0	67	6	0	73	0	0	0	0	0	11	12	0	0	23	142
Grand Total	76	30	9	0	115	0	159	17	0	176	0	0	0	0	0	19	24	0	0	43	334
Approach %	66.1	26.1	7.8	0.0		0.0	90.3	9.7	0.0		0.0	0.0	0.0	0.0		44.2	55.8	0.0	0.0		
Total %	22.8	9.0	2.7	0.0	34.4	0.0	47.6	5.1	0.0	52.7	0.0	0.0	0.0	0.0	0.0	5.7	7.2	0.0	0.0	12.9	
Exiting Leg Total					0					33					66					235	334

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	11	2	3	0	16	0	23	3	0	26	0	0	0	0	0	2	0	0	0	2	44
7:15 AM	15	8	0	0	23	0	28	5	0	33	0	0	0	0	0	1	3	0	0	4	60
7:30 AM	9	1	2	0	12	0	22	2	0	24	0	0	0	0	0	2	6	0	0	8	44
7:45 AM	13	2	3	0	18	0	19	1	0	20	0	0	0	0	0	3	3	0	0	6	44
Total Volume	48	13	8	0	69	0	92	11	0	103	0	0	0	0	0	8	12	0	0	20	192
% Approach Total	69.6	18.8	11.6	0.0		0.0	89.3	10.7	0.0		0.0	0.0	0.0	0.0		40.0	60.0	0.0	0.0		
PHF	0.800	0.406	0.667	0.000	0.750	0.000	0.821	0.550	0.000	0.780	0.000	0.000	0.000	0.000	0.000	0.667	0.500	0.000	0.000	0.625	0.800
Entering Leg	48	13	8	0	69	0	92	11	0	103	0	0	0	0	0	8	12	0	0	20	192
Exiting Leg					0					20					32					140	192
Total					69					123					32					160	384

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	12
7:15 AM	3	5	0	0	8	0	5	0	0	5	0	0	0	0	0	1	0	0	0	1	14
7:30 AM	4	6	1	0	11	0	3	0	0	3	0	0	0	0	0	3	1	0	0	4	18
7:45 AM	2	8	0	0	10	0	3	1	0	4	0	0	0	0	0	4	1	0	0	5	19
Total	11	26	1	0	38	0	11	1	0	12	0	0	0	0	0	10	3	0	0	13	63
8:00 AM	4	8	0	0	12	0	3	1	0	4	0	0	0	0	0	3	3	0	0	6	22
8:15 AM	4	14	0	0	18	0	3	0	0	3	0	0	0	0	0	2	2	0	0	4	25
8:30 AM	2	5	0	0	7	0	5	0	0	5	0	0	0	0	0	4	1	0	0	5	17
8:45 AM	0	8	0	0	8	0	5	1	0	6	0	0	0	0	0	1	4	0	0	5	19
Total	10	35	0	0	45	0	16	2	0	18	0	0	0	0	0	10	10	0	0	20	83
Grand Total	21	61	1	0	83	0	27	3	0	30	0	0	0	0	0	20	13	0	0	33	146
Approach %	25.3	73.5	1.2	0.0		0.0	90.0	10.0	0.0		0.0	0.0	0.0	0.0		60.6	39.4	0.0	0.0		
Total %	14.4	41.8	0.7	0.0	56.8	0.0	18.5	2.1	0.0	20.5	0.0	0.0	0.0	0.0	0.0	13.7	8.9	0.0	0.0	22.6	
Exiting Leg Total					0					14					84					48	146

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	4	6	1	0	11	0	3	0	0	3	0	0	0	0	0	3	1	0	0	4	18
7:45 AM	2	8	0	0	10	0	3	1	0	4	0	0	0	0	0	4	1	0	0	5	19
8:00 AM	4	8	0	0	12	0	3	1	0	4	0	0	0	0	0	3	3	0	0	6	22
8:15 AM	4	14	0	0	18	0	3	0	0	3	0	0	0	0	0	2	2	0	0	4	25
Total Volume	14	36	1	0	51	0	12	2	0	14	0	0	0	0	0	12	7	0	0	19	84
% Approach Total	27.5	70.6	2.0	0.0		0.0	85.7	14.3	0.0		0.0	0.0	0.0	0.0		63.2	36.8	0.0	0.0		
PHF	0.875	0.643	0.250	0.000	0.708	0.000	1.000	0.500	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.750	0.583	0.000	0.000	0.792	0.840
Entering Leg	14	36	1	0	51	0	12	2	0	14	0	0	0	0	0	12	7	0	0	19	84
Exiting Leg					0					8					50					26	84
Total					51					22					50					45	168

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	7	5	0	0	12	0	4	2	0	6	0	0	0	0	0	1	2	0	0	3	21
7:15 AM	1	2	1	0	4	0	9	1	0	10	0	0	0	0	0	1	6	0	0	7	21
7:30 AM	3	3	1	0	7	0	4	0	0	4	0	0	0	0	0	2	3	0	0	5	16
7:45 AM	7	4	0	0	11	0	6	1	0	7	0	0	0	0	0	2	3	0	0	5	23
Total	18	14	2	0	34	0	23	4	0	27	0	0	0	0	0	6	14	0	0	20	81
8:00 AM	2	4	0	0	6	0	7	0	0	7	0	0	0	0	0	1	4	0	0	5	18
8:15 AM	8	3	0	0	11	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	16
8:30 AM	6	0	1	0	7	0	7	0	0	7	0	0	0	0	0	2	2	0	0	4	18
8:45 AM	1	5	1	0	7	0	6	1	0	7	0	0	0	0	0	2	2	0	0	4	18
Total	17	12	2	0	31	0	22	1	0	23	0	0	0	0	0	5	11	0	0	16	70
Grand Total	35	26	4	0	65	0	45	5	0	50	0	0	0	0	0	11	25	0	0	36	151
Approach %	53.8	40.0	6.2	0.0		0.0	90.0	10.0	0.0		0.0	0.0	0.0	0.0		30.6	69.4	0.0	0.0		
Total %	23.2	17.2	2.6	0.0	43.0	0.0	29.8	3.3	0.0	33.1	0.0	0.0	0.0	0.0	0.0	7.3	16.6	0.0	0.0	23.8	
Exiting Leg Total					0					29					42					80	151

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	7	5	0	0	12	0	4	2	0	6	0	0	0	0	0	1	2	0	0	3	21
7:15 AM	1	2	1	0	4	0	9	1	0	10	0	0	0	0	0	1	6	0	0	7	21
7:30 AM	3	3	1	0	7	0	4	0	0	4	0	0	0	0	0	2	3	0	0	5	16
7:45 AM	7	4	0	0	11	0	6	1	0	7	0	0	0	0	0	2	3	0	0	5	23
Total Volume	18	14	2	0	34	0	23	4	0	27	0	0	0	0	0	6	14	0	0	20	81
% Approach Total	52.9	41.2	5.9	0.0		0.0	85.2	14.8	0.0		0.0	0.0	0.0	0.0		30.0	70.0	0.0	0.0		
PHF	0.643	0.700	0.500	0.000	0.708	0.000	0.639	0.500	0.000	0.675	0.000	0.000	0.000	0.000	0.000	0.750	0.583	0.000	0.000	0.714	0.880
Entering Leg	18	14	2	0	34	0	23	4	0	27	0	0	0	0	0	6	14	0	0	20	81
Exiting Leg					0					16					24					41	81
Total					34					43					24					61	162

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	7
Approach %	0.0	100.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	28.6	0.0	0.0	28.6	0.0	28.6	14.3	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	28.6	0.0	0.0	28.6	
Exiting Leg Total					0					2					3					2	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	5
% Approach Total	0.0	100.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.500	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	5
Exiting Leg					0					0					3					2	5
Total					2					3					3					2	10

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Surface Road							Kneeland Street							Albany Street							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	6	0	0	0	0	6	7
Total	0	0	0	0	0	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	16	0	0	0	0	16	19
8:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	7	0	0	0	0	7	9
8:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	0	0	0	0	4	6
8:30 AM	1	0	0	0	1	1	3	0	2	0	0	1	0	3	0	0	0	0	0	0	0	0	11	0	0	0	0	11	17
8:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	13	0	0	0	0	13	16
Total	2	0	0	0	2	2	6	0	2	0	0	1	4	7	0	0	0	0	0	0	0	0	35	0	0	0	0	35	48
Grand Total	2	0	0	0	2	3	7	0	2	0	0	1	6	9	0	0	0	0	0	0	0	0	51	0	0	0	0	51	67
Approach %	28.6	0.0	0.0	0.0	28.6	42.9		0.0	22.2	0.0	0.0	11.1	66.7		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	3.0	0.0	0.0	0.0	3.0	4.5	10.4	0.0	3.0	0.0	0.0	1.5	9.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.1	0.0	0.0	0.0	0.0	76.1	
Exiting Leg Total							5							58							0							4	67

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road							Kneeland Street							Albany Street							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	7	0	0	0	0	7	9
8:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	0	0	0	0	4	6
8:30 AM	1	0	0	0	1	1	3	0	2	0	0	1	0	3	0	0	0	0	0	0	0	0	11	0	0	0	0	11	17
8:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	13	0	0	0	0	13	16
Total Volume	2	0	0	0	2	2	6	0	2	0	0	1	4	7	0	0	0	0	0	0	0	0	35	0	0	0	0	35	48
% Approach Total	33.3	0.0	0.0	0.0	33.3	33.3		0.0	28.6	0.0	0.0	14.3	57.1		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.500	0.500	0.000	0.250	0.000	0.000	0.250	0.500	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.673	0.000	0.000	0.000	0.000	0.673	0.706
Entering Leg	2	0	0	0	2	2	6	0	2	0	0	1	4	7	0	0	0	0	0	0	0	0	35	0	0	0	0	35	48
Exiting Leg							4							40							0							4	48
Total							10							47							0							39	96

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Surface Road							Kneeland Street							Albany Street							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	3	3	6	0	0	0	0	0	2	2	0	0	0	0	5	4	9	0	0	0	0	3	7	10	27
7:15 AM	0	0	0	0	13	7	20	0	0	0	0	3	4	7	0	0	0	0	5	7	12	0	0	0	0	9	10	19	58
7:30 AM	0	0	0	0	6	13	19	0	0	0	0	2	2	4	0	0	0	0	7	2	9	0	0	0	0	17	9	26	58
7:45 AM	0	0	0	0	11	21	32	0	0	0	0	0	10	10	0	0	0	0	3	10	13	0	0	0	0	17	6	23	78
Total	0	0	0	0	33	44	77	0	0	0	0	5	18	23	0	0	0	0	20	23	43	0	0	0	0	46	32	78	221
8:00 AM	0	0	0	0	17	8	25	0	0	0	0	2	10	12	0	0	0	0	3	3	6	0	0	0	0	25	6	31	74
8:15 AM	0	0	0	0	30	22	52	0	0	0	0	8	11	19	0	0	0	0	7	11	18	0	0	0	0	29	21	50	139
8:30 AM	0	0	0	0	35	19	54	0	0	0	0	3	6	9	0	0	0	0	10	2	12	0	0	0	0	35	17	52	127
8:45 AM	0	0	0	0	44	21	65	0	0	0	0	1	11	12	0	0	0	0	7	12	19	0	0	0	0	36	19	55	151
Total	0	0	0	0	126	70	196	0	0	0	0	14	38	52	0	0	0	0	27	28	55	0	0	0	0	125	63	188	491
Grand Total	0	0	0	0	159	114	273	0	0	0	0	19	56	75	0	0	0	0	47	51	98	0	0	0	0	171	95	266	712
Approach %	0	0	0	0	58.2	41.8		0	0	0	0	25.3	74.7		0	0	0	0	48	52		0	0	0	0	64.3	35.7		
Total %	0	0	0	0	22.3	16	38.3	0	0	0	0	2.67	7.87	10.5	0	0	0	0	6.6	7.16	13.8	0	0	0	0	24	13.3	37.4	
Exiting Leg Total							273							75							98							266	712

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Surface Road							Kneeland Street							Albany Street							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	17	8	25	0	0	0	0	2	10	12	0	0	0	0	3	3	6	0	0	0	0	25	6	31	74
8:15 AM	0	0	0	0	30	22	52	0	0	0	0	8	11	19	0	0	0	0	7	11	18	0	0	0	0	29	21	50	139
8:30 AM	0	0	0	0	35	19	54	0	0	0	0	3	6	9	0	0	0	0	10	2	12	0	0	0	0	35	17	52	127
8:45 AM	0	0	0	0	44	21	65	0	0	0	0	1	11	12	0	0	0	0	7	12	19	0	0	0	0	36	19	55	151
Total Volume	0	0	0	0	126	70	196	0	0	0	0	14	38	52	0	0	0	0	27	28	55	0	0	0	0	125	63	188	491
% Approach Total	0.0	0.0	0.0	0.0	64.3	35.7		0.0	0.0	0.0	0.0	26.9	73.1		0.0	0.0	0.0	0.0	49.1	50.9		0.0	0.0	0.0	0.0	66.5	33.5		
PHF	0.000	0.000	0.000	0.000	0.716	0.795	0.754	0.000	0.000	0.000	0.000	0.438	0.864	0.684	0.000	0.000	0.000	0.000	0.675	0.583	0.724	0.000	0.000	0.000	0.000	0.868	0.750	0.855	0.813
Entering Leg	0	0	0	0	126	70	196	0	0	0	0	14	38	52	0	0	0	0	27	28	55	0	0	0	0	125	63	188	491
Exiting Leg							196							52							55							188	491
Total							392							104							110							376	982

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	89	145	29	0	263	0	127	30	0	157	0	0	0	0	0	58	86	0	0	144	564
4:15 PM	75	151	22	0	248	0	107	30	0	137	0	0	0	0	0	75	119	0	0	194	579
4:30 PM	84	167	22	0	273	0	118	32	1	151	0	0	0	0	0	64	118	0	0	182	606
4:45 PM	109	139	28	0	276	0	131	26	0	157	0	0	0	0	0	58	99	0	0	157	590
Total	357	602	101	0	1060	0	483	118	1	602	0	0	0	0	0	255	422	0	0	677	2339
5:00 PM	87	167	23	0	277	0	125	34	0	159	0	0	0	0	0	66	91	0	0	157	593
5:15 PM	84	156	15	0	255	0	150	22	0	172	0	0	0	0	0	72	97	0	0	169	596
5:30 PM	85	156	20	0	261	0	170	37	0	207	0	0	0	0	0	74	78	0	0	152	620
5:45 PM	96	152	25	0	273	0	167	34	0	201	0	0	0	0	0	73	111	0	0	184	658
Total	352	631	83	0	1066	0	612	127	0	739	0	0	0	0	0	285	377	0	0	662	2467
Grand Total	709	1233	184	0	2126	0	1095	245	1	1341	0	0	0	0	0	540	799	0	0	1339	4806
Approach %	33.3	58.0	8.7	0.0		0.0	81.7	18.3	0.1		0.0	0.0	0.0	0.0		40.3	59.7	0.0	0.0		
Total %	14.8	25.7	3.8	0.0	44.2	0.0	22.8	5.1	0.0	27.9	0.0	0.0	0.0	0.0	0.0	11.2	16.6	0.0	0.0	27.9	
Exiting Leg Total					0					984					2018					1804	4806
Cars	673	1147	180	0	2000	0	1072	237	1	1310	0	0	0	0	0	521	778	0	0	1299	4609
% Cars	94.9	93.0	97.8	0.0	94.1	0.0	97.9	96.7	100.0	97.7	0.0	0.0	0.0	0.0	0.0	96.5	97.4	0.0	0.0	97.0	95.9
Exiting Leg Total					0					959					1905					1745	4609
Heavy Vehicles	36	86	4	0	126	0	23	8	0	31	0	0	0	0	0	19	21	0	0	40	197
% Heavy Vehicles	5.1	7.0	2.2	0.0	5.9	0.0	2.1	3.3	0.0	2.3	0.0	0.0	0.0	0.0	0.0	3.5	2.6	0.0	0.0	3.0	4.1
Exiting Leg Total					0					25					113					59	197

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	87	167	23	0	277	0	125	34	0	159	0	0	0	0	0	66	91	0	0	157	593
5:15 PM	84	156	15	0	255	0	150	22	0	172	0	0	0	0	0	72	97	0	0	169	596
5:30 PM	85	156	20	0	261	0	170	37	0	207	0	0	0	0	0	74	78	0	0	152	620
5:45 PM	96	152	25	0	273	0	167	34	0	201	0	0	0	0	0	73	111	0	0	184	658
Total Volume	352	631	83	0	1066	0	612	127	0	739	0	0	0	0	0	285	377	0	0	662	2467
% Approach Total	33.0	59.2	7.8	0.0		0.0	82.8	17.2	0.0		0.0	0.0	0.0	0.0		43.1	56.9	0.0	0.0		
PHF	0.917	0.945	0.830	0.000	0.962	0.000	0.900	0.858	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.963	0.849	0.000	0.000	0.899	0.937
Cars	337	585	80	0	1002	0	601	125	0	726	0	0	0	0	0	278	369	0	0	647	2375
Cars %	95.7	92.7	96.4	0.0	94.0	0.0	98.2	98.4	0.0	98.2	0.0	0.0	0.0	0.0	0.0	97.5	97.9	0.0	0.0	97.7	96.3
Heavy Vehicles	15	46	3	0	64	0	11	2	0	13	0	0	0	0	0	7	8	0	0	15	92
Heavy Vehicles %	4.3	7.3	3.6	0.0	6.0	0.0	1.8	1.6	0.0	1.8	0.0	0.0	0.0	0.0	0.0	2.5	2.1	0.0	0.0	2.3	3.7
Cars Enter Leg	337	585	80	0	1002	0	601	125	0	726	0	0	0	0	0	278	369	0	0	647	2375
Heavy Enter Leg	15	46	3	0	64	0	11	2	0	13	0	0	0	0	0	7	8	0	0	15	92
Total Entering Leg	352	631	83	0	1066	0	612	127	0	739	0	0	0	0	0	285	377	0	0	662	2467
Cars Exiting Leg					0					449					988					938	2375
Heavy Exiting Leg					0					11					55					26	92
Total Exiting Leg					0					460					1043					964	2467

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	84	132	29	0	245	0	123	30	0	153	0	0	0	0	0	55	83	0	0	138	536
4:15 PM	67	139	22	0	228	0	104	28	0	132	0	0	0	0	0	71	116	0	0	187	547
4:30 PM	81	159	21	0	261	0	116	29	1	146	0	0	0	0	0	61	114	0	0	175	582
4:45 PM	104	132	28	0	264	0	128	25	0	153	0	0	0	0	0	56	96	0	0	152	569
Total	336	562	100	0	998	0	471	112	1	584	0	0	0	0	0	243	409	0	0	652	2234
5:00 PM	83	158	23	0	264	0	123	33	0	156	0	0	0	0	0	62	89	0	0	151	571
5:15 PM	80	142	14	0	236	0	146	22	0	168	0	0	0	0	0	72	94	0	0	166	570
5:30 PM	82	144	19	0	245	0	168	36	0	204	0	0	0	0	0	72	77	0	0	149	598
5:45 PM	92	141	24	0	257	0	164	34	0	198	0	0	0	0	0	72	109	0	0	181	636
Total	337	585	80	0	1002	0	601	125	0	726	0	0	0	0	0	278	369	0	0	647	2375
Grand Total	673	1147	180	0	2000	0	1072	237	1	1310	0	0	0	0	0	521	778	0	0	1299	4609
Approach %	33.7	57.4	9.0	0.0		0.0	81.8	18.1	0.1		0.0	0.0	0.0	0.0		40.1	59.9	0.0	0.0		
Total %	14.6	24.9	3.9	0.0	43.4	0.0	23.3	5.1	0.0	28.4	0.0	0.0	0.0	0.0	0.0	11.3	16.9	0.0	0.0	28.2	
Exiting Leg Total					0					959					1905					1745	4609

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	83	158	23	0	264	0	123	33	0	156	0	0	0	0	0	62	89	0	0	151	571
5:15 PM	80	142	14	0	236	0	146	22	0	168	0	0	0	0	0	72	94	0	0	166	570
5:30 PM	82	144	19	0	245	0	168	36	0	204	0	0	0	0	0	72	77	0	0	149	598
5:45 PM	92	141	24	0	257	0	164	34	0	198	0	0	0	0	0	72	109	0	0	181	636
Total Volume	337	585	80	0	1002	0	601	125	0	726	0	0	0	0	0	278	369	0	0	647	2375
% Approach Total	33.6	58.4	8.0	0.0		0.0	82.8	17.2	0.0		0.0	0.0	0.0	0.0		43.0	57.0	0.0	0.0		
PHF	0.916	0.926	0.833	0.000	0.949	0.000	0.894	0.868	0.000	0.890	0.000	0.000	0.000	0.000	0.000	0.965	0.846	0.000	0.000	0.894	0.934
Entering Leg	337	585	80	0	1002	0	601	125	0	726	0	0	0	0	0	278	369	0	0	647	2375
Exiting Leg					0					449					988					938	2375
Total					1002					1175					988					1585	4750

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	5	13	0	0	18	0	4	0	0	4	0	0	0	0	0	3	3	0	0	6	28
4:15 PM	8	12	0	0	20	0	3	2	0	5	0	0	0	0	0	4	3	0	0	7	32
4:30 PM	3	8	1	0	12	0	2	3	0	5	0	0	0	0	0	3	4	0	0	7	24
4:45 PM	5	7	0	0	12	0	3	1	0	4	0	0	0	0	0	2	3	0	0	5	21
Total	21	40	1	0	62	0	12	6	0	18	0	0	0	0	0	12	13	0	0	25	105
5:00 PM	4	9	0	0	13	0	2	1	0	3	0	0	0	0	0	4	2	0	0	6	22
5:15 PM	4	14	1	0	19	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	26
5:30 PM	3	12	1	0	16	0	2	1	0	3	0	0	0	0	0	2	1	0	0	3	22
5:45 PM	4	11	1	0	16	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	22
Total	15	46	3	0	64	0	11	2	0	13	0	0	0	0	0	7	8	0	0	15	92
Grand Total	36	86	4	0	126	0	23	8	0	31	0	0	0	0	0	19	21	0	0	40	197
Approach %	28.6	68.3	3.2	0.0		0.0	74.2	25.8	0.0		0.0	0.0	0.0	0.0		47.5	52.5	0.0	0.0		
Total %	18.3	43.7	2.0	0.0	64.0	0.0	11.7	4.1	0.0	15.7	0.0	0.0	0.0	0.0	0.0	9.6	10.7	0.0	0.0	20.3	
Exiting Leg Total					0					25					113					59	197
Buses	26	67	2	0	95	0	12	5	0	17	0	0	0	0	0	13	13	0	0	26	138
% Buses	72.2	77.9	50.0	0.0	75.4	0.0	52.2	62.5	0.0	54.8	0.0	0.0	0.0	0.0	0.0	68.4	61.9	0.0	0.0	65.0	70.1
Exiting Leg Total					0					15					85					38	138
Single-Unit Trucks	10	19	2	0	31	0	9	3	0	12	0	0	0	0	0	6	8	0	0	14	57
% Single-Unit	27.8	22.1	50.0	0.0	24.6	0.0	39.1	37.5	0.0	38.7	0.0	0.0	0.0	0.0	0.0	31.6	38.1	0.0	0.0	35.0	28.9
Exiting Leg Total					0					10					28					19	57
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Exiting Leg Total					0					0					0					2	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	5	13	0	0	18	0	4	0	0	4	0	0	0	0	0	3	3	0	0	6	28
4:15 PM	8	12	0	0	20	0	3	2	0	5	0	0	0	0	0	4	3	0	0	7	32
4:30 PM	3	8	1	0	12	0	2	3	0	5	0	0	0	0	0	3	4	0	0	7	24
4:45 PM	5	7	0	0	12	0	3	1	0	4	0	0	0	0	0	2	3	0	0	5	21
Total Volume	21	40	1	0	62	0	12	6	0	18	0	0	0	0	0	12	13	0	0	25	105
% Approach Total	33.9	64.5	1.6	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		48.0	52.0	0.0	0.0		
PHF	0.656	0.769	0.250	0.000	0.775	0.000	0.750	0.500	0.000	0.900	0.000	0.000	0.000	0.000	0.000	0.750	0.813	0.000	0.000	0.893	0.820
Buses	17	28	1	0	46	0	8	4	0	12	0	0	0	0	0	8	8	0	0	16	74
Buses %	81.0	70.0	100.0	0.0	74.2	0.0	66.7	66.7	0.0	66.7	0.0	0.0	0.0	0.0	0.0	66.7	61.5	0.0	0.0	64.0	70.5
Single-Unit Trucks	4	12	0	0	16	0	3	2	0	5	0	0	0	0	0	4	5	0	0	9	30
Single-Unit %	19.0	30.0	0.0	0.0	25.8	0.0	25.0	33.3	0.0	27.8	0.0	0.0	0.0	0.0	0.0	33.3	38.5	0.0	0.0	36.0	28.6
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Buses	17	28	1	0	46	0	8	4	0	12	0	0	0	0	0	8	8	0	0	16	74
Single-Unit Trucks	4	12	0	0	16	0	3	2	0	5	0	0	0	0	0	4	5	0	0	9	30
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	21	40	1	0	62	0	12	6	0	18	0	0	0	0	0	12	13	0	0	25	105
Buses					0					9					40					25	74
Single-Unit Trucks					0					5					18					7	30
Articulated Trucks					0					0					0					1	1
Total Exiting Leg					0					14					58					33	105

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	80	120	29	0	229	0	119	29	0	148	0	0	0	0	0	52	80	0	0	132	509
4:15 PM	66	132	20	0	218	0	100	27	0	127	0	0	0	0	0	65	109	0	0	174	519
4:30 PM	76	148	20	0	244	0	108	28	1	137	0	0	0	0	0	55	110	0	0	165	546
4:45 PM	100	123	26	0	249	0	124	24	0	148	0	0	0	0	0	52	92	0	0	144	541
Total	322	523	95	0	940	0	451	108	1	560	0	0	0	0	0	224	391	0	0	615	2115
5:00 PM	80	150	21	0	251	0	117	30	0	147	0	0	0	0	0	59	86	0	0	145	543
5:15 PM	79	132	14	0	225	0	143	18	0	161	0	0	0	0	0	67	91	0	0	158	544
5:30 PM	77	133	19	0	229	0	158	35	0	193	0	0	0	0	0	70	71	0	0	141	563
5:45 PM	87	128	24	0	239	0	156	34	0	190	0	0	0	0	0	66	106	0	0	172	601
Total	323	543	78	0	944	0	574	117	0	691	0	0	0	0	0	262	354	0	0	616	2251
Grand Total	645	1066	173	0	1884	0	1025	225	1	1251	0	0	0	0	0	486	745	0	0	1231	4366
Approach %	34.2	56.6	9.2	0.0		0.0	81.9	18.0	0.1		0.0	0.0	0.0	0.0		39.5	60.5	0.0	0.0		
Total %	14.8	24.4	4.0	0.0	43.2	0.0	23.5	5.2	0.0	28.7	0.0	0.0	0.0	0.0	0.0	11.1	17.1	0.0	0.0	28.2	
Exiting Leg Total					0					919					1777					1670	4366

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	80	150	21	0	251	0	117	30	0	147	0	0	0	0	0	59	86	0	0	145	543
5:15 PM	79	132	14	0	225	0	143	18	0	161	0	0	0	0	0	67	91	0	0	158	544
5:30 PM	77	133	19	0	229	0	158	35	0	193	0	0	0	0	0	70	71	0	0	141	563
5:45 PM	87	128	24	0	239	0	156	34	0	190	0	0	0	0	0	66	106	0	0	172	601
Total Volume	323	543	78	0	944	0	574	117	0	691	0	0	0	0	0	262	354	0	0	616	2251
% Approach Total	34.2	57.5	8.3	0.0		0.0	83.1	16.9	0.0		0.0	0.0	0.0	0.0		42.5	57.5	0.0	0.0		
PHF	0.928	0.905	0.813	0.000	0.940	0.000	0.908	0.836	0.000	0.895	0.000	0.000	0.000	0.000	0.000	0.936	0.835	0.000	0.000	0.895	0.936
Entering Leg	323	543	78	0	944	0	574	117	0	691	0	0	0	0	0	262	354	0	0	616	2251
Exiting Leg					0					432					922					897	2251
Total					944					1123					922					1513	4502

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	12	0	0	16	0	4	1	0	5	0	0	0	0	0	3	3	0	0	6	27
4:15 PM	1	7	2	0	10	0	4	1	0	5	0	0	0	0	0	5	7	0	0	12	27
4:30 PM	5	11	1	0	17	0	8	1	0	9	0	0	0	0	0	6	3	0	0	9	35
4:45 PM	4	9	1	0	14	0	4	1	0	5	0	0	0	0	0	4	4	0	0	8	27
Total	14	39	4	0	57	0	20	4	0	24	0	0	0	0	0	18	17	0	0	35	116
5:00 PM	3	6	2	0	11	0	6	3	0	9	0	0	0	0	0	3	2	0	0	5	25
5:15 PM	1	9	0	0	10	0	3	3	0	6	0	0	0	0	0	5	3	0	0	8	24
5:30 PM	2	9	0	0	11	0	10	1	0	11	0	0	0	0	0	2	5	0	0	7	29
5:45 PM	4	13	0	0	17	0	8	0	0	8	0	0	0	0	0	6	2	0	0	8	33
Total	10	37	2	0	49	0	27	7	0	34	0	0	0	0	0	16	12	0	0	28	111
Grand Total	24	76	6	0	106	0	47	11	0	58	0	0	0	0	0	34	29	0	0	63	227
Approach %	22.6	71.7	5.7	0.0		0.0	81.0	19.0	0.0		0.0	0.0	0.0	0.0		54.0	46.0	0.0	0.0		
Total %	10.6	33.5	2.6	0.0	46.7	0.0	20.7	4.8	0.0	25.6	0.0	0.0	0.0	0.0	0.0	15.0	12.8	0.0	0.0	27.8	
Exiting Leg Total					0					35					121					71	227

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road from North					Kneeland Street from East					Albany Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	4	12	0	0	16	0	4	1	0	5	0	0	0	0	0	3	3	0	0	6	27
4:15 PM	1	7	2	0	10	0	4	1	0	5	0	0	0	0	0	5	7	0	0	12	27
4:30 PM	5	11	1	0	17	0	8	1	0	9	0	0	0	0	0	6	3	0	0	9	35
4:45 PM	4	9	1	0	14	0	4	1	0	5	0	0	0	0	0	4	4	0	0	8	27
Total Volume	14	39	4	0	57	0	20	4	0	24	0	0	0	0	0	18	17	0	0	35	116
% Approach Total	24.6	68.4	7.0	0.0		0.0	83.3	16.7	0.0		0.0	0.0	0.0	0.0		51.4	48.6	0.0	0.0		
PHF	0.700	0.813	0.500	0.000	0.838	0.000	0.625	1.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.750	0.607	0.000	0.000	0.729	0.829
Entering Leg	14	39	4	0	57	0	20	4	0	24	0	0	0	0	0	18	17	0	0	35	116
Exiting Leg					0					21					61					34	116
Total					57					45					61					69	232

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	5	6	0	0	11	0	4	0	0	4	0	0	0	0	0	3	3	0	0	6	21
4:15 PM	6	9	0	0	15	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	21
4:30 PM	2	7	1	0	10	0	0	2	0	2	0	0	0	0	0	2	2	0	0	4	16
4:45 PM	4	6	0	0	10	0	2	1	0	3	0	0	0	0	0	2	1	0	0	3	16
Total	17	28	1	0	46	0	8	4	0	12	0	0	0	0	0	8	8	0	0	16	74
5:00 PM	3	7	0	0	10	0	0	0	0	0	0	0	0	0	0	3	2	0	0	5	15
5:15 PM	4	12	1	0	17	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	21
5:30 PM	0	10	0	0	10	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	13
5:45 PM	2	10	0	0	12	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	15
Total	9	39	1	0	49	0	4	1	0	5	0	0	0	0	0	5	5	0	0	10	64
Grand Total	26	67	2	0	95	0	12	5	0	17	0	0	0	0	0	13	13	0	0	26	138
Approach %	27.4	70.5	2.1	0.0		0.0	70.6	29.4	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		
Total %	18.8	48.6	1.4	0.0	68.8	0.0	8.7	3.6	0.0	12.3	0.0	0.0	0.0	0.0	0.0	9.4	9.4	0.0	0.0	18.8	
Exiting Leg Total					0					15					85					38	138

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	5	6	0	0	11	0	4	0	0	4	0	0	0	0	0	3	3	0	0	6	21
4:15 PM	6	9	0	0	15	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	21
4:30 PM	2	7	1	0	10	0	0	2	0	2	0	0	0	0	0	2	2	0	0	4	16
4:45 PM	4	6	0	0	10	0	2	1	0	3	0	0	0	0	0	2	1	0	0	3	16
Total Volume	17	28	1	0	46	0	8	4	0	12	0	0	0	0	0	8	8	0	0	16	74
% Approach Total	37.0	60.9	2.2	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		
PHF	0.708	0.778	0.250	0.000	0.767	0.000	0.500	0.500	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.667	0.667	0.000	0.000	0.667	0.881
Entering Leg	17	28	1	0	46	0	8	4	0	12	0	0	0	0	0	8	8	0	0	16	74
Exiting Leg					0					9					40					25	74
Total					46					21					40					41	148

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	2	3	0	0	5	0	0	1	0	1	0	0	0	0	0	3	1	0	0	4	10
4:30 PM	1	1	0	0	2	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	8
4:45 PM	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	5
Total	4	12	0	0	16	0	3	2	0	5	0	0	0	0	0	4	5	0	0	9	30
5:00 PM	1	2	0	0	3	0	2	1	0	3	0	0	0	0	0	1	0	0	0	1	7
5:15 PM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	5
5:30 PM	3	2	1	0	6	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	9
5:45 PM	2	1	1	0	4	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	6
Total	6	7	2	0	15	0	6	1	0	7	0	0	0	0	0	2	3	0	0	5	27
Grand Total	10	19	2	0	31	0	9	3	0	12	0	0	0	0	0	6	8	0	0	14	57
Approach %	32.3	61.3	6.5	0.0		0.0	75.0	25.0	0.0		0.0	0.0	0.0	0.0		42.9	57.1	0.0	0.0		
Total %	17.5	33.3	3.5	0.0	54.4	0.0	15.8	5.3	0.0	21.1	0.0	0.0	0.0	0.0	0.0	10.5	14.0	0.0	0.0	24.6	
Exiting Leg Total					0					10					28					19	57

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	2	3	0	0	5	0	0	1	0	1	0	0	0	0	0	3	1	0	0	4	10
4:30 PM	1	1	0	0	2	0	2	1	0	3	0	0	0	0	0	1	2	0	0	3	8
4:45 PM	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	5
Total Volume	4	12	0	0	16	0	3	2	0	5	0	0	0	0	0	4	5	0	0	9	30
% Approach Total	25.0	75.0	0.0	0.0		0.0	60.0	40.0	0.0		0.0	0.0	0.0	0.0		44.4	55.6	0.0	0.0		
PHF	0.500	0.429	0.000	0.000	0.571	0.000	0.375	0.500	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.333	0.625	0.000	0.000	0.563	0.750
Entering Leg	4	12	0	0	16	0	3	2	0	5	0	0	0	0	0	4	5	0	0	9	30
Exiting Leg					0					5					18					7	30
Total					16					10					18					16	60

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					2	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Surface Road					Kneeland Street					Albany Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					1					0					1	2

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Surface Road from North							Kneeland Street from East							Albany Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	2	5
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	1	0	1	0	3	0	0	1	0	4	7
4:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	1	3	0	0	0	0	0	0	0	1	2	0	0	0	0	3	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	4	0	0	0	1	5	6
Total	0	0	0	0	0	1	1	0	6	0	0	1	1	8	0	0	0	0	1	0	1	1	10	0	0	1	2	14	24
5:00 PM	6	0	0	0	0	0	6	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	6	0	0	0	0	6	15
5:15 PM	5	1	0	0	0	0	6	0	5	1	0	2	0	8	0	0	0	0	0	0	0	0	4	0	0	0	0	4	18
5:30 PM	9	0	0	0	0	0	9	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	3	15
5:45 PM	7	0	0	0	0	0	7	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	11
Total	27	1	0	0	0	0	28	0	14	1	0	2	0	17	0	0	0	0	0	0	0	0	14	0	0	0	0	14	59
Grand Total	27	1	0	0	0	1	29	0	20	1	0	3	1	25	0	0	0	0	1	0	1	1	24	0	0	1	2	28	83
Approach %	93.1	3.4	0.0	0.0	0.0	3.4		0.0	80.0	4.0	0.0	12.0	4.0		0.0	0.0	0.0	0.0	100.0	0.0		3.6	85.7	0.0	0.0	3.6	7.1		
Total %	32.5	1.2	0.0	0.0	0.0	1.2	34.9	0.0	24.1	1.2	0.0	3.6	1.2	30.1	0.0	0.0	0.0	0.0	1.2	0.0	1.2	1.2	28.9	0.0	0.0	1.2	2.4	33.7	
Exiting Leg Total							1							28							4							50	83

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North							Kneeland Street from East							Albany Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	6	0	0	0	0	0	6	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	6	0	0	0	0	6	15
5:15 PM	5	1	0	0	0	0	6	0	5	1	0	2	0	8	0	0	0	0	0	0	0	0	4	0	0	0	0	4	18
5:30 PM	9	0	0	0	0	0	9	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	3	15
5:45 PM	7	0	0	0	0	0	7	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	11
Total Volume	27	1	0	0	0	0	28	0	14	1	0	2	0	17	0	0	0	0	0	0	0	0	14	0	0	0	0	14	59
% Approach Total	96.4	3.6	0.0	0.0	0.0	0.0		0.0	82.4	5.9	0.0	11.8	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.750	0.250	0.000	0.000	0.000	0.000	0.778	0.000	0.700	0.250	0.000	0.250	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.583	0.819
Entering Leg	27	1	0	0	0	0	28	0	14	1	0	2	0	17	0	0	0	0	0	0	0	0	14	0	0	0	0	14	59
Exiting Leg							0							16							2							41	59
Total							28							33							2							55	118

PDI File #: **186481 I**
Location: **N: Surface Road S: Albany Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Surface Road from North							Kneeland Street from East							Albany Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	19	10	29	0	0	0	0	1	3	4	0	0	0	0	5	25	30	0	0	0	0	7	10	17	80
4:15 PM	0	0	0	0	19	12	31	0	0	0	0	2	5	7	0	0	0	0	3	19	22	0	0	0	0	8	19	27	87
4:30 PM	0	0	0	0	27	9	36	0	0	0	0	3	1	4	0	0	0	0	2	18	20	0	0	0	0	8	7	15	75
4:45 PM	0	0	0	0	13	11	24	0	0	0	0	3	4	7	0	0	0	0	1	26	27	0	0	0	0	10	13	23	81
Total	0	0	0	0	78	42	120	0	0	0	0	9	13	22	0	0	0	0	11	88	99	0	0	0	0	33	49	82	323
5:00 PM	0	0	0	0	52	18	70	0	0	0	0	4	2	6	0	0	0	0	5	12	17	0	0	0	0	37	20	57	150
5:15 PM	0	0	0	0	44	26	70	0	0	0	0	11	6	17	0	0	0	0	6	26	32	0	0	0	0	38	28	66	185
5:30 PM	0	0	0	0	42	30	72	0	0	0	0	7	5	12	0	0	0	0	6	13	19	0	0	0	0	7	26	33	136
5:45 PM	0	0	0	0	51	30	81	0	0	0	0	6	6	12	0	0	0	0	7	10	17	0	0	0	0	26	44	70	180
Total	0	0	0	0	189	104	293	0	0	0	0	28	19	47	0	0	0	0	24	61	85	0	0	0	0	108	118	226	651
Grand Total	0	0	0	0	267	146	413	0	0	0	0	37	32	69	0	0	0	0	35	149	184	0	0	0	0	141	167	308	974
Approach %	0	0	0	0	64.6	35.4		0	0	0	0	53.6	46.4		0	0	0	0	19	81		0	0	0	0	45.8	54.2		
Total %	0	0	0	0	27.4	15	42.4	0	0	0	0	3.8	3.29	7.08	0	0	0	0	3.59	15.3	18.9	0	0	0	0	14.5	17.1	31.6	
Exiting Leg Total							413							69							184							308	974

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Surface Road from North							Kneeland Street from East							Albany Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	52	18	70	0	0	0	0	4	2	6	0	0	0	0	5	12	17	0	0	0	0	37	20	57	150
5:15 PM	0	0	0	0	44	26	70	0	0	0	0	11	6	17	0	0	0	0	6	26	32	0	0	0	0	38	28	66	185
5:30 PM	0	0	0	0	42	30	72	0	0	0	0	7	5	12	0	0	0	0	6	13	19	0	0	0	0	7	26	33	136
5:45 PM	0	0	0	0	51	30	81	0	0	0	0	6	6	12	0	0	0	0	7	10	17	0	0	0	0	26	44	70	180
Total Volume	0	0	0	0	189	104	293	0	0	0	0	28	19	47	0	0	0	0	24	61	85	0	0	0	0	108	118	226	651
% Approach Total	0.0	0.0	0.0	0.0	64.5	35.5		0.0	0.0	0.0	0.0	59.6	40.4		0.0	0.0	0.0	0.0	28.2	71.8		0.0	0.0	0.0	0.0	47.8	52.2		
PHF	0.000	0.000	0.000	0.000	0.909	0.867	0.904	0.000	0.000	0.000	0.000	0.636	0.792	0.691	0.000	0.000	0.000	0.000	0.857	0.587	0.664	0.000	0.000	0.000	0.000	0.711	0.670	0.807	0.880
Entering Leg	0	0	0	0	189	104	293	0	0	0	0	28	19	47	0	0	0	0	24	61	85	0	0	0	0	108	118	226	651
Exiting Leg							293							47							85							226	651
Total							586							94							170							452	1302

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	35	90	6	0	131	36	66	108	0	210	7	35	11	0	53	394
7:15 AM	0	0	0	0	0	42	75	3	0	120	41	62	125	0	228	7	38	28	0	73	421
7:30 AM	0	0	0	0	0	45	91	4	0	140	29	62	108	0	199	9	62	20	0	91	430
7:45 AM	0	0	0	0	0	55	110	1	0	166	27	63	138	0	228	4	47	29	0	80	474
Total	0	0	0	0	0	177	366	14	0	557	133	253	479	0	865	27	182	88	0	297	1719
8:00 AM	0	0	0	0	0	64	94	2	0	160	24	67	95	0	186	0	55	26	0	81	427
8:15 AM	0	0	0	0	0	51	84	9	0	144	33	74	118	0	225	2	64	20	0	86	455
8:30 AM	0	0	0	0	0	43	109	7	0	159	39	64	95	0	198	4	58	29	0	91	448
8:45 AM	0	0	0	0	0	61	127	3	0	191	35	85	130	0	250	9	53	25	0	87	528
Total	0	0	0	0	0	219	414	21	0	654	131	290	438	0	859	15	230	100	0	345	1858
Grand Total	0	0	0	0	0	396	780	35	0	1211	264	543	917	0	1724	42	412	188	0	642	3577
Approach %	0.0	0.0	0.0	0.0		32.7	64.4	2.9	0.0		15.3	31.5	53.2	0.0		6.5	64.2	29.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	11.1	21.8	1.0	0.0	33.9	7.4	15.2	25.6	0.0	48.2	1.2	11.5	5.3	0.0	17.9	
Exiting Leg Total					1127					676					77					1697	3577
Cars	0	0	0	0	0	340	734	34	0	1108	251	514	881	0	1646	41	383	172	0	596	3350
% Cars	0.0	0.0	0.0	0.0	0.0	85.9	94.1	97.1	0.0	91.5	95.1	94.7	96.1	0.0	95.5	97.6	93.0	91.5	0.0	92.8	93.7
Exiting Leg Total					1026					634					75					1615	3350
Heavy Vehicles	0	0	0	0	0	56	46	1	0	103	13	29	36	0	78	1	29	16	0	46	227
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	14.1	5.9	2.9	0.0	8.5	4.9	5.3	3.9	0.0	4.5	2.4	7.0	8.5	0.0	7.2	6.3
Exiting Leg Total					101					42					2					82	227

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	64	94	2	0	160	24	67	95	0	186	0	55	26	0	81	427
8:15 AM	0	0	0	0	0	51	84	9	0	144	33	74	118	0	225	2	64	20	0	86	455
8:30 AM	0	0	0	0	0	43	109	7	0	159	39	64	95	0	198	4	58	29	0	91	448
8:45 AM	0	0	0	0	0	61	127	3	0	191	35	85	130	0	250	9	53	25	0	87	528
Total Volume	0	0	0	0	0	219	414	21	0	654	131	290	438	0	859	15	230	100	0	345	1858
% Approach Total	0.0	0.0	0.0	0.0		33.5	63.3	3.2	0.0		15.3	33.8	51.0	0.0		4.3	66.7	29.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.855	0.815	0.583	0.000	0.856	0.840	0.853	0.842	0.000	0.859	0.417	0.898	0.862	0.000	0.948	0.880
Cars	0	0	0	0	0	187	394	20	0	601	124	273	420	0	817	15	215	92	0	322	1740
Cars %	0.0	0.0	0.0	0.0	0.0	85.4	95.2	95.2	0.0	91.9	94.7	94.1	95.9	0.0	95.1	100.0	93.5	92.0	0.0	93.3	93.6
Heavy Vehicles	0	0	0	0	0	32	20	1	0	53	7	17	18	0	42	0	15	8	0	23	118
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	14.6	4.8	4.8	0.0	8.1	5.3	5.9	4.1	0.0	4.9	0.0	6.5	8.0	0.0	6.7	6.4
Cars Enter Leg	0	0	0	0	0	187	394	20	0	601	124	273	420	0	817	15	215	92	0	322	1740
Heavy Enter Leg	0	0	0	0	0	32	20	1	0	53	7	17	18	0	42	0	15	8	0	23	118
Total Entering Leg	0	0	0	0	0	219	414	21	0	654	131	290	438	0	859	15	230	100	0	345	1858
Cars Exiting Leg					552					339					35					814	1740
Heavy Exiting Leg					57					22					1					38	118
Total Exiting Leg					609					361					36					852	1858

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	30	85	6	0	121	34	62	106	0	202	7	33	9	0	49	372
7:15 AM	0	0	0	0	0	33	63	3	0	99	41	60	122	0	223	7	36	24	0	67	389
7:30 AM	0	0	0	0	0	42	87	4	0	133	26	59	101	0	186	8	56	18	0	82	401
7:45 AM	0	0	0	0	0	48	105	1	0	154	26	60	132	0	218	4	43	29	0	76	448
Total	0	0	0	0	0	153	340	14	0	507	127	241	461	0	829	26	168	80	0	274	1610
8:00 AM	0	0	0	0	0	55	88	2	0	145	22	62	93	0	177	0	49	24	0	73	395
8:15 AM	0	0	0	0	0	43	82	9	0	134	29	72	113	0	214	2	60	20	0	82	430
8:30 AM	0	0	0	0	0	36	104	6	0	146	39	61	91	0	191	4	56	27	0	87	424
8:45 AM	0	0	0	0	0	53	120	3	0	176	34	78	123	0	235	9	50	21	0	80	491
Total	0	0	0	0	0	187	394	20	0	601	124	273	420	0	817	15	215	92	0	322	1740
Grand Total	0	0	0	0	0	340	734	34	0	1108	251	514	881	0	1646	41	383	172	0	596	3350
Approach %	0.0	0.0	0.0	0.0		30.7	66.2	3.1	0.0		15.2	31.2	53.5	0.0		6.9	64.3	28.9	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	10.1	21.9	1.0	0.0	33.1	7.5	15.3	26.3	0.0	49.1	1.2	11.4	5.1	0.0	17.8	
Exiting Leg Total					1026					634					75					1615	3350

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	55	88	2	0	145	22	62	93	0	177	0	49	24	0	73	395
8:15 AM	0	0	0	0	0	43	82	9	0	134	29	72	113	0	214	2	60	20	0	82	430
8:30 AM	0	0	0	0	0	36	104	6	0	146	39	61	91	0	191	4	56	27	0	87	424
8:45 AM	0	0	0	0	0	53	120	3	0	176	34	78	123	0	235	9	50	21	0	80	491
Total Volume	0	0	0	0	0	187	394	20	0	601	124	273	420	0	817	15	215	92	0	322	1740
% Approach Total	0.0	0.0	0.0	0.0		31.1	65.6	3.3	0.0		15.2	33.4	51.4	0.0		4.7	66.8	28.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.850	0.821	0.556	0.000	0.854	0.795	0.875	0.854	0.000	0.869	0.417	0.896	0.852	0.000	0.925	0.886
Entering Leg	0	0	0	0	0	187	394	20	0	601	124	273	420	0	817	15	215	92	0	322	1740
Exiting Leg					552					339					35					814	1740
Total					552					940					852					1136	3480

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	5	5	0	0	10	2	4	2	0	8	0	2	2	0	4	22
7:15 AM	0	0	0	0	0	9	12	0	0	21	0	2	3	0	5	0	2	4	0	6	32
7:30 AM	0	0	0	0	0	3	4	0	0	7	3	3	7	0	13	1	6	2	0	9	29
7:45 AM	0	0	0	0	0	7	5	0	0	12	1	3	6	0	10	0	4	0	0	4	26
Total	0	0	0	0	0	24	26	0	0	50	6	12	18	0	36	1	14	8	0	23	109
8:00 AM	0	0	0	0	0	9	6	0	0	15	2	5	2	0	9	0	6	2	0	8	32
8:15 AM	0	0	0	0	0	8	2	0	0	10	4	2	5	0	11	0	4	0	0	4	25
8:30 AM	0	0	0	0	0	7	5	1	0	13	0	3	4	0	7	0	2	2	0	4	24
8:45 AM	0	0	0	0	0	8	7	0	0	15	1	7	7	0	15	0	3	4	0	7	37
Total	0	0	0	0	0	32	20	1	0	53	7	17	18	0	42	0	15	8	0	23	118
Grand Total	0	0	0	0	0	56	46	1	0	103	13	29	36	0	78	1	29	16	0	46	227
Approach %	0.0	0.0	0.0	0.0		54.4	44.7	1.0	0.0		16.7	37.2	46.2	0.0		2.2	63.0	34.8	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	24.7	20.3	0.4	0.0	45.4	5.7	12.8	15.9	0.0	34.4	0.4	12.8	7.0	0.0	20.3	
Exiting Leg Total					101					42					2					82	227
Buses	0	0	0	0	0	52	11	1	0	64	0	11	20	0	31	1	8	3	0	12	107
% Buses	0.0	0.0	0.0	0.0	0.0	92.9	23.9	100.0	0.0	62.1	0.0	37.9	55.6	0.0	39.7	100.0	27.6	18.8	0.0	26.1	47.1
Exiting Leg Total					66					8					2					31	107
Single-Unit Trucks	0	0	0	0	0	4	35	0	0	39	12	16	15	0	43	0	20	12	0	32	114
% Single-Unit	0.0	0.0	0.0	0.0	0.0	7.1	76.1	0.0	0.0	37.9	92.3	55.2	41.7	0.0	55.1	0.0	69.0	75.0	0.0	69.6	50.2
Exiting Leg Total					32					32					0					50	114
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	2	1	0	4	0	1	1	0	2	6
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	6.9	2.8	0.0	5.1	0.0	3.4	6.3	0.0	4.3	2.6
Exiting Leg Total					3					2					0					1	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	9	12	0	0	21	0	2	3	0	5	0	2	4	0	6	32
7:30 AM	0	0	0	0	0	3	4	0	0	7	3	3	7	0	13	1	6	2	0	9	29
7:45 AM	0	0	0	0	0	7	5	0	0	12	1	3	6	0	10	0	4	0	0	4	26
8:00 AM	0	0	0	0	0	9	6	0	0	15	2	5	2	0	9	0	6	2	0	8	32
Total Volume	0	0	0	0	0	28	27	0	0	55	6	13	18	0	37	1	18	8	0	27	119
% Approach Total	0.0	0.0	0.0	0.0		50.9	49.1	0.0	0.0		16.2	35.1	48.6	0.0		3.7	66.7	29.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.778	0.563	0.000	0.000	0.655	0.500	0.650	0.643	0.000	0.712	0.250	0.750	0.500	0.000	0.750	0.930
Buses	0	0	0	0	0	26	7	0	0	33	0	7	9	0	16	1	3	2	0	6	55
Buses %	0.0	0.0	0.0	0.0	0.0	92.9	25.9	0.0	0.0	60.0	0.0	53.8	50.0	0.0	43.2	100.0	16.7	25.0	0.0	22.2	46.2
Single-Unit Trucks	0	0	0	0	0	2	20	0	0	22	6	4	8	0	18	0	14	6	0	20	60
Single-Unit %	0.0	0.0	0.0	0.0	0.0	7.1	74.1	0.0	0.0	40.0	100.0	30.8	44.4	0.0	48.6	0.0	77.8	75.0	0.0	74.1	50.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	5.6	0.0	8.1	0.0	5.6	0.0	0.0	3.7	3.4
Buses	0	0	0	0	0	26	7	0	0	33	0	7	9	0	16	1	3	2	0	6	55
Single-Unit Trucks	0	0	0	0	0	2	20	0	0	22	6	4	8	0	18	0	14	6	0	20	60
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4
Total Entering Leg	0	0	0	0	0	28	27	0	0	55	6	13	18	0	37	1	18	8	0	27	119
Buses					35					3					1					16	55
Single-Unit Trucks					12					20					0					28	60
Articulated Trucks					2					1					0					1	4
Total Exiting Leg					49					24					1					45	119

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	29	74	5	0	108	29	57	94	0	180	5	31	9	0	45	333
7:15 AM	0	0	0	0	0	30	53	2	0	85	39	56	107	0	202	7	32	23	0	62	349
7:30 AM	0	0	0	0	0	39	83	3	0	125	23	53	92	0	168	8	46	18	0	72	365
7:45 AM	0	0	0	0	0	45	95	1	0	141	23	54	122	0	199	4	37	26	0	67	407
Total	0	0	0	0	0	143	305	11	0	459	114	220	415	0	749	24	146	76	0	246	1454
8:00 AM	0	0	0	0	0	54	79	2	0	135	17	60	88	0	165	0	47	22	0	69	369
8:15 AM	0	0	0	0	0	40	75	7	0	122	25	69	104	0	198	2	57	18	0	77	397
8:30 AM	0	0	0	0	0	35	96	6	0	137	33	55	87	0	175	4	53	26	0	83	395
8:45 AM	0	0	0	0	0	45	108	3	0	156	31	73	122	0	226	8	49	21	0	78	460
Total	0	0	0	0	0	174	358	18	0	550	106	257	401	0	764	14	206	87	0	307	1621
Grand Total	0	0	0	0	0	317	663	29	0	1009	220	477	816	0	1513	38	352	163	0	553	3075
Approach %	0.0	0.0	0.0	0.0		31.4	65.7	2.9	0.0		14.5	31.5	53.9	0.0		6.9	63.7	29.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	10.3	21.6	0.9	0.0	32.8	7.2	15.5	26.5	0.0	49.2	1.2	11.4	5.3	0.0	18.0	
Exiting Leg Total					957					572					67					1479	3075

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	54	79	2	0	135	17	60	88	0	165	0	47	22	0	69	369
8:15 AM	0	0	0	0	0	40	75	7	0	122	25	69	104	0	198	2	57	18	0	77	397
8:30 AM	0	0	0	0	0	35	96	6	0	137	33	55	87	0	175	4	53	26	0	83	395
8:45 AM	0	0	0	0	0	45	108	3	0	156	31	73	122	0	226	8	49	21	0	78	460
Total Volume	0	0	0	0	0	174	358	18	0	550	106	257	401	0	764	14	206	87	0	307	1621
% Approach Total	0.0	0.0	0.0	0.0		31.6	65.1	3.3	0.0		13.9	33.6	52.5	0.0		4.6	67.1	28.3	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.806	0.829	0.643	0.000	0.881	0.803	0.880	0.822	0.000	0.845	0.438	0.904	0.837	0.000	0.925	0.881
Entering Leg	0	0	0	0	0	174	358	18	0	550	106	257	401	0	764	14	206	87	0	307	1621
Exiting Leg					518					312					32					759	1621
Total					518					862					796					1066	3242

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	11	1	0	13	5	5	12	0	22	2	2	0	0	4	39
7:15 AM	0	0	0	0	0	3	10	1	0	14	2	4	14	0	20	0	3	1	0	4	38
7:30 AM	0	0	0	0	0	3	4	1	0	8	3	6	9	0	18	0	9	0	0	9	35
7:45 AM	0	0	0	0	0	3	10	0	0	13	3	6	8	0	17	0	5	3	0	8	38
Total	0	0	0	0	0	10	35	3	0	48	13	21	43	0	77	2	19	4	0	25	150
8:00 AM	0	0	0	0	0	1	9	0	0	10	5	2	5	0	12	0	2	2	0	4	26
8:15 AM	0	0	0	0	0	3	7	2	0	12	4	2	9	0	15	0	3	1	0	4	31
8:30 AM	0	0	0	0	0	1	8	0	0	9	5	6	4	0	15	0	3	1	0	4	28
8:45 AM	0	0	0	0	0	7	12	0	0	19	2	5	0	0	7	1	1	0	0	2	28
Total	0	0	0	0	0	12	36	2	0	50	16	15	18	0	49	1	9	4	0	14	113
Grand Total	0	0	0	0	0	22	71	5	0	98	29	36	61	0	126	3	28	8	0	39	263
Approach %	0.0	0.0	0.0	0.0		22.4	72.4	5.1	0.0		23.0	28.6	48.4	0.0		7.7	71.8	20.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	8.4	27.0	1.9	0.0	37.3	11.0	13.7	23.2	0.0	47.9	1.1	10.6	3.0	0.0	14.8	
Exiting Leg Total					66					57					8					132	263

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	11	1	0	13	5	5	12	0	22	2	2	0	0	4	39
7:15 AM	0	0	0	0	0	3	10	1	0	14	2	4	14	0	20	0	3	1	0	4	38
7:30 AM	0	0	0	0	0	3	4	1	0	8	3	6	9	0	18	0	9	0	0	9	35
7:45 AM	0	0	0	0	0	3	10	0	0	13	3	6	8	0	17	0	5	3	0	8	38
Total Volume	0	0	0	0	0	10	35	3	0	48	13	21	43	0	77	2	19	4	0	25	150
% Approach Total	0.0	0.0	0.0	0.0		20.8	72.9	6.3	0.0		16.9	27.3	55.8	0.0		8.0	76.0	16.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.833	0.795	0.750	0.000	0.857	0.650	0.875	0.768	0.000	0.875	0.250	0.528	0.333	0.000	0.694	0.962
Entering Leg	0	0	0	0	0	10	35	3	0	48	13	21	43	0	77	2	19	4	0	25	150
Exiting Leg					35					32					5					78	150
Total					35					80					82					103	300

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	5	0	0	0	5	0	1	1	0	2	0	1	0	0	1	8
7:15 AM	0	0	0	0	0	8	3	0	0	11	0	1	1	0	2	0	0	0	0	0	13
7:30 AM	0	0	0	0	0	3	1	0	0	4	0	1	4	0	5	1	0	1	0	2	11
7:45 AM	0	0	0	0	0	7	2	0	0	9	0	2	2	0	4	0	1	0	0	1	14
Total	0	0	0	0	0	23	6	0	0	29	0	5	8	0	13	1	2	1	0	4	46
8:00 AM	0	0	0	0	0	8	1	0	0	9	0	3	2	0	5	0	2	1	0	3	17
8:15 AM	0	0	0	0	0	8	0	0	0	8	0	0	4	0	4	0	1	0	0	1	13
8:30 AM	0	0	0	0	0	6	2	1	0	9	0	0	2	0	2	0	1	0	0	1	12
8:45 AM	0	0	0	0	0	7	2	0	0	9	0	3	4	0	7	0	2	1	0	3	19
Total	0	0	0	0	0	29	5	1	0	35	0	6	12	0	18	0	6	2	0	8	61
Grand Total	0	0	0	0	0	52	11	1	0	64	0	11	20	0	31	1	8	3	0	12	107
Approach %	0.0	0.0	0.0	0.0		81.3	17.2	1.6	0.0		0.0	35.5	64.5	0.0		8.3	66.7	25.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	48.6	10.3	0.9	0.0	59.8	0.0	10.3	18.7	0.0	29.0	0.9	7.5	2.8	0.0	11.2	
Exiting Leg Total					66					8					2					31	107

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	8	1	0	0	9	0	3	2	0	5	0	2	1	0	3	17
8:15 AM	0	0	0	0	0	8	0	0	0	8	0	0	4	0	4	0	1	0	0	1	13
8:30 AM	0	0	0	0	0	6	2	1	0	9	0	0	2	0	2	0	1	0	0	1	12
8:45 AM	0	0	0	0	0	7	2	0	0	9	0	3	4	0	7	0	2	1	0	3	19
Total Volume	0	0	0	0	0	29	5	1	0	35	0	6	12	0	18	0	6	2	0	8	61
% Approach Total	0.0	0.0	0.0	0.0		82.9	14.3	2.9	0.0		0.0	33.3	66.7	0.0		0.0	75.0	25.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.906	0.625	0.250	0.000	0.972	0.000	0.500	0.750	0.000	0.643	0.000	0.750	0.500	0.000	0.667	0.803
Entering Leg	0	0	0	0	0	29	5	1	0	35	0	6	12	0	18	0	6	2	0	8	61
Exiting Leg					37					6					1					17	61
Total					37					41					19					25	122

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Lincoln Street					Kneeland Street					Lincoln Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	2	3	1	0	6	0	1	2	0	3	14
7:15 AM	0	0	0	0	0	1	9	0	0	10	0	0	1	0	1	0	2	4	0	6	17
7:30 AM	0	0	0	0	0	0	3	0	0	3	3	2	3	0	8	0	6	1	0	7	18
7:45 AM	0	0	0	0	0	0	3	0	0	3	1	0	4	0	5	0	3	0	0	3	11
Total	0	0	0	0	0	1	20	0	0	21	6	5	9	0	20	0	12	7	0	19	60
8:00 AM	0	0	0	0	0	1	5	0	0	6	2	2	0	0	4	0	3	1	0	4	14
8:15 AM	0	0	0	0	0	0	2	0	0	2	3	2	1	0	6	0	3	0	0	3	11
8:30 AM	0	0	0	0	0	1	3	0	0	4	0	3	2	0	5	0	1	2	0	3	12
8:45 AM	0	0	0	0	0	1	5	0	0	6	1	4	3	0	8	0	1	2	0	3	17
Total	0	0	0	0	0	3	15	0	0	18	6	11	6	0	23	0	8	5	0	13	54
Grand Total	0	0	0	0	0	4	35	0	0	39	12	16	15	0	43	0	20	12	0	32	114
Approach %	0.0	0.0	0.0	0.0		10.3	89.7	0.0	0.0		27.9	37.2	34.9	0.0		0.0	62.5	37.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	3.5	30.7	0.0	0.0	34.2	10.5	14.0	13.2	0.0	37.7	0.0	17.5	10.5	0.0	28.1	
Exiting Leg Total					32					32					0					50	114

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street					Kneeland Street					Lincoln Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	2	3	1	0	6	0	1	2	0	3	14
7:15 AM	0	0	0	0	0	1	9	0	0	10	0	0	1	0	1	0	2	4	0	6	17
7:30 AM	0	0	0	0	0	0	3	0	0	3	3	2	3	0	8	0	6	1	0	7	18
7:45 AM	0	0	0	0	0	0	3	0	0	3	1	0	4	0	5	0	3	0	0	3	11
Total Volume	0	0	0	0	0	1	20	0	0	21	6	5	9	0	20	0	12	7	0	19	60
% Approach Total	0.0	0.0	0.0	0.0		4.8	95.2	0.0	0.0		30.0	25.0	45.0	0.0		0.0	63.2	36.8	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.556	0.000	0.000	0.525	0.500	0.417	0.563	0.000	0.625	0.000	0.500	0.438	0.000	0.679	0.833
Entering Leg	0	0	0	0	0	1	20	0	0	21	6	5	9	0	20	0	12	7	0	19	60
Exiting Leg					13					18					0					29	60
Total					13					39					20					48	120

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	3
Grand Total	0	0	0	0	0	0	0	0	0	0	1	2	1	0	4	0	1	1	0	2	6
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		25.0	50.0	25.0	0.0		0.0	50.0	50.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	33.3	16.7	0.0	66.7	0.0	16.7	16.7	0.0	33.3	
Exiting Leg Total					3					2					0					1	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.375	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4
Exiting Leg					2					1					0					1	4
Total					2					1					3					2	8

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	6
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	12	2	0	0	0	14	15
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	7
8:15 AM	0	0	0	0	3	0	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	1	0	0	0	4	10
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	12	1	0	0	0	13	16
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10	10
Total	0	0	0	0	3	1	4	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	30	3	0	0	0	33	43
Grand Total	0	0	0	0	3	1	4	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	42	5	0	0	0	47	58
Approach %	0.0	0.0	0.0	0.0	75.0	25.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	89.4	10.6	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	5.2	1.7	6.9	0.0	12.1	0.0	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.4	8.6	0.0	0.0	0.0	81.0	
Exiting Leg Total							9							42							0							7	58

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	7
8:15 AM	0	0	0	0	3	0	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	3	1	0	0	0	4	10
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	12	1	0	0	0	13	16
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10	10
Total Volume	0	0	0	0	3	1	4	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	30	3	0	0	0	33	43
% Approach Total	0.0	0.0	0.0	0.0	75.0	25.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	90.9	9.1	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.333	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.750	0.000	0.000	0.000	0.635	0.672
Entering Leg	0	0	0	0	3	1	4	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	30	3	0	0	0	33	43
Exiting Leg							7							30							0							6	43
Total							11							36							0							39	86

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	0	5	6	11	0	0	0	0	2	0	2	20
7:15 AM	0	0	0	0	11	11	22	0	0	0	0	1	1	2	0	0	0	0	3	10	13	0	0	0	0	2	0	2	39
7:30 AM	0	0	0	0	11	6	17	0	0	0	0	0	0	0	0	0	0	0	7	2	9	0	0	0	0	0	0	0	26
7:45 AM	0	0	0	0	14	17	31	0	0	0	0	0	3	3	0	0	0	0	4	7	11	0	0	0	0	0	0	0	45
Total	0	0	0	0	38	39	77	0	0	0	0	1	4	5	0	0	0	0	19	25	44	0	0	0	0	4	0	4	130
8:00 AM	0	0	0	0	6	7	13	0	0	0	0	0	1	1	0	0	0	0	4	3	7	0	0	0	0	0	0	0	21
8:15 AM	0	0	0	0	15	23	38	0	0	0	0	0	2	2	0	0	0	0	6	4	10	0	0	0	0	2	0	2	52
8:30 AM	0	0	0	0	21	19	40	0	0	0	0	3	1	4	0	0	0	0	10	1	11	0	0	0	0	1	0	1	56
8:45 AM	0	0	0	0	28	17	45	0	0	0	0	0	0	0	0	0	0	0	5	7	12	0	0	0	0	0	1	1	58
Total	0	0	0	0	70	66	136	0	0	0	0	3	4	7	0	0	0	0	25	15	40	0	0	0	0	3	1	4	187
Grand Total	0	0	0	0	108	105	213	0	0	0	0	4	8	12	0	0	0	0	44	40	84	0	0	0	0	7	1	8	317
Approach %	0	0	0	0	50.7	49.3		0	0	0	0	33.3	66.7		0	0	0	0	52.4	47.6		0	0	0	0	87.5	12.5		
Total %	0	0	0	0	34.1	33.1	67.2	0	0	0	0	1.26	2.52	3.79	0	0	0	0	13.9	12.6	26.5	0	0	0	0	2.21	0.32	2.52	
Exiting Leg Total							213							12							84							8	317

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	6	7	13	0	0	0	0	0	1	1	0	0	0	0	4	3	7	0	0	0	0	0	0	0	21
8:15 AM	0	0	0	0	15	23	38	0	0	0	0	0	2	2	0	0	0	0	6	4	10	0	0	0	0	2	0	2	52
8:30 AM	0	0	0	0	21	19	40	0	0	0	0	3	1	4	0	0	0	0	10	1	11	0	0	0	0	1	0	1	56
8:45 AM	0	0	0	0	28	17	45	0	0	0	0	0	0	0	0	0	0	0	5	7	12	0	0	0	0	0	1	1	58
Total Volume	0	0	0	0	70	66	136	0	0	0	0	3	4	7	0	0	0	0	25	15	40	0	0	0	0	3	1	4	187
% Approach Total	0.0	0.0	0.0	0.0	51.5	48.5		0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	62.5	37.5		0.0	0.0	0.0	0.0	75.0	25.0		
PHF	0.000	0.000	0.000	0.000	0.625	0.717	0.756	0.000	0.000	0.000	0.000	0.250	0.500	0.438	0.000	0.000	0.000	0.000	0.625	0.536	0.833	0.000	0.000	0.000	0.000	0.375	0.250	0.500	0.806
Entering Leg	0	0	0	0	70	66	136	0	0	0	0	3	4	7	0	0	0	0	25	15	40	0	0	0	0	3	1	4	187
Exiting Leg							136							7							40							4	187
Total							272							14							80							8	374

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	24	90	17	0	131	28	48	57	0	133	28	48	39	0	115	379
4:15 PM	0	0	0	0	0	28	84	16	0	128	28	32	57	0	117	42	50	39	0	131	376
4:30 PM	0	0	0	0	0	31	84	26	0	141	28	57	62	0	147	39	77	33	0	149	437
4:45 PM	0	0	0	0	0	38	78	20	0	136	29	40	78	0	147	32	61	30	0	123	406
Total	0	0	0	0	0	121	336	79	0	536	113	177	254	0	544	141	236	141	0	518	1598
5:00 PM	0	0	0	0	0	39	96	25	0	160	21	27	62	1	111	33	50	31	0	114	385
5:15 PM	0	0	0	0	0	44	83	14	0	141	37	52	89	0	178	33	48	31	0	112	431
5:30 PM	0	0	0	0	0	28	93	19	0	140	24	45	88	0	157	24	47	31	0	102	399
5:45 PM	0	0	0	0	0	22	95	11	0	128	21	38	92	0	151	22	70	41	0	133	412
Total	0	0	0	0	0	133	367	69	0	569	103	162	331	1	597	112	215	134	0	461	1627
Grand Total	0	0	0	0	0	254	703	148	0	1105	216	339	585	1	1141	253	451	275	0	979	3225
Approach %	0.0	0.0	0.0	0.0		23.0	63.6	13.4	0.0		18.9	29.7	51.3	0.1		25.8	46.1	28.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	7.9	21.8	4.6	0.0	34.3	6.7	10.5	18.1	0.0	35.4	7.8	14.0	8.5	0.0	30.4	
Exiting Leg Total					868					667					402					1288	3225
Cars	0	0	0	0	0	207	687	142	0	1036	208	315	569	1	1093	247	442	264	0	953	3082
% Cars	0.0	0.0	0.0	0.0	0.0	81.5	97.7	95.9	0.0	93.8	96.3	92.9	97.3	100.0	95.8	97.6	98.0	96.0	0.0	97.3	95.6
Exiting Leg Total					786					650					390					1256	3082
Heavy Vehicles	0	0	0	0	0	47	16	6	0	69	8	24	16	0	48	6	9	11	0	26	143
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	18.5	2.3	4.1	0.0	6.2	3.7	7.1	2.7	0.0	4.2	2.4	2.0	4.0	0.0	2.7	4.4
Exiting Leg Total					82					17					12					32	143

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	31	84	26	0	141	28	57	62	0	147	39	77	33	0	149	437
4:45 PM	0	0	0	0	0	38	78	20	0	136	29	40	78	0	147	32	61	30	0	123	406
5:00 PM	0	0	0	0	0	39	96	25	0	160	21	27	62	1	111	33	50	31	0	114	385
5:15 PM	0	0	0	0	0	44	83	14	0	141	37	52	89	0	178	33	48	31	0	112	431
Total Volume	0	0	0	0	0	152	341	85	0	578	115	176	291	1	583	137	236	125	0	498	1659
% Approach Total	0.0	0.0	0.0	0.0		26.3	59.0	14.7	0.0		19.7	30.2	49.9	0.2		27.5	47.4	25.1	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.864	0.888	0.817	0.000	0.903	0.777	0.772	0.817	0.250	0.819	0.878	0.766	0.947	0.000	0.836	0.949
Cars	0	0	0	0	0	126	332	82	0	540	110	163	283	1	557	134	229	121	0	484	1581
Cars %	0.0	0.0	0.0	0.0	0.0	82.9	97.4	96.5	0.0	93.4	95.7	92.6	97.3	100.0	95.5	97.8	97.0	96.8	0.0	97.2	95.3
Heavy Vehicles	0	0	0	0	0	26	9	3	0	38	5	13	8	0	26	3	7	4	0	14	78
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	17.1	2.6	3.5	0.0	6.6	4.3	7.4	2.7	0.0	4.5	2.2	3.0	3.2	0.0	2.8	4.7
Cars Enter Leg	0	0	0	0	0	126	332	82	0	540	110	163	283	1	557	134	229	121	0	484	1581
Heavy Enter Leg	0	0	0	0	0	26	9	3	0	38	5	13	8	0	26	3	7	4	0	14	78
Total Entering Leg	0	0	0	0	0	152	341	85	0	578	115	176	291	1	583	137	236	125	0	498	1659
Cars Exiting Leg					410					339					217					615	1581
Heavy Exiting Leg					43					12					6					17	78
Total Exiting Leg					453					351					223					632	1659

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	21	89	16	0	126	28	45	54	0	127	28	48	36	0	112	365
4:15 PM	0	0	0	0	0	23	83	15	0	121	27	29	54	0	110	41	49	38	0	128	359
4:30 PM	0	0	0	0	0	23	80	25	0	128	26	51	61	0	138	37	75	31	0	143	409
4:45 PM	0	0	0	0	0	32	76	18	0	126	28	39	75	0	142	31	60	29	0	120	388
Total	0	0	0	0	0	99	328	74	0	501	109	164	244	0	517	137	232	134	0	503	1521
5:00 PM	0	0	0	0	0	33	95	25	0	153	20	24	60	1	105	33	48	31	0	112	370
5:15 PM	0	0	0	0	0	38	81	14	0	133	36	49	87	0	172	33	46	30	0	109	414
5:30 PM	0	0	0	0	0	21	90	18	0	129	23	42	88	0	153	23	46	30	0	99	381
5:45 PM	0	0	0	0	0	16	93	11	0	120	20	36	90	0	146	21	70	39	0	130	396
Total	0	0	0	0	0	108	359	68	0	535	99	151	325	1	576	110	210	130	0	450	1561
Grand Total	0	0	0	0	0	207	687	142	0	1036	208	315	569	1	1093	247	442	264	0	953	3082
Approach %	0.0	0.0	0.0	0.0		20.0	66.3	13.7	0.0		19.0	28.8	52.1	0.1		25.9	46.4	27.7	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.7	22.3	4.6	0.0	33.6	6.7	10.2	18.5	0.0	35.5	8.0	14.3	8.6	0.0	30.9	
Exiting Leg Total					786					650					390					1256	3082

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	23	80	25	0	128	26	51	61	0	138	37	75	31	0	143	409
4:45 PM	0	0	0	0	0	32	76	18	0	126	28	39	75	0	142	31	60	29	0	120	388
5:00 PM	0	0	0	0	0	33	95	25	0	153	20	24	60	1	105	33	48	31	0	112	370
5:15 PM	0	0	0	0	0	38	81	14	0	133	36	49	87	0	172	33	46	30	0	109	414
Total Volume	0	0	0	0	0	126	332	82	0	540	110	163	283	1	557	134	229	121	0	484	1581
% Approach Total	0.0	0.0	0.0	0.0		23.3	61.5	15.2	0.0		19.7	29.3	50.8	0.2		27.7	47.3	25.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.829	0.874	0.820	0.000	0.882	0.764	0.799	0.813	0.250	0.810	0.905	0.763	0.976	0.000	0.846	0.955
Entering Leg	0	0	0	0	0	126	332	82	0	540	110	163	283	1	557	134	229	121	0	484	1581
Exiting Leg					410					339					217					615	1581
Total					410					879					774					1099	3162

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	1	1	0	5	0	3	3	0	6	0	0	3	0	3	14
4:15 PM	0	0	0	0	0	5	1	1	0	7	1	3	3	0	7	1	1	1	0	3	17
4:30 PM	0	0	0	0	0	8	4	1	0	13	2	6	1	0	9	2	2	2	0	6	28
4:45 PM	0	0	0	0	0	6	2	2	0	10	1	1	3	0	5	1	1	1	0	3	18
Total	0	0	0	0	0	22	8	5	0	35	4	13	10	0	27	4	4	7	0	15	77
5:00 PM	0	0	0	0	0	6	1	0	0	7	1	3	2	0	6	0	2	0	0	2	15
5:15 PM	0	0	0	0	0	6	2	0	0	8	1	3	2	0	6	0	2	1	0	3	17
5:30 PM	0	0	0	0	0	7	3	1	0	11	1	3	0	0	4	1	1	1	0	3	18
5:45 PM	0	0	0	0	0	6	2	0	0	8	1	2	2	0	5	1	0	2	0	3	16
Total	0	0	0	0	0	25	8	1	0	34	4	11	6	0	21	2	5	4	0	11	66
Grand Total	0	0	0	0	0	47	16	6	0	69	8	24	16	0	48	6	9	11	0	26	143
Approach %	0.0	0.0	0.0	0.0		68.1	23.2	8.7	0.0		16.7	50.0	33.3	0.0		23.1	34.6	42.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	32.9	11.2	4.2	0.0	48.3	5.6	16.8	11.2	0.0	33.6	4.2	6.3	7.7	0.0	18.2	
Exiting Leg Total					82					17					12					32	143
Buses	0	0	0	0	0	45	9	4	0	58	5	23	8	0	36	3	4	7	0	14	108
% Buses	0.0	0.0	0.0	0.0	0.0	95.7	56.3	66.7	0.0	84.1	62.5	95.8	50.0	0.0	75.0	50.0	44.4	63.6	0.0	53.8	75.5
Exiting Leg Total					75					9					7					17	108
Single-Unit Trucks	0	0	0	0	0	2	6	2	0	10	2	1	7	0	10	3	5	4	0	12	32
% Single-Unit	0.0	0.0	0.0	0.0	0.0	4.3	37.5	33.3	0.0	14.5	25.0	4.2	43.8	0.0	20.8	50.0	55.6	36.4	0.0	46.2	22.4
Exiting Leg Total					7					7					5					13	32
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	0	0	0	0	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	1.4	12.5	0.0	6.3	0.0	4.2	0.0	0.0	0.0	0.0	0.0	2.1
Exiting Leg Total					0					1					0					2	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	5	1	1	0	7	1	3	3	0	7	1	1	1	0	3	17
4:30 PM	0	0	0	0	0	8	4	1	0	13	2	6	1	0	9	2	2	2	0	6	28
4:45 PM	0	0	0	0	0	6	2	2	0	10	1	1	3	0	5	1	1	1	0	3	18
5:00 PM	0	0	0	0	0	6	1	0	0	7	1	3	2	0	6	0	2	0	0	2	15
Total Volume	0	0	0	0	0	25	8	4	0	37	5	13	9	0	27	4	6	4	0	14	78
% Approach Total	0.0	0.0	0.0	0.0		67.6	21.6	10.8	0.0		18.5	48.1	33.3	0.0		28.6	42.9	28.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.781	0.500	0.500	0.000	0.712	0.625	0.542	0.750	0.000	0.750	0.500	0.750	0.500	0.000	0.583	0.696
Buses	0	0	0	0	0	24	4	2	0	30	2	12	4	0	18	2	3	2	0	7	55
Buses %	0.0	0.0	0.0	0.0	0.0	96.0	50.0	50.0	0.0	81.1	40.0	92.3	44.4	0.0	66.7	50.0	50.0	50.0	0.0	50.0	70.5
Single-Unit Trucks	0	0	0	0	0	1	4	2	0	7	2	1	5	0	8	2	3	2	0	7	22
Single-Unit %	0.0	0.0	0.0	0.0	0.0	4.0	50.0	50.0	0.0	18.9	40.0	7.7	55.6	0.0	29.6	50.0	50.0	50.0	0.0	50.0	28.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	1.3
Buses	0	0	0	0	0	24	4	2	0	30	2	12	4	0	18	2	3	2	0	7	55
Single-Unit Trucks	0	0	0	0	0	1	4	2	0	7	2	1	5	0	8	2	3	2	0	7	22
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	25	8	4	0	37	5	13	9	0	27	4	6	4	0	14	78
Buses					38					5					4					8	55
Single-Unit Trucks					4					5					4					9	22
Articulated Trucks					0					1					0					0	1
Total Exiting Leg					42					11					8					17	78

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	19	87	16	0	122	28	44	51	0	123	28	48	34	0	110	355
4:15 PM	0	0	0	0	0	21	79	13	0	113	26	29	53	0	108	40	47	35	0	122	343
4:30 PM	0	0	0	0	0	23	73	25	0	121	25	47	58	0	130	35	74	29	0	138	389
4:45 PM	0	0	0	0	0	31	70	15	0	116	27	38	74	0	139	29	58	28	0	115	370
Total	0	0	0	0	0	94	309	69	0	472	106	158	236	0	500	132	227	126	0	485	1457
5:00 PM	0	0	0	0	0	33	91	23	0	147	20	21	59	1	101	32	47	28	0	107	355
5:15 PM	0	0	0	0	0	38	77	13	0	128	34	45	83	0	162	32	46	26	0	104	394
5:30 PM	0	0	0	0	0	21	89	18	0	128	23	40	83	0	146	21	45	28	0	94	368
5:45 PM	0	0	0	0	0	16	89	9	0	114	18	34	85	0	137	21	70	36	0	127	378
Total	0	0	0	0	0	108	346	63	0	517	95	140	310	1	546	106	208	118	0	432	1495
Grand Total	0	0	0	0	0	202	655	132	0	989	201	298	546	1	1046	238	435	244	0	917	2952
Approach %	0.0	0.0	0.0	0.0		20.4	66.2	13.3	0.0		19.2	28.5	52.2	0.1		26.0	47.4	26.6	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.8	22.2	4.5	0.0	33.5	6.8	10.1	18.5	0.0	35.4	8.1	14.7	8.3	0.0	31.1	
Exiting Leg Total					744					636					371					1201	2952

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	23	73	25	0	121	25	47	58	0	130	35	74	29	0	138	389
4:45 PM	0	0	0	0	0	31	70	15	0	116	27	38	74	0	139	29	58	28	0	115	370
5:00 PM	0	0	0	0	0	33	91	23	0	147	20	21	59	1	101	32	47	28	0	107	355
5:15 PM	0	0	0	0	0	38	77	13	0	128	34	45	83	0	162	32	46	26	0	104	394
Total Volume	0	0	0	0	0	125	311	76	0	512	106	151	274	1	532	128	225	111	0	464	1508
% Approach Total	0.0	0.0	0.0	0.0		24.4	60.7	14.8	0.0		19.9	28.4	51.5	0.2		27.6	48.5	23.9	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.822	0.854	0.760	0.000	0.871	0.779	0.803	0.825	0.250	0.821	0.914	0.760	0.957	0.000	0.841	0.957
Entering Leg	0	0	0	0	0	125	311	76	0	512	106	151	274	1	532	128	225	111	0	464	1508
Exiting Leg					387					331					205					585	1508
Total					387					843					737					1049	3016

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	2	2	0	0	4	0	1	3	0	4	0	0	2	0	2	10
4:15 PM	0	0	0	0	0	2	4	2	0	8	0	0	1	0	1	1	2	3	0	6	15
4:30 PM	0	0	0	0	0	0	7	0	0	7	1	4	3	0	8	1	1	2	0	4	19
4:45 PM	0	0	0	0	0	1	6	3	0	10	1	1	1	0	3	1	2	1	0	4	17
Total	0	0	0	0	0	5	19	5	0	29	2	6	8	0	16	3	5	8	0	16	61
5:00 PM	0	0	0	0	0	0	4	1	0	5	0	3	1	0	4	1	1	2	0	4	13
5:15 PM	0	0	0	0	0	0	3	1	0	4	2	4	4	0	10	1	0	4	0	5	19
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	2	5	0	7	1	1	2	0	4	12
5:45 PM	0	0	0	0	0	0	4	2	0	6	2	2	5	0	9	0	0	2	0	2	17
Total	0	0	0	0	0	0	12	4	0	16	4	11	15	0	30	3	2	10	0	15	61
Grand Total	0	0	0	0	0	5	31	9	0	45	6	17	23	0	46	6	7	18	0	31	122
Approach %	0.0	0.0	0.0	0.0		11.1	68.9	20.0	0.0		13.0	37.0	50.0	0.0		19.4	22.6	58.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.1	25.4	7.4	0.0	36.9	4.9	13.9	18.9	0.0	37.7	4.9	5.7	14.8	0.0	25.4	
Exiting Leg Total					40					13					15					54	122

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	7	0	0	7	1	4	3	0	8	1	1	2	0	4	19
4:45 PM	0	0	0	0	0	1	6	3	0	10	1	1	1	0	3	1	2	1	0	4	17
5:00 PM	0	0	0	0	0	0	4	1	0	5	0	3	1	0	4	1	1	2	0	4	13
5:15 PM	0	0	0	0	0	0	3	1	0	4	2	4	4	0	10	1	0	4	0	5	19
Total Volume	0	0	0	0	0	1	20	5	0	26	4	12	9	0	25	4	4	9	0	17	68
% Approach Total	0.0	0.0	0.0	0.0		3.8	76.9	19.2	0.0		16.0	48.0	36.0	0.0		23.5	23.5	52.9	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.714	0.417	0.000	0.650	0.500	0.750	0.563	0.000	0.625	1.000	0.500	0.563	0.000	0.850	0.895
Entering Leg	0	0	0	0	0	1	20	5	0	26	4	12	9	0	25	4	4	9	0	17	68
Exiting Leg					22					8					9					29	68
Total					22					34					34					46	136

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lincoln Street					Kneeland Street					Lincoln Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	1	1	0	5	0	3	2	0	5	0	0	3	0	3	13
4:15 PM	0	0	0	0	0	5	0	1	0	6	0	3	3	0	6	1	1	0	0	2	14
4:30 PM	0	0	0	0	0	8	2	0	0	10	0	5	0	0	5	1	0	2	0	3	18
4:45 PM	0	0	0	0	0	6	2	1	0	9	1	1	1	0	3	0	0	0	0	0	12
Total	0	0	0	0	0	22	5	3	0	30	1	12	6	0	19	2	1	5	0	8	57
5:00 PM	0	0	0	0	0	5	0	0	0	5	1	3	0	0	4	0	2	0	0	2	11
5:15 PM	0	0	0	0	0	6	1	0	0	7	1	3	1	0	5	0	1	1	0	2	14
5:30 PM	0	0	0	0	0	6	3	1	0	10	1	3	0	0	4	1	0	0	0	1	15
5:45 PM	0	0	0	0	0	6	0	0	0	6	1	2	1	0	4	0	0	1	0	1	11
Total	0	0	0	0	0	23	4	1	0	28	4	11	2	0	17	1	3	2	0	6	51
Grand Total	0	0	0	0	0	45	9	4	0	58	5	23	8	0	36	3	4	7	0	14	108
Approach %	0.0	0.0	0.0	0.0		77.6	15.5	6.9	0.0		13.9	63.9	22.2	0.0		21.4	28.6	50.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	41.7	8.3	3.7	0.0	53.7	4.6	21.3	7.4	0.0	33.3	2.8	3.7	6.5	0.0	13.0	
Exiting Leg Total					75					9					7					17	108

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street					Kneeland Street					Lincoln Street					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	1	1	0	5	0	3	2	0	5	0	0	3	0	3	13
4:15 PM	0	0	0	0	0	5	0	1	0	6	0	3	3	0	6	1	1	0	0	2	14
4:30 PM	0	0	0	0	0	8	2	0	0	10	0	5	0	0	5	1	0	2	0	3	18
4:45 PM	0	0	0	0	0	6	2	1	0	9	1	1	1	0	3	0	0	0	0	0	12
Total Volume	0	0	0	0	0	22	5	3	0	30	1	12	6	0	19	2	1	5	0	8	57
% Approach Total	0.0	0.0	0.0	0.0		73.3	16.7	10.0	0.0		5.3	63.2	31.6	0.0		25.0	12.5	62.5	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.688	0.625	0.750	0.000	0.750	0.250	0.600	0.500	0.000	0.792	0.500	0.250	0.417	0.000	0.667	0.792
Entering Leg	0	0	0	0	0	22	5	3	0	30	1	12	6	0	19	2	1	5	0	8	57
Exiting Leg					39					2					5					11	57
Total					39					32					24					19	114

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	1	0	1	3
4:30 PM	0	0	0	0	0	0	2	1	0	3	1	1	1	0	3	1	2	0	0	3	9
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	1	1	1	0	3	6
Total	0	0	0	0	0	0	3	2	0	5	2	1	3	0	6	2	3	2	0	7	18
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	2	0	2	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	3
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	0	1	0	2	4
Total	0	0	0	0	0	2	3	0	0	5	0	0	4	0	4	1	2	2	0	5	14
Grand Total	0	0	0	0	0	2	6	2	0	10	2	1	7	0	10	3	5	4	0	12	32
Approach %	0.0	0.0	0.0	0.0		20.0	60.0	20.0	0.0		20.0	10.0	70.0	0.0		25.0	41.7	33.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.3	18.8	6.3	0.0	31.3	6.3	3.1	21.9	0.0	31.3	9.4	15.6	12.5	0.0	37.5	
Exiting Leg Total					7					7					5					13	32

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	1	0	1	3
4:30 PM	0	0	0	0	0	0	2	1	0	3	1	1	1	0	3	1	2	0	0	3	9
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	1	1	1	0	3	6
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	2	0	2	0	0	0	0	0	4
Total Volume	0	0	0	0	0	1	4	2	0	7	2	1	5	0	8	2	3	2	0	7	22
% Approach Total	0.0	0.0	0.0	0.0		14.3	57.1	28.6	0.0		25.0	12.5	62.5	0.0		28.6	42.9	28.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.500	0.000	0.583	0.500	0.250	0.625	0.000	0.667	0.500	0.375	0.500	0.000	0.583	0.611
Entering Leg	0	0	0	0	0	1	4	2	0	7	2	1	5	0	8	2	3	2	0	7	22
Exiting Leg					4					5					4					9	22
Total					4					12					12					16	44

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	33.3	0.0	33.3	0.0	66.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					1					0					2	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Kneeland Street from East					Lincoln Street from South					Kneeland Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2
Exiting Leg					0					1					0					1	2
Total					0					1					2					1	4

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	1	0	0	0	1	0	1	0	0	0	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
4:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	1	0	3	0	0	0	0	3	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total	0	0	0	0	0	0	0	0	8	0	0	0	0	8	1	0	1	0	0	0	2	0	10	0	0	0	0	10	20
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	7	1	0	0	0	8	9
5:15 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	1	0	1	0	4	0	0	0	0	4	8
5:30 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	4	8
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	1	0	1	0	1	0	0	0	0	1	4
Total	0	0	0	0	0	0	0	0	10	0	0	0	0	10	0	0	0	0	2	0	2	0	16	1	0	0	0	17	29
Grand Total	0	0	0	0	0	0	0	0	18	0	0	0	0	18	1	0	1	0	2	0	4	0	26	1	0	0	0	27	49
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		25.0	0.0	25.0	0.0	50.0	0.0		0.0	96.3	3.7	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	0.0	0.0	0.0	0.0	36.7	2.0	0.0	2.0	0.0	4.1	0.0	8.2	0.0	53.1	2.0	0.0	0.0	0.0	55.1	
Exiting Leg Total							1							27							2							19	49

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	7	1	0	0	0	8	9
5:15 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	1	0	1	0	4	0	0	0	0	4	8
5:30 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	4	8
Total Volume	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	1	0	1	0	19	1	0	0	0	20	29
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	95.0	5.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.679	0.250	0.000	0.000	0.000	0.625	0.806
Entering Leg	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	1	0	1	0	19	1	0	0	0	20	29
Exiting Leg							1							19							1							8	29
Total							1							27							2							28	58

PDI File #: **186481 J**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	25	14	39	0	0	0	0	0	3	3	0	0	0	0	3	19	22	0	0	0	0	0	1	1	65
4:15 PM	0	0	0	0	25	11	36	0	0	0	0	1	1	2	0	0	0	0	3	13	16	0	0	0	0	0	0	0	54
4:30 PM	0	0	0	0	26	9	35	0	0	0	0	1	0	1	0	0	0	0	1	15	16	0	0	0	0	0	0	0	52
4:45 PM	0	0	0	0	20	11	31	0	0	0	0	0	1	1	0	0	0	0	0	25	25	0	0	0	0	0	0	0	57
Total	0	0	0	0	96	45	141	0	0	0	0	2	5	7	0	0	0	0	7	72	79	0	0	0	0	0	1	1	228
5:00 PM	0	0	0	0	21	16	37	0	0	0	0	1	0	1	0	0	0	0	2	11	13	0	0	0	0	1	0	1	52
5:15 PM	0	0	0	0	18	19	37	0	0	0	0	2	0	2	0	0	0	0	3	15	18	0	0	0	0	2	0	2	59
5:30 PM	0	0	0	0	31	19	50	0	0	0	0	5	0	5	0	0	0	0	8	10	18	0	0	0	0	0	1	1	74
5:45 PM	0	0	0	0	30	15	45	0	0	0	0	0	2	2	0	0	0	0	2	7	9	0	0	0	0	0	1	1	57
Total	0	0	0	0	100	69	169	0	0	0	0	8	2	10	0	0	0	0	15	43	58	0	0	0	0	3	2	5	242
Grand Total	0	0	0	0	196	114	310	0	0	0	0	10	7	17	0	0	0	0	22	115	137	0	0	0	0	3	3	6	470
Approach %	0	0	0	0	63.2	36.8		0	0	0	0	58.8	41.2		0	0	0	0	16.1	83.9		0	0	0	0	50	50		
Total %	0	0	0	0	41.7	24.3	66	0	0	0	0	2.13	1.49	3.62	0	0	0	0	4.68	24.5	29.1	0	0	0	0	0.64	0.64	1.28	
Exiting Leg Total							310							17							137							6	470

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Lincoln Street from North							Kneeland Street from East							Lincoln Street from South							Kneeland Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	20	11	31	0	0	0	0	0	1	1	0	0	0	0	0	25	25	0	0	0	0	0	0	0	57
5:00 PM	0	0	0	0	21	16	37	0	0	0	0	1	0	1	0	0	0	0	2	11	13	0	0	0	0	1	0	1	52
5:15 PM	0	0	0	0	18	19	37	0	0	0	0	2	0	2	0	0	0	0	3	15	18	0	0	0	0	2	0	2	59
5:30 PM	0	0	0	0	31	19	50	0	0	0	0	5	0	5	0	0	0	0	8	10	18	0	0	0	0	0	1	1	74
Total Volume	0	0	0	0	90	65	155	0	0	0	0	8	1	9	0	0	0	0	13	61	74	0	0	0	0	3	1	4	242
% Approach Total	0.0	0.0	0.0	0.0	58.1	41.9		0.0	0.0	0.0	0.0	88.9	11.1		0.0	0.0	0.0	0.0	17.6	82.4		0.0	0.0	0.0	0.0	75.0	25.0		
PHF	0.000	0.000	0.000	0.000	0.726	0.855	0.775	0.000	0.000	0.000	0.000	0.400	0.250	0.450	0.000	0.000	0.000	0.000	0.406	0.610	0.740	0.000	0.000	0.000	0.000	0.375	0.250	0.500	0.818
Entering Leg	0	0	0	0	90	65	155	0	0	0	0	8	1	9	0	0	0	0	13	61	74	0	0	0	0	3	1	4	242
Exiting Leg							155							9							74							4	242
Total							310							18							148							8	484

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	20	0	0	0	20	0	116	0	0	116	0	0	0	0	0	0	58	0	0	58	194
7:15 AM	22	0	0	0	22	0	107	0	0	107	0	0	0	0	0	0	81	0	0	81	210
7:30 AM	32	0	0	0	32	0	127	0	0	127	0	0	0	0	0	1	84	0	0	85	244
7:45 AM	33	0	0	0	33	0	142	0	0	142	0	0	0	0	0	0	73	0	0	73	248
Total	107	0	0	0	107	0	492	0	0	492	0	0	0	0	0	1	296	0	0	297	896
8:00 AM	27	0	2	0	29	0	139	0	0	139	0	0	0	0	0	1	75	0	0	76	244
8:15 AM	24	0	0	0	24	0	141	0	0	141	1	0	0	0	1	0	93	0	0	93	259
8:30 AM	30	0	1	0	31	0	144	0	0	144	0	0	0	0	0	0	99	0	0	99	274
8:45 AM	32	0	0	0	32	0	160	0	0	160	0	0	0	0	0	0	86	0	0	86	278
Total	113	0	3	0	116	0	584	0	0	584	1	0	0	0	1	1	353	0	0	354	1055
Grand Total	220	0	3	0	223	0	1076	0	0	1076	1	0	0	0	1	2	649	0	0	651	1951
Approach %	98.7	0.0	1.3	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
Total %	11.3	0.0	0.2	0.0	11.4	0.0	55.2	0.0	0.0	55.2	0.1	0.0	0.0	0.0	0.1	0.1	33.3	0.0	0.0	33.4	
Exiting Leg Total					0					653					2					1296	1951
Cars	210	0	3	0	213	0	981	0	0	981	1	0	0	0	1	2	607	0	0	609	1804
% Cars	95.5	0.0	100.0	0.0	95.5	0.0	91.2	0.0	0.0	91.2	100.0	0.0	0.0	0.0	100.0	100.0	93.5	0.0	0.0	93.5	92.5
Exiting Leg Total					0					611					2					1191	1804
Heavy Vehicles	10	0	0	0	10	0	95	0	0	95	0	0	0	0	0	0	42	0	0	42	147
% Heavy Vehicles	4.5	0.0	0.0	0.0	4.5	0.0	8.8	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	6.5	7.5
Exiting Leg Total					0					42					0					105	147

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	27	0	2	0	29	0	139	0	0	139	0	0	0	0	0	1	75	0	0	76	244
8:15 AM	24	0	0	0	24	0	141	0	0	141	1	0	0	0	1	0	93	0	0	93	259
8:30 AM	30	0	1	0	31	0	144	0	0	144	0	0	0	0	0	0	99	0	0	99	274
8:45 AM	32	0	0	0	32	0	160	0	0	160	0	0	0	0	0	0	86	0	0	86	278
Total Volume	113	0	3	0	116	0	584	0	0	584	1	0	0	0	1	1	353	0	0	354	1055
% Approach Total	97.4	0.0	2.6	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
PHF	0.883	0.000	0.375	0.000	0.906	0.000	0.913	0.000	0.000	0.913	0.250	0.000	0.000	0.000	0.250	0.250	0.891	0.000	0.000	0.894	0.949
Cars	108	0	3	0	111	0	536	0	0	536	1	0	0	0	1	1	330	0	0	331	979
Cars %	95.6	0.0	100.0	0.0	95.7	0.0	91.8	0.0	0.0	91.8	100.0	0.0	0.0	0.0	100.0	100.0	93.5	0.0	0.0	93.5	92.8
Heavy Vehicles	5	0	0	0	5	0	48	0	0	48	0	0	0	0	0	0	23	0	0	23	76
Heavy Vehicles %	4.4	0.0	0.0	0.0	4.3	0.0	8.2	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	6.5	7.2
Cars Enter Leg	108	0	3	0	111	0	536	0	0	536	1	0	0	0	1	1	330	0	0	331	979
Heavy Enter Leg	5	0	0	0	5	0	48	0	0	48	0	0	0	0	0	0	23	0	0	23	76
Total Entering Leg	113	0	3	0	116	0	584	0	0	584	1	0	0	0	1	1	353	0	0	354	1055
Cars Exiting Leg					0					334					1					644	979
Heavy Exiting Leg					0					23					0					53	76
Total Exiting Leg					0					357					1					697	1055

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	20	0	0	0	20	0	105	0	0	105	0	0	0	0	0	0	56	0	0	56	181
7:15 AM	19	0	0	0	19	0	90	0	0	90	0	0	0	0	0	0	78	0	0	78	187
7:30 AM	31	0	0	0	31	0	118	0	0	118	0	0	0	0	0	1	75	0	0	76	225
7:45 AM	32	0	0	0	32	0	132	0	0	132	0	0	0	0	0	0	68	0	0	68	232
Total	102	0	0	0	102	0	445	0	0	445	0	0	0	0	0	1	277	0	0	278	825
8:00 AM	26	0	2	0	28	0	125	0	0	125	0	0	0	0	0	1	67	0	0	68	221
8:15 AM	23	0	0	0	23	0	132	0	0	132	1	0	0	0	1	0	85	0	0	85	241
8:30 AM	28	0	1	0	29	0	132	0	0	132	0	0	0	0	0	0	96	0	0	96	257
8:45 AM	31	0	0	0	31	0	147	0	0	147	0	0	0	0	0	0	82	0	0	82	260
Total	108	0	3	0	111	0	536	0	0	536	1	0	0	0	1	1	330	0	0	331	979
Grand Total	210	0	3	0	213	0	981	0	0	981	1	0	0	0	1	2	607	0	0	609	1804
Approach %	98.6	0.0	1.4	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
Total %	11.6	0.0	0.2	0.0	11.8	0.0	54.4	0.0	0.0	54.4	0.1	0.0	0.0	0.0	0.1	0.1	33.6	0.0	0.0	33.8	
Exiting Leg Total					0					611					2					1191	1804

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	26	0	2	0	28	0	125	0	0	125	0	0	0	0	0	1	67	0	0	68	221
8:15 AM	23	0	0	0	23	0	132	0	0	132	1	0	0	0	1	0	85	0	0	85	241
8:30 AM	28	0	1	0	29	0	132	0	0	132	0	0	0	0	0	0	96	0	0	96	257
8:45 AM	31	0	0	0	31	0	147	0	0	147	0	0	0	0	0	0	82	0	0	82	260
Total Volume	108	0	3	0	111	0	536	0	0	536	1	0	0	0	1	1	330	0	0	331	979
% Approach Total	97.3	0.0	2.7	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
PHF	0.871	0.000	0.375	0.000	0.895	0.000	0.912	0.000	0.000	0.912	0.250	0.000	0.000	0.000	0.250	0.250	0.859	0.000	0.000	0.862	0.941
Entering Leg	108	0	3	0	111	0	536	0	0	536	1	0	0	0	1	1	330	0	0	331	979
Exiting Leg					0					334					1					644	979
Total					111					870					2					975	1958

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	13
7:15 AM	3	0	0	0	3	0	17	0	0	17	0	0	0	0	0	0	3	0	0	3	23
7:30 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	9	0	0	9	19
7:45 AM	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	16
Total	5	0	0	0	5	0	47	0	0	47	0	0	0	0	0	0	19	0	0	19	71
8:00 AM	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0	8	0	0	8	23
8:15 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	18
8:30 AM	2	0	0	0	2	0	12	0	0	12	0	0	0	0	0	0	3	0	0	3	17
8:45 AM	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	0	4	0	0	4	18
Total	5	0	0	0	5	0	48	0	0	48	0	0	0	0	0	0	23	0	0	23	76
Grand Total	10	0	0	0	10	0	95	0	0	95	0	0	0	0	0	0	42	0	0	42	147
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	6.8	0.0	0.0	0.0	6.8	0.0	64.6	0.0	0.0	64.6	0.0	0.0	0.0	0.0	0.0	0.0	28.6	0.0	0.0	28.6	
Exiting Leg Total					0					42					0					105	147
Buses	1	0	0	0	1	0	63	0	0	63	0	0	0	0	0	0	8	0	0	8	72
% Buses	10.0	0.0	0.0	0.0	10.0	0.0	66.3	0.0	0.0	66.3	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0	19.0	49.0
Exiting Leg Total					0					8					0					64	72
Single-Unit Trucks	9	0	0	0	9	0	30	0	0	30	0	0	0	0	0	0	31	0	0	31	70
% Single-Unit	90.0	0.0	0.0	0.0	90.0	0.0	31.6	0.0	0.0	31.6	0.0	0.0	0.0	0.0	0.0	0.0	73.8	0.0	0.0	73.8	47.6
Exiting Leg Total					0					31					0					39	70
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	7.1	3.4
Exiting Leg Total					0					3					0					2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	3	0	0	0	3	0	17	0	0	17	0	0	0	0	0	0	3	0	0	3	23
7:30 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	9	0	0	9	19
7:45 AM	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	16
8:00 AM	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0	8	0	0	8	23
Total Volume	6	0	0	0	6	0	50	0	0	50	0	0	0	0	0	0	25	0	0	25	81
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.735	0.000	0.000	0.735	0.000	0.000	0.000	0.000	0.000	0.000	0.694	0.000	0.000	0.694	0.880
Buses	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	4	0	0	4	37
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	66.0	0.0	0.0	66.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	16.0	45.7
Single-Unit Trucks	6	0	0	0	6	0	15	0	0	15	0	0	0	0	0	0	20	0	0	20	41
Single-Unit %	100.0	0.0	0.0	0.0	100.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	80.0	50.6
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	4.0	3.7
Buses	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	4	0	0	4	37
Single-Unit Trucks	6	0	0	0	6	0	15	0	0	15	0	0	0	0	0	0	20	0	0	20	41
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Entering Leg	6	0	0	0	6	0	50	0	0	50	0	0	0	0	0	0	25	0	0	25	81
Buses					0					4					0					33	37
Single-Unit Trucks					0					20					0					21	41
Articulated Trucks					0					1					0					2	3
Total Exiting Leg					0					25					0					56	81

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	19	0	0	0	19	0	89	0	0	89	0	0	0	0	0	0	49	0	0	49	157
7:15 AM	19	0	0	0	19	0	73	0	0	73	0	0	0	0	0	0	69	0	0	69	161
7:30 AM	30	0	0	0	30	0	109	0	0	109	0	0	0	0	0	1	64	0	0	65	204
7:45 AM	32	0	0	0	32	0	113	0	0	113	0	0	0	0	0	0	58	0	0	58	203
Total	100	0	0	0	100	0	384	0	0	384	0	0	0	0	0	1	240	0	0	241	725
8:00 AM	25	0	2	0	27	0	115	0	0	115	0	0	0	0	0	0	63	0	0	63	205
8:15 AM	23	0	0	0	23	0	119	0	0	119	0	0	0	0	0	0	75	0	0	75	217
8:30 AM	26	0	1	0	27	0	122	0	0	122	0	0	0	0	0	0	87	0	0	87	236
8:45 AM	28	0	0	0	28	0	128	0	0	128	0	0	0	0	0	0	78	0	0	78	234
Total	102	0	3	0	105	0	484	0	0	484	0	0	0	0	0	0	303	0	0	303	892
Grand Total	202	0	3	0	205	0	868	0	0	868	0	0	0	0	0	1	543	0	0	544	1617
Approach %	98.5	0.0	1.5	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.2	99.8	0.0	0.0		
Total %	12.5	0.0	0.2	0.0	12.7	0.0	53.7	0.0	0.0	53.7	0.0	0.0	0.0	0.0	0.0	0.1	33.6	0.0	0.0	33.6	
Exiting Leg Total					0					546					1					1070	1617

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	25	0	2	0	27	0	115	0	0	115	0	0	0	0	0	0	63	0	0	63	205
8:15 AM	23	0	0	0	23	0	119	0	0	119	0	0	0	0	0	0	75	0	0	75	217
8:30 AM	26	0	1	0	27	0	122	0	0	122	0	0	0	0	0	0	87	0	0	87	236
8:45 AM	28	0	0	0	28	0	128	0	0	128	0	0	0	0	0	0	78	0	0	78	234
Total Volume	102	0	3	0	105	0	484	0	0	484	0	0	0	0	0	0	303	0	0	303	892
% Approach Total	97.1	0.0	2.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.911	0.000	0.375	0.000	0.938	0.000	0.945	0.000	0.000	0.945	0.000	0.000	0.000	0.000	0.000	0.000	0.871	0.000	0.000	0.871	0.945
Entering Leg	102	0	3	0	105	0	484	0	0	484	0	0	0	0	0	0	303	0	0	303	892
Exiting Leg					0					306					0					586	892
Total					105					790					0					889	1784

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	16	0	0	16	0	0	0	0	0	0	7	0	0	7	24
7:15 AM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	8	0	0	8	25
7:30 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	20
7:45 AM	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	9	0	0	9	28
Total	2	0	0	0	2	0	61	0	0	61	0	0	0	0	0	0	34	0	0	34	97
8:00 AM	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	1	4	0	0	5	16
8:15 AM	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	10	0	0	10	23
8:30 AM	2	0	0	0	2	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	20
8:45 AM	3	0	0	0	3	0	19	0	0	19	0	0	0	0	0	0	3	0	0	3	25
Total	6	0	0	0	6	0	51	0	0	51	1	0	0	0	1	1	25	0	0	26	84
Grand Total	8	0	0	0	8	0	112	0	0	112	1	0	0	0	1	1	59	0	0	60	181
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		1.7	98.3	0.0	0.0		
Total %	4.4	0.0	0.0	0.0	4.4	0.0	61.9	0.0	0.0	61.9	0.6	0.0	0.0	0.0	0.6	0.6	32.6	0.0	0.0	33.1	
Exiting Leg Total					0					60					1					120	181

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	16	0	0	16	0	0	0	0	0	0	7	0	0	7	24
7:15 AM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	8	0	0	8	25
7:30 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	20
7:45 AM	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	9	0	0	9	28
Total Volume	2	0	0	0	2	0	61	0	0	61	0	0	0	0	0	0	34	0	0	34	97
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.803	0.000	0.000	0.803	0.000	0.000	0.000	0.000	0.000	0.000	0.850	0.000	0.000	0.850	0.866
Entering Leg	2	0	0	0	2	0	61	0	0	61	0	0	0	0	0	0	34	0	0	34	97
Exiting Leg					0					34					0					63	97
Total					2					95					0					97	194

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6
7:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	1	0	0	1	11
7:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	9
Total	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	2	0	0	2	32
8:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	2	0	0	2	11
8:15 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	9
8:30 AM	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	10
8:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
Total	1	0	0	0	1	0	33	0	0	33	0	0	0	0	0	0	6	0	0	6	40
Grand Total	1	0	0	0	1	0	63	0	0	63	0	0	0	0	0	0	8	0	0	8	72
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	1.4	0.0	0.0	0.0	1.4	0.0	87.5	0.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	11.1	
Exiting Leg Total					0					8					0					64	72

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	2	0	0	2	11
8:15 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	9
8:30 AM	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	10
8:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
Total Volume	1	0	0	0	1	0	33	0	0	33	0	0	0	0	0	0	6	0	0	6	40
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.917	0.000	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.909
Entering Leg	1	0	0	0	1	0	33	0	0	33	0	0	0	0	0	0	6	0	0	6	40
Exiting Leg					0					6					0					34	40
Total					1					39					0					40	80

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
7:15 AM	3	0	0	0	3	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	12
7:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	12
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	6
Total	5	0	0	0	5	0	15	0	0	15	0	0	0	0	0	0	17	0	0	17	37
8:00 AM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	11
8:15 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	8
8:30 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	7
8:45 AM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	7
Total	4	0	0	0	4	0	15	0	0	15	0	0	0	0	0	0	14	0	0	14	33
Grand Total	9	0	0	0	9	0	30	0	0	30	0	0	0	0	0	0	31	0	0	31	70
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	12.9	0.0	0.0	0.0	12.9	0.0	42.9	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	44.3	0.0	0.0	44.3	
Exiting Leg Total					0					31					0					39	70

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	3	0	0	0	3	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	12
7:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	9	0	0	9	12
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	6
8:00 AM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	11
Total Volume	6	0	0	0	6	0	15	0	0	15	0	0	0	0	0	0	20	0	0	20	41
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.536	0.000	0.000	0.536	0.000	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.000	0.556	0.854
Entering Leg	6	0	0	0	6	0	15	0	0	15	0	0	0	0	0	0	20	0	0	20	41
Exiting Leg					0					20					0					21	41
Total					6					35					0					41	82

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	
Exiting Leg Total					0					3					0					2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	1.000
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Exiting Leg					0					2					0					2	4
Total					0					4					0					4	8

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
7:30 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	4
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	6	7
Total	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	11	0	0	0	0	11	14
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7
8:15 AM	2	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	8
8:30 AM	0	0	0	0	1	0	1	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	11	1	0	0	0	12	17
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7
Total	2	0	0	0	1	2	5	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	29	1	0	0	0	30	39
Grand Total	2	0	0	0	2	2	6	0	2	0	0	2	0	4	0	0	0	0	2	0	2	0	40	1	0	0	0	41	53
Approach %	33.3	0.0	0.0	0.0	33.3	33.3		0.0	50.0	0.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	97.6	2.4	0.0	0.0	0.0		
Total %	3.8	0.0	0.0	0.0	3.8	3.8	11.3	0.0	3.8	0.0	0.0	3.8	0.0	7.5	0.0	0.0	0.0	0.0	3.8	0.0	3.8	0.0	75.5	1.9	0.0	0.0	0.0	77.4	
Exiting Leg Total							5							42							2							4	53

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	6	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7
8:15 AM	2	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	8
8:30 AM	0	0	0	0	1	0	1	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	11	1	0	0	0	12	17
Total Volume	2	0	0	0	1	2	5	0	1	0	0	2	0	3	0	0	0	0	2	0	2	0	28	1	0	0	0	29	39
% Approach Total	40.0	0.0	0.0	0.0	20.0	40.0		0.0	33.3	0.0	0.0	66.7	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	96.6	3.4	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.250	0.313	0.000	0.250	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.636	0.250	0.000	0.000	0.000	0.604	0.574
Entering Leg	2	0	0	0	1	2	5	0	1	0	0	2	0	3	0	0	0	0	2	0	2	0	28	1	0	0	0	29	39
Exiting Leg							4							30							2							3	39
Total							9							33							4							32	78

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	8	4	12	0	0	0	0	4	2	6	0	0	0	0	5	4	9	0	0	0	0	4	1	5	32
7:15 AM	0	0	0	0	7	5	12	0	0	0	0	6	2	8	0	0	0	0	2	2	4	0	0	0	0	0	2	2	26
7:30 AM	0	0	0	0	7	5	12	0	0	0	0	8	4	12	0	0	0	0	6	8	14	0	0	0	0	3	6	9	47
7:45 AM	0	0	0	0	11	15	26	0	0	0	0	8	2	10	0	0	0	0	1	4	5	0	0	0	0	4	1	5	46
Total	0	0	0	0	33	29	62	0	0	0	0	26	10	36	0	0	0	0	14	18	32	0	0	0	0	11	10	21	151
8:00 AM	0	0	0	0	2	9	11	0	0	0	0	2	0	2	0	0	0	0	3	1	4	0	0	0	0	1	1	2	19
8:15 AM	0	0	0	0	6	17	23	0	0	0	0	4	2	6	0	0	0	0	5	2	7	0	0	0	0	1	3	4	40
8:30 AM	0	0	0	0	5	13	18	0	0	0	0	2	3	5	0	0	0	0	4	6	10	0	0	0	0	0	4	4	37
8:45 AM	0	0	0	0	18	9	27	0	0	0	0	4	3	7	0	0	0	0	2	7	9	0	0	0	0	4	5	9	52
Total	0	0	0	0	31	48	79	0	0	0	0	12	8	20	0	0	0	0	14	16	30	0	0	0	0	6	13	19	148
Grand Total	0	0	0	0	64	77	141	0	0	0	0	38	18	56	0	0	0	0	28	34	62	0	0	0	0	17	23	40	299
Approach %	0	0	0	0	45.4	54.6		0	0	0	0	67.9	32.1		0	0	0	0	45.2	54.8		0	0	0	0	42.5	57.5		
Total %	0	0	0	0	21.4	25.8	47.2	0	0	0	0	12.7	6.02	18.7	0	0	0	0	9.36	11.4	20.7	0	0	0	0	5.69	7.69	13.4	
Exiting Leg Total							141							56							62							40	299

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	7	5	12	0	0	0	0	8	4	12	0	0	0	0	6	8	14	0	0	0	0	3	6	9	47
7:45 AM	0	0	0	0	11	15	26	0	0	0	0	8	2	10	0	0	0	0	1	4	5	0	0	0	0	4	1	5	46
8:00 AM	0	0	0	0	2	9	11	0	0	0	0	2	0	2	0	0	0	0	3	1	4	0	0	0	0	1	1	2	19
8:15 AM	0	0	0	0	6	17	23	0	0	0	0	4	2	6	0	0	0	0	5	2	7	0	0	0	0	1	3	4	40
Total Volume	0	0	0	0	26	46	72	0	0	0	0	22	8	30	0	0	0	0	15	15	30	0	0	0	0	9	11	20	152
% Approach Total	0.0	0.0	0.0	0.0	36.1	63.9		0.0	0.0	0.0	0.0	73.3	26.7		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	45.0	55.0		
PHF	0.000	0.000	0.000	0.000	0.591	0.676	0.692	0.000	0.000	0.000	0.000	0.688	0.500	0.625	0.000	0.000	0.000	0.000	0.625	0.469	0.536	0.000	0.000	0.000	0.000	0.563	0.458	0.556	0.809
Entering Leg	0	0	0	0	26	46	72	0	0	0	0	22	8	30	0	0	0	0	15	15	30	0	0	0	0	9	11	20	152
Exiting Leg							72							30							30							20	152
Total							144							60							60							40	304

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	55	0	1	0	56	0	82	0	0	82	0	0	0	0	0	0	80	0	0	80	218
4:15 PM	53	0	1	0	54	0	68	0	0	68	0	0	0	0	0	0	85	0	0	85	207
4:30 PM	56	0	0	0	56	0	94	0	0	94	0	0	0	0	0	0	104	0	0	104	254
4:45 PM	46	0	2	0	48	0	99	0	0	99	0	0	0	0	0	1	97	0	0	98	245
Total	210	0	4	0	214	0	343	0	0	343	0	0	0	0	0	1	366	0	0	367	924
5:00 PM	75	0	0	0	75	0	90	0	0	90	0	0	0	0	0	0	76	0	0	76	241
5:15 PM	45	0	0	0	45	0	110	0	0	110	0	0	0	0	0	0	90	0	0	90	245
5:30 PM	51	0	0	0	51	0	99	0	0	99	0	0	0	0	0	0	74	0	0	74	224
5:45 PM	44	0	0	0	44	0	80	0	0	80	0	0	0	0	0	0	95	0	0	95	219
Total	215	0	0	0	215	0	379	0	0	379	0	0	0	0	0	0	335	0	0	335	929
Grand Total	425	0	4	0	429	0	722	0	0	722	0	0	0	0	0	1	701	0	0	702	1853
Approach %	99.1	0.0	0.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.1	99.9	0.0	0.0		
Total %	22.9	0.0	0.2	0.0	23.2	0.0	39.0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	0.0	0.1	37.8	0.0	0.0	37.9	
Exiting Leg Total					0					705					1					1147	1853
Cars	420	0	4	0	424	0	658	0	0	658	0	0	0	0	0	1	683	0	0	684	1766
% Cars	98.8	0.0	100.0	0.0	98.8	0.0	91.1	0.0	0.0	91.1	0.0	0.0	0.0	0.0	0.0	100.0	97.4	0.0	0.0	97.4	95.3
Exiting Leg Total					0					687					1					1078	1766
Heavy Vehicles	5	0	0	0	5	0	64	0	0	64	0	0	0	0	0	0	18	0	0	18	87
% Heavy Vehicles	1.2	0.0	0.0	0.0	1.2	0.0	8.9	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.6	4.7
Exiting Leg Total					0					18					0					69	87

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	56	0	0	0	56	0	94	0	0	94	0	0	0	0	0	0	104	0	0	104	254
4:45 PM	46	0	2	0	48	0	99	0	0	99	0	0	0	0	0	1	97	0	0	98	245
5:00 PM	75	0	0	0	75	0	90	0	0	90	0	0	0	0	0	0	76	0	0	76	241
5:15 PM	45	0	0	0	45	0	110	0	0	110	0	0	0	0	0	0	90	0	0	90	245
Total Volume	222	0	2	0	224	0	393	0	0	393	0	0	0	0	0	1	367	0	0	368	985
% Approach Total	99.1	0.0	0.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
PHF	0.740	0.000	0.250	0.000	0.747	0.000	0.893	0.000	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.250	0.882	0.000	0.000	0.885	0.969
Cars	220	0	2	0	222	0	356	0	0	356	0	0	0	0	0	1	355	0	0	356	934
Cars %	99.1	0.0	100.0	0.0	99.1	0.0	90.6	0.0	0.0	90.6	0.0	0.0	0.0	0.0	0.0	100.0	96.7	0.0	0.0	96.7	94.8
Heavy Vehicles	2	0	0	0	2	0	37	0	0	37	0	0	0	0	0	0	12	0	0	12	51
Heavy Vehicles %	0.9	0.0	0.0	0.0	0.9	0.0	9.4	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	3.3	5.2
Cars Enter Leg	220	0	2	0	222	0	356	0	0	356	0	0	0	0	0	1	355	0	0	356	934
Heavy Enter Leg	2	0	0	0	2	0	37	0	0	37	0	0	0	0	0	0	12	0	0	12	51
Total Entering Leg	222	0	2	0	224	0	393	0	0	393	0	0	0	0	0	1	367	0	0	368	985
Cars Exiting Leg					0					357					1					576	934
Heavy Exiting Leg					0					12					0					39	51
Total Exiting Leg					0					369					1					615	985

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	54	0	1	0	55	0	77	0	0	77	0	0	0	0	0	0	79	0	0	79	211
4:15 PM	53	0	1	0	54	0	61	0	0	61	0	0	0	0	0	0	83	0	0	83	198
4:30 PM	55	0	0	0	55	0	80	0	0	80	0	0	0	0	0	0	101	0	0	101	236
4:45 PM	45	0	2	0	47	0	90	0	0	90	0	0	0	0	0	1	94	0	0	95	232
Total	207	0	4	0	211	0	308	0	0	308	0	0	0	0	0	1	357	0	0	358	877
5:00 PM	75	0	0	0	75	0	84	0	0	84	0	0	0	0	0	0	73	0	0	73	232
5:15 PM	45	0	0	0	45	0	102	0	0	102	0	0	0	0	0	0	87	0	0	87	234
5:30 PM	49	0	0	0	49	0	91	0	0	91	0	0	0	0	0	0	72	0	0	72	212
5:45 PM	44	0	0	0	44	0	73	0	0	73	0	0	0	0	0	0	94	0	0	94	211
Total	213	0	0	0	213	0	350	0	0	350	0	0	0	0	0	0	326	0	0	326	889
Grand Total	420	0	4	0	424	0	658	0	0	658	0	0	0	0	0	1	683	0	0	684	1766
Approach %	99.1	0.0	0.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.1	99.9	0.0	0.0		
Total %	23.8	0.0	0.2	0.0	24.0	0.0	37.3	0.0	0.0	37.3	0.0	0.0	0.0	0.0	0.0	0.1	38.7	0.0	0.0	38.7	
Exiting Leg Total					0					687					1					1078	1766

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	55	0	0	0	55	0	80	0	0	80	0	0	0	0	0	0	101	0	0	101	236
4:45 PM	45	0	2	0	47	0	90	0	0	90	0	0	0	0	0	1	94	0	0	95	232
5:00 PM	75	0	0	0	75	0	84	0	0	84	0	0	0	0	0	0	73	0	0	73	232
5:15 PM	45	0	0	0	45	0	102	0	0	102	0	0	0	0	0	0	87	0	0	87	234
Total Volume	220	0	2	0	222	0	356	0	0	356	0	0	0	0	0	1	355	0	0	356	934
% Approach Total	99.1	0.0	0.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
PHF	0.733	0.000	0.250	0.000	0.740	0.000	0.873	0.000	0.000	0.873	0.000	0.000	0.000	0.000	0.000	0.250	0.879	0.000	0.000	0.881	0.989
Entering Leg	220	0	2	0	222	0	356	0	0	356	0	0	0	0	0	1	355	0	0	356	934
Exiting Leg					0					357					1					576	934
Total					222					713					1					932	1868

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	7
4:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
4:30 PM	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0	3	0	0	3	18
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	3	0	0	3	13
Total	3	0	0	0	3	0	35	0	0	35	0	0	0	0	0	0	9	0	0	9	47
5:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
5:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	11
5:30 PM	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	12
5:45 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	1	0	0	1	8
Total	2	0	0	0	2	0	29	0	0	29	0	0	0	0	0	0	9	0	0	9	40
Grand Total	5	0	0	0	5	0	64	0	0	64	0	0	0	0	0	0	18	0	0	18	87
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	5.7	0.0	0.0	0.0	5.7	0.0	73.6	0.0	0.0	73.6	0.0	0.0	0.0	0.0	0.0	0.0	20.7	0.0	0.0	20.7	
Exiting Leg Total					0					18					0					69	87
Buses	3	0	0	0	3	0	55	0	0	55	0	0	0	0	0	0	9	0	0	9	67
% Buses	60.0	0.0	0.0	0.0	60.0	0.0	85.9	0.0	0.0	85.9	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	77.0
Exiting Leg Total					0					9					0					58	67
Single-Unit Trucks	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	18
% Single-Unit	40.0	0.0	0.0	0.0	40.0	0.0	12.5	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	44.4	20.7
Exiting Leg Total					0					8					0					10	18
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.6	2.3
Exiting Leg Total					0					1					0					1	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0	3	0	0	3	18
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	3	0	0	3	13
5:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
5:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	11
Total Volume	2	0	0	0	2	0	37	0	0	37	0	0	0	0	0	0	12	0	0	12	51
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.661	0.000	0.000	0.661	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	1.000	0.708
Buses	2	0	0	0	2	0	30	0	0	30	0	0	0	0	0	0	6	0	0	6	38
Buses %	100.0	0.0	0.0	0.0	100.0	0.0	81.1	0.0	0.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	74.5
Single-Unit Trucks	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	12
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0	41.7	0.0	0.0	41.7	23.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	8.3	2.0
Buses	2	0	0	0	2	0	30	0	0	30	0	0	0	0	0	0	6	0	0	6	38
Single-Unit Trucks	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	12
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Entering Leg	2	0	0	0	2	0	37	0	0	37	0	0	0	0	0	0	12	0	0	12	51
Buses					0					6					0					32	38
Single-Unit Trucks					0					5					0					7	12
Articulated Trucks					0					1					0					0	1
Total Exiting Leg					0					12					0					39	51

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	52	0	1	0	53	0	74	0	0	74	0	0	0	0	0	0	78	0	0	78	205
4:15 PM	52	0	1	0	53	0	54	0	0	54	0	0	0	0	0	0	80	0	0	80	187
4:30 PM	55	0	0	0	55	0	74	0	0	74	0	0	0	0	0	0	98	0	0	98	227
4:45 PM	41	0	2	0	43	0	84	0	0	84	0	0	0	0	0	1	91	0	0	92	219
Total	200	0	4	0	204	0	286	0	0	286	0	0	0	0	0	1	347	0	0	348	838
5:00 PM	71	0	0	0	71	0	78	0	0	78	0	0	0	0	0	0	71	0	0	71	220
5:15 PM	43	0	0	0	43	0	100	0	0	100	0	0	0	0	0	0	86	0	0	86	229
5:30 PM	48	0	0	0	48	0	89	0	0	89	0	0	0	0	0	0	72	0	0	72	209
5:45 PM	43	0	0	0	43	0	71	0	0	71	0	0	0	0	0	0	92	0	0	92	206
Total	205	0	0	0	205	0	338	0	0	338	0	0	0	0	0	0	321	0	0	321	864
Grand Total	405	0	4	0	409	0	624	0	0	624	0	0	0	0	0	1	668	0	0	669	1702
Approach %	99.0	0.0	1.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.1	99.9	0.0	0.0		
Total %	23.8	0.0	0.2	0.0	24.0	0.0	36.7	0.0	0.0	36.7	0.0	0.0	0.0	0.0	0.0	0.1	39.2	0.0	0.0	39.3	
Exiting Leg Total					0					672					1					1029	1702

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	55	0	0	0	55	0	74	0	0	74	0	0	0	0	0	0	98	0	0	98	227
4:45 PM	41	0	2	0	43	0	84	0	0	84	0	0	0	0	0	1	91	0	0	92	219
5:00 PM	71	0	0	0	71	0	78	0	0	78	0	0	0	0	0	0	71	0	0	71	220
5:15 PM	43	0	0	0	43	0	100	0	0	100	0	0	0	0	0	0	86	0	0	86	229
Total Volume	210	0	2	0	212	0	336	0	0	336	0	0	0	0	0	1	346	0	0	347	895
% Approach Total	99.1	0.0	0.9	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	99.7	0.0	0.0		
PHF	0.739	0.000	0.250	0.000	0.746	0.000	0.840	0.000	0.000	0.840	0.000	0.000	0.000	0.000	0.000	0.250	0.883	0.000	0.000	0.885	0.977
Entering Leg	210	0	2	0	212	0	336	0	0	336	0	0	0	0	0	1	346	0	0	347	895
Exiting Leg					0					348					1					546	895
Total					212					684					1					893	1790

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
4:15 PM	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	11
4:30 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
4:45 PM	4	0	0	0	4	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	13
Total	7	0	0	0	7	0	22	0	0	22	0	0	0	0	0	0	10	0	0	10	39
5:00 PM	3	0	0	0	3	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	11
5:15 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4
5:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
Total	6	0	0	0	6	0	12	0	0	12	0	0	0	0	0	0	5	0	0	5	23
Grand Total	13	0	0	0	13	0	34	0	0	34	0	0	0	0	0	0	15	0	0	15	62
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	21.0	0.0	0.0	0.0	21.0	0.0	54.8	0.0	0.0	54.8	0.0	0.0	0.0	0.0	0.0	0.0	24.2	0.0	0.0	24.2	
Exiting Leg Total					0					15					0					47	62

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	11
4:30 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
4:45 PM	4	0	0	0	4	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	13
5:00 PM	3	0	0	0	3	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	11
Total Volume	8	0	0	0	8	0	25	0	0	25	0	0	0	0	0	0	11	0	0	11	44
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.893	0.000	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.000	0.917	0.000	0.000	0.917	0.846
Entering Leg	8	0	0	0	8	0	25	0	0	25	0	0	0	0	0	0	11	0	0	11	44
Exiting Leg					0					11					0					33	44
Total					8					36					0					44	88

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
4:30 PM	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	10
Total	2	0	0	0	2	0	29	0	0	29	0	0	0	0	0	0	2	0	0	2	33
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
5:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
5:30 PM	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	10
5:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
Total	1	0	0	0	1	0	26	0	0	26	0	0	0	0	0	0	7	0	0	7	34
Grand Total	3	0	0	0	3	0	55	0	0	55	0	0	0	0	0	0	9	0	0	9	67
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	4.5	0.0	0.0	0.0	4.5	0.0	82.1	0.0	0.0	82.1	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0	13.4	
Exiting Leg Total					0					9					0					58	67

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	10
5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
5:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
Total Volume	2	0	0	0	2	0	30	0	0	30	0	0	0	0	0	0	6	0	0	6	38
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.864
Entering Leg	2	0	0	0	2	0	30	0	0	30	0	0	0	0	0	0	6	0	0	6	38
Exiting Leg					0					6					0					32	38
Total					2					36					0					38	76

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	13
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
Grand Total	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	18
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	11.1	0.0	0.0	0.0	11.1	0.0	44.4	0.0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	44.4	
Exiting Leg Total					0					8					0					10	18

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total Volume	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	13
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.542
Entering Leg	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	13
Exiting Leg					0					6					0					7	13
Total					1					12					0					13	26

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					1					0					1	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street					Kneeland Street					Driveway					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg					0					1					0					0	1
Total					0					1					0					1	2

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	2	0	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
4:15 PM	2	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	3	6
4:30 PM	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	4	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
Total	5	0	0	0	0	0	5	0	1	0	0	1	1	3	0	0	0	0	0	0	0	0	12	0	0	0	0	12	20
5:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	1	0	6	8
5:15 PM	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	12
5:30 PM	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	6
5:45 PM	2	0	0	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	12	0	0	0	3	0	15	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	13	0	0	1	0	14	30
Grand Total	17	0	0	0	3	0	20	0	2	0	0	1	1	4	0	0	0	0	0	0	0	0	25	0	0	1	0	26	50
Approach %	85.0	0.0	0.0	0.0	15.0	0.0		0.0	50.0	0.0	0.0	25.0	25.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	96.2	0.0	0.0	3.8	0.0		
Total %	34.0	0.0	0.0	0.0	6.0	0.0	40.0	0.0	4.0	0.0	0.0	2.0	2.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	2.0	0.0	52.0	
Exiting Leg Total							3							27							0							20	50

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	4	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
5:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	1	0	6	8
5:15 PM	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	12
Total Volume	9	0	0	0	1	0	10	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	17	0	0	1	0	18	30
% Approach Total	90.0	0.0	0.0	0.0	10.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	94.4	0.0	0.0	5.6	0.0		
PHF	0.281	0.000	0.000	0.000	0.250	0.000	0.313	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.850	0.000	0.000	0.250	0.000	0.750	0.625
Entering Leg	9	0	0	0	1	0	10	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	17	0	0	1	0	18	30
Exiting Leg							1							17							0							12	30
Total							11							19							0							30	60

PDI File #: **186481 K**
Location: **N: South Street S: Driveway**
Location: **E: Kneeland Street W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	26	9	35	0	0	0	0	2	3	5	0	0	0	0	3	15	18	0	0	0	0	2	3	5	63
4:15 PM	0	0	0	0	22	10	32	0	0	0	0	1	4	5	0	0	0	0	1	8	9	0	0	0	0	0	0	0	46
4:30 PM	0	0	0	0	27	8	35	0	0	0	0	1	3	4	0	0	0	0	1	11	12	0	0	0	0	2	0	2	53
4:45 PM	0	0	0	0	21	7	28	0	0	0	0	6	6	12	0	0	0	0	1	19	20	0	0	0	0	2	2	4	64
Total	0	0	0	0	96	34	130	0	0	0	0	10	16	26	0	0	0	0	6	53	59	0	0	0	0	6	5	11	226
5:00 PM	0	0	0	0	20	6	26	0	0	0	0	0	3	3	0	0	0	0	0	14	14	0	0	0	0	3	3	6	49
5:15 PM	0	0	0	0	7	12	19	0	0	0	0	0	4	4	0	0	0	0	2	11	13	0	0	0	0	3	2	5	41
5:30 PM	0	0	0	0	25	15	40	0	0	0	0	1	0	1	0	0	0	0	5	3	8	0	0	0	0	2	1	3	52
5:45 PM	0	0	0	0	21	10	31	0	0	0	0	1	0	1	0	0	0	0	2	6	8	0	0	0	0	0	4	4	44
Total	0	0	0	0	73	43	116	0	0	0	0	2	7	9	0	0	0	0	9	34	43	0	0	0	0	8	10	18	186
Grand Total	0	0	0	0	169	77	246	0	0	0	0	12	23	35	0	0	0	0	15	87	102	0	0	0	0	14	15	29	412
Approach %	0	0	0	0	68.7	31.3		0	0	0	0	34.3	65.7		0	0	0	0	14.7	85.3		0	0	0	0	48.3	51.7		
Total %	0	0	0	0	41	18.7	59.7	0	0	0	0	2.91	5.58	8.5	0	0	0	0	3.64	21.1	24.8	0	0	0	0	3.4	3.64	7.04	
Exiting Leg Total							246							35							102							29	412

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	South Street							Kneeland Street							Driveway							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	26	9	35	0	0	0	0	2	3	5	0	0	0	0	3	15	18	0	0	0	0	2	3	5	63
4:15 PM	0	0	0	0	22	10	32	0	0	0	0	1	4	5	0	0	0	0	1	8	9	0	0	0	0	0	0	0	46
4:30 PM	0	0	0	0	27	8	35	0	0	0	0	1	3	4	0	0	0	0	1	11	12	0	0	0	0	2	0	2	53
4:45 PM	0	0	0	0	21	7	28	0	0	0	0	6	6	12	0	0	0	0	1	19	20	0	0	0	0	2	2	4	64
Total Volume	0	0	0	0	96	34	130	0	0	0	0	10	16	26	0	0	0	0	6	53	59	0	0	0	0	6	5	11	226
% Approach Total	0.0	0.0	0.0	0.0	73.8	26.2		0.0	0.0	0.0	0.0	38.5	61.5		0.0	0.0	0.0	0.0	10.2	89.8		0.0	0.0	0.0	0.0	54.5	45.5		
PHF	0.000	0.000	0.000	0.000	0.889	0.850	0.929	0.000	0.000	0.000	0.000	0.417	0.667	0.542	0.000	0.000	0.000	0.000	0.500	0.697	0.738	0.000	0.000	0.000	0.000	0.750	0.417	0.550	0.883
Entering Leg	0	0	0	0	96	34	130	0	0	0	0	10	16	26	0	0	0	0	6	53	59	0	0	0	0	6	5	11	226
Exiting Leg							130							26							59							11	226
Total							260							52							118							22	452

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	203	118	0	322	0	1	54	0	55	377
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	200	107	0	307	0	0	81	0	81	389
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	200	122	0	322	0	2	80	0	82	404
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	196	140	0	336	0	0	73	0	73	409
Total	0	0	0	0	0	1	0	0	0	1	1	799	487	0	1287	0	3	288	0	291	1579
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	224	137	0	361	0	0	72	0	72	433
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	179	146	0	326	0	0	90	0	90	416
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	199	126	0	326	0	0	99	0	99	425
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	229	158	0	389	0	0	85	0	85	474
Total	0	0	0	0	0	0	0	0	0	0	4	831	567	0	1402	0	0	346	0	346	1748
Grand Total	0	0	0	0	0	1	0	0	0	1	5	1630	1054	0	2689	0	3	634	0	637	3327
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.2	60.6	39.2	0.0		0.0	0.5	99.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	49.0	31.7	0.0	80.8	0.0	0.1	19.1	0.0	19.1	
Exiting Leg Total					2265					8					0					1054	3327
Cars	0	0	0	0	0	1	0	0	0	1	5	1567	957	0	2529	0	3	592	0	595	3125
% Cars	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	96.1	90.8	0.0	94.0	0.0	100.0	93.4	0.0	93.4	93.9
Exiting Leg Total					2160					8					0					957	3125
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	63	97	0	160	0	0	42	0	42	202
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	9.2	0.0	6.0	0.0	0.0	6.6	0.0	6.6	6.1
Exiting Leg Total					105					0					0					97	202

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	224	137	0	361	0	0	72	0	72	433
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	179	146	0	326	0	0	90	0	90	416
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	199	126	0	326	0	0	99	0	99	425
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	229	158	0	389	0	0	85	0	85	474
Total Volume	0	0	0	0	0	0	0	0	0	0	4	831	567	0	1402	0	0	346	0	346	1748
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	59.3	40.4	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.907	0.897	0.000	0.901	0.000	0.000	0.874	0.000	0.874	0.922
Cars	0	0	0	0	0	0	0	0	0	0	4	790	518	0	1312	0	0	322	0	322	1634
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	95.1	91.4	0.0	93.6	0.0	0.0	93.1	0.0	93.1	93.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	41	49	0	90	0	0	24	0	24	114
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	8.6	0.0	6.4	0.0	0.0	6.9	0.0	6.9	6.5
Cars Enter Leg	0	0	0	0	0	0	0	0	0	0	4	790	518	0	1312	0	0	322	0	322	1634
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	41	49	0	90	0	0	24	0	24	114
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	4	831	567	0	1402	0	0	346	0	346	1748
Cars Exiting Leg					1112					4					0					518	1634
Heavy Exiting Leg					65					0					0					49	114
Total Exiting Leg					1177					4					0					567	1748

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	196	107	0	304	0	1	52	0	53	357
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	195	90	0	285	0	0	78	0	78	364
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	195	113	0	308	0	2	71	0	73	381
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	191	129	0	320	0	0	69	0	69	389
Total	0	0	0	0	0	1	0	0	0	1	1	777	439	0	1217	0	3	270	0	273	1491
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	214	123	0	337	0	0	64	0	64	401
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	168	137	0	306	0	0	80	0	80	386
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	193	113	0	307	0	0	96	0	96	403
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	215	145	0	362	0	0	82	0	82	444
Total	0	0	0	0	0	0	0	0	0	0	4	790	518	0	1312	0	0	322	0	322	1634
Grand Total	0	0	0	0	0	1	0	0	0	1	5	1567	957	0	2529	0	3	592	0	595	3125
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.2	62.0	37.8	0.0		0.0	0.5	99.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	50.1	30.6	0.0	80.9	0.0	0.1	18.9	0.0	19.0	
Exiting Leg Total					2160					8					0					957	3125

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	214	123	0	337	0	0	64	0	64	401
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	168	137	0	306	0	0	80	0	80	386
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	193	113	0	307	0	0	96	0	96	403
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	215	145	0	362	0	0	82	0	82	444
Total Volume	0	0	0	0	0	0	0	0	0	0	4	790	518	0	1312	0	0	322	0	322	1634
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	60.2	39.5	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.919	0.893	0.000	0.906	0.000	0.000	0.839	0.000	0.839	0.920
Entering Leg	0	0	0	0	0	0	0	0	0	0	4	790	518	0	1312	0	0	322	0	322	1634
Exiting Leg					1112					4					0					518	1634
Total					1112					4					1312					840	3268

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	11	0	18	0	0	2	0	2	20
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	17	0	22	0	0	3	0	3	25
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	9	0	14	0	0	9	0	9	23
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	5	11	0	16	0	0	4	0	4	20
Total	0	0	0	0	0	0	0	0	0	0	0	22	48	0	70	0	0	18	0	18	88
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	14	0	24	0	0	8	0	8	32
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	11	9	0	20	0	0	10	0	10	30
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	13	0	19	0	0	3	0	3	22
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	14	13	0	27	0	0	3	0	3	30
Total	0	0	0	0	0	0	0	0	0	0	0	41	49	0	90	0	0	24	0	24	114
Grand Total	0	0	0	0	0	0	0	0	0	0	0	63	97	0	160	0	0	42	0	42	202
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	39.4	60.6	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	48.0	0.0	79.2	0.0	0.0	20.8	0.0	20.8	
Exiting Leg Total					105					0					0					97	202
Buses	0	0	0	0	0	0	0	0	0	0	0	14	64	0	78	0	0	8	0	8	86
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	66.0	0.0	48.8	0.0	0.0	19.0	0.0	19.0	42.6
Exiting Leg Total					22					0					0					64	86
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	41	30	0	71	0	0	32	0	32	103
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.1	30.9	0.0	44.4	0.0	0.0	76.2	0.0	76.2	51.0
Exiting Leg Total					73					0					0					30	103
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	8	3	0	11	0	0	2	0	2	13
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	3.1	0.0	6.9	0.0	0.0	4.8	0.0	4.8	6.4
Exiting Leg Total					10					0					0					3	13

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	14	0	24	0	0	8	0	8	32
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	11	9	0	20	0	0	10	0	10	30
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	13	0	19	0	0	3	0	3	22
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	14	13	0	27	0	0	3	0	3	30
Total Volume	0	0	0	0	0	0	0	0	0	0	0	41	49	0	90	0	0	24	0	24	114
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	45.6	54.4	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.875	0.000	0.833	0.000	0.000	0.600	0.000	0.600	0.891
Buses	0	0	0	0	0	0	0	0	0	0	0	11	34	0	45	0	0	6	0	6	51
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.8	69.4	0.0	50.0	0.0	0.0	25.0	0.0	25.0	44.7
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	23	14	0	37	0	0	16	0	16	53
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.1	28.6	0.0	41.1	0.0	0.0	66.7	0.0	66.7	46.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	10
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	2.0	0.0	8.9	0.0	0.0	8.3	0.0	8.3	8.8
Buses	0	0	0	0	0	0	0	0	0	0	0	11	34	0	45	0	0	6	0	6	51
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	23	14	0	37	0	0	16	0	16	53
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	10
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	41	49	0	90	0	0	24	0	24	114
Buses					17					0					0					34	51
Single-Unit Trucks					39					0					0					14	53
Articulated Trucks					9					0					0					1	10
Total Exiting Leg					65					0					0					49	114

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	188	91	0	279	0	0	46	0	46	325
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	188	76	0	264	0	0	70	0	70	334
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	189	102	0	291	0	1	63	0	64	355
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	181	114	0	295	0	0	57	0	57	352
Total	0	0	0	0	0	0	0	0	0	0	0	746	383	0	1129	0	1	236	0	237	1366
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	202	114	0	316	0	0	59	0	59	375
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	162	123	0	286	0	0	76	0	76	362
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	184	106	0	291	0	0	89	0	89	380
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	206	128	0	336	0	0	77	0	77	413
Total	0	0	0	0	0	0	0	0	0	0	4	754	471	0	1229	0	0	301	0	301	1530
Grand Total	0	0	0	0	0	0	0	0	0	0	4	1500	854	0	2358	0	1	537	0	538	2896
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.2	63.6	36.2	0.0		0.0	0.2	99.8	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	51.8	29.5	0.0	81.4	0.0	0.0	18.5	0.0	18.6	
Exiting Leg Total					2037					5					0					854	2896

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	202	114	0	316	0	0	59	0	59	375
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	162	123	0	286	0	0	76	0	76	362
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	184	106	0	291	0	0	89	0	89	380
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	206	128	0	336	0	0	77	0	77	413
Total Volume	0	0	0	0	0	0	0	0	0	0	4	754	471	0	1229	0	0	301	0	301	1530
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.3	61.4	38.3	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.915	0.920	0.000	0.914	0.000	0.000	0.846	0.000	0.846	0.926
Entering Leg	0	0	0	0	0	0	0	0	0	0	4	754	471	0	1229	0	0	301	0	301	1530
Exiting Leg					1055					4					0					471	1530
Total					1055					4					1229					772	3060

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	8	16	0	25	0	1	6	0	7	32
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	5	14	0	19	0	0	7	0	7	27
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	11	0	16	0	1	7	0	8	24
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	10	15	0	25	0	0	10	0	10	35
Total	0	0	0	0	0	1	0	0	0	1	1	28	56	0	85	0	2	30	0	32	118
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	9	0	19	0	0	5	0	5	24
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	6	13	0	19	0	0	4	0	4	23
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	9	7	0	16	0	0	6	0	6	22
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	8	16	0	24	0	0	4	0	4	28
Total	0	0	0	0	0	0	0	0	0	0	0	33	45	0	78	0	0	19	0	19	97
Grand Total	0	0	0	0	0	1	0	0	0	1	1	61	101	0	163	0	2	49	0	51	215
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.6	37.4	62.0	0.0		0.0	3.9	96.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.5	28.4	47.0	0.0	75.8	0.0	0.9	22.8	0.0	23.7	
Exiting Leg Total					111					3					0					101	215

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	8	16	0	25	0	1	6	0	7	32
7:15 AM	0	0	0	0	0	1	0	0	0	1	0	5	14	0	19	0	0	7	0	7	27
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	11	0	16	0	1	7	0	8	24
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	10	15	0	25	0	0	10	0	10	35
Total Volume	0	0	0	0	0	1	0	0	0	1	1	28	56	0	85	0	2	30	0	32	118
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		1.2	32.9	65.9	0.0		0.0	6.3	93.8	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.700	0.875	0.000	0.850	0.000	0.500	0.750	0.000	0.800	0.843
Entering Leg	0	0	0	0	0	1	0	0	0	1	1	28	56	0	85	0	2	30	0	32	118
Exiting Leg					59					3					0					56	118
Total					59					4					85					88	236

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	7
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	1	0	1	11
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	0	0	0	0	0	8
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	1	0	1	9
Total	0	0	0	0	0	0	0	0	0	0	0	3	30	0	33	0	0	2	0	2	35
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10	0	0	2	0	2	12
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	1	0	1	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	9	0	12	0	0	1	0	1	13
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	7	8	0	15	0	0	2	0	2	17
Total	0	0	0	0	0	0	0	0	0	0	0	11	34	0	45	0	0	6	0	6	51
Grand Total	0	0	0	0	0	0	0	0	0	0	0	14	64	0	78	0	0	8	0	8	86
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	17.9	82.1	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.3	74.4	0.0	90.7	0.0	0.0	9.3	0.0	9.3	
Exiting Leg Total					22					0					0					64	86

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10	0	0	2	0	2	12
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	1	0	1	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	9	0	12	0	0	1	0	1	13
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	7	8	0	15	0	0	2	0	2	17
Total Volume	0	0	0	0	0	0	0	0	0	0	0	11	34	0	45	0	0	6	0	6	51
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	24.4	75.6	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.393	0.944	0.000	0.750	0.000	0.000	0.750	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	11	34	0	45	0	0	6	0	6	51
Exiting Leg					17					0					0					34	51
Total					17					0					45					40	102

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	5	5	0	10	0	0	2	0	2	12
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	7	0	12	0	0	2	0	2	14
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	0	0	9	0	9	14
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	3	0	3	10
Total	0	0	0	0	0	0	0	0	0	0	0	18	16	0	34	0	0	16	0	16	50
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	5	0	12	0	0	5	0	5	17
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	0	0	8	0	8	18
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	4	0	6	0	0	2	0	2	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	5	4	0	9	0	0	1	0	1	10
Total	0	0	0	0	0	0	0	0	0	0	0	23	14	0	37	0	0	16	0	16	53
Grand Total	0	0	0	0	0	0	0	0	0	0	0	41	30	0	71	0	0	32	0	32	103
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	57.7	42.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	29.1	0.0	68.9	0.0	0.0	31.1	0.0	31.1	
Exiting Leg Total					73					0					0					30	103

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	0	0	9	0	9	14
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	3	0	3	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	5	0	12	0	0	5	0	5	17
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	0	0	8	0	8	18
Total Volume	0	0	0	0	0	0	0	0	0	0	0	24	10	0	34	0	0	25	0	25	59
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	70.6	29.4	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.500	0.000	0.708	0.000	0.000	0.694	0.000	0.694	0.819
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	24	10	0	34	0	0	25	0	25	59
Exiting Leg					49					0					0					10	59
Total					49					0					34					35	118

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	10
Grand Total	0	0	0	0	0	0	0	0	0	0	0	8	3	0	11	0	0	2	0	2	13
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	72.7	27.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.5	23.1	0.0	84.6	0.0	0.0	15.4	0.0	15.4	
Exiting Leg Total					10					0					0					3	13

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	10
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	87.5	12.5	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.250	0.000	0.667	0.000	0.000	0.500	0.000	0.500	0.833
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	10
Exiting Leg					9					0					0					1	10
Total					9					0					8					3	20

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	6
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3	0	0	0	3	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	9	0	0	0	9	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	0	0	0	7	8
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	0	1	0	3	0	0	26	0	0	0	26	31
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	0	1	0	3	0	0	36	0	0	0	36	41
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	66.7	0.0	0.0	33.3	0.0		0.0	0.0	100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4	4.9	0.0	4.9	0.0	0.0	2.4	0.0	7.3	0.0	0.0	87.8	0.0	0.0	0.0	87.8	
Exiting Leg Total							38							2							1							0	41

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3	0	0	0	3	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	9	0	0	0	9	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	0	0	0	7	8
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	0	1	0	3	0	0	26	0	0	0	26	31
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	66.7	0.0	0.0	33.3	0.0		0.0	0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.500	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.722	0.000	0.000	0.000	0.722	0.646
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	0	1	0	3	0	0	26	0	0	0	26	31
Exiting Leg							28							2							1							0	31
Total							28							4							4							26	62

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	1	3	4	0	0	0	0	1	1	2	9
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	1	4	0	0	0	0	0	1	1	8
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	2	7	0	0	0	0	5	2	7	0	0	0	0	0	0	0	14
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	0	0	0	0	0	3	3	6
Total	0	0	0	0	0	0	0	0	0	0	0	9	5	14	0	0	0	0	9	8	17	0	0	0	0	1	5	6	37
8:00 AM	0	0	0	0	1	2	3	0	0	0	0	2	1	3	0	0	0	0	2	1	3	0	0	0	0	0	1	1	10
8:15 AM	0	0	0	0	0	8	8	0	0	0	0	4	1	5	0	0	0	0	5	1	6	0	0	0	0	0	0	0	19
8:30 AM	0	0	0	0	0	9	9	0	0	0	0	2	3	5	0	0	0	0	2	2	4	0	0	0	0	0	0	0	18
8:45 AM	0	0	0	0	4	1	5	0	0	0	0	2	4	6	0	0	0	0	1	3	4	0	0	0	0	1	0	1	16
Total	0	0	0	0	5	20	25	0	0	0	0	10	9	19	0	0	0	0	10	7	17	0	0	0	0	1	1	2	63
Grand Total	0	0	0	0	5	20	25	0	0	0	0	19	14	33	0	0	0	0	19	15	34	0	0	0	0	2	6	8	100
Approach %	0	0	0	0	20	80		0	0	0	0	57.6	42.4		0	0	0	0	55.9	44.1		0	0	0	0	25	75		
Total %	0	0	0	0	5	20	25	0	0	0	0	19	14	33	0	0	0	0	19	15	34	0	0	0	0	2	6	8	
Exiting Leg Total							25							33							34							8	100

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	1	2	3	0	0	0	0	2	1	3	0	0	0	0	2	1	3	0	0	0	0	0	1	1	10
8:15 AM	0	0	0	0	0	8	8	0	0	0	0	4	1	5	0	0	0	0	5	1	6	0	0	0	0	0	0	0	19
8:30 AM	0	0	0	0	0	9	9	0	0	0	0	2	3	5	0	0	0	0	2	2	4	0	0	0	0	0	0	0	18
8:45 AM	0	0	0	0	4	1	5	0	0	0	0	2	4	6	0	0	0	0	1	3	4	0	0	0	0	1	0	1	16
Total Volume	0	0	0	0	5	20	25	0	0	0	0	10	9	19	0	0	0	0	10	7	17	0	0	0	0	1	1	2	63
% Approach Total	0.0	0.0	0.0	0.0	20.0	80.0		0.0	0.0	0.0	0.0	52.6	47.4		0.0	0.0	0.0	0.0	58.8	41.2		0.0	0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.313	0.556	0.694	0.000	0.000	0.000	0.000	0.625	0.563	0.792	0.000	0.000	0.000	0.000	0.500	0.583	0.708	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.829
Entering Leg	0	0	0	0	5	20	25	0	0	0	0	10	9	19	0	0	0	0	10	7	17	0	0	0	0	1	1	2	63
Exiting Leg							25							19							17							2	63
Total							50							38							34							4	126

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	88	81	0	169	0	0	77	0	77	247
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	105	67	0	172	0	0	82	0	82	256
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	99	91	0	190	0	0	103	0	103	294
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	106	96	0	202	0	0	98	0	98	301
Total	0	0	0	0	0	1	4	0	0	5	0	398	335	0	733	0	0	360	0	360	1098
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	106	87	0	193	0	0	78	0	78	273
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	87	109	0	196	0	0	84	0	84	280
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	103	98	0	201	0	0	74	0	74	275
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	98	80	0	178	0	0	91	0	91	269
Total	0	0	0	0	0	1	1	0	0	2	0	394	374	0	768	0	0	327	0	327	1097
Grand Total	0	0	0	0	0	2	5	0	0	7	0	792	709	0	1501	0	0	687	0	687	2195
Approach %	0.0	0.0	0.0	0.0		28.6	71.4	0.0	0.0		0.0	52.8	47.2	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	36.1	32.3	0.0	68.4	0.0	0.0	31.3	0.0	31.3	
Exiting Leg Total					1481					0					0					714	2195
Cars	0	0	0	0	0	2	5	0	0	7	0	770	646	0	1416	0	0	670	0	670	2093
% Cars	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	97.2	91.1	0.0	94.3	0.0	0.0	97.5	0.0	97.5	95.4
Exiting Leg Total					1442					0					0					651	2093
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	22	63	0	85	0	0	17	0	17	102
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	8.9	0.0	5.7	0.0	0.0	2.5	0.0	2.5	4.6
Exiting Leg Total					39					0					0					63	102

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	99	91	0	190	0	0	103	0	103	294
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	106	96	0	202	0	0	98	0	98	301
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	106	87	0	193	0	0	78	0	78	273
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	87	109	0	196	0	0	84	0	84	280
Total Volume	0	0	0	0	0	2	2	0	0	4	0	398	383	0	781	0	0	363	0	363	1148
% Approach Total	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	51.0	49.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.500	0.000	0.939	0.878	0.000	0.967	0.000	0.000	0.881	0.000	0.881	0.953
Cars	0	0	0	0	0	2	2	0	0	4	0	388	347	0	735	0	0	353	0	353	1092
Cars %	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	97.5	90.6	0.0	94.1	0.0	0.0	97.2	0.0	97.2	95.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	10	36	0	46	0	0	10	0	10	56
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	9.4	0.0	5.9	0.0	0.0	2.8	0.0	2.8	4.9
Cars Enter Leg	0	0	0	0	0	2	2	0	0	4	0	388	347	0	735	0	0	353	0	353	1092
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	10	36	0	46	0	0	10	0	10	56
Total Entering Leg	0	0	0	0	0	2	2	0	0	4	0	398	383	0	781	0	0	363	0	363	1148
Cars Exiting Leg					743					0					0					349	1092
Heavy Exiting Leg					20					0					0					36	56
Total Exiting Leg					763					0					0					385	1148

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	85	76	0	161	0	0	76	0	76	238
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	102	60	0	162	0	0	80	0	80	244
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	97	77	0	174	0	0	100	0	100	275
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	105	87	0	192	0	0	96	0	96	289
Total	0	0	0	0	0	1	4	0	0	5	0	389	300	0	689	0	0	352	0	352	1046
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	102	81	0	183	0	0	75	0	75	260
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	84	102	0	186	0	0	82	0	82	268
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	98	90	0	188	0	0	71	0	71	259
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	97	73	0	170	0	0	90	0	90	260
Total	0	0	0	0	0	1	1	0	0	2	0	381	346	0	727	0	0	318	0	318	1047
Grand Total	0	0	0	0	0	2	5	0	0	7	0	770	646	0	1416	0	0	670	0	670	2093
Approach %	0.0	0.0	0.0	0.0		28.6	71.4	0.0	0.0		0.0	54.4	45.6	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	36.8	30.9	0.0	67.7	0.0	0.0	32.0	0.0	32.0	
Exiting Leg Total					1442					0					0					651	2093

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	97	77	0	174	0	0	100	0	100	275
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	105	87	0	192	0	0	96	0	96	289
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	102	81	0	183	0	0	75	0	75	260
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	84	102	0	186	0	0	82	0	82	268
Total Volume	0	0	0	0	0	2	2	0	0	4	0	388	347	0	735	0	0	353	0	353	1092
% Approach Total	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	52.8	47.2	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.500	0.000	0.924	0.850	0.000	0.957	0.000	0.000	0.883	0.000	0.883	0.945
Entering Leg	0	0	0	0	0	2	2	0	0	4	0	388	347	0	735	0	0	353	0	353	1092
Exiting Leg					743					0					0					349	1092
Total					743					4					735					702	2184

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	5	0	8	0	0	1	0	1	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	7	0	10	0	0	2	0	2	12
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	14	0	16	0	0	3	0	3	19
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10	0	0	2	0	2	12
Total	0	0	0	0	0	0	0	0	0	0	0	9	35	0	44	0	0	8	0	8	52
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	6	0	10	0	0	3	0	3	13
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	7	0	10	0	0	2	0	2	12
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	8	0	13	0	0	3	0	3	16
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	7	0	8	0	0	1	0	1	9
Total	0	0	0	0	0	0	0	0	0	0	0	13	28	0	41	0	0	9	0	9	50
Grand Total	0	0	0	0	0	0	0	0	0	0	0	22	63	0	85	0	0	17	0	17	102
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	25.9	74.1	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6	61.8	0.0	83.3	0.0	0.0	16.7	0.0	16.7	
Exiting Leg Total					39					0					0					63	102
Buses	0	0	0	0	0	0	0	0	0	0	0	11	55	0	66	0	0	8	0	8	74
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	87.3	0.0	77.6	0.0	0.0	47.1	0.0	47.1	72.5
Exiting Leg Total					19					0					0					55	74
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	9	7	0	16	0	0	8	0	8	24
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.9	11.1	0.0	18.8	0.0	0.0	47.1	0.0	47.1	23.5
Exiting Leg Total					17					0					0					7	24
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	1.6	0.0	3.5	0.0	0.0	5.9	0.0	5.9	3.9
Exiting Leg Total					3					0					0					1	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	7	0	10	0	0	2	0	2	12
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	14	0	16	0	0	3	0	3	19
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10	0	0	2	0	2	12
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	6	0	10	0	0	3	0	3	13
Total Volume	0	0	0	0	0	0	0	0	0	0	0	10	36	0	46	0	0	10	0	10	56
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	21.7	78.3	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.643	0.000	0.719	0.000	0.000	0.833	0.000	0.833	0.737
Buses	0	0	0	0	0	0	0	0	0	0	0	4	29	0	33	0	0	4	0	4	37
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	80.6	0.0	71.7	0.0	0.0	40.0	0.0	40.0	66.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	4	7	0	11	0	0	5	0	5	16
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	19.4	0.0	23.9	0.0	0.0	50.0	0.0	50.0	28.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	4.3	0.0	0.0	10.0	0.0	10.0	5.4
Buses	0	0	0	0	0	0	0	0	0	0	0	4	29	0	33	0	0	4	0	4	37
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	4	7	0	11	0	0	5	0	5	16
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	10	36	0	46	0	0	10	0	10	56
Buses					8					0					0					29	37
Single-Unit Trucks					9					0					0					7	16
Articulated Trucks					3					0					0					0	3
Total Exiting Leg					20					0					0					36	56

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	80	73	0	153	0	0	74	0	74	228
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	96	53	0	149	0	0	76	0	76	227
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	91	72	0	163	0	0	97	0	97	261
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	104	83	0	187	0	0	93	0	93	280
Total	0	0	0	0	0	1	3	0	0	4	0	371	281	0	652	0	0	340	0	340	996
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	100	74	0	174	0	0	74	0	74	250
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	82	100	0	182	0	0	80	0	80	262
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	95	88	0	183	0	0	70	0	70	253
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	92	71	0	163	0	0	87	0	87	250
Total	0	0	0	0	0	1	1	0	0	2	0	369	333	0	702	0	0	311	0	311	1015
Grand Total	0	0	0	0	0	2	4	0	0	6	0	740	614	0	1354	0	0	651	0	651	2011
Approach %	0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		0.0	54.7	45.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	36.8	30.5	0.0	67.3	0.0	0.0	32.4	0.0	32.4	
Exiting Leg Total					1393					0					0					618	2011

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	91	72	0	163	0	0	97	0	97	261
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	104	83	0	187	0	0	93	0	93	280
5:00 PM	0	0	0	0	0	1	1	0	0	2	0	100	74	0	174	0	0	74	0	74	250
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	82	100	0	182	0	0	80	0	80	262
Total Volume	0	0	0	0	0	2	1	0	0	3	0	377	329	0	706	0	0	344	0	344	1053
% Approach Total	0.0	0.0	0.0	0.0		66.7	33.3	0.0	0.0		0.0	53.4	46.6	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.375	0.000	0.906	0.823	0.000	0.944	0.000	0.000	0.887	0.000	0.887	0.940
Entering Leg	0	0	0	0	0	2	1	0	0	3	0	377	329	0	706	0	0	344	0	344	1053
Exiting Leg					723					0					0					330	1053
Total					723					3					706					674	2106

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	3	0	7	0	0	2	0	2	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	7	0	13	0	0	3	0	3	16
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	5	0	9	0	0	3	0	3	12
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	0	0	3	0	3	8
Total	0	0	0	0	0	0	1	0	0	1	0	14	19	0	33	0	0	11	0	11	45
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	7	0	9	0	0	1	0	1	10
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	2	0	2	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	0	0	1	0	1	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	3	0	3	10
Total	0	0	0	0	0	0	0	0	0	0	0	12	13	0	25	0	0	7	0	7	32
Grand Total	0	0	0	0	0	0	1	0	0	1	0	26	32	0	58	0	0	18	0	18	77
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	44.8	55.2	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.3	0.0	33.8	41.6	0.0	75.3	0.0	0.0	23.4	0.0	23.4	
Exiting Leg Total					44					0					0					33	77

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	7	0	13	0	0	3	0	3	16
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	5	0	9	0	0	3	0	3	12
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	0	0	3	0	3	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	7	0	9	0	0	1	0	1	10
Total Volume	0	0	0	0	0	0	1	0	0	1	0	12	23	0	35	0	0	10	0	10	46
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	34.3	65.7	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.821	0.000	0.673	0.000	0.000	0.833	0.000	0.833	0.719
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	12	23	0	35	0	0	10	0	10	46
Exiting Leg					22					0					0					24	46
Total					22					1					35					34	92

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	0	0	1	0	1	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	10
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	0	3	29	0	32	0	0	1	0	1	33
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	5	0	7	0	0	3	0	3	10
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	7	0	9	0	0	2	0	2	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	8	0	11	0	0	1	0	1	12
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	0	0	1	0	1	8
Total	0	0	0	0	0	0	0	0	0	0	0	8	26	0	34	0	0	7	0	7	41
Grand Total	0	0	0	0	0	0	0	0	0	0	0	11	55	0	66	0	0	8	0	8	74
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	16.7	83.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9	74.3	0.0	89.2	0.0	0.0	10.8	0.0	10.8	
Exiting Leg Total					19					0					0					55	74

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	5	0	7	0	0	3	0	3	10
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	7	0	9	0	0	2	0	2	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	8	0	11	0	0	1	0	1	12
Total Volume	0	0	0	0	0	0	0	0	0	0	0	7	28	0	35	0	0	6	0	6	41
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	20.0	80.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.875	0.000	0.795	0.000	0.000	0.500	0.000	0.500	0.854
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	7	28	0	35	0	0	6	0	6	41
Exiting Leg					13					0					0					28	41
Total					13					0					35					34	82

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	0	0	2	0	2	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	4
Total	0	0	0	0	0	0	0	0	0	0	0	5	6	0	11	0	0	6	0	6	17
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	0	2	0	2	7
Grand Total	0	0	0	0	0	0	0	0	0	0	0	9	7	0	16	0	0	8	0	8	24
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	56.3	43.8	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	29.2	0.0	66.7	0.0	0.0	33.3	0.0	33.3	
Exiting Leg Total					17					0					0					7	24

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	0	0	2	0	2	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	6	0	11	0	0	6	0	6	17
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	45.5	54.5	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.375	0.000	0.550	0.000	0.000	0.750	0.000	0.750	0.607
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	5	6	0	11	0	0	6	0	6	17
Exiting Leg					11					0					0					6	17
Total					11					0					11					12	34

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	4
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	25.0	0.0	75.0	0.0	0.0	25.0	0.0	25.0	
Exiting Leg Total					3					0					0					1	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue					South Station Driveway					I-90/93 Offramp					Kneeland Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
Exiting Leg					3					0					0					0	3
Total					3					0					2					1	6

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	4	0	0	0	4	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	0	10	0	1	0	11	15
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	6	0	0	0	6	7
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	4	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	0	0	14	0	0	0	14	17
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	4	0	0	1	0	5	0	0	24	0	1	0	25	32
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	50.0	0.0	0.0	50.0	0.0		0.0	80.0	0.0	0.0	20.0	0.0		0.0	0.0	96.0	0.0	4.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	3.1	0.0	6.3	0.0	12.5	0.0	0.0	3.1	0.0	15.6	0.0	0.0	75.0	0.0	3.1	0.0	78.1	
Exiting Leg Total							28							1							1							2	32

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	4	0	0	0	4	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	6	0	0	0	6	7
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	4	5
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	0	0	0	4	0	0	18	0	0	0	18	23
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.333	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.750	0.000	0.000	0.000	0.750	0.821
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	0	0	0	4	0	0	18	0	0	0	18	23
Exiting Leg							22							1							0							0	23
Total							22							2							4							18	46

PDI File #: **186481 L**
Location: **N: Atlantic Avenue S: I-90/93 Offramp**
Location: **E: South Station Driveway W: Kneeland Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	19	1	20	0	0	0	0	0	5	5	0	0	0	0	0	19	19	0	0	0	0	1	0	1	45
4:15 PM	0	0	0	0	11	4	15	0	0	0	0	0	11	11	0	0	0	0	1	12	13	0	0	0	0	0	0	0	39
4:30 PM	0	0	0	0	13	3	16	0	0	0	0	1	9	10	0	0	0	0	1	11	12	0	0	0	0	0	0	0	38
4:45 PM	0	0	0	0	16	2	18	0	0	0	0	1	17	18	0	0	0	0	0	16	16	0	0	0	0	1	0	1	53
Total	0	0	0	0	59	10	69	0	0	0	0	2	42	44	0	0	0	0	2	58	60	0	0	0	0	2	0	2	175
5:00 PM	0	0	0	0	22	3	25	0	0	0	0	0	14	14	0	0	0	0	0	11	11	0	0	0	0	0	0	0	50
5:15 PM	0	0	0	0	7	2	9	0	0	0	0	0	10	10	0	0	0	0	1	10	11	0	0	0	0	0	1	1	31
5:30 PM	0	0	0	0	15	6	21	0	0	0	0	4	5	9	0	0	0	0	3	6	9	0	0	0	0	0	1	1	40
5:45 PM	0	0	0	0	16	2	18	0	0	0	0	0	4	4	0	0	0	0	0	4	4	0	0	0	0	0	0	0	26
Total	0	0	0	0	60	13	73	0	0	0	0	4	33	37	0	0	0	0	4	31	35	0	0	0	0	0	2	2	147
Grand Total	0	0	0	0	119	23	142	0	0	0	0	6	75	81	0	0	0	0	6	89	95	0	0	0	0	2	2	4	322
Approach %	0	0	0	0	83.8	16.2		0	0	0	0	7.41	92.6		0	0	0	0	6.32	93.7		0	0	0	0	50	50		
Total %	0	0	0	0	37	7.14	44.1	0	0	0	0	1.86	23.3	25.2	0	0	0	0	1.86	27.6	29.5	0	0	0	0	0.62	0.62	1.24	
Exiting Leg Total							142							81							95							4	322

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Atlantic Avenue							South Station Driveway							I-90/93 Offramp							Kneeland Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	11	4	15	0	0	0	0	0	11	11	0	0	0	0	1	12	13	0	0	0	0	0	0	0	39
4:30 PM	0	0	0	0	13	3	16	0	0	0	0	1	9	10	0	0	0	0	1	11	12	0	0	0	0	0	0	0	38
4:45 PM	0	0	0	0	16	2	18	0	0	0	0	1	17	18	0	0	0	0	0	16	16	0	0	0	0	1	0	1	53
5:00 PM	0	0	0	0	22	3	25	0	0	0	0	0	14	14	0	0	0	0	0	11	11	0	0	0	0	0	0	0	50
Total Volume	0	0	0	0	62	12	74	0	0	0	0	2	51	53	0	0	0	0	2	50	52	0	0	0	0	1	0	1	180
% Approach Total	0.0	0.0	0.0	0.0	83.8	16.2		0.0	0.0	0.0	0.0	3.8	96.2		0.0	0.0	0.0	0.0	3.8	96.2		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.705	0.750	0.740	0.000	0.000	0.000	0.000	0.500	0.750	0.736	0.000	0.000	0.000	0.000	0.500	0.781	0.813	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.849
Entering Leg	0	0	0	0	62	12	74	0	0	0	0	2	51	53	0	0	0	0	2	50	52	0	0	0	0	1	0	1	180
Exiting Leg							74							53							52							1	180
Total							148							106							104							2	360

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	13	0	19	0	0	0	0	0	19
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	7	0	9	0	0	0	0	0	9
7:30 AM	1	0	0	0	1	0	0	0	0	0	8	0	14	0	22	0	0	0	0	0	23
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	12	0	14	0	0	0	0	0	14
Total	1	0	0	0	1	0	0	0	0	0	18	0	46	0	64	0	0	0	0	0	65
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	13	0	20	0	0	0	0	0	21
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	12	0	21	0	0	0	0	0	21
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	1	0	0	0	1	0	0	0	0	0	10	1	18	0	29	0	0	0	0	0	30
Total	1	0	0	0	1	0	1	0	0	1	34	1	68	0	103	0	0	0	0	0	105
Grand Total	2	0	0	0	2	0	1	0	0	1	52	1	114	0	167	0	0	0	0	0	170
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		31.1	0.6	68.3	0.0		0.0	0.0	0.0	0.0		
Total %	1.2	0.0	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.6	30.6	0.6	67.1	0.0	98.2	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					52					0					117	170
Cars	1	0	0	0	1	0	1	0	0	1	52	1	108	0	161	0	0	0	0	0	163
% Cars	50.0	0.0	0.0	0.0	50.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	94.7	0.0	96.4	0.0	0.0	0.0	0.0	0.0	95.9
Exiting Leg Total					1					52					0					110	163
Heavy Vehicles	1	0	0	0	1	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	7
% Heavy Vehicles	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	3.6	0.0	0.0	0.0	0.0	0.0	4.1
Exiting Leg Total					0					0					0					7	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	13	0	20	0	0	0	0	0	21
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	12	0	21	0	0	0	0	0	21
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	1	0	0	0	1	0	0	0	0	0	10	1	18	0	29	0	0	0	0	0	30
Total Volume	1	0	0	0	1	0	1	0	0	1	34	1	68	0	103	0	0	0	0	0	105
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		33.0	1.0	66.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.850	0.250	0.680	0.000	0.780	0.000	0.000	0.000	0.000	0.000	0.795
Cars	1	0	0	0	1	0	1	0	0	1	34	1	64	0	99	0	0	0	0	0	101
Cars %	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	94.1	0.0	96.1	0.0	0.0	0.0	0.0	0.0	96.2
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.8
Cars Enter Leg	1	0	0	0	1	0	1	0	0	1	34	1	64	0	99	0	0	0	0	0	101
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Total Entering Leg	1	0	0	0	1	0	1	0	0	1	34	1	68	0	103	0	0	0	0	0	105
Cars Exiting Leg					1					34					0					66	101
Heavy Exiting Leg					0					0					0					4	4
Total Exiting Leg					1					34					0					70	105

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	12	0	18	0	0	0	0	0	18
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	7	0	9	0	0	0	0	0	9
7:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	13	0	21	0	0	0	0	0	21
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	12	0	14	0	0	0	0	0	14
Total	0	0	0	0	0	0	0	0	0	0	18	0	44	0	62	0	0	0	0	0	62
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	12	0	19	0	0	0	0	0	20
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	10	0	19	0	0	0	0	0	19
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	1	0	0	0	1	0	0	0	0	0	10	1	17	0	28	0	0	0	0	0	29
Total	1	0	0	0	1	0	1	0	0	1	34	1	64	0	99	0	0	0	0	0	101
Grand Total	1	0	0	0	1	0	1	0	0	1	52	1	108	0	161	0	0	0	0	0	163
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		32.3	0.6	67.1	0.0		0.0	0.0	0.0	0.0		
Total %	0.6	0.0	0.0	0.0	0.6	0.0	0.6	0.0	0.0	0.6	31.9	0.6	66.3	0.0	98.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					52					0					110	163

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	12	0	19	0	0	0	0	0	20
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	10	0	19	0	0	0	0	0	19
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	1	0	0	0	1	0	0	0	0	0	10	1	17	0	28	0	0	0	0	0	29
Total Volume	1	0	0	0	1	0	1	0	0	1	34	1	64	0	99	0	0	0	0	0	101
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		34.3	1.0	64.6	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.850	0.250	0.640	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.765
Entering Leg	1	0	0	0	1	0	1	0	0	1	34	1	64	0	99	0	0	0	0	0	101
Exiting Leg					1					34					0					66	101
Total					2					35					99					66	202

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	7
Approach %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	14.3	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7	0.0	85.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					7	7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	42.9
Exiting Leg Total					0					0					0					3	3
Single-Unit Trucks	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
% Single-Unit	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	57.1
Exiting Leg Total					0					0					0					4	4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	5
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.625
Buses	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	40.0
Single-Unit Trucks	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
Single-Unit %	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	60.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Single-Unit Trucks	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	5
Buses					0					0					0					2	2
Single-Unit Trucks					0					0					0					3	3
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					0					5	5

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	12	0	18	0	0	0	0	0	18
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	6	0	8	0	0	0	0	0	8
7:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	13	0	21	0	0	0	0	0	21
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	12	0	14	0	0	0	0	0	14
Total	0	0	0	0	0	0	0	0	0	0	18	0	43	0	61	0	0	0	0	0	61
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	12	0	19	0	0	0	0	0	20
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	18	0	0	0	0	0	18
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	0	0	0	0	0	0	0	0	0	0	10	1	14	0	25	0	0	0	0	0	25
Total	0	0	0	0	0	0	1	0	0	1	34	1	60	0	95	0	0	0	0	0	96
Grand Total	0	0	0	0	0	0	1	0	0	1	52	1	103	0	156	0	0	0	0	0	157
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		33.3	0.6	66.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	33.1	0.6	65.6	0.0	99.4	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					52					0					104	157

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	0	0	1	7	0	12	0	19	0	0	0	0	0	20
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	18	0	0	0	0	0	18
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	25	0	33	0	0	0	0	0	33
8:45 AM	0	0	0	0	0	0	0	0	0	0	10	1	14	0	25	0	0	0	0	0	25
Total Volume	0	0	0	0	0	0	1	0	0	1	34	1	60	0	95	0	0	0	0	0	96
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		35.8	1.1	63.2	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.850	0.250	0.600	0.000	0.720	0.000	0.000	0.000	0.000	0.000	0.727
Entering Leg	0	0	0	0	0	0	1	0	0	1	34	1	60	0	95	0	0	0	0	0	96
Exiting Leg					1					34					0					61	96
Total					1					35					95					61	192

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Total	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	5
Approach %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					5	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Exiting Leg					0					0					0					4	4
Total					1					0					3					4	8

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					3	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Exiting Leg					0					0					0					2	2
Total					0					0					2					2	4

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Approach %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					4	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
Exiting Leg					0					0					0					3	3
Total					1					0					2					3	6

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	1	1	4
Total	0	0	0	0	1	2	3	0	0	0	0	1	0	1	0	0	5	0	1	0	6	0	0	0	0	0	1	1	11
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	2	4
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	2	0	0	0	2	3	0	0	0	1	0	4	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2	0	0	0	1	0	3	5
Total	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	0	7	0	0	0	8	7	0	0	0	2	0	9	19
Grand Total	0	0	0	0	2	2	4	0	0	0	0	2	0	2	1	0	12	0	1	0	14	7	0	0	0	2	1	10	30
Approach %	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	100.0	0.0		7.1	0.0	85.7	0.0	7.1	0.0		70.0	0.0	0.0	0.0	20.0	10.0		
Total %	0.0	0.0	0.0	0.0	6.7	6.7	13.3	0.0	0.0	0.0	0.0	6.7	0.0	6.7	3.3	0.0	40.0	0.0	3.3	0.0	46.7	23.3	0.0	0.0	0.0	6.7	3.3	33.3	
Exiting Leg Total							4							3							8							15	30

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	1	1	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	2	4
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	2	0	0	0	2	3	0	0	0	1	0	4	8
Total Volume	0	0	0	0	2	2	4	0	0	0	0	2	0	2	0	0	7	0	0	0	7	5	0	0	0	1	1	7	20
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		71.4	0.0	0.0	0.0	14.3	14.3		
PHF	0.000	0.000	0.000	0.000	0.500	0.250	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.875	0.000	0.000	0.000	0.875	0.417	0.000	0.000	0.000	0.250	0.250	0.438	0.625
Entering Leg	0	0	0	0	2	2	4	0	0	0	0	2	0	2	0	0	7	0	0	0	7	5	0	0	0	1	1	7	20
Exiting Leg							4							2							5							9	20
Total							8							4							12							16	40

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	5	17	22	0	0	0	0	5	15	20	0	0	0	0	6	1	7	0	0	0	0	1	4	5	54
7:15 AM	0	0	0	0	9	28	37	0	0	0	0	9	25	34	0	0	0	0	1	2	3	0	0	0	0	5	0	5	79
7:30 AM	0	0	0	0	6	20	26	0	0	0	0	5	22	27	0	0	0	0	0	2	2	0	0	0	0	3	7	10	65
7:45 AM	0	0	0	0	25	31	56	0	0	0	0	21	31	52	0	0	0	0	0	0	0	0	0	0	0	7	3	10	118
Total	0	0	0	0	45	96	141	0	0	0	0	40	93	133	0	0	0	0	7	5	12	0	0	0	0	16	14	30	316
8:00 AM	0	0	0	0	31	34	65	0	0	0	0	31	33	64	0	0	0	0	4	4	8	0	0	0	0	5	8	13	150
8:15 AM	0	0	0	0	28	44	72	0	0	0	0	27	45	72	0	0	0	0	6	1	7	0	0	0	0	14	13	27	178
8:30 AM	0	0	0	0	46	42	88	0	0	0	0	43	37	80	0	0	0	0	11	12	23	0	0	0	0	11	7	18	209
8:45 AM	0	0	0	0	35	41	76	0	0	0	0	35	42	77	0	0	0	0	4	4	8	0	0	0	0	13	15	28	189
Total	0	0	0	0	140	161	301	0	0	0	0	136	157	293	0	0	0	0	25	21	46	0	0	0	0	43	43	86	726
Grand Total	0	0	0	0	185	257	442	0	0	0	0	176	250	426	0	0	0	0	32	26	58	0	0	0	0	59	57	116	1042
Approach %	0	0	0	0	41.9	58.1		0	0	0	0	41.3	58.7		0	0	0	0	55.2	44.8		0	0	0	0	50.9	49.1		
Total %	0	0	0	0	17.8	24.7	42.4	0	0	0	0	16.9	24	40.9	0	0	0	0	3.07	2.5	5.57	0	0	0	0	5.66	5.47	11.1	
Exiting Leg Total							442							426							58							116	1042

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	31	34	65	0	0	0	0	31	33	64	0	0	0	0	4	4	8	0	0	0	0	5	8	13	150
8:15 AM	0	0	0	0	28	44	72	0	0	0	0	27	45	72	0	0	0	0	6	1	7	0	0	0	0	14	13	27	178
8:30 AM	0	0	0	0	46	42	88	0	0	0	0	43	37	80	0	0	0	0	11	12	23	0	0	0	0	11	7	18	209
8:45 AM	0	0	0	0	35	41	76	0	0	0	0	35	42	77	0	0	0	0	4	4	8	0	0	0	0	13	15	28	189
Total Volume	0	0	0	0	140	161	301	0	0	0	0	136	157	293	0	0	0	0	25	21	46	0	0	0	0	43	43	86	726
% Approach Total	0.0	0.0	0.0	0.0	46.5	53.5		0.0	0.0	0.0	0.0	46.4	53.6		0.0	0.0	0.0	0.0	54.3	45.7		0.0	0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.761	0.915	0.855	0.000	0.000	0.000	0.000	0.791	0.872	0.916	0.000	0.000	0.000	0.000	0.568	0.438	0.500	0.000	0.000	0.000	0.000	0.768	0.717	0.768	0.868
Entering Leg	0	0	0	0	140	161	301	0	0	0	0	136	157	293	0	0	0	0	25	21	46	0	0	0	0	43	43	86	726
Exiting Leg							301							293							46							86	726
Total							602							586							92							172	1452

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	18	0	18	0	0	0	0	0	21
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	1	7	0	8	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	15	0	17	0	0	0	0	0	18
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	15	0	16	0	0	0	0	0	16
Total	1	0	0	0	1	0	5	0	0	5	2	2	55	0	59	0	0	0	0	0	65
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	27	0	29	0	0	0	0	0	29
5:15 PM	1	0	0	0	1	0	1	0	0	1	2	0	18	0	20	0	0	0	0	0	22
5:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	9	0	9	0	0	0	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	17	0	20	0	0	0	0	0	20
Total	2	0	0	0	2	0	2	0	0	2	7	0	71	0	78	0	0	0	0	0	82
Grand Total	3	0	0	0	3	0	7	0	0	7	9	2	126	0	137	0	0	0	0	0	147
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		6.6	1.5	92.0	0.0		0.0	0.0	0.0	0.0		
Total %	2.0	0.0	0.0	0.0	2.0	0.0	4.8	0.0	0.0	4.8	6.1	1.4	85.7	0.0	93.2	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					9					0					136	147
Cars	3	0	0	0	3	0	7	0	0	7	9	2	121	0	132	0	0	0	0	0	142
% Cars	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	96.0	0.0	96.4	0.0	0.0	0.0	0.0	0.0	96.6
Exiting Leg Total					2					9					0					131	142
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	5
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	3.4
Exiting Leg Total					0					0					0					5	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	15	0	17	0	0	0	0	0	18
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	15	0	16	0	0	0	0	0	16
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	27	0	29	0	0	0	0	0	29
5:15 PM	1	0	0	0	1	0	1	0	0	1	2	0	18	0	20	0	0	0	0	0	22
Total Volume	1	0	0	0	1	0	2	0	0	2	6	1	75	0	82	0	0	0	0	0	85
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		7.3	1.2	91.5	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.750	0.250	0.694	0.000	0.707	0.000	0.000	0.000	0.000	0.000	0.733
Cars	1	0	0	0	1	0	2	0	0	2	6	1	71	0	78	0	0	0	0	0	81
Cars %	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	94.7	0.0	95.1	0.0	0.0	0.0	0.0	0.0	95.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	4.9	0.0	0.0	0.0	0.0	0.0	4.7
Cars Enter Leg	1	0	0	0	1	0	2	0	0	2	6	1	71	0	78	0	0	0	0	0	81
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Total Entering Leg	1	0	0	0	1	0	2	0	0	2	6	1	75	0	82	0	0	0	0	0	85
Cars Exiting Leg					1					6					0					74	81
Heavy Exiting Leg					0					0					0					4	4
Total Exiting Leg					1					6					0					78	85

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	18	0	18	0	0	0	0	0	21
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	1	7	0	8	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	13	0	15	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	15	0	16	0	0	0	0	0	16
Total	1	0	0	0	1	0	5	0	0	5	2	2	53	0	57	0	0	0	0	0	63
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	26	0	28	0	0	0	0	0	28
5:15 PM	1	0	0	0	1	0	1	0	0	1	2	0	17	0	19	0	0	0	0	0	21
5:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	9	0	9	0	0	0	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	16	0	19	0	0	0	0	0	19
Total	2	0	0	0	2	0	2	0	0	2	7	0	68	0	75	0	0	0	0	0	79
Grand Total	3	0	0	0	3	0	7	0	0	7	9	2	121	0	132	0	0	0	0	0	142
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		6.8	1.5	91.7	0.0		0.0	0.0	0.0	0.0		
Total %	2.1	0.0	0.0	0.0	2.1	0.0	4.9	0.0	0.0	4.9	6.3	1.4	85.2	0.0	93.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					9					0					131	142

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	13	0	15	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	15	0	16	0	0	0	0	0	16
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	26	0	28	0	0	0	0	0	28
5:15 PM	1	0	0	0	1	0	1	0	0	1	2	0	17	0	19	0	0	0	0	0	21
Total Volume	1	0	0	0	1	0	2	0	0	2	6	1	71	0	78	0	0	0	0	0	81
% Approach Total	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		7.7	1.3	91.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.750	0.250	0.683	0.000	0.696	0.000	0.000	0.000	0.000	0.000	0.723
Entering Leg	1	0	0	0	1	0	2	0	0	2	6	1	71	0	78	0	0	0	0	0	81
Exiting Leg					1					6					0					74	81
Total					2					8					78					74	162

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	5
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					5	5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	60.0
Exiting Leg Total					0					0					0					3	3
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Exiting Leg Total					0					0					0					2	2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Buses	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
Buses					0					0					0					2	2
Single-Unit Trucks					0					0					0					2	2
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					0					0					0					4	4

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	18	0	18	0	0	0	0	0	20
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	1	7	0	8	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	12	0	14	0	0	0	0	0	15
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	14	0	15	0	0	0	0	0	15
Total	1	0	0	0	1	0	4	0	0	4	2	2	51	0	55	0	0	0	0	0	60
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	24	0	26	0	0	0	0	0	26
5:15 PM	0	0	0	0	0	0	1	0	0	1	2	0	16	0	18	0	0	0	0	0	19
5:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	8	0	8	0	0	0	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	16	0	19	0	0	0	0	0	19
Total	1	0	0	0	1	0	2	0	0	2	7	0	64	0	71	0	0	0	0	0	74
Grand Total	2	0	0	0	2	0	6	0	0	6	9	2	115	0	126	0	0	0	0	0	134
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		7.1	1.6	91.3	0.0		0.0	0.0	0.0	0.0		
Total %	1.5	0.0	0.0	0.0	1.5	0.0	4.5	0.0	0.0	4.5	6.7	1.5	85.8	0.0	94.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					9					0					123	134

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	1	0	0	1	1	1	12	0	14	0	0	0	0	0	15
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	14	0	15	0	0	0	0	0	15
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	24	0	26	0	0	0	0	0	26
5:15 PM	0	0	0	0	0	0	1	0	0	1	2	0	16	0	18	0	0	0	0	0	19
Total Volume	0	0	0	0	0	0	2	0	0	2	6	1	66	0	73	0	0	0	0	0	75
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		8.2	1.4	90.4	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.750	0.250	0.688	0.000	0.702	0.000	0.000	0.000	0.000	0.000	0.721
Entering Leg	0	0	0	0	0	0	2	0	0	2	6	1	66	0	73	0	0	0	0	0	75
Exiting Leg					1					6					0					68	75
Total					1					8					73					68	150

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Grand Total	1	0	0	0	1	0	1	0	0	1	0	0	3	0	3	0	0	0	0	0	5
Approach %	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	60.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					5	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	4
Exiting Leg					0					0					0					4	4
Total					1					0					3					4	8

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					3	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Exiting Leg					0					0					0					2	2
Total					0					0					2					2	4

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					2	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Exiting Leg					0					0					0					2	2
Total					0					0					2					2	4

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Tufts Street					Parking Garage Driveway					Beach Street					Beach Street					
	from North					from Northeast					from East					from West					
	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	U-Turn	Total	Thru	Bear Left	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	1	1	7
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	0	0	0	7	0	0	0	0	1	0	1	9
5:45 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	6
Total	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	0	20	0	0	0	20	0	0	0	0	1	1	2	25
Grand Total	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	0	26	0	0	0	26	0	0	0	0	1	1	2	31
Approach %	0.0	0.0	0.0	0.0	50.0	50.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		
Total %	0.0	0.0	0.0	0.0	3.2	3.2	6.5	0.0	3.2	0.0	0.0	0.0	0.0	3.2	0.0	0.0	83.9	0.0	0.0	0.0	83.9	0.0	0.0	0.0	0.0	3.2	3.2	6.5	
Exiting Leg Total							2							0							0							29	31

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	1	1	7
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	0	0	0	7	0	0	0	0	1	0	1	9
5:45 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	6
Total Volume	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	0	20	0	0	0	20	0	0	0	0	1	1	2	25
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.714	0.000	0.000	0.000	0.714	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.694
Entering Leg	0	0	0	0	1	1	2	0	1	0	0	0	0	1	0	0	20	0	0	0	20	0	0	0	0	1	1	2	25
Exiting Leg							2							0							0							23	25
Total							4							1							20							25	50

PDI File #: **186481 M**
Location: **N: Tufts Street NE: Parking Garage Driveway**
Location: **E: Beach Street W: Beach Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	52	55	107	0	0	0	0	40	56	96	0	0	0	0	0	3	3	0	0	0	0	11	0	11	217
4:15 PM	0	0	0	0	47	35	82	0	0	0	0	38	32	70	0	0	0	0	0	2	2	0	0	0	0	9	4	13	167
4:30 PM	0	0	0	0	57	45	102	0	0	0	0	49	37	86	0	0	0	0	4	9	13	0	0	0	0	11	3	14	215
4:45 PM	0	0	0	0	56	39	95	0	0	0	0	50	33	83	0	0	0	0	3	2	5	0	0	0	0	8	3	11	194
Total	0	0	0	0	212	174	386	0	0	0	0	177	158	335	0	0	0	0	7	16	23	0	0	0	0	39	10	49	793
5:00 PM	0	0	0	0	58	75	133	0	0	0	0	47	69	116	0	0	0	0	0	0	0	0	0	0	0	15	12	27	276
5:15 PM	0	0	0	0	57	62	119	0	0	0	0	44	56	100	0	0	0	0	0	0	0	0	0	0	0	17	4	21	240
5:30 PM	0	0	0	0	41	48	89	0	0	0	0	36	45	81	0	0	0	0	0	0	0	0	0	0	0	16	3	19	189
5:45 PM	0	0	0	0	55	45	100	0	0	0	0	49	42	91	0	0	0	0	0	0	0	0	0	0	0	16	5	21	212
Total	0	0	0	0	211	230	441	0	0	0	0	176	212	388	0	0	0	0	0	0	0	0	0	0	0	64	24	88	917
Grand Total	0	0	0	0	423	404	827	0	0	0	0	353	370	723	0	0	0	0	7	16	23	0	0	0	0	103	34	137	1710
Approach %	0	0	0	0	51.1	48.9		0	0	0	0	48.8	51.2		0	0	0	0	30.4	69.6		0	0	0	0	75.2	24.8		
Total %	0	0	0	0	24.7	23.6	48.4	0	0	0	0	20.6	21.6	42.3	0	0	0	0	0.41	0.94	1.35	0	0	0	0	6.02	1.99	8.01	
Exiting Leg Total							827							723							23							137	1710

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Tufts Street							Parking Garage Driveway							Beach Street							Beach Street							
	from North							from Northeast							from East							from West							
	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	0	57	45	102	0	0	0	0	49	37	86	0	0	0	0	4	9	13	0	0	0	0	11	3	14	215
4:45 PM	0	0	0	0	56	39	95	0	0	0	0	50	33	83	0	0	0	0	3	2	5	0	0	0	0	8	3	11	194
5:00 PM	0	0	0	0	58	75	133	0	0	0	0	47	69	116	0	0	0	0	0	0	0	0	0	0	0	15	12	27	276
5:15 PM	0	0	0	0	57	62	119	0	0	0	0	44	56	100	0	0	0	0	0	0	0	0	0	0	0	17	4	21	240
Total Volume	0	0	0	0	228	221	449	0	0	0	0	190	195	385	0	0	0	0	7	11	18	0	0	0	0	51	22	73	925
% Approach Total	0.0	0.0	0.0	0.0	50.8	49.2		0.0	0.0	0.0	0.0	49.4	50.6		0.0	0.0	0.0	0.0	38.9	61.1		0.0	0.0	0.0	0.0	69.9	30.1		
PHF	0.000	0.000	0.000	0.000	0.983	0.737	0.844	0.000	0.000	0.000	0.000	0.950	0.707	0.830	0.000	0.000	0.000	0.000	0.438	0.306	0.346	0.000	0.000	0.000	0.000	0.750	0.458	0.676	0.838
Entering Leg	0	0	0	0	228	221	449	0	0	0	0	190	195	385	0	0	0	0	7	11	18	0	0	0	0	51	22	73	925
Exiting Leg							449							385							18							73	925
Total							898							770							36							146	1850

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	102	1	0	105	0	0	2	0	2	107
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	147	0	0	148	0	0	1	0	1	149
7:30 AM	0	0	0	0	0	0	0	0	0	0	6	124	0	0	130	0	3	0	0	3	133
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	144	1	0	145	0	0	1	0	1	146
Total	0	0	0	0	0	0	0	0	0	0	9	517	2	0	528	0	3	4	0	7	535
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	153	0	0	154	0	0	0	0	0	154
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	145	0	0	148	0	0	2	0	2	150
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	152	0	0	160	0	0	2	0	2	162
8:45 AM	0	0	0	0	0	0	0	0	0	0	5	154	0	0	159	0	0	1	0	1	160
Total	0	0	0	0	0	0	0	0	0	0	17	604	0	0	621	0	0	5	0	5	626
Grand Total	0	0	0	0	0	0	0	0	0	0	26	1121	2	0	1149	0	3	9	0	12	1161
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.3	97.6	0.2	0.0		0.0	25.0	75.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	96.6	0.2	0.0	99.0	0.0	0.3	0.8	0.0	1.0	
Exiting Leg Total					1130					29					0					2	1161
Cars	0	0	0	0	0	0	0	0	0	0	25	1024	1	0	1050	0	3	9	0	12	1062
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.2	91.3	50.0	0.0	91.4	0.0	100.0	100.0	0.0	100.0	91.5
Exiting Leg Total					1033					28					0					1	1062
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	97	1	0	99	0	0	0	0	0	99
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	8.7	50.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	8.5
Exiting Leg Total					97					1					0					1	99

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	153	0	0	154	0	0	0	0	0	154
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	145	0	0	148	0	0	2	0	2	150
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	152	0	0	160	0	0	2	0	2	162
8:45 AM	0	0	0	0	0	0	0	0	0	0	5	154	0	0	159	0	0	1	0	1	160
Total Volume	0	0	0	0	0	0	0	0	0	0	17	604	0	0	621	0	0	5	0	5	626
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.7	97.3	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.531	0.981	0.000	0.000	0.970	0.000	0.000	0.625	0.000	0.625	0.966
Cars	0	0	0	0	0	0	0	0	0	0	16	550	0	0	566	0	0	5	0	5	571
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.1	91.1	0.0	0.0	91.1	0.0	0.0	100.0	0.0	100.0	91.2
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	55
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	8.9	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	8.8
Cars Enter Leg	0	0	0	0	0	0	0	0	0	0	16	550	0	0	566	0	0	5	0	5	571
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	55
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	17	604	0	0	621	0	0	5	0	5	626
Cars Exiting Leg					555					16					0					0	571
Heavy Exiting Leg					54					1					0					0	55
Total Exiting Leg					609					17					0					0	626

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	92	0	0	94	0	0	2	0	2	96
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	134	0	0	135	0	0	1	0	1	136
7:30 AM	0	0	0	0	0	0	0	0	0	0	6	116	0	0	122	0	3	0	0	3	125
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	132	1	0	133	0	0	1	0	1	134
Total	0	0	0	0	0	0	0	0	0	0	9	474	1	0	484	0	3	4	0	7	491
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	139	0	0	140	0	0	0	0	0	140
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	135	0	0	138	0	0	2	0	2	140
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	138	0	0	146	0	0	2	0	2	148
8:45 AM	0	0	0	0	0	0	0	0	0	0	4	138	0	0	142	0	0	1	0	1	143
Total	0	0	0	0	0	0	0	0	0	0	16	550	0	0	566	0	0	5	0	5	571
Grand Total	0	0	0	0	0	0	0	0	0	0	25	1024	1	0	1050	0	3	9	0	12	1062
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.4	97.5	0.1	0.0		0.0	25.0	75.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	96.4	0.1	0.0	98.9	0.0	0.3	0.8	0.0	1.1	
Exiting Leg Total					1033					28					0					1	1062

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	139	0	0	140	0	0	0	0	0	140
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	135	0	0	138	0	0	2	0	2	140
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	138	0	0	146	0	0	2	0	2	148
8:45 AM	0	0	0	0	0	0	0	0	0	0	4	138	0	0	142	0	0	1	0	1	143
Total Volume	0	0	0	0	0	0	0	0	0	0	16	550	0	0	566	0	0	5	0	5	571
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.8	97.2	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.989	0.000	0.000	0.969	0.000	0.000	0.625	0.000	0.625	0.965
Entering Leg	0	0	0	0	0	0	0	0	0	0	16	550	0	0	566	0	0	5	0	5	571
Exiting Leg					555					16					0					0	571
Total					555					16					566					5	1142

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	11
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	13
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
Total	0	0	0	0	0	0	0	0	0	0	0	43	1	0	44	0	0	0	0	0	44
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	17
Total	0	0	0	0	0	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	55
Grand Total	0	0	0	0	0	0	0	0	0	0	1	97	1	0	99	0	0	0	0	0	99
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.0	98.0	1.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	98.0	1.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					97					1					0					1	99
Buses	0	0	0	0	0	0	0	0	0	0	0	60	0	0	60	0	0	0	0	0	60
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.9	0.0	0.0	60.6	0.0	0.0	0.0	0.0	0.0	60.6
Exiting Leg Total					60					0					0					0	60
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	1	34	1	0	36	0	0	0	0	0	36
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	35.1	100.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	36.4
Exiting Leg Total					34					1					0					1	36
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Exiting Leg Total					3					0					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	17
Total Volume	0	0	0	0	0	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	55
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.8	98.2	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.844	0.000	0.000	0.809	0.000	0.000	0.000	0.000	0.000	0.809
Buses	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	32
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.3	0.0	0.0	58.2	0.0	0.0	0.0	0.0	0.0	58.2
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	22
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	38.9	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.8
Buses	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	32
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	22
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	55
Buses					32					0					0					0	32
Single-Unit Trucks					21					1					0					0	22
Articulated Trucks					1					0					0					0	1
Total Exiting Leg					54					1					0					0	55

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	84	0	0	85	0	0	2	0	2	87
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	125	0	0	126	0	0	1	0	1	127
7:30 AM	0	0	0	0	0	0	0	0	0	0	6	106	0	0	112	0	3	0	0	3	115
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	117	1	0	118	0	0	1	0	1	119
Total	0	0	0	0	0	0	0	0	0	0	8	432	1	0	441	0	3	4	0	7	448
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	135	0	0	136	0	0	0	0	0	136
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	129	0	0	132	0	0	2	0	2	134
8:30 AM	0	0	0	0	0	0	0	0	0	0	7	125	0	0	132	0	0	2	0	2	134
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	129	0	0	131	0	0	1	0	1	132
Total	0	0	0	0	0	0	0	0	0	0	13	518	0	0	531	0	0	5	0	5	536
Grand Total	0	0	0	0	0	0	0	0	0	0	21	950	1	0	972	0	3	9	0	12	984
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.2	97.7	0.1	0.0		0.0	25.0	75.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	96.5	0.1	0.0	98.8	0.0	0.3	0.9	0.0	1.2	
Exiting Leg Total					959					24					0					1	984

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	135	0	0	136	0	0	0	0	0	136
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	129	0	0	132	0	0	2	0	2	134
8:30 AM	0	0	0	0	0	0	0	0	0	0	7	125	0	0	132	0	0	2	0	2	134
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	129	0	0	131	0	0	1	0	1	132
Total Volume	0	0	0	0	0	0	0	0	0	0	13	518	0	0	531	0	0	5	0	5	536
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.4	97.6	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.464	0.959	0.000	0.000	0.976	0.000	0.000	0.625	0.000	0.625	0.985
Entering Leg	0	0	0	0	0	0	0	0	0	0	13	518	0	0	531	0	0	5	0	5	536
Exiting Leg					523					13					0					0	536
Total					523					13					531					5	1072

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	9
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
Total	0	0	0	0	0	0	0	0	0	0	1	42	0	0	43	0	0	0	0	0	43
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	9	0	0	11	0	0	0	0	0	11
Total	0	0	0	0	0	0	0	0	0	0	2	30	0	0	32	0	0	0	0	0	32
Grand Total	0	0	0	0	0	0	0	0	0	0	3	72	0	0	75	0	0	0	0	0	75
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		4.0	96.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	96.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					72					3					0					0	75

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	9
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
Total Volume	0	0	0	0	0	0	0	0	0	0	1	42	0	0	43	0	0	0	0	0	43
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.3	97.7	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.700	0.000	0.000	0.717	0.000	0.000	0.000	0.000	0.000	0.717
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	42	0	0	43	0	0	0	0	0	43
Exiting Leg					42					1					0					0	43
Total					42					1					43					0	86

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	0	28	0	0	28	0	0	0	0	0	28
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	32
Grand Total	0	0	0	0	0	0	0	0	0	0	0	60	0	0	60	0	0	0	0	0	60
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					60					0					0					0	60

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total Volume	0	0	0	0	0	0	0	0	0	0	0	34	0	0	34	0	0	0	0	0	34
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.850	0.000	0.000	0.850	0.000	0.000	0.000	0.000	0.000	0.850
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	34	0	0	34	0	0	0	0	0	34
Exiting Leg					34					0					0					0	34
Total					34					0					34					0	68

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	13	1	0	14	0	0	0	0	0	14
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	22
Grand Total	0	0	0	0	0	0	0	0	0	0	1	34	1	0	36	0	0	0	0	0	36
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.8	94.4	2.8	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	94.4	2.8	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					34					1					0					1	36

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	9
Total Volume	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	22
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		4.5	95.5	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.656	0.000	0.000	0.611	0.000	0.000	0.000	0.000	0.000	0.611
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	22
Exiting Leg					21					1					0					0	22
Total					21					1					22					0	44

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					3					0					0					0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Exiting Leg					2					0					0					0	2
Total					2					0					2					0	4

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	5	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	3
Total	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3	3	0	0	0	0	6	0	0	0	0	1	0	1	8
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	1	3	0	4	0	0	0	1	5	0	0	0	0	0	0	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	4	0	0	0	0	0	1	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	2	2	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	5	0	0	0	0	0	2	2	7
Total	0	0	0	0	0	0	0	1	0	0	0	1	1	3	1	11	0	0	1	3	16	0	0	0	0	0	5	5	24
Grand Total	0	1	0	0	0	0	1	1	0	0	0	1	1	3	4	14	0	0	1	3	22	0	0	0	0	1	5	6	32
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		33.3	0.0	0.0	0.0	33.3	33.3		18.2	63.6	0.0	0.0	4.5	13.6		0.0	0.0	0.0	0.0	16.7	83.3		
Total %	0.0	3.1	0.0	0.0	0.0	0.0	3.1	3.1	0.0	0.0	0.0	3.1	3.1	9.4	12.5	43.8	0.0	0.0	3.1	9.4	68.8	0.0	0.0	0.0	0.0	3.1	15.6	18.8	
Exiting Leg Total							15							6							5							6	32

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	1	3	0	4	0	0	0	1	5	0	0	0	0	0	0	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	4	0	0	0	0	0	1	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	2	2	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	5	0	0	0	0	0	2	2	7
Total Volume	0	0	0	0	0	0	0	1	0	0	0	1	1	3	1	11	0	0	1	3	16	0	0	0	0	0	5	5	24
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		33.3	0.0	0.0	0.0	33.3	33.3		6.3	68.8	0.0	0.0	6.3	18.8		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.250	0.250	0.688	0.000	0.000	0.250	0.750	0.800	0.000	0.000	0.000	0.000	0.000	0.625	0.625	0.750
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	1	1	3	1	11	0	0	1	3	16	0	0	0	0	0	5	5	24
Exiting Leg							12							3							4							5	24
Total							12							6							20							10	48

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	1	8	9	0	0	0	0	2	23	25	0	0	0	0	3	3	6	0	0	0	0	2	3	5	45
7:15 AM	0	0	0	0	4	6	10	0	0	0	0	13	35	48	0	0	0	0	3	1	4	0	0	0	0	9	6	15	77
7:30 AM	0	0	0	0	6	14	20	0	0	0	0	6	40	46	0	0	0	0	5	0	5	0	0	0	0	7	13	20	91
7:45 AM	0	0	0	0	5	11	16	0	0	0	0	11	66	77	0	0	0	0	6	1	7	0	0	0	0	9	16	25	125
Total	0	0	0	0	16	39	55	0	0	0	0	32	164	196	0	0	0	0	17	5	22	0	0	0	0	27	38	65	338
8:00 AM	0	0	0	0	4	13	17	0	0	0	0	11	87	98	0	0	0	0	6	2	8	0	0	0	0	7	16	23	146
8:15 AM	0	0	0	0	7	14	21	0	0	0	0	13	84	97	0	0	0	0	6	1	7	0	0	0	0	7	29	36	161
8:30 AM	0	0	0	0	9	17	26	0	0	0	0	16	84	100	0	0	0	0	6	1	7	0	0	0	0	20	34	54	187
8:45 AM	0	0	0	0	8	7	15	0	0	0	0	27	49	76	0	0	0	0	7	8	15	0	0	0	0	21	35	56	162
Total	0	0	0	0	28	51	79	0	0	0	0	67	304	371	0	0	0	0	25	12	37	0	0	0	0	55	114	169	656
Grand Total	0	0	0	0	44	90	134	0	0	0	0	99	468	567	0	0	0	0	42	17	59	0	0	0	0	82	152	234	994
Approach %	0	0	0	0	32.8	67.2		0	0	0	0	17.5	82.5		0	0	0	0	71.2	28.8		0	0	0	0	35	65		
Total %	0	0	0	0	4.43	9.05	13.5	0	0	0	0	9.96	47.1	57	0	0	0	0	4.23	1.71	5.94	0	0	0	0	8.25	15.3	23.5	
Exiting Leg Total							134							567							59							234	994

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	4	13	17	0	0	0	0	11	87	98	0	0	0	0	6	2	8	0	0	0	0	7	16	23	146
8:15 AM	0	0	0	0	7	14	21	0	0	0	0	13	84	97	0	0	0	0	6	1	7	0	0	0	0	7	29	36	161
8:30 AM	0	0	0	0	9	17	26	0	0	0	0	16	84	100	0	0	0	0	6	1	7	0	0	0	0	20	34	54	187
8:45 AM	0	0	0	0	8	7	15	0	0	0	0	27	49	76	0	0	0	0	7	8	15	0	0	0	0	21	35	56	162
Total Volume	0	0	0	0	28	51	79	0	0	0	0	67	304	371	0	0	0	0	25	12	37	0	0	0	0	55	114	169	656
% Approach Total	0.0	0.0	0.0	0.0	35.4	64.6		0.0	0.0	0.0	0.0	18.1	81.9		0.0	0.0	0.0	0.0	67.6	32.4		0.0	0.0	0.0	0.0	32.5	67.5		
PHF	0.000	0.000	0.000	0.000	0.778	0.750	0.760	0.000	0.000	0.000	0.000	0.620	0.874	0.928	0.000	0.000	0.000	0.000	0.893	0.375	0.617	0.000	0.000	0.000	0.000	0.655	0.814	0.754	0.877
Entering Leg	0	0	0	0	28	51	79	0	0	0	0	67	304	371	0	0	0	0	25	12	37	0	0	0	0	55	114	169	656
Exiting Leg							79							371							37							169	656
Total							158							742							74							338	1312

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars and Heavy Vehicles (Combined)

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	112	3	0	117	0	2	2	0	4	121
4:15 PM	0	0	0	0	0	0	0	0	0	0	6	94	1	0	101	0	3	3	0	6	107
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	120	0	0	129	0	1	3	0	4	133
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	111	0	0	119	0	4	5	0	9	128
Total	0	0	0	0	0	0	0	0	0	0	25	437	4	0	466	0	10	13	0	23	489
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	96	3	0	106	0	4	5	0	9	115
5:15 PM	0	0	0	0	0	1	0	0	0	1	6	119	0	0	125	0	1	4	0	5	131
5:30 PM	0	0	0	0	0	0	0	0	0	0	7	104	0	0	111	0	1	2	0	3	114
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	95	1	0	100	0	1	1	0	2	102
Total	0	0	0	0	0	1	0	0	0	1	24	414	4	0	442	0	7	12	0	19	462
Grand Total	0	0	0	0	0	1	0	0	0	1	49	851	8	0	908	0	17	25	0	42	951
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		5.4	93.7	0.9	0.0		0.0	40.5	59.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	5.2	89.5	0.8	0.0	95.5	0.0	1.8	2.6	0.0	4.4	
Exiting Leg Total					877					66					0					8	951
Cars	0	0	0	0	0	1	0	0	0	1	47	774	8	0	829	0	17	25	0	42	872
% Cars	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	95.9	91.0	100.0	0.0	91.3	0.0	100.0	100.0	0.0	100.0	91.7
Exiting Leg Total					800					64					0					8	872
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	2	77	0	0	79	0	0	0	0	0	79
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	9.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	8.3
Exiting Leg Total					77					2					0					0	79

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	120	0	0	129	0	1	3	0	4	133
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	111	0	0	119	0	4	5	0	9	128
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	96	3	0	106	0	4	5	0	9	115
5:15 PM	0	0	0	0	0	1	0	0	0	1	6	119	0	0	125	0	1	4	0	5	131
Total Volume	0	0	0	0	0	1	0	0	0	1	30	446	3	0	479	0	10	17	0	27	507
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		6.3	93.1	0.6	0.0		0.0	37.0	63.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.833	0.929	0.250	0.000	0.928	0.000	0.625	0.850	0.000	0.750	0.953
Cars	0	0	0	0	0	1	0	0	0	1	30	405	3	0	438	0	10	17	0	27	466
Cars %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	90.8	100.0	0.0	91.4	0.0	100.0	100.0	0.0	100.0	91.9
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	41	0	0	41	0	0	0	0	0	41
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	8.1
Cars Enter Leg	0	0	0	0	0	1	0	0	0	1	30	405	3	0	438	0	10	17	0	27	466
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	41	0	0	41	0	0	0	0	0	41
Total Entering Leg	0	0	0	0	0	1	0	0	0	1	30	446	3	0	479	0	10	17	0	27	507
Cars Exiting Leg					423					40					0					3	466
Heavy Exiting Leg					41					0					0					0	41
Total Exiting Leg					464					40					0					3	507

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars-Combined (Motorcycles, Cars, Light Goods)

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	103	3	0	108	0	2	2	0	4	112
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	86	1	0	91	0	3	3	0	6	97
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	104	0	0	113	0	1	3	0	4	117
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	103	0	0	111	0	4	5	0	9	120
Total	0	0	0	0	0	0	0	0	0	0	23	396	4	0	423	0	10	13	0	23	446
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	88	3	0	98	0	4	5	0	9	107
5:15 PM	0	0	0	0	0	1	0	0	0	1	6	110	0	0	116	0	1	4	0	5	122
5:30 PM	0	0	0	0	0	0	0	0	0	0	7	93	0	0	100	0	1	2	0	3	103
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	87	1	0	92	0	1	1	0	2	94
Total	0	0	0	0	0	1	0	0	0	1	24	378	4	0	406	0	7	12	0	19	426
Grand Total	0	0	0	0	0	1	0	0	0	1	47	774	8	0	829	0	17	25	0	42	872
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		5.7	93.4	1.0	0.0		0.0	40.5	59.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	5.4	88.8	0.9	0.0	95.1	0.0	1.9	2.9	0.0	4.8	
Exiting Leg Total					800					64					0					8	872

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	104	0	0	113	0	1	3	0	4	117
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	103	0	0	111	0	4	5	0	9	120
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	88	3	0	98	0	4	5	0	9	107
5:15 PM	0	0	0	0	0	1	0	0	0	1	6	110	0	0	116	0	1	4	0	5	122
Total Volume	0	0	0	0	0	1	0	0	0	1	30	405	3	0	438	0	10	17	0	27	466
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		6.8	92.5	0.7	0.0		0.0	37.0	63.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.833	0.920	0.250	0.000	0.944	0.000	0.625	0.850	0.000	0.750	0.955
Entering Leg	0	0	0	0	0	1	0	0	0	1	30	405	3	0	438	0	10	17	0	27	466
Exiting Leg					423					40					0					3	466
Total					423					41					438					30	932

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	8	0	0	10	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	2	41	0	0	43	0	0	0	0	0	43
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	0	36	0	0	36	0	0	0	0	0	36
Grand Total	0	0	0	0	0	0	0	0	0	0	2	77	0	0	79	0	0	0	0	0	79
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		2.5	97.5	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	97.5	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					77					2					0					0	79
Buses	0	0	0	0	0	0	0	0	0	0	0	71	0	0	71	0	0	0	0	0	71
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.2	0.0	0.0	89.9	0.0	0.0	0.0	0.0	0.0	89.9
Exiting Leg Total					71					0					0					0	71
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	8
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	7.8	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	10.1
Exiting Leg Total					6					2					0					0	8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	8	0	0	10	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	16
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
Total Volume	0	0	0	0	0	0	0	0	0	0	2	41	0	0	43	0	0	0	0	0	43
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		4.7	95.3	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.641	0.000	0.000	0.672	0.000	0.000	0.000	0.000	0.000	0.672
Buses	0	0	0	0	0	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	38
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.7	0.0	0.0	88.4	0.0	0.0	0.0	0.0	0.0	88.4
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	7.3	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	11.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	38
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	2	41	0	0	43	0	0	0	0	0	43
Buses					38					0					0					0	38
Single-Unit Trucks					3					2					0					0	5
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					41					2					0					0	43

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	95	3	0	100	0	2	2	0	4	104
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	79	1	0	84	0	3	3	0	6	90
4:30 PM	0	0	0	0	0	0	0	0	0	0	7	97	0	0	104	0	1	3	0	4	108
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	97	0	0	105	0	4	5	0	9	114
Total	0	0	0	0	0	0	0	0	0	0	21	368	4	0	393	0	10	13	0	23	416
5:00 PM	0	0	0	0	0	0	0	0	0	0	6	83	3	0	92	0	4	5	0	9	101
5:15 PM	0	0	0	0	0	0	0	0	0	0	5	104	0	0	109	0	1	4	0	5	114
5:30 PM	0	0	0	0	0	0	0	0	0	0	6	89	0	0	95	0	1	2	0	3	98
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	83	1	0	88	0	1	1	0	2	90
Total	0	0	0	0	0	0	0	0	0	0	21	359	4	0	384	0	7	12	0	19	403
Grand Total	0	0	0	0	0	0	0	0	0	0	42	727	8	0	777	0	17	25	0	42	819
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		5.4	93.6	1.0	0.0		0.0	40.5	59.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	88.8	1.0	0.0	94.9	0.0	2.1	3.1	0.0	5.1	
Exiting Leg Total					752					59					0					8	819

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	7	97	0	0	104	0	1	3	0	4	108
4:45 PM	0	0	0	0	0	0	0	0	0	0	8	97	0	0	105	0	4	5	0	9	114
5:00 PM	0	0	0	0	0	0	0	0	0	0	6	83	3	0	92	0	4	5	0	9	101
5:15 PM	0	0	0	0	0	0	0	0	0	0	5	104	0	0	109	0	1	4	0	5	114
Total Volume	0	0	0	0	0	0	0	0	0	0	26	381	3	0	410	0	10	17	0	27	437
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		6.3	92.9	0.7	0.0		0.0	37.0	63.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.916	0.250	0.000	0.940	0.000	0.625	0.850	0.000	0.750	0.958
Entering Leg	0	0	0	0	0	0	0	0	0	0	26	381	3	0	410	0	10	17	0	27	437
Exiting Leg					398					36					0					3	437
Total					398					36					410					30	874

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Light Goods Vehicle

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	7	0	0	9	0	0	0	0	0	9
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	2	28	0	0	30	0	0	0	0	0	30
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	1	17	0	0	18	0	0	0	0	0	18
Grand Total	0	0	0	0	0	0	0	0	0	0	3	45	0	0	48	0	0	0	0	0	48
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		6.3	93.8	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	93.8	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					45					3					0					0	48

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	7	0	0	9	0	0	0	0	0	9
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total Volume	0	0	0	0	0	0	0	0	0	0	2	28	0	0	30	0	0	0	0	0	30
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		6.7	93.3	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.875	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.833
Entering Leg	0	0	0	0	0	0	0	0	0	0	2	28	0	0	30	0	0	0	0	0	30
Exiting Leg					28					2					0					0	30
Total					28					2					30					0	60

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Buses

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	38
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	33
Grand Total	0	0	0	0	0	0	0	0	0	0	0	71	0	0	71	0	0	0	0	0	71
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					71					0					0					0	71

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
Total Volume	0	0	0	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	39
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.696	0.000	0.000	0.696	0.000	0.000	0.000	0.000	0.000	0.696
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	39
Exiting Leg					39					0					0					0	39
Total					39					0					39					0	78

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Single-Unit Trucks

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	8
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					6					2					0					0	8

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		40.0	60.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.417
Entering Leg	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
Exiting Leg					3					2					0					0	5
Total					3					2					5					0	10

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Articulated Trucks

	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lincoln Street from North					Tufts Street from East					Lincoln Street from South					Tufts Street from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Bicycles (on Roadway and Crosswalks)

	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	1	1	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	8	0	0	0	0	9	0	0	0	0	0	0	0	11
Grand Total	0	0	0	0	0	1	1	0	0	0	0	1	1	2	1	11	0	0	0	0	12	0	0	0	0	0	1	1	16
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	50.0	50.0		8.3	91.7	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.3	6.3	0.0	0.0	0.0	0.0	6.3	6.3	12.5	6.3	68.8	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	6.3	6.3	
Exiting Leg Total							12							3							0							1	16

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	8	0	0	0	0	9	0	0	0	0	0	0	0	11
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		11.1	88.9	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.250	0.667	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.917
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	8	0	0	0	0	9	0	0	0	0	0	0	0	11
Exiting Leg							8							3							0							0	11
Total							8							5							9							0	22

PDI File #: **186481 N**
Location: **N: Lincoln Street S: Lincoln Street**
Location: **E: Tufts Street W: Tufts Street**
City, State: **Boston, MA**
Client: **VHB/ A. Santiago**
Site Code: **13962.00**
Count Date: **Wednesday, September 19, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Pedestrians

	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	8	14	22	0	0	0	0	13	23	36	0	0	0	0	6	5	11	0	0	0	0	34	31	65	134
4:15 PM	0	0	0	0	16	4	20	0	0	0	0	9	16	25	0	0	0	0	7	10	17	0	0	0	0	27	16	43	105
4:30 PM	0	0	0	0	13	4	17	0	0	0	0	16	15	31	0	0	0	0	5	1	6	0	0	0	0	31	16	47	101
4:45 PM	0	0	0	0	10	10	20	0	0	0	0	8	11	19	0	0	0	0	7	13	20	0	0	0	0	20	27	47	106
Total	0	0	0	0	47	32	79	0	0	0	0	46	65	111	0	0	0	0	25	29	54	0	0	0	0	112	90	202	446
5:00 PM	0	0	0	0	14	10	24	0	0	0	0	13	32	45	0	0	0	0	5	6	11	0	0	0	0	35	29	64	144
5:15 PM	0	0	0	0	18	7	25	0	0	0	0	9	19	28	0	0	0	0	6	8	14	0	0	0	0	38	20	58	125
5:30 PM	0	0	0	0	12	4	16	0	0	0	0	21	22	43	0	0	0	0	7	9	16	0	0	0	0	33	22	55	130
5:45 PM	0	0	0	0	9	11	20	0	0	0	0	9	30	39	0	0	0	0	3	4	7	0	0	0	0	24	18	42	108
Total	0	0	0	0	53	32	85	0	0	0	0	52	103	155	0	0	0	0	21	27	48	0	0	0	0	130	89	219	507
Grand Total	0	0	0	0	100	64	164	0	0	0	0	98	168	266	0	0	0	0	46	56	102	0	0	0	0	242	179	421	953
Approach %	0	0	0	0	61	39		0	0	0	0	36.8	63.2		0	0	0	0	45.1	54.9		0	0	0	0	57.5	42.5		
Total %	0	0	0	0	10.5	6.72	17.2	0	0	0	0	10.3	17.6	27.9	0	0	0	0	4.83	5.88	10.7	0	0	0	0	25.4	18.8	44.2	
Exiting Leg Total							164							266							102							421	953

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lincoln Street from North							Tufts Street from East							Lincoln Street from South							Tufts Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	14	10	24	0	0	0	0	13	32	45	0	0	0	0	5	6	11	0	0	0	0	35	29	64	144
5:15 PM	0	0	0	0	18	7	25	0	0	0	0	9	19	28	0	0	0	0	6	8	14	0	0	0	0	38	20	58	125
5:30 PM	0	0	0	0	12	4	16	0	0	0	0	21	22	43	0	0	0	0	7	9	16	0	0	0	0	33	22	55	130
5:45 PM	0	0	0	0	9	11	20	0	0	0	0	9	30	39	0	0	0	0	3	4	7	0	0	0	0	24	18	42	108
Total Volume	0	0	0	0	53	32	85	0	0	0	0	52	103	155	0	0	0	0	21	27	48	0	0	0	0	130	89	219	507
% Approach Total	0.0	0.0	0.0	0.0	62.4	37.6		0.0	0.0	0.0	0.0	33.5	66.5		0.0	0.0	0.0	0.0	43.8	56.3		0.0	0.0	0.0	0.0	59.4	40.6		
PHF	0.000	0.000	0.000	0.000	0.736	0.727	0.850	0.000	0.000	0.000	0.000	0.619	0.805	0.861	0.000	0.000	0.000	0.000	0.750	0.750	0.750	0.000	0.000	0.000	0.000	0.855	0.767	0.855	0.880
Entering Leg	0	0	0	0	53	32	85	0	0	0	0	52	103	155	0	0	0	0	21	27	48	0	0	0	0	130	89	219	507
Exiting Leg							85							155							48							219	507
Total							170							310							96							438	1014

Synchro Results

2018 Existing Conditions

2025 No-Build Conditions

2025 Build Conditions

2025 Build Mitigated Conditions

2018 Existing Conditions

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	521	213	19
v/c Ratio	0.37	0.38	0.03
Control Delay	18.7	24.0	18.6
Queue Delay	0.0	0.0	0.0
Total Delay	18.7	24.0	18.6
Queue Length 50th (ft)	116	101	8
Queue Length 95th (ft)	158	141	20
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1410	564	629
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.37	0.38	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	475	20	0	0	0	0	0	0	170	15	0
Future Volume (vph)	0	475	20	0	0	0	0	0	0	170	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		2923								1321	1474	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		2923								1321	1474	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80
Adj. Flow (vph)	0	500	21	0	0	0	0	0	0	212	19	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	0	0	0	0	0	213	19	0
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	23%	16%	2%
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		53.0								47.0	47.0	
Effective Green, g (s)		53.0								47.0	47.0	
Actuated g/C Ratio		0.48								0.43	0.43	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1408								564	629	
v/s Ratio Prot		c0.18								c0.16	0.01	
v/s Ratio Perm												
v/c Ratio		0.37								0.38	0.03	
Uniform Delay, d1		18.0								21.5	18.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		0.7								1.9	0.1	
Delay (s)		18.7								23.4	18.4	
Level of Service		B								C	B	
Approach Delay (s)		18.7			0.0			0.0			23.0	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	454	197	653	871
v/c Ratio	0.82	0.60	0.77	0.59
Control Delay	50.7	25.0	46.3	27.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.7	25.0	46.3	27.5
Queue Length 50th (ft)	155	67	157	165
Queue Length 95th (ft)	225	134	196	219
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	602	343	974	1481
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.57	0.67	0.59

Intersection Summary

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	90	125	225	95	110	470	110	40	130	50	550	80
Future Volume (vph)	90	125	225	95	110	470	110	40	130	50	550	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.99	1.00		0.92					0.95	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			1.00	0.85		0.96					0.99	
Flt Protected			0.98	1.00		1.00					0.99	
Satd. Flow (prot)			2664	1096		3697					3892	
Flt Permitted			0.98	1.00		1.00					0.99	
Satd. Flow (perm)			2664	1096		3697					3892	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.95	0.95	0.95	0.93	0.93	0.93	0.93
Adj. Flow (vph)	91	126	227	96	111	495	116	42	140	54	591	86
RTOR Reduction (vph)	0	0	0	98	0	0	0	0	0	0	73	0
Lane Group Flow (vph)	0	0	454	99	0	653	0	0	0	0	798	0
Confl. Peds. (#/hr)	875			382	395			284	284	382		875
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	9%	12%	6%	25%	8%	9%	10%	4%	8%	9%	1%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			23.0	23.0		25.1					39.9	
Effective Green, g (s)			23.0	23.0		25.1					39.9	
Actuated g/C Ratio			0.21	0.21		0.23					0.36	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			557	229		843					1411	
v/s Ratio Prot			c0.17	0.09		c0.18					c0.21	
v/s Ratio Perm												
v/c Ratio			0.82	0.43		0.77					0.57	
Uniform Delay, d1			41.5	37.8		39.8					28.1	
Progression Factor			0.94	1.14		1.00					1.00	
Incremental Delay, d2			8.5	1.2		4.5					1.6	
Delay (s)			47.5	44.5		44.3					29.8	
Level of Service			D	D		D					C	
Approach Delay (s)			46.6			44.3					29.8	
Approach LOS			D			D					C	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL
Lane Group Flow (vph)	439	90
v/c Ratio	0.24	0.21
Control Delay	6.6	27.7
Queue Delay	1.0	0.0
Total Delay	7.6	27.7
Queue Length 50th (ft)	43	40
Queue Length 95th (ft)	64	68
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1807	430
Starvation Cap Reductn	1070	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.60	0.21

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	295	100	70	0	0	0
Future Volume (vph)	295	100	70	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.96		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2855		1721			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2855		1721			
Peak-hour factor, PHF	0.90	0.90	0.78	0.78	0.92	0.92
Adj. Flow (vph)	328	111	90	0	0	0
RTOR Reduction (vph)	23	0	0	0	0	0
Lane Group Flow (vph)	416	0	90	0	0	0
Heavy Vehicles (%)	12%	2%	7%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	55.0		22.0			
Effective Green, g (s)	55.0		22.0			
Actuated g/C Ratio	0.62		0.25			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1784		430			
v/s Ratio Prot	c0.15		c0.05			
v/s Ratio Perm						
v/c Ratio	0.23		0.21			
Uniform Delay, d1	7.2		26.1			
Progression Factor	1.00		1.00			
Incremental Delay, d2	0.3		1.1			
Delay (s)	7.6		27.2			
Level of Service	A		C			
Approach Delay (s)	7.6			27.2	0.0	
Approach LOS	A			C	A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1258	167	455	93	53
v/c Ratio	0.61	0.78	1.02	0.34	0.15
Control Delay	19.3	69.4	95.5	43.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	69.4	95.5	43.4	0.9
Queue Length 50th (ft)	207	126	~188	58	0
Queue Length 95th (ft)	255	#228	#276	89	0
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2057	215	444	272	358
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.78	1.02	0.34	0.15

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	375	610	260	160	375	0	0	70	40
Future Volume (vph)	0	0	0	375	610	260	160	375	0	0	70	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.97		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.97		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)					3956		1395	2878			1500	1346
Flt Permitted					0.99		0.95	1.00			1.00	1.00
Satd. Flow (perm)					3956		1395	2878			1500	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.86	0.86	0.86	0.75	0.75	0.75
Adj. Flow (vph)	0	0	0	379	616	263	186	436	0	0	93	53
RTOR Reduction (vph)	0	0	0	0	46	0	0	0	0	0	0	43
Lane Group Flow (vph)	0	0	0	0	1212	0	167	455	0	0	93	10
Confl. Peds. (#/hr)						216						1805
Confl. Bikes (#/hr)						6						7
Heavy Vehicles (%)	2%	2%	2%	4%	7%	4%	6%	8%	2%	2%	14%	8%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					56.0		17.0	17.0			20.0	20.0
Effective Green, g (s)					52.0		17.0	17.0			20.0	20.0
Actuated g/C Ratio					0.47		0.15	0.15			0.18	0.18
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1870		215	444			272	244
v/s Ratio Prot					c0.31		0.12	c0.16			c0.06	0.01
v/s Ratio Perm												
v/c Ratio					0.65		0.78	1.02			0.34	0.04
Uniform Delay, d1					22.0		44.7	46.5			39.3	37.1
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					1.8		23.6	49.2			3.4	0.3
Delay (s)					23.8		68.3	95.7			42.7	37.4
Level of Service					C		E	F			D	D
Approach Delay (s)		0.0			23.8			88.3			40.7	
Approach LOS		A			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	44.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	SBT
Lane Group Flow (vph)	108	695
v/c Ratio	0.12	0.34
Control Delay	0.3	15.1
Queue Delay	0.0	0.0
Total Delay	0.3	15.1
Queue Length 50th (ft)	0	92
Queue Length 95th (ft)	0	120
Internal Link Dist (ft)	1	532
Turn Bay Length (ft)		
Base Capacity (vph)	901	2040
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.12	0.34

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	78	0	0	0	0	660
Future Volume (vph)	78	0	0	0	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.0
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1737					4001
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1737					4001
Peak-hour factor, PHF	0.72	0.72	0.92	0.92	0.95	0.95
Adj. Flow (vph)	108	0	0	0	0	695
RTOR Reduction (vph)	66	0	0	0	0	0
Lane Group Flow (vph)	42	0	0	0	0	695
Heavy Vehicles (%)	6%	2%	2%	2%	2%	12%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					51.0
Effective Green, g (s)	39.0					51.0
Actuated g/C Ratio	0.39					0.51
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	677					2040
v/s Ratio Prot	c0.02					c0.17
v/s Ratio Perm						
v/c Ratio	0.06					0.34
Uniform Delay, d1	19.1					14.5
Progression Factor	1.00					1.00
Incremental Delay, d2	0.2					0.5
Delay (s)	19.2					15.0
Level of Service	B					B
Approach Delay (s)	19.2		0.0			15.0
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	60	65	50	575	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	60	65	50	575	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.68	0.68	0.68	0.94	0.94	0.94	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	88	96	53	612	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			558	
pX, platoon unblocked												
vC, conflicting volume	552	718	0	718	718	306	0			612		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	552	718	0	718	718	306	0			612		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	100	100	100	100	74	86	97			100		
cM capacity (veh/h)	280	341	1084	308	341	681	1579			963		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	184	257	408
Volume Left	0	53	0
Volume Right	96	0	0
cSH	462	1579	1700
Volume to Capacity	0.40	0.03	0.24
Queue Length 95th (ft)	47	3	0
Control Delay (s)	17.9	1.7	0.0
Lane LOS	C	A	
Approach Delay (s)	17.9	0.7	
Approach LOS	C		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	85	0	0	0	0	0	80	40
Future Volume (Veh/h)	0	0	0	45	85	0	0	0	0	0	80	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	54	101	0	0	0	0	0	94	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	168	118	118	118	141	0	141			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	168	118	118	118	141	0	141			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	87	100	100			100		
cM capacity (veh/h)	714	773	934	859	750	1076	1442			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	155	141
Volume Left	54	0
Volume Right	0	47
cSH	785	1700
Volume to Capacity	0.20	0.08
Queue Length 95th (ft)	18	0
Control Delay (s)	10.7	0.0
Lane LOS	B	
Approach Delay (s)	10.7	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	1247
v/c Ratio	0.37
Control Delay	4.1
Queue Delay	0.6
Total Delay	4.7
Queue Length 50th (ft)	73
Queue Length 95th (ft)	91
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3354
Starvation Cap Reductn	1569
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.70

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	130	1005	0	0
Future Volume (vph)	0	0	130	1005	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				0.99		
Satd. Flow (prot)				4393		
Flt Permitted				0.99		
Satd. Flow (perm)				4393		
Peak-hour factor, PHF	0.92	0.92	0.91	0.91	0.92	0.92
Adj. Flow (vph)	0	0	143	1104	0	0
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	0	0	1231	0	0
Heavy Vehicles (%)	2%	2%	3%	6%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3338		
v/s Ratio Prot				c0.28		
v/s Ratio Perm						
v/c Ratio				0.37		
Uniform Delay, d1				4.0		
Progression Factor				1.00		
Incremental Delay, d2				0.3		
Delay (s)				4.3		
Level of Service				A		
Approach Delay (s)	0.0			4.3	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	281	122	103	891	793
v/c Ratio	0.25	0.21	0.14	0.43	0.78
Control Delay	23.6	2.6	6.5	8.4	35.3
Queue Delay	0.0	0.0	0.2	7.0	0.0
Total Delay	23.6	2.6	6.8	15.5	35.3
Queue Length 50th (ft)	63	0	21	123	161
Queue Length 95th (ft)	108	20	37	153	203
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	1131	585	730	2072	1013
Starvation Cap Reductn	0	0	279	1126	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.21	0.23	0.94	0.78

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	275	120	90	775	0	0	0	0	70	283	385
Future Volume (vph)	0	275	120	90	775	0	0	0	0	70	283	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.92	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3008	1286	1577	3094						3877	
Flt Permitted		1.00	1.00	0.58	1.00						1.00	
Satd. Flow (perm)		3008	1286	962	3094						3877	
Peak-hour factor, PHF	0.98	0.98	0.98	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	281	122	103	891	0	0	0	0	75	304	414
RTOR Reduction (vph)	0	0	76	0	0	0	0	0	0	0	199	0
Lane Group Flow (vph)	0	281	46	103	891	0	0	0	0	0	594	0
Heavy Vehicles (%)	2%	8%	13%	3%	5%	2%	2%	2%	2%	3%	17%	7%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		37.6	37.6	61.0	67.0						21.0	
Effective Green, g (s)		37.6	37.6	61.0	67.0						21.0	
Actuated g/C Ratio		0.38	0.38	0.61	0.67						0.21	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1131	483	730	2072						814	
v/s Ratio Prot		0.09		0.03	c0.29						c0.15	
v/s Ratio Perm			0.04	0.05								
v/c Ratio		0.25	0.09	0.14	0.43						0.73	
Uniform Delay, d1		21.5	20.2	8.1	7.6						36.9	
Progression Factor		1.00	1.00	1.00	1.00						1.16	
Incremental Delay, d2		0.5	0.4	0.1	0.1						5.5	
Delay (s)		22.0	20.6	8.2	7.8						48.3	
Level of Service		C	C	A	A						D	
Approach Delay (s)		21.6			7.8			0.0			48.3	
Approach LOS		C			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	363	825	488	482
v/c Ratio	0.51	0.78	1.31	0.65
Control Delay	24.5	26.9	193.3	38.5
Queue Delay	0.2	0.0	0.0	0.0
Total Delay	24.7	26.9	193.3	38.5
Queue Length 50th (ft)	84	150	~468	147
Queue Length 95th (ft)	118	135	#631	195
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	739	1137	372	744
Starvation Cap Reductn	62	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.73	1.31	0.65

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	230	15	30	445	235	420	290	125	0	0	0
Future Volume (vph)	100	230	15	30	445	235	420	290	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.99			0.95		1.00	0.95				
Flt Protected		0.99			1.00		0.95	1.00				
Satd. Flow (prot)		3013			4088		1562	2935				
Flt Permitted		0.54			0.90		0.95	1.00				
Satd. Flow (perm)		1661			3689		1562	2935				
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	105	242	16	35	517	273	488	337	145	0	0	0
RTOR Reduction (vph)	0	3	0	0	84	0	0	43	0	0	0	0
Lane Group Flow (vph)	0	360	0	0	741	0	488	439	0	0	0	0
Heavy Vehicles (%)	2%	7%	8%	5%	5%	15%	4%	6%	5%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		38.7			29.2		26.3	26.3				
Effective Green, g (s)		38.7			29.2		26.3	26.3				
Actuated g/C Ratio		0.35			0.27		0.24	0.24				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		701			979		373	701				
v/s Ratio Prot		c0.04					c0.31	0.15				
v/s Ratio Perm		0.14			c0.20							
v/c Ratio		0.51			0.76		1.31	0.63				
Uniform Delay, d1		28.2			37.1		41.9	37.5				
Progression Factor		1.00			0.69		1.00	1.00				
Incremental Delay, d2		0.6			3.0		156.9	4.2				
Delay (s)		28.8			28.6		198.7	41.7				
Level of Service		C			C		F	D				
Approach Delay (s)		28.8			28.6			120.7			0.0	
Approach LOS		C			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	70.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	355	585	0	0	125
Future Volume (Veh/h)	0	355	585	0	0	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	399	643	0	0	137
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked						
vC, conflicting volume	643				842	214
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	643				842	214
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	83
cM capacity (veh/h)	938				303	784

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	200	200	214	214	214	137
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	137
cSH	1700	1700	1700	1700	1700	784
Volume to Capacity	0.12	0.12	0.13	0.13	0.13	0.17
Queue Length 95th (ft)	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.6
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.6
Approach LOS						B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	204	204	225	309	400	644
v/c Ratio	0.74	0.74	0.63	0.80	0.67	1.17
Control Delay	53.5	53.5	43.8	53.7	37.9	127.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	53.5	43.8	53.7	37.9	127.5
Queue Length 50th (ft)	147	147	148	214	230	~546
Queue Length 95th (ft)	190	190	211	292	#509	#920
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	358	358	410	444	593	550
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.57	0.55	0.70	0.67	1.17

Intersection Summary

~ 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.

Movement	EBL	EBT	WBT	NBL	NBT	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	355	0	0	225	250	5	360	580
Future Volume (vph)	355	0	0	225	250	5	360	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1442	1442		1416	1533		1490	1384
Flt Permitted	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1442	1442		1416	1533		1490	1384
Peak-hour factor, PHF	0.87	0.87	0.92	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	408	0	0	250	278	6	400	644
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	204	204	0	225	309	0	400	644
Heavy Vehicles (%)	7%	2%	2%	9%	5%	2%	9%	5%
Turn Type	Split	NA		Split	NA		Prot	Prot
Protected Phases	3	3	2	4	4		1	1
Permitted Phases								
Actuated Green, G (s)	21.0	21.0		27.7	27.7		43.8	43.8
Effective Green, g (s)	21.0	21.0		27.7	27.7		43.8	43.8
Actuated g/C Ratio	0.19	0.19		0.25	0.25		0.40	0.40
Clearance Time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	275		356	386		593	551
v/s Ratio Prot	c0.14	0.14		0.16	c0.20		0.27	c0.47
v/s Ratio Perm								
v/c Ratio	0.74	0.74		0.63	0.80		0.67	1.17
Uniform Delay, d1	41.9	41.9		36.6	38.6		27.2	33.1
Progression Factor	0.95	0.95		1.00	1.00		1.00	1.00
Incremental Delay, d2	9.0	9.0		3.6	11.3		6.0	94.2
Delay (s)	49.0	49.0		40.3	49.9		33.3	127.3
Level of Service	D	D		D	D		C	F
Approach Delay (s)		49.0	0.0		45.8		91.3	
Approach LOS		D	A		D		F	

Intersection Summary			
HCM 2000 Control Delay	70.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	76	34	0	2
Future Volume (Veh/h)	0	0	76	34	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.78	0.78	0.25	0.25
Hourly flow rate (vph)	0	0	97	44	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		69				
pX, platoon unblocked						
vC, conflicting volume	141				119	119
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	141				119	119
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1442				877	933

Direction, Lane #	WB 1	SB 1
Volume Total	141	8
Volume Left	0	0
Volume Right	44	8
cSH	1700	933
Volume to Capacity	0.08	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	8.9
Lane LOS		A
Approach Delay (s)	0.0	8.9
Approach LOS		A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	0	0	0	0	0	615	25	0	0	0
Future Volume (Veh/h)	5	0	0	0	0	0	0	615	25	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.63	0.63	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Hourly flow rate (vph)	8	0	0	0	0	0	0	634	26	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								655			261	
pX, platoon unblocked												
vC, conflicting volume	211	660	0	647	647	224	0			660		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	211	660	0	647	647	224	0			660		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	99	100	100	100	100	100	100			100		
cM capacity (veh/h)	727	382	1084	356	388	779	1622			924		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	8	254	254	153
Volume Left	8	0	0	0
Volume Right	0	0	0	26
cSH	727	1700	1700	1700
Volume to Capacity	0.01	0.15	0.15	0.09
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.0	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	702	423	10
v/c Ratio	0.56	0.57	0.01
Control Delay	26.3	23.7	14.5
Queue Delay	0.2	0.5	0.0
Total Delay	26.5	24.2	14.5
Queue Length 50th (ft)	193	205	4
Queue Length 95th (ft)	248	305	13
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1258	738	822
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	118	78	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.62	0.64	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	605	20	0	0	0	0	0	0	415	10	0
Future Volume (vph)	0	605	20	0	0	0	0	0	0	415	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		1.00								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3005								1504	1676	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3005								1504	1676	
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.98	0.98
Adj. Flow (vph)	0	680	22	0	0	0	0	0	0	423	10	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	700	0	0	0	0	0	0	0	423	10	0
Heavy Vehicles (%)	2%	4%	5%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Parking (#/hr)				0								
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		46.0								54.0	54.0	
Effective Green, g (s)		46.0								54.0	54.0	
Actuated g/C Ratio		0.42								0.49	0.49	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1256								738	822	
v/s Ratio Prot		c0.23								c0.28	0.01	
v/s Ratio Perm												
v/c Ratio		0.56								0.57	0.01	
Uniform Delay, d1		24.3								19.8	14.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		1.8								3.2	0.0	
Delay (s)		26.1								23.1	14.4	
Level of Service		C								C	B	
Approach Delay (s)		26.1			0.0			0.0			22.9	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	821	365	461	1063
v/c Ratio	1.04dl	0.73	1.02dr	0.78
Control Delay	69.0	24.1	48.1	35.8
Queue Delay	0.0	0.2	0.0	0.0
Total Delay	69.0	24.3	48.1	35.8
Queue Length 50th (ft)	~357	130	109	225
Queue Length 95th (ft)	#468	#240	146	281
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	811	498	757	1358
Starvation Cap Reductn	0	7	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.01	0.74	0.61	0.78

Intersection Summary

~ 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.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	65	315	230	155	255	219	194	30	90	135	740	45
Future Volume (vph)	65	315	230	155	255	219	194	30	90	135	740	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.95	1.00		0.90					0.98	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.98	0.85		0.92					0.99	
Flt Protected			0.97	1.00		1.00					0.99	
Satd. Flow (prot)			2626	1170		3471					4200	
Flt Permitted			0.97	1.00		1.00					0.99	
Satd. Flow (perm)			2626	1170		3471					4200	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.96	0.96	0.96	0.95	0.95	0.95	0.95
Adj. Flow (vph)	76	366	267	180	297	228	202	31	95	142	779	47
RTOR Reduction (vph)	0	0	0	137	0	0	0	0	0	0	79	0
Lane Group Flow (vph)	0	0	821	228	0	461	0	0	0	0	984	0
Confl. Peds. (#/hr)	681			273	309			131	131	273		681
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	4%	6%	2%	11%	11%	6%	2%	2%	2%	4%	2%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			34.0	34.0		20.5					33.5	
Effective Green, g (s)			34.0	34.0		20.5					33.5	
Actuated g/C Ratio			0.31	0.31		0.19					0.30	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			811	361		646					1279	
v/s Ratio Prot			c0.31	0.20		c0.13					c0.23	
v/s Ratio Perm												
v/c Ratio			1.04dl	0.63		1.02dr					0.77	
Uniform Delay, d1			38.0	32.6		42.0					34.7	
Progression Factor			0.92	0.96		1.00					1.00	
Incremental Delay, d2			32.4	3.1		3.7					4.5	
Delay (s)			67.3	34.5		45.7					39.2	
Level of Service			E	C		D					D	
Approach Delay (s)			57.2			45.7					39.2	
Approach LOS			E			D					D	

Intersection Summary			
HCM 2000 Control Delay	48.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBT	WBL
Lane Group Flow (vph)	389	142
v/c Ratio	0.30	0.17
Control Delay	7.8	17.3
Queue Delay	0.9	0.0
Total Delay	8.7	17.3
Queue Length 50th (ft)	19	56
Queue Length 95th (ft)	m25	95
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1307	853
Starvation Cap Reductn	636	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.58	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	235	115	128	0	0	0
Future Volume (vph)	235	115	128	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.95		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2932		1805			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2932		1805			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.92	0.92
Adj. Flow (vph)	261	128	142	0	0	0
RTOR Reduction (vph)	54	0	0	0	0	0
Lane Group Flow (vph)	335	0	142	0	0	0
Heavy Vehicles (%)	7%	2%	2%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	47.0		52.0			
Effective Green, g (s)	47.0		52.0			
Actuated g/C Ratio	0.43		0.47			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1252		853			
v/s Ratio Prot	c0.11		c0.08			
v/s Ratio Perm						
v/c Ratio	0.27		0.17			
Uniform Delay, d1	20.4		16.6			
Progression Factor	0.49		1.00			
Incremental Delay, d2	0.2		0.4			
Delay (s)	10.1		17.0			
Level of Service	B		B			
Approach Delay (s)	10.1			17.0	0.0	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1157	180	374	112	82
v/c Ratio	0.56	0.68	0.72	0.44	0.23
Control Delay	20.2	56.6	51.4	47.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	56.6	51.4	47.0	2.3
Queue Length 50th (ft)	196	131	137	72	0
Queue Length 95th (ft)	240	#231	194	121	2
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2048	263	517	254	361
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.68	0.72	0.44	0.23

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	305	675	165	265	250	0	0	95	70
Future Volume (vph)	0	0	0	305	675	165	265	250	0	0	95	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.99		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.98		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	0.99			1.00	1.00
Satd. Flow (prot)					4131		1449	2848			1474	1425
Flt Permitted					0.99		0.95	0.99			1.00	1.00
Satd. Flow (perm)					4131		1449	2848			1474	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	308	682	167	285	269	0	0	112	82
RTOR Reduction (vph)	0	0	0	0	23	0	0	0	0	0	0	68
Lane Group Flow (vph)	0	0	0	0	1134	0	180	374	0	0	112	14
Confl. Peds. (#/hr)						119						1405
Heavy Vehicles (%)	2%	2%	2%	5%	4%	3%	2%	10%	2%	2%	16%	2%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					54.0		20.0	20.0			19.0	19.0
Effective Green, g (s)					50.0		20.0	20.0			19.0	19.0
Actuated g/C Ratio					0.45		0.18	0.18			0.17	0.17
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1877		263	517			254	246
v/s Ratio Prot					c0.27		0.12	c0.13			c0.08	0.01
v/s Ratio Perm												
v/c Ratio					0.60		0.68	0.72			0.44	0.06
Uniform Delay, d1					22.6		42.1	42.4			40.7	38.0
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					1.5		13.5	8.5			5.5	0.4
Delay (s)					24.0		55.6	50.9			46.2	38.5
Level of Service					C		E	D			D	D
Approach Delay (s)		0.0			24.0			52.4			42.9	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	SBT
Lane Group Flow (vph)	100	1047
v/c Ratio	0.12	0.47
Control Delay	0.3	17.0
Queue Delay	0.0	0.0
Total Delay	0.3	17.0
Queue Length 50th (ft)	0	152
Queue Length 95th (ft)	0	189
Internal Link Dist (ft)	7	532
Turn Bay Length (ft)		
Base Capacity (vph)	866	2218
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.12	0.47

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	0	0	0	0	995
Future Volume (vph)	70	0	0	0	0	995
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.5
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1787					4394
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1787					4394
Peak-hour factor, PHF	0.70	0.70	0.92	0.92	0.95	0.95
Adj. Flow (vph)	100	0	0	0	0	1047
RTOR Reduction (vph)	61	0	0	0	0	0
Lane Group Flow (vph)	39	0	0	0	0	1047
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					50.5
Effective Green, g (s)	39.0					50.5
Actuated g/C Ratio	0.39					0.50
Clearance Time (s)	5.0					5.5
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	696					2218
v/s Ratio Prot	c0.02					c0.24
v/s Ratio Perm						
v/c Ratio	0.06					0.47
Uniform Delay, d1	19.0					16.1
Progression Factor	1.00					1.00
Incremental Delay, d2	0.2					0.7
Delay (s)	19.2					16.8
Level of Service	B					B
Approach Delay (s)	19.2		0.0			16.8
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	43	45	30	415	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	43	45	30	415	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.66	0.66	0.66	0.88	0.88	0.88	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	65	68	34	472	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			559	
pX, platoon unblocked												
vC, conflicting volume	404	540	0	540	540	236	0			472		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	404	540	0	540	540	236	0			472		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	85	91	98			100		
cM capacity (veh/h)	422	438	1084	418	438	766	1607			1086		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	133	191	315
Volume Left	0	34	0
Volume Right	68	0	0
cSH	560	1607	1700
Volume to Capacity	0.24	0.02	0.19
Queue Length 95th (ft)	23	2	0
Control Delay (s)	13.4	1.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.4	0.5	
Approach LOS	B		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	25	0	0	0	0	0	180	63
Future Volume (Veh/h)	0	0	0	35	25	0	0	0	0	0	180	63
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.67	0.67	0.67	0.92	0.92	0.92	0.79	0.79	0.79
Hourly flow rate (vph)	0	0	0	52	37	0	0	0	0	0	228	80
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	286	268	268	268	308	0	308			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	286	268	268	268	308	0	308			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	94	100	100			100		
cM capacity (veh/h)	635	638	771	685	606	1085	1253			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	89	308
Volume Left	52	0
Volume Right	0	80
cSH	650	1700
Volume to Capacity	0.14	0.18
Queue Length 95th (ft)	12	0
Control Delay (s)	11.4	0.0
Lane LOS	B	
Approach Delay (s)	11.4	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	810
v/c Ratio	0.24
Control Delay	3.5
Queue Delay	0.3
Total Delay	3.8
Queue Length 50th (ft)	42
Queue Length 95th (ft)	54
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3413
Starvation Cap Reductn	1866
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.52

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	60	685	0	0
Future Volume (vph)	0	0	60	685	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				1.00		
Satd. Flow (prot)				4478		
Flt Permitted				1.00		
Satd. Flow (perm)				4478		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	65	745	0	0
RTOR Reduction (vph)	0	0	0	10	0	0
Lane Group Flow (vph)	0	0	0	800	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3403		
v/s Ratio Prot				c0.18		
v/s Ratio Perm						
v/c Ratio				0.24		
Uniform Delay, d1				3.5		
Progression Factor				1.00		
Incremental Delay, d2				0.2		
Delay (s)				3.7		
Level of Service				A		
Approach Delay (s)	0.0			3.7	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	388	287	143	685	1110
v/c Ratio	0.40	0.46	0.25	0.38	0.80
Control Delay	30.4	6.4	11.7	12.5	55.6
Queue Delay	0.0	0.0	0.3	5.6	0.0
Total Delay	30.4	6.4	12.0	18.2	55.7
Queue Length 50th (ft)	102	0	40	117	228
Queue Length 95th (ft)	162	68	65	142	276
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	968	628	563	1815	1389
Starvation Cap Reductn	0	0	140	1056	7
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.46	0.34	0.90	0.80

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	365	270	120	575	0	0	0	0	85	615	365
Future Volume (vph)	0	365	270	120	575	0	0	0	0	85	615	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.95	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3185	1411	1577	3185						4178	
Flt Permitted		1.00	1.00	0.47	1.00						1.00	
Satd. Flow (perm)		3185	1411	784	3185						4178	
Peak-hour factor, PHF	0.94	0.94	0.94	0.84	0.84	0.84	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	388	287	143	685	0	0	0	0	89	641	380
RTOR Reduction (vph)	0	0	200	0	0	0	0	0	0	0	94	0
Lane Group Flow (vph)	0	388	87	143	685	0	0	0	0	0	1016	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	7%	4%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		30.4	30.4	51.0	57.0						31.0	
Effective Green, g (s)		30.4	30.4	51.0	57.0						31.0	
Actuated g/C Ratio		0.30	0.30	0.51	0.57						0.31	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		968	428	563	1815						1295	
v/s Ratio Prot		0.12		0.05	c0.22						c0.24	
v/s Ratio Perm			0.06	0.08								
v/c Ratio		0.40	0.20	0.25	0.38						0.78	
Uniform Delay, d1		27.6	25.8	13.3	11.8						31.5	
Progression Factor		1.00	1.00	1.00	1.00						1.83	
Incremental Delay, d2		1.2	1.1	0.2	0.1						4.4	
Delay (s)		28.8	26.9	13.5	11.9						62.1	
Level of Service		C	C	B	B						E	
Approach Delay (s)		28.0			12.2			0.0			62.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	489	683	380	356
v/c Ratio	0.62	0.76	1.05	0.46
Control Delay	24.0	44.7	103.2	22.7
Queue Delay	0.3	0.0	0.0	0.0
Total Delay	24.3	44.7	103.2	22.7
Queue Length 50th (ft)	106	163	~314	63
Queue Length 95th (ft)	148	207	#443	95
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	826	957	362	778
Starvation Cap Reductn	59	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.71	1.05	0.46

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	205	120	80	380	155	315	165	130	0	0	0
Future Volume (vph)	125	205	120	80	380	155	315	165	130	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.96			0.96		1.00	0.93				
Flt Protected		0.99			0.99		0.95	1.00				
Satd. Flow (prot)		3003			4209		1593	2886				
Flt Permitted		0.59			0.80		0.95	1.00				
Satd. Flow (perm)		1787			3368		1593	2886				
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.83	0.83	0.83	0.92	0.92	0.92
Adj. Flow (vph)	136	223	130	89	422	172	380	199	157	0	0	0
RTOR Reduction (vph)	0	34	0	0	56	0	0	121	0	0	0	0
Lane Group Flow (vph)	0	455	0	0	627	0	380	235	0	0	0	0
Heavy Vehicles (%)	2%	3%	2%	4%	2%	17%	2%	6%	4%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		39.0			27.5		25.0	25.0				
Effective Green, g (s)		39.0			27.5		25.0	25.0				
Actuated g/C Ratio		0.35			0.25		0.23	0.23				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		760			842		362	655				
v/s Ratio Prot		c0.06					c0.24	0.08				
v/s Ratio Perm		0.15			c0.19							
v/c Ratio		0.60			0.74		1.05	0.36				
Uniform Delay, d1		29.1			38.0		42.5	35.8				
Progression Factor		1.00			1.15		1.00	1.00				
Incremental Delay, d2		1.3			3.5		60.9	1.5				
Delay (s)		30.4			47.2		103.4	37.3				
Level of Service		C			D		F	D				
Approach Delay (s)		30.4			47.2			71.4			0.0	
Approach LOS		C			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	335	400	0	0	215
Future Volume (Veh/h)	0	335	400	0	0	215
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.90	0.90	0.73	0.73
Hourly flow rate (vph)	0	390	444	0	0	295
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked						
vC, conflicting volume	444				639	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	444				639	148
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	66
cM capacity (veh/h)	1112				408	872

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	195	195	148	148	148	295
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	295
cSH	1700	1700	1700	1700	1700	872
Volume to Capacity	0.11	0.11	0.09	0.09	0.09	0.34
Queue Length 95th (ft)	0	0	0	0	0	38
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.2
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.2
Approach LOS						B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	197	197	216	284	168	158
v/c Ratio	0.72	0.72	0.69	0.83	0.45	0.45
Control Delay	52.5	52.5	52.0	62.2	42.2	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	52.5	52.0	62.2	42.2	42.5
Queue Length 50th (ft)	144	144	141	193	105	99
Queue Length 95th (ft)	204	204	#265	#368	182	173
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	381	381	322	351	375	352
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.52	0.67	0.81	0.45	0.45

Intersection Summary

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

Movement	EBL	EBT	WBT	NBL	NBT	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	335	0	0	235	250	5	165	155
Future Volume (vph)	335	0	0	235	250	5	165	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1498	1498		1429	1560		1504	1411
Flt Permitted	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1498	1498		1429	1560		1504	1411
Peak-hour factor, PHF	0.85	0.85	0.38	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	394	0	0	240	255	5	168	158
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	197	197	0	216	284	0	168	158
Heavy Vehicles (%)	3%	2%	2%	8%	3%	2%	8%	3%
Turn Type	Split	NA		Split	NA		Prot	Prot
Protected Phases	3	3	2	4	4		1	1
Permitted Phases								
Actuated Green, G (s)	20.0	20.0		24.1	24.1		27.4	27.4
Effective Green, g (s)	20.0	20.0		24.1	24.1		27.4	27.4
Actuated g/C Ratio	0.18	0.18		0.22	0.22		0.25	0.25
Clearance Time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	272	272		313	341		374	351
v/s Ratio Prot	c0.13	0.13		0.15	c0.18		0.11	c0.11
v/s Ratio Perm								
v/c Ratio	0.72	0.72		0.69	0.83		0.45	0.45
Uniform Delay, d1	42.4	42.4		39.5	41.0		34.9	34.9
Progression Factor	0.94	0.94		1.00	1.00		1.00	1.00
Incremental Delay, d2	8.0	8.0		6.4	15.8		3.9	4.1
Delay (s)	47.8	47.8		45.9	56.8		38.8	39.1
Level of Service	D	D		D	E		D	D
Approach Delay (s)		47.8	0.0		52.1		38.9	
Approach LOS		D	A		D		D	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	68	5	0	4
Future Volume (Veh/h)	0	0	68	5	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.64	0.64	0.50	0.50
Hourly flow rate (vph)	0	0	106	8	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		87				
pX, platoon unblocked						
vC, conflicting volume	114				110	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	114				110	110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1475				887	943

Direction, Lane #	WB 1	SB 1
Volume Total	114	8
Volume Left	0	0
Volume Right	8	8
cSH	1700	943
Volume to Capacity	0.07	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	8.8
Lane LOS		A
Approach Delay (s)	0.0	8.8
Approach LOS		A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	10	0	0	0	0	3	427	30	0	0	0
Future Volume (Veh/h)	16	10	0	0	0	0	3	427	30	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	14	0	0	0	0	3	464	33	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								666			251	
pX, platoon unblocked												
vC, conflicting volume	161	503	0	494	486	171	0			497		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	161	503	0	494	486	171	0			497		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	97	100	100	100	100	100			100		
cM capacity (veh/h)	788	468	1084	448	479	843	1622			1063		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	36	119	232	149
Volume Left	22	3	0	0
Volume Right	0	0	0	33
cSH	623	1622	1700	1700
Volume to Capacity	0.06	0.00	0.14	0.09
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	11.1	0.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.1	0.0		
Approach LOS	B			

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		20.0%	ICU Level of Service	A
Analysis Period (min)		15		

2025 No-Build Conditions

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	542	296	19
v/c Ratio	0.38	0.52	0.03
Control Delay	18.9	27.4	18.6
Queue Delay	0.0	0.0	0.0
Total Delay	18.9	27.4	18.6
Queue Length 50th (ft)	123	151	8
Queue Length 95th (ft)	165	200	20
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1410	564	629
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	0.52	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	495	20	0	0	0	0	0	0	237	15	0
Future Volume (vph)	0	495	20	0	0	0	0	0	0	237	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		2923								1321	1474	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		2923								1321	1474	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80
Adj. Flow (vph)	0	521	21	0	0	0	0	0	0	296	19	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	0	0	296	19	0
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	23%	16%	2%
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		53.0								47.0	47.0	
Effective Green, g (s)		53.0								47.0	47.0	
Actuated g/C Ratio		0.48								0.43	0.43	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1408								564	629	
v/s Ratio Prot		c0.18								c0.22	0.01	
v/s Ratio Perm												
v/c Ratio		0.38								0.52	0.03	
Uniform Delay, d1		18.1								23.3	18.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		0.8								3.5	0.1	
Delay (s)		18.9								26.7	18.4	
Level of Service		B								C	B	
Approach Delay (s)		18.9			0.0			0.0			26.2	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	514	226	833	1003
v/c Ratio	0.90	0.68	0.87	0.74
Control Delay	60.9	30.2	50.0	33.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	60.9	30.2	50.0	33.1
Queue Length 50th (ft)	175	72	204	209
Queue Length 95th (ft)	#293	165	#260	264
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	584	340	990	1362
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.88	0.66	0.84	0.74

Intersection Summary

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

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	93	158	230	121	131	625	125	41	132	51	669	81
Future Volume (vph)	93	158	230	121	131	625	125	41	132	51	669	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.98	1.00		0.93					0.96	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.99	0.85		0.97					0.99	
Flt Protected			0.98	1.00		1.00					0.99	
Satd. Flow (prot)			2619	1092		3759					3922	
Flt Permitted			0.98	1.00		1.00					0.99	
Satd. Flow (perm)			2619	1092		3759					3922	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.95	0.95	0.95	0.93	0.93	0.93	0.93
Adj. Flow (vph)	94	160	232	122	132	658	132	43	142	55	719	87
RTOR Reduction (vph)	0	0	0	97	0	0	0	0	0	0	77	0
Lane Group Flow (vph)	0	0	514	129	0	833	0	0	0	0	926	0
Confl. Peds. (#/hr)	875			382	395			284	284	382		875
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	9%	12%	6%	25%	8%	9%	10%	4%	8%	9%	1%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			23.9	23.9		28.1					36.0	
Effective Green, g (s)			23.9	23.9		28.1					36.0	
Actuated g/C Ratio			0.22	0.22		0.26					0.33	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			569	237		960					1283	
v/s Ratio Prot			c0.20	0.12		c0.22					c0.24	
v/s Ratio Perm												
v/c Ratio			0.90	0.54		0.87					0.72	
Uniform Delay, d1			41.9	38.2		39.2					32.6	
Progression Factor			0.99	1.13		1.00					1.00	
Incremental Delay, d2			16.5	2.3		8.4					3.5	
Delay (s)			57.8	45.4		47.5					36.1	
Level of Service			E	D		D					D	
Approach Delay (s)			54.0			47.5					36.1	
Approach LOS			D			D					D	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL
Lane Group Flow (vph)	447	99
v/c Ratio	0.25	0.23
Control Delay	6.6	28.0
Queue Delay	1.0	0.0
Total Delay	7.6	28.0
Queue Length 50th (ft)	44	44
Queue Length 95th (ft)	65	73
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1807	430
Starvation Cap Reductn	1066	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.60	0.23

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	301	102	77	0	0	0
Future Volume (vph)	301	102	77	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.96		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2855		1721			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2855		1721			
Peak-hour factor, PHF	0.90	0.90	0.78	0.78	0.92	0.92
Adj. Flow (vph)	334	113	99	0	0	0
RTOR Reduction (vph)	23	0	0	0	0	0
Lane Group Flow (vph)	424	0	99	0	0	0
Heavy Vehicles (%)	12%	2%	7%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	55.0		22.0			
Effective Green, g (s)	55.0		22.0			
Actuated g/C Ratio	0.62		0.25			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1784		430			
v/s Ratio Prot	c0.15		c0.06			
v/s Ratio Perm						
v/c Ratio	0.24		0.23			
Uniform Delay, d1	7.3		26.3			
Progression Factor	1.00		1.00			
Incremental Delay, d2	0.3		1.2			
Delay (s)	7.6		27.5			
Level of Service	A		C			
Approach Delay (s)	7.6			27.5	0.0	
Approach LOS	A			C	A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1500	179	504	95	55
v/c Ratio	0.73	0.83	1.14	0.35	0.15
Control Delay	22.0	76.1	127.8	43.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	76.1	127.8	43.5	0.9
Queue Length 50th (ft)	272	136	~228	59	0
Queue Length 95th (ft)	331	#249	#317	90	0
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2043	215	444	272	358
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.83	1.14	0.35	0.15

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	382	722	381	171	416	0	0	71	41
Future Volume (vph)	0	0	0	382	722	381	171	416	0	0	71	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.96		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.96		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)					3907		1395	2878			1500	1346
Flt Permitted					0.99		0.95	1.00			1.00	1.00
Satd. Flow (perm)					3907		1395	2878			1500	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.86	0.86	0.86	0.75	0.75	0.75
Adj. Flow (vph)	0	0	0	386	729	385	199	484	0	0	95	55
RTOR Reduction (vph)	0	0	0	0	61	0	0	0	0	0	0	45
Lane Group Flow (vph)	0	0	0	0	1439	0	179	504	0	0	95	10
Confl. Peds. (#/hr)						216						1805
Confl. Bikes (#/hr)						6						7
Heavy Vehicles (%)	2%	2%	2%	4%	7%	4%	6%	8%	2%	2%	14%	8%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					56.0		17.0	17.0			20.0	20.0
Effective Green, g (s)					52.0		17.0	17.0			20.0	20.0
Actuated g/C Ratio					0.47		0.15	0.15			0.18	0.18
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1846		215	444			272	244
v/s Ratio Prot					c0.37		0.13	c0.18			c0.06	0.01
v/s Ratio Perm												
v/c Ratio					0.78		0.83	1.14			0.35	0.04
Uniform Delay, d1					24.2		45.1	46.5			39.3	37.1
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					3.3		29.8	85.1			3.5	0.3
Delay (s)					27.6		74.9	131.6			42.8	37.4
Level of Service					C		E	F			D	D
Approach Delay (s)		0.0			27.6			116.8			40.8	
Approach LOS		A			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	SBT
Lane Group Flow (vph)	129	842
v/c Ratio	0.15	0.41
Control Delay	0.4	16.0
Queue Delay	0.0	0.0
Total Delay	0.4	16.0
Queue Length 50th (ft)	0	116
Queue Length 95th (ft)	0	148
Internal Link Dist (ft)	1	532
Turn Bay Length (ft)		
Base Capacity (vph)	872	2040
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.15	0.41

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	0	0	0	0	800
Future Volume (vph)	93	0	0	0	0	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.0
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1737					4001
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1737					4001
Peak-hour factor, PHF	0.72	0.72	0.92	0.92	0.95	0.95
Adj. Flow (vph)	129	0	0	0	0	842
RTOR Reduction (vph)	79	0	0	0	0	0
Lane Group Flow (vph)	50	0	0	0	0	842
Heavy Vehicles (%)	6%	2%	2%	2%	2%	12%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					51.0
Effective Green, g (s)	39.0					51.0
Actuated g/C Ratio	0.39					0.51
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	677					2040
v/s Ratio Prot	c0.03					c0.21
v/s Ratio Perm						
v/c Ratio	0.07					0.41
Uniform Delay, d1	19.2					15.2
Progression Factor	1.00					1.00
Incremental Delay, d2	0.2					0.6
Delay (s)	19.4					15.8
Level of Service	B					B
Approach Delay (s)	19.4		0.0			15.8
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	75	66	51	745	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	75	66	51	745	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.68	0.68	0.68	0.94	0.94	0.94	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	110	97	54	793	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			558	
pX, platoon unblocked												
vC, conflicting volume	656	901	0	901	901	396	0			793		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	656	901	0	901	901	396	0			793		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	100	100	100	100	59	84	97			100		
cM capacity (veh/h)	194	267	1084	227	267	594	1579			824		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	207	318	529
Volume Left	0	54	0
Volume Right	97	0	0
cSH	360	1579	1700
Volume to Capacity	0.58	0.03	0.31
Queue Length 95th (ft)	86	3	0
Control Delay (s)	27.7	1.5	0.0
Lane LOS	D	A	
Approach Delay (s)	27.7	0.6	
Approach LOS	D		

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	46	86	0	0	0	0	0	81	47
Future Volume (Veh/h)	0	0	0	46	86	0	0	0	0	0	81	47
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	55	102	0	0	0	0	0	95	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	174	122	122	122	150	0	150			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	174	122	122	122	150	0	150			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	94	86	100	100			100		
cM capacity (veh/h)	706	768	929	852	742	1076	1431			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	157	150
Volume Left	55	0
Volume Right	0	55
cSH	777	1700
Volume to Capacity	0.20	0.09
Queue Length 95th (ft)	19	0
Control Delay (s)	10.8	0.0
Lane LOS	B	
Approach Delay (s)	10.8	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	1401
v/c Ratio	0.42
Control Delay	4.4
Queue Delay	0.8
Total Delay	5.2
Queue Length 50th (ft)	89
Queue Length 95th (ft)	108
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3354
Starvation Cap Reductn	1489
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.75

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	132	1143	0	0
Future Volume (vph)	0	0	132	1143	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				0.99		
Satd. Flow (prot)				4394		
Flt Permitted				0.99		
Satd. Flow (perm)				4394		
Peak-hour factor, PHF	0.92	0.92	0.91	0.91	0.92	0.92
Adj. Flow (vph)	0	0	145	1256	0	0
RTOR Reduction (vph)	0	0	0	14	0	0
Lane Group Flow (vph)	0	0	0	1387	0	0
Heavy Vehicles (%)	2%	2%	3%	6%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3339		
v/s Ratio Prot				c0.32		
v/s Ratio Perm						
v/c Ratio				0.42		
Uniform Delay, d1				4.2		
Progression Factor				1.00		
Incremental Delay, d2				0.4		
Delay (s)				4.6		
Level of Service				A		
Approach Delay (s)	0.0			4.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	303	157	106	926	960
v/c Ratio	0.27	0.27	0.15	0.45	1.00
Control Delay	24.4	5.1	6.6	8.6	60.7
Queue Delay	0.0	0.0	0.2	8.7	0.0
Total Delay	24.4	5.1	6.8	17.3	60.7
Queue Length 50th (ft)	71	0	21	130	210
Queue Length 95th (ft)	116	43	38	161	#295
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	1102	575	727	2072	964
Starvation Cap Reductn	0	0	278	1107	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	0.24	0.96	1.00

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	297	154	92	806	0	0	0	0	95	399	399
Future Volume (vph)	0	297	154	92	806	0	0	0	0	95	399	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.93	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3008	1286	1577	3094						3901	
Flt Permitted		1.00	1.00	0.56	1.00						0.99	
Satd. Flow (perm)		3008	1286	938	3094						3901	
Peak-hour factor, PHF	0.98	0.98	0.98	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	303	157	106	926	0	0	0	0	102	429	429
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	0	0	145	0
Lane Group Flow (vph)	0	303	58	106	926	0	0	0	0	0	815	0
Heavy Vehicles (%)	2%	8%	13%	3%	5%	2%	2%	2%	2%	3%	17%	7%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		36.7	36.7	61.0	67.0						21.0	
Effective Green, g (s)		36.7	36.7	61.0	67.0						21.0	
Actuated g/C Ratio		0.37	0.37	0.61	0.67						0.21	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1103	471	727	2072						819	
v/s Ratio Prot		0.10		0.04	c0.30						c0.21	
v/s Ratio Perm			0.04	0.05								
v/c Ratio		0.27	0.12	0.15	0.45						0.99	
Uniform Delay, d1		22.3	21.0	8.2	7.8						39.4	
Progression Factor		1.00	1.00	1.00	1.00						1.03	
Incremental Delay, d2		0.6	0.5	0.1	0.2						29.3	
Delay (s)		22.9	21.5	8.2	7.9						69.8	
Level of Service		C	C	A	A						E	
Approach Delay (s)		22.4			8.0			0.0			69.8	
Approach LOS		C			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	412	889	515	679
v/c Ratio	0.58	0.82	1.44	0.95
Control Delay	25.6	27.9	246.6	64.0
Queue Delay	0.3	0.0	0.0	0.0
Total Delay	25.9	27.9	246.6	64.0
Queue Length 50th (ft)	97	121	~508	238
Queue Length 95th (ft)	135	m155	#673	#339
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	732	1121	358	712
Starvation Cap Reductn	54	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.61	0.79	1.44	0.95

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	272	18	39	454	272	443	420	164	0	0	0
Future Volume (vph)	102	272	18	39	454	272	443	420	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.99			0.95		1.00	0.96				
Flt Protected		0.99			1.00		0.95	1.00				
Satd. Flow (prot)		3012			4061		1562	2944				
Flt Permitted		0.54			0.88		0.95	1.00				
Satd. Flow (perm)		1637			3600		1562	2944				
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	107	286	19	45	528	316	515	488	191	0	0	0
RTOR Reduction (vph)	0	3	0	0	92	0	0	37	0	0	0	0
Lane Group Flow (vph)	0	409	0	0	797	0	515	642	0	0	0	0
Heavy Vehicles (%)	2%	7%	8%	5%	5%	15%	4%	6%	5%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		39.8			30.3		25.2	25.2				
Effective Green, g (s)		39.8			30.3		25.2	25.2				
Actuated g/C Ratio		0.36			0.28		0.23	0.23				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		711			991		357	674				
v/s Ratio Prot		c0.05					c0.33	0.22				
v/s Ratio Perm		0.16			c0.22							
v/c Ratio		0.57			0.80		1.44	0.95				
Uniform Delay, d1		28.3			37.1		42.4	41.8				
Progression Factor		1.00			0.70		1.00	1.00				
Incremental Delay, d2		1.1			3.8		214.4	24.8				
Delay (s)		29.4			29.8		256.8	66.6				
Level of Service		C			C		F	E				
Approach Delay (s)		29.4			29.8			148.7			0.0	
Approach LOS		C			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	86.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	429	640	0	0	127
Future Volume (Veh/h)	0	429	640	0	0	127
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	482	703	0	0	140
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked					0.97	
vC, conflicting volume	703				944	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	703				884	234
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	82
cM capacity (veh/h)	890				277	761

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	241	241	234	234	234	140
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	140
cSH	1700	1700	1700	1700	1700	761
Volume to Capacity	0.14	0.14	0.14	0.14	0.14	0.18
Queue Length 95th (ft)	0	0	0	0	0	17
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.8
Approach LOS						B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	246	247	239	360	446	669
v/c Ratio	0.77	0.77	0.57	0.79	0.93	1.50
Control Delay	49.7	49.9	37.1	47.9	66.8	267.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	49.9	37.1	47.9	66.8	267.3
Queue Length 50th (ft)	171	172	149	245	306	~662
Queue Length 95th (ft)	m184	m185	206	320	#685	#1051
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	372	372	443	480	479	445
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.54	0.75	0.93	1.50

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	NBL	NBT	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	429	0	0	239	294	5	401	602
Future Volume (vph)	429	0	0	239	294	5	401	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1442	1442		1416	1534		1490	1384
Flt Permitted	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1442	1442		1416	1534		1490	1384
Peak-hour factor, PHF	0.87	0.87	0.92	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	493	0	0	266	327	6	446	669
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	246	247	0	239	360	0	446	669
Heavy Vehicles (%)	7%	2%	2%	9%	5%	2%	9%	5%
Turn Type	Split	NA		Split	NA		Prot	Prot
Protected Phases	3	3	2	4	4		1	1
Permitted Phases								
Actuated Green, G (s)	24.5	24.5		32.6	32.6		35.4	35.4
Effective Green, g (s)	24.5	24.5		32.6	32.6		35.4	35.4
Actuated g/C Ratio	0.22	0.22		0.30	0.30		0.32	0.32
Clearance Time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	321	321		419	454		479	445
v/s Ratio Prot	0.17	c0.17		0.17	c0.23		0.30	c0.48
v/s Ratio Perm								
v/c Ratio	0.77	0.77		0.57	0.79		0.93	1.50
Uniform Delay, d1	40.1	40.1		32.8	35.6		36.1	37.3
Progression Factor	0.97	0.97		1.00	1.00		1.00	1.00
Incremental Delay, d2	7.6	7.7		1.9	9.2		27.1	238.0
Delay (s)	46.3	46.5		34.6	44.8		63.2	275.3
Level of Service	D	D		C	D		E	F
Approach Delay (s)		46.4	0.0		40.7		190.5	
Approach LOS		D	A		D		F	

Intersection Summary			
HCM 2000 Control Delay	117.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	91	34	0	2
Future Volume (Veh/h)	0	0	91	34	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.78	0.78	0.25	0.25
Hourly flow rate (vph)	0	0	117	44	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		69				
pX, platoon unblocked						
vC, conflicting volume	161				139	139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	161				139	139
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1418				854	909

Direction, Lane #	WB 1	SB 1
Volume Total	161	8
Volume Left	0	0
Volume Right	44	8
cSH	1700	909
Volume to Capacity	0.09	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	9.0
Lane LOS		A
Approach Delay (s)	0.0	9.0
Approach LOS		A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	0	0	0	0	0	786	25	0	0	0
Future Volume (Veh/h)	5	0	0	0	0	0	0	786	25	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.63	0.63	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Hourly flow rate (vph)	8	0	0	0	0	0	0	810	26	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								655			261	
pX, platoon unblocked												
vC, conflicting volume	270	836	0	823	823	283	0			836		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	270	836	0	823	823	283	0			836		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	99	100	100	100	100	100	100			100		
cM capacity (veh/h)	661	302	1084	266	307	714	1622			794		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	8	324	324	188
Volume Left	8	0	0	0
Volume Right	0	0	0	26
cSH	661	1700	1700	1700
Volume to Capacity	0.01	0.19	0.19	0.11
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.5	0.0		
Approach LOS	B			

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	27.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Queues
1: Kingston Street & Essex Street

02/04/2019

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	738	496	10
v/c Ratio	0.59	0.67	0.01
Control Delay	26.9	26.9	14.5
Queue Delay	0.3	2.1	0.0
Total Delay	27.2	29.0	14.5
Queue Length 50th (ft)	206	257	4
Queue Length 95th (ft)	265	382	13
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1259	738	822
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	138	126	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.66	0.81	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	637	20	0	0	0	0	0	0	486	10	0
Future Volume (vph)	0	637	20	0	0	0	0	0	0	486	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		1.00								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3006								1504	1676	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3006								1504	1676	
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.98	0.98
Adj. Flow (vph)	0	716	22	0	0	0	0	0	0	496	10	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	736	0	0	0	0	0	0	0	496	10	0
Heavy Vehicles (%)	2%	4%	5%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Parking (#/hr)				0								
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		46.0								54.0	54.0	
Effective Green, g (s)		46.0								54.0	54.0	
Actuated g/C Ratio		0.42								0.49	0.49	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1257								738	822	
v/s Ratio Prot		c0.24								c0.33	0.01	
v/s Ratio Perm												
v/c Ratio		0.59								0.67	0.01	
Uniform Delay, d1		24.7								21.3	14.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		2.0								4.8	0.0	
Delay (s)		26.7								26.1	14.4	
Level of Service		C								C	B	
Approach Delay (s)		26.7			0.0			0.0			25.9	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	901	404	636	1196
v/c Ratio	1.26dl	0.87	0.97dr	0.88
Control Delay	136.4	37.6	53.7	41.4
Queue Delay	0.0	0.7	0.0	0.0
Total Delay	136.4	38.3	53.7	41.4
Queue Length 50th (ft)	~436	180	157	268
Queue Length 95th (ft)	#537	#347	#205	#333
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	750	466	785	1362
Starvation Cap Reductn	0	6	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.20	0.88	0.81	0.88

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	68	356	235	185	279	370	210	31	92	137	862	46
Future Volume (vph)	68	356	235	185	279	370	210	31	92	137	862	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.95	1.00		0.92					0.98	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.98	0.85		0.94					0.99	
Flt Protected			0.97	1.00		1.00					0.99	
Satd. Flow (prot)			2609	1171		3598					4213	
Flt Permitted			0.97	1.00		1.00					0.99	
Satd. Flow (perm)			2609	1171		3598					4213	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.96	0.96	0.96	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	414	273	215	324	385	219	32	97	144	907	48
RTOR Reduction (vph)	0	0	0	130	0	0	0	0	0	0	79	0
Lane Group Flow (vph)	0	0	901	274	0	636	0	0	0	0	1117	0
Confl. Peds. (#/hr)	681			273	309			131	131	273		681
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	4%	6%	2%	11%	11%	6%	2%	2%	2%	4%	2%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			31.6	31.6		22.9					33.5	
Effective Green, g (s)			31.6	31.6		22.9					33.5	
Actuated g/C Ratio			0.29	0.29		0.21					0.30	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			749	336		749					1283	
v/s Ratio Prot			c0.35	0.23		c0.18					c0.27	
v/s Ratio Perm												
v/c Ratio			1.26dl	0.81		0.97dr					0.87	
Uniform Delay, d1			39.2	36.5		41.9					36.2	
Progression Factor			0.97	1.00		1.00					1.00	
Incremental Delay, d2			101.8	11.8		8.9					8.3	
Delay (s)			139.8	48.1		50.8					44.4	
Level of Service			F	D		D					D	
Approach Delay (s)			111.4			50.8					44.4	
Approach LOS			F			D					D	

Intersection Summary			
HCM 2000 Control Delay	73.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBT	WBL
Lane Group Flow (vph)	397	151
v/c Ratio	0.30	0.18
Control Delay	7.4	17.4
Queue Delay	1.1	0.0
Total Delay	8.5	17.4
Queue Length 50th (ft)	24	60
Queue Length 95th (ft)	m19	100
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1307	853
Starvation Cap Reductn	654	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.61	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	240	117	136	0	0	0
Future Volume (vph)	240	117	136	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.95		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2932		1805			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2932		1805			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.92	0.92
Adj. Flow (vph)	267	130	151	0	0	0
RTOR Reduction (vph)	54	0	0	0	0	0
Lane Group Flow (vph)	343	0	151	0	0	0
Heavy Vehicles (%)	7%	2%	2%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	47.0		52.0			
Effective Green, g (s)	47.0		52.0			
Actuated g/C Ratio	0.43		0.47			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1252		853			
v/s Ratio Prot	c0.12		c0.08			
v/s Ratio Perm						
v/c Ratio	0.27		0.18			
Uniform Delay, d1	20.4		16.7			
Progression Factor	0.47		1.00			
Incremental Delay, d2	0.0		0.5			
Delay (s)	9.6		17.1			
Level of Service	A		B			
Approach Delay (s)	9.6			17.1	0.0	
Approach LOS	A			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1396	197	412	114	84
v/c Ratio	0.68	0.75	0.80	0.45	0.23
Control Delay	22.1	61.4	55.7	47.2	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	61.4	55.7	47.2	2.6
Queue Length 50th (ft)	252	146	154	73	0
Queue Length 95th (ft)	306	#265	#230	123	4
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2045	263	517	254	361
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.75	0.80	0.45	0.23

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	310	788	284	278	288	0	0	97	71
Future Volume (vph)	0	0	0	310	788	284	278	288	0	0	97	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.98		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.97		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	0.99			1.00	1.00
Satd. Flow (prot)					4082		1449	2846			1474	1425
Flt Permitted					0.99		0.95	0.99			1.00	1.00
Satd. Flow (perm)					4082		1449	2846			1474	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	313	796	287	299	310	0	0	114	84
RTOR Reduction (vph)	0	0	0	0	45	0	0	0	0	0	0	69
Lane Group Flow (vph)	0	0	0	0	1351	0	197	412	0	0	114	15
Confl. Peds. (#/hr)						119						1405
Heavy Vehicles (%)	2%	2%	2%	5%	4%	3%	2%	10%	2%	2%	16%	2%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					54.0		20.0	20.0			19.0	19.0
Effective Green, g (s)					50.0		20.0	20.0			19.0	19.0
Actuated g/C Ratio					0.45		0.18	0.18			0.17	0.17
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1855		263	517			254	246
v/s Ratio Prot					c0.33		0.14	c0.14			c0.08	0.01
v/s Ratio Perm												
v/c Ratio					0.73		0.75	0.80			0.45	0.06
Uniform Delay, d1					24.5		42.6	43.1			40.8	38.0
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					2.5		17.7	12.1			5.6	0.5
Delay (s)					27.0		60.3	55.1			46.4	38.5
Level of Service					C		E	E			D	D
Approach Delay (s)		0.0			27.0			56.8			43.1	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	SBT
Lane Group Flow (vph)	121	1202
v/c Ratio	0.14	0.54
Control Delay	0.4	18.0
Queue Delay	0.1	0.1
Total Delay	0.4	18.1
Queue Length 50th (ft)	0	183
Queue Length 95th (ft)	0	225
Internal Link Dist (ft)	7	532
Turn Bay Length (ft)		
Base Capacity (vph)	854	2218
Starvation Cap Reductn	0	0
Spillback Cap Reductn	167	113
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.18	0.57

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	85	0	0	0	0	1142
Future Volume (vph)	85	0	0	0	0	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.5
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1787					4394
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1787					4394
Peak-hour factor, PHF	0.70	0.70	0.92	0.92	0.95	0.95
Adj. Flow (vph)	121	0	0	0	0	1202
RTOR Reduction (vph)	74	0	0	0	0	0
Lane Group Flow (vph)	47	0	0	0	0	1202
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					50.5
Effective Green, g (s)	39.0					50.5
Actuated g/C Ratio	0.39					0.50
Clearance Time (s)	5.0					5.5
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	696					2218
v/s Ratio Prot	c0.03					c0.27
v/s Ratio Perm						
v/c Ratio	0.07					0.54
Uniform Delay, d1	19.1					16.9
Progression Factor	1.00					1.00
Incremental Delay, d2	0.2					1.0
Delay (s)	19.3					17.8
Level of Service	B					B
Approach Delay (s)	19.3		0.0			17.8
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	58	46	31	582	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	58	46	31	582	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.66	0.66	0.66	0.88	0.88	0.88	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	88	70	35	661	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			559	
pX, platoon unblocked												
vC, conflicting volume	514	731	0	731	731	330	0			661		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	514	731	0	731	731	330	0			661		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	74	89	98			100		
cM capacity (veh/h)	312	340	1084	304	340	665	1607			923		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	158	255	441
Volume Left	0	35	0
Volume Right	70	0	0
cSH	434	1607	1700
Volume to Capacity	0.36	0.02	0.26
Queue Length 95th (ft)	41	2	0
Control Delay (s)	18.0	1.2	0.0
Lane LOS	C	A	
Approach Delay (s)	18.0	0.4	
Approach LOS	C		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	36	25	0	0	0	0	0	183	70
Future Volume (Veh/h)	0	0	0	36	25	0	0	0	0	0	183	70
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.67	0.67	0.67	0.92	0.92	0.92	0.79	0.79	0.79
Hourly flow rate (vph)	0	0	0	54	37	0	0	0	0	0	232	89
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	295	276	276	276	321	0	321			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	295	276	276	276	321	0	321			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	94	100	100			100		
cM capacity (veh/h)	626	631	762	676	596	1085	1239			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	91	321
Volume Left	54	0
Volume Right	0	89
cSH	641	1700
Volume to Capacity	0.14	0.19
Queue Length 95th (ft)	12	0
Control Delay (s)	11.5	0.0
Lane LOS	B	
Approach Delay (s)	11.5	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	954
v/c Ratio	0.28
Control Delay	3.7
Queue Delay	0.4
Total Delay	4.1
Queue Length 50th (ft)	53
Queue Length 95th (ft)	66
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3413
Starvation Cap Reductn	1789
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.59

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	61	817	0	0
Future Volume (vph)	0	0	61	817	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				1.00		
Satd. Flow (prot)				4479		
Flt Permitted				1.00		
Satd. Flow (perm)				4479		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	66	888	0	0
RTOR Reduction (vph)	0	0	0	8	0	0
Lane Group Flow (vph)	0	0	0	946	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3404		
v/s Ratio Prot				c0.21		
v/s Ratio Perm						
v/c Ratio				0.28		
Uniform Delay, d1				3.7		
Progression Factor				1.00		
Incremental Delay, d2				0.2		
Delay (s)				3.9		
Level of Service				A		
Approach Delay (s)	0.0			3.9	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	413	327	145	721	1278
v/c Ratio	0.44	0.51	0.26	0.40	0.92
Control Delay	31.6	6.8	11.8	12.8	64.2
Queue Delay	0.0	0.0	0.4	7.3	0.1
Total Delay	31.6	6.8	12.1	20.1	64.4
Queue Length 50th (ft)	111	0	41	126	273
Queue Length 95th (ft)	176	75	66	151	#345
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	942	647	557	1815	1382
Starvation Cap Reductn	0	0	142	1040	3
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.51	0.35	0.93	0.93

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	388	307	122	606	0	0	0	0	110	737	379
Future Volume (vph)	0	388	307	122	606	0	0	0	0	110	737	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.95	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3185	1411	1577	3185						4196	
Flt Permitted		1.00	1.00	0.45	1.00						1.00	
Satd. Flow (perm)		3185	1411	742	3185						4196	
Peak-hour factor, PHF	0.94	0.94	0.94	0.84	0.84	0.84	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	413	327	145	721	0	0	0	0	115	768	395
RTOR Reduction (vph)	0	0	230	0	0	0	0	0	0	0	81	0
Lane Group Flow (vph)	0	413	97	145	721	0	0	0	0	0	1197	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	7%	4%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		29.6	29.6	51.0	57.0						31.0	
Effective Green, g (s)		29.6	29.6	51.0	57.0						31.0	
Actuated g/C Ratio		0.30	0.30	0.51	0.57						0.31	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		942	417	557	1815						1300	
v/s Ratio Prot		c0.13		0.06	c0.23						c0.29	
v/s Ratio Perm			0.07	0.08								
v/c Ratio		0.44	0.23	0.26	0.40						0.92	
Uniform Delay, d1		28.5	26.6	13.3	12.0						33.3	
Progression Factor		1.00	1.00	1.00	1.00						1.78	
Incremental Delay, d2		1.5	1.3	0.3	0.1						10.8	
Delay (s)		30.0	27.9	13.6	12.1						70.1	
Level of Service		C	C	B	B						E	
Approach Delay (s)		29.1			12.3			0.0			70.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	542	744	408	557
v/c Ratio	0.68	0.81	1.17	0.78
Control Delay	26.1	44.2	143.3	42.6
Queue Delay	0.4	0.0	0.0	0.0
Total Delay	26.5	44.2	143.3	42.6
Queue Length 50th (ft)	123	179	~356	166
Queue Length 95th (ft)	168	m225	#485	207
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	814	944	348	712
Starvation Cap Reductn	51	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.79	1.17	0.78

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	247	125	89	390	191	339	293	169	0	0	0
Future Volume (vph)	127	247	125	89	390	191	339	293	169	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.96			0.96		1.00	0.95				
Flt Protected		0.99			0.99		0.95	1.00				
Satd. Flow (prot)		3012			4167		1593	2917				
Flt Permitted		0.58			0.78		0.95	1.00				
Satd. Flow (perm)		1755			3281		1593	2917				
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.83	0.83	0.83	0.92	0.92	0.92
Adj. Flow (vph)	138	268	136	99	433	212	408	353	204	0	0	0
RTOR Reduction (vph)	0	31	0	0	66	0	0	74	0	0	0	0
Lane Group Flow (vph)	0	511	0	0	678	0	408	483	0	0	0	0
Heavy Vehicles (%)	2%	3%	2%	4%	2%	17%	2%	6%	4%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		40.0			28.5		24.0	24.0				
Effective Green, g (s)		40.0			28.5		24.0	24.0				
Actuated g/C Ratio		0.36			0.26		0.22	0.22				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		769			850		347	636				
v/s Ratio Prot		c0.07					c0.26	0.17				
v/s Ratio Perm		0.17			c0.21							
v/c Ratio		0.67			0.80		1.18	0.76				
Uniform Delay, d1		29.4			38.1		43.0	40.3				
Progression Factor		1.00			1.09		1.00	1.00				
Incremental Delay, d2		2.2			4.9		105.2	8.3				
Delay (s)		31.6			46.5		148.2	48.6				
Level of Service		C			D		F	D				
Approach Delay (s)		31.6			46.5			90.7			0.0	
Approach LOS		C			D			F			A	

Intersection Summary			
HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	409	454	0	0	219
Future Volume (Veh/h)	0	409	454	0	0	219
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.90	0.90	0.73	0.73
Hourly flow rate (vph)	0	476	504	0	0	300
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked						
vC, conflicting volume	504				742	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504				742	168
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	65
cM capacity (veh/h)	1057				351	847

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	238	238	168	168	168	300
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	300
cSH	1700	1700	1700	1700	1700	847
Volume to Capacity	0.14	0.14	0.10	0.10	0.10	0.35
Queue Length 95th (ft)	0	0	0	0	0	40
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.6
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.6
Approach LOS						B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	240	241	230	326	207	173
v/c Ratio	0.78	0.79	0.66	0.86	0.68	0.61
Control Delay	54.8	55.0	49.4	63.5	53.9	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	55.0	49.4	63.5	53.9	50.7
Queue Length 50th (ft)	176	178	154	232	139	114
Queue Length 95th (ft)	m238	m240	#294	#443	#242	190
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	381	381	346	379	304	285
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.63	0.66	0.86	0.68	0.61

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	NBL	NBT	NWL	NWR
Lane Configurations							
Traffic Volume (vph)	409	0	0	251	294	203	170
Future Volume (vph)	409	0	0	251	294	203	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5	6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95	1.00	1.00
Frt	1.00	1.00		1.00	1.00	1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1498	1498		1429	1565	1504	1411
Flt Permitted	0.95	0.95		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1498	1498		1429	1565	1504	1411
Peak-hour factor, PHF	0.85	0.85	0.38	0.98	0.98	0.98	0.98
Adj. Flow (vph)	481	0	0	256	300	207	173
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	241	0	230	326	207	173
Heavy Vehicles (%)	3%	2%	2%	8%	3%	8%	3%
Turn Type	Split	NA		Split	NA	Prot	Prot
Protected Phases	3	3	2	4	4	1	1
Permitted Phases							
Actuated Green, G (s)	22.5	22.5		26.7	26.7	22.3	22.3
Effective Green, g (s)	22.5	22.5		26.7	26.7	22.3	22.3
Actuated g/C Ratio	0.20	0.20		0.24	0.24	0.20	0.20
Clearance Time (s)	6.0	6.0		5.5	5.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	306	306		346	379	304	286
v/s Ratio Prot	0.16	c0.16		0.16	c0.21	c0.14	0.12
v/s Ratio Perm							
v/c Ratio	0.78	0.79		0.66	0.86	0.68	0.60
Uniform Delay, d1	41.5	41.5		37.6	39.9	40.6	39.8
Progression Factor	1.02	1.02		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	9.1		4.8	17.7	11.7	9.2
Delay (s)	51.4	51.5		42.4	57.6	52.2	49.0
Level of Service	D	D		D	E	D	D
Approach Delay (s)		51.5	0.0		51.3	50.8	
Approach LOS		D	A		D	D	

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	83	5	0	4
Future Volume (Veh/h)	0	0	83	5	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.64	0.64	0.50	0.50
Hourly flow rate (vph)	0	0	130	8	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		87				
pX, platoon unblocked						
vC, conflicting volume	138				134	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138				134	134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1446				860	915

Direction, Lane #	WB 1	SB 1
Volume Total	138	8
Volume Left	0	0
Volume Right	8	8
cSH	1700	915
Volume to Capacity	0.08	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	9.0
Lane LOS		A
Approach Delay (s)	0.0	9.0
Approach LOS		A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	10	0	0	0	0	3	595	31	0	0	0
Future Volume (Veh/h)	16	10	0	0	0	0	3	595	31	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	14	0	0	0	0	3	647	34	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								666			251	
pX, platoon unblocked												
vC, conflicting volume	222	687	0	677	670	233	0			681		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	222	687	0	677	670	233	0			681		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	96	100	100	100	100	100			100		
cM capacity (veh/h)	714	367	1084	328	376	769	1622			907		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	36	165	324	196
Volume Left	22	3	0	0
Volume Right	0	0	0	34
cSH	522	1622	1700	1700
Volume to Capacity	0.07	0.00	0.19	0.12
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	12.4	0.1	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.4	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

2025 Build Conditions

Queues
1: Kingston Street & Essex Street

02/04/2019

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	550	296	19
v/c Ratio	0.39	0.52	0.03
Control Delay	19.0	27.4	18.6
Queue Delay	0.0	0.0	0.0
Total Delay	19.0	27.4	18.6
Queue Length 50th (ft)	124	151	8
Queue Length 95th (ft)	168	200	20
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1410	564	629
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.52	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	503	20	0	0	0	0	0	0	237	15	0
Future Volume (vph)	0	503	20	0	0	0	0	0	0	237	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		2924								1321	1474	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		2924								1321	1474	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80
Adj. Flow (vph)	0	529	21	0	0	0	0	0	0	296	19	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	0	0	0	0	0	296	19	0
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	23%	16%	2%
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		53.0								47.0	47.0	
Effective Green, g (s)		53.0								47.0	47.0	
Actuated g/C Ratio		0.48								0.43	0.43	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1408								564	629	
v/s Ratio Prot		c0.19								c0.22	0.01	
v/s Ratio Perm												
v/c Ratio		0.39								0.52	0.03	
Uniform Delay, d1		18.2								23.3	18.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		0.8								3.5	0.1	
Delay (s)		19.0								26.7	18.4	
Level of Service		B								C	B	
Approach Delay (s)		19.0			0.0			0.0			26.2	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	520	228	842	1051
v/c Ratio	0.91	0.68	0.88	0.78
Control Delay	60.5	30.4	50.7	34.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	60.5	30.4	50.7	34.8
Queue Length 50th (ft)	178	74	207	223
Queue Length 95th (ft)	#300	169	#268	281
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	584	339	986	1354
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.67	0.85	0.78

Intersection Summary

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

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	93	158	238	121	131	625	134	41	177	51	669	81
Future Volume (vph)	93	158	238	121	131	625	134	41	177	51	669	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.98	1.00		0.93					0.96	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.99	0.85		0.97					0.99	
Flt Protected			0.98	1.00		1.00					0.99	
Satd. Flow (prot)			2624	1093		3743					3931	
Flt Permitted			0.98	1.00		1.00					0.99	
Satd. Flow (perm)			2624	1093		3743					3931	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.95	0.95	0.95	0.93	0.93	0.93	0.93
Adj. Flow (vph)	94	160	240	122	132	658	141	43	190	55	719	87
RTOR Reduction (vph)	0	0	0	97	0	0	0	0	0	0	77	0
Lane Group Flow (vph)	0	0	520	131	0	842	0	0	0	0	974	0
Confl. Peds. (#/hr)	875			382	395			284	284	382		875
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	9%	12%	6%	25%	8%	9%	10%	4%	8%	9%	1%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			24.1	24.1		28.2					35.7	
Effective Green, g (s)			24.1	24.1		28.2					35.7	
Actuated g/C Ratio			0.22	0.22		0.26					0.32	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			574	239		959					1275	
v/s Ratio Prot			c0.20	0.12		c0.22					c0.25	
v/s Ratio Perm												
v/c Ratio			0.91	0.55		0.88					0.76	
Uniform Delay, d1			41.8	38.1		39.2					33.4	
Progression Factor			0.97	1.12		1.00					1.00	
Incremental Delay, d2			16.7	2.4		9.2					4.4	
Delay (s)			57.4	45.1		48.4					37.8	
Level of Service			E	D		D					D	
Approach Delay (s)			53.6			48.4					37.8	
Approach LOS			D			D					D	

Intersection Summary			
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL
Lane Group Flow (vph)	506	99
v/c Ratio	0.28	0.23
Control Delay	6.0	28.0
Queue Delay	1.1	0.0
Total Delay	7.1	28.0
Queue Length 50th (ft)	44	44
Queue Length 95th (ft)	67	73
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1819	430
Starvation Cap Reductn	1028	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.64	0.23

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	301	155	77	0	0	0
Future Volume (vph)	301	155	77	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.95		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2839		1721			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2839		1721			
Peak-hour factor, PHF	0.90	0.90	0.78	0.78	0.92	0.92
Adj. Flow (vph)	334	172	99	0	0	0
RTOR Reduction (vph)	45	0	0	0	0	0
Lane Group Flow (vph)	461	0	99	0	0	0
Heavy Vehicles (%)	12%	2%	7%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	55.0		22.0			
Effective Green, g (s)	55.0		22.0			
Actuated g/C Ratio	0.62		0.25			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1774		430			
v/s Ratio Prot	c0.16		c0.06			
v/s Ratio Perm						
v/c Ratio	0.26		0.23			
Uniform Delay, d1	7.4		26.3			
Progression Factor	1.00		1.00			
Incremental Delay, d2	0.4		1.2			
Delay (s)	7.7		27.5			
Level of Service	A		C			
Approach Delay (s)	7.7			27.5	0.0	
Approach LOS	A			C	A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1545	181	504	95	55
v/c Ratio	0.75	0.84	1.14	0.35	0.15
Control Delay	22.7	77.4	127.8	43.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	77.4	127.8	43.5	0.9
Queue Length 50th (ft)	286	138	~228	59	0
Queue Length 95th (ft)	349	#254	#317	90	0
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2049	215	444	272	358
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.84	1.14	0.35	0.15

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	382	766	381	173	416	0	0	71	41
Future Volume (vph)	0	0	0	382	766	381	173	416	0	0	71	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.96		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.96		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)					3916		1395	2878			1500	1346
Flt Permitted					0.99		0.95	1.00			1.00	1.00
Satd. Flow (perm)					3916		1395	2878			1500	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.86	0.86	0.86	0.75	0.75	0.75
Adj. Flow (vph)	0	0	0	386	774	385	201	484	0	0	95	55
RTOR Reduction (vph)	0	0	0	0	59	0	0	0	0	0	0	45
Lane Group Flow (vph)	0	0	0	0	1486	0	181	504	0	0	95	10
Confl. Peds. (#/hr)						216						1805
Confl. Bikes (#/hr)						6						7
Heavy Vehicles (%)	2%	2%	2%	4%	7%	4%	6%	8%	2%	2%	14%	8%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					56.0		17.0	17.0			20.0	20.0
Effective Green, g (s)					52.0		17.0	17.0			20.0	20.0
Actuated g/C Ratio					0.47		0.15	0.15			0.18	0.18
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1851		215	444			272	244
v/s Ratio Prot					c0.38		0.13	c0.18			c0.06	0.01
v/s Ratio Perm												
v/c Ratio					0.80		0.84	1.14			0.35	0.04
Uniform Delay, d1					24.6		45.2	46.5			39.3	37.1
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					3.8		31.0	85.1			3.5	0.3
Delay (s)					28.5		76.2	131.6			42.8	37.4
Level of Service					C		E	F			D	D
Approach Delay (s)		0.0			28.5			117.0			40.8	
Approach LOS		A			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	54.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	SBT
Lane Group Flow (vph)	164	842
v/c Ratio	0.19	0.41
Control Delay	0.5	16.0
Queue Delay	0.0	0.0
Total Delay	0.5	16.0
Queue Length 50th (ft)	0	116
Queue Length 95th (ft)	0	148
Internal Link Dist (ft)	1	532
Turn Bay Length (ft)		
Base Capacity (vph)	872	2040
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.19	0.41

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	118	0	0	0	0	800
Future Volume (vph)	118	0	0	0	0	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.0
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1737					4001
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1737					4001
Peak-hour factor, PHF	0.72	0.72	0.92	0.92	0.95	0.95
Adj. Flow (vph)	164	0	0	0	0	842
RTOR Reduction (vph)	100	0	0	0	0	0
Lane Group Flow (vph)	64	0	0	0	0	842
Heavy Vehicles (%)	6%	2%	2%	2%	2%	12%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					51.0
Effective Green, g (s)	39.0					51.0
Actuated g/C Ratio	0.39					0.51
Clearance Time (s)	5.0					5.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	677					2040
v/s Ratio Prot	c0.04					c0.21
v/s Ratio Perm						
v/c Ratio	0.09					0.41
Uniform Delay, d1	19.3					15.2
Progression Factor	1.00					1.00
Incremental Delay, d2	0.3					0.6
Delay (s)	19.6					15.8
Level of Service	B					B
Approach Delay (s)	19.6		0.0			15.8
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	160	66	96	756	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	160	66	96	756	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.68	0.68	0.68	0.94	0.94	0.94	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	235	97	102	804	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			558	
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	820	1008	0	1008	1008	402	0			804		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	363	589	0	589	589	0	0			343		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	100	100	100	100	27	89	94			100		
cM capacity (veh/h)	164	324	1084	308	324	888	1579			1002		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	332	370	536
Volume Left	0	102	0
Volume Right	97	0	0
cSH	398	1579	1700
Volume to Capacity	0.83	0.06	0.32
Queue Length 95th (ft)	195	5	0
Control Delay (s)	46.1	2.5	0.0
Lane LOS	E	A	
Approach Delay (s)	46.1	1.0	
Approach LOS	E		

Intersection Summary			
Average Delay	13.1		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	46	120	0	0	0	0	0	81	97
Future Volume (Veh/h)	0	0	0	46	120	0	0	0	0	0	81	97
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	55	143	0	0	0	0	0	95	114
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	224	152	152	152	209	0	209			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224	152	152	152	209	0	209			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	93	79	100	100			100		
cM capacity (veh/h)	615	740	894	815	688	1076	1362			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	198	209
Volume Left	55	0
Volume Right	0	114
cSH	719	1700
Volume to Capacity	0.28	0.12
Queue Length 95th (ft)	28	0
Control Delay (s)	11.9	0.0
Lane LOS	B	
Approach Delay (s)	11.9	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	1401
v/c Ratio	0.42
Control Delay	4.4
Queue Delay	0.8
Total Delay	5.2
Queue Length 50th (ft)	89
Queue Length 95th (ft)	108
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3354
Starvation Cap Reductn	1489
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.75

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	132	1143	0	0
Future Volume (vph)	0	0	132	1143	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				0.99		
Satd. Flow (prot)				4394		
Flt Permitted				0.99		
Satd. Flow (perm)				4394		
Peak-hour factor, PHF	0.92	0.92	0.91	0.91	0.92	0.92
Adj. Flow (vph)	0	0	145	1256	0	0
RTOR Reduction (vph)	0	0	0	14	0	0
Lane Group Flow (vph)	0	0	0	1387	0	0
Heavy Vehicles (%)	2%	2%	3%	6%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3339		
v/s Ratio Prot				c0.32		
v/s Ratio Perm						
v/c Ratio				0.42		
Uniform Delay, d1				4.2		
Progression Factor				1.00		
Incremental Delay, d2				0.4		
Delay (s)				4.6		
Level of Service				A		
Approach Delay (s)	0.0			4.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	305	157	106	926	987
v/c Ratio	0.28	0.27	0.15	0.45	1.03
Control Delay	24.4	5.1	6.6	8.6	68.4
Queue Delay	0.0	0.0	0.2	8.7	0.0
Total Delay	24.4	5.1	6.8	17.3	68.4
Queue Length 50th (ft)	71	0	21	130	~221
Queue Length 95th (ft)	116	43	38	161	#312
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	1102	575	726	2072	959
Starvation Cap Reductn	0	0	277	1107	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.27	0.24	0.96	1.03

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	299	154	92	806	0	0	0	0	106	413	399
Future Volume (vph)	0	299	154	92	806	0	0	0	0	106	413	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.93	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3008	1286	1577	3094						3908	
Flt Permitted		1.00	1.00	0.56	1.00						0.99	
Satd. Flow (perm)		3008	1286	935	3094						3908	
Peak-hour factor, PHF	0.98	0.98	0.98	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	305	157	106	926	0	0	0	0	114	444	429
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	0	0	139	0
Lane Group Flow (vph)	0	305	58	106	926	0	0	0	0	0	848	0
Heavy Vehicles (%)	2%	8%	13%	3%	5%	2%	2%	2%	2%	3%	17%	7%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		36.7	36.7	61.0	67.0						21.0	
Effective Green, g (s)		36.7	36.7	61.0	67.0						21.0	
Actuated g/C Ratio		0.37	0.37	0.61	0.67						0.21	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1103	471	726	2072						820	
v/s Ratio Prot		0.10		0.04	c0.30						c0.22	
v/s Ratio Perm			0.04	0.05								
v/c Ratio		0.28	0.12	0.15	0.45						1.03	
Uniform Delay, d1		22.3	21.0	8.2	7.8						39.5	
Progression Factor		1.00	1.00	1.00	1.00						0.99	
Incremental Delay, d2		0.6	0.5	0.1	0.2						39.7	
Delay (s)		22.9	21.5	8.2	7.9						78.7	
Level of Service		C	C	A	A						E	
Approach Delay (s)		22.4			8.0			0.0			78.7	
Approach LOS		C			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	426	889	515	731
v/c Ratio	0.60	0.82	1.44	1.03
Control Delay	26.2	28.5	247.0	82.5
Queue Delay	0.3	0.0	0.0	0.0
Total Delay	26.5	28.5	247.0	82.5
Queue Length 50th (ft)	101	121	~508	~292
Queue Length 95th (ft)	140	m155	#673	#384
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	727	1120	357	708
Starvation Cap Reductn	51	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.63	0.79	1.44	1.03

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	272	18	39	454	272	443	464	164	0	0	0
Future Volume (vph)	115	272	18	39	454	272	443	464	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.99			0.95		1.00	0.96				
Flt Protected		0.99			1.00		0.95	1.00				
Satd. Flow (prot)		3013			4061		1562	2952				
Flt Permitted		0.53			0.88		0.95	1.00				
Satd. Flow (perm)		1623			3593		1562	2952				
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	121	286	19	45	528	316	515	540	191	0	0	0
RTOR Reduction (vph)	0	3	0	0	92	0	0	32	0	0	0	0
Lane Group Flow (vph)	0	423	0	0	797	0	515	699	0	0	0	0
Heavy Vehicles (%)	2%	7%	8%	5%	5%	15%	4%	6%	5%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		39.8			30.3		25.2	25.2				
Effective Green, g (s)		39.8			30.3		25.2	25.2				
Actuated g/C Ratio		0.36			0.28		0.23	0.23				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		707			989		357	676				
v/s Ratio Prot		c0.05					c0.33	0.24				
v/s Ratio Perm		0.16			c0.22							
v/c Ratio		0.60			0.81		1.44	1.03				
Uniform Delay, d1		28.6			37.1		42.4	42.4				
Progression Factor		1.00			0.72		1.00	1.00				
Incremental Delay, d2		1.4			3.8		214.4	43.8				
Delay (s)		30.0			30.5		256.8	86.2				
Level of Service		C			C		F	F				
Approach Delay (s)		30.0			30.5			156.7			0.0	
Approach LOS		C			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	91.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	429	640	0	0	127
Future Volume (Veh/h)	0	429	640	0	0	127
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	482	703	0	0	140
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked						
vC, conflicting volume	703				944	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	703				944	234
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	82
cM capacity (veh/h)	890				261	761

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	241	241	234	234	234	140
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	140
cSH	1700	1700	1700	1700	1700	761
Volume to Capacity	0.14	0.14	0.14	0.14	0.14	0.18
Queue Length 95th (ft)	0	0	0	0	0	17
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.8
Approach LOS						B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	246	247	239	366	446	700
v/c Ratio	0.77	0.77	0.56	0.79	0.95	1.60
Control Delay	48.9	49.1	36.3	47.2	70.2	309.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	49.1	36.3	47.2	70.2	309.0
Queue Length 50th (ft)	171	172	148	248	308	~713
Queue Length 95th (ft)	m178	m181	204	322	#692	#1106
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	372	372	448	485	471	437
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.53	0.75	0.95	1.60

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	NBL	NBT	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	429	0	0	239	300	5	401	630
Future Volume (vph)	429	0	0	239	300	5	401	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1442	1442		1416	1534		1490	1384
Flt Permitted	0.95	0.95		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1442	1442		1416	1534		1490	1384
Peak-hour factor, PHF	0.87	0.87	0.92	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	493	0	0	266	333	6	446	700
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	246	247	0	239	366	0	446	700
Heavy Vehicles (%)	7%	2%	2%	9%	5%	2%	9%	5%
Turn Type	Split	NA		Split	NA		Prot	Prot
Protected Phases	3	3	2	4	4		1	1
Permitted Phases								
Actuated Green, G (s)	24.5	24.5		33.2	33.2		34.8	34.8
Effective Green, g (s)	24.5	24.5		33.2	33.2		34.8	34.8
Actuated g/C Ratio	0.22	0.22		0.30	0.30		0.32	0.32
Clearance Time (s)	6.0	6.0		5.5	5.5		6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	321	321		427	462		471	437
v/s Ratio Prot	0.17	c0.17		0.17	c0.24		0.30	c0.51
v/s Ratio Perm								
v/c Ratio	0.77	0.77		0.56	0.79		0.95	1.60
Uniform Delay, d1	40.1	40.1		32.3	35.2		36.7	37.6
Progression Factor	0.97	0.97		1.00	1.00		1.00	1.00
Incremental Delay, d2	7.0	7.2		1.6	9.0		30.1	281.4
Delay (s)	45.8	46.0		33.9	44.3		66.8	319.0
Level of Service	D	D		C	D		E	F
Approach Delay (s)		45.9	0.0		40.1		220.8	
Approach LOS		D	A		D		F	

Intersection Summary			
HCM 2000 Control Delay	133.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	88	167	0	30
Future Volume (Veh/h)	0	0	88	167	0	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.78	0.78	0.25	0.25
Hourly flow rate (vph)	0	0	113	214	0	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		69				
pX, platoon unblocked						
vC, conflicting volume	327				220	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				220	220
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	85
cM capacity (veh/h)	1233				768	820

Direction, Lane #	WB 1	SB 1
Volume Total	327	120
Volume Left	0	0
Volume Right	214	120
cSH	1700	820
Volume to Capacity	0.19	0.15
Queue Length 95th (ft)	0	13
Control Delay (s)	0.0	10.1
Lane LOS		B
Approach Delay (s)	0.0	10.1
Approach LOS		B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	0	0	0	0	0	797	25	0	0	0
Future Volume (Veh/h)	3	0	0	0	0	0	0	797	25	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.63	0.63	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	0	0	0	0	822	26	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								655			261	
pX, platoon unblocked												
vC, conflicting volume	274	848	0	835	835	287	0			848		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	274	848	0	835	835	287	0			848		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	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 %	99	100	100	100	100	100	100			100		
cM capacity (veh/h)	657	297	1084	260	302	710	1622			785		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	5	329	329	190
Volume Left	5	0	0	0
Volume Right	0	0	0	26
cSH	657	1700	1700	1700
Volume to Capacity	0.01	0.19	0.19	0.11
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.5	0.0		
Approach LOS	B			

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	27.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Queues
1: Kingston Street & Essex Street

02/04/2019

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	738	496	10
v/c Ratio	0.59	0.67	0.01
Control Delay	26.9	26.9	14.5
Queue Delay	0.3	2.1	0.0
Total Delay	27.2	29.0	14.5
Queue Length 50th (ft)	206	257	4
Queue Length 95th (ft)	265	382	13
Internal Link Dist (ft)	177		172
Turn Bay Length (ft)			
Base Capacity (vph)	1259	738	822
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	138	126	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.66	0.81	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	637	20	0	0	0	0	0	0	486	10	0
Future Volume (vph)	0	637	20	0	0	0	0	0	0	486	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0								5.0	5.0	
Lane Util. Factor		0.95								1.00	1.00	
Frt		1.00								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3006								1504	1676	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3006								1504	1676	
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.98	0.98
Adj. Flow (vph)	0	716	22	0	0	0	0	0	0	496	10	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	736	0	0	0	0	0	0	0	496	10	0
Heavy Vehicles (%)	2%	4%	5%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Parking (#/hr)				0								
Turn Type		NA								Split	NA	
Protected Phases		1								3	3	
Permitted Phases												
Actuated Green, G (s)		46.0								54.0	54.0	
Effective Green, g (s)		46.0								54.0	54.0	
Actuated g/C Ratio		0.42								0.49	0.49	
Clearance Time (s)		5.0								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1257								738	822	
v/s Ratio Prot		c0.24								c0.33	0.01	
v/s Ratio Perm												
v/c Ratio		0.59								0.67	0.01	
Uniform Delay, d1		24.7								21.3	14.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		2.0								4.8	0.0	
Delay (s)		26.7								26.1	14.4	
Level of Service		C								C	B	
Approach Delay (s)		26.7			0.0			0.0			25.9	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	901	404	705	1199
v/c Ratio	1.30dl	0.88	1.19dr	0.88
Control Delay	152.2	39.8	60.6	41.6
Queue Delay	0.0	0.9	0.0	0.0
Total Delay	152.2	40.7	60.6	41.6
Queue Length 50th (ft)	~436	180	179	269
Queue Length 95th (ft)	#537	#347	#256	#336
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	726	457	771	1362
Starvation Cap Reductn	0	6	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.24	0.90	0.91	0.88

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	68	356	235	185	279	372	274	31	95	137	862	46
Future Volume (vph)	68	356	235	185	279	372	274	31	95	137	862	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.95	1.00		0.91					0.98	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.98	0.85		0.93					0.99	
Flt Protected			0.97	1.00		1.00					0.99	
Satd. Flow (prot)			2609	1171		3533					4213	
Flt Permitted			0.97	1.00		1.00					0.99	
Satd. Flow (perm)			2609	1171		3533					4213	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.96	0.96	0.96	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	414	273	215	324	388	285	32	100	144	907	48
RTOR Reduction (vph)	0	0	0	132	0	0	0	0	0	0	79	0
Lane Group Flow (vph)	0	0	901	272	0	705	0	0	0	0	1120	0
Confl. Peds. (#/hr)	681			273	309			131	131	273		681
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	4%	6%	2%	11%	11%	6%	2%	2%	2%	4%	2%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA				Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases												
Actuated Green, G (s)			30.6	30.6		23.9					33.5	
Effective Green, g (s)			30.6	30.6		23.9					33.5	
Actuated g/C Ratio			0.28	0.28		0.22					0.30	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			725	325		767					1283	
v/s Ratio Prot			c0.35	0.23		c0.20					c0.27	
v/s Ratio Perm												
v/c Ratio			1.30dl	0.84		1.19dr					0.87	
Uniform Delay, d1			39.7	37.3		42.1					36.2	
Progression Factor			0.97	1.00		1.00					1.00	
Incremental Delay, d2			118.8	14.2		15.9					8.4	
Delay (s)			157.3	51.5		58.0					44.6	
Level of Service			F	D		E					D	
Approach Delay (s)			124.5			58.0					44.6	
Approach LOS			F			E					D	

Intersection Summary			
HCM 2000 Control Delay	80.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBT	WBL
Lane Group Flow (vph)	401	151
v/c Ratio	0.31	0.18
Control Delay	7.4	17.4
Queue Delay	1.1	0.0
Total Delay	8.5	17.4
Queue Length 50th (ft)	25	60
Queue Length 95th (ft)	m18	100
Internal Link Dist (ft)	150	
Turn Bay Length (ft)		
Base Capacity (vph)	1308	853
Starvation Cap Reductn	653	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.61	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	240	121	136	0	0	0
Future Volume (vph)	240	121	136	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	16	12	12	12
Total Lost time (s)	5.0		6.0			
Lane Util. Factor	0.95		1.00			
Frt	0.95		1.00			
Flt Protected	1.00		0.95			
Satd. Flow (prot)	2930		1805			
Flt Permitted	1.00		0.95			
Satd. Flow (perm)	2930		1805			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.92	0.92
Adj. Flow (vph)	267	134	151	0	0	0
RTOR Reduction (vph)	57	0	0	0	0	0
Lane Group Flow (vph)	344	0	151	0	0	0
Heavy Vehicles (%)	7%	2%	2%	2%	2%	2%
Turn Type	NA		Prot			
Protected Phases	1		3			
Permitted Phases						
Actuated Green, G (s)	47.0		52.0			
Effective Green, g (s)	47.0		52.0			
Actuated g/C Ratio	0.43		0.47			
Clearance Time (s)	5.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	1251		853			
v/s Ratio Prot	c0.12		c0.08			
v/s Ratio Perm						
v/c Ratio	0.28		0.18			
Uniform Delay, d1	20.4		16.7			
Progression Factor	0.47		1.00			
Incremental Delay, d2	0.0		0.5			
Delay (s)	9.7		17.1			
Level of Service	A		B			
Approach Delay (s)	9.7			17.1	0.0	
Approach LOS	A			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1399	197	412	114	84
v/c Ratio	0.68	0.75	0.80	0.45	0.23
Control Delay	22.2	61.4	55.7	47.2	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	61.4	55.7	47.2	2.6
Queue Length 50th (ft)	252	146	154	73	0
Queue Length 95th (ft)	307	#265	#230	123	4
Internal Link Dist (ft)	193		184	191	
Turn Bay Length (ft)					
Base Capacity (vph)	2045	263	517	254	361
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.75	0.80	0.45	0.23

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	310	791	284	278	288	0	0	97	71
Future Volume (vph)	0	0	0	310	791	284	278	288	0	0	97	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	12	12	12	12	12	12
Total Lost time (s)					6.0		7.0	7.0			4.0	4.0
Lane Util. Factor					0.91		0.91	0.91			1.00	1.00
Frpb, ped/bikes					0.98		1.00	1.00			1.00	1.00
Flpb, ped/bikes					1.00		1.00	1.00			1.00	1.00
Frt					0.97		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	0.99			1.00	1.00
Satd. Flow (prot)					4082		1449	2846			1474	1425
Flt Permitted					0.99		0.95	0.99			1.00	1.00
Satd. Flow (perm)					4082		1449	2846			1474	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.99	0.99	0.99	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	313	799	287	299	310	0	0	114	84
RTOR Reduction (vph)	0	0	0	0	45	0	0	0	0	0	0	69
Lane Group Flow (vph)	0	0	0	0	1354	0	197	412	0	0	114	15
Confl. Peds. (#/hr)						119						1405
Heavy Vehicles (%)	2%	2%	2%	5%	4%	3%	2%	10%	2%	2%	16%	2%
Turn Type				Split	NA		Split	NA			NA	Prot
Protected Phases				1 4	1 4		2	2			3	3
Permitted Phases												
Actuated Green, G (s)					54.0		20.0	20.0			19.0	19.0
Effective Green, g (s)					50.0		20.0	20.0			19.0	19.0
Actuated g/C Ratio					0.45		0.18	0.18			0.17	0.17
Clearance Time (s)							7.0	7.0			4.0	4.0
Vehicle Extension (s)							3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					1855		263	517			254	246
v/s Ratio Prot					c0.33		0.14	c0.14			c0.08	0.01
v/s Ratio Perm												
v/c Ratio					0.73		0.75	0.80			0.45	0.06
Uniform Delay, d1					24.5		42.6	43.1			40.8	38.0
Progression Factor					1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2					2.6		17.7	12.1			5.6	0.5
Delay (s)					27.1		60.3	55.1			46.4	38.5
Level of Service					C		E	E			D	D
Approach Delay (s)		0.0			27.1			56.8			43.1	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	SBT
Lane Group Flow (vph)	366	1202
v/c Ratio	0.43	0.54
Control Delay	8.2	18.0
Queue Delay	34.0	0.0
Total Delay	42.2	18.0
Queue Length 50th (ft)	44	183
Queue Length 95th (ft)	54	225
Internal Link Dist (ft)	7	532
Turn Bay Length (ft)		
Base Capacity (vph)	854	2218
Starvation Cap Reductn	0	0
Spillback Cap Reductn	499	93
Storage Cap Reductn	0	0
Reduced v/c Ratio	1.03	0.57

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	256	0	0	0	0	1142
Future Volume (vph)	256	0	0	0	0	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12
Total Lost time (s)	5.0					5.5
Lane Util. Factor	1.00					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	1787					4394
Flt Permitted	0.95					1.00
Satd. Flow (perm)	1787					4394
Peak-hour factor, PHF	0.70	0.70	0.92	0.92	0.95	0.95
Adj. Flow (vph)	366	0	0	0	0	1202
RTOR Reduction (vph)	158	0	0	0	0	0
Lane Group Flow (vph)	208	0	0	0	0	1202
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%
Parking (#/hr)						4
Turn Type	Prot					NA
Protected Phases	3					1
Permitted Phases						
Actuated Green, G (s)	39.0					50.5
Effective Green, g (s)	39.0					50.5
Actuated g/C Ratio	0.39					0.50
Clearance Time (s)	5.0					5.5
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	696					2218
v/s Ratio Prot	c0.12					c0.27
v/s Ratio Perm						
v/c Ratio	0.30					0.54
Uniform Delay, d1	21.1					16.9
Progression Factor	1.00					1.00
Incremental Delay, d2	1.1					1.0
Delay (s)	22.2					17.8
Level of Service	C					B
Approach Delay (s)	22.2		0.0			17.8
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	61	46	34	650	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	61	46	34	650	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.66	0.66	0.66	0.88	0.88	0.88	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	92	70	39	739	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			559	
pX, platoon unblocked												
vC, conflicting volume	564	817	0	817	817	370	0			739		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	564	817	0	817	817	370	0			739		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	70	89	98			100		
cM capacity (veh/h)	273	302	1084	263	302	628	1607			863		

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	162	285	493
Volume Left	0	39	0
Volume Right	70	0	0
cSH	389	1607	1700
Volume to Capacity	0.42	0.02	0.29
Queue Length 95th (ft)	50	2	0
Control Delay (s)	20.7	1.2	0.0
Lane LOS	C	A	
Approach Delay (s)	20.7	0.4	
Approach LOS	C		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	36	27	0	0	0	0	0	183	71
Future Volume (Veh/h)	0	0	0	36	27	0	0	0	0	0	183	71
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.67	0.67	0.67	0.92	0.92	0.92	0.79	0.79	0.79
Hourly flow rate (vph)	0	0	0	54	40	0	0	0	0	0	232	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											552	
pX, platoon unblocked												
vC, conflicting volume	297	277	277	277	322	0	322			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	297	277	277	277	322	0	322			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	93	100	100			100		
cM capacity (veh/h)	622	631	762	675	595	1085	1238			1623		

Direction, Lane #	WB 1	SB 1
Volume Total	94	322
Volume Left	54	0
Volume Right	0	90
cSH	639	1700
Volume to Capacity	0.15	0.19
Queue Length 95th (ft)	13	0
Control Delay (s)	11.6	0.0
Lane LOS	B	
Approach Delay (s)	11.6	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBT
Lane Group Flow (vph)	954
v/c Ratio	0.28
Control Delay	3.7
Queue Delay	0.4
Total Delay	4.1
Queue Length 50th (ft)	53
Queue Length 95th (ft)	66
Internal Link Dist (ft)	268
Turn Bay Length (ft)	
Base Capacity (vph)	3413
Starvation Cap Reductn	1789
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.59

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	61	817	0	0
Future Volume (vph)	0	0	61	817	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		
Lane Util. Factor				0.91		
Frt				1.00		
Flt Protected				1.00		
Satd. Flow (prot)				4479		
Flt Permitted				1.00		
Satd. Flow (perm)				4479		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	66	888	0	0
RTOR Reduction (vph)	0	0	0	8	0	0
Lane Group Flow (vph)	0	0	0	946	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%
Turn Type			Split	NA		
Protected Phases			1	1		
Permitted Phases						
Actuated Green, G (s)				76.0		
Effective Green, g (s)				76.0		
Actuated g/C Ratio				0.76		
Clearance Time (s)				4.0		
Vehicle Extension (s)				3.0		
Lane Grp Cap (vph)				3404		
v/s Ratio Prot				c0.21		
v/s Ratio Perm						
v/c Ratio				0.28		
Uniform Delay, d1				3.7		
Progression Factor				1.00		
Incremental Delay, d2				0.2		
Delay (s)				3.9		
Level of Service				A		
Approach Delay (s)	0.0			3.9	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	413	327	145	721	1457
v/c Ratio	0.44	0.51	0.26	0.40	1.06
Control Delay	31.6	6.8	11.8	12.8	88.7
Queue Delay	0.0	0.0	0.4	7.3	1.2
Total Delay	31.6	6.8	12.1	20.1	90.0
Queue Length 50th (ft)	111	0	41	126	~344
Queue Length 95th (ft)	176	75	66	151	#445
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	942	647	557	1815	1374
Starvation Cap Reductn	0	0	142	1040	4
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.51	0.35	0.93	1.06

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	388	307	122	606	0	0	0	0	180	837	381
Future Volume (vph)	0	388	307	122	606	0	0	0	0	180	837	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3185	1411	1577	3185						4215	
Flt Permitted		1.00	1.00	0.45	1.00						0.99	
Satd. Flow (perm)		3185	1411	742	3185						4215	
Peak-hour factor, PHF	0.94	0.94	0.94	0.84	0.84	0.84	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	413	327	145	721	0	0	0	0	188	872	397
RTOR Reduction (vph)	0	0	230	0	0	0	0	0	0	0	68	0
Lane Group Flow (vph)	0	413	97	145	721	0	0	0	0	0	1389	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	7%	4%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		29.6	29.6	51.0	57.0						31.0	
Effective Green, g (s)		29.6	29.6	51.0	57.0						31.0	
Actuated g/C Ratio		0.30	0.30	0.51	0.57						0.31	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		942	417	557	1815						1306	
v/s Ratio Prot		c0.13		0.06	c0.23						c0.33	
v/s Ratio Perm			0.07	0.08								
v/c Ratio		0.44	0.23	0.26	0.40						1.06	
Uniform Delay, d1		28.5	26.6	13.3	12.0						34.5	
Progression Factor		1.00	1.00	1.00	1.00						1.60	
Incremental Delay, d2		1.5	1.3	0.3	0.1						42.3	
Delay (s)		30.0	27.9	13.6	12.1						97.4	
Level of Service		C	C	B	B						F	
Approach Delay (s)		29.1			12.3			0.0			97.4	
Approach LOS		C			B			A			F	

Intersection Summary			
HCM 2000 Control Delay	56.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	619	744	408	561
v/c Ratio	0.80	0.83	1.18	0.79
Control Delay	32.3	45.0	144.8	43.4
Queue Delay	0.7	0.0	0.0	0.0
Total Delay	33.0	45.0	144.8	43.4
Queue Length 50th (ft)	150	179	~356	168
Queue Length 95th (ft)	201	m226	#485	210
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	793	928	347	708
Starvation Cap Reductn	36	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.82	0.80	1.18	0.79

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	249	125	89	390	191	339	296	169	0	0	0
Future Volume (vph)	195	249	125	89	390	191	339	296	169	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		1.00	0.95				
Frt		0.97			0.96		1.00	0.95				
Flt Protected		0.98			0.99		0.95	1.00				
Satd. Flow (prot)		3016			4167		1593	2918				
Flt Permitted		0.55			0.77		0.95	1.00				
Satd. Flow (perm)		1696			3220		1593	2918				
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.83	0.83	0.83	0.92	0.92	0.92
Adj. Flow (vph)	212	271	136	99	433	212	408	357	204	0	0	0
RTOR Reduction (vph)	0	24	0	0	66	0	0	73	0	0	0	0
Lane Group Flow (vph)	0	595	0	0	678	0	408	488	0	0	0	0
Heavy Vehicles (%)	2%	3%	2%	4%	2%	17%	2%	6%	4%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		40.0			28.5		24.0	24.0				
Effective Green, g (s)		40.0			28.5		24.0	24.0				
Actuated g/C Ratio		0.36			0.26		0.22	0.22				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		754			834		347	636				
v/s Ratio Prot		c0.08					c0.26	0.17				
v/s Ratio Perm		0.20			c0.21							
v/c Ratio		0.79			0.81		1.18	0.77				
Uniform Delay, d1		31.2			38.2		43.0	40.4				
Progression Factor		1.00			1.09		1.00	1.00				
Incremental Delay, d2		5.5			5.7		105.2	8.6				
Delay (s)		36.8			47.5		148.2	49.0				
Level of Service		D			D		F	D				
Approach Delay (s)		36.8			47.5			90.8			0.0	
Approach LOS		D			D			F			A	

Intersection Summary			
HCM 2000 Control Delay	62.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	411	454	0	0	219
Future Volume (Veh/h)	0	411	454	0	0	219
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.90	0.90	0.73	0.73
Hourly flow rate (vph)	0	478	504	0	0	300
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		357	156			
pX, platoon unblocked						
vC, conflicting volume	504				743	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504				743	168
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	65
cM capacity (veh/h)	1057				351	847

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	239	239	168	168	168	300
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	300
cSH	1700	1700	1700	1700	1700	847
Volume to Capacity	0.14	0.14	0.10	0.10	0.10	0.35
Queue Length 95th (ft)	0	0	0	0	0	40
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.6
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.6
Approach LOS						B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	NBL	NBT	NWL	NWR
Lane Group Flow (vph)	242	242	230	327	207	176
v/c Ratio	0.79	0.79	0.66	0.86	0.68	0.62
Control Delay	51.9	51.9	49.4	63.8	54.1	51.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	51.9	49.4	63.8	54.1	51.4
Queue Length 50th (ft)	180	180	154	233	139	116
Queue Length 95th (ft)	m208	m208	#294	#445	#242	#195
Internal Link Dist (ft)		76		206	208	
Turn Bay Length (ft)						
Base Capacity (vph)	381	381	346	379	303	284
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.64	0.66	0.86	0.68	0.62

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	NBL	NBT	NWL	NWR
Lane Configurations							
Traffic Volume (vph)	411	0	0	251	295	203	172
Future Volume (vph)	411	0	0	251	295	203	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5	6.0	6.0
Lane Util. Factor	0.95	0.95		0.95	0.95	1.00	1.00
Frt	1.00	1.00		1.00	1.00	1.00	0.85
Flt Protected	0.95	0.95		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1498	1498		1429	1565	1504	1411
Flt Permitted	0.95	0.95		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1498	1498		1429	1565	1504	1411
Peak-hour factor, PHF	0.85	0.85	0.38	0.98	0.98	0.98	0.98
Adj. Flow (vph)	484	0	0	256	301	207	176
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	242	242	0	230	327	207	176
Heavy Vehicles (%)	3%	2%	2%	8%	3%	8%	3%
Turn Type	Split	NA		Split	NA	Prot	Prot
Protected Phases	3	3	2	4	4	1	1
Permitted Phases							
Actuated Green, G (s)	22.6	22.6		26.7	26.7	22.2	22.2
Effective Green, g (s)	22.6	22.6		26.7	26.7	22.2	22.2
Actuated g/C Ratio	0.21	0.21		0.24	0.24	0.20	0.20
Clearance Time (s)	6.0	6.0		5.5	5.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	307	307		346	379	303	284
v/s Ratio Prot	c0.16	0.16		0.16	c0.21	c0.14	0.12
v/s Ratio Perm							
v/c Ratio	0.79	0.79		0.66	0.86	0.68	0.62
Uniform Delay, d1	41.4	41.4		37.6	39.9	40.6	40.0
Progression Factor	0.99	0.99		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.0	8.0		4.8	18.0	11.8	9.8
Delay (s)	48.9	48.9		42.4	57.9	52.5	49.8
Level of Service	D	D		D	E	D	D
Approach Delay (s)		48.9	0.0		51.5	51.3	
Approach LOS		D	A		D	D	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	80	14	0	178
Future Volume (Veh/h)	0	0	80	14	0	178
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.64	0.64	0.50	0.50
Hourly flow rate (vph)	0	0	125	22	0	356
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		87				
pX, platoon unblocked						
vC, conflicting volume	147				136	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	147				136	136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	61
cM capacity (veh/h)	1435				857	913

Direction, Lane #	WB 1	SB 1
Volume Total	147	356
Volume Left	0	0
Volume Right	22	356
cSH	1700	913
Volume to Capacity	0.09	0.39
Queue Length 95th (ft)	0	47
Control Delay (s)	0.0	11.4
Lane LOS		B
Approach Delay (s)	0.0	11.4
Approach LOS		B

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	7	0	0	0	0	3	663	31	0	0	0
Future Volume (Veh/h)	14	7	0	0	0	0	3	663	31	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	19	10	0	0	0	0	3	721	34	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								666			251	
pX, platoon unblocked												
vC, conflicting volume	246	761	0	749	744	257	0			755		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	246	761	0	749	744	257	0			755		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	97	100	100	100	100	100			100		
cM capacity (veh/h)	686	333	1084	293	341	742	1622			851		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	29	183	360	214
Volume Left	19	3	0	0
Volume Right	0	0	0	34
cSH	502	1622	1700	1700
Volume to Capacity	0.06	0.00	0.21	0.13
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	12.6	0.1	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.6	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

2025 Build Mitigated Conditions

Queues
2: Surface Road & Lincoln Street & Essex Street

05/08/2019

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	520	228	842	1051
v/c Ratio	0.85	0.65	0.90	0.79
Control Delay	53.3	28.1	53.9	36.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	53.3	28.1	53.9	36.0
Queue Length 50th (ft)	178	73	210	227
Queue Length 95th (ft)	#276	164	#284	286
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	639	360	952	1328
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	0.63	0.88	0.79

Intersection Summary

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

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	93	158	238	121	131	625	134	41	177	51	669	81
Future Volume (vph)	93	158	238	121	131	625	134	41	177	51	669	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.98	1.00		0.93					0.96	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.99	0.85		0.97					0.99	
Flt Protected			0.98	1.00		1.00					0.99	
Satd. Flow (prot)			2624	1093		3743					3931	
Flt Permitted			0.98	1.00		1.00					0.99	
Satd. Flow (perm)			2624	1093		3743					3931	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.95	0.95	0.95	0.93	0.93	0.93	0.93
Adj. Flow (vph)	94	160	240	122	132	658	141	43	190	55	719	87
RTOR Reduction (vph)	0	0	0	95	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	0	520	133	0	842	0	0	0	0	973	0
Confl. Peds. (#/hr)	875			382	395			284	284	382		875
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	9%	12%	6%	25%	8%	9%	10%	4%	8%	9%	1%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA			Perm	Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases									1			
Actuated Green, G (s)			25.6	25.6		27.4					35.0	
Effective Green, g (s)			25.6	25.6		27.4					35.0	
Actuated g/C Ratio			0.23	0.23		0.25					0.32	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			610	254		932					1250	
v/s Ratio Prot			c0.20	0.12		c0.22					c0.25	
v/s Ratio Perm												
v/c Ratio			0.85	0.52		0.90					0.78	
Uniform Delay, d1			40.4	36.9		40.0					34.0	
Progression Factor			0.99	1.13		1.00					1.00	
Incremental Delay, d2			10.3	1.8		11.9					4.8	
Delay (s)			50.3	43.4		51.9					38.8	
Level of Service			D	D		D					D	
Approach Delay (s)			48.2			51.9					38.8	
Approach LOS			D			D					D	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	160	66	96	756	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	160	66	96	756	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.68	0.68	0.68	0.94	0.94	0.94	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	235	97	102	804	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			558	
pX, platoon unblocked												
vC, conflicting volume	820	1008	0	1008	1008	402	0			804		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	820	1008	0	1008	1008	402	0			804		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	100	100	100	0	84	94			100		
cM capacity (veh/h)	0	224	1084	185	224	590	1579			816		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	235	97	370	536
Volume Left	0	0	102	0
Volume Right	0	97	0	0
cSH	224	590	1579	1700
Volume to Capacity	1.05	0.16	0.06	0.32
Queue Length 95th (ft)	253	15	5	0
Control Delay (s)	120.5	12.3	2.5	0.0
Lane LOS	F	B	A	
Approach Delay (s)	88.9		1.0	
Approach LOS	F			

Intersection Summary			
Average Delay	24.6		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	305	157	106	926	987
v/c Ratio	0.36	0.33	0.15	0.49	0.84
Control Delay	32.2	7.1	8.8	11.7	39.0
Queue Delay	0.0	0.0	0.3	20.6	0.1
Total Delay	32.2	7.1	9.1	32.3	39.1
Queue Length 50th (ft)	81	0	26	157	213
Queue Length 95th (ft)	138	50	46	193	258
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	845	479	686	1902	1174
Starvation Cap Reductn	0	0	265	992	4
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.33	0.25	1.02	0.84

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	299	154	92	806	0	0	0	0	106	413	399
Future Volume (vph)	0	299	154	92	806	0	0	0	0	106	413	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.93	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3008	1286	1577	3094						3908	
Flt Permitted		1.00	1.00	0.55	1.00						0.99	
Satd. Flow (perm)		3008	1286	905	3094						3908	
Peak-hour factor, PHF	0.98	0.98	0.98	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	305	157	106	926	0	0	0	0	114	444	429
RTOR Reduction (vph)	0	0	113	0	0	0	0	0	0	0	139	0
Lane Group Flow (vph)	0	305	44	106	926	0	0	0	0	0	848	0
Heavy Vehicles (%)	2%	8%	13%	3%	5%	2%	2%	2%	2%	3%	17%	7%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		28.1	28.1	55.5	61.5						26.5	
Effective Green, g (s)		28.1	28.1	55.5	61.5						26.5	
Actuated g/C Ratio		0.28	0.28	0.56	0.62						0.26	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		845	361	686	1902						1035	
v/s Ratio Prot		0.10		0.04	c0.30						c0.22	
v/s Ratio Perm			0.03	0.04								
v/c Ratio		0.36	0.12	0.15	0.49						0.82	
Uniform Delay, d1		28.8	26.8	10.6	10.6						34.5	
Progression Factor		1.00	1.00	1.00	1.00						1.14	
Incremental Delay, d2		1.2	0.7	0.1	0.2						6.9	
Delay (s)		30.0	27.5	10.7	10.8						46.0	
Level of Service		C	C	B	B						D	
Approach Delay (s)		29.1			10.8			0.0			46.0	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	426	889	412	834
v/c Ratio	0.72	1.00	0.96	0.94
Control Delay	36.8	55.2	72.3	56.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.8	55.2	72.3	56.0
Queue Length 50th (ft)	116	~177	313	304
Queue Length 95th (ft)	161	m#236	#491	#403
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	595	889	431	883
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	1.00	0.96	0.94

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	272	18	39	454	272	443	464	164	0	0	0
Future Volume (vph)	115	272	18	39	454	272	443	464	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		0.91	0.91				
Frt		0.99			0.95		1.00	0.97				
Flt Protected		0.99			1.00		0.95	0.99				
Satd. Flow (prot)		3013			4061		1421	2830				
Flt Permitted		0.54			0.88		0.95	0.99				
Satd. Flow (perm)		1665			3581		1421	2830				
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	121	286	19	45	528	316	515	540	191	0	0	0
RTOR Reduction (vph)	0	3	0	0	91	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	423	0	0	798	0	412	810	0	0	0	0
Heavy Vehicles (%)	2%	7%	8%	5%	5%	15%	4%	6%	5%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		32.6			24.5		33.4	33.4				
Effective Green, g (s)		32.6			24.5		33.4	33.4				
Actuated g/C Ratio		0.30			0.22		0.30	0.30				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		592			797		431	859				
v/s Ratio Prot		c0.05					c0.29	0.29				
v/s Ratio Perm		0.16			c0.22							
v/c Ratio		0.71			1.00		0.96	0.94				
Uniform Delay, d1		34.6			42.8		37.6	37.4				
Progression Factor		1.00			0.73		1.00	1.00				
Incremental Delay, d2		4.1			28.3		33.6	19.7				
Delay (s)		38.6			59.6		71.2	57.1				
Level of Service		D			E		E	E				
Approach Delay (s)		38.6			59.6			61.7			0.0	
Approach LOS		D			E			E			A	

Intersection Summary			
HCM 2000 Control Delay	57.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	NBT	SWT
Lane Group Flow (vph)	901	404	705	1199
v/c Ratio	1.09dl	0.78	1.23dr	1.02
Control Delay	74.9	26.4	67.2	68.2
Queue Delay	22.5	0.3	0.0	0.0
Total Delay	97.4	26.7	67.2	68.2
Queue Length 50th (ft)	~376	168	181	~306
Queue Length 95th (ft)	#477	273	#264	#401
Internal Link Dist (ft)	311		26	122
Turn Bay Length (ft)				
Base Capacity (vph)	865	520	739	1176
Starvation Cap Reductn	46	7	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.10	0.79	0.95	1.02

Intersection Summary

~ 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.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL2	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SWL2	SWL	SWT	SWR2
Lane Configurations												
Traffic Volume (vph)	68	356	235	185	279	372	274	31	95	137	862	46
Future Volume (vph)	68	356	235	185	279	372	274	31	95	137	862	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	12	12	11	11	11
Total Lost time (s)			6.5	6.5		8.0					7.5	
Lane Util. Factor			0.91	0.91		0.91					0.91	
Frpb, ped/bikes			0.95	1.00		0.91					0.98	
Flpb, ped/bikes			1.00	1.00		1.00					1.00	
Frt			0.98	0.85		0.93					0.99	
Flt Protected			0.97	1.00		1.00					0.99	
Satd. Flow (prot)			2609	1171		3533					4213	
Flt Permitted			0.97	1.00		1.00					0.99	
Satd. Flow (perm)			2609	1171		3533					4213	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.96	0.96	0.96	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	414	273	215	324	388	285	32	100	144	907	48
RTOR Reduction (vph)	0	0	0	132	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	0	901	272	0	705	0	0	0	0	1115	0
Confl. Peds. (#/hr)	681			273	309			131	131	273		681
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	4%	6%	2%	11%	11%	6%	2%	2%	2%	4%	2%
Parking (#/hr)								10				
Turn Type	Split	Split	NA	Prot		NA			Perm	Split	NA	
Protected Phases	3	3	3	3		2				1	1	
Permitted Phases									1			
Actuated Green, G (s)			36.5	36.5		23.0					28.5	
Effective Green, g (s)			36.5	36.5		23.0					28.5	
Actuated g/C Ratio			0.33	0.33		0.21					0.26	
Clearance Time (s)			6.5	6.5		8.0					7.5	
Vehicle Extension (s)			3.0	3.0		3.0					3.0	
Lane Grp Cap (vph)			865	388		738					1091	
v/s Ratio Prot			c0.35	0.23		c0.20					c0.26	
v/s Ratio Perm												
v/c Ratio			1.09dl	0.70		1.23dr					1.02	
Uniform Delay, d1			36.8	32.0		43.0					40.8	
Progression Factor			0.97	1.01		1.00					1.00	
Incremental Delay, d2			39.2	4.7		22.6					32.8	
Delay (s)			74.9	36.9		65.6					73.6	
Level of Service			E	D		E					E	
Approach Delay (s)			63.1			65.6					73.6	
Approach LOS			E			E					E	

Intersection Summary			
HCM 2000 Control Delay	67.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	61	46	34	650	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	61	46	34	650	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.66	0.66	0.66	0.88	0.88	0.88	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	92	70	39	739	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								358			559	
pX, platoon unblocked												
vC, conflicting volume	564	817	0	817	817	370	0			739		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	564	817	0	817	817	370	0			739		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	70	89	98			100		
cM capacity (veh/h)	273	302	1084	263	302	628	1607			863		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	92	70	285	493
Volume Left	0	0	39	0
Volume Right	0	70	0	0
cSH	302	628	1607	1700
Volume to Capacity	0.30	0.11	0.02	0.29
Queue Length 95th (ft)	31	9	2	0
Control Delay (s)	22.1	11.5	1.2	0.0
Lane LOS	C	B	A	
Approach Delay (s)	17.5		0.4	
Approach LOS	C			

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Group Flow (vph)	413	327	145	721	1457
v/c Ratio	0.57	0.57	0.28	0.44	0.92
Control Delay	39.8	8.8	14.5	15.9	47.6
Queue Delay	0.0	0.0	0.7	13.7	0.1
Total Delay	39.8	8.8	15.2	29.7	47.7
Queue Length 50th (ft)	123	0	47	143	264
Queue Length 95th (ft)	#222	84	75	171	#340
Internal Link Dist (ft)	256			151	283
Turn Bay Length (ft)					
Base Capacity (vph)	726	574	520	1656	1585
Starvation Cap Reductn	0	0	166	920	4
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.57	0.41	0.98	0.92

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	388	307	122	606	0	0	0	0	180	837	381
Future Volume (vph)	0	388	307	122	606	0	0	0	0	180	837	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3185	1411	1577	3185						4215	
Flt Permitted		1.00	1.00	0.41	1.00						0.99	
Satd. Flow (perm)		3185	1411	676	3185						4215	
Peak-hour factor, PHF	0.94	0.94	0.94	0.84	0.84	0.84	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	413	327	145	721	0	0	0	0	188	872	397
RTOR Reduction (vph)	0	0	252	0	0	0	0	0	0	0	67	0
Lane Group Flow (vph)	0	413	75	145	721	0	0	0	0	0	1390	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	7%	4%
Turn Type		NA	Perm	D.P+P	NA					Split	NA	
Protected Phases		4		3	3 4					1	1	
Permitted Phases			4	4								
Actuated Green, G (s)		22.8	22.8	46.0	52.0						36.0	
Effective Green, g (s)		22.8	22.8	46.0	52.0						36.0	
Actuated g/C Ratio		0.23	0.23	0.46	0.52						0.36	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		726	321	519	1656						1517	
v/s Ratio Prot		c0.13		0.06	c0.23						c0.33	
v/s Ratio Perm			0.05	0.06								
v/c Ratio		0.57	0.23	0.28	0.44						0.92	
Uniform Delay, d1		34.2	31.5	16.2	14.9						30.6	
Progression Factor		1.00	1.00	1.00	1.00						1.35	
Incremental Delay, d2		3.2	1.7	0.3	0.2						9.1	
Delay (s)		37.5	33.2	16.5	15.1						50.4	
Level of Service		D	C	B	B						D	
Approach Delay (s)		35.6			15.3			0.0			50.4	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	619	744	326	643
v/c Ratio	0.84	0.95	0.85	0.82
Control Delay	37.6	62.2	60.5	44.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.6	62.2	60.5	44.2
Queue Length 50th (ft)	161	183	240	214
Queue Length 95th (ft)	#232	m#262	#358	257
Internal Link Dist (ft)	151	277		155
Turn Bay Length (ft)				
Base Capacity (vph)	739	785	382	785
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.84	0.95	0.85	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	249	125	89	390	191	339	296	169	0	0	0
Future Volume (vph)	195	249	125	89	390	191	339	296	169	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5			6.5		7.0	7.0				
Lane Util. Factor		0.95			0.91		0.91	0.91				
Frt		0.97			0.96		1.00	0.95				
Flt Protected		0.98			0.99		0.95	0.99				
Satd. Flow (prot)		3016			4167		1449	2809				
Flt Permitted		0.55			0.77		0.95	0.99				
Satd. Flow (perm)		1677			3233		1449	2809				
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.83	0.83	0.83	0.92	0.92	0.92
Adj. Flow (vph)	212	271	136	99	433	212	408	357	204	0	0	0
RTOR Reduction (vph)	0	23	0	0	65	0	0	45	0	0	0	0
Lane Group Flow (vph)	0	596	0	0	679	0	326	598	0	0	0	0
Heavy Vehicles (%)	2%	3%	2%	4%	2%	17%	2%	6%	4%	2%	2%	2%
Turn Type	D.P+P	NA		Perm	NA		Split	NA				
Protected Phases	3	3 4			4		1	1				
Permitted Phases	4			4								
Actuated Green, G (s)		37.0			24.5		29.0	29.0				
Effective Green, g (s)		37.0			24.5		29.0	29.0				
Actuated g/C Ratio		0.34			0.22		0.26	0.26				
Clearance Time (s)					6.5		7.0	7.0				
Vehicle Extension (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)		716			720		382	740				
v/s Ratio Prot		c0.09					c0.22	0.21				
v/s Ratio Perm		0.19			c0.21							
v/c Ratio		0.83			0.94		0.85	0.81				
Uniform Delay, d1		33.6			42.1		38.5	37.9				
Progression Factor		1.00			1.10		1.00	1.00				
Incremental Delay, d2		8.2			19.7		20.8	9.3				
Delay (s)		41.8			66.1		59.3	47.2				
Level of Service		D			E		E	D				
Approach Delay (s)		41.8			66.1			51.2			0.0	
Approach LOS		D			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Transit Trip Distribution

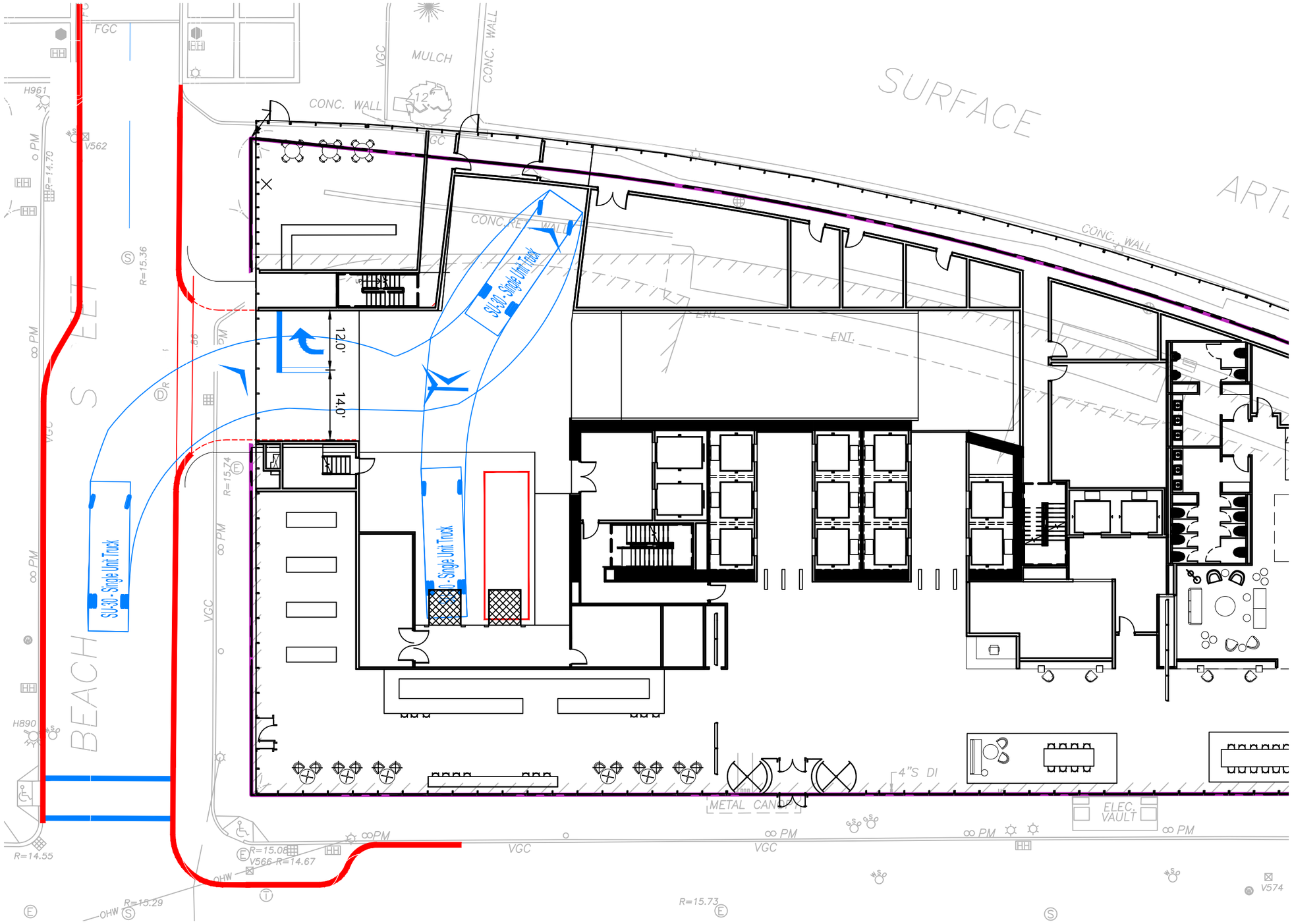
Transit Trip Distribution

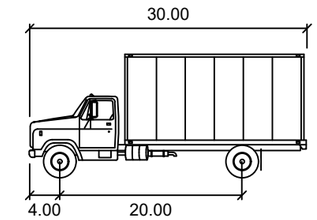
Routes	Ridership[1]	Percent Distribution
North Station	-	25.88%
South Station	-	74.12%
TOTAL COMMUTER RAIL	**-**	**-**
Orange Line	203,406	42.72%
Oak Grove[2]	36,312	54.11%
Forest Hills[2]	30,799	45.89%
Red Line	272,684	57.28%
Alewife[2]	32,359	44.94%
Ashmont/Braintree[2]	39,647	55.06%
TOTAL HEAVY RAIL	**476,090**	**100%**
Green Line	227,645	100.00%
Lechmere[2]	20,228	28.52%
B/C/D/E[2]	50,692	71.48%
TOTAL LIGHT RAIL	**227,645**	**100%**
Silver Line 1[2]	10,882	21.85%
Silver Line 2[2]	6,023	12.09%
Silver Line 4[2]	5,957	11.96%
Silver Line 5[2]	10,175	20.43%
TOTAL SILVER LINE	**33,037**	**66%**
Route 4	470	0.94%
Route 7	4,452	8.94%
Route 11	3,413	6.85%
Route 448	176	0.35%
Route 449	258	0.52%
Route 459	1,184	2.38%
Route 501	1,690	3.39%
Route 504	1,548	3.11%
Route 505	1,009	2.03%
Route 553	978	1.96%
Route 554	649	1.30%
Route 556	515	1.03%
Route 558	429	0.86%
TOTAL BUS		
TOTAL BUS+SL	**16,771**	**33.67%**
F1 Higham-Boston	2654	59.80%
F2H Harbor Express	949	21.38%
F4 Boston-Charlestown	835	18.81%
TOTAL FERRY	**4438**	**100.00%**

[1] Ridership Source: 2014 MBTA Ridership and Service Statistics (Blue Book)

[2]Directional Ridership Source: MBTA Load Profiles Fall 2016

Truck Turn Analysis





SU-30 feet

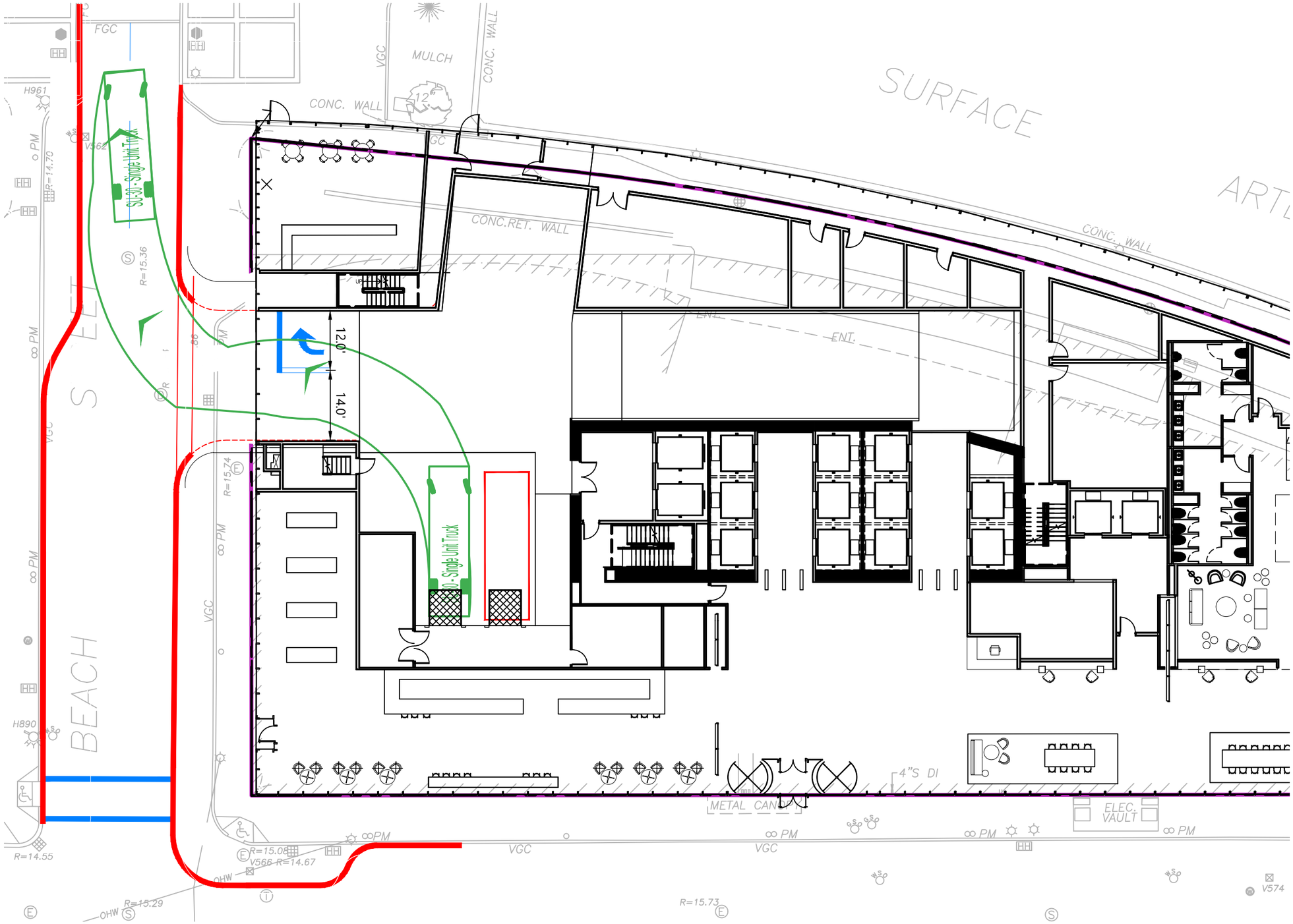
Width	:	8.00
Track	:	8.00
Lock to Lock Time	:	6.0
Steering Angle	:	31.8
Overall Body Height	:	13.5
Min Ground Clearance	:	1.36

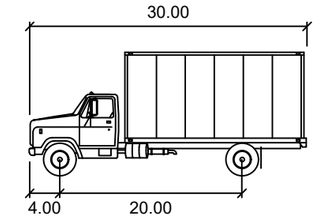
0 10 20 Feet

Figure 1A
Loading Dock Analysis - SU-30 Inbound

125 Lincoln Street
Boston, MA

June 2019





SU-30 feet

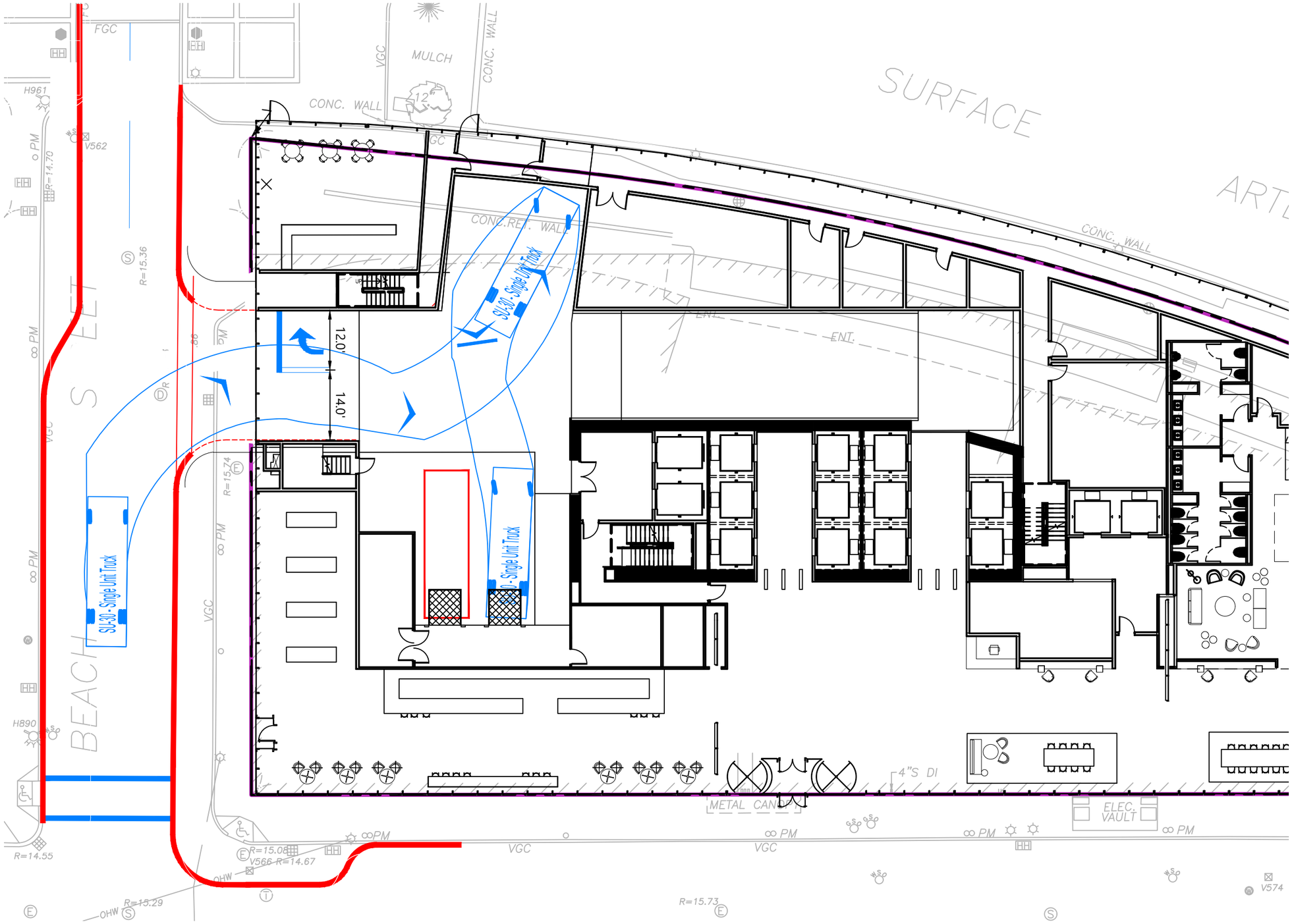
Width	:	8.00
Track	:	8.00
Lock to Lock Time	:	6.0
Steering Angle	:	31.8
Overall Body Height	:	13.5
Min Ground Clearance	:	1.36

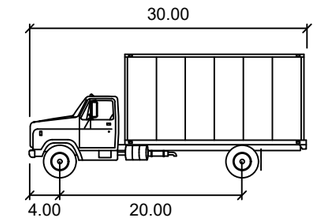
0 10 20 Feet

Figure 1B
Loading Dock Analysis - SU-30 Outbound

125 Lincoln Street
Boston, MA

June 2019





SU-30 feet

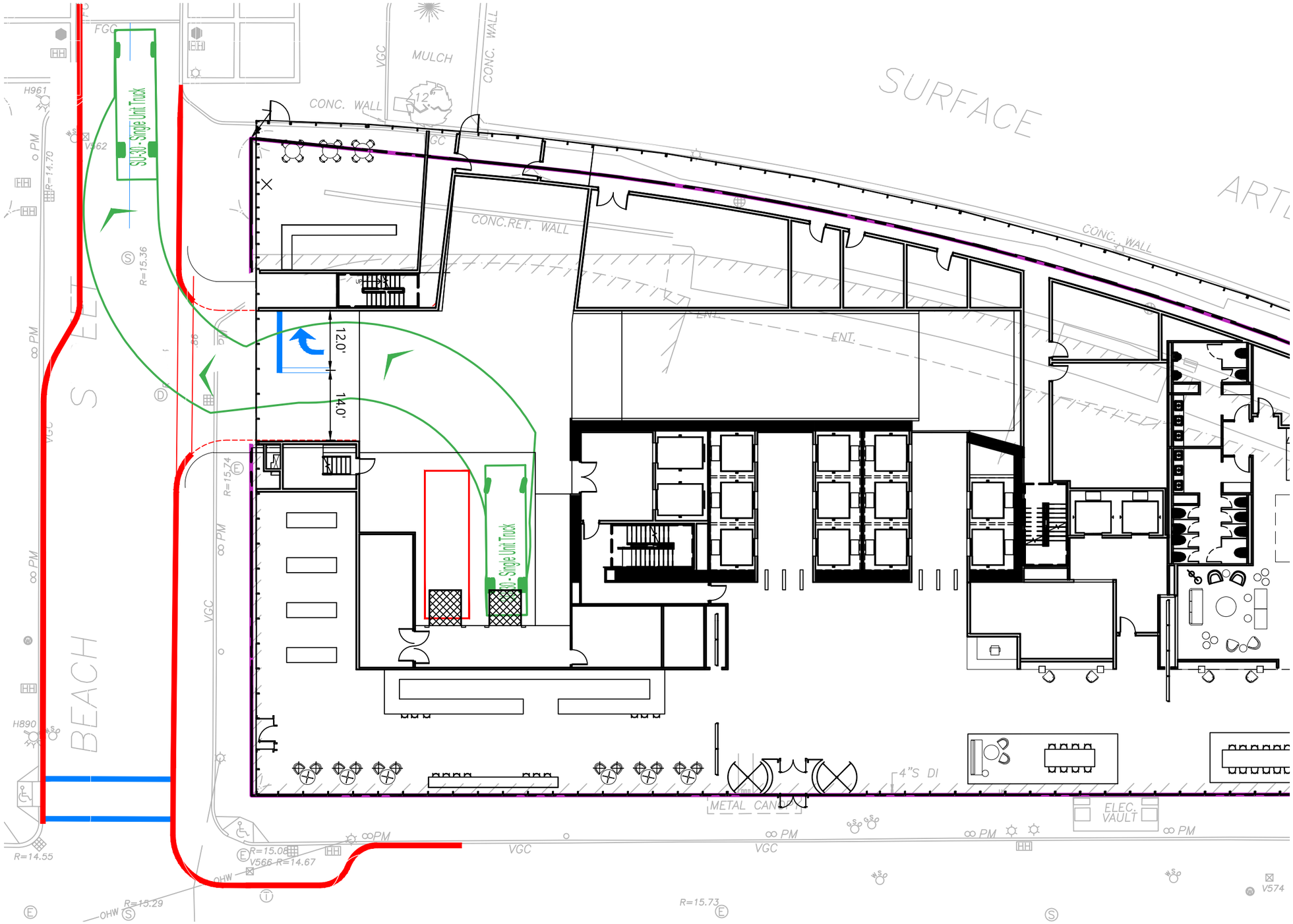
Width	:	8.00
Track	:	8.00
Lock to Lock Time	:	6.0
Steering Angle	:	31.8
Overall Body Height	:	13.5
Min Ground Clearance	:	1.36

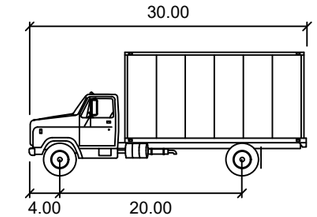
0 10 20 Feet

Figure 2A
Loading Dock Analysis - SU-30 Inbound

125 Lincoln Street
Boston, MA

June 2019





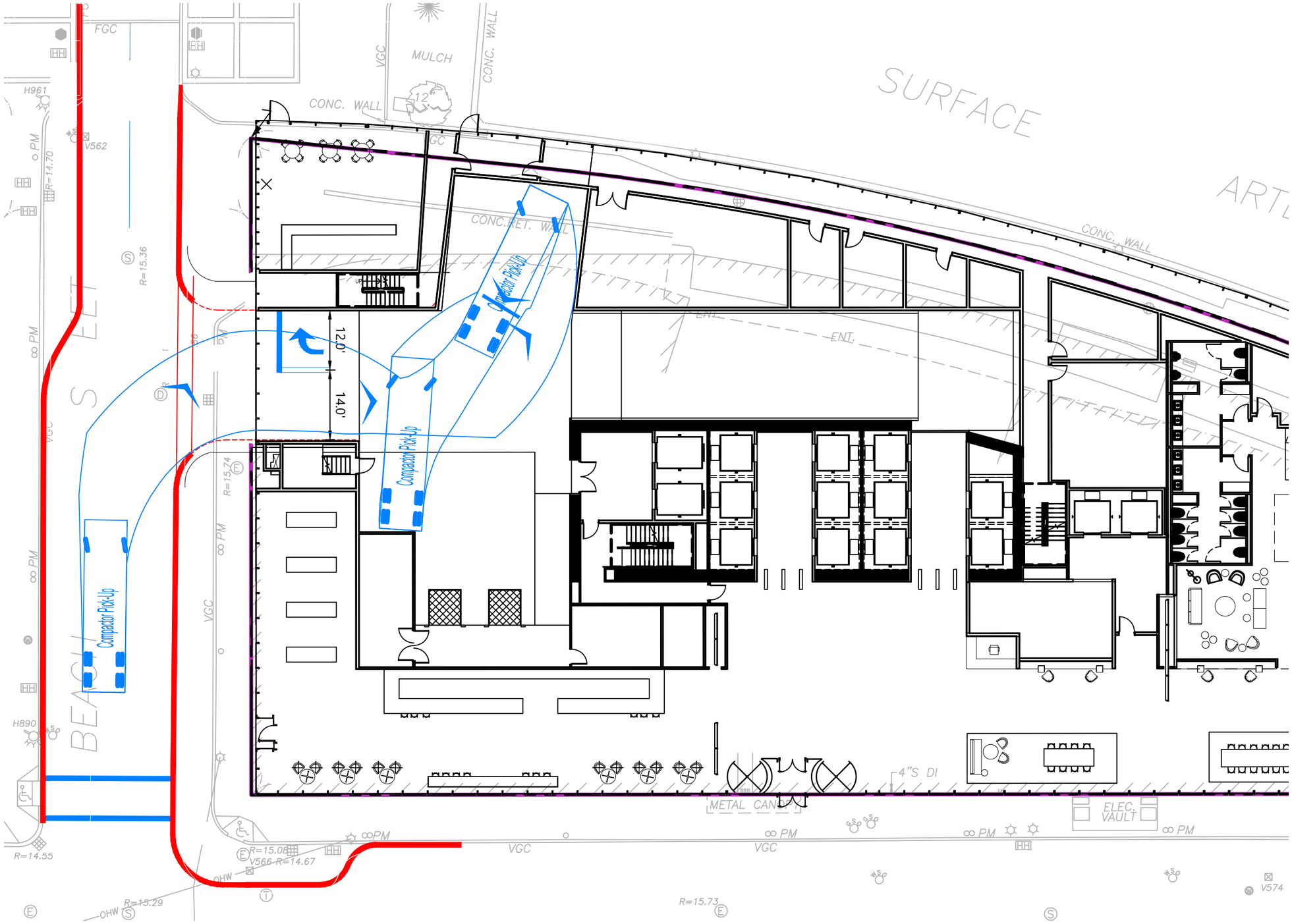
SU-30	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8
Overall Body Height	: 13.5
Min Ground Clearance	: 1.36

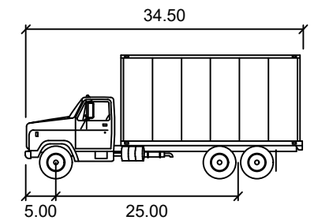
0 10 20 Feet

Figure 2B
Loading Dock Analysis - SU-30 Outbound

125 Lincoln Street
Boston, MA

June 2019





Compactor Pick-Up

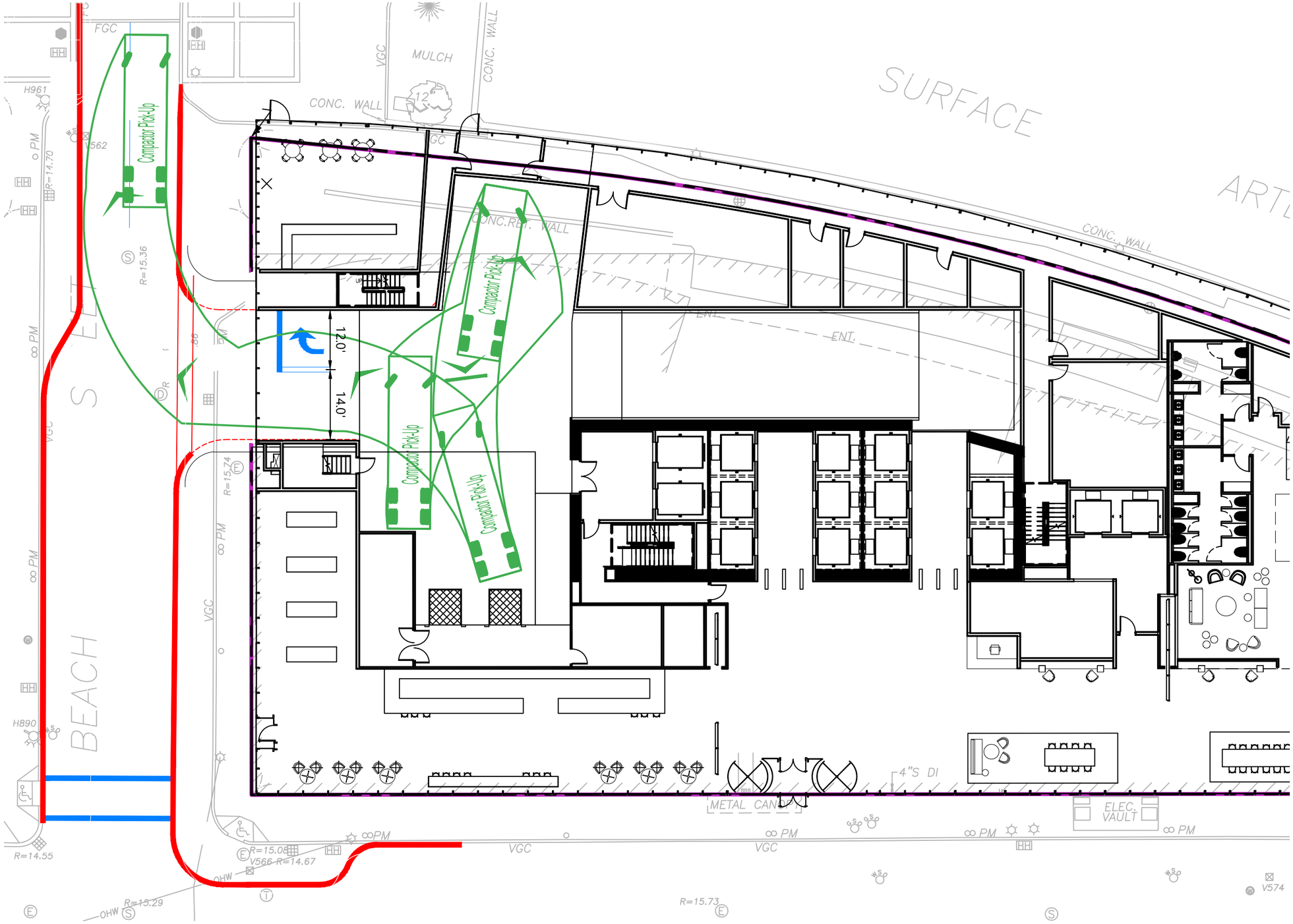
Width	:	8.50
Track	:	8.50
Lock to Lock Time	:	6.0
Steering Angle	:	40.0

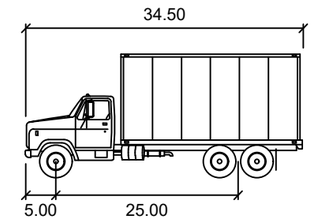
0 10 20 Feet

Figure 3A
Loading Dock Analysis - Trash Compactor Inbound

125 Lincoln Street
Boston, MA

June 2019





Compactor Pick-Up

Width	:	8.50
Track	:	8.50
Lock to Lock Time	:	6.0
Steering Angle	:	40.0

0 10 20 Feet

Figure 3B
Loading Dock Analysis - Trash Compactor Outbound

125 Lincoln Street
Boston, MA

June 2019