The Pinnacle at Central Wharf

Submitted to:

Boston Planning and Development AgencyOne City Hall Square
Boston, MA 02201

Submitted by:

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Prepared by:

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In Association with:

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Cosentini Associates
DLA Piper LLP (US)

Haley and Aldrich

Howard Stein Hudson

Kohn Pedersen Fox Associates PC

McNamara Salvia

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January 22, 2020

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Project Information

1.1 Introduction

RHDC 70 East India LLC (the "Proponent") is pleased to submit this Project Notification Form ("PNF") for the Pinnacle at Central Wharf (the "Project"), which consists of the redevelopment of the 1.32-acre Boston Harbor Garage site, currently numbered as 70 East India Row, in Boston's Downtown Waterfront District (the "Project Site"). The Project Site, which is currently occupied by a nine-level structured parking garage (seven levels above grade and two below) with ground floor office and retail space, is bounded by Milk Street on historic Central Wharf to the north, Atlantic Avenue to the west, and East India Row to the south and east. The portion of East India Row to the south of the Project Site is a vehicular public way with a signalized intersection at Atlantic Avenue, while the portion of East India Row east of the Project Site is a fully pedestrianized public way that currently serves as an underutilized portion of the Harborwalk.

The Project will entail the demolition of the existing garage and the creation of over 28,000 square feet ("sf") of new, waterfront public open space, thereby realizing a principal objective of the Downtown Waterfront District Municipal Harbor Plan and Public Realm Activation Plan ("DWMHP"). With an emphasis on environmental sustainability and climate resilience, the Project consists of: (i) a destination outdoor gathering space, a substantial portion of which will be designed for seamless integration into the New England Aquarium's proposed "Blueway" vision for harbor access; (ii) an approximately 865,000 sf, architecturally distinctive tower element, 585 feet to the highest occupiable floor and no more than 600 feet in total height, containing retail, dining, office, and residential components and ringed with active uses on the lower levels; and (iii) a new, state-of-the-art below-grade parking facility consisting of approximately 1,100 spaces and serving both the Project and the surrounding neighborhood.

Redevelopment of the Project Site realizes an opportunity to revitalize a significant waterfront parcel at the center of the Downtown Waterfront District – Boston's "front door to the world." The existing unattractive parking garage will be replaced with a contemporary architectural landmark designed by Kohn Pedersen Fox Associates that is well-suited to this gateway location. In addition to the iconic tower element, the Project will feature a substantial increase and enhancement of public open space and public amenities that not only comply with the objectives of the Public Waterfront Act (Chapter 91) and the DWMHP, but in many ways represent a model waterfront project for this unique urban context. As the DWMHP states, "[t]he Harbor Garage occupies a unique site in the city, and the redevelopment of the site must be exceptional." The Project, in turn, has been designed to respond to this imperative and to do so in a resounding fashion.

Located at a hub of commercial, tourist and neighborhood activity, with its proximity to the Harbor, adjacency to the New England Aquarium, and frontage along some of the most well-used parcels of the Greenway, the Project Site currently represents an "activity gap" in an otherwise lively district. The completed Project will remedy this condition by delivering a vibrant transit oriented development that draws thousands of workers, residents, and visitors to the waterfront,

and replaces the deadening effect of a massive parking garage with a human-centered design that prioritizes people over automobiles. By combining residential and office components with significant new publicly accessible retail and amenity space, the Project will support existing residents and visitors, attract new ones, and serve as a substantial economic engine at the region's commercial core.

The Project Site's central location within the DWMHP planning area affords tremendous potential to improve public access along the waterfront, facilitate pedestrian circulation to the Harbor, and otherwise support a "user friendly" waterfront through the Project's ongoing placemaking efforts. To that end, in addition to providing physical access, the creation of new public open space on the Site provides greatly expanded sightlines toward the Harbor from the Greenway in a manner that emphasizes the relationship of one to the other. Perhaps most importantly, by means of its mix of uses, curated programming, and proximity to other well-loved cultural, historical and recreational assets, the Project is positioned to support waterfront access to a diverse cross-section of visitors, from Boston and beyond.

The Project will also provide meaningful improvements in pedestrian connectivity, not only east and west between city and Harbor, and north and south along a vastly improved Harborwalk, but also through a landmark building that will in and of itself serve as wayfinding for Central Wharf and will be enhanced by ground floor uses and orientations that respect both the Greenway and the adjacent waterfront. The Project's open space will be designed and programmed to function as a destination in its own right, but its ultimate integration into enhanced adjacent open spaces, including the Greenway and the New England Aquarium's proposed Blueway, unlocks the potential for a singularly remarkable whole that is far more than the sum of its parts. Part of this enhanced open space network will be an elevated Harborwalk, which will serve as a Porch for the city and the region, along the pedestrianized portion of East India Row, and is just one of the climate resiliency measures contemplated as part of the Project. In executing this public infrastructure improvement, the Project will serve as a catalyst for similar improvements toward the comprehensive district-wide approach to sea level rise contemplated as part of the Climate Ready Boston initiative. Sustainability and resiliency measures incorporated into the building itself will also serve as a model for future waterfront development.

In sum, the Project will represent the culmination of a comprehensive and inclusive planning process to define a vision worthy of the unique character of the Downtown Waterfront. In turn, through a combination of cutting-edge architecture and engaging open space, it will serve as a catalyst for a broader transformation of the district into a more active, accessible, connected, resilient and diverse mixed-use neighborhood.

This PNF is being submitted to the Boston Redevelopment Authority ("BRA") doing business as the Boston Planning & Development Agency (herein, the "BPDA") to initiate review of the Project under Article 80B, Large Project Review, of the Boston Zoning Code (the "Code").

1.2 Project Description

1.2.1 Project Site

The Project Site is currently numbered as 70 East India Row, also known as 270 Atlantic Avenue, in Boston's Downtown Waterfront District, at the intersection of historic Central Wharf and the Greenway. Consisting of 57,346 sf of land area as depicted on Figure 1-1, the Project Site is bounded by Atlantic Avenue, Milk Street, and East India Row, and is situated between the New England Aquarium ("Aquarium") and the Harbor Towers condominiums. The harbor's edge is located approximately 90 feet east of the Project Site.

The entirety of the Project Site is currently occupied by an aging and visually unattractive sevenstory 418,626 sf building, with an additional two levels of parking below grade and approximately 29,800 sf of mixed-use space at the ground level (of which approximately 17,300 sf is currently leased by the Aquarium). The site is currently licensed for 1,475 parking spaces, which serve, among other users, the residents of the two Harbor Towers buildings, visitors to the Aquarium, and the general public.

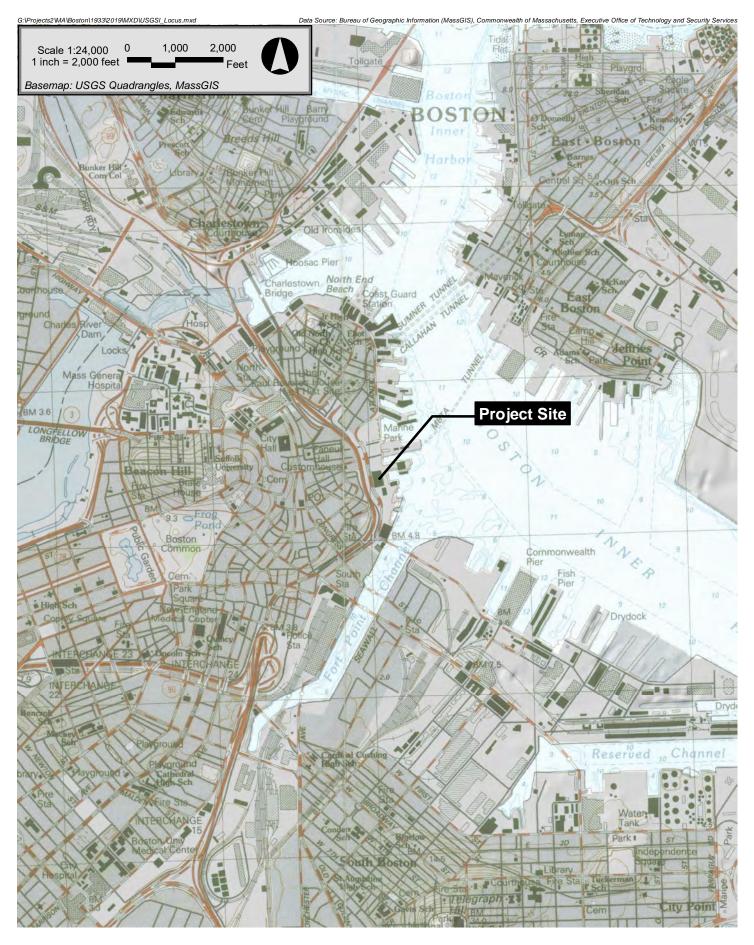
1.2.2 Area Context

The Project Site is centrally located within the Downtown Waterfront District on Boston's inner harbor, one of the most notably mixed-use communities in the City, including office, residential, hospitality, government, retail, educational and cultural uses. Positioned for exceptional visibility from the Harbor and Logan Airport, the Project Site is also within close proximity to some of the City's most active areas, including the Seaport District to the southeast, Downtown Boston to the west, Faneuil Hall marketplace to the northwest, and the North End to the north. Both North Station and South Station are located within walking distance of the Project Site, providing convenient access to the MBTA Red, Green, Orange and Silver lines, Commuter Rail, Amtrak, regional bus lines and multiple BlueBikes stations. There are also several MBTA bus stops in the vicinity of the Project Site and an MBTA Blue Line station (Aquarium) immediately adjacent to the Project Site. Multiple commuter ferries, serving Boston's outer neighborhoods and suburban destinations, are within steps of the Site, and Logan Airport is a short subway or water taxi ride across the Harbor. Directly west of the Project Site is the Greenway, including its signature "Rings Fountain," and the Harborwalk traverses the easterly side of the Project Site. Refer to Figures 1-2 to 1-4 for an aerial locus map and photographs of the surrounding area.

1.2.3 Project Plan

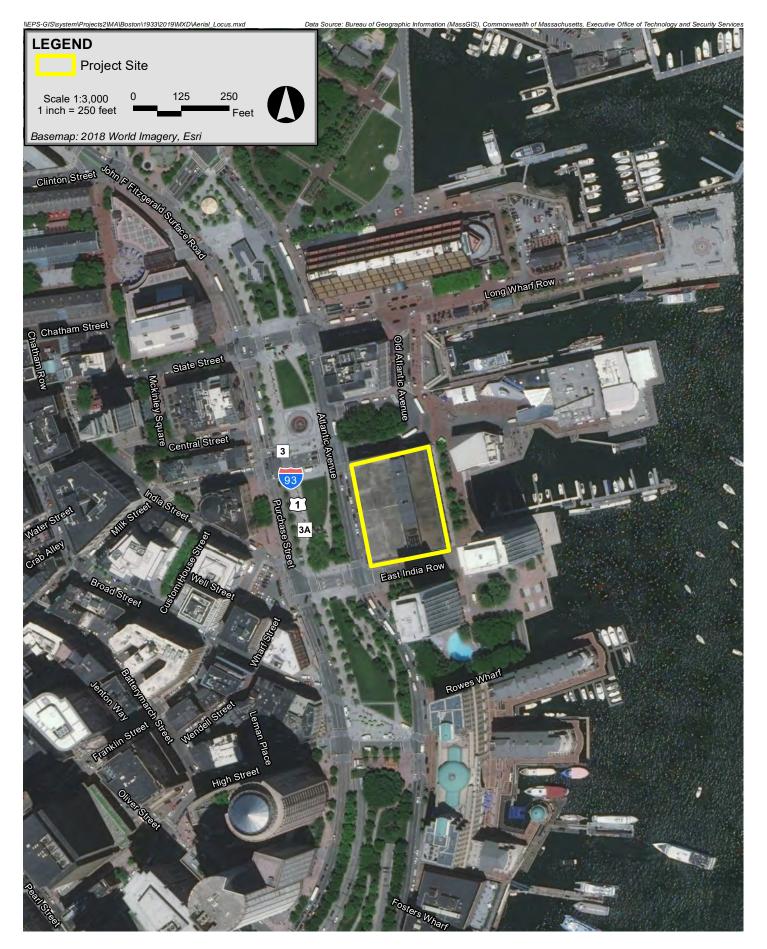
In addition to extensive new public open space, consisting of over 28,000 sf of open space on the Site and significant improvements to the adjacent Harborwalk, the Project features the construction of a single tower totaling approximately 865,000 sf and comprised of the following uses:

 An approximately 284,600 sf residential component with approximately 200 residential units (currently anticipated to be rental);



The Pinnacle at Central Wharf Boston, Massachusetts





The Pinnacle at Central Wharf Boston, Massachusetts





The Pinnacle at Central Wharf Boston, Massachusetts





The Pinnacle at Central Wharf Boston, Massachusetts



- ♦ An approximately 538,000 sf office component; and
- ◆ Approximately 42,000 sf of publicly accessible amenity space (e.g., retail, restaurant, and other uses to activate the streetscape).

Spaces for the building's mechanical equipment are located at floors 3, 4, 5, 25 and the roof. There are six levels of below-grade parking encompassing a total area of approximately 432,900 sf. A loading dock servicing the building is located below grade at Level B2.

Table 1-1 Project Program

Project Element	Approximate Dimension		
Residential	284,600 sf		
Rental units	200 units		
Office	538,000 sf		
Public Amenity ¹	42,000 sf		
Total Square Footage	864,600 sf		
Height	585 feet to the highest occupiable floor and no more than 600 feet in total height		
Parking	1,100 spaces		
¹ Public amenity space includes, but is not limited to, retail other uses to activate the streetscape.			

Public Realm Improvements

The footprint of the tower is positioned to maximize space for pedestrian circulation, both to the north (consistent with the Aquarium's proposed "Blueway" vision), and along the Harborwalk to the East. With 30% of the Site open space concentrated on the north, a strong east-west connection between the Greenway and the Harbor is created, with a pedestrian-friendly plaza design that is accessible through steps and ramps at various locations. The new public plaza will function in complimentary fashion to the proposed future Blueway, widening as it approaches the water and wrapping to the east, to form a seamless connection with The Porch, the reimagined and expanded section of the Harborwalk adjacent to the Project Site. The new plaza, along with the Harborwalk, will be elevated approximately 4' (from 17.0-feet BCB to 21.0-feet BCB) above the current elevation to improve resiliency against climate change and storm surge, not only for the Project Site, but also as the first link in a district-wide approach to addressing these challenges. In addition, the Proponent will coordinate with abutters to explore the incorporation of a "living shoreline" landward of the existing seawall.

In addition, the public realm surrounding the proposed tower is carried into the building by means of a public corridor that flows through the ground floor plan and connects the southwest corner of the site at the office component lobby to the activity of a transformed Central Wharf to the north and east. The interior public areas will be activated with various amenitized spaces that

wrap upward to the building's second level, above the garage access ramp, through a series of steps with integrated seating areas. Public interior space continues to the building's second level. The integrated seating areas in the steps also offer elevated views of the Greenway to the West.

1.2.4 Consistency with Area Planning

The Project is subject to the DWMHP, which harmonizes with the state's Waterways Regulations the prior planning recommendations for the Downtown Waterfront District covered by the DWMHP. The DWMHP encompasses approximately a half mile of Boston's Downtown Waterfront extending from, and including, Christopher Columbus Park, southward to the Evelyn Moakley Bridge/Seaport Boulevard. The DWMHP advances previous planning efforts, including the Harborpark Plan: City of Boston Municipal Harbor Plan (1991), the Inner Harbor Passenger Water Transportation Plan (2000), the Fort Point Channel Watersheet Activation Plan (2002), the City of Boston Open Space Plan 2015-2021, the Greenway District Planning Study Use and Development Guidelines (2010), the Boston Zoning Code Greenway Overlay (2013), and the ongoing work of Climate Ready Boston. The DWMHP also builds on the significant investments made in the Downtown Waterfront District covered by the DWMHP over the past three decades, including the completion of the Central Artery/Tunnel Project, the construction of the Greenway, and the cleanup of Boston Harbor.

The Municipal Harbor Planning regulations (301 CMR 23.00) allow municipalities to establish long-term, comprehensive municipal harbor plans ("MHP") to inform and guide state agency actions affecting the implementation of waterway management programs at the local level. A MHP may include alternative use limitations or numerical standards that are less restrictive than Chapter 91 standards, provided that the MHP includes other requirements that, considering the balance of effects on an area wide basis, will mitigate, compensate, or otherwise offset adverse effects on water-related public interests. The MHP must be consistent with state tidelands policy objectives and associated regulatory principles.

The DWMHP planning process commenced in March 2013; the DWMHP was published in April 2017 and supplemented by the BPDA in February 2018; and the associated Secretary of Energy and Environmental Affairs ("Secretary") decision approving the plan was issued April 30, 2018. Six goals served as guiding principles for, and form the basis of the DWMHP and, in turn, have driven Proponent's Project design:

- 1. Continue to develop the District as an Active, Mixed Use Area that is an Integral Part of Boston's Economy.
- 2. Promote Access to Boston Harbor, the Harbor Islands and Water Transportation.
- 3. Improve Waterfront Wayfinding and Open Space Connections.
- 4. Enhance Open Space Resources and the Public Realm.
- Create a Climate Resilient Waterfront.

6. Implement the Greenway District Planning Study Wharf District Guidelines (e.g., access to waterfront and Seaport; reinforce openness; facilitate accessibility; further diversify abutting uses).

Together, the DWMHP and the Secretary's decision established a number of amplifications and substitute provisions for the Chapter 91 standards at 310 CMR 9.00 et seq. Amplifications include:

- Elevating exterior areas, as feasible, as a non-structural alternative to increase coastal resiliency;
- Exterior private tideland areas planned for public access shall be held to the public activation standard used for Commonwealth Tidelands; and
- ◆ Clarification of the Aquarium as the primary Special Public Destination Facility ("SPDF") in the DWMHP planning area, the protection and promotion of which is to be implemented by means of a Memorandum of Understanding by and among the City of Boston, the Aquarium and the Proponent.

Substitute provisions created by a MHP may, in some cases, require implementation of additional public benefits beyond the standard provisions, known as "offsetting provisions." Specific to the Project Site, the DWMHP and the Secretary's decision established a single substitution, authorizing a maximum building height of 585 feet to the highest occupiable floor and no more than 600 feet in total, as well as related offsets and other provisions as described in greater detail below.

The Proponent is working with the City, its neighbors, and other stakeholders to ensure that the Project exceeds the goals of the DWMHP in providing substantial public benefits, amenities, and area-wide activation of the Downtown Waterfront District.

1.2.5 Schedule

Construction is anticipated to commence in the 4th guarter of 2021.

1.3 Public Participation

The Proponent files this PNF over 12 years after its acquisition of the Project Site and approximately seven years after the commencement of the DWMHP planning process. The process was particularly comprehensive, encompassing over five years of analysis and discussion, an extensive consultation period, and more than 40 public meetings. As a result, the proposed Project benefits from a level of public participation from a range of stakeholders that greatly exceeds what is typically associated with a development project at the commencement of Article

80 review. In addition to the wide-ranging outreach Proponent conducted during the DWMHP planning period, the following is a cross-section of the outreach that has been conducted to date following the Secretary's approval of the DWMHP.

- ♦ Pre-filing meetings with the BPDA
- ♦ Input from independent design professionals
- ♦ Ongoing meetings with representatives of the Aquarium
- ♦ Ongoing meetings with the Trustees of Harbor Towers
- Ongoing discussions with advocacy groups and other stakeholders
- Ongoing participation as a member of the Wharf District Council

In addition to the formal presentations and filings associated with the Article 80 and MEPA processes, Proponent anticipates a robust discussion including neighbors; advocacy groups; elected officials; the office, retail and residential brokerage communities; prospective tenants; and other stakeholders from the surrounding community and beyond.

1.4 Public Benefits

The Project will generate a wealth of public benefits for the surrounding neighborhood, the City of Boston, and the Commonwealth of Massachusetts, both during construction and on an ongoing basis upon its completion. The benefits include, but are not limited to, the following:

1.4.1 Removal of the Existing Above-Grade Parking Garage

Perhaps no development in Boston better illustrates the principle of "addition by subtraction" than this Project, such that the removal of the existing garage may very well be characterized as the Project's single most important public benefit. At present, the Harbor Garage occupies the entirety of its site, representing a visual and physical barrier to the waterfront, the legacy of an antiquated vision of urban renewal that prioritized the automobile over the pedestrian experience. As noted in the DWMHP, "[t]he redevelopment of the Harbor Garage project site has certain inherent public benefits, such as a reduction in lot coverage from the existing 100% level to a maximum of 50%." Beyond the creation of nearly 30,000 sf of new open space on some of the most valuable real estate in the densest area of the Commonwealth, the removal of the existing garage will enable the delivery of a Project that exemplifies all of the core goals of the DWMHP (see below), while also eliminating a use that is contrary to every core objective of tidelands development under Chapter 91. Recognizing that, for the foreseeable future, substantial parking demand will exist among Project tenants, residents and visitors, as well as from Aquarium visitors, Harbor Towers residents and the general public, a new garage will be rebuilt below grade and will be sized to accommodate these users with an eye toward future conversion to alternative uses as and when appropriate.

1.4.2 Downtown Waterfront Municipal Harbor Plan Objectives

As noted in Section 1.2.4 above, the BPDA articulated six goals which form the basis of the DWMHP. In light of those goals and in the context of the Project Site, the Project has been specifically designed and programmed to foster activity, access, connectivity, climate resiliency, an enhanced public realm, and consistency with the planning goals for the Wharf District.

The Project Site's strategic location, fronting on both the Harbor and the Greenway, allows for the proposed active ground levels and public realm to enhance the surrounding neighborhood with new commercial, retail, residential, and cultural uses that will become an integral part of Boston's economy, attract a diverse array of visitors and residents to the Project Site, provide amenities to the community at large, and support the continued year-round activation of the waterfront and Greenway.

The Project's improvements to pedestrian connectivity through the Site and building also create a more cohesive design theme and integrated public realm. The distinctive tower element will instantly become a Boston landmark, serving a wayfinding function that will signal, even at a distance, the location of a revitalized Central Wharf. The new public plaza, widening as it approaches the water and wraps to the east, will form a seamless connection with the Harborwalk and will function in complimentary fashion to the proposed future Blueway, thereby enhancing the public realm for the entire Downtown Waterfront District. These improvements in pedestrian circulation, combined with significant investments in district-wide and building-specific climate change resiliency, will create a more "user friendly" waterfront that will bring to life the Wharf District planning goals as originally outlined in the Greenway District Use and Development Guidelines in 2010.

Project Offsets

The DWMHP offsets specific to the Project Site, as designed, are \$10 million in funding to be provided by the Proponent for the design and construction of the public realm improvements associated with the Aquarium's proposed "Blueway" vision and \$300,000 for planning, feasibility assessment, design, engineering and permitting for a signature waterfront park and water transportation gateway at the BPDA-owned Chart House parking lot. Per the Secretary's decision, the \$10 million contribution toward the Blueway would represent the largest value of an MHP offsetting measure anywhere in the Commonwealth to date.

Protection and Promotion of the New England Aquarium

The application of the amplifications in the DWMHP for the Project Site requires that a legally binding agreement ("MOU") be signed by the Proponent, the Aquarium, and the City. The MOU will include provisions that address the following principles:

- ◆ Interim Parking. During construction, the Proponent shall commit to provide parking within reasonable proximity to the Aquarium on weekends (500 spaces) and weekdays (250 spaces) and at a price point consistent with the existing program;
- Future Parking. The developer of the Harbor Garage site shall commit to providing parking in the same amounts and timing for the Aquarium in the proposed development; and
- ◆ Indemnification. The developer of the Harbor Garage site shall commit to ensure the viability of the Aquarium during construction of the proposed development in a manner consistent with the Secretary's decision, which details a \$30,000,000 indemnification framework over the estimated three-year construction period.

1.4.3 Economic Benefits

Linkage Funding

The Project will be a "Development Impact Project" as defined by the Code. Accordingly, the Proponent anticipates making contributions to the City of Boston's Neighborhood Housing Trust and the City's Neighborhood Jobs Trust in accordance with linkage provisions of Article 80, as described in Section 1.5.6, below

Affordable Housing

In addition to the linkage payments into the Neighborhood Housing Trust, the Project will comply with the applicable Inclusionary Development Policy by providing a to-be-determined combination of on-site affordable units, off-site affordable units in the surrounding neighborhood, and/or a monetary contribution to an affordable housing fund to support affordability city-wide.

Increased Employment

The Project will create over 2,000 construction jobs and approximately 3,000 permanent jobs upon stabilization.

New Tax Revenues

In addition to the substantial income tax revenues generated as a result of the aforementioned job creation, the Project will also generate tens of millions of dollars in sales and employment taxes for the Commonwealth and significantly greater property tax revenues compared to the existing condition, which, in turn, will result in a substantial increase in City of Boston borrowing capacity.

1.4.4 Environmental Benefits

Smart Growth/Transit-Oriented Development

The Project is consistent with smart-growth and transit-oriented development principles. The Project Site is well served by existing public transportation, including major regional rapid transit, commuter rail, commuter ferry and bus lines that provide easy access to the Project Site from the Greater Boston region.

The redevelopment of this site into an attractive mixed-use development will help bridge the "activity gap" in what is otherwise an increasingly thriving urban community in Boston's Downtown Waterfront District. The addition of residential uses to an underutilized site that is adjacent to more active uses will support the expansion of the vibrant live/work/play model amplified by other recently completed and planned projects nearby, including the Greenway and its seasonal programming, Dock Square, and Hook Wharf. In addition, this mixed-use Project is adjacent to the MBTA Blue Line, approximately mid-way between the South Station and North Station bus and rail terminals, and walking distance to water taxis and commuter ferries. In stark contrast to the auto-centric function of the existing garage, the Project embodies the major tenets of a transit-oriented development (TOD) and will provide residents, employees and visitors with a variety of transportation options. In addition, the Project's setting adjacent to Boston's commercial employment core and several of the City's main tourist attractions makes it ideal for promoting walking and bicycling as means of transportation.

Improved Street and Pedestrian Environment

The Project will activate an underutilized site with enhanced streetscapes that include landscaped sidewalks, programmed public open space, and improved pedestrian access and view corridors to Boston Harbor. The site and tower design also prioritize pedestrian access through the Project Site in order to provide new connections between the Greenway and the Harbor that do not currently exist because of the massing of the existing parking garage.

As noted in Section 2.1.8, the Proponent will continue to work with the City of Boston to create a Project that vastly improves the pedestrian environment, and encourages transit and bicycle use. As part of the Project, the Proponent will reconstruct and widen the sidewalks where possible, install new, accessible ramps, improve street lighting where necessary, plant street trees, and provide bicycle storage facilities at appropriate locations at and around the site.

Sustainable Design/Green Building

The Proponent is committed to building a LEED® certifiable project with a current target of the Gold level, incorporating sustainable design features into the Project to preserve and protect the environment. The Project will meet, and in some cases exceed, the requirements of Article 37 of

the Code, which ensures that major building projects are 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.

Public Realm Improvements, Programming and Climate Resiliency

The Project will provide substantial public realm improvements that contribute to an active and vibrant Downtown Waterfront District and Harborwalk. To maximize public benefit, contribute to on-site and district resiliency, and improve connections to recreational, cultural and historic attractions, as well as access to public transit, including water transportation facilities, the Project will incorporate the following design and programming elements.

- ♦ In addition to numerous building-specific climate change resiliency measures discussed in greater detail in Section 2.4 and 2.5 below, the Project will incorporate an elevated public realm, both on site, as well as on the adjacent Harborwalk, which will reflect sea level rise and storm surge projections consistent with Climate Ready Boston planning.
- ◆ Along the Central Wharf plaza, consistent with the proposed Blueway vision, views and wayfinding will take priority, guiding users from the Greenway toward the Aquarium. The edges of the plaza will offer raised seating, allowing for passive uses such as peoplewatching and enjoyment of views to and across the Harbor.
- ◆ The open spaces immediately surrounding the Building will require the most flexibility in use. Programming here will respond to daily and seasonal changes, allowing transformation into a large event space and supporting temporary installations to activate the plaza during morning and evening hours, and even during cold weather months, without feeling vacant or vast on an average day. Movable site furniture, planting elements, and opportunities for public art will be utilized to adjust the scale of the space, so it feels appropriate for every occasion. Infrastructure needed to support the variety of programming will be incorporated into the plaza design to provide maximum functionality; for example, dynamic site lighting, utilities for music events or art installations, appropriate access for food trucks and event setup, and multimedia capabilities will all be supported by the final design.
- ◆ As further described in Section 2.3.5.2 below, the Project envisions reimagining and invigorating the adjacent section of the Harborwalk to honor its location at Boston's "front door to the world." Through elevation, upgrades, and activation, this public asset will be transformed into a Porch for the City and the region.
- Subject to collaboration and coordination with abutters, a waterfront overlook at the water's edge will invite users to get close to the water and enjoy views across the Harbor. The overlook can be populated with moveable furniture of different types and configurations, so users can sit and read a book, lunch with coworkers, or take a break from walking tours to chat with their travel companions. Furniture can be removed for

large events or gatherings. It also provides an opportunity for school groups or tour groups to gather and view the tower, the Aquarium, other activity in the plaza, and the living shoreline; as such, it will be a key location for interpretive signage. This overlook is envisioned as an integrated feature of a new, resilient "living shoreline" to be installed landward of the existing seawall.

- Detailed design of the ground plane will emphasize the connection of outdoor programming to interior spaces and also provide opportunities for subtle wayfinding and interpretive elements. Commercial activity within the building will be supported by flexible seating and event space outside, and spaces suitable for use as outdoor classrooms will support educational programming.
- Building on decades of experience programming and activating the public realm at International Place, Proponent will utilize a combination of dedicated personnel, including property management employees and/or contracted placemaking staff to ensure a steady stream of cultural, educational, philanthropic and recreational offerings. In particular, the Proponent will explore opportunities for collaboration with the neighboring Aquarium to amplify its position as the district's primary SPDF while making optimal use of enhance and expanded public space resources.

1.5 Zoning and Regulatory Controls

1.5.1 Zoning District

The Project Site is located within the Downtown Waterfront Subdistrict of the Harborpark District, which is governed by Article 42A of the Code, and the Greenway Overlay District, which is governed by Article 49A of the Code. The entire Harborpark District is within the Restricted Parking Overlay District.

A planned development area ("PDA") is permitted at the Project Site. A PDA is a type of special purpose overlay district that is designed to accommodate a project that may be otherwise appropriate but does not fit within the requirements of the underlying zoning district. To the extent a PDA and corresponding PDA development plan is adopted for the Project Site, such PDA development plan can modify, with respect to the Site, the requirements otherwise applicable pursuant to underlying zoning, subject to certain limitations set forth in Sections 42A-16A through 42A-16G of the Code, including consistency with the use and dimensional provisions of the Downtown Waterfront District Municipal Harbor Plan & Public Realm Activation Plan as determined in Large Project Review. In addition, in conjunction with any PDA, Proponent intends to comply with the General Design and Environmental Standards set forth in Section 49A-4 of the Code, to the extent applicable to the Project.

1.5.2 Permitted Uses

Office, local retail/service, general retail (if less than 75,000 sf), restaurant (other than take-out in excess of 2,500 square feet) and multi-family residential uses in the Downtown Waterfront Subdistrict are allowed as-of-right. All of the primary uses of the proposed Project fall within the as-of-right categories under the Code. In the Downtown Waterfront Subdistrict, parking is a conditional use to the extent not accessory to residential use. In the Greenway Overlay District, certain limitations for ground floor uses are imposed on portions of parcels fronting on the Greenway

The Code has additional requirements for Day Care Facilities and Facilities of Public Accommodation within the Downtown Waterfront Subdistrict. It is the Proponent's intention to meet the Facilities of Public Accommodation requirements as affected by the Chapter 91 licensing process for the Project,

1.5.3 Site Development Dimension

Table 1-2 identifies the development dimensions applicable to the Project Site per the Code. Existing and proposed conditions are also listed for comparative purposes.

Table 1-2 Site Development Restrictions

	Underlying Code	PDA	Existing	Proposed
Maximum Height ¹	155 feet	585 feet to highest occupied floor (and in no case shall any structure exceed the FAA height limits or 600 feet, whichever is lower) ²	95 feet	585 feet to the highest occupiable floor and no more than 600 feet in total height.
Maximum FAR/Floor Area/Volume	4.0 FAR	15.7 FAR, 900,000 square feet, 9,500,000 – 10,500,000 cubic feet ²	7.3 FAR	864,600 square feet, and 10,500,000 cubic feet.
Shoreline Setbacks	35 feet (shorelines) 12 feet (sides of piers) 50 feet (ends of piers)	Determined by Development Plan	90	The Site is 90 feet from the shoreline and is not within the shoreline setback. The Project is not on a pier.
Landscaping/ Open Space	At least 50% of the Lot area for new construction at grade	50%²	0	50%

Per the Code, maximum height is to the top of the highest occupiable floor.

Per DWMHP and subject to additional limitations such as maximum of 30% being located on the north side of the site adjacent to Milk Street

1.5.4 Off-Street Parking and Loading

The Project, as proposed, will reduce the number of parking spaces located at the Site from approximately 1,475 enclosed spaces within the existing parking garage to 1,100 enclosed spaces within the reconfigured garage.

As noted above, the Project is located in the Restricted Parking Overlay District. If a PDA designation is not obtained by the Proponent, then a conditional use permit from the Boston Zoning Board of Appeals will be required to allow off-street parking at the site.

Loading requirements will be determined by the BPDA during the Article 80 Process.

In the absence of a PDA designation, Article 23 of the Code governs off-street parking in the Downtown Waterfront Subdistrict. Under Article 23, the minimum number of off-street parking space required for the Project Site is one for each 1,200 sf of gross floor area of retail on the ground floor, one for each 2,400 sf of gross floor area of office and retail (other than ground floor retail), one for every 20 seats in a restaurant, and one-half for each residential unit. Notwithstanding the foregoing, Section 42A-10(e) of the Code provides that "[f]or any Proposed Project subject to Large Project Review and for which a Transportation Access Plan is required, the Boston Redevelopment Authority may determine that so-called "shared parking" arrangements, in which parking spaces may be counted for different uses whose peak parking use periods are not coincident, will adequately meet parking demand associated with such Proposed Project, in which event the number of parking spaces otherwise required shall be correspondingly reduced." Accordingly, the precise number of parking spaces to be provided at the Project, and the mix of users of such parking spaces, will be determined in Large Project Review.

1.5.5 Zoning Relief

Based on a preliminary zoning review, if a PDA designation is not obtained, the Project requires relief to allow the additional FAR and height necessary to accommodate the proposed Project dimensions, and to permit parking as a conditional use.

The Proponent intends to petition the BPDA to recommend designation of the Project Site as a PDA, which would then require an amendment to the Code by petition to the Zoning Commission. In connection with such designation, the Proponent will develop a PDA development plan to govern the PDA and provide the necessary zoning relief for the Project.

1.5.6 Estimated Linkage Payments

The Project will be a "Development Impact Project" as defined by the Code. Accordingly, the Proponent anticipates making contributions to the City of Boston's Neighborhood Housing Trust and the City's Neighborhood Jobs Trust in accordance with linkage provisions of Article 80 of the Code. Housing exaction payments for the Project are currently estimated to be approximately

\$4.36 million, and jobs exaction payments are currently estimated to be approximately \$855,000. These payments for housing exaction and jobs exaction are based on rates of \$9.03 and \$1.78 per square foot (after deducting the first 100,000 square feet), respectively, as set forth in Article 80.

1.6 Legal Information

1.6.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments or pending legal actions concerning the Project other than the ongoing litigation brought by (a) the abutters of the neighboring Harbor Towers (Katherine Armstrong, et al. v. Kathleen Theoharides, in her Official Capacity as Secretary of the Executive Office of Energy and Environmental Affairs, et al., Case No. 1884-CV-02132, in the Business Litigation Session of the Suffolk Superior Court) and (b) the Conservation Law Foundation (Conservation Law Foundation, et al. v. Kathleen Theoharides, in her Official Capacity as Secretary of the Executive Office of Energy and Environmental Affairs, et al., Case No. 1884CV02144-BLS1 in the Business Litigation Session of the Suffolk Superior Court) (together, "the Project Litigation"). In the Project Litigation, the plaintiffs contend that the Project, if it proceeds, will result in damage to the environment and seek to restrain it. The plaintiffs also seek a declaration that the DWMHP involves an improper delegation of the Department of Environmental Protection's authority over tidelands under Chapter 91. The State Parties dispute the plaintiffs' claims and are defending the legality of the DWMHP and the Proponent disputes that the proposed Project will result in damage to the environment and is vigorously defending that claim.

1.6.2 History of Tax Arrears on Property

The Proponent is not in tax arrears on any property it owns within the City of Boston.

1.6.3 Evidence of Site Control/Nature of Public Easements

The entire Project Site is owned and controlled by the Proponent. One potential garage layout which is currently being considered by the Proponent, includes a portion that would extend below the pedestrianized portion of East India Row, which is a public way, to properly stage the provision of parking and loading, and to accommodate the proposed resiliency improvements. An alternative garage layout will only utilize the footprint of the existing structure at the Project Site.

1.7 Anticipated Permits and Approvals

Table 1-3 sets forth a preliminary list of permits and approvals from governmental agencies and authorities that are expected to be required for the Project. It is possible that only some of these permits and approvals will be required, or that additional permits or approvals will be required. The Proponent may seek state and federal funding for the Project.

Table 1-3 Anticipated Permits and Approvals

Agency Name	Permit, Approval, or Amendment
	FEDERAL
Environmental Protection Agency	NPDES Construction General Permit
	NPDES Dewatering General Permit
Federal Aviation Administration	Determination of No Hazard to Air Navigation
	STATE
Department of Environmental Protection,	Chapter 91 License
Division of Wetlands and Waterways	
Executive Office of Energy and	MEPA Certificate
Environmental Affairs, MEPA Office	
Department of Environmental Protection,	Fossil Fuel Equipment Approvals (boilers and generators) (if
Division of Air Quality Control	necessary)
Maranah washin Mahar Basawasa Autharitu	Construction/Demolition Notification (if necessary)
Massachusetts Water Resources Authority	Sewer Use Discharge Permit; Construction Dewatering Permit
Massachusetts Historical Commission	Determination of No Adverse Effect
Massachusetts Aeronautics Commission	Determination of No Adverse Effect Determination of Permit Not Required
Massachusetts Highway Department,	Signage Approvals for Non-tenant Signs Visible from Greenway (if
Outdoor Advertising Board	any)
Department of Transportation	Highway Access Permit, if applicable
·	License or other approval for construction above or adjacent to
	Central Artery Tunnel, as applicable
	CITY
Boston Redevelopment Authority	Article 80 Review;
	PDA Development Plan Approval
Boston Conservation Commission	Order of Conditions
Boston Zoning Commission	PDA Designation
Boston Civic Design Commission	Design Review
Boston Air Pollution Control Commission	Modification Permit
Boston Water and Sewer Commission	Sewer Use Discharge Permit;
	Site Plan Approval; Dewatering Discharge Permit;
	Sewer Connection Permit;
	Stormwater Connection
	Cross Connection/Backflow Prevention Permit;
	Hydrant Meter Permit
Boston Inspectional Services Department	Building and Occupancy Permits
Boston Interagency Green Building	Determination of Article 37 Compliance
Committee	
Boston Inspectional Services Department,	Amendment of Fuel Storage License; Garage Permit
Committee on Licenses	
Boston Transportation Department	Construction Management Plan;
Doctor Fire Deporture of	Transportation Access Plan
Boston Fire Department	Fuel Storage Tank Removal Permit; Fuel Storage Tank Permit (to the extent required for fuel serving
	boilers and generators, if any)
	noners and generators, if any)

Table 1-3 Anticipated Permits and Approvals (Continued)

Agency Name	Permit, Approval, or Amendment	
CITY		
Boston Public Improvement Commission	Street Opening Permit(s);	
	Street Discontinuance;	
	Street, Sidewalk Repair;	
	Projection Permit (all as applicable)	
Boston Parks and Recreation Commission	Project Approval	
Boston Department of Public Works	Curb cut permit(s), as applicable	
Boston Landmarks Commission	Determination of no significance	

1.8 Project Identification and Team

Name /Location: The Pinnacle at Central Wharf

Downtown Waterfront District, Boston

Proponent: RHDC 70 East India LLC

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2.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

2.1 Transportation

The Project team has conducted an evaluation of the transportation impacts of the Project in Downtown Boston. This transportation study adheres to the Boston Transportation Department ("BTD") Transportation Access Plan Guidelines and BPDA Article 80 Large Project Review process. This study includes an evaluation of existing conditions, future conditions without and with the Project (based upon the vehicular circulation pattern as discussed with the City in pre-filing meetings) projected parking demand, loading operations, transit services, and pedestrian activity. The Proponent will continue to work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages public transit and bicycle use, with the broader goal of creating a state-of-the-art development, while also meeting the parking needs of the New England Aquarium and any commitments to Harbor Towers.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement ("TAPA"), a formal legal agreement between the Proponent and the BTD that formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the transportation study, mitigation commitments, and elements of design, it must be executed after these other processes have been completed. The proposed measures described in Section 2.1.8 and any additional transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA.

2.1.1 Project Description

The proposed Project will demolish the existing ~1,475 space parking garage largely serving commuter and transient users, and provide a total of approximately 865,000 sf of development, which will include approximately 538,000 sf of office space, 42,000 sf of retail and other public amenity space, and approximately 200 residential units. Approximately 1,100 parking spaces will be provided on-site in an underground garage (including approximately 850 for non-Project uses). Parking will be provided for building residents, commercial tenants, the general public, and the New England Aquarium, as well as the residents of the adjacent Harbor Towers (pending completion of a mutually acceptable long-term parking agreement).

As part of the Project, the Proponent will reconstruct and widen the sidewalks along the site frontage where possible, install new Americans with Disabilities Act ("ADA") accessible ramps, improve street lighting where necessary, plant street trees, and provide publicly accessible bicycle storage at appropriate locations within the Project Site. The Milk Street public realm will be improved resulting in an enhanced experience for all users within the Central Wharf area. The improvements include the removal of the parking garage entrance and exit, which will greatly improve the pedestrian experience along Milk Street by removing the vehicle and pedestrian interaction along the sidewalk. The removal of the driveway also allows for Milk Street to be

converted east of Atlantic Avenue to one-way, creating a counterclockwise loop with Old Atlantic Avenue and Central Street. The one-way operation will allow for the narrowing of the vehicular way, resulting in wider sidewalks and an increase in curb use length for more efficient pick-up and drop-off operations within Central Wharf. These pedestrian-prioritized improvements will be located adjacent to the open space pedestrian plaza on the northern portion of the site and will entirely transform the public gateway from the Greenway into Central Wharf.

The impact of these improvements in the immediate proximity of the Project would have maximum impact on general circulation if accomplished in tandem with other improvements in the surrounding area. These additional measures could include pedestrian prioritized shared streets and more time-dynamic parking restrictions for better curb usage to accommodate the the continually changing demand of the space, including existing metered spaces being converted to be short term pick-up and drop-off for cabs/Transportation Network Companies ("TNCs") and tour operators.

2.1.1.1 Study Area

The transportation study area runs along Atlantic Avenue and Surface Road and consists of the following 32 intersections, also shown on Figure 2-1:

- Milk Street/Site Driveway;
- East India Row/Site Driveway;
- ♦ Milk Street/Atlantic Avenue;
- ♦ India Street/East India Row/Atlantic Avenue;
- ♦ India Street/Surface Road;
- Milk Street/Surface Road;
- ♦ State Street/Surface Road;
- State Street/Atlantic Avenue;
- Broad Street/Surface Road;
- High Street/Surface Road;
- High Street/Atlantic Avenue;
- Seaport Boulevard/Atlantic Avenue/I-93 Northbound On-Ramp;
- Oliver Street/Seaport Boulevard/Purchase Street/I-93 Southbound Off-Ramp;
- Pearl Street/Purchase Street;
- Pearl Street/Atlantic Avenue;
- ♦ Congress Street/Purchase Street;
- ♦ Congress Street/Atlantic Avenue;





- ♦ Summer Street/Atlantic Avenue;
- ♦ Walk to the Sea/Surface Road;
- ♦ Walk to the Sea/Atlantic Avenue;
- ♦ Mercantile Street/Surface Road;
- ♦ Mercantile Street/Atlantic Avenue/Cross Street;
- ◆ Clinton Street/I-93 Southbound Off-Ramp/Surface Road;
- ♦ Commercial Street/Cross Street;
- ◆ North Street/I-93 Northbound Off-Ramp/Surface Road;
- ♦ I-93 Northbound Off-Ramp/North Street/Cross Street;
- ♦ Hanover Street/Cross Street;
- Salem Street/Cross Street;
- ◆ Sudbury Street/Cross Street/I-93 Northbound On-Ramp;
- ◆ Atlantic Avenue/Central Street;
- ♦ Central Street/Old Atlantic Avenue; and
- ♦ State Street/Old Atlantic Avenue.

2.1.1.2 Study Methodology

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

The Existing Condition analysis includes an inventory of the existing transportation conditions that was undertaken in the summer of 2018, such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2026, based on an eight-year horizon from the year of the filing of this traffic study.

The No-Build (2026) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project Site.

The Build (2026) Condition analysis includes a net change in traffic volume due to the addition of Project-generated trip estimates, to the traffic volumes developed as part of the No-Build (2025) Condition analysis. The transportation study identified expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities and deficiencies.

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

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

2.1.2 Existing Conditions

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

2.1.2.1 Existing Roadway Conditions

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

Atlantic Avenue/Cross Street is classified as an urban principal arterial under MassDOT jurisdiction and is located adjacent to the west side of the Project Site. Atlantic Avenue runs one-way northbound from south of the study area to Mercantile Street to the north. At this intersection, Atlantic Avenue turns to the right. The corridor continues through the intersection one-way northbound as Cross Street. The roadway generally consists of three travel lanes and an exclusive bicycle lane between Summer Street and Seaport Boulevard. North of Seaport Boulevard, the roadway generally consists of two travel lanes, an exclusive bicycle lane, and a parking/loading lane. Sidewalks are generally provided along both sides of Atlantic Avenue/Cross Street, although near the I-93 ramps there are no sidewalks on the west side of the roadway.

John F. Fitzgerald Surface Road (Surface Road)/Purchase Street is classified as an urban principal arterial roadway under MassDOT jurisdiction. The corridor is located to the west of the Project Site and runs southbound through the study area. Surface Road is separated from the Atlantic Avenue/Cross Street corridor by the Rose Kennedy Greenway. For roughly 2,000 feet of its length, between High Street and Summer Street, the road is named Purchase Street. Between North Washington Street and Clinton Street the corridor consists of two travel lanes, a bike lane, and a parking lane. Between Clinton Street and Summer Street the corridor consists of three travel lanes and a bike lane.

Milk Street is classified as an urban minor arterial west of Atlantic Avenue and as a local roadway east of Atlantic Avenue adjacent to the north side of the Project Site. Milk Street is one-way in the eastbound direction west of Atlantic Avenue and is a two-way street east of Milk Street. At

its widest, Milk Street consists of three travel lanes, a bike lane, and a parking lane. At its narrowest, adjacent to the Project Site, Milk Street consists of one travel lane in each direction. Sidewalks are provided along both sides of Milk Street along its entire length.

India Street/East India Row is classified as an urban minor arterial west of Surface Road and a local roadway east of Surface Road. It runs one-way in the westbound direction west of Atlantic Avenue. East of Atlantic Avenue and adjacent to the south side of the Project Site, the roadway is named East India Row and runs in both directions, with the public vehicular street concluding adjacent to the Harbor Towers security booth. A pedestrianized public way continues along the entirety of the east side of the Project Site. India Street primarily consists of a single travel lane with parking along both sides. Parking is not allowed east of Surface Road with the exception of three handicap-accessible spaces that are provided along the eastbound side of East India Row. No special provisions are made for bicycles. Sidewalks are provided along both sides of India Street/East India Row.

State Street is classified as an urban principal arterial and is located north of the Project Site. It runs one-way westbound from the waterfront to Washington Street. There is a short, two-way section of State Street between Atlantic Avenue and Long Wharf that is classified as a local roadway. State Street primarily consists of two to three travel lanes with on street parking or loading zones. No special provisions are made for bicycles. Sidewalks are provided along both sides of State Street.

Hanover Street is classified as an urban minor arterial located north of the Project Site. Hanover Street generally runs in an east-west direction between Congress Street to the southwest and through the North End to Commercial Street to the northeast. Hanover Street consists of a single lane of travel in each direction, with additional turn lanes provided near the Greenway. Sidewalks are provided along both sides of Hanover Street. Parking is not allowed along either side of Hanover Street between Cross Street and Congress Street. However, parking is allowed along Hanover Street northeast of Cross Street in the North End neighborhood.

Seaport Boulevard is an urban principal arterial roadway located south of the Project Site. It is primarily a two-way, four-lane roadway which runs in an east-west direction from Purchase Street to the Seaport neighborhood. West of Purchase Street, the westbound roadway continues as a local one-way named Oliver Street. Buffered bike lanes are provided in both directions. On street parking is not permitted in the study area. Sidewalks are provided along both sides of Seaport Boulevard.

2.1.2.2 Existing Intersection Conditions

The existing study area intersections are described below. Intersection characteristics such as traffic control, lane usage, pedestrian facilities, pavement markings, and adjacent land use are described.

Milk Street/Site Driveway is a three-legged, unsignalized intersection with the Site Driveway Garage exit operating under stop control. The site driveway is the main public entrance and exit to the existing Harbor Garage. The Milk Street eastbound approach consists of a single through/right-turn lane. The Milk Street westbound approach consists of a single left-turn/through lane. Old Atlantic Avenue is located directly to the east of this intersection. Parking is not permitted on either side of Milk Street at this intersection. Sidewalks are provided along both sides of Milk Street. An unsignalized crosswalk with curb ramps is provided across Milk Street to the east of this intersection between this intersection and the Old Atlantic Avenue intersection.

East India Row/Site Driveway is a three-legged, unsignalized intersection with the Site Driveway Garage exit operating under stop control. The East India Row eastbound approach consists of a single left-turn/through lane. Handicap-accessible parking is available along this side of the street. The East India Row westbound approach consists of a single through/right-turn lane. The Site Driveway consists of the Harbor Towers resident entrance and exit to the Harbor Garage as well as a loading dock used primarily by the Aquarium for its leased facilities currently located at the Project Site. On the southbound approach, vehicles can turn left or right onto East India Row. Parking is not permitted on this side of the road. Sidewalks are provided along both sides of East India Row. Pedestrians enter and exit the Harbor Garage through a separate way.

Milk Street/Atlantic Avenue is a four-legged, signalized intersection with three approaches. Milk Street is one-way eastbound west of the intersection and consists of a left-turn only lane, a left-turn/through lane, and a through-only lane. The Milk Street westbound approach consists of a right-turn lane. Atlantic Avenue is one-way northbound and consists of a through-only lane and a shared through/right-turn lane. A five-foot wide bicycle lane with a two-foot door zone buffer is also provided. Parking is not permitted along the Milk Street approaches. A parking lane is provided to the right side of the bike lane buffer. Sidewalks are provided along both sides of Milk Street and Atlantic Avenue, with the paths of the Rose Kennedy Greenway serving as sidewalks on the west side of Atlantic Avenue. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

India Street/East India Row/Atlantic Avenue is a four-legged, signalized intersection with two approaches. The East India Row westbound approach consists of a shared through/right-turn lane. West of the intersection, India Street is one-way westbound and has three receiving lanes at this intersection. Atlantic Avenue is one-way northbound and consists of a shared left-turn/through lane and a shared through/right-turn lane. A five-foot wide bicycle lane with a 1.5-foot door zone buffer is also provided. A parking lane is provided on the right side of the bike lane buffer. On-street parking is not permitted along the India Street/East India Row approach. Sidewalks are provided along both sides of East India Row/India Street and Atlantic Avenue, with the paths of the Rose Kennedy Greenway serving as sidewalks on the west side of Atlantic Avenue. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

India Street/Surface Road is a slightly offset four-legged, signalized intersection with two approaches. India Street is one-way westbound and consists of two exclusive left-turn lanes and one exclusive through lane. Parking is not permitted along this approach. Surface Road is one-way southbound and consists of three through-only lanes. Right turns onto India Street are prohibited. A five-foot wide bicycle lane is also provided. Parking is not permitted along any approach. Sidewalks are provided along both sides of India Street and Surface Road. Along the east side of Surface Road, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

Milk Street/Surface Road is a four-legged, signalized intersection with two approaches. Milk Street is one-way eastbound and consists of an exclusive through lane and a shared through/right-turn lane. There are three receiving lanes for traffic on the eastbound departure from the intersection. Surface Artery is one-way southbound and consists of a shared left-turn/through lane and two exclusive through lanes. A five-foot wide bicycle lane is also provided. Parking is not permitted along either approach. Sidewalks are provided along both sides of Milk Street and Surface Road. Along the east side of Surface Road, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

State Street/Surface Road is a four-legged, signalized intersection with two approaches. State Street is one-way westbound and consists of a left-turn only lane, a shared left-turn/through lane, and an exclusive through lane. Surface Road is one-way southbound and consists of two exclusive through lanes and a shared through/right-turn lane. Right turns on red are not permitted from this approach. A five-foot wide bicycle lane is provided. Parking is not permitted along either approach. Sidewalks are provided along both sides of State Street and Surface Road. Along the east side of Surface Road, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

State Street Atlantic Avenue is a four-legged, signalized intersection with two approaches. The State Street westbound approach consists of an unmarked, shared through/right-turn lane. Parking along the State Street westbound approach is limited to licensed tour buses. Atlantic Avenue is one-way northbound and consists of one shared left-turn/through lane and one shared right-turn/through lane. A four-foot bike lane with a two-foot door zone buffer is provided. A parking lane for licensed tour buses is provided east of the bike lane buffer. Sidewalks are provided along both sides of State Street and Atlantic Avenue. Along the west side of Atlantic Avenue, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

Broad Street/Surface Road is a three-legged, signalized intersection with two approaches. The Broad Street eastbound approach consists of an exclusive right-turn lane. Sharrows are marked and a bike box is provided on the Broad Street approach. Parking is not permitted on this approach

although the lane is used for loading by commercial vehicles with minimal effect on traffic flow. Surface Road is one-way southbound and consists of two exclusive through lanes and a shared through/right-turn lane. A five-foot wide bicycle lane is also provided. Parking is not permitted on this approach. Sidewalks are provided along both sides of Broad Street and Surface Road. Along the east side of Surface Road, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. Crosswalks with handicap-accessible ramps and pedestrian signal equipment are provided across all legs of the intersection.

High Street/Surface Road is a four-legged, signalized intersection with two approaches. The High Street eastbound approach is comprised of one exclusive through lane and one shared through/right-turn storage lane. The storage lane is about 70 feet long (1-2 vehicles). A left-side bike lane as well as a bike box is provided on this approach. Parking lanes are provided along both sides of the roadway up to about 70 feet before the intersection. The Surface Road southbound approach consists of three through lanes with the left lane also serving left turns. After the intersection, Surface Road becomes Purchase Street. A five-foot wide bike lane along Surface Road and Purchase Street is marked through the intersection. No parking is allowed along either side of Purchase Street at this intersection. Sidewalks are provided along both sides of Surface Road/Purchase Street and High Street. Along the east side of Surface Road, the paths of the Rose Kennedy Greenway effectively serve as sidewalks.

High Street/Parking Garage/Atlantic Avenue is a four-legged, signalized intersection with three approaches. The High Street eastbound approach consists of two left-turn only lanes. A sharrow in the right lane marks the turning lane bikes should take. Street parking is not permitted on either side of this approach. The Atlantic Avenue northbound approach consists of a two through-only lanes. A five-foot wide bike lane is marked along the right side of the travel lanes through the intersection. To the right of the bike lane, a parking lane allows for short-term valet parking. On the northbound departure only, the bike lane is separated from the parking lane by a two-foot buffer. The third approach is the entrance and exit to the Rowes Wharf Parking Garage and the Residences at Rowes Wharf pick-up/drop-off area. This approach is affected by operations at the intersection because of its location at the northeast corner of Atlantic Avenue and High Street. However, traffic in and out of this driveway is not signal-controlled. Sidewalks are provided along both sides of Atlantic Avenue and High Street. On the west side of Atlantic Avenue, the paths through the Rose Kennedy Greenway effectively function as a sidewalk. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection.

Seaport Boulevard/Atlantic Avenue/I-93 Northbound On-Ramp is a five-legged, signalized intersection with three approaches. The Seaport Boulevard eastbound approach consists of one exclusive through lane and a shared left-turn/through lane. The Seaport Boulevard westbound approach consists of a shared through/bear right lane, a shared bear right-turn/right-turn lane, and a right-turn only lane. Right turns on red are not permitted on this approach. Two travel lanes are provided on the westbound departure as the roadway continues to become Oliver Street. Right-side bike lanes in both directions are provided on Seaport Boulevard east of Atlantic Avenue. A bike box is also provided on the westbound Seaport Boulevard approach. Parking is not provided

in either direction along Seaport Boulevard at this intersection. The Atlantic Avenue northbound approach consists of a shared left-turn/bear left-turn lane, a shared bear left-turn/through lane, and a shared through/right lane. Right turns on red are not permitted on this approach. A right-side bike lane as well as a bike box across the rightmost lane is provided on this approach. The Atlantic Avenue northbound departure leg is comprised of two travel lanes. Space for bus stops is provided on the northbound departure leg. The I-93 NB On-Ramp forms the northwest departure leg at this intersection. It is comprised of two travel lanes which descend into a tunnel beneath the Rose Kennedy Greenway in order to merge with the subsurface John F. Fitzgerald Expressway ("I-93"). Sidewalks are provided along both sides of Seaport Boulevard and Atlantic Avenue. On the northwest side of Atlantic Avenue, the pathway through the Rose Kennedy Greenway effectively functions as a sidewalk. The I-93 On-Ramp does not allow pedestrians or cyclists. Crosswalks are marked across all intersection legs and pedestrian signals are provided at all corners. The northwest and north intersection legs are treated as a single pedestrian crossing. Handicap-accessible ramps are provided at every point a crosswalk meets a curb.

Oliver Street/Seaport Boulevard/Purchase Street/I-93 Southbound Off-Ramp is a five-legged, signalized intersection with three approaches. The Seaport Boulevard westbound approach consists of a two through lanes with the left lane also serving left turns. Although there is an eastbound departure leg comprised of two travel lanes which continues to become Seaport Boulevard, Oliver Street is one-way westbound west of the intersection. Sharrows are marked in the right lane of Seaport Boulevard westbound on the approach legs. The Purchase Street southbound approach consists of three through lanes with the right lane also serving right turns. Left turns to eastbound Oliver Street are not permitted. A bike lane is also marked along Purchase Street through the intersection. No stopping is permitted along either side of Purchase Street near the intersection. The I-93 SB off-ramp forms the southwestbound approach at this intersection. It consists of a left-turn only lane onto Oliver Street eastbound and a through/right-turn lane to either Purchase Street southbound or Oliver Street westbound. Turns on red are not permitted on this approach. Sidewalks are provided along both sides of Oliver Street and Purchase Street. On the east side of Purchase Street, the paths through the Rose Kennedy Greenway effectively function as a sidewalk. Pedestrians and cyclists are prohibited from the I-93 SB off-ramp. Crosswalks and pedestrian signals are provided for all crossings. The north and northeast intersection legs are treated as two separate pedestrian crossings. Handicap-accessible ramps are provided at every point a crosswalk meets a curb.

Pearl Street/Purchase Street is a four-legged, signalized intersection with two approaches. The Pearl Street westbound approach consists of three lanes, a left-turn only lane, a through/left-turn lane, and a through lane. On the westbound departure however, there is only one receiving lane for through traffic. Sharrows are marked for left-turn and through movements on the westbound approach. A five-foot bike lane is provided only on the westbound departure. Parking is not allowed on the westbound approach. The westbound departure provides room for metered parking on the south side and for Brazilian consulate parking only on the north side. The Purchase Street southbound approach consists of three through lanes with the right lane also serving right turns onto Pearl Street. A five-foot bike lane is marked along Purchase Street through the

intersection. Sightseeing and MBTA buses are permitted to stop on this approach. Sidewalks are provided along both sides of Pearl Street and Purchase Street. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection.

Pearl Street / Atlantic Avenue is a three-legged, signalized intersection with one approach. The Atlantic Avenue northbound approach consists of three through lanes with the left lane also serving left-turns onto Pearl Street. A five-foot bike lane is marked along Atlantic Avenue through the intersection. Parking is not allowed along Atlantic Avenue near this intersection. The Pearl Street westbound departure consists of three receiving lanes. Sharrows are marked on this leg. Parking is not allowed on this segment of Pearl Street between Atlantic Avenue and Purchase Street. Sidewalks are provided along both sides of Pearl Street and Atlantic Avenue. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection.

Congress Street / Purchase Street / I-93 Southbound/I-90 Westbound On-Ramp is a five-legged, signalized intersection with two approaches. The Congress Street eastbound approach consists of two through lanes, one bear-right lane (to I-93/I-90 On-Ramp), and one right-turn only lane (to Purchase Street). Right turns on red are not permitted. Four receiving lanes for traffic are provided on the eastbound departure leg. Sharrows for through and right-turn movements are marked on both the approach and departure legs. Parking is not allowed on either the eastbound approach or departure legs. The Purchase Street southbound approach consists of one left-turn only lane, one bear-left/through lane, and one through lane. Field observations showed that actual lane usage of the left lane consisted of both left turns onto Congress Street and bear-left movements onto the I-93/I-90 On-Ramp. The Purchase Street southbound departure leg consists of two travel lanes. The I-93/I-90 On-Ramp southeastbound departure leg consists of one travel lane which provides access to either I-93 southbound or I-90 westbound. Commercial vehicle parking is permitted along the west side of the Purchase Street southbound approach from 10:00 am – 3:30 pm on weekdays. Otherwise, no stopping is allowed along this approach. Stopping is not permitted anytime on the southbound or southeastbound departure legs. A sharrow is marked on the southbound approach. A five-foot bike lane is provided on the southbound departure leg. Sidewalks are provided along both sides of Congress Street and Purchase Street. Pedestrians and cyclists are prohibited from the I-93/I-90 On-Ramp. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection. The south and southeast intersection legs are treated as a single pedestrian crossing.

Congress Street/Atlantic Avenue is a four-legged, signalized intersection with three approaches. The Congress Street eastbound approach consists of two left-turn only lanes and two through lanes. The Congress Street westbound approach consists of two right-turn only lanes. Right turns on red are not permitted. There is no westbound departure leg. Sharrows are marked for left-turn and through movements on the eastbound approach. A lane for valet, pick-ups, and drop-offs is provided on the Congress Street westbound approach. Otherwise, stopping is not permitted along the other curbside approaches of Congress Street. The Atlantic Avenue northbound approach consists of three through lanes with the right-most lane also serving right turns. Right turns on

red are permitted for this approach. A five-foot bike lane is marked along Atlantic Avenue through the intersection. Stopping is not permitted along either the Atlantic Avenue northbound approach or departure leg. Sidewalks are provided along both sides of Congress Street and Atlantic Avenue. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection.

Summer Street/Atlantic Avenue is a four-legged, signalized intersection with three approaches. The Summer Street eastbound approach consists of one shared left-turn/through lane and one through lane. The Summer Street westbound approach consists of three through lanes with the right-most lane also serving right turns. There are no provisions for bicycles along Summer Street at this intersection. The Atlantic Avenue northbound approach consists of one left-turn only lane, one shared left-turn/through lane, one through-only lane, and one right-turn only lane. There are three receiving lanes for traffic on the northbound departure leg. A five-foot pocket bike lane is provided on this approach and is marked along Atlantic Avenue through the intersection. A left-side lane for metered parking is also provided on the northbound approach. Sidewalks are provided along both sides of Summer Street and Atlantic Avenue. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all legs of the intersection.

South Market Street/Surface Road is a signalized pedestrian crossing with one vehicle approach. The Surface Road southbound approach consists of three through lanes. A five-foot bike lane is provided at this intersection. Stopping is not permitted along either the Surface Road southbound approach or departure leg. The 40-foot wide crosswalk allows for pedestrians and other non-motorized users to cross Surface Road between Faneuil Hall and the Rose Kennedy Greenway. The crosswalk is equipped with handicap-accessible ramps and pedestrian signals in both directions. Sidewalks are also provided along both sides of Surface Road.

Christopher Columbus Park Path/Atlantic Avenue is a signalized pedestrian crossing with one vehicle approach. The Atlantic Avenue northbound approach consists of two through lanes, a five-foot bike lane with a one-foot buffer, and a parking lane for sightseeing buses. The northbound departure leg consists of three travel lanes and a five-foot bike lane. Stopping is not permitted along Atlantic Avenue besides the sightseeing buses in the parking lane. The 35-foot wide crosswalk allows for pedestrians and other non-motorized users to cross Atlantic Avenue between the Rose Kennedy Greenway and Christopher Columbus Park. The crosswalk is equipped with handicap-accessible ramps and pedestrian signals in both directions. Sidewalks are also provided along both sides of Atlantic Avenue. On the west side of Atlantic Avenue, the path through the Rose Kennedy Greenway effectively functions as a sidewalk.

Mercantile Street/Surface Road is a three-legged, signalized intersection with two approaches. The Mercantile Street westbound approach consists of two left-turn lanes. Sharrows are marked on this approach. The Mercantile Street eastbound departure leg consists of two travel lanes. A median separates the two travel directions on Mercantile Street. Stopping is not permitted on either the westbound approach or eastbound departure. The Surface Road southbound approach consists of three through lanes with the left-most lane also serving left turns. A five-foot bike lane is marked along Surface Road through the intersection. Stopping is not permitted on either the

southbound approach or departure leg. Sidewalks are provided along both sides of Mercantile Street and Surface Road. A crosswalk with handicap-accessible ramps and pedestrian signals is provided only across the Mercantile Street leg because of the close proximity of crosswalks across Surface Road at Clinton Street and Walk to the Sea.

Mercantile Street/Atlantic Avenue/Cross Street is a four-legged, signalized intersection with three approaches. The Mercantile Street eastbound approach consists of two through lanes with the left-most lane also serving left turns. No provisions for bicycles are available on this approach although a five-foot bike lane is available on the Atlantic Avenue eastbound departure leg. Stopping is not permitted on this approach. The Atlantic Avenue westbound approach consists of one through/right-turn lane, a six-foot bike lane. A parking lane for residents only is also provided. Field observations showed that some vehicles use the wide bike lane as a right-turn lane in order to bypass the queue for the through movement. The Mercantile Street westbound departure leg consists of two receiving lanes for traffic. The right-most lane is marked with bicycle sharrows. The Atlantic Avenue northbound approach consists of one shared left-turn/through lane, one through-only lane, and one right-turn only lane. The Cross Street northbound departure leg consists of two through lanes. A right-side five-foot bike lane is marked on the northbound approach and pavement markings at the intersection direct cyclists to turn right to continue on Atlantic Avenue. Cyclists moving through to Cross Street are directed with sharrows to use the through lanes in order to avoid right hooks. A right-side five-foot bike lane begins again on the Cross Street northbound departure leg. Stopping is not permitted along either the northbound approach or departure legs. Sidewalks are provided along both sides of Atlantic Avenue, Mercantile Street, and Cross Street. Along Mercantile Street and on the west sides of Cross Street and Atlantic Avenue, the paths of the Rose Kennedy Greenway effectively serve as sidewalks.

Clinton Street/I-93 Southbound Off-Ramp/Surface Road is a four-legged, signalized intersection with two approaches. The Surface Road southbound approach consists of two through lanes and a shared through/right-turn lane. The right-most lane also serves as a parking lane for tour buses from 10:00 am to midnight. A sharrow marked on the left side of the right-most lane directs cyclists to avoid right hooks. A bike lane is marked through the intersection and on the southbound departure leg. The I-93 Southbound Off-Ramp southwestbound approach consists of a left-turn lane onto Surface Road, and a shared left-turn/through lane. Stopping is not permitted along the I-93 off-ramp approach. Clinton Street is a one-way, two-lane roadway that proceeds west from the intersection. Commercial vehicle parking is allowed along the south side of Clinton Street. Sidewalks are provided along both sides of Surface Road and Clinton Street. Pedestrians and cyclists are prohibited from the I-93 Southbound Off-Ramp. Crosswalks with handicap-accessible ramps and pedestrian signals are provided for all crossings.

Commercial Street/Cross Street is a three-legged, signalized intersection with two approaches. The Commercial Street westbound approach consists of a single right-turn only lane. There are no special provisions for bicycles on this approach. The unmarked roadway does provide room for a right-side lane of resident parking and a left-side lane of 2-hour visitor parking. The Cross Street northbound approach consists of two through-only lanes. A five-foot bike lane is marked through

the intersection. Stopping is not permitted on either the northbound approach or departure legs. Sidewalks are provided along both sides of Cross Street and Commercial Street except along the west side of the Cross Street northbound departure leg. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across the south and east intersection legs.

North Street/I-93 Northbound Off-Ramp/Surface Road is a four-legged, signalized intersection with three approaches. The Surface Road southbound approach consists of a through lane and a shared through/right-turn lane. A five-foot wide bicycle lane is also marked along Surface Road through this intersection. In addition, a parking lane for tour buses is provided along the southbound approach. The North Street eastbound approach consists of a single channelized right-turn only lane. No special provisions for bicycles are made on this approach. Stopping is not permitted along this approach. The I-93 Northbound Off-Ramp westbound approach consists of one shared left-turn/through lane and one through lane. Sidewalks are provided along both sides of Surface Road and North Street. Pedestrians and cyclists are prohibited from the I-93 Northbound Off-Ramp. Crosswalks with handicap-accessible ramps and pedestrian signals are provided for all crossings except across the south intersection leg.

I-93 Northbound Off-Ramp/North Street/Cross Street is a four-legged, signalized intersection with two approaches. The I-93 Northbound Off-Ramp westbound approach consists of one left-turn only lane and one shared left-turn/through lane. The Cross Street northbound approach consists of two through lanes with the right-most lane also serving right turns. A five-foot bike lane is marked along Cross Street through the intersection. A lane for daytime metered parking and overnight resident parking is provided on the northbound approach. The North Street eastbound departure leg consists of one travel lane. Resident parking is allowed on both sides of the roadway. Sidewalks are provided along both sides of Cross Street and North Street except the west side of the Cross Street northbound approach leg. Pedestrians and cyclists are prohibited from the I-93 Northbound Off-Ramp. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across the north and east intersection legs.

Hanover Street/Cross Street is a four-legged, signalized intersection with three approaches. The Hanover Street eastbound approach consists of one left-turn only lane and one through-only lane. Sharrows are marked for both left-turn and through movements for bicycles on this approach. The Hanover Street westbound approach consists of a single shared through/right-turn lane. However, the westbound departure leg has two lanes for receiving traffic and both are marked with sharrows. Stopping is not permitted on Hanover Street west of Cross Street. 2-hour and commercial parking is allowed on Hanover Street east of Cross Street. The Cross Street northbound approach consists of a shared left/through lane and a shared through/right-turn lane. A five-foot bike lane is provided on both the northbound approach and departure legs. A parking lane is also provided on both the northbound approach and departure legs. Sidewalks are provided along both sides of Hanover Street and Cross Street. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across all intersection legs.

Salem Street/Cross Street is a three-legged, signalized intersection with one approach. The Cross Street northbound approach consists of two through lanes with the right-most lane also serving right turns. A five-foot bike lane is marked along Cross Street through the intersection. A parking lane for 2-hour and commercial parking is provided on both the northbound approach and departure legs. A sidewalk-grade, unmarked loading/parking roadway runs parallel to Cross Street at this intersection. It can be classified as a shared street as all users share the same space. The Salem Street eastbound departure leg consists of a single travel lane with parking permitted along one side of the roadway. Sharrows indicate that bicycles may use the full lane. Sidewalks are provided along both sides of Salem Street and Cross Street. Along the west side of Cross Street, the paths of the Rose Kennedy Greenway effectively serve as sidewalks. A crosswalk with handicap-accessible ramps and pedestrian signals is provided across Cross Street at the south intersection leg. Pedestrians cross Salem Street in the raised shared street zone.

Sudbury Street/Cross Street/I-93 Northbound On-Ramp is a four-legged, signalized intersection with three approaches. The Sudbury Street eastbound approach consists of a shared hard right/right-turn lane and a right-turn only lane (onto Cross Street). No special provisions for bicycles are present on this approach. Stopping is not permitted along this approach. The Cross Street northbound approach consists of a two through lanes with the left-most lane also serving bear-left movements onto the I-93 Northbound On-Ramp. A five-foot bike lane is marked along Cross Street through the intersection. A lane for 2-hour and commercial parking is also provided on the northbound approach leg. The third approach is the unmarked Cross Street loading/parking zone as it meets the main Cross Street route. This approach is stop-controlled rather than signal-controlled; traffic operations in the other approach legs should be affected very minimally by vehicles from this approach. Sidewalks are provided along both sides of Sudbury Street and Cross Street except the west side of the Cross Street northbound departure leg. Pedestrians and cyclists are prohibited from the I-93 Northbound On-Ramp. The unmarked Cross Street loading/parking zone is effectively a shared street where all road users, including pedestrians and cyclists, share the same space. Crosswalks with handicap-accessible ramps and pedestrian signals are provided across the west and south intersection legs.

Atlantic Avenue/Central Street is a two-legged, unsignalized intersection with the Central Street approach operating under stop control. The Central Street westbound approach consists of two exclusive right-turn lanes. Atlantic Avenue is one-way northbound and consists of three through lanes and a five-foot wide bicycle lane. Parking is not permitted along any approach. Sidewalks are provided along both sides of Atlantic Avenue and Central Street. A Crosswalk with handicap-accessible ramps is provided across Central Street.

Central Street/Old Atlantic Avenue is a three-legged, unsignalized intersection with two approaches. The Old Atlantic Avenue northbound approach consists of a shared left-turn/through lane. The Old Atlantic Avenue southbound approach consists of a shared through/right-turn lane. This approach operates as a stop-controlled, even though there is no signage on the field. Parking is restricted to City licensed sightseeing trolleys only along the east side of Old Atlantic Avenue

and commercial vehicles along the north side of Central Street. Sidewalks are provided along both sides of Old Atlantic Avenue and Central Street. Crosswalks with handicap-accessible ramps are provided across the west and north intersection legs.

State Street/Long Wharf/Old Atlantic Avenue is a three-legged, unsignalized intersection with three approaches. The State Street eastbound approach consists a shared through/right-turn lane. The Long Wharf westbound approach consists of a shared left-turn/through lane. The Old Atlantic Avenue northbound approach operates under stop control and consists of a shared left-turn/right-turn lane. Parking is restricted to City licensed sightseeing trolleys along the east side of Old Atlantic Avenue and the north side of State Street, commercial parking along the south side of State Street, and a taxi stand along the north side of Long Wharf. Sidewalks are provided along both sides of Old Atlantic Avenue, State Street and Long Wharf. Crosswalks with handicap-accessible ramps are provided across the west and south intersection legs.

2.1.2.3 Existing Parking

An inventory of the existing on-street and off-street parking, as well as car sharing services in the vicinity of the Project, was collected. A description of each follows.

On-Street Parking and Curb Usage

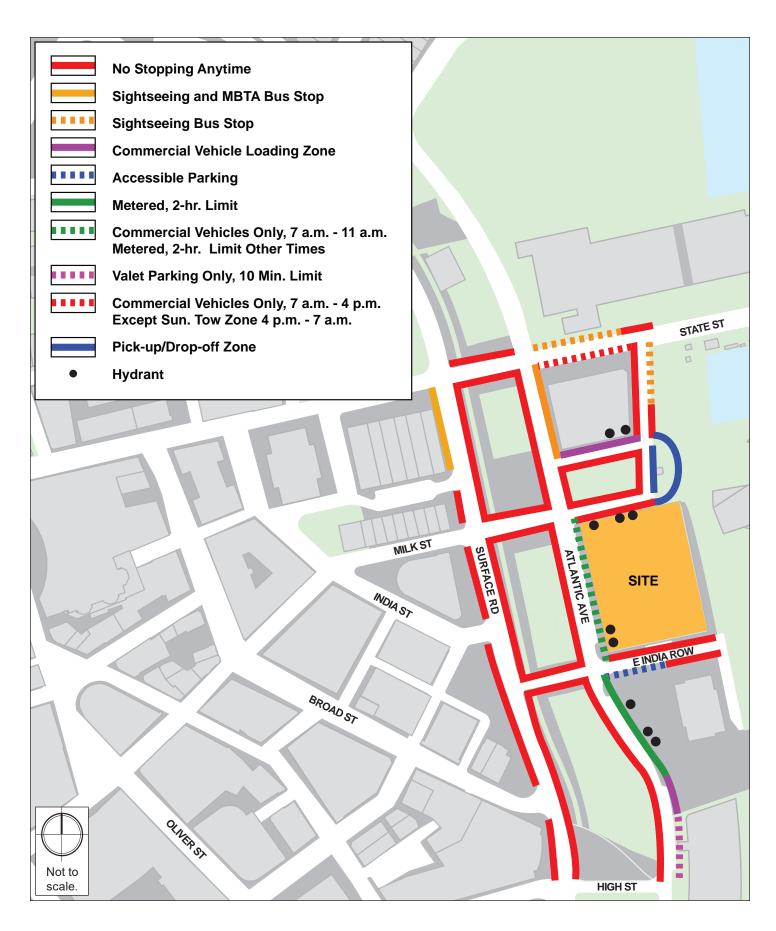
On-street parking surrounding the Project Site consists of 2-hour metered parking along Atlantic Avenue immediately adjacent to the Project Site as well as four handicap-accessible parking spaces along East India Row. The segment of Atlantic Avenue immediately adjacent to the Project Site also serves as a commercial loading zone from 7 a.m. – 11 a.m. A pick-up and drop-off loop exists at the corner of Milk Street and Old Atlantic Avenue. Other curb uses within the Project Site vicinity include other loading zones, tour bus stops, an MBTA bus stop, and valet parking. The on-street parking regulations within the study area are shown in Figure 2-2.

Off-Street Parking

There are six parking lots and 15 parking garages located within a quarter-mile of the Project Site, including the existing parking garage at the Project Site itself. A detailed summary of all parking lots and garages are shown in Table 2-1. The Off-street lots and garage locations are shown in Figure 2-3. There are a total of 1,669 private parking spaces and 6,476 public spaces within a quarter-mile radius of the Site.

Table 2-1 Off-Street Parking within a Quarter-Mile of the Site

Map#	Address	Facility	Private Capacity	Public Capacity		
Parking Lots						
1	Wendell Street	Wendell Street Lot	24	0		
2	47 Broad Street	Broad & Water Street Lot	0	16		
3	Commercial Wharf	Commercial Wharf	100	0		
4	60 Long Wharf	Chart House Restaurant Lot	50	0		
5	15–17 Northern Avenue	James Hook & Co. Lot	10	4		
6	53 India Street	India Street Lot	0	13		
Parking Lots – Subtotal			184	33		
Parking Gar	ages		•			
Α	New Atlantic Ave. at State St.	Long Wharf Hotel	195	0		
В	30 Rowes Wharf	Rowes Wharf Garage	150	535		
С	21 Custom House Street	Custom House Garage	51	0		
D	200 State Street	Marketplace Center Garage	112	0		
E	One International Place	International Place	36	753		
F	125 High Street	125 High St Garage	41	674		
G	265 Franklin Street	Paine Webber Building	124	0		
Н	225 Franklin Street	State Street Bank Building	0	210		
1	260 Franklin Street	Franklin Street Garage	80	0		
J	1 Post Office Square ¹	One Post office Square Garage	318	82		
K	Post Office Square	Post Office Garage	0	1,036		
L	75 State Street	75 State Street Garage	0	681		
M	60 State Street	60 State Street Associates	78	227		
N	50 Clinton Street	Dock Square Garage	0	704		
0	Harbor Garage	Harbor Garage	300	1,175		
Р	500 Atlantic Avenue	Intercontinental Hotel	0	366		
Parking Garages – Subtotals			1,485	6,443		
Parking Lots + Garages – Total			1,669	6,476		
¹ Garage currently under construction, parking spaces might differ.						





Car Sharing Services

Car sharing services enable easy access to short-term vehicular transportation. Vehicles are rented on an hourly or daily basis, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location. Pick-up/drop-off locations are typically in existing parking lots or other parking areas throughout neighborhoods as a convenience to users of the services. Nearby car sharing services provide an important transportation option and reduce the need for private vehicle ownership.

Zipcar is the primary car share company in the Boston car sharing market; however, other companies such as Turo and Getaround also operate within the city. There are approximately five Zipcar locations, one Turo location, and one Getaround location within a quarter mile of the Project Site. The nearby car sharing locations of the Project Site are shown in Figure 2-4.

2.1.2.4 Existing Condition Traffic Data

Traffic volume data was collected in the study area intersections on June 19, 2018. Turning Movement Counts ("TMCs") were conducted during the weekday a.m. and p.m. peak periods (7:00-9:00 a.m.) and 4:00-6:00 p.m., respectively) at the study area intersections. The TMCs collected vehicle classification including car, heavy vehicle, pedestrian, and bicycle movements. The detailed traffic counts for the study area intersections are provided in Appendix B.

In order to account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT were reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the June 2018 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6 – Urban Arterials) during the month of June is 0.90. This indicates that average month traffic volumes are approximately 10% lower than the traffic volumes that were collected. The traffic counts were not adjusted to reflect average month condition in order to provide a conservatively high analysis consistent with the peak season traffic volumes. The MassDOT 2011 Weekday Seasonal Factors table is provided in Appendix B.

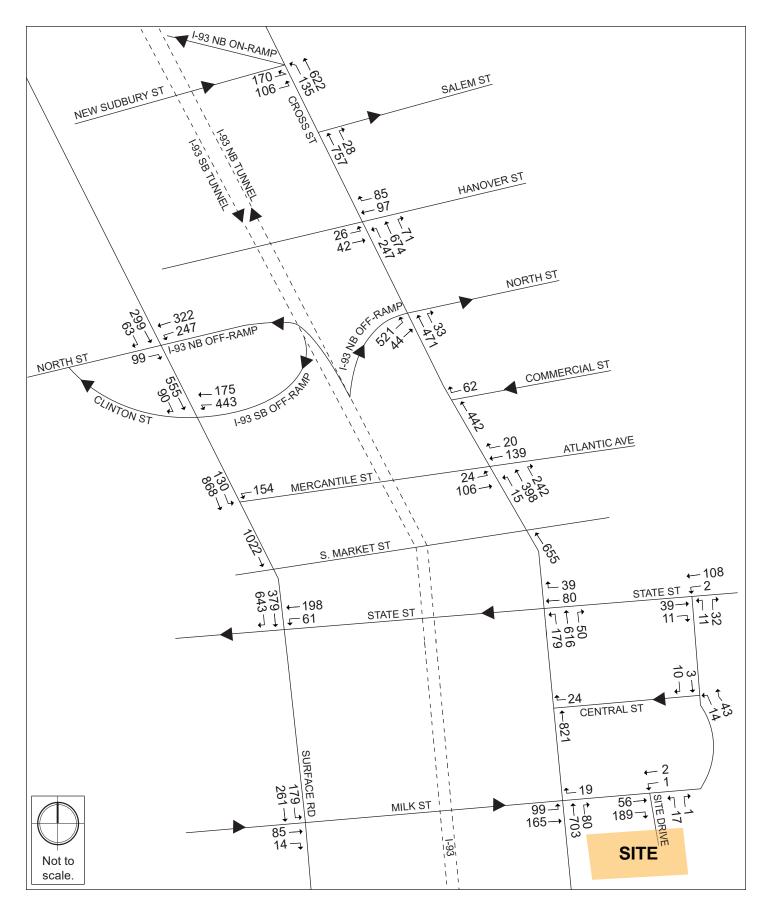
Existing Condition Traffic Volumes

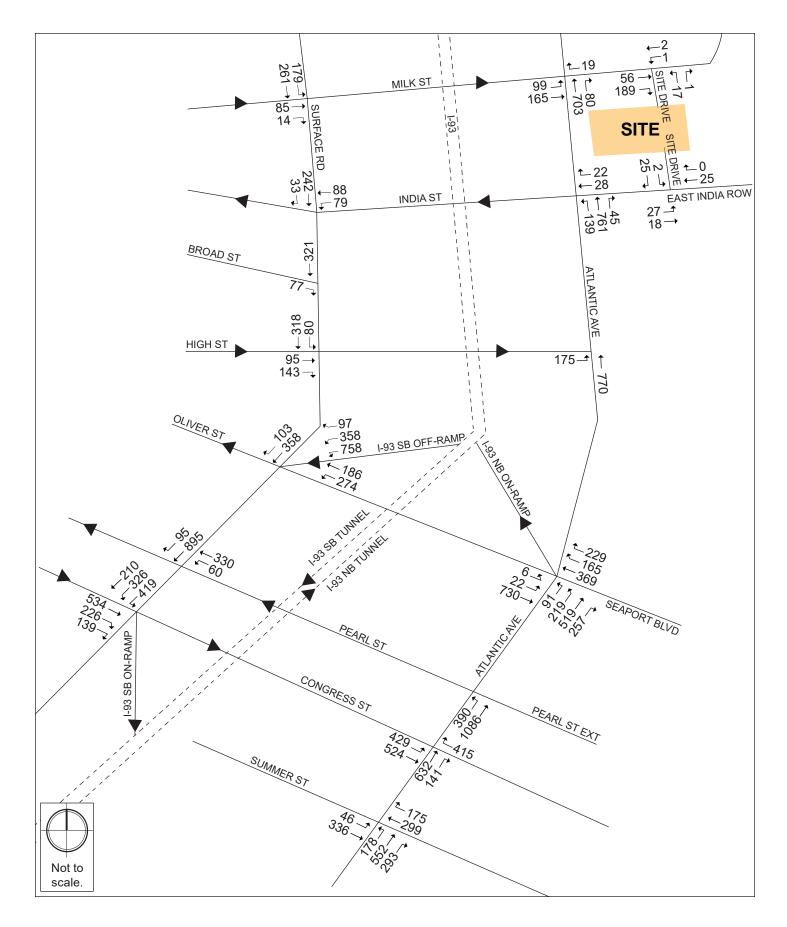
Existing traffic volumes were balanced, where necessary, to develop the Existing Condition vehicular traffic volumes. The Existing Condition weekday a.m. and p.m. peak hour traffic volumes are shown in Figure 2-5A/Figure 2-5B and Figure 2-6A/Figure 2-6B, respectively.

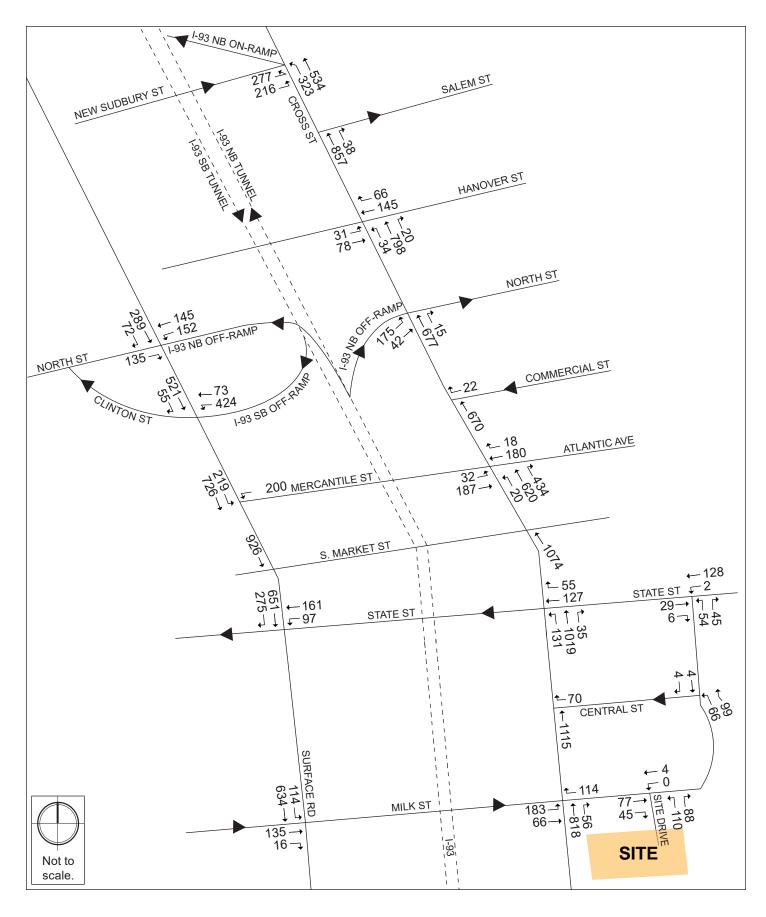
Existing Pedestrian Volumes and Accommodations

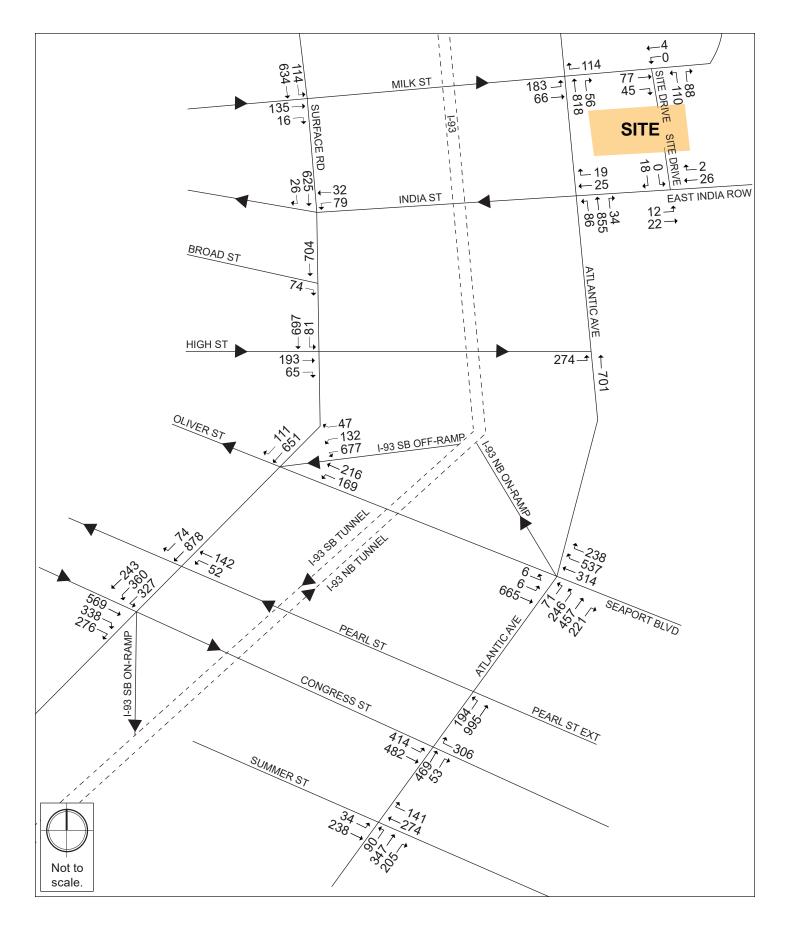
With the few exceptions identified above, sidewalks are provided along both sides of all the roadways in the study area. In general, the sidewalks provided along nearby roadways are in good condition with few cracks and level grades. The closest crosswalks across Atlantic Avenue are











located at the signalized intersection with Milk Street (adjacent to the Site) or at the unsignalized intersection of Milk Street/Site Driveway. Wheelchair ramps are typically provided along all intersections and many in the area have recently been reconstructed by MassDOT as part of mitigation for the Big Dig.

To determine the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs on Tuesday, June 19, 2018 at the study area intersections and are presented in Figure 2-7A and Figure 2-7B.

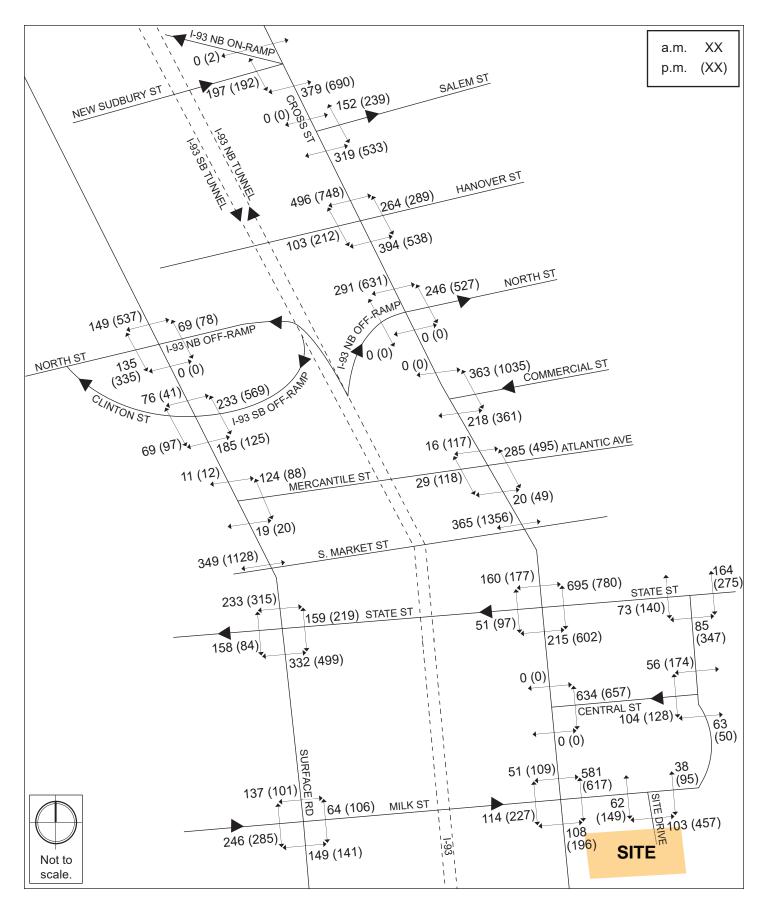
Existing Bicycle Volumes and Accommodations

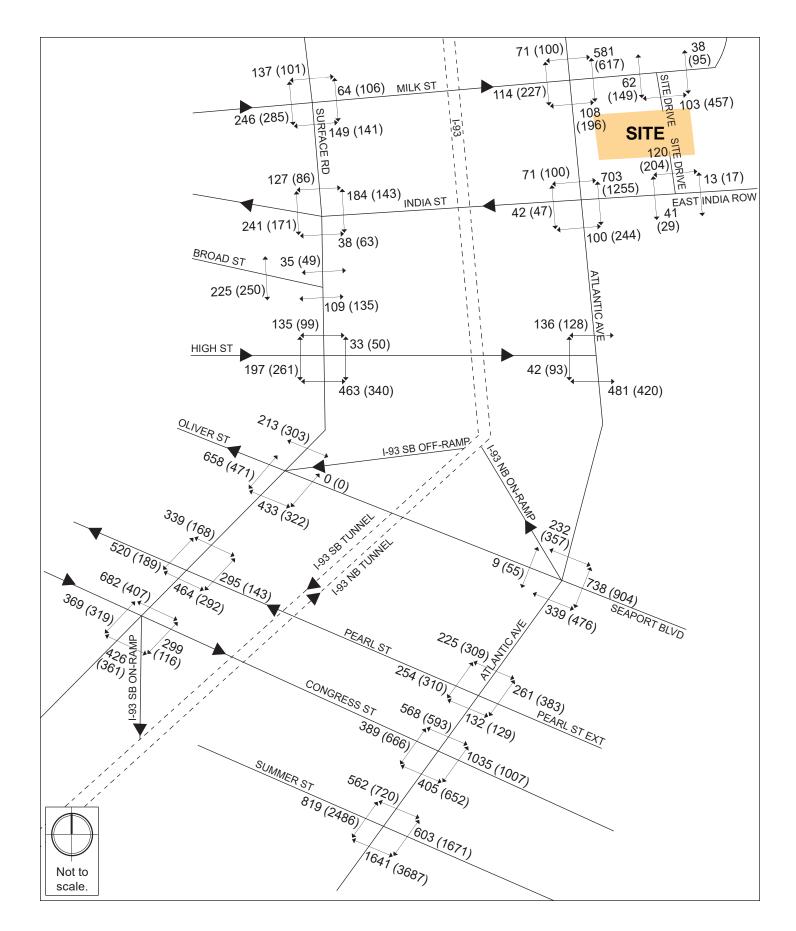
In recent years, bicycle use has increased dramatically throughout the City of Boston. Within the study area, there are separated bicycle lanes along Atlantic Avenue/Cross Street and Surface Road/Purchase Street. Bicycle counts, presented in Figure 2-8A and Figure 2-8B, were conducted concurrent with the vehicular TMCs. Based on these counts, bicycle activity is high along the main corridor adjacent to the Project Site, Atlantic Avenue/Cross Street and Surface Road/Purchase Street, during both the peak hours.

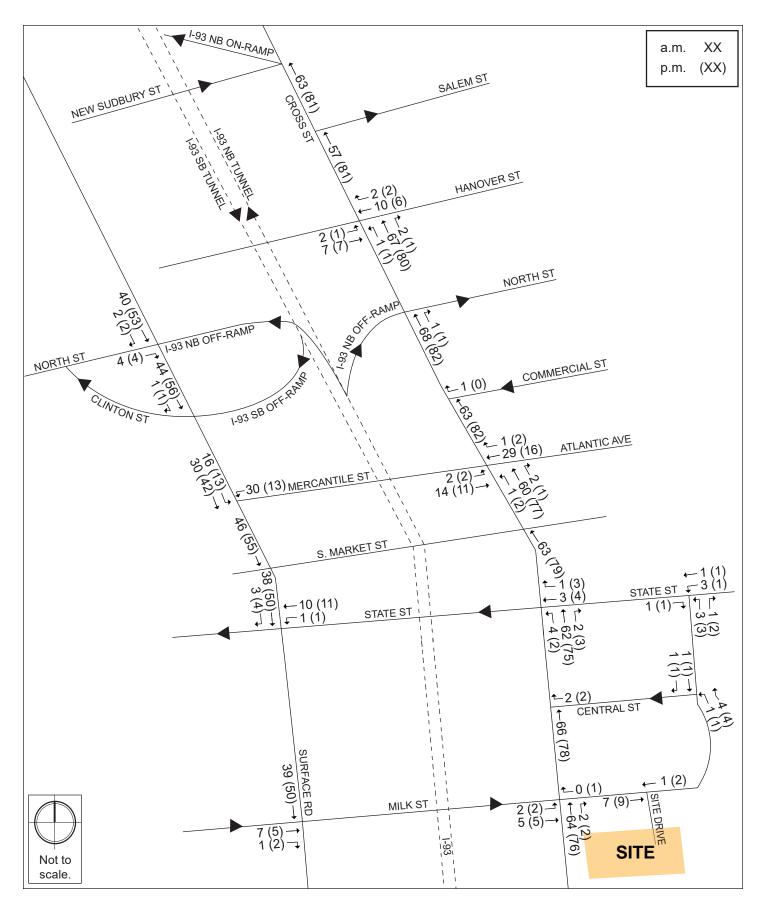
The Project Site is also located in proximity to three bicycle sharing stations provided by BLUEbikes ("Hubway"). BLUEbikes is the Boston area's largest bicycle sharing service, which was launched in 2011 and currently consists of more than 3,400 shared bicycles at more than 190 stations throughout Boston, Brookline, Cambridge, and Somerville. The nearest BLUEBike stations to the Project Site are located at Surface Road at India Street, Aquarium MBTA Stop — 200 Atlantic Avenue, and Rowes Wharf at Atlantic Avenue, which are located approximately less than a five-minute walk from the Project Site. The BLUEbikes stations located in proximity to the Project Site are shown in Figure 2-9.

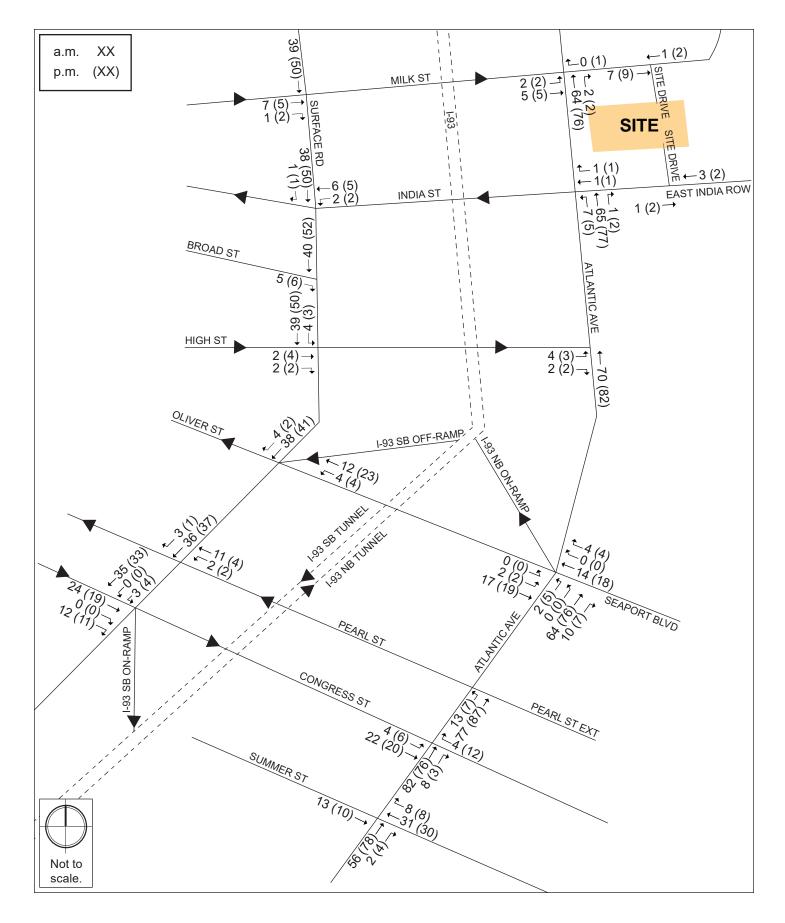
2.1.2.5 Existing Crash Data

Motor vehicle crash data from the MassDOT IMPACT Crash Records System and Vision Zero Boston was compiled for the most recent four-year period for which they are available (2016-2018). Table 2-2 summarized the crash rate for all 32 study area intersections. The detailed crash data summary and intersection crash rate worksheets are included in Appendix B.









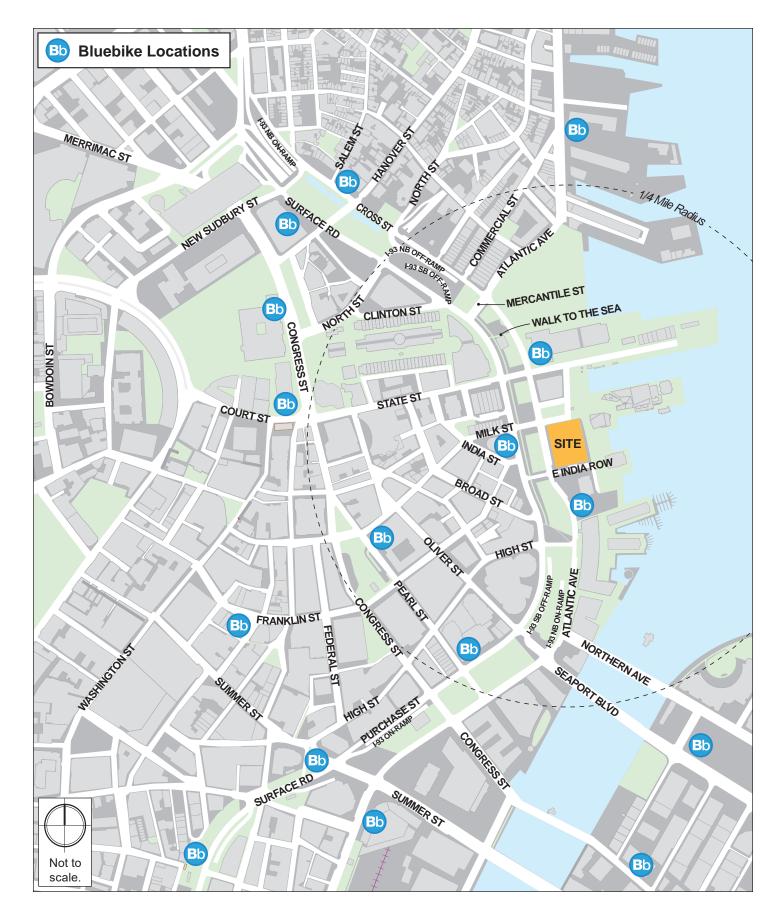


Table 2-2 Study Area Intersections Crash Rates

Map ID (Figure 2-1)	Intersection	Crash Rate
1	Milk Street / Site Driveway	0.00
2	East India Row / Site Driveway	0.00
3	Milk Street / Atlantic Avenue	0.23
4	India Street / East India Row / Atlantic Avenue	0.09
5	India Street / Surface Road	0.14
6	Milk Street / Surface Road	0.23
7	State Street / Surface Road	0.55
8	State Street / Atlantic Avenue	0.23
9	Broad Street / Surface Road	0.00
10	High Street / Surface Road	0.11
11	High Street / Parking Garage / Atlantic Avenue	0.28
12	Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp	0.51
13	Oliver Street / Purchase Street / I-93 SB Off-Ramp	0.48
14	Pearl Street / Purchase Street	0.13
Map ID (Figure 2-1)	Intersection	Crash Rate
1	Milk Street / Site Driveway	0.00
2	East India Row / Site Driveway	0.00
3	Milk Street / Atlantic Avenue	0.17
•	· · · · · · · · · · · · · · · · · · ·	0.17
4	India Street / East India Row / Atlantic Avenue	0.17
4	India Street / East India Row / Atlantic Avenue	0.13
4 5	India Street / East India Row / Atlantic Avenue India Street / Surface Road	0.13 0.10
4 5 6	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road	0.13 0.10 0.18
4 5 6 7	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road	0.13 0.10 0.18 0.41
4 5 6 7 8	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue	0.13 0.10 0.18 0.41 0.17
4 5 6 7 8 9	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road	0.13 0.10 0.18 0.41 0.17 0.00
4 5 6 7 8 9 10	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road	0.13 0.10 0.18 0.41 0.17 0.00 0.16
4 5 6 7 8 9 10 11	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21
4 5 6 7 8 9 10 11 12	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55
4 5 6 7 8 9 10 11 12 13	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43
4 5 6 7 8 9 10 11 12 13	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10
4 5 6 7 8 9 10 11 12 13 14	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street Pearl Street / Atlantic Avenue	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10 0.00
4 5 6 7 8 9 10 11 12 13 14 15 16	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street Pearl Street / Atlantic Avenue Congress Street / Purchase Street / I-93 SB On-Ramp	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10 0.00 0.71
4 5 6 7 8 9 10 11 12 13 14 15 16	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street Pearl Street / Atlantic Avenue Congress Street / Purchase Street / I-93 SB On-Ramp Congress Street / Atlantic Avenue	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10 0.00 0.71 0.00
4 5 6 7 8 9 10 11 12 13 14 15 16 17	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street Pearl Street / Atlantic Avenue Congress Street / Purchase Street / I-93 SB On-Ramp Congress Street / Atlantic Avenue Summer Street / Atlantic Avenue	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10 0.00 0.71 0.00 0.21
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	India Street / East India Row / Atlantic Avenue India Street / Surface Road Milk Street / Surface Road State Street / Surface Road State Street / Atlantic Avenue Broad Street / Surface Road High Street / Surface Road High Street / Parking Garage / Atlantic Avenue Seaport Boulevard / Atlantic Avenue / I-93 NB On-Ramp Oliver Street / Purchase Street / I-93 SB Off-Ramp Pearl Street / Purchase Street Pearl Street / Atlantic Avenue Congress Street / Purchase Street / I-93 SB On-Ramp Congress Street / Atlantic Avenue Summer Street / Atlantic Avenue Walk to the Sea / Surface Road	0.13 0.10 0.18 0.41 0.17 0.00 0.16 0.21 0.55 0.43 0.10 0.00 0.71 0.00 0.21 0.00

Table 2-2 Study Area Intersections Crash Rates (Continued)

Map ID (Figure 2-1)	Intersection	Crash Rate
23	Clinton Street / I-93 SB Off-Ramp / Surface Road	0.07
24	Commercial Street / Cross Street	0.00
25	North Street / I-93 NB Off-Ramp / Surface Road	0.09
26	I-93 NB Off-Ramp / North Street / Cross Street	0.09
27	Hanover Street / Cross Street	0.60
28	Salem Street / Cross Street	0.33
29	New Sudbury Street / Cross Street / I-93 NB On-Ramp	0.30
30	Atlantic Avenue/Central Street	0.00
31	Central Street/Old Atlantic Avenue	0.00
32	State Street/Old Atlantic Avenue	0.00

As shown in Table 2-2, the crash rates at the study area intersections are below the MassDOT District 6 average crash rates for signalized intersections (0.76) and unsignalized intersections (0.58). There were 85 crashes at the 32 study area intersections over the three-year period, with no fatalities. The intersections with the two highest crash totals are Congress Street/Purchase Street/I-93 Southbound On-Ramp with 17 crashes over the three-year period and Hanover Street/Cross Street with eight crashes over the three-year period. These two intersections have crash rates of 0.71 and 0.60 crashes per million entering vehicles, respectively. Both intersections are high-volume (between 12,000 and 22,000 entering vehicles daily) and have multiple lanes on each approach. These factors can contribute to sudden lane changes as well as stop-and-go traffic.

Actual lane utilization may differ from intended lane utilization, leading to increased driver confusion.

2.1.2.6 Existing Public Transportation

The Project Site is located in Boston's Downtown Waterfront District and is well situated to take advantage of Boston's public transportation system. The Project Site is one block away from the MBTA Aquarium Station, which provides access to Blue Line subway service. Within a quarter-mile radius of the Project Site is the MBTA State Street Station, which provides access to both the Orange Line and and the Blue Line. The MBTA bus routes 4, 92, and 93 have bus stops approximately one-third of a mile to west at the Congress Street/State Street intersection. Also, within one block of the Project site are two MBTA commuter ferries: the Charlestown Ferry and the Hingham/Hull Ferry.

South Station, which provides connections to the MBTA Red and Silver Lines, as well as commuter rail service to the south, west and southwestern suburbs, is slightly farther from the site but is within easy walking distance along the Rose Kennedy Greenway. North Station, located two stops

north on the Orange Line and is also within walking distance along the Greenway, provides access to the MBTA's Orange and Green Lines and regional commuter rail trains serving the northern and northwestern suburbs of Boston.

Figure 2-10 shows a map of all public transportation service located in close proximity of the Project Site, and Table 2-3 provides a brief summary of all routes.

Table 2-3 Existing Public Transportation

Route	Description	Peak-hour Headway (in minutes)	Weekday Service Duration		
Rapid Transit					
Blue Line	Bowdoin – Wonderland	5	5:13 a.m. – 1:00 a.m.		
Orange Line	Forest Hills – Oak Grove	6	5:16 a.m. – 12:30 a.m.		
Local Bus Routes					
4	North Station – Tide Street	15-20	6:19 a.m. – 7:00 p.m.		
92	Sullivan Station – Downtown via Main Street	15-21	5:05 a.m. – 10:10 p.m.		
93	Sullivan Station – Downtown via Bunker Hill Street	8-12	4:50 a.m. – 1:10 a.m.		
352	State Street – Burlington (Express)	20-30	5:50 a.m. – 9:02 a.m. 3:20 p.m. – 8:15 p.m.		
354	State Street – Woburn (Express)	20-25	5:35 a.m. – 8:15 p.m.		
Ferry Routes					
Charlestown	Boston (Long Wharf) – Charlestown	15	6:45 a.m. – 8:15 p.m.		
Hingham/Hull	Hingham – Hull – Logan Airport – Boston (Long Wharf)	30	5:40 a.m. – 10:55 p.m.		
Hingham/Hull	Boston (Long Wharf) – Hingham	20	6:00 a.m. – 8:30 p.m.		
Headway is the time between service, Headways vary. Source: MBTA October 2019.					

2.1.2.7 Existing Transit Ridership

As previously noted, the Project Site is in close proximity to the MBTA Aquarium Station, which provides access to Blue Line subway service. The MBTA Blue Line is a rail transit that serves neighborhoods from Revere (Wonderland) to the east through Boston (Bowdoin) to the west. The specific station that the MBTA Blue Line serves for the Project is Aquarium. For the purpose of this analysis, the maximum hourly rail load of the Blue Line at the Project Site from both directions was analyzed.

To determine the existing ridership volumes along the Blue Line, the most recent available MBTA Rail Flow data (Spring 2018) was used. This is summarized in Section 3.6 and the detailed transit data is provided in Appendix B.



2.1.3 No-Build (2026) Condition

The No-Build (2026) Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with background traffic growth independent of any specific project, traffic associated with other planned specific developments, and planned infrastructure improvements that will affect travel patterns throughout the study area. These infrastructure improvements include roadway, public transportation, pedestrian and bicycle improvements.

2.1.3.1 Background Traffic Growth

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

2.1.3.2 Specific Development Traffic Growth

The second part of the methodology identifies any specific planned developments that are expected to affect traffic patterns throughout the study area within the future analysis time horizon.

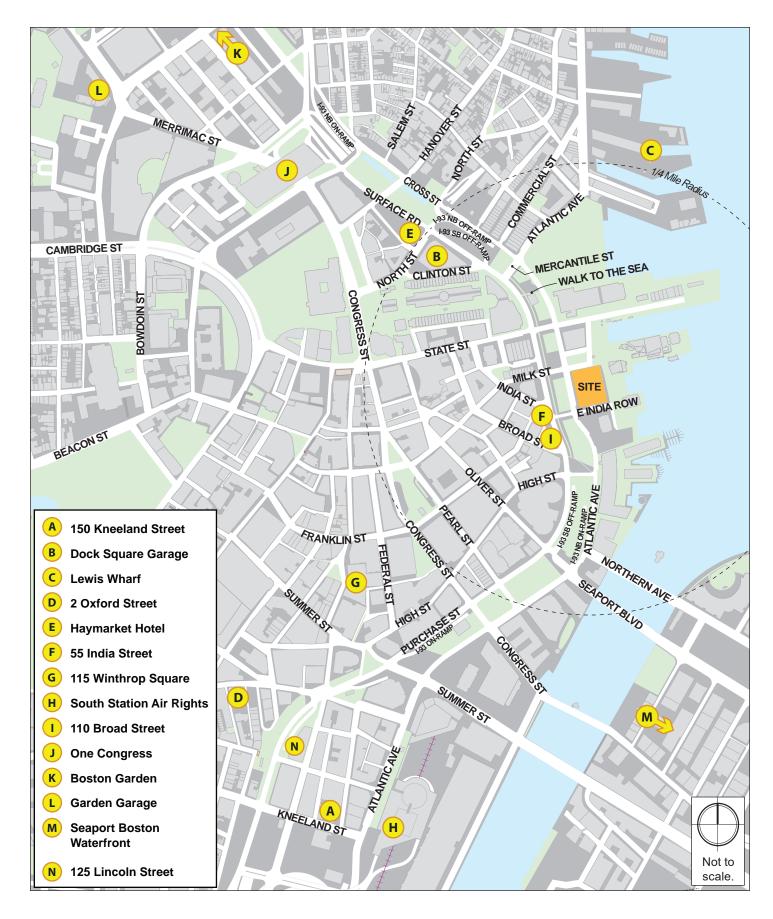
Figure 2-11 shows the specific development projects in the vicinity of the study area, which are summarized below:

150 Kneeland Street – This project is located to the south of the Project Site and will consist of the demolition of two one- and three- story buildings and the construction of an approximately 230-room hotel. This project is approved by the BPDA.

Dock Square Garage – This project is located to the northwest of the Project Site and is contemplated to consist of 195 residential units, a 7,000-sf reduction in retail/restaurant space, and a reduction in parking spaces from 698 to 682 parking spaces. This project has received BPDA Board approval.

125 Lincoln Street – This project is located to the southwest of the Project Site and will consist of the replacement of an existing parking garage with a new, approximately 625,000 sf office building with retail and publicly accessible ground floor uses. A PNF has been filed and this project is currently under Article 80 review.

Haymarket Hotel – This project is located to the northwest of the Project Site and will consist of the construction of an approximately 225-room hotel and 9,600 sf of retail/restaurant space. This project is approved by the BPDA.





55 India – This project is located to the west of the Project Site and calls for the construction of 44 residential units with 4,000 square feet of ground-floor retail. This project has been approved by the BPDA.

115 Winthrop Square – This project is located to the southwest of the Project Site and proposes to construct approximately 750,000 sf of office space, 500 residential units, 31,000 sf of restaurant/retail, and 550 below-grade parking spaces. This project has been board approved, though a Notice of Project ("NPC") has been filed to address modest program changes.

South Station Air Rights – This project is located to the south of the Project Site and consists of the construction of approximately 435-550 residential units, 360 hotel rooms, 1.2 million sf office space, 35,000 sf of retail, and 895 parking spaces in a five-story parking garage. This project has been board approved and is scheduled to commence construction in 2020.

110 Broad Street – This project is located to the southwest of the Project Site and calls for the restoration of the historic Bulfinch Building, demolition of a five-story commercial building, and construction of a 12-story building containing approximately 52 residential units, 3,500 sf of commercial/retail space and 35 parking spaces. This project was under construction at the time of the traffic data collection and its impact is therefore not included in the Existing Condition.

Bulfinch Crossing – This project is located to the northwest of the Project Site and, at full build, will consist of the deconstruction of the existing garage and construction of 771 residential units, 204 hotel rooms, 1.3 million sf of office space, 82,500 sf of retail, and 1,159 parking spaces. This project is currently under construction.

Boston Garden Phase II (The Hub on Causeway) – This project is located to the northwest of the Project Site and will consist of the construction of a residential tower consisting of 440 residential units and a 269-room hotel. The project is currently under construction and was not occupied at the time of the traffic data collection.

Garden Garage – This project is located to the northwest of the Project Site and will consist of the construction of a 44-story residential building with 470 residential units, 2,300 sf of retail space and 830 parking spaces. The project is currently under construction

Seaport, South Boston Waterfront – This area is being redeveloped through multiple projects. There are 3 main PDA plans for the area north of historic Fort Point and east of Fort Point Channel including Seaport Square, Fan Pier, and Pier 4. These projects are located to the southeast of the Project Site and consists of approximately 11.5 million square feet MSF of mixed-use development, including residential space, office space, hotel space, and retail, restaurant, and entertainment space. These projects have been approved. Multiple buildings were occupied prior to the traffic data collection and therefore included in the Existing Condtion. A few buildings were then or now under construction and more still have yet to begin construction. The traffic associated with the buildings that were not occupied at the time of the traffic data collection are included in the No Build Condition.

2.1.3.3 Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby improvement projects in the vicinity of the study area. Based on this review, proposed infrastructure improvements that are mitigation measures for other approved developments were found to include changes to some of the study area intersections. These measures include signal equipment upgrades, signal timing improvements, and physical geometric improvements. The improvements will have a positive impact for all modes of travel in the area. These improvements have been incorporated into the future analysis, where appropriate.

2.1.3.4 No-Build (2026) Condition Traffic Volumes

The one-half percent per year annual growth rate, compounded annually, was applied to the Existing Condition traffic volumes, then the traffic volumes associated with the background development projects were added to develop the No-Build (2026) Condition traffic volumes. The No-Build (2026) Condition weekday a.m. peak hour and p.m. peak hour traffic volumes are shown on Figures 2-12A/Figure 2-12B and Figure 2-13A/Figure 2-13B, respectively.

2.1.3.5 No-Build (2026) Condition Transit Ridership

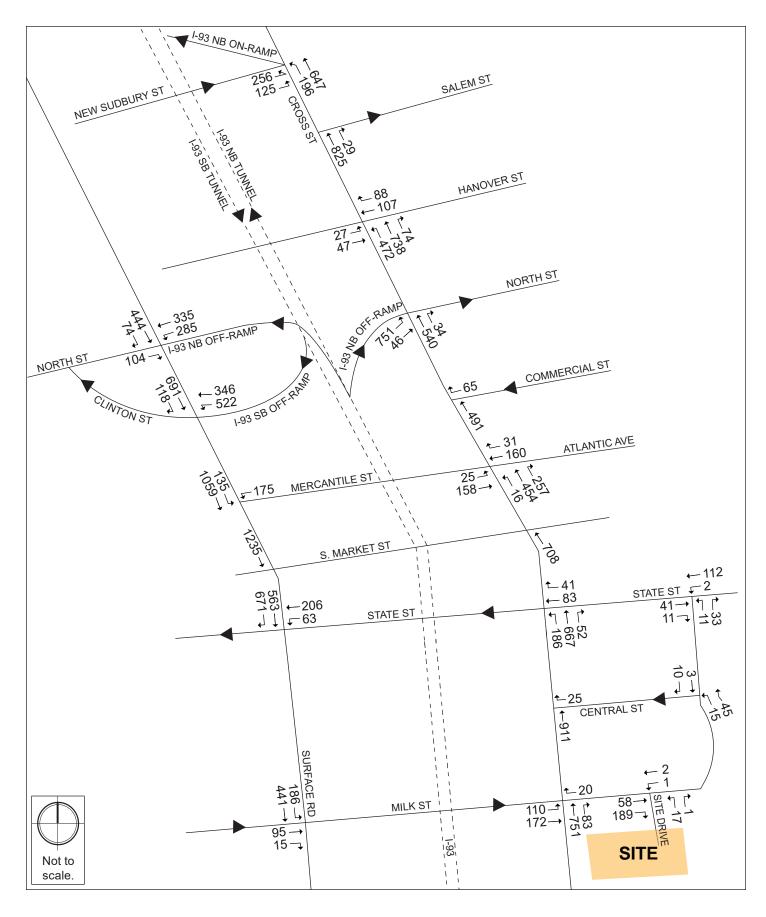
Growth rates for transit are published in the Central Transportation Planning Staff's ("CTPS") Long-range Transportation Plan ("LRTP") document, *Destination 2040*. In this document, yearly growth rate of transit ridership is projected for all transit trip types including local bus, bus rapid transit, and rapid rail transit. The yearly projected growth rate for rapid rail transit is 0.70 %. This growth rate was applied to the existing 2018 transit data for eight years to establish a future 2026 transit ridership No-Build Condition.

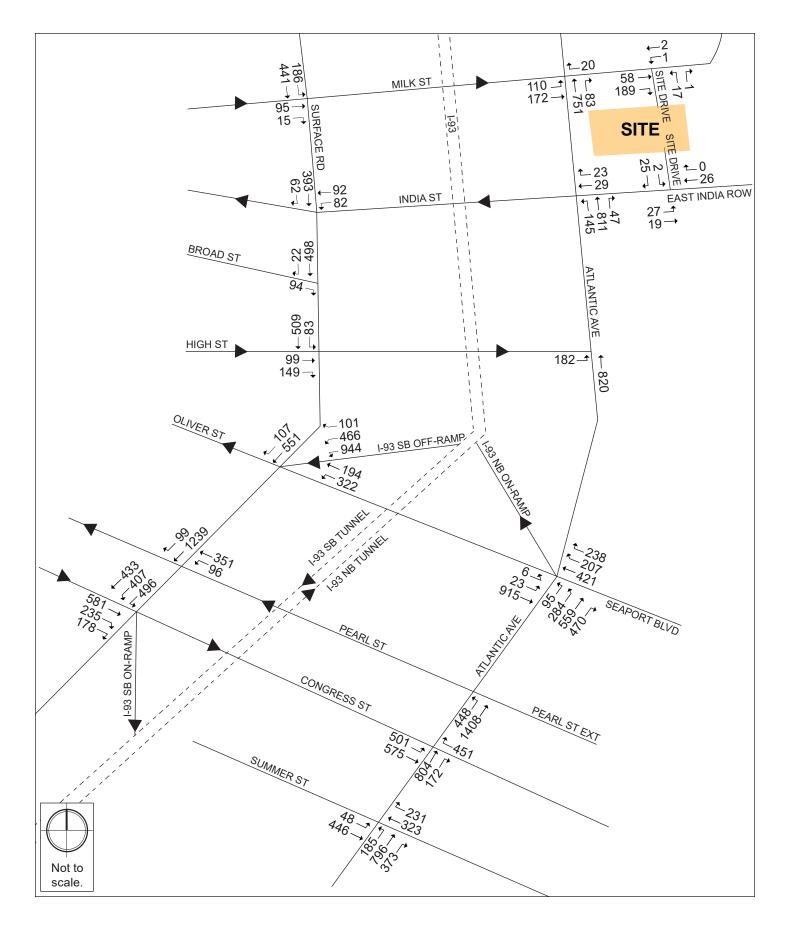
Future Transit Infrastructure Improvements

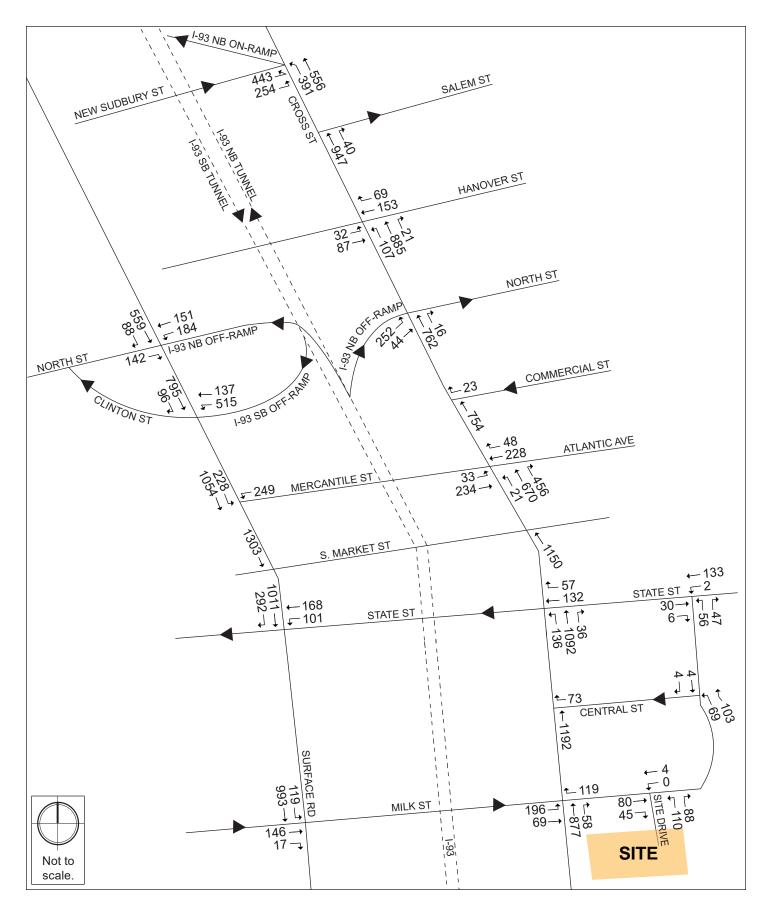
MBTA's *Focus40* document outlines planned improvements through 2023 and beyond to 2040 for all aspects of the transit system. MBTA outlines various capacity improvements for the Blue Line including signal improvements, increased train sets, and a Red-Blue connector. Since the timing and effect on capacity of these improvements is not yet known at this time, the future capacities were not increased to provide a conservative estimate for transit operations.

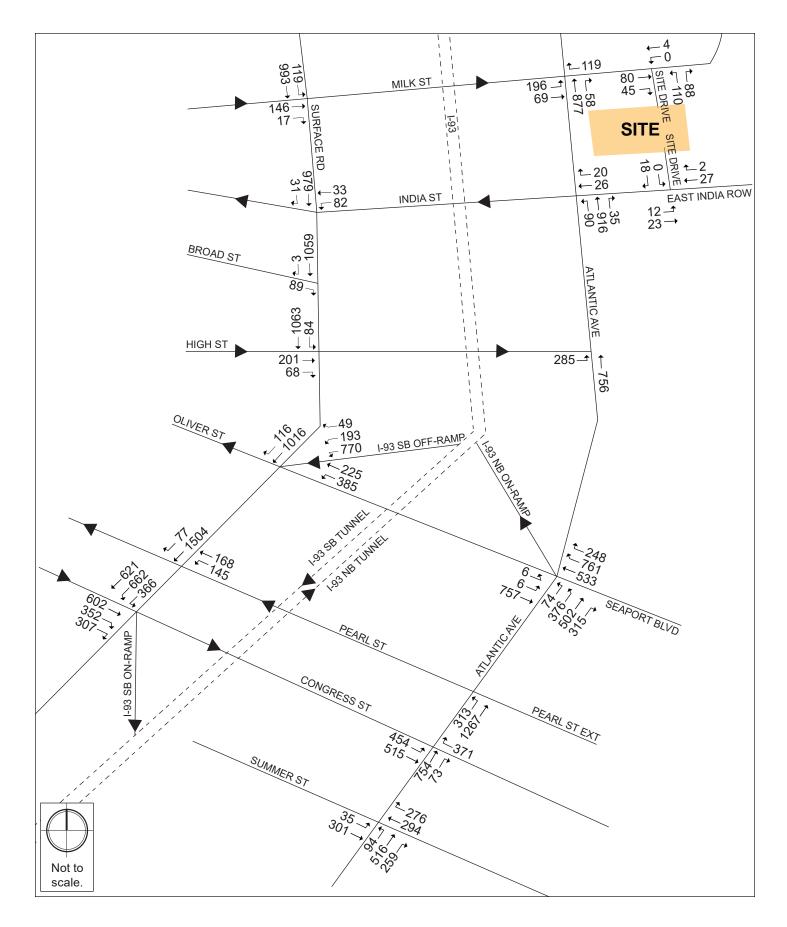
2.1.4 Build (2026) Condition

As previously summarized, the Project will consist of approximately 200 residential units, approximately 538,000 sf of office space, approximately 42,000 sf of retail and other public amenities, and approximately 1,100 parking spaces to be provided in an underground garage. Additionally, covered, secure storage for approximately 376 bicycles will be provided on the Project Site.









As noted in Sections 2.1.5.4 and 2.1.8, below, the mitigation measures will not only offset the the Project's traffic impacts but also improve existing traffic operations in the area. As shown on Table 2-12, under the "Build Mitigated (2026) Condition," all adjacent intersections will operate under acceptable levels of service during AM and PM peak hours, including improved conditions over the No Build Condition at the critical intersection of Atlantic Avenue and Milk Street.

2.1.4.1 Site Access and Vehicle Circulation

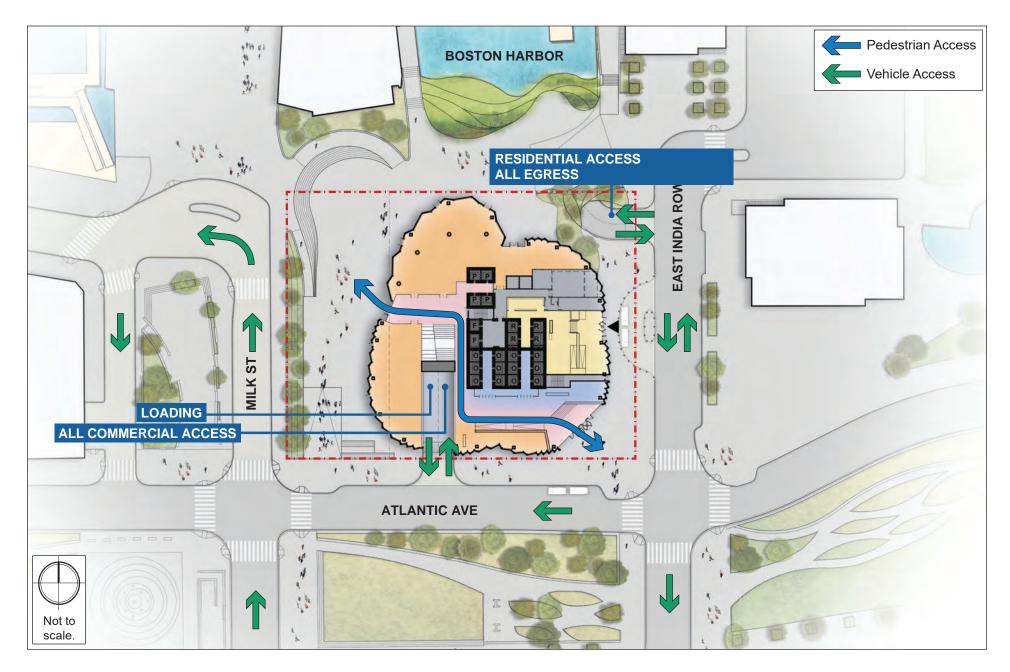
Pedestrian access will be provided on all sides of the building. The residential entry will be provided on the south side of the building, matching the existing uses of East India Row. Access to the office lobby will be located on the southwest corner. The main retail access will be provided from the plaza along the north side of the site, enhancing the public activity that already occurs on Central Wharf. The east side of the building will include additional retail access. Publicly accessible internal areas will connect the southwest corner to the north side allowing for public access through the building. This includes visitors that have parked in the garage, who will be able to access Central Wharf via the retail lobby on the north side of the building. The Site access plan is shown in Figure 2-14.

Based on discussions with City staff in pre-filing meetings, vehicular access to the Project Site will be provided via Atlantic Avenue and East India Row. The primary passenger vehicle access to the site will be located along Atlantic Avenue, accommodating all office, retail, Aquarium, and other public parking. All residential parking will enter the Site via an exclusive entry on East India Row. In its standard configuration, all passenger vehicles departing the Site will exit via the signalized East India Row intersection with Atlantic Avenue. However, the Atlanic Avenue driveway will be designed to accommodate exiting vehicles if deemed necessary or appropriate. The Proponent will continue to evaluate this option with input from City staff.

2.1.4.2 Project Parking

Parking for the Project will be located within the approximately 1,100-space garage. The parking resource will be managed under a shared parking arrangement. For a mixed-use development with a common parking garage, the most efficient use of the parking resource is to "share" parking rather than have assigned or dedicated parking for each land use.

As documented in unpublished surveys conducted by HSH in several downtown neighborhoods, based on current Boston parking trends, parking demand has been declining over the last few years. This trend is only expected to intensify with the continued use of new mobility options (including TNCs and shuttle services, both public and private) and the advent of autonomous vehicles in the future.





Project Parking Demand

Parking demand for the Project has been determined based on current regulatory requirements and current and projected demand for the parking. The maximum parking ratios determined for the area by BTD in their district-based parking goals and guidelines are 0.40 spaces per 1,000 square feet of office and retail, and 1 space per residential unit. Based on current trends in parking demand in downtown Boston certain land uses exhibit lower ratios than the BTD maximum guidelines, including that for office space and residential units in the downtown core. In conformance with BTD guidelines, the proposed Project will provide 0.25 spaces/1,000 square feet of office and retail, and 0.75 spaces per residential unit.

The proposed Project's parking ratios per square foot or per unit are compared to BTD maximum guidelines in Table 2-4. These parking demands are the peak demands for each of the Project's individual land uses before shared, or managed, parking is allocated.

Table 2-4 Project Parking Demand

Land Use	Size	Max BTD Parking Ratio Guidelines	Proposed Project Parking Ratios	Proposed Project Parking Demand
Office	538,000 sf	0.40 per 1,000 sf	0.25 per 1,000 sf	135 spaces
Residential	200 units	0.50 – 1.0 per unit	0.75 per unit	150 spaces
Retail ¹	42,000 sf	0.40 per 1,000 sf	0.25 per 1,000 sf	12 spaces
Total Project Parking De	mand			297 spaces
¹ Retail parkers are assume	d to use available pub	lic parking.		

2.1.4.3 Shared Parking

The parking will be shared amongst some of the land uses on site. Parking for retail uses, for example, will peak at night and on weekends, while parking demand for the office use will peak during the day.

The peak period occupancy factors used in the shared parking assessment are from multiple sources including; the Urban Land Institutes' Shared Parking, Second Edition, unpublished HSH parking surveys of residential buildings, and discussions HSH has had with office operators in the Downtown core.

As indicated in Table 2-4 above, peak parking demand for the Project would be approximately 297 dedicated spaces if not shared or managed. In addition to the Project parking demand, the garage also includes 300 spaces to accommodate Harbor Tower residents.

As presented in Table 2-5, shared or managed parking at the Project lowers the overall parking resource demand for combined land uses at the site to approximately 488 spaces during the peak weekday period, 467 spaces during the peak weeknight period, and 356 spaces for peak weekend demand. Shared parking will therefore free up parking for transient, overnight neighborhood, and commuter public parking.

Table 2-5 Project Parking Demand – Shared Parking

		Weekday		Weeknight	t	Weekend I	Day
Land Use	Project Parking	Percent occupied	Spaces occupied	Percent occupied	Spaces occupied	Percent occupied	Spaces occupied
Office	135	95%	128	5%	7	5%	4
Residential	150	79%	119	100%	150	75%	113
Residential - HT1	300	79%	237	100%	300	75%	225
Retail ²	12	40%	5	85%	10	100%	12
Total Project Parking	Demand		488		467		356
Total Project Parking	Supply		<u>1,100</u>		<u>1,100</u>		<u>1,100</u>
Available for Public Parking			612		633		744
¹ Unreserved parking sp	aces for Harbor T	ower ("HT") u	sers.				

² Retail parkers are assumed to use available public parking.

The additional parking, approximately a minimum of 612 spaces, will be available for public parking for transient visitors to the area including Aquarium guests, other leisure visitors, and commuters. Pursuant to the DWMHP, 250 spaces will be available to Aquarium visitors specifically on weekdays between 9:00 a.m. and 6:00 p.m., and 500 spaces will be available to Aquarium visitors at all other times. In order to analyze the worst-case highest impact of the project, these parking requirements were not accounted for in the trip generation calculations. It is expected that the 250 spaces reserved for the Aquarium during a typical weekday, will not have the same peak hour traffic impact as a typical public parking space.

2.1.4.4 Loading and Service Accommodations

The loading area for the Project will be in the below grade garage. Access to and egress from the loading area will be provided via Atlantic Avenue. No access to or egress from the loading area will be provided to East India Row.

2.1.4.5 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure bicycle parking for residents and employees and short-term bicycle racks for visitors. Based on BTD guidelines, the Project will supply a minimum of 200 secure bicycle parking/storage spaces for residential use within the building at a rate of one secure indoor bicycle parking space per residential unit. For commercial and office use, the Project will supply

a minimum of 176 secure bicycle parking/storage spaces within the building at a rate of 0.3 secure indoor bicycle parking spaces per 1,000 sf of development. Additional storage will be provided by outdoor bicycle racks accessible to visitors to the site in accordance with BTD guidelines.

2.1.4.6 Trip Generation Methodology

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

To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers ("ITE") in the Trip Generation Manual¹ were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel mode shares such as walking, bicycling, and transit.

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

Land Use Code 222 – Multifamily Housing (High-Rise). The Multifamily Housing High-Rise LUC includes apartments, townhouses, and condominiums located within the same building with more than 10 floors. They are likely to have one or more elevators. Calculations of the number of trips use ITE's average rate per dwelling units.

Land Use Code 710 – General Office Building. A general office building houses multiple tenants and is a location where affairs of businesses, commercial, or industrial organizations are conducted. Calculations of the number of trips use ITE's average rate per 1,000 square feet.

Land Use Code 820 – Shopping Center. The shopping center land use code is defined as an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store and also provides on-site parking facilities sufficient to serve its own parking demands. Shopping center trip generation estimates are based on the gross leasable area ("GLA") of the center. Calculations of the number of trips use ITE's average rate per 1,000 square feet.

Travel Mode Share

The BTD provides vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located in the easterly portion of designated Area 2 – Downtown. The unadjusted

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¹ Trip Generation Manual, 10th Edition; Institute of Transportation Engineers; Washington, D.C.; 2017.

vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration ("FHWA")². The travel mode shares are shown in Table 2-6.

Table 2-6 Travel Mode Shares

Land Use	Direction	Walk/ Bicycle	Transit Share	Auto Share	Vehicle
					Occupancy Rate
Daily			T	_	1
Residential	In	42%	30%	28%	1.18
	Out	42%	30%	28%	
Office	In	31%	43%	26%	1.18
	Out	31%	43%	26%	
Retail	In	59%	20%	21%	1.82
	Out	59%	20%	21%	
a.m. Peak Hour	<u> </u>			T	
Residential	In	7%	52%	41%	1.18
	Out	51%	18%	31%	
Office	In	5%	63%	32%	1.18
	Out	26%	18%	56%	
Retail	In	14%	46%	40%	1.82
	Out	58%	10%	32%	
p.m. Peak Hour	<u> </u>			T	
Residential	In	51%	18%	31%	1.18
	Out	7%	52%	41%	
Office	In	26%	18%	56%	1.18
	Out	5%	63%	32%	
Retail	In	58%	10%	32%	1.82
	Out	14%	46%	40%	

2.1.4.7 Project Trip Generation

The mode share percentages shown in Table 2-6 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. The trip generation for the Project by mode is shown in Table 2-7. The detailed trip generation information is provided in the Appendix B.

Summary of Travel Trends: 2017 National Household Travel Survey; FHWA; Washington, D.C.; July 2018.

As shown in Table 2-7, there are 6,702 pedestrian/bicycle trips, 3,394 transit trips, and 3,838 vehicle trips throughout the day. During the a.m. Peak Hour, there are 345 pedestrian/bicycle trips (248 in and 97 out), 445 transit trips (418 in and 27 out), and 409 vehicle trips (307 in and 102 out). During the p.m. Peak Hour, there are 483 pedestrian/bicycle trips (176 in and 307 out), 492 transit trips (38 in and 454 out), and 496 vehicle trips (139 in and 357 out).

Table 2-7 Project Trip Generation

Land Use	Direction	Walk/ Bicycle	Transit	Vehicle
			Trips	Trips
Daily				
Residential ¹	In	152	108	86
	Out	152	108	86
Office ²	In	938	1,302	696
	Out	938	1,302	696
Retail ³	In	847	287	165
	Out	847	287	165
Continuing Existing Harbor Towers	In	0	0	195
Parking ⁴ :	Out	0	0	195
Public Parking ⁵	In	1,414	0	777
-	Out	1,414	0	777
	In	3,351	1,697	1,919
Total Daily				
	Out	3,351	1,697	1,919
a.m. Peak Hour				
Residential	In	1	9	6
	Out	26	9	14
Office	In	31	393	169
	Out	23	16	41
Retail	In	5	16	7
	Out	13	2	4
Continuing Existing	In	0	0	9
Harbor Towers Parking:	Out	0	0	24
Public Parking	In	211	0	116
	Out	35	0	19
Total a.m. Peak Hour	In	248	418	307
	Out	97	27	102

Table 2-7 Project Trip Generation (Continued)

Land Use		Direction	Walk/ Bicycle	Transit Trips	Vehicle Trips
p.m. Peak Hour					
Residential		In	13	5	6
		Out	1	9	7
Office		In	29	20	54
		Out	30	377	163
Retail		In	78	13	24
		Out	21	68	32
Continuing	Existing	In	0	0	24
Harbor Towers Paarking		Out	0	0	15
Public	Parking	In	56	0	31
		Out	255	0	140
Total p.m. Peak Hour	·	In	176	38	139
		Out	307	454	357

¹ 200 units, ITE LUC 222: High-Rise Residential

Existing Site Trip Generation

Vehicle trips generated by the existing garage and accessory land uses were determined from data obtained via traffic counts conducted in June 2018.

2.1.4.8 Net New Trip Generation

The net new vehicle trips are summarized in Table 2-8 and will be the basis for future year transportation impact analysis.

² 538,000 sf, ITE LUC 710: General Office Building

³ 48,000 sf, ITE LUC 820: Shopping Center. Based on a previous building program before reduction in sf. ITE LUC 820: Shopping Center

⁴ 300 non-dedicated spaces for Harbor Tower residents.

⁵ Public Parking spaces available as calculated in Table 2-5.

Table 2-8 Net New Vehicle Trip Generation

Time Period/Direction		Existing Vehicle Trips	Proposed Vehicle Trips	Net New Vehicle Trips
	In	-671	1,919	1,248
Daily	Out	-671	1,919	1,248
	Total	-1,342	3,838	2,496
	In	-217	307	90
a.m. Peak Hour	Out	-45	102	57
	Total	-262	409	147
	In	-59	139	80
p.m. Peak Hour	<u>Out</u>	<u>-216</u>	<u>357</u>	<u>141</u>
	Total	-275	496	221

Estimated daily vehicle trips to and from the site are expected to increase by a total of 2,496 vehicle trips. During the a.m. Peak Hour, an estimated 147 new vehicle trips will occur (90 in and 57 out), while during the p.m. Peak Hour, 221 new vehicle trips will occur (80 in and 141 out). This results in approximately 1.5 vehicles entering the garage per minute during the morning peak hour and approximately 2 vehicles exiting the garage per minute during the evening peak hour.

2.1.4.9 Trip Distribution

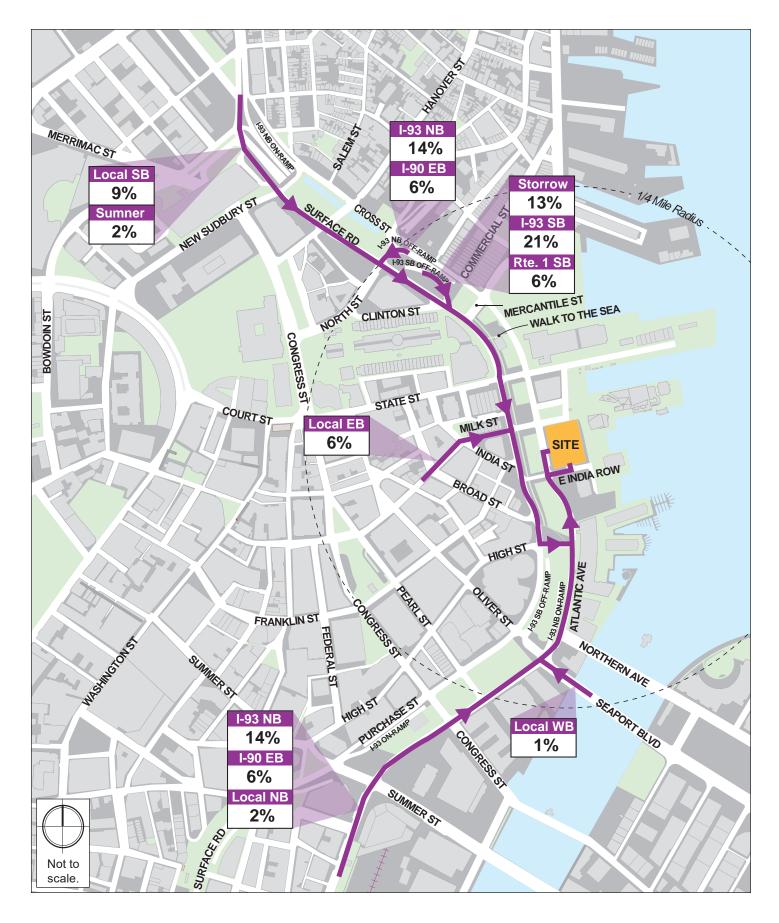
The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 2 – Downtown, and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution for the Project is illustrated in Figure 2-15 and Figure 2-16.

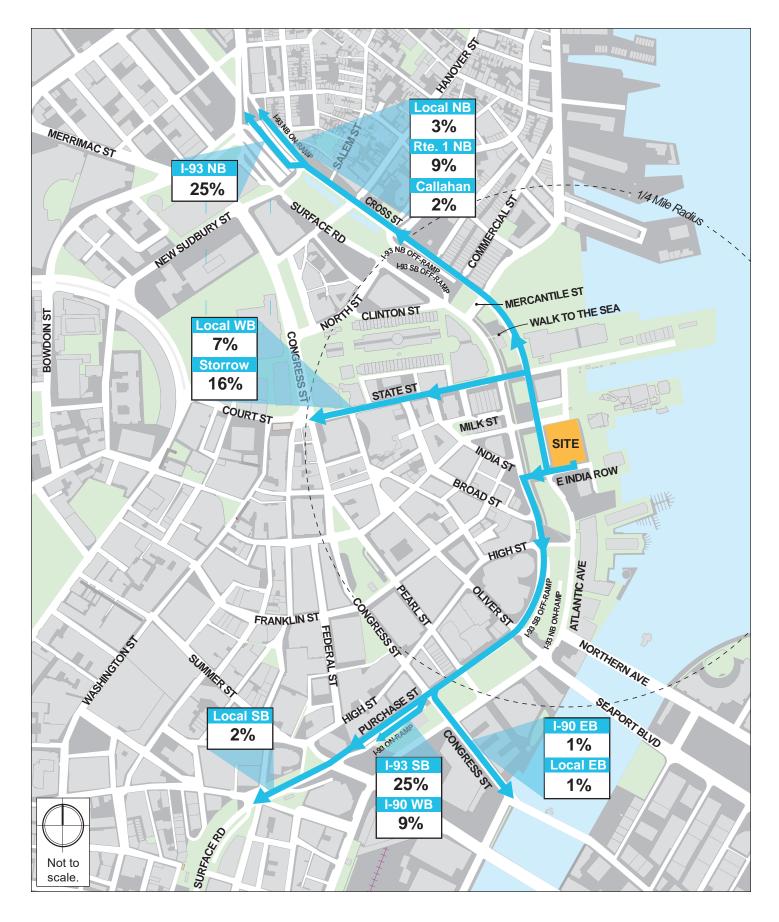
2.1.4.10 Build (2026) Condition Traffic Volumes

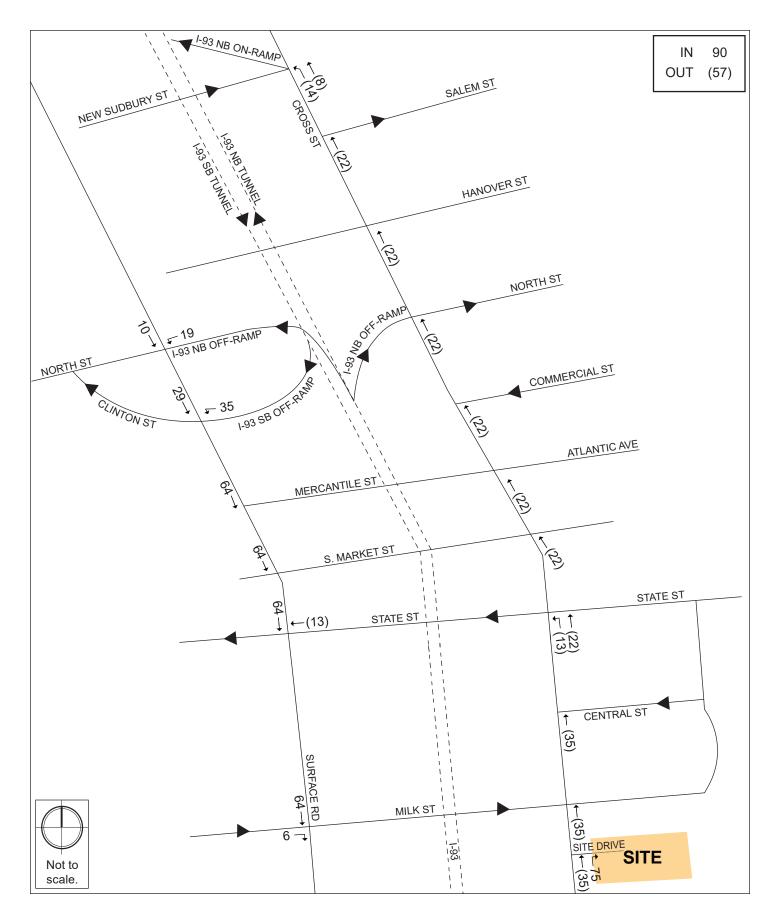
The Net New Project-Generated trips for the a.m. and p.m. peak hours are shown in Figure 2-17A/Figure 2-17B and Figure 2-18A/Figure 2-18B, respectively. The trip assignments were added to the No-Build (2026) Condition vehicular traffic volumes to develop the Build (2026) Condition vehicular traffic volumes. The Build (2026) Condition a.m. and p.m. peak hour traffic volumes are shown on Figure 2-19A/Figure 2-19B and Figure 2-20A/Figure 2-20B, respectively.

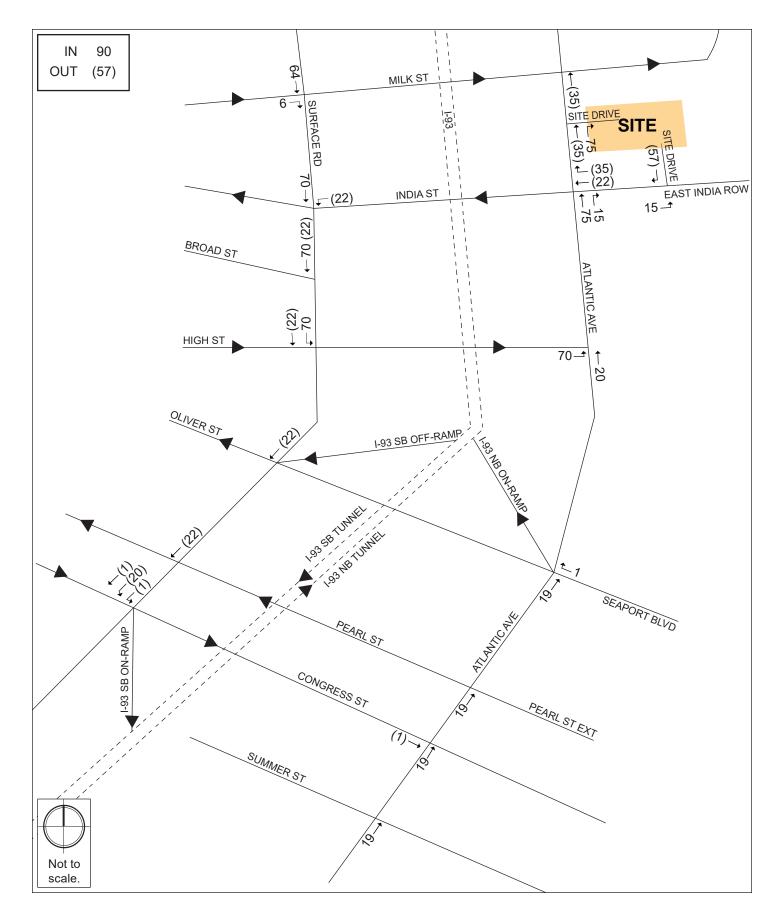
2.1.4.11 Build (2026) Condition Transit Ridership

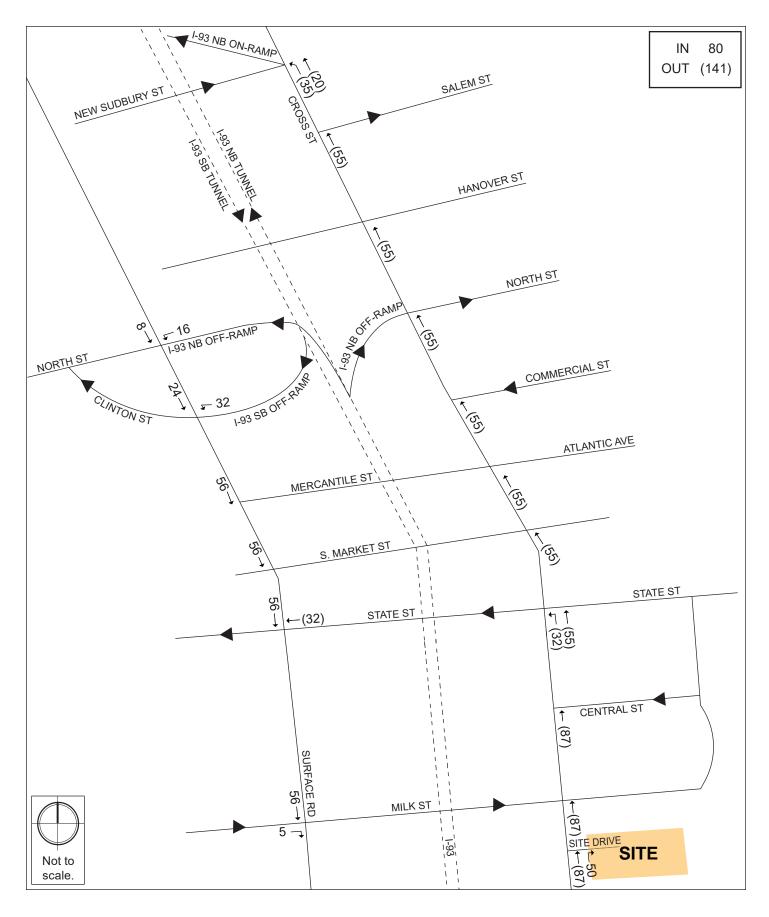
To assess the impact on the public transportation network, the Net New Project-Generated transit trips associated with the residential, office, and retail uses were added to the No-Build Condition ridership to establish the Build (2026) Condition ridership.

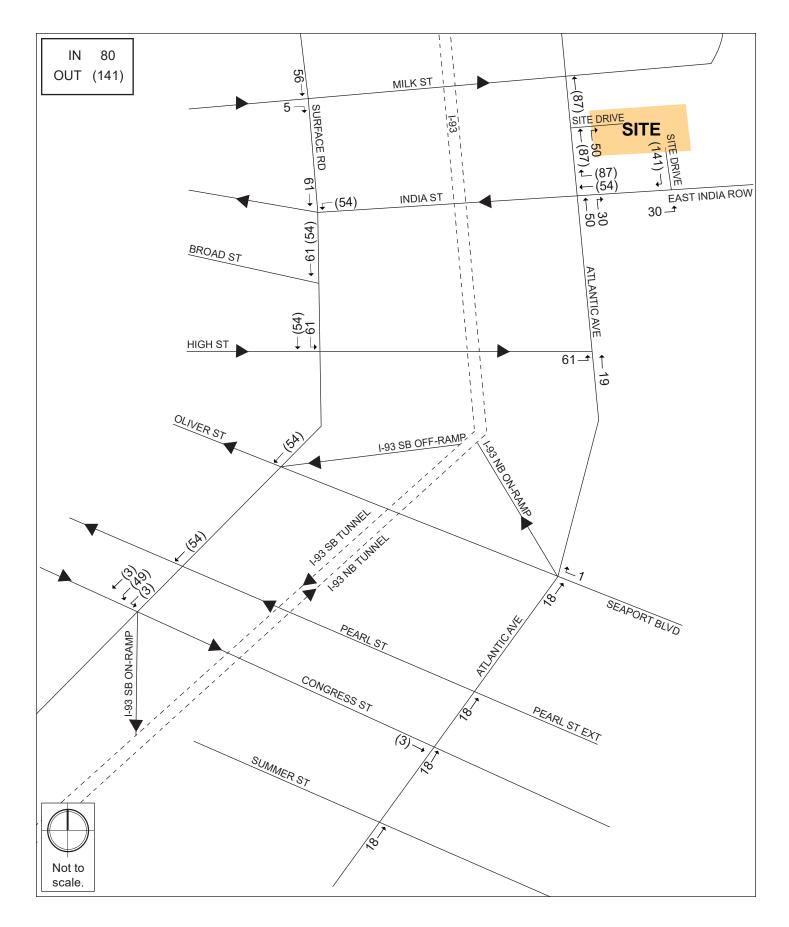


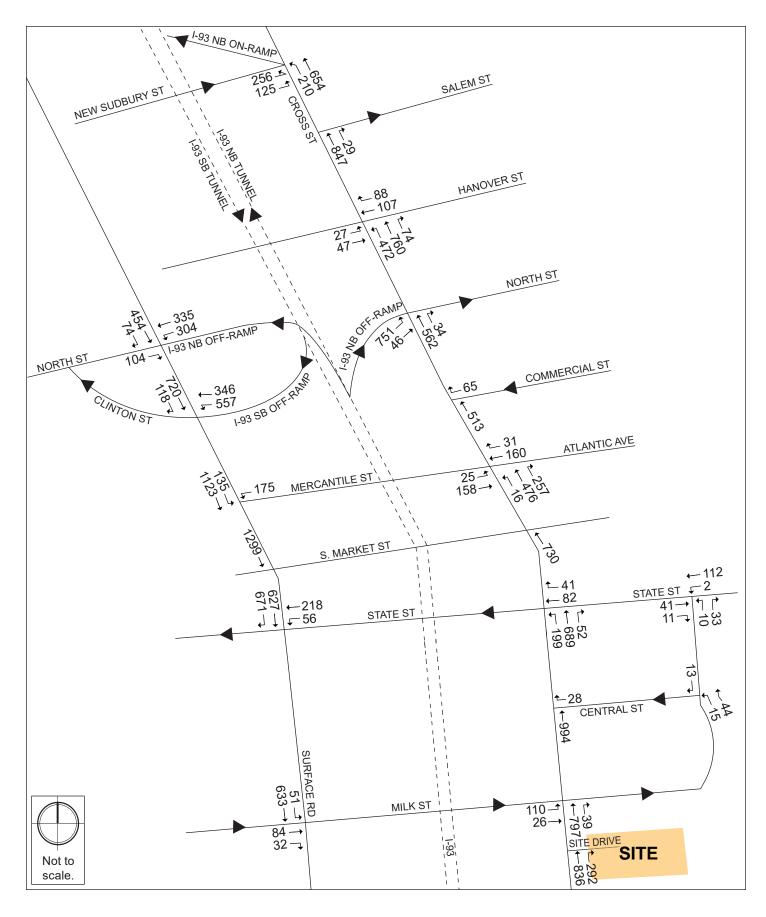


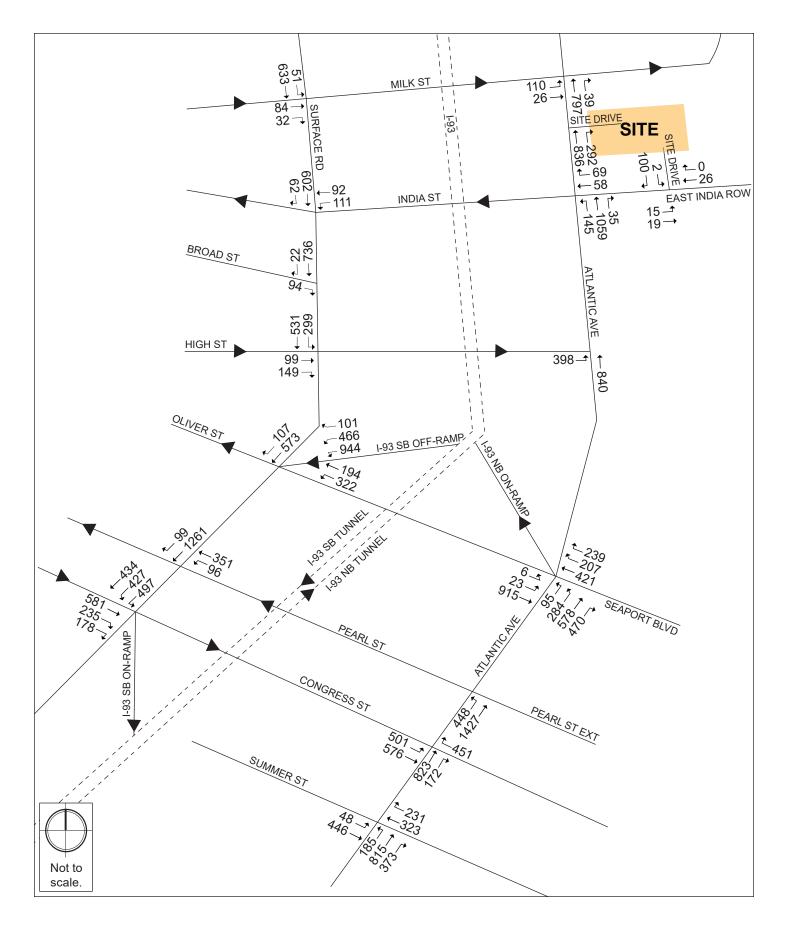


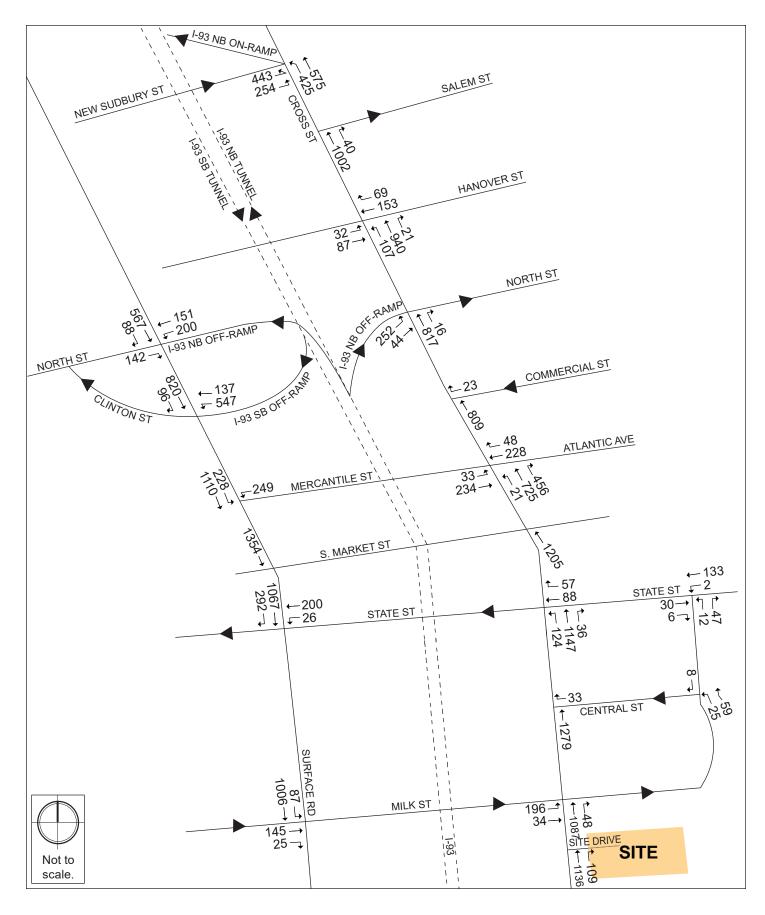


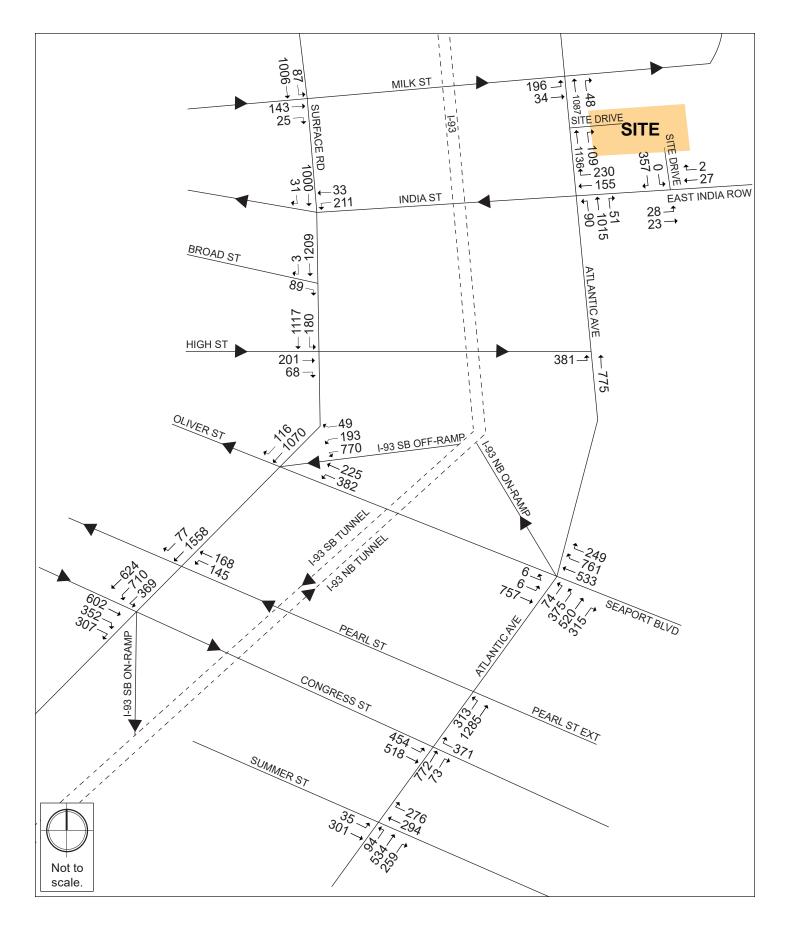












2.1.5 Traffic Capacity Analysis

Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2010 Highway Capacity Manual ("HCM").

LOS designations are based on the average delay per vehicle for all vehicles entering an intersection. Table 2-9 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered acceptable in an urban area. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway.

Table 2-9 Vehicle Level of Service Criteria

Level of Service	Average Stopped Delay (sec/v	eh)
	Signalized Intersection	Unsignalized Intersection
А	≤10	≤10
В	>10 and ≤20	>10 and ≤15
С	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50
Source: 2010 Highway Capacit	y Manual, Transportation Research Board.	•

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

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

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

The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during five percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only five percent of the time and would typically not occur during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be

considered a "worst case" scenario. Queues at the intersection are generally below the 95th percentile queue throughout the course of the peak hour. It is also unlikely that the 95th percentile queues for each approach to the intersection will occur simultaneously.

Table 2-10 and Table 2-11 summarize the Existing Condition, the No-Build (2026) Condition, and the Build (2026) Condition capacity analysis for the study area intersection during the weekday a.m. and p.m. Peak hours, respectively. The detailed analysis of the Synchro results is provided in Appendix B.

2.1.5.1 Existing Condition Traffic Capacity Analysis

As shown in Table 2-10 and Table 2-11, in the Existing Condition of, most of the study area intersections and approaches operate at acceptable levels of service (LOS D or better) during the weekday a.m. and p.m. peak hours, with the exception of the following movements:

The signalized intersection of **Atlantic Avenue/Milk Street** operates at an acceptable LOS during both the a.m. and p.m. peak hours. However, the Milk Street eastbound left-turn movement operates at LOS F during the a.m. and p.m. peak hours and the Milk Street eastbound shared left/through and through lane movement operates at LOS E during the a.m. peak hour only.

All movements at the signalized intersection of **Surface Road/High Street** operate at an acceptable LOS during both peak hours with the exception of the eastbound High Street approach which operates at LOS F during the p.m. peak hour.

The signalized intersection of **Atlantic Avenue/High Street** operates at an acceptable LOS during both the a.m. and p.m. peak hours. However, during the p.m. peak hour, the eastbound High Street approach operates at LOS E.

The **Atlantic Avenue/Seaport Boulevard/I-93 NB On-Ramp** signalized intersection operates at an acceptable LOS during the a.m. peal hour and LOS F during the p.m. peak hour. The Seaport Boulevard westbound through/bear right approach operates at LOS F during both the a.m. and p.m. peak hours and the Seaport Boulevard westbound bear right/right approach operates at LOS F during the p.m. peak hour.

The **Purchase Street/Seaport Boulevard/I-93 SB Off-Ramp** signalized intersection operates at LOS E during the a.m. peak hour only. The Seaport Boulevard westbound approach operates at LOS F during both the peak hours. The I-93 Off-Ramp southwest hard left approach operates at LOS E during the p.m. peak hour and the I-93 Off-Ramp southwest through/bear right approach operates at LOS E during the a.m. peak hour.

The signalized intersection of **Purchase Street/Pearl Street** operates at an acceptable LOS during both the peak hours. The Pearl Street westbound left-turn approach operates at LOS E during the p.m. peak hour and the Pearl Street westbound though | through approach operates at LOS E during the a.m. and p.m. peak hours.

All movements at the signalized intersection of **Atlantic Avenue/Congress Street** operate at an acceptable LOS during both peak hours with the exception of the westbound Congress Street approach which operates at LOS E during the a.m. peak hour and the eastbound Congress Street left | left approach which operates at LOS E during the p.m. peak hour.

All movements at the unsignalized intersection of **Milk Street/Site Driveway** operate at an acceptable LOS during both the peak hours with the exception of the Site Driveway northbound approach, which operates at LOS F during the p.m. peak hour.

2.1.5.2 No-Build (2026) Condition Traffic Capacity Analysis

As shown in the No-Build (2026) Condition, all of the study area intersections and approaches continue to operate at the same level of service as the Existing Conditions during the weekday a.m. and p.m. peak hours, with the exception of the following movements:

The signalized intersection of **Atlantic Avenue/Seaport Boulevard/I-93 NB On-Ramp** decreases overall from LOS C to E during the a.m. peak hour. The Atlantic Avenue northbound left/through and through/right approach decreases from LOS C to F during the a.m. peak hour.

The signalized intersection of **Purchase Street/Seaport Boulevard/I-93 SB Off-Ramp** decreases overall from LOS E to F during the a.m. peak hour and from LOS D to F during the p.m. peak hour. The I-93 SB Off-Ramp southwest hard-left approach decrease from LOS D to F during the a.m. peak hour and from LOS E to F during the p.m. peak hour. The I-93 SB Off-Ramp southwest through/bear right approach decreases from LOS E to F during the a.m. peak hour.

During the p.m. peak hour, the signalized intersection of **Purchase Street/Congress Street** decreases overall from LOS C to F during the p.m. peak hour. The southbound Surface Road bear left approach and the through approach decreases from LOS C to F during the p.m. peak hour only.

The signalized intersection of **Atlantic Avenue/Congress Street** decreases overall from LOS C to E during the a.m. peak hour. The eastbound Congress Street left | left approach decreases from LOS D to F during the a.m. peak hour and from LOS E to F during the p.m. peak hour. The Atlantic Avenue northbound approach decreases from LOS C to E during the a.m. peak hour.

At the signalized intersection of **Atlantic Avenue/Mercantile Street/Cross Street**, all movements continue to operate at the same LOS during the a.m. peak hour. However, during the p.m. peak hour, the eastbound and westbound approaches decrease from LOS C to E.

At the signalized intersection of **Surface Road/I-93 SB Off-Ramp/Clinton Street**, all movements continue to operate at the same LOS during the a.m. peak hour. However, during the p.m. peak hour, the I-93 Off-Ramp westbound left-turn approach decreases from LOS D to F and the I-93 Off-Ramp westbound left/through approach decreases from LOS C to E.

2.1.5.3 Build (2026) Condition Traffic Capacity Analysis

As shown in the Build (2026) Condition, all of the study area intersections and approaches continue to operate at the same level of service during the weekday a.m. and p.m. peak hours, with the exception of the following movements:

At the signalized intersection of **Atlantic Avenue/Milk Street**, the eastbound Milk Street left/through | through approach improves from LOS E to D during the a.m. peak hour only.

The signalized intersection of **Atlantic Avenue/India Street/East India Row** decreases overall from LOS A to F during the p.m. peak hour and its westbound approach decreases from LOS D to F during the p.m. peak hour only.

At the signalized intersection of **Surface Road/India Street**, the westbound approaches decrease from LOS D to E during the p.m. peak hour.

The signalized intersection of **Atlantic Avenue/High Street** continue to operate at the same level with the exception of the eastbound High Street approach which decreases from LOS D to F during the a.m. peak hour and from LOS E to F during the p.m. peak hour.

The signalized intersection of **Surface Road/I-93 SB Off-Ramp/Clinton Street** decreases overall from LOS D to E during the p.m. peak hour. The westbound I-93 Off-Ramp left/through approach decreases from LOS E to F during the p.m. peak hour.

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour

	Existing Condition					No-Bu	ild (2026) Conditi	ion		Build (2026) Condition					
Intersection/Movement	LOS	Delay (s)	V/C Ratio	Queue 50 th	es (ft) 95 th	LOS	Delay (s)	V/C Ratio	Queu 50th	95th	LOS	Delay (s)	V/C Ratio	Queue 50 th	es (ft) 95 th	
Signalized Intersections																
Atlantic Avenue/Milk Street	С	28.3	-	-	-	С	31.4	-	-	-	С	29.6	-	-	-	
EB Milk St left	F	>80.0	0.35	85	152	F	>80.0	0.39	94	163	F	>80.0	0.39	94	163	
EB Milk St left/thru thru	Е	65.1	0.27	70	110	E	69.1	0.29	73	114	D	54.6	0.04	10	26	
WB Milk St right	Α	0.2	0.05	0	m0	Α	0.2	0.05	0	m0	Α	0.0	0.01	0	m0	
NB Atlantic Ave thru thru/right	Α	9.9	0.63	64	79	В	10.3	0.68	67	81	В	14.1	0.67	96	117	
Atlantic Avenue/India Street/ East India Row	A	8.1	-	-	-	A	8.5	-	-	-	В	16.9	-	-	-	
WB East India Row thru/right	С	30.9	0.23	26	57	С	32.2	0.24	28	60	D	50.4	0.61	96	147	
NB Atlantic Ave left/thru thru/right	Α	6.6	0.42	106	218	Α	7.0	0.45	167	265	В	12.8	0.54	311	100	
Surface Road/India Street	В	14.5	-	-	-	В	11.5	-	-	-	В	10.8	-	-	-	
WB India St left left	С	31.0	0.12	18	39	С	32.6	0.13	20	41	С	32.8	0.17	32	m58	
WB India St thru	D	39.8	0.27	40	83	D	42.4	0.28	44	89	D	44.6	0.28	54	m100	
SB Surface Rd thru thru thru/right	Α	1.2	0.12	0	0	Α	1.2	0.21	0	0	Α	2.2	0.30	6	8	
Surface Road/Milk Street	В	11.8	-	-	-	В	10.4	-	-	-	Α	9.5	-	-	-	
EB Milk St thru thru/right	С	28.8	0.13	26	49	С	29.4	0.14	29	54	С	24.4	0.15	25	51	
SB Surface Rd Left/thru thru thru	Α	7.9	0.19	24	34	Α	7.0	0.27	30	47	Α	6.9	0.30	28	50	
Surface Road/State Street	В	11.0	-	-	-	В	10.2	-	-	-	В	10.1	-	-	-	
WB State St left	D	39.7	0.16	38	74	D	39.3	0.16	39	76	D	37.9	0.15	35	m71	
WB State St left/thru thru	D	41.0	0.25	62	91	D	41.0	0.27	64	94	D	41.8	0.27	69	101	
SB Surface Rd thru thru thru/right	Α	3.4	0.41	0	0	Α	3.5	0.48	0	0	Α	3.5	0.51	0	0	
Atlantic Avenue/State Street	Α	8.5	-	-	-	Α	8.9	-	-	-	Α	6.8	-	-	-	
WB State St thru/right	С	28.5	0.26	62	113	С	29.1	0.27	66	119	С	29.3	0.27	66	119	
NB Atlantic Ave left/thru thru/right	Α	5.6	0.45	50	58	Α	6.0	0.49	57	67	Α	3.7	0.50	54	54	

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

	Existing Condition		No-Bu	ild (2026) Conditi	on		Build (2026) Condition							
Intersection/Movement	LOS	Delay (s)	V/C Ratio	Queue 50 th	s (ft) 95 th	LOS	Delay (s)	V/C Ratio	Queu 50th	95th	LOS	Delay (s)	V/C Ratio	Queue 50 th	s (ft) 95 th
Signalized Intersections															
Surface Road/Broad Street	Α	4.0	-	-	-	Α	3.7	-	-	-	Α	3.9	-	-	-
EB Broad St right	Α	0.3	0.11	0	0	Α	0.5	0.15	0	0	Α	0.7	0.18	0	0
SB Surface Rd thru thru thru/right	А	4.9	0.14	22	31	А	4.3	0.22	28	37	Α	4.4	0.32	38	46
Surface Road/High Street	Α	8.5	-	-	-	Α	7.7	-	-	-	Α	7.0	-	-	-
EB High St thru thru/right	В	14.7	0.27	28	62	В	14.6	0.28	30	64	В	14.7	0.28	30	64
SB Surface Rd left/thru thru thru	Α	4.7	0.18	10	14	Α	4.8	0.27	15	19	Α	4.8	0.38	15	18
Atlantic Avenue/High Street	В	14.7	-	-	-	В	14.4	-	-	-	D	35.6	-	-	-
EB High St left left	D	36.4	0.33	63	101	D	36.9	0.34	66	104	F	>80.0	0.75	152	208
NB Atlantic Ave thru thru	Α	9.6	0.44	102	123	Α	9.2	0.46	106	m108	Α	9.1	0.48	107	m107
Atlantic Avenue/Seaport Boulevard/ I-93 NB On-Ramp	С	33.9	-	-	-	E	66.2	-	-	-	E	68.3	-	-	-
EB Seaport Blvd hard left/left/thru thru	Α	8.9	0.54	16	m16	D	50.6	0.68	24	m16	D	50.6	0.68	24	m16
WB Seaport Blvd thru/bear right	F	>80.0	0.84	274	#453	F	>80.0	0.96	329	#550	F	>80.0	0.96	329	#550
WB Seaport Blvd bear right/right	С	34.5	0.42	104	176	D	37.5	0.53	136	221	D	37.5	0.53	136	221
WB Seaport Blvd right	D	37.5	0.54	145	232	D	38.2	0.56	152	242	D	38.2	0.57	153	243
NB Atlantic Ave left/bear left	С	22.7	0.58	78	134	С	33.5	0.70	118	#407	С	34.0	0.70	121	#407
NB Atlantic Ave left/thru thru/right	С	26.4	0.80	107	#407	F	>80.0	>1.00	~503	#646	F	>80.0	>1.00	~517	#660
Purchase Street/Seaport Boulevard/ I-93 SB Off-Ramp	E	55.8	-	-	-	F	99.4	-	-	-	F	100.0	-	-	-
WB Seaport Blvd left/thru thru	F	>80.0	>1.00	~192	m#26	F	>80.0	>1.00	~231	m#26	F	>80.0	>1.00	~2330	m#26
SB Purchase St thru thru thru/right	С	23.9	0.45	101	140	С	28.3	0.64	161	206	С	27.7	0.66	168	215
SWB I-93 Off-Ramp hard left	D	49.6	0.95	498	#767	F	>80.0	>1.00	~813	#1059	F	>80.0	>1.00	~813	#1059
SWB I-93 Off-Ramp thru/bear right	Е	61.5	0.92	311	#508	F	>80.0	>1.00	~473	#687	F	>80.0	>1.00	~473	#687

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

	Existi	ixisting Condition					ild (2026) Conditi		Build (2026) Condition					
Intersection/Movement	LOS	Delay	V/C	Queue		LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th
Signalized Intersections															
Purchase Street/Pearl Street	С	28.1	-	-	-	С	27.6	-	-	-	С	27.3	-	-	-
WB Pearl St left	D	49.9	0.20	50	97	D	52.3	0.32	79	138	D	52.1	0.32	80	138
WB Pearl St thru thru	Е	63.2	0.54	144	195	E	66.9	0.57	153	205	E	66.8	0.57	153	205
SB Purchase St thru thru thru/right	В	13.9	0.40	150	m168	В	14.4	0.54	224	m210	В	14.3	0.55	224	m210
Atlantic Avenue/Pearl Street	Α	9.6	-	-	-	D	41.7	-	-	-	D	45.3	-	-	-
NB Atlantic Ave left/thru thru thru	Α	9.6	0.43	147	179	D	41.7	0.55	265	m267	D	45.3	0.55	267	m274
Purchase Street/Congress Street	В	19.9	-	-	-	С	20.7	-	-	-	С	20.7	-	-	-
EB Congress St thru thru	С	29.5	0.49	154	207	С	31.3	0.53	171	227	С	31.3	0.53	171	227
EB Congress St bear right	С	31.7	0.46	126	201	С	32.2	0.48	132	209	С	32.2	0.48	132	209
EB Congress St right	С	26.7	0.28	70	122	С	28.2	0.36	93	154	С	28.2	0.36	93	154
SB Surface Rd left	В	13.2	0.63	227	417	В	14.5	0.74	156	489	В	14.4	0.75	135	453
SB Surface Rd bear left	В	10.7	0.53	38	269	В	12.1	0.67	63	167	В	13.0	0.70	76	210
SB Surface Rd thru	Α	6.4	0.33	14	20	В	12.7	0.69	81	224	В	12.5	0.69	74	184
Atlantic Avenue/Congress Street	С	33.0	-	-	-	E	62.0	-	-	-	E	62.1	-	-	-
EB Congress St left left	D	51.1	0.70	162	218	F	>80.0	0.82	193	#265	F	>80.0	0.82	193	#265
EB Congress St thru thru	Α	5.3	0.28	72	65	Α	5.0	0.30	69	63	Α	5.0	0.30	69	64
WB Congress St right right	Е	65.0	0.89	172	#273	Е	78.6	0.97	190	#307	Е	78.6	0.97	190	#307
NB Atlantic Ave thru thru thru/right	С	24.3	0.66	134	156	Е	72.2	0.84	146	m209	Е	72.4	0.85	147	m206
Atlantic Avenue/Summer Street	С	34.7	-	-	-	D	41.6	-	-	-	D	42.3	-	-	-
EB Summer St left/thru thru	С	32.6	0.51	115	160	D	37.3	0.68	156	209	D	37.3	0.68	156	209
WB Summer St thru thru thru/right	D	40.4	0.56	117	156	D	42.8	0.66	141	183	D	42.8	0.66	141	183
NB Atlantic Ave left	С	28.5	0.34	100	164	С	28.7	0.36	104	171	С	28.7	0.36	104	171
NB Atlantic Ave left/thru thru	С	32.4	0.61	198	263	D	44.1	0.87	321	#442	D	46.1	0.89	332	#459
NB Atlantic Ave right	D	36.2	0.63	187	288	D	45.8	0.80	259	#421	D	45.8	0.80	259	#421

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

	Existing Condition No-Build (2026) Condition									Build (2026) Condition						
Intersection/Movement	LOS	Delay (s)	V/C Ratio	Queue 50 th	s (ft) 95 th	LOS	Delay (s)	V/C Ratio	Queu 50th	95th	LOS	Delay (s)	V/C Ratio	Queue 50 th	es (ft) 95 th	
Signalized Intersections																
Surface Road/S Market Street	Α	3.4	-	-	-	Α	3.2	-	-	-	Α	3.1	-	-	-	
SB Surface Rd thru thru thru	Α	3.4	0.29	46	53	Α	3.2	0.35	52	58	Α	3.1	0.36	53	58	
Atlantic Avenue/Christopher Columbus Path	Α	2.1	-	-	-	A	2.1	-	-	-	Α	2.1	-	-	-	
NB Atlantic Ave thru thru	Α	2.1	0.30	16	21	Α	2.1	0.33	18	22	Α	2.1	0.34	18	22	
Surface Road/Mercantile Street	Α	2.9	-	-	-	Α	2.6	-	-	-	Α	2.6	-	-	-	
WB Mercantile St left left	Α	8.6	0.25	8	12	Α	8.6	0.28	9	13	Α	8.6	0.28	9	13	
SB Surface St left/thru thru thru	Α	1.9	0.32	29	20	Α	1.7	0.38	24	17	Α	1.7	0.40	24	18	
Atlantic Avenue/Mercantile Street/ Cross Street	С	26.8	-	-	-	С	29.1	-	-	-	С	28.2	-	-	-	
EB Mercantile St left/thru thru	D	45.7	0.24	53	88	D	46.5	0.33	72	110	D	46.3	0.33	72	110	
WB Atlantic Ave thru/right	D	43.1	0.50	99	169	D	46.5	0.60	122	200	D	46.5	0.60	122	200	
NB Cross St left/thru thru	В	18.3	0.26	66	105	В	19.3	0.30	80	120	В	18.4	0.31	84	125	
NB Cross St right	С	20.4	0.33	74	128	С	21.4	0.35	83	139	С	20.3	0.35	84	139	
Surface Road/I-93 SB Off- Ramp/ Clinton Street	С	26.3	-	-	-	С	29.6	-	-	-	С	30.2	-	-	-	
WB I-93 Off-Ramp left	С	24.3	0.45	161	244	С	26.2	0.53	198	296	С	27.1	0.57	216	320	
WB I-93 Off-Ramp left/thru	С	23.3	0.41	156	235	С	29.7	0.66	295	422	С	30.2	0.68	303	434	
SB Surface Rd thru thru thru/right	С	28.6	0.52	113	174	С	31.2	0.65	194	242	С	31.7	0.67	203	250	
Cross Street/Commercial Street	Α	1.9	-	-	-	Α	1.8	-	-	-	Α	1.8	-	-	-	
WB Commercial St right	Α	0.3	0.09	0	0	Α	0.3	0.10	0	0	Α	0.3	0.11	0	0	
NB Cross St thru thru	Α	2.2	0.23	18	23	Α	2.0	0.25	21	23	Α	2.0	0.26	21	23	
Surface Road/North Street/ I-93 NB Off-Ramp	В	16.8	-	-	-	В	19.9	-	-	-	С	20.1	-	-	-	
EB North St right	Α	8.6	0.11	27	50	Α	8.7	0.12	29	52	Α	8.7	0.12	29	52	
WB I-93 Off-Ramp left/thru thru	Α	9.9	0.30	92	122	В	10.2	0.33	102	135	В	10.3	0.34	106	139	
SB Surface Rd thru thru/right	С	30.2	0.40	101	144	С	34.3	0.57	158	214	С	34.6	0.58	162	220	

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

	Existing Condition				No-Bu	uild (2026	6) Condit	ion		Build (2026) Condition					
Intersection/Movement	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th
Signalized Intersections	ı					ı					1				
Cross Street/North Street/ I-93 NB Off-Ramp	С	31.9	-	-	-	С	34.1	-	-	-	С	34.7	-	-	-
EB I-93 Off-Ramp left	С	21.0	0.43	146	224	С	25.8	0.62	238	355	С	25.8	0.62	238	355
EB I-93 Off-Ramp left/thru thru	В	19.8	0.37	123	190	С	22.7	0.51	184	277	С	22.7	0.51	184	277
NB Cross St thru thru/right	D	44.4	0.61	207	264	D	47.3	0.69	236	296	D	48.1	0.72	246	307
Cross Street/Hanover Street	В	11.5	-	-	-	В	14.1	-	-	-	В	14.3	-	-	-
EB Hanover St left	С	29.1	0.14	16	38	С	29.4	0.15	16	39	С	29.4	0.15	16	39
EB Hanover St thru	С	27.1	0.09	24	50	С	27.2	0.10	27	54	С	27.2	0.10	27	54
WB Hanover thru/right	С	34.6	0.47	110	181	D	35.5	0.50	120	195	D	35.5	0.50	120	195
NB Cross St left/thru thru/right	Α	5.7	0.57	44	54	Α	9.8	0.74	70	111	В	10.0	0.75	69	111
Cross Street/Salem Street	В	10.9	-	-	-	В	11.6	-	-	-	В	11.8	-	-	-
NB Cross St thru thru/right	В	10.9	0.41	164	183	В	11.6	0.45	136	155	В	11.8	0.46	138	156
Cross Street/New Sudbury Street/I-93 NB On- Ramp	Α	10.0	-	-	-	В	11.1	-	-	-	В	11.0	-	-	-
EB New Sudbury St hard left/left	С	20.1	0.19	63	92	С	20.9	0.26	91	126	С	20.9	0.26	91	126
NB Cross St bear left/thru thru	Α	6.2	0.49	203	58	Α	6.5	0.55	213	195	Α	6.6	0.57	220	206
Unsignalized Intersections															
Milk Street/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EB Milk St thru/right	Α	0.0	0.15	-	0	Α	0.0	0.15	-	0	-	-	-	-	-
WB Milk St left/thru	Α	2.8	0.00	-	0	Α	2.8	0.00	-	0	-	-	-	-	-
NB Parking Garage left/right	В	11.2	0.03	-	3	В	11.2	0.03	-	3	-	-	-	-	-
Atlantic Street/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NB Atlantic St thru thru	-	-	-	-	-	-	-	-	-	-	Α	0.0	0.00	-	0
East India Row/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EB East India Row thru/right	Α	4.9	0.02	-	2	Α	4.8	0.02	-	2	Α	3.6	0.01	-	1
WB East India Row left/thru	Α	0.0	0.02	-	0	Α	0.0	0.02	-	0	Α	0.0	0.02	-	0
SB Parking Garage left/right	В	10.0	0.04	-	3	В	10.0	0.04	-	3	В	10.7	0.17	-	15
Atlantic Avenue/Central Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WB Central St right right	Α	9.3	0.02	-	1	Α	9.4	0.02	-	1	Α	9.4	0.02	-	1
NB Atlantic St thru thru	Α	0.0	0.25	-	0	Α	0.0	0.28	-	0	Α	0.0	0.29	-	0

Table 2-10 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

	Existing Condition					No-Bu	ild (2026) Condit	ion		Build (2026) Condition				
Intersection/Movement	LOS	Delay (s)	V/C Ratio	Queue 50 th	es (ft) 95 th	LOS	Delay (s)	V/C Ratio	Queu 50th	95th	LOS	Delay (s)	V/C Ratio	Queue 50 th	es (ft) 95 th
Signalized Intersections															
Old Atlantic Avenue/Central Street	-	-	-	-	-		-	-	-	-	-	-	-	-	-
NB Old Atlantic Ave left/thru	Α	1.9	0.01	-	1	Α	1.9	0.01	-	1	Α	1.9	0.01	-	1
SB Old Atlantic Ave thru/right	Α	0.0	0.01	-	0	Α	0.0	0.01	-	0	Α	0.0	0.01	-	0
Old Atlantic Avenue/State Street/ Long Wharf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EB State St thru/right	Α	0.0	0.03	-	0	Α	0.0	0.03	-	0	Α	0.0	0.03	-	0
WB Long Wharf left/thru	Α	0.1	0.00	-	0	Α	0.1	0.00	-	0	Α	0.1	0.00	-	0
NB Old Atlantic Ave left/right	В	11.7	0.08	-	7	В	11.7	0.08	-	7	В	11.7	0.08	-	7

Grey Shading indicates decrease to LOS E or F.

Black Shading indicates improvement from LOS E or F.

^{~ 50}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

^{# 95}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

m Volumes for 95th percentile queue is metered by upstream signal.

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour

ueues (ft) th 95th	LOS	Delay (s)	V/C Ratio	Queu 50th	95th	LOS	Delay	V/C	Queue	s (ft)
th 95th	1	(s)	Ratio	50th	95th_					
-							(s)	Ratio	50 th	95 th
-										
	D	36.0	-	-	-	D	48.7	-	-	-
8 #294	F	>80.0	0.96	154	#323	F	>80.0	0.96	157	#123
44	D	41.1	0.16	24	48	D	40.9	0.08	12	m28
m0	Α	2.0	0.31	0	m0	Α	0.0	0.01	0	m0
8 177	В	17.3	0.66	113	203	С	32.1	0.79	395	m391
-	Α	4.5	-	-	-	F	143.8	-	-	-
64	D	40.8	0.23	33	66	F	>80.0	>1.00	~516	#660
1 72	Α	2.6	0.45	116	71	Α	3.1	0.50	155	85
-	Α	9.4	-	-	-	В	19.1	-	-	-
0	D	37.0	0.11	0	0	Е	74.6	0.28	0	m0
0	D	38.3	0.08	19	m0	Е	57.2	0.08	23	m23
27	Α	6.4	0.50	35	53	Α	7.3	0.51	40	66
-	Α	9.3	-	-	-	Α	8.2	-	-	-
78	D	35.6	0.25	52	85	С	34.5	0.26	52	85
50	Α	5.4	0.47	54	61	Α	4.2	0.46	33	41
-	Α	7.7	-	-	-	Α	6.1	-	-	-
m108	D	46.3	0.24	63	m110	С	30.2	0.06	13	m29
79	D	35.3	0.19	52	82	D	36.2	0.23	54	94
0	Α	1.0	0.52	1	6	Α	1.1	0.55	1	6
-	Α	9.3	-	-	-	Α	6.3	-	-	-
7 174	С	34.6	0.41	112	181	С	32.9	0.32	84	141
6 m122	Α	5.4	0.64	113	m128	Α	3.3	0.66	82	68
	- 64 1 72 - 0 0 27 - 78 50 - m108 79 0 - 7 174	- A 64 D 1 72 A - A 0 D 0 D 27 A - A 78 D 50 A - A m108 D 79 D 0 A 7 174 C	- A 4.5 64 D 40.8 1 72 A 2.6 - A 9.4 0 D 37.0 0 D 38.3 27 A 6.4 - A 9.3 78 D 35.6 50 A 5.4 - M108 D 46.3 79 D 35.3 0 A 1.0 - A 9.3 7 174 C 34.6	- A 4.5 - 64 D 40.8 0.23 1 72 A 2.6 0.45 - A 9.4 - 0 D 37.0 0.11 0 D 38.3 0.08 27 A 6.4 0.50 - A 9.3 - 78 D 35.6 0.25 50 A 5.4 0.47 - M108 D 46.3 0.24 79 D 35.3 0.19 0 A 1.0 0.52 - A 9.3 - 7 174 C 34.6 0.41	- A 4.5	- A 4.5	- A 4.5 F 64 D 40.8 0.23 33 66 F 1 72 A 2.6 0.45 116 71 A - A 9.4 B 0 D 37.0 0.11 0 0 E 0 D 38.3 0.08 19 m0 E 27 A 6.4 0.50 35 53 A - A 9.3 A 7.7 - A 6.4 0.47 54 61 A - A 7.7 A 6.3 0.24 63 m110 C 79 D 35.3 0.19 52 82 D 0 A 1.0 0.52 1 6 A 7 174 C 34.6 0.41 112 181 C	- A 4.5 F 143.8 64 D 40.8 0.23 33 66 F >80.0 1 72 A 2.6 0.45 116 71 A 3.1 - A 9.4 B 19.1 0 D 37.0 0.11 0 0 E 74.6 0 D 38.3 0.08 19 m0 E 57.2 27 A 6.4 0.50 35 53 A 7.3 - A 9.3 A 8.2 78 D 35.6 0.25 52 85 C 34.5 50 A 5.4 0.47 54 61 A 4.2 - A 7.7 A 4.2 - M108 D 46.3 0.24 63 m110 C 30.2 79 D 35.3 0.19 52 82 D 36.2 0 A 1.0 0.52 1 6 A 1.1	- A 4.5 F 143.8 F 143.8	- A 4.5 F 143.8 F 143.8

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

	Existing Condition						ild (2026) Conditi	on		Build (2026) Condition				
Intersection/Movement		Delay	V/C	Queue	s (ft)	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th
Signalized Intersections	ı					ı									
Surface Road/Broad Street	Α	2.4	-	-	-	Α	2.0	-	-	-	Α	3.8	-	-	-
EB Broad St right	Α	0.6	0.15	0	0	Α	1.0	0.21	0	0	Α	1.1	0.22	0	0
SB Surface Rd thru thru thru/right	Α	2.6	0.29	23	29	Α	2.1	0.44	25	29	Α	4.0	0.50	64	76
Surface Road/High Street	С	29.9	-	-	-	С	23.6	-	-	-	С	23.1	-	-	-
EB High St thru thru/right	F	>80.0	0.65	105	129	F	>80.0	0.68	111	135	F	>80.0	0.68	111	135
SB Surface Rd left/thru thru thru	Α	1.2	0.31	7	9	Α	1.2	0.45	9	10	Α	1.2	0.51	9	10
Atlantic Avenue/High Street	В	20.0	-	-	-	С	22.3	-	-	-	D	35.8	-	-	-
EB High St left left	E	56.8	0.50	107	151	Е	67.0	0.52	112	158	F	>80.0	0.70	143	194
NB Atlantic Ave thru thru	Α	5.4	0.40	94	96	Α	5.2	0.43	99	97	Α	5.1	0.44	99	96
Atlantic Avenue/Seaport Boulevard/ I-	F	83.1	-	-	-	F	176.0	-	-	-	F	175.5	-	-	-
93 NB On-Ramp															
EB Seaport Blvd hard left/left/thru thru	Α	5.6	0.53	6	m6	А	8.9	0.60	8	m6	Α	8.9	0.60	8	m6
WB Seaport Blvd thru/bear right	F	>80.0	0.82	236	#398	F	>80.0	>1.00	~568	#800	F	>80.0	>1.00	~568	#800
WB Seaport Blvd bear right/right	F	>80.0	>1.00	~609	#842	F	>80.0	>1.00	~983	#1240	F	>80.0	>1.00	~938	#1240
WB Seaport Blvd right	D	44.5	0.64	161	255	D	45.8	0.66	168	266	D	46.0	0.67	170	269
NB Atlantic Ave left/bear left	В	19.8	0.53	78	178	D	35.7	0.76	209	#486	D	36.1	0.76	213	#486
NB Atlantic Ave left/thru thru/right	В	19.2	0.64	93	203	С	31.7	0.79	228	#430	С	32.8	0.80	242	#445
Purchase Street/Seaport Boulevard/	D	51.2	-	-	-	F	118.1	-	-	-	F	118.6	-	-	-
WB Seaport Blvd left/thru thru	F	>80.0	>1.00	~180	m#24	F	>80.0	>1.00	~368	m#27	F	>80.0	>1.00	~367	m#27
SB Purchase St thru thru	В	16.9	0.59	89	108	С	25.8	0.87	123	101	С	31.1	0.92	83	#111
thru/right															
SWB I-93 Off-Ramp hard left	Ε	68.2	>1.00	~485	#737	F	>80.0	>1.00	~652	#886	F	>80.0	>1.00	~652	#886
SWB I-93 Off-Ramp thru/bear right	D	40.7	0.49	111	182	D	46.5	0.65	157	247	D	46.5	0.65	157	247

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

	Existin	Existing Condition						No-Build (2026) Condition					Build (2026) Condition					
Intersection/Movement	LOS	Delay	V/C	Queue	s (ft)	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)			
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th			
Signalized Intersections						_												
Purchase Street/Pearl Street	В	13.2	-	-	-	В	16.1	-	-	-	В	16.1	-	-	-			
WB Pearl St left	Е	56.6	0.30	45	87	Е	69.9	0.68	126	190	Е	69.7	0.68	126	190			
WB Pearl St thru thru	Е	55.9	0.41	64	97	D	53.0	0.39	75	111	D	52.9	0.39	75	111			
SB Purchase St thru thru thru/right	Α	3.9	0.35	38	m42	Α	6.8	0.62	110	m173	Α	7.1	0.64	110	m172			
Atlantic Avenue/Pearl Street	Α	0.6	-	-	-	Α	0.7	-	-	-	Α	0.7	-	-	-			
NB Atlantic Ave left/thru thru thru	Α	0.6	0.34	0	m0	Α	0.7	0.45	0	m0	Α	0.7	0.46	0	m0			
Purchase Street/Congress Street	С	27.2	-	-	-	F	80.0	-	-	-	F	91.8	-	-	-			
EB Congress St thru thru	С	25.5	0.47	157	209	С	26.5	0.49	169	223	С	26.5	0.49	169	223			
EB Congress St bear right	С	33.0	0.63	197	301	С	34.1	0.65	209	317	С	34.1	0.65	209	217			
EB Congress St right	С	27.9	0.50	149	232	С	29.5	0.56	170	262	С	29.5	0.56	170	262			
SB Surface Rd left	С	25.2	0.60	254	360	С	29.5	0.67	256	360	С	31.0	0.67	245	338			
SB Surface Rd bear left	С	30.4	0.70	287	400	F	>80.0	>1.00	~680	#916	F	>80.0	>1.00	~761	#1005			
SB Surface Rd thru	С	20.4	0.46	167	272	F	>80.0	>1.00	~598	#832	F	>80.0	>1.00	~605	#839			
Atlantic Avenue/Congress Street	С	32.9	-	-	-	D	40.6	-	-	-	D	40.3	-	-	-			
EB Congress St left left	E	71.8	0.91	157	#245	F	>80.0	1.00	174	#281	F	>80.0	1.00	174	#281			
EB Congress St thru thru	Α	4.6	0.26	52	48	Α	4.4	0.28	51	48	Α	4.4	0.28	52	48			
WB Congress St right right	D	40.8	0.54	110	160	D	44.2	0.66	138	196	D	44.2	0.66	138	196			
NB Atlantic Ave thru thru thru/right	С	23.9	0.40	124	156	С	28.2	0.62	211	258	С	27.9	0.63	217	263			
Atlantic Avenue/Summer Street	С	31.9	-	-	-	D	35.3	-	-	-	D	35.3	-	-	-			
EB Summer St left/thru thru	С	31.9	0.37	80	117	С	34.0	0.48	102	144	С	34.0	0.48	102	144			
WB Summer St thru thru thru/right	D	41.9	0.52	97	132	D	47.6	>1.00	141	184	D	47.6	>1.00	141	184			
NB Atlantic Ave left	С	23.3	0.15	42	82	С	23.4	0.16	43	83	С	23.4	0.16	43	83			
NB Atlantic Ave left/thru thru	С	25.2	0.34	100	142	С	28.0	0.50	160	215	С	28.3	0.52	167	223			
NB Atlantic Ave right	С	27.2	0.39	108	175	С	29.5	0.49	143	224	С	29.5	0.49	143	224			

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

	Existing Condition						No-Build (2026) Condition					Build (2026) Condition				
Intersection/Movement	LOS	Delay	V/C	Queue	es (ft)	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)	
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th	
Signalized Intersections																
19. Surface Road/S Market Street	Α	7.4	-	-	-	Α	6.6	-	-	-	Α	6.4	-	-	-	
SB Surface Rd thru thru thru	Α	7.4	0.31	59	69	Α	6.6	0.43	73	83	Α	6.4	0.45	73	83	
Atlantic Avenue/Christopher Columbus	Α	3.0	-	-	-	Α	3.1	-	-	-	Α	3.1	-	-	-	
Path																
NB Atlantic Ave thru thru	Α	3.0	0.48	35	41	Α	3.1	0.51	37	43	Α	3.1	0.54	33	55	
Surface Road/Mercantile Street	В	13.8	-	-	-	В	13.9	-	-	-	В	14.5	-	-	-	
WB Mercantile St left left	В	13.1	0.23	63	67	В	17.7	0.29	54	m59	В	17.9	0.29	54	m60	
SB Surface St left/thru thru thru	В	14.0	0.35	124	147	В	13.2	0.47	150	169	В	13.9	0.49	159	201	
Atlantic Avenue/Mercantile	С	24.4	-	-	-	С	30.8	-	-	-	С	28.8	-	-	-	
Street/Cross Street																
EB Mercantile St left/thru thru	D	46.4	0.41	92	135	Е	55.7	0.56	111	157	Е	55.2	0.56	111	157	
WB Atlantic Ave thru/right	D	46.3	0.60	134	215	Е	65.2	0.84	196	#344	Е	65.2	0.84	196	#344	
NB Cross St left/thru thru	В	12.0	0.41	156	194	В	12.3	0.44	170	208	В	10.7	0.47	142	182	
NB Cross St right	С	21.0	0.60	292	420	С	22.2	0.64	312	448	В	19.4	0.64	247	389	
Surface Road/I-93 SB Off-Ramp/ Clinton	С	29.5	-	-	-	D	51.9	-	-	-	E	56.2	-	-	-	
Street																
WB I-93 Off-Ramp left	D	42.9	0.54	183	277	F	>80.0	0.66	234	348	F	>80.0	0.70	254	375	
WB I-93 Off-Ramp left/thru	С	29.4	0.34	113	181	Е	69.0	0.49	176	266	F	>80.0	0.51	184	275	
SB Surface Rd thru thru thru/right	С	22.4	0.35	88	114	С	27.7	0.55	171	209	С	27.8	0.56	175	218	
Cross Street/Commercial Street	Α	0.7	-	-	-	Α	0.7	-	-	-	Α	0.7	-	-	-	
WB Commercial St right	Α	0.1	0.04	0	0	Α	0.2	0.05	0	0	Α	0.2	0.05	0	0	
NB Cross St thru thru	Α	0.7	0.30	1	1	Α	0.8	0.34	1	m2	Α	0.7	0.37	1	1	
Surface Road/North Street/	В	17.5	-	_	-	С	20.1	-	-	-	С	20.2	-	_	-	
I-93 NB Off-Ramp																
EB North St right	В	18.0	0.21	58	99	В	18.1	0.22	61	104	В	18.1	0.22	61	104	
WB I-93 Off-Ramp left/thru thru	В	17.4	0.20	63	91	В	17.7	0.23	72	102	В	17.8	0.24	76	107	
SB Surface Rd thru thru/right	В	17.4	0.28	76	111	С	21.8	0.49	167	220	С	21.9	0.49	170	223	

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

	Existi	ng Condit	ion			No-Build (2026) Condition					Build (2026) Condition				
Intersection/Movement	LOS	Delay	V/C	Queue	es (ft)	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th
Signalized Intersections															
Cross Street/North Street/	В	12.3	-	-	-	В	13.8	-	-	-	В	13.8	-	-	-
I-93 NB Off-Ramp															
EB I-93 Off-Ramp left	С	26.0	0.20	53	97	С	27.4	0.29	80	135	С	27.4	0.29	80	135
EB I-93 Off-Ramp left/thru thru	С	26.2	0.22	61	109	С	27.3	0.28	81	137	С	27.3	0.28	81	137
NB Cross St thru thru/right	Α	7.9	0.54	47	57	Α	8.7	0.61	60	68	Α	9.0	0.65	61	68
Cross Street/Hanover Street	В	11.6	-	-	-	В	11.5	-	-	-	В	11.3	-	-	-
EB Hanover St left	С	34.8	0.20	17	46	D	35.3	0.21	18	46	D	35.3	0.27	18	46
EB Hanover St thru	С	31.8	0.17	43	83	С	32.1	0.20	49	92	С	32.1	0.20	49	92
WB Hanover thru/right	D	37.6	0.56	124	206	D	38.8	0.59	132	218	D	38.8	0.59	132	218
NB Cross St left/thru thru/right	Α	2.2	0.42	5	6	Α	2.7	0.51	8	10	Α	2.85	0.53	8	10
Cross Street/Salem Street	В	10.2	-	-	-	В	10.0	-	-	-	В	10.2	-	-	-
NB Cross St thru thru/right	В	10.2	0.44	250	296	В	10.0	0.48	275	0	В	10.2	0.51	303	305
Cross Street/New Sudbury Street/I-93	В	13.0	-	-	-	В	15.1	-	-	-	В	14.9	-	-	-
NB On-Ramp															
EB New Sudbury St hard left/left	С	24.7	0.36	127	171	С	27.0	0.51	193	249	С	27.0	0.51	193	249
NB Cross St bear left/thru thru	Α	6.2	0.52	266	27	Α	6.3	0.57	286	35	Α	6.5	0.61	311	28
Unsignalized Intersections	1					,									
Milk Street/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EB Milk St thru/right	Α	0.0	0.07	-	0	Α	0.0	0.08	-	0	-	-	-	-	-
WB Milk St left/thru	Α	0.0	0.00	-	0	Α	0.0	0.00	-	0	-	-	-	-	-
NB Parking Garage left/right	F	>50.0	0.88	-	181	F	>50.0	0.88	-	182	-	-	-	-	-
Atlantic Avenue/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NB Atlantic Ave thru thru/right	-	-	-	-	-	-	-	-	-	-	Α	0.0	0.48	-	0
East India Row/Site Driveway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EB East India Row thru/right	Α	3.0	0.01	-	1	Α	2.9	0.01	-	1	Α	4.7	0.03	-	2
WB East India Row left/thru	Α	0.0	0.03	-	0	Α	0.0	0.03	-	0	Α	0.0	0.03	-	0
SB Parking Garage left/right	В	11.0	0.04	_	3	В	11.1	0.04	-	3	D	32.0	0.82	-	214

Table 2-11 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

	Existing Condition						No-Build (2026) Condition					Build (2026) Condition				
Intersection/Movement	LOS	Delay	V/C	Queue	es (ft)	LOS	Delay	V/C	Queu		LOS	Delay	V/C	Queue	es (ft)	
		(s)	Ratio	50 th	95 th		(s)	Ratio	50th	95th		(s)	Ratio	50 th	95 th	
Signalized Intersections																
Atlantic Avenue/Central Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WB Central St right right	Α	9.4	0.05	-	4	Α	9.5	0.05	-	4	Α	9.9	0.03	-	2	
NB Atlantic Ave thru thru	Α	0.0	0.34	-	0	Α	0.0	0.37	-	0	Α	0.0	0.39	-	0	
Old Atlantic Avenue/Central Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NB Old Atlantic Ave left/thru	Α	3.3	0.05	-	4	Α	3.3	0.05	-	4	Α	2.3	0.02	-	1	
SB Old Atlantic Ave thru/right	Α	0.0	0.01	-	0	Α	0.0	0.01	-	0	Α	0.0	0.01	-	0	
Old Atlantic Avenue/State Street/ Long	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Wharf																
EB State St thru/right	Α	0.0	0.02	-	0	Α	0.0	0.02	-	0	Α	0.0	0.02	-	0	
WB Long Wharf left/thru	Α	0.1	0.00	-	0	Α	0.1	0.00	-	0	Α	0.1	0.00	-	0	
NB Old Atlantic Ave left/right	D	30.1	0.46	-	56	D	31.3	0.48	-	61	С	24.3	0.28	-	27	

Grey Shading indicates decrease to LOS E or F.

^{~ 50}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

^{# 95}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

m Volumes for 95th percentile queue is metered by upstream signal.

2.1.5.4 Build Mitigation (2026) Condition Traffic Capacity Analysis

While the traffic impacts associated with the proposed Project without mitigation measures are moderate and will not affect overall intersection operations except as noted above, additional analysis was completed to the intersections adjacent to the Project Site, incorporating recommendations to improve traffic conditions, including converting Milk Street, east of Atlantic Avenue, to one-way eastbound. This will provide a much simpler interaction with the pedestrian activity and public realm of Central Wharf. It will also remove the westbound approach to Atlantic Avenue, providing simpler signal phasing and more green time to the other approaches. Additionally, signal timings improvements were analyzed at the Atlantic Avenue/India Street/East India Row and Surface Road/India Street intersections. Capacity analysis results for the mitigation option are shown in Table 2-12.

Table 2-12 Build Mitigation Condition Capacity Analysis Summary

	Build	(2026) Co	ndition		Build Mitigated (2026) Condition						
Intersection/Movement	LOS	Delay	V/C	Queue	s (ft)	LOS	Delay	V/C	Queue		
		le)	Ratio	50th	95th		/e)	Ratio	50 th	95 th	
a.m. Peak Hour											
Atlantic Avenue/Milk Street	С	29.6	-	-	-	В	15.0	-	-	-	
EB Milk St left	F	>80.0	0.39	94	163	D	51.0	0.33	58	92	
EB Milk St left/thru thru	D	54.6	0.04	10	26	С	27.5	0.04	6	15	
WB Milk St right	Α	0.0	0.01	0	m0	-	-	-	-	-	
NB Atlantic Ave thru thru/right	В	14.1	0.67	96	117	Α	9.7	0.55	93	93	
Atlantic Avenue/India Street/	В	16.9	-	-	-	В	17.0	-	-	-	
WB East India Row thru/right	D	50.4	0.61	96	147	D	50.4	0.61	96	147	
NB Atlantic Ave left/thru thru/right	В	12.8	0.54	311	100	В	12.9	0.54	314	101	
Surface Road/India Street	В	10.8	-	-	-	В	10.8	-	-	-	
WB India St left left	С	32.8	0.17	32	m58	С	32.8	0.17	32	m58	
WB India St thru	D	44.6	0.28	54	m100	D	44.6	0.28	54	m99	
SB Surface Rd thru thru thru/right	Α	2.2	0.30	6	8	Α	2.2	0.30	5	8	
p.m. Peak Hour											
Atlantic Avenue/Milk Street	D	48.7	-	-	-	С	23.1	-	-	-	
EB Milk St left	F	>80.0	0.96	157	#123	D	45.8	0.57	150	236	
EB Milk St left/thru thru	D	40.9	0.08	12	m28	С	22.1	0.05	5	m11	
WB Milk St right	Α	0.0	0.01	0	m0	-	-	-	-	-	
NB Atlantic Ave thru thru/right	С	32.1	0.79	395	m391	В	19.2	0.75	201	231	
Atlantic Avenue/India Street/	F	143.8	-	-	-	C	29.3	-	-	-	
WB East India Row thru/right	F	>80.0	>1.00	~516	#660	D	45.9	0.85	286	#417	
NB Atlantic Ave left/thru thru/right	Α	3.1	0.50	155	85	С	22.9	0.75	197	419	
Surface Road/India Street	В	19.1	-	-	-	В	11.8	-	-	-	
WB India St left left	E	74.6	0.28	0	m0	С	35.0	0.28	44	m62	
WB India St thru	Е	57.2	0.08	23	m23	С	31.2	0.08	13	m19	
SB Surface Rd thru thru thru/right	Α	7.3	0.51	40	66	Α	6.7	0.51	42	48	

Grey Shading indicates decrease to LOS E or F.

Black Shading indicates improvement from LOS E or F.

^{~ 50}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

^{# 95}th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.

m Volumes for 95th percentile queue is metered by upstream signal.

Based on Table 2-12, with the proposed improvements at the signalized intersection of Atlantic Avenue/Milk Street, the eastbound Milk Street left-turn approach improves from LOS F to D during both the peak hours. The signalized intersection of Atlantic Avenue/India Street/East India Row improves overall from LOS F to C and the westbound approach improves from LOS F to D during the p.m. peak hour. The signalized intersection of Surface Road/India Street continues to operate at the same LOS as the Build Condition during the a.m. peak hour, however, during the p.m. peak hour, the westbound India Street approaches improve from LOS E to C.

2.1.6 Transit Capacity Analysis

The V/C is used as the primary measurement to determine the impacts of the Project on transit. To calculate the V/C, ridership and capacity were determined for the Existing Condition to evaluate how the transit service operates today. Then, similar to the process of projecting vehicular traffic, the future ridership and capacity was developed both for the No-Build Condition, without the Project, and the Build Condition, with the Project.

The hourly capacity of the MBTA routes is determined by multiplying the vehicle capacity by the number of trips per hour, which is derived from the scheduled headways. To establish the capacity of this route, the MBTA's *Service and Delivery Policy* was referenced to establish the train car capacity. Based on this policy, the Blue Line runs at five-minute peak hour headways (12 trains per hour) with a train car capacity of 516 passengers, resulting in a 6,192-passenger maximum hourly capacity.

The vehicle load standards outlined in the MBTA's *Service and Delivery Policy* were used to determine the acceptable train capacity throughout the day by multiplying the load standard per car by the number of train cars by the number of hourly trains (derived from the headway).

2.1.6.1 Transit Volume to Capacity

As previously mentioned, the V/C ratio is the primary measurement to determine the impact the Project has on transit. The V/C ratio is a measurement of the number of passengers divided by the operating capacity. A V/C ratio of one (1) means the transit line is at capacity and any additional passengers either cannot fit or will cause delays to service as passengers try to squeeze on.

The Blue Line capacity, ridership, and volume to capacity ratio are displayed for all three conditions: Existing, No-Build, and Build, in Table 2-13.

Table 2-13 MBTA Blue Line Ridership and Capacity Summary – Max Rail Load at Aquarium

- :		Planning	Existing Co	ndition			No-Build (2	.026) Co	ondition		Build (2026) Condition					
Time of Day	Trains	Capacity	Eastbound		Westbound	d	Eastbound		Westbound	d	Eastbound		Westbound	d		
			Ridership	V/C	Ridership	V/C	Ridership	V/C	Ridership	V/C	Ridership	V/C	Ridership	V/C		
5-6 a.m.	7	3440	170	0.05	1676	0.49	180	0.05	1772	0.52	186	0.05	1776	0.52		
6-7 a.m.	9	4816	607	0.13	3219	0.67	642	0.13	3404	0.71	705	0.15	3417	0.71		
7-8 a.m.	12	6192	596	0.10	4446	0.72	630	0.10	4701	0.76	805	0.13	4742	0.77		
8-9 a.m.	12	6192	472	0.08	4785	0.77	499	0.08	5059	0.82	695	0.11	5118	0.83		
9-10 a.m.	12	6192	454	0.07	2398	0.39	480	0.08	2536	0.41	577	0.09	2603	0.42		
10-11 a.m.	7	3440	555	0.16	1485	0.43	587	0.17	1570	0.46	676	0.20	1661	0.48		
11 a.m. – 12 p.m.	7	3440	728	0.21	1197	0.35	770	0.22	1265	0.37	878	0.26	1419	0.41		
12-1 p.m.	7	3440	1012	0.29	1113	0.32	1070	0.31	1177	0.34	1231	0.36	1339	0.39		
1-2 p.m.	7	3440	1226	0.36	1248	0.36	1297	0.38	1320	0.38	1440	0.42	1434	0.42		
2-3 p.m.	7	3440	2116	0.62	1505	0.44	2238	0.65	1592	0.46	2371	0.69	1702	0.49		
3-4 p.m.	9	4816	3188	0.66	1668	0.35	3371	0.70	1764	0.37	3494	0.73	1900	0.39		
4-5 p.m.	12	6192	4131	0.67	1606	0.26	4368	0.71	1698	0.27	4471	0.72	1922	0.31		
5-6 p.m.	12	6192	4869	0.79	1406	0.23	5148	0.83	1487	0.24	5236	0.85	1717	0.28		
6-7 p.m.	9	4814	3034	0.63	829	0.17	3208	0.67	877	0.18	3257	0.68	944	0.20		
7-8 p.m.	7	3440	1921	0.56	578	0.17	2031	0.59	611	0.18	2064	0.60	661	0.19		
8-9 p.m.	7	3440	1589	0.46	464	0.13	1680	0.49	490	0.14	1704	0.50	525	0.15		
9-10 p.m.	7	3440	1608	0.47	404	0.12	1700	0.49	427	0.12	1716	0.50	459	0.13		
10-11 p.m.	7	3440	1954	0.57	389	0.11	2066	0.60	412	0.12	2077	0.60	445	0.13		
11 p.m. – 12 a.m.	7	3440	1944	0.57	260	0.08	2056	0.60	275	0.08	2065	0.60	282	0.08		
12-1 a.m.	7	3440	792	0.23	84	0.02	838	0.24	89	0.03	842	0.24	91	0.03		

As shown in Table 2-13, the Blue Line does not reach over capacity during any hour throughout the day during any of the three conditions analyzed. The transit volume graph is displayed in Appendix B.

2.1.7 Transportation Demand Management

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

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

The Proponent is prepared to take advantage of exceptional transit access in marketing the Project to future tenants, patrons and customers by implementing the following TDM measures to encourage the use of non-vehicular modes of travel.

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

Transportation Coordinator: The Proponent will encourage the property manager and/or representatives of individual lessees to designate a full-time, on-site employee as the transportation coordinator. The transportation coordinator will oversee all transportation issues. This includes managing vehicular and valet operations, service and loading, valet parking, and TDM programs.

Transit Pass Programs: The Proponent will encourage the property manager and/or individual lessees to foster employee use of transit by offering on-site transit pass sales and MBTA pass subsidies to employees.

Project Website: Project websites will include transportation-related information for visitors and employees.

Information and Promotion of Travel Alternatives: The Proponent will encourage the property manager and/or lessee's transportation coordinator to provide employees, tenants and visitors with public transit system maps, schedules, and other information on transit services in the area; provide an annual (or more frequent) newsletter or bulleting summarizing transit, ridesharing, bicycling, alternative work schedules, and other travel options; provide information on travel alternatives for employees and visitors via the Internet and in the building lobbies; and provide information on travel alternatives to new employees.

2.1.8 Transportation Mitigation Measures

The Proponent will continue to work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use. In addition to the improvements that have previously been discussed, including signal timing and public realm improvements, the Proponent will fund the installation of a BlueBIKES station to be placed in the area in accordance with BTD guidelines.

The Proponent is responsible for preparation of the TAPA, a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the technical analysis, it must be executed after these other processes have been completed. The proposed measures listed above and any additional transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA

2.1.9 Evaluation of Short-term Construction Impacts

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

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

- ◆ Parking will not be provided on-site for construction workers;
- Construction workers will be encouraged to use public transportation and/or carpool;
- ◆ Consideration of a subsidy for MBTA passes for full-time employees; and,
- Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

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

2.2 Environmental Protection

2.2.1 Shadow Impacts

The tower design has been developed with consideration of shadow impacts on the surrounding area and, per the DWMHP, avoids casting new shadow of more than one hour on the Long Wharf shadow prohibition zone (i.e., seaward of the Marriott Long Wharf) during the shoulder seasons. Additionally, the Project minimizes, to the extent reasonably practicable, net new shadow on other areas of the waterfront, including dedicated public parkland and publicly accessible open space in the DWMHP planning area.

In conformance with BPDA-employed methodologies that have been adopted for municipal harbor planning along Boston Harbor, a shadow impacts analysis for the Project has been conducted for October 23 for the hours from 8:00 a.m. to 5:00 p.m. The analysis identifies shadows that will endure for more than one hour.

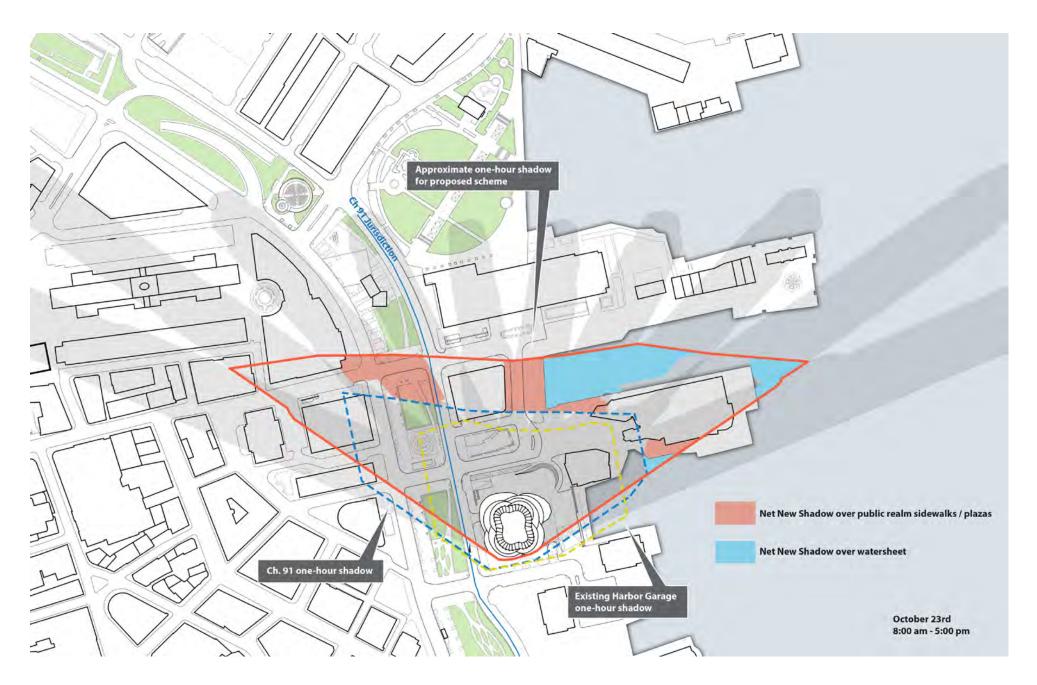
The BPDA selected October 23rd as the most appropriate date to evaluate shadow impacts on the pedestrian environment given both the sun's position as well as the seasonal needs of pedestrians. The BPDA determined that it is more appropriate to base sun/shadow standards at the end of what are traditionally considered the "outdoor months", when people often seek opportunities to spend time out-of-doors before the weather turns colder.

The Project's shadow impacts analysis evaluated the following conditions:

- ◆ Existing Shadow: Conditions associated with the existing building;
- Proposed Shadows: Conditions associated with the proposed tower; and,
- ◆ Chapter 91 Building Shadow: Conditions associated with the standard provisions of Chapter 91 as might be applied to the Project Site.

The results of the shadow impacts analysis are shown on Figure 2-21, which depicts the areas of net new shadow relative to an as-of-right (i.e., Chapter 91 compliant without regard for substitutions and offsets permitted under the DWMHP) build out. In general, the tower creates only a modest increase in shadow impacts as compared to an as-of-right build out and, as noted above, the tower will not cast net new shadow within the Long Wharf shadow prohibition zone.

A comprehensive shadow analysis demonstrating compliance with Sections 42A-16G and 49A-4.1 of the Code will be provided in the the Draft Project Impact Report ("DPIR"). The shadow analysis will depict build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn.



Boston Harbor Tower Boston, Massachusetts



2.2.2 Wind

The Project has been designed with consideration of potential wind impacts on the gound-level environment. The tower's unique contours and numerous setbacks at various elevations will act to mitigate potentially adverse impacts associated with monolithic facades. Mitigation measures, as necessary, will be adopted, so that the Project will not cause ground-level ambient wind speeds to exceed City's requirements, including Article 49A Greenway Overlay District pedestrian safety and comfort wind standards. To ensure pedestrian comfort and safety around the Project Site and on the Project's new public open spaces, and to ensure that the ground-level environment is conducive to water-dependent activities, a comprehensive wind study will be completed for the Project and the results will be included in the DPIR.

2.2.3 Daylight

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching the public streets in the immediate vicinity of a Project Site. The daylight obstruction value related to the Project is anticipated to be similar in daylight obstruction on streets in the surrounding area. The daylight analysis will be performed using the Boston Redevelopment Authority Daylight Analysis ("BRADA") computer program³. This program measures the percentage of "sky dome" that is obstructed by a project, and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site. Results of the daylight analysis will be provided in the DPIR.

2.2.4 Solar Glare

The Project will incorporate solar glare mitigation measures consistent with similar, newly constructed commercial developments in major North American urban centers that are adjacent to residential buildings, as necessary. The exterior skin of building will consist of varying low-reflectivity materials (e.g., masonry, metal, and Low-E glass), the use of which is not anticipated to result in adverse impacts due to reflected solar glare from the Project. Moreover, as described in Section 2.3.1 below, the proposed folded expression of the building façade will further reduce any potential solare glare impacts by scattering and diffusing light reflections, rather than allowing them to focus on any one point.

2.2.5 Air Quality

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the Project.

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

The Project team is evaluating measures to reduce energy demand and the potential emissions from the Project's mechanical equipment. It is expected that the majority of stationary sources (boilers, engines, etc.) may be subject to the MassDEP's Environmental Results Program. The Proponent will complete the required applications and submittals for the equipment, as necessary. The Project will also be subject to the City's Building Energy Reporting and Disclosure Ordinance ("BERDO") and the Proponent will work with the City to identify feasible strategies to align the Project with the City's Carbon Free Boston initiatives.

The Proponent is evaluating transportation demand management measures, including those identified in Section 2.1.7 above, to minimize vehicle use by site residents, tenants, employees, and visitors. The Project Site is located one block from the MBTA Blue Line Aquarium Station, steps from multiple commuter ferries, and within walking distance to North Station, South Station, multiple MBTA bus lines and the Orange, Green, Red and Silver Lines. The Project will include extensive bicycle facilities to encourage bicycling. In addition, the new public open spaces will include pedestrian pathways through and around the site to allow for safe and convenient use by pedestrians.

Construction period air quality impacts and mitigation are discussed below in Section 2.2.11

2.2.7 Tidelands

The Massachusetts Public Waterfront Act, M.G.L c. 91 ("Chapter 91"), provides for the protection of the public's right of waterway navigation and access to the Massachusetts shoreline. Chapter 91 is implemented through regulations promulgated and administered by the MassDEP Waterways Regulation Program. Along the Massachusetts coastline, Chapter 91 jurisdiction includes both existing flowed tidelands and former tidelands that are now filled. Development activities within Chapter 91 jurisdiction generally require a license, permit, or other approval from MassDEP.

The Project Site is located on filled private tidelands in close proximity to flowed tidelands. As such, work within these formerly flowed tidelands will require a Chapter 91 license. Consistent with the requirements of Chapter 91 and the DWMHP, the Proponent will obtain approval for the Project's proposed building and public realm improvements.

2.2.8 Geotechnical Impacts

This section describes existing site conditions, subsurface soil and groundwater conditions, and planned geotechnical related construction for the Project. Environmental considerations are also provided.

Existing Site Conditions

The Project Site is currently occupied by a nine-level parking garage (seven levels above grade and two below). Site grades at street level are relatively level at approximately 16.0-feet BCB to 17.0-feet BCB Perimeter foundation walls and interior load bearing columns for the Garage are supported on end-bearing steel pipe piles having a design capacity of 90 tons in compression and deriving support within the underlying Glacial Deposits. The Garage has a lowest level slab elevation at -3.3-feet BCB. A series of timber pile foundations having a capacity of 25 tons in compression and 10 tons in tension support the lowest level mat slab and provide resistance due to hydrostatic uplift⁵. The tip elevations of the timber piles range from approximately El. -45.0-feet BCB to El. -60.0-feet BCB and terminates in the stiff marine clay layer.

Foundations for the northbound lane of the Central Artery/Tunnel (CA/T) section immediately abuts the west perimeter foundation wall for the existing Garage. The below-grade walls for the CA/T were constructed as a reinforced concrete diaphragm wall (slurry wall). Based on review of CA/T design plans, the bottom of the reinforced concrete diaphragm wall for the CA/T is approximately -50.0-feet BCB

Subsurface Soil and Bedrock Conditions

Numerous subsurface explorations have been conducted at the site since 1966. Subsurface conditions generally consist of Fill, Organic Deposits, Marine Clay, Glacial Till, and Bedrock and are summarized in Table 2-14 – Summary of Subsurface Units Encountered at Site.

Table 2-14 Summary of Subsurface Units Encountered at Site¹

Subsurface Unit	Top of Stratum Elevation (ft)	Average ² Thickness (ft)								
Fill	El. 17.2 to El1.9	22.2								
Organic Deposits	El. 2.4 to El16.9	14.2								
Marine Clay	El7.0 to El31.0	33.8								
Glacial Till	El31.0 to El64.9	32.1								
Bedrock	El68.0 to El94.0	N/A								
10-may of the contractive the Petrol in Table 2.44 may not an analysis and in complete the										

¹Some of the subsurface units listed in Table 2-14 were not encountered in every boring.

² Estimation of average stratum thickness excludes test borings where respective stratum was not encountered.

Elevations reported herein are referenced to Boston City Base (BCB) Datum, wherein El. 0.0 BCB is 5.65 ft below the National Geodetic Vertical (NGVD 1929) Datum and 94.35 ft below CAT/THT Datum.

⁵ Harbor Towers Garage, Boston, Mass., Pile Location Plan and Subsurface Soils Information, January 1970.

Groundwater and Flood Conditions

Previous explorations indicate that groundwater levels at the site ranged from 12.0-feet BCB to 4.0-feet BCB at the time the subsurface explorations were conducted. Groundwater levels at the site are anticipated to fluctuate as levels are influenced considerably by tidal changes in the adjacent Boston Harbor. In particular, lunar tide cycles in Boston Harbor can increase high water level to 11.0-feet BCB to 12.0-feet BCB, with even higher levels resulting when lunar tides occur during a major storm surge. In January 2018 the water level in the Harbor was measured at 16.1-feet BCB.

Much of the site is located just beyond the 100-year flood zone (Zone AE) but is with the 500-year flood zone (Zone X) based on the FIRM Map (March 2016) developed by Federal Emergency Management Agency (FEMA).

The Project Site is also within the buffer zone to Coastal Bank and Land Subject to Coastal Storm Flowage, as defined by the Wetlands Protection Act and associated regulations, 310 CMR 10.00 et seq. Accordingly, the Project will be designed in compliance with the Wetlands Protection Act performance standards. The Project Site will also be subject to jurisdiction under the recently enacted City of Boston Wetlands Ordinance.

Estimates of sea level rise within the City of Boston, for planning purposes, anticipate 40 inches of sea level rise through calendar year 2070. The BPDA's Sea Level Rise – Flood Hazed Map, which models a 1% annual chance flood event with 40 inches of sea level rise, establishes a Sea Level Rise - Base Flood Elevation ("SLR-BFE") for the Project Site of 19.5-feet BCB. The tower will exceed BPDA's guidelines by incorporating 18 inches of freeboard at the ground level, resulting in a first-floor elevation of 21.0′ BCB.

The Project team is evaluating and/or planning the incorporation of additional measures to mitigate against flood impacts, including:

- ♦ Elevating the vast majority of the site above anticipated base flood elevations with estimated contributions of sea level rise and evaluating similar solutions for the adjacent Harborwalk section of East India Row,
- Placing essential mechanical equipment above the future flood level;
- Water-tight conduits;
- Automated flood barriers at parking garage entrances;
- ♦ Stormwater retention garden network;
- ♦ Stormwater storage, treatment, and reuse;
- Wastewater backflow prevention; and,

• Resilient materials on the first floor that can either withstand flooding or easily be replaced.

Site Constraints and Considerations

The Proponent will evaluate whether to locate a new reinforced diaphragm wall outside the limits of the existing Garage walls or inside the limits of existing Garage. Ideally, the new reinforced concrete diaphragm wall will be located outside the existing Garage wall system to avoid existing pile foundations supporting the Garage. If constructed outside the limits of foundations for the existing Garage, coordination with existing easements and public rights in the respective ways will be required.

A sewer line syphon is located within Level B2 of the Garage; adjacent to the west perimeter foundation wall of the Garage. Piping for the sewer line syphon is oriented in the north-south direction. Below-grade construction will require maintaining operation of the system and relocation of the sewer line syphon.

Due to the Site's proximity to Boston Harbor, design of the Project will continue to evaluate potential flooding and sea level rise impacts at the Project's garage entrances and perimeter foundation walls. The design will incorporate appropriate protective measures.

Proposed Subsurface Construction

The proposed Project includes construction of a single tower with below-grade parking, as described in Section 1.0. The ground floor of the tower will be established at approximately 21.0-feet BCB and surrounding site features/improvements will be designed and constructed with strategies toward achieving resilience against potential future flooding at the site.

The portions of the tower to be constructed over the below-grade parking structure are planned to be supported on reinforced concrete footing and mat foundations bearing on the natural, inorganic glacial deposits. The excavation will be conducted within an engineered lateral support of excavation ("SOE") system constructed using slurry wall methods. The SOE system will be designed to provide excavation support, limit ground movements outside the excavation to protect adjacent facilities, and maintain groundwater levels outside the excavation by creating a groundwater "cutoff" between the excavation and the surrounding area. The SOE system will be designed to be installed/sealed into the glacial deposits and bedrock to isolate the excavation and future below-grade garage from the groundwater table. Due to the depth of excavation, the SOE system will be supported by an internal bracing system. Pre-excavation will be performed along the perimeter of the existing garage to remove and/or relocate obstructions prior to installing the SOE system. Penetrations through the permanent below-grade walls (such as for utilities) will be permanently sealed.

Temporary dewatering will be required inside the excavation during excavation and foundation construction to remove "free" water from the soils to be excavated, as well as precipitation. The essentially watertight excavation support wall will prevent withdrawal of groundwater from outside the excavation. Any leakage through the walls will be promptly sealed by grouting.

A temporary construction dewatering permit will be obtained prior to discharge of dewatering effluent from the site. Testing of the effluent will be conducted prior to and during discharge, in conformance with applicable permit requirements.

Potential Impacts During Below-grade Construction

In general, potential impacts during excavation and foundation construction include temporary lowering of area groundwater levels, ground vibrations, noise, and ground movements outside of the excavation. Foundation construction will be conducted to control and limit potential adverse impacts, especially to adjacent structures and to groundwater levels.

Mitigation Measures

Mitigation measures will be incorporated into the design and construction of the Project to limit potential adverse impacts to immediately adjacent areas, including 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 preventing groundwater lowering. Selection and design of the foundation type and excavation support system type will be made with careful attention to mitigating adverse temporary and long-term effects outside the Project Site.
- ♦ The Project team will work closely with MassDOT in developing a foundation design that utilizes construction methods that maintain the safety and integrity of the CA/T structure and it appurtenances throughout and following construction.
- Performance criteria will be established in the Project specifications for the foundation installations and lateral excavation support system. Instrumentation will be installed and monitored before and during the below-grade portion of the work to observe the performance of the excavation, adjacent structures and utilities, and area groundwater levels.

2.2.9 Solid and Hazardous Waste

Hazardous Waste

Considering the historic fill placement and previous site development, the potential exists that the Project Site soils could contain concentrations of chemical constituents that may exceed applicable threshold values and require new reporting to MassDEP under the Massachusetts

Contingency Plan ("MCP"). If a new reporting condition is encountered, MassDEP will be notified and the appropriate studies performed as required under the MCP. Characterization of the soil and groundwater at the Project Site will be conducted by the Proponent, and laboratory testing of soil and groundwater to be generated as a result of construction activity will be performed at the appropriate stage of the design process to further evaluate Project Site environmental conditions.

Solid Waste

The Project will generate solid waste typical of commercial and residential uses. Solid waste is expected to include wastewater, cardboard, glass bottles and food. Recyclable materials will be recycled through a program implemented by building management.

2.2.10 Noise Impacts

The mechanical equipment for the Project has not been finalized at this preliminary design stage, but it is anticipated to be similar to that used on similarly sized commercial and residential buildings. Rooftop equipment will be screened, and acoustic screening may be included for any mechanical equipment, if necessary, to meet local noise standards. The Project team will ensure that the tower's mechanical equipment will meet the City of Boston Noise Standards.

Construction period noise impacts and mitigation are discussed below in Section 2.2.11

2.2.11 Construction Impacts

Construction Air Quality

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

- Using wetting agents on areas of exposed soil on a scheduled basis;
- Using covered trucks;
- Minimizing spills on the construction site;
- Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- Minimizing storage of debris on the construction site; and,
- ♦ Periodic street and sidewalk cleaning with water to minimize dust accumulations.

Construction Noise and Vibration

The Proponent is committed to mitigating noise impacts from the construction of the Project. Increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities. As feasible, all means and methods for performing work at the site will be evaluated for potential vibration impacts on adjoining property, utilities, and adjacent existing structures. If necessary, vibration criteria will be established prior to construction, and vibration will be monitored during construction to ensure vibration impacts, if any, are consistent with the criteria.

Mitigation measures are expected to include:

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

Construction Waste

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

Rodent Control

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

Wildlife Control

The Project Site is currently developed and within a fully developed urban area and, consequently, the Project will not impact wildlife habitats as designated on the National Heritage and Endangered Species Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife maps.

Protection of Aquarium Animal Life

The Proponent will work with the Aquarium to develop, as necessary, reasonably measures intended to mitigate any adverse impacts (particularly noise and vibration) to animals housed at the Aquarium resulting from construction activities. As noted above, construction work will comply with the requirements of the City of Boston Noise Ordinance and every reasonable effort will be made to minimize the collateral impacts of construction activities.

2.3 Urban Design

2.3.1 Design Concept

The design for The Pinnacle at Central Wharf has been shaped by and has evolved in response to multiple factors, including existing site constraints, coordination and collaboration with neighboring properties, pedestrian and vehicular circulation in and around the Site, environmental concerns, such as wind and light, sustainable initiatives, climate resiliency, as well as various DWMHP provisions. The resulting massing represents a successful balance between satisfying all of these forces and creating meaningful architectural expression for a prominent site on Boston's waterfront.

The placement and footprint of the tower has been driven primarily by the open space requirements and guidelines of the DWMHP, most particularly the mandate to preserve 50% of the Project Site as open space. A large public plaza was created along Milk Street by allocating 30% of the open space to the north. This grand plaza along historic Central Wharf will create a new East-West pedestrian connection between the Greenway and the water, and is a key component for the full realization of the proposed Blueway vision. The tower footprint was limited to 50% of the Site and designed to maximize public spaces along Central Wharf to the north and along the Harborwalk to the east, while locating 10% of the open space on the Project's south side for additional separation from the adjacent Harbor Towers residences for privacy and views. Careful thought was given to the placement of ground floor lobbies and ramps to best

meet the needs of building occupants, respect concerns of the City and neighboring properties, and enhance the public experience. Retail frontage has been maximized to create a vibrant street wall along three sides of the Site.

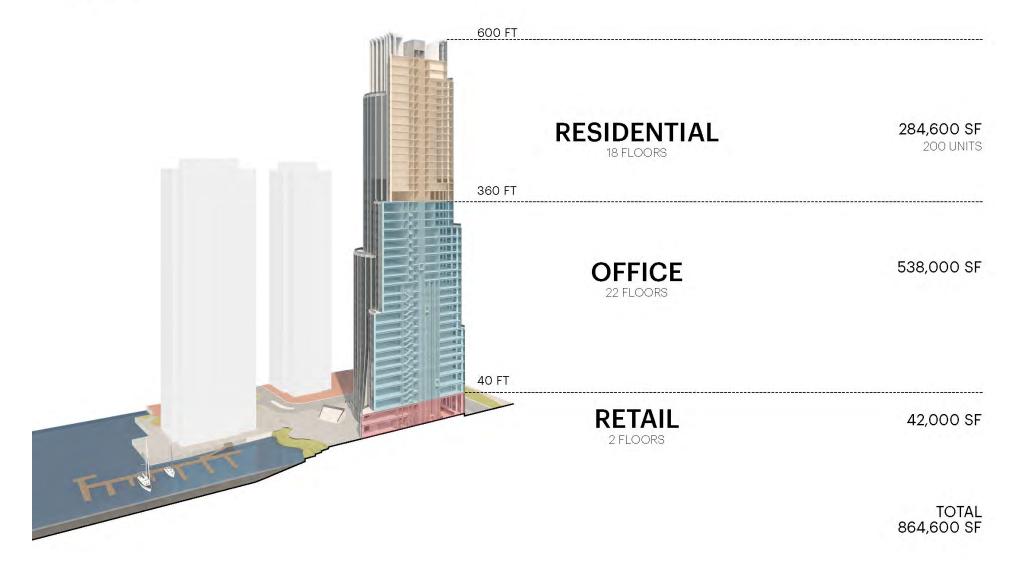
In response to the DWMHP requirement limiting shadow fall on Long Wharf, the tower form took on a stepped language, with the mass reducing through a series of setbacks as the building ascends. In addition to reducing the shadow fall, these setbacks also break down the scale of the tower, relate to heights of neighboring buildings, improve wind mitigation, provide outdoor spaces to building occupants, and open view corridors for neighboring Harbor Towers residences. The resulting form is an extruded geometry, where volumes peel apart from one another and step back as the tower rises, creating a stepped expression that is wider at the base and narrow at the top (Figure 2-22). The tower shape reflects the program within, starting with retail at the base, (Figure 2-23 to Figure 2-26) followed by a series of setbacks up the height of the tower that reduce the floor plate size for proper leasing depths through the office portion, and continuing to the upper portion with the smallest floor plate for residential units where shallower depths are desired. Each of the setbacks creates exterior terraces that are accessible to the building occupants. The stepped form becomes a unique and powerful image on the skyline while being respectful of the existing context (Figure 2-27).

Another strategy that was used to reduce the shadow impacts was a rounding of the overall form of the tower into a clover-like plan. This also had the added benefits of easing pedestrian flow around the base of the building by creating smooth circulation paths (Figure 2-28) and opening up view corridors to the water (Figure 2-29). The rounded form was given a more refined expression by folding the façade in and out along the perimeter of the tower. The folded expression of the façade enhances the verticality of the tower, which is further emphasized by treating one side of the fold as a solid panel, creating vertical bands. As well as improving the appearance of the tower, the folded language acts to mitigate wind as it travels around the tower, and reduces any potential impacts of solar glare by scattering and diffusing light reflections, rather than allowing them to focus on one point. The façade is based on a plan module of approximately seven feet of glass and three feet of solid, with the solid portion expressed as a metal or terra cotta panel. Grand gestures are created at the entry points in the podium for the office lobby, residential lobby, retail, and primary parking garage ramp, as well as at alongside the terrace facing the harbor (Figure 2-30). At these moments, the vertical piers peel apart like a curtain to reveal a special façade expression, and serve as markers, with the tallest and largest opening at the office lobby facing the southwest corner of the Site.

2.3.2 Exterior Building Materials

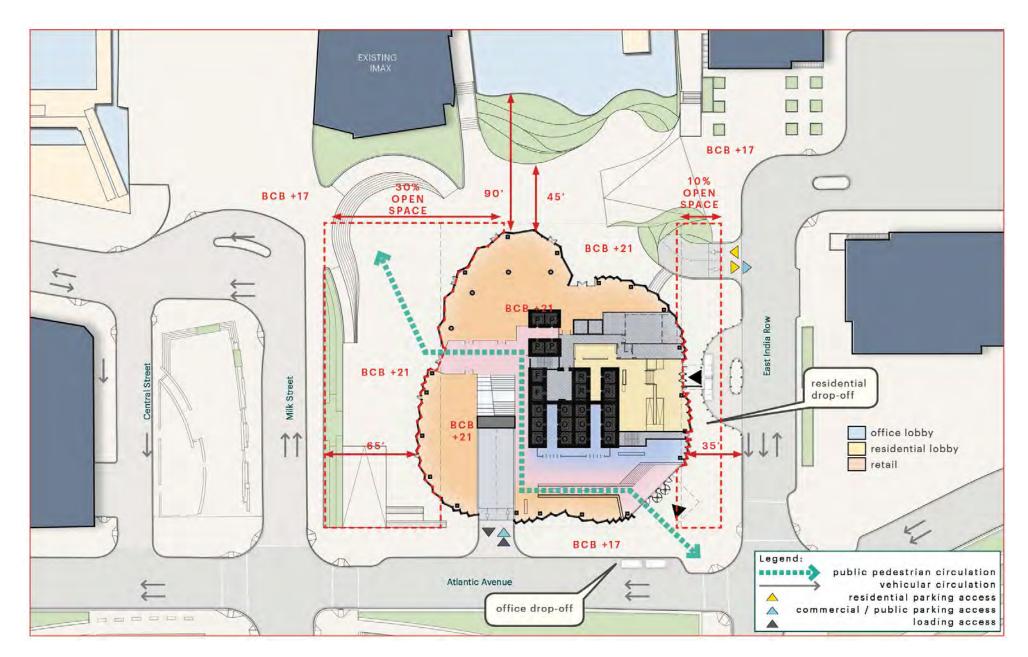
As noted above, the tower's façade takes on a folded expression, with alternating solid and glass bands of approximately three feet wide and seven feet wide respectively. Early in the design process, it was decided that this project should not read as an all-glass tower, as is often seen in newer developments. In order to connect to the rich diversity in texture and materiality of many existing historical buildings in Boston, it was important to maintain a solid expression in the

Program



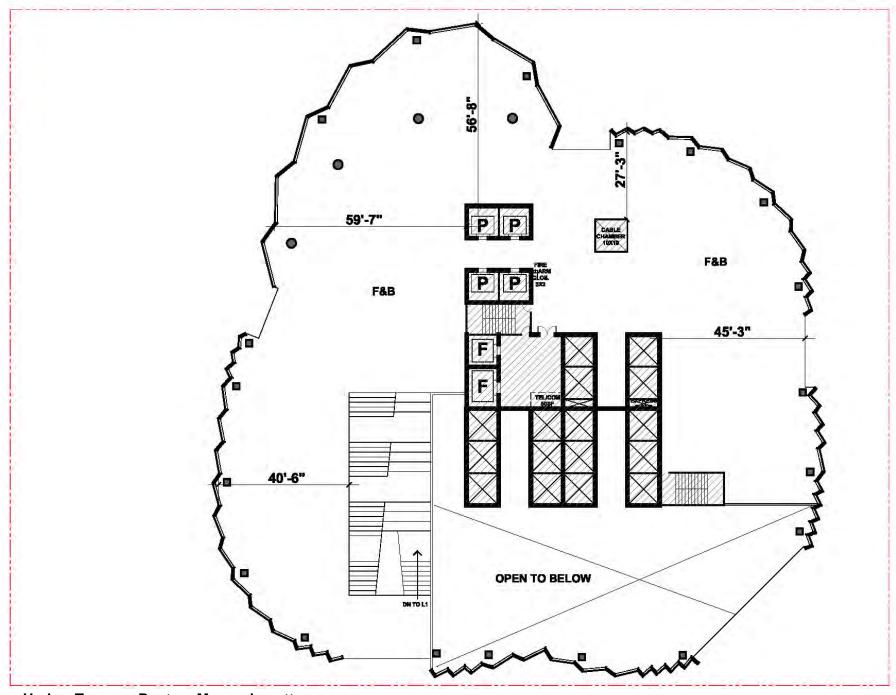
The Pinnacle at Central Wharf Boston, Massachusetts





Boston Harbor Tower Boston, Massachusetts

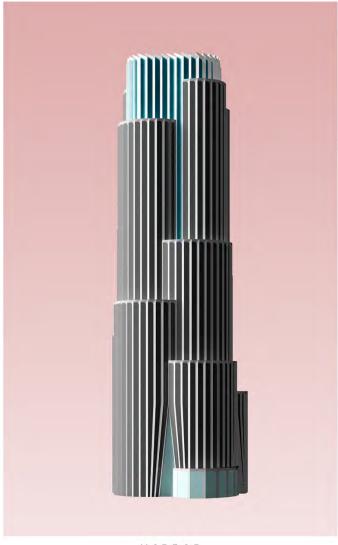




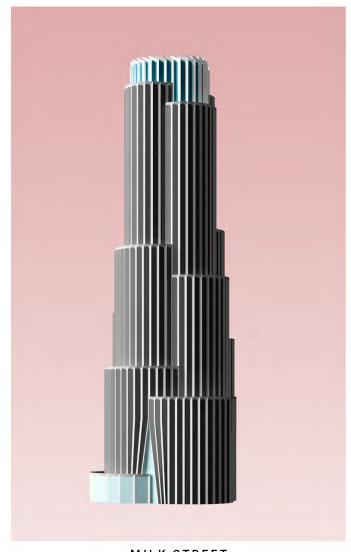
Boston Harbor Tower Boston, Massachusetts



Elevations







MILK STREET

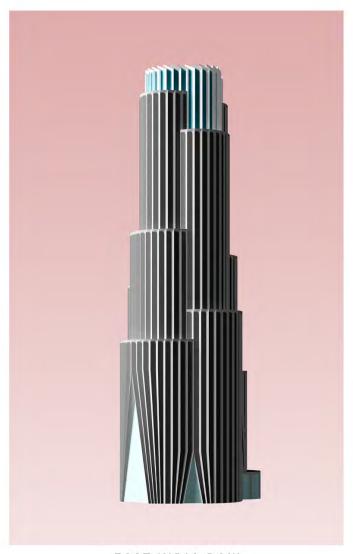
The Pinnacle at Central Wharf Boston, Massachusetts



Elevations



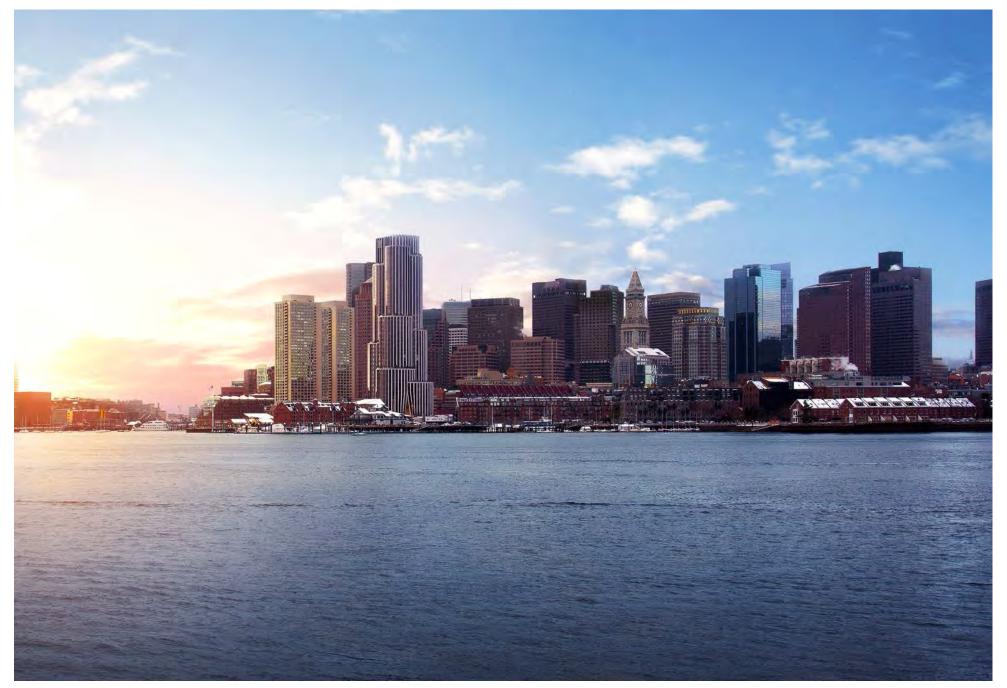
ATLANTIC AVE



EAST INDIA ROW

The Pinnacle at Central Wharf Boston, Massachusetts

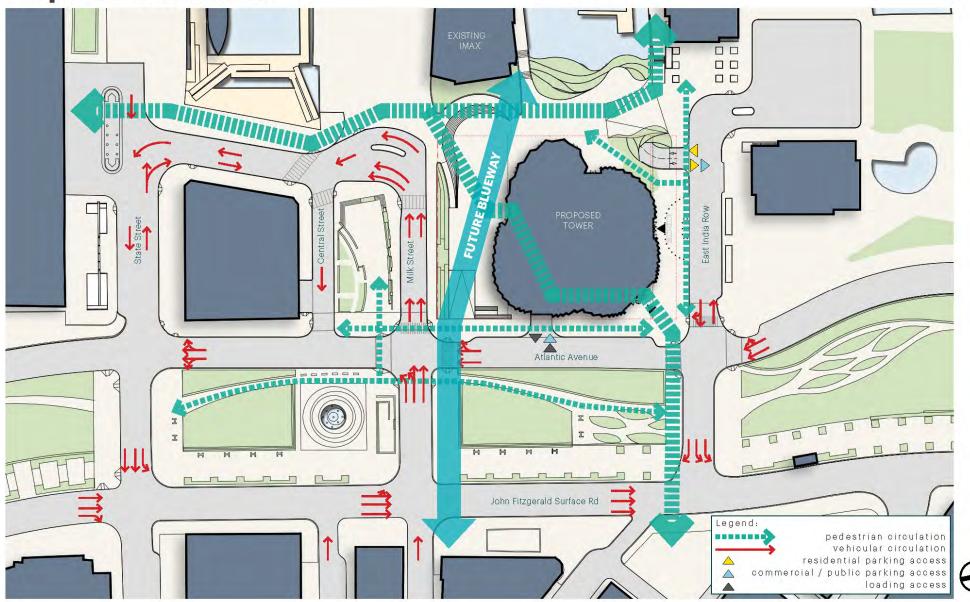




The Pinnacle at Central Wharf Boston, Massachusetts



Proposed Circulation



Boston Harbor Tower

Boston, Massachusetts





The Pinnacle at Central Wharf Boston, Massachusetts





The Pinnacle at Central Wharf Boston, Massachusetts



exterior. Various materials are being explored for this solid portion of the façade, such as glazed terracotta, or painted metal. To express an even more fine-grained texture, these solid pieces will have folded profiles. The glass will be Low-E, high performance, insulated glass units, with low reflectivity. The large scale of these glass panels will allow abundant natural light into the interiors and frame expansive views to the exterior for building occupants.

2.3.3 Height and Massing

Height and massing has been influenced by building program requirements, DWMHP provisions, separation from neighbors, Federal Aviation Administration ("FAA") height limitations, wind, light, and providing access to exterior space for occupants as described in the tower design evolution section. A stepped, extruded form was a successful solution for meeting all of these site constraints, relating to neighboring buildings, and creating a strong image for the skyline (Figure 2-31).

2.3.4 Overall Site Design Approach

The Site design for the Project strives to build a unique civic space and destination in the heart of Boston. As the DWMHP states, "this is where Boston touches the water." The Site is a hub of activity where the Harbor, the Rose Kennedy Greenway, the New England Aquarium, and the Harborwalk converge, bringing together a diverse group of tourists, locals, and people of all ages and backgrounds (Figure 2-31). The Site represents an opportunity to entertain, teach, inspire, and to make a first impression, shaping the image of the Boston Waterfront through iconic placemaking.

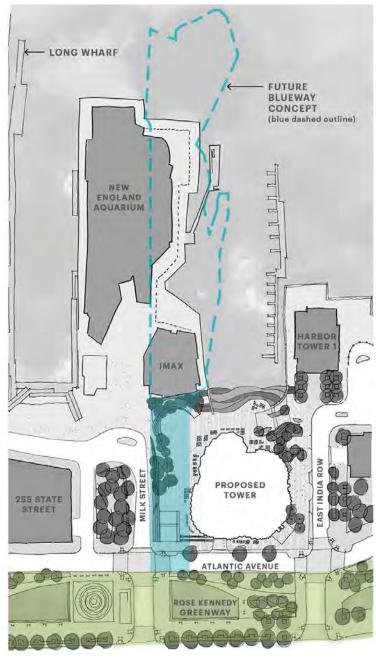
The proposed design will be responsive to its context, drawing influence from and making meaningful connections to the adjacent conditions. It will offer a rich array of experiences to its many users, guiding them through the Site in a comfortable, efficient, and accessible way. The design will prioritize pedestrians, allowing users to feel safe and free to be fully immersed in their surroundings.

Additionally, the proposed design addresses climate change by elevating the Project Site and adjacent Harborwalk to buffer and protect the building, infrastructure, and public realm from sea level rise and storm surge. In addition, green infrastructure elements, such as shade trees and planting areas, will provide ecosystem services and mitigate the effects of extreme heat events and intense rainstorms described in Section 2.5, below.

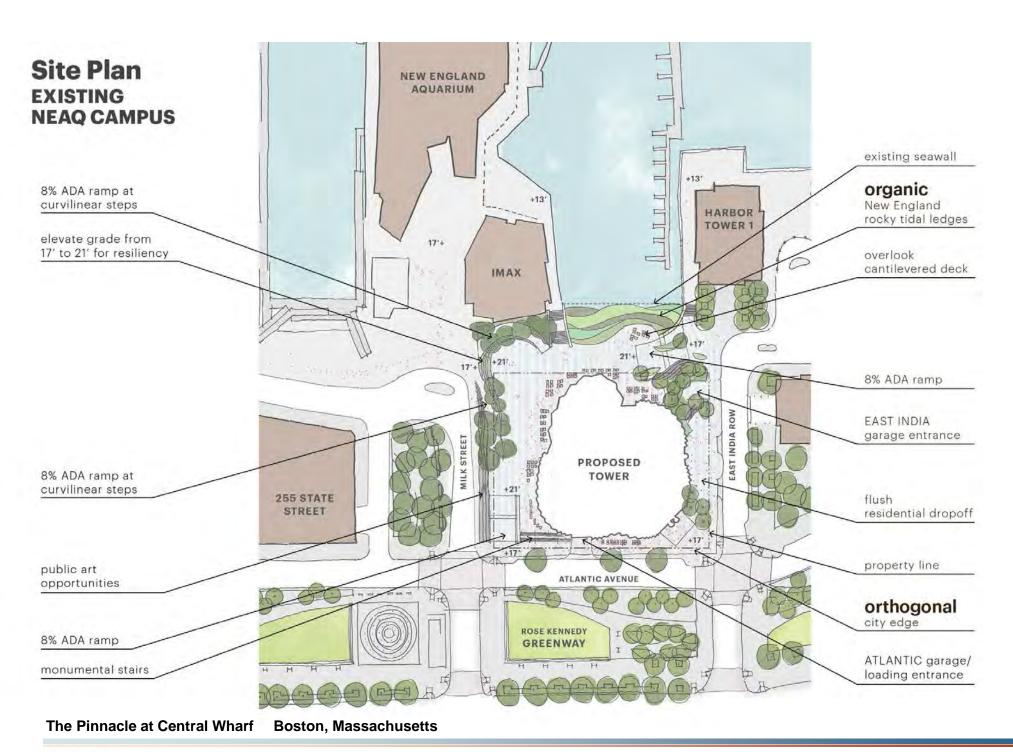
The northeast corner of the Site includes an interim condition with an accessible ramp and stairs connecting the plaza down to the current elevations around the IMAX theater (Figure 2-32). An aspirational version of the proposed design illustrates how the northeast corner of the plaza is



CLIMATE READY BOSTON: RESILIENT BOSTON HARBOR



The Pinnacle at Central Wharf Boston, Massachusetts





adaptable to blend with the New England Aquarium's publicly stated vision for the future of its parcel, which may include the removal of the IMAX theater, a renovated and expanded main building, and implementation of the Blueway vision for harbor access (Figure 2-33)⁶.

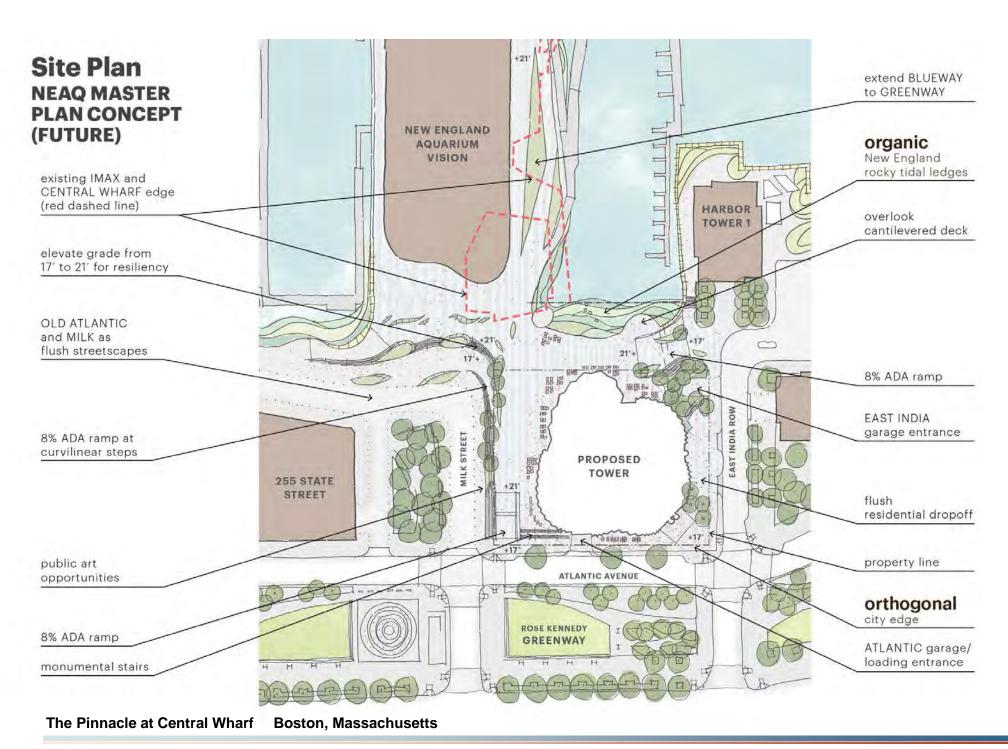
2.3.4.1 Public Realm Programming

The Project's public realm programming will be driven by both the interior programming of the building and the mix of uses immediately surrounding the Site. The Project's program harnesses the energy resulting from the Site's proximity to commercial, retail, residential, cultural, and recreational assets and fosters an active and dynamic public realm, on and around the Site.

The Project's public realm space comprises of a variety of outdoor rooms, strategically laid out to establish view corridors along the Harborwalk and to the Aquarium. As described below, the public realm programming and design will maximize the water-related public benefits available at this Site and attract and maintain substantial public activity on the Site on a year-round basis:

- Along the Central Wharf plaza, consistent with the proposed Blueway vision, views and wayfinding will take priority, guiding users from the Greenway toward the Aquarium. The edges of the plaza will offer raised seating, allowing for passive uses such as peoplewatching and enjoyment of views to and across the Harbor.
- ◆ The open spaces immediately surrounding the tower will require the most flexibility in use. Programming here will respond to daily and seasonal changes, allowing transformation into a large event space and supporting temporary installations to activate the plaza during morning and evening hours, and even during cold weather months, without feeling vacant or vast on an average day. Movable site furniture, planting elements, and opportunities for public art will be utilized to adjust the scale of the space, so it feels appropriate for every occasion. Infrastructure needed to support the variety of programming will be incorporated into the plaza design to provide substantial public benefit and maximize functionality; for example, dynamic site lighting, utilities for music events or art installations, appropriate access for food trucks and event setup, and multimedia capabilities will all be supported by the final design (Figure 2-34).
- As further described in Section 2.3.5.2 below, the Project envisions reimagining and invigorating the adjacent section of the Harborwalk to honor its location at Boston's "front door to the world." Through elevation, upgrades, and activation, this public asset will be transformed into a Porch for the City and the region.

Source: www.neaq.org/about-us/mission-vision/blueway





The Pinnacle at Central Wharf Boston, Massachusetts



- ◆ Subject to collaboration and coordination with abutters, the Project will create a waterfront overlook at the water's edge, inviting the public to get close to the water and enjoy views across the harbor. The overlook can be populated with moveable furniture of different types and configurations, so users can sit and read a book, lunch with coworkers, or take a break from walking tours to chat with their travel companions. Furniture can be removed for large events or gatherings. It also provides an opportunity for school groups or tour groups to gather and view the tower, the Aquarium, other activity in the plaza; as such, it will be a key location for interpretive signage. This overlook is envisioned as an integrated feature of a new, resilient "living shoreline" to be installed landward of the existing seawall.
- Detailed design of the ground plane will emphasize the connection of outdoor programming to interior spaces and also provide opportunities for wayfinding and interpretive elements. Commercial activity within the building will be supported by flexible seating and event space outside, and spaces suitable for use as outdoor classrooms will support educational programming.
- Building on decades of experience programming and activating the public realm at International Place, the Proponent will utilize a combination of dedicated personnel, including property management employees and/or contracted placemaking staff that will be specifically tasked with ensuring that public realm programming attracts and maintains substantial public activity on the Site on a year-round basis, and works with stakeholders and other interested parties to develop and retain new, engaging programming that maximizes the provision of public benefits at and around the Project Site.

2.3.4.2 Wayfinding and Interpretation

Site improvements will include interpretive and wayfinding elements to enhance user experience and honor the things that contribute to the Boston Waterfront's sense of place. Interpretation will be both environmental and historical, building on efforts like the Norman B. Leventhal Walk to the Sea, and speaking to both the history of the land use and the ecology of the Harbor.

Patterning of the ground plane will harken to estuary ebb and flow lines, relating the site to a New England tidal shoreline.

Wayfinding efforts will focus on connecting people from the Greenway, to the Harbor and the Aquarium, unlocking the potential for the proposed Blueway, connecting to the Harborwalk, and orienting users within the City. A hierarchy of wayfinding strategies will be applied, from grand gestures like a potential vertical marker system with multimedia elements along the Central Wharf plaza, to finer-grained signage, and subtle directional elements in the hardscape.

2.3.5 Public Open Space and Landscaped Areas

The Project includes approximately 28,673 sf of publicly-accessible open space, 50% of the overall Site area. The open space meets East India Row to the south, Atlantic Avenue to the west, Milk Street to the north, and the Haborwalk to the east, beyond which are the Aquarium to the northeast, the Harbor to the east, and the Harbor Towers property to the southeast.

2.3.5.1 Streetscapes: Atlantic Avenue and East India Row

The public sidewalk along Atlantic Avenue and the vehicular portion of East India Row will be widened to improve pedestrian flow and provide amenities, consistent with the City of Boston's Complete Streets recommendations. The amenities will be located in a furniture zone: a wide, permeable strip at the curb lined with street trees and populated with street furnishings, such as bike racks, litter and recycling receptacles, and street lights. This placement of amenities also benefits pedestrians by providing vertical, visual elements to buffer them from the vehicular zone. The frontage zone, at the building face, will be paved and programmed in response to the building architecture and interior programming. For example, an interior café program will be complemented by outdoor café seating.

2.3.5.2 Harborwalk and Central Wharf

The Project will retain and enrich the Site's status as an important hub of the Boston Harborwalk, not only linking the Harborwalk on the Aquarium site to the Harborwalk on the Harbor Towers site but also providing a vastly improved connection to the Greenway. Adjacent to the Project Site, the Harborwalk will be transformed into a fitting "front porch" that is fully accessible, welcoming and well-illuminated, and will realize its true potential as a promenade and a gathering place (Figure 2-35).

The northern edge of the Project Site, along historic Central Wharf, will be designed for seamless integration into the Aquarium's proposed Blueway vision and planned renovation/expansion, while connecting the Aquarium property to the Greenway. The Central Wharf edge will include stepped seating and pockets of littoral zone planting that make up the grade change between a widened Milk Street sidewalk and the elevated multi-use plaza. The linear space will also accommodate a potential outdoor learning environment, suitable for integration with Aquarium educational programming, and presents an opportunity, consistent with the proposed Blueway vision, to install wayfinding elements to visually signal the pathway from the Greenway to Central Wharf and onto the Harbor.



The Pinnacle at Central Wharf Boston, Massachusetts



2.3.6 Pedestrian Circulation

While the public realm condition is tailored to each unique edge condition, three goals remain consistent throughout: prioritizing the pedestrian experience, maximizing outdoor programming opportunities, and connecting people from the Greenway to the water.

The footprint of the tower was positioned to maximize space for pedestrian circulation along the Central Wharf plaza to the north and along the Harborwalk to the east. With 30% of the Site's open space concentrated on the north, a strong East-West connection between the Greenway and the Harbor is created, with a pedestrian-friendly plaza design that is accessible through steps and ramps at various locations. In addition, a public corridor flows through the ground floor plan of the tower connecting the southwest corner of the site to Central Wharf to the North and East. This will be activated with various retail spaces and dining options. The interior public circulation wraps up to to the tower's second level, above the vehicular ramp, through series of steps with integrated seating areas which will also offer elevated views of the Greenway to the West.

2.3.6.1 Multi-use Plaza and Building Entries

Grand, sloped walkways will provide comfortable, welcoming and accessible connections from the streetscapes up to the Central Wharf plaza and Harborwalk Porch adjacent to the north and east sides of the building, elevated in preparation for the ongoing impacts of climate change.

Entry plazas off of Atlantic Avenue and East India Row with special paving will be located at the office and residential lobby entrances. All shared zones for both pedestrians and vehicles, such as the residential drop-off and garage entrances, will be flush and paved consistent with the sidewalk to prioritize the pedestrians over the vehicles. Bicycle infrastructure will also be integrated into the Project.

2.3.6.2 Adjacent Intersections

Intersection improvements implemented as part of the Project will be designed with the intention of improving pedestrian safety and pedestrian traffic flow to and from the Greenway and along Atlantic Avenue. This will be achieved through the strategic layout of intersections and through the use of paving materials to visually differentiate areas for pedestrians. As noted in Section 2.1.8, all abutting sidewalks and pedestrian ramps at the Project Site and at other locations proximate to the Site to be agreed upon with the City will be constructed to the City's standards in accordance with the Boston Complete Streets design guidelines. This will include the reconstruction and widening of the sidewalks where possible, the installation of new, accessible ramps, improvements to street lighting where necessary, planting of street trees, and providing bicycle storage racks surrounding the site, where appropriate.

2.4 Sustainable Design

2.4.1 Introduction

The Proponent believes that optimum building performance and environmental responsibility are fundamental components of the Project. The Project's sustainability goals seek to leverage the many benefits of the Site while using the most up-to-date knowledge and experience to design a building that minimizes energy use, conserves water, conserves natural resources, and supports the health and wellbeing of building occupants. To track sustainability, and consistent with Article 37 of the Code, the Project team will use the Leadership in Energy and Environmental Design ("LEED") rating system – LEED v4 Core and Shell ("LEED").

The design team for the Project includes several LEED Accredited Professionals, including members from KPF, Epsilon, and Cosentini. The Proponent and design team will continue to evaluate and incorporate sustainable design and energy conservation measures as the design process proceeds.

In support of the City's Green House Gas ("GHG") emissions reduction goals and guidelines for Zero Emissions Buildings, the Proponent will prepare a project-specific Carbon Neutral Building Assessment by modeling a low carbon building design with an enhanced building envelope, and optimized and all-electric mechanical systems. The Building Assessment will also evaluate the tower's potential for solar energy systems and determine what amount of off-site renewable energy procurement would be required for zero carbon building.

The Project team is currently evaluating utility and state energy efficiency program opportunities and will engage with representatives of the utility to determine how best to maximize building performance.

2.4.2 Compliance with Article 37

Based on the current target credits, a LEED® Gold rating is anticipated for the Project. The Project incorporates a holistic approach to sustainability, while mitigating the environmental impacts of energy, water and material use. A summary on the preliminary approach to the credit categories are outlined below and shown in the LEED checklist provided at the end of this section. This is a preliminary evaluation of the LEED checklist, and applicable credits may change as the design advances and the Proponent explores additional opportunities to incorporate sustainability and resiliency measures.

2.4.2.1 Location and Transportation (LT)

The Project team is studying 16 likely achievable points within the Location and Transportation credit category. The Project Site, currently a structured parking garage, is located in the Downtown Waterfront District, and area of the City that offers convenient intermodal public transportation options. The MBTA's Blue Line Aquarium Station is a short walk from the Project Site. South Station is less than one-half mile from the Project Site and is served by the MBTA Red

and Silver Lines, Commuter Rail, Local and Regional buses, and Amtrak. Bus stops for bus routes 4, 15, 39, 57, 92, and 93 are also nearby. A range of public transportation options encourages building occupants and visitors to utilize these modes, as opposed to taking single occupant vehicles. The Project will also provide new bicycle facilities, including a number of bicycle racks consistent with BTD guidelines, will further encourage alternative modes of transportation. The on-site parking will include EV chargers to support and promote the use of electric vehicles.

2.4.2.2 Sustainable Sites (SS)

The Project team has identified 9 likely achievable points within the Sustainable Sites category. The Project will be designed to minimize rainwater runoff and to reduce the heat island effect by placing parking under cover and mitigating roof reflectance. The Project will also provide significant new public open space and landscaping in place of existing structure. The Project team will track and continue to evaluate the potential to achieve 2 additional points related to open space, heat island reduction, and light pollution reduction.

2.4.2.3 Water Efficiency (WE)

The Project team has identified 8 points that are likely attainable in this category, along with an additional 2 points that may be feasible and require additional investigation. The building will be designed to incorporate high-efficiency water fixtures to reduce indoor water consumption and incorporate advanced water meters to help the Project consistently track water usage data. The Project will also reduce outdoor water consumption through efficient landscaping practices. The Project team will track and continue to evaluate the potential to pursue the "maybe" credits to achieve additional water savings through the further reduction of indoor and outdoor water use demands.

2.4.2.4 Energy & Atmosphere (EA)

The Project team has identified 14 points within the Energy and Atmosphere category that are likely attainable, and another 8 points that may be feasible with some further investigation. The points will be sought through reductions in overall energy consumption by cost, enhanced commissioning strategies, advanced metering of energy subsystems to help the Project understand and reduce consumption, and enhanced refrigeratant management. The potential "maybe" credits will be monitored by the Project team to determine if additional improvements to energy performance and renewable energy production strategies can be utilized for the buildings. The Project team also is evaluating the feasibility of purchasing green power and carbon offsets for the Project's annual energy consumption for up to five years.

2.4.2.5 Materials and Resources (MR)

The Project team has identified 3 points that are likely attainable within the Materials and Resources category, and an additional point from the Project's sourcing of raw materials as a potential target credit. The Project will reduce the overall footprint of proposed materials by utilizing sustainable waste management strategies and maximizing the declarations of

environmental products and chemical ingredients of the permanently installed products. The Project expects to implement LEED v4.1 credit substitutions for the two Building Product Disclosure and Optimization ("BPDO") credits being pursued a strategy which has been successfully implemented on other similar projects.

2.4.2.6 Indoor Environmental Quality (IEQ)

The Project team has identified 5 points that are likely attainable in the Indoor Environmental Quality category for the Project, and 5 points that may be feasible. Strategies such as enhanced indoor air quality control strategies, a construction indoor air quality management plan, and low-emitting materials will be incorporated to provide a healthy indoor environment for all occupants and visitors. Thermal comfort and interior lighting strategies will also be used to promote occupant well-being and comfort. The Project team will continue to investigate the possibility of pursuing points for the reduced use of electrical lighting and introducing daylight into the space.

2.4.2.7 Innovation (I)

The Project team will evaluate and implement measures and strategies in the design and construction of the building to exceed the performance criteria of some of the base credits and will introduce innovative building features, technologies, and policies that are not addressed by existing prerequisites and credits in the LEED BD+C: Core and Shell rating system. The potential Innovation Credits may include: green building education, occupant comfort survey, operation and maintenance starter kit, and/or potentially a few pilot credits, such as lead risk reduction, green training for contractors, social equity within design and construction team. The Project team also includes LEED Accredited Professionals.

2.4.2.8 Regional Priority (RP)

The 4 points available in the Regional Priority credit category are contingent on the Project meeting certain thresholds for credits in previous categories as determined by the USGBC. The Project intends to achieve the optimized energy performance thresholds and rainwater management as well as investigating the possibility of further reduction in indoor water use to a 40% reduction.



LEED v4 for BD+C: Core and Shell

Project Checklist

Integrative Process

Project Name: The Pinnacle Date: 1/8/2020

1

16	3	1	Location and Transportation	20
			Credit LEED for Neighborhood Development Location	20
2			Credit Sensitive Land Protection	2
	3		Credit High Priority Site	3
6			Credit Surrounding Density and Diverse Uses	6
6			Credit Access to Quality Transit	6
1			Credit Bicycle Facilities	1
		1	Credit Reduced Parking Footprint	1
1			Credit Green Vehicles	1

9	2	0	Sustainable Sites	11
Υ			Prereq Construction Activity Pollution Prevention	Required
1			Credit	1
1	1		Credit Site Development - Protect or Restore Habitat	2
1			Credit Open Space	1
3			Credit Rainwater Management	3
2			Credit Heat Island Reduction	2
	1		Credit Light Pollution Reduction	1
1			Credit Tenant Design and Construction Guidelines	1

8	2	1	Water	Efficiency	11
Υ			Prereq	Outdoor Water Use Reduction	Required
Υ			Prereq	Indoor Water Use Reduction	Required
Υ			Prereq	Building-Level Water Metering	Required
2	1		Credit	Outdoor Water Use Reduction	3
3	1	1	Credit	Indoor Water Use Reduction	5
2			Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	8	11	Energ	gy and Atmosphere	33
Υ			Prereq	Fundamental Commissioning and Verification	Required
Υ			Prereq	Minimum Energy Performance	Required
Υ			Prereq	Building-Level Energy Metering	Required
Υ			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
8	2	8	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
		3	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

3	1	10	Materi	als and Resources	14
Υ			Prereq	Storage and Collection of Recyclables	Required
Υ			Prereq	Construction and Demolition Waste Management Planning	
		6	Credit	Building Life-Cycle Impact Reduction	6
1		1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations - V4.1 credit substitution	2
	1	1	1	Building Product Disclosure and Optimization - Sourcing of Raw Materials - V4.1 credit substitution	2
1		Building Product Disclosure and Optimization - Material Ingredients - V4.1 credit substitution		2	
1		1	Credit	Construction and Demolition Waste Management	2

5	5	0	Indoor	Environmental Quality	10
Υ			Prereq	Minimum Indoor Air Quality Performance	Required
Υ			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials - V4.1 credit substitution	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	3		Credit	Daylight	3
1			Credit	Quality Views	1

5	1	0	nnovation	
1			Credit Exemplary Performance: Heat island Reduction	1
1			Credit Green Building Education	1
1			Credit Occupant Comfort Survey	1
1			Credit Operation and Maintenance Starter Kit	1
	1		Credit Pillot - Green Training for Contractors	1
1			Credit LEED Accredited Professional	1

2	1	2	Regional Priority	4
	1		Credit Bonus point for Indoor Water Use Reduction	1
1			Credit Optimize Energy Performance	1
1		1	Credit Bonus point for Rainwater Mgt	1
		1	Credit RP: Renewable Energy	1

63 23 25 TOTALS Possible Points: 110

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

2.4.3 Preliminary Energy Conservation Approach

In alignment with regional efforts to reduce GHG emissions and in support of Boston's specific GHG emissions reduction targets, the Project team has started to evaluate possible energy efficiency measures (EEMs) as designs for the Project have commenced. The EEMs that will be evaluated include low-flow and low-consumption plumbing fixtures, high performance envelope as well as high-efficiency mechanical and ventilation systems. The Project team will also study additional strategies, including incorporation of solar photovoltaic and a combined heat and power facility. To assist with the design process, whole building energy modeling was used for a preliminary analysis of possible energy efficient measures.

The project will target a 15% improvement in the proposed building performance rating for new buildings compared with the baseline building performance rating, which surpasses the 10% that will be required by the revised Stretch Code under Appendix AA 103.2. 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 model which included every building on the project site. The 15% reduction in the proposed building performance rating is in the context of a much larger building than exists today.

2.4.3.1 Preliminary Energy Model

Appendix G of Standard 90.1-2013 requires that the energy analysis completed for a 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% energy reduction target will be met by evaluating materials 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 29%, or 1,391 tons of CO₂.

A list of inputs to the energy model has been provided in Table 2-15.

2.4.3.2 Energy Efficiency Measures

Thermal Envelope

The thermal envelope will be designed to exceed the prescriptive requirements for Climate Zone 5A (Boston) of ASHRAE 90.1-2013 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.

Table 2-15 Preliminary Energy Model Inputs

Input Summary Note: Green cells indicate C406.1 Measures	Natural Gas Baseline Case (ASHRAE 90.1-2013, App. G)	Chilled Water Office - Active Chilled Beams Residential - 4 pipe Fan Coils	
Roof Insulation	R-30 c.i. U-0.032 per Table A2.2.3	R-30 c.i. U-0.032 per Table A2.2.3	
Wall Insulation	R-13 + R-10 c.i (metal stud) U-0.055 per Table A3.3.3.1	R-10 spandrel U-0.15 effective	
Windows / Glazing	U-0.42 (fixed) U-0.50 (operable) SHGC-0.40 (both)	Double Glazing U-0.38 SHGC 0.27	
Window-to-Wall Ratio	40%	~49%	
Temperature Setpoints	Cooling: 75°F Heating: 70°F	Cooling: 75°F Heating: 70°F	
Corridor and Ventilation/Makeup Air HVAC System C406.6 Measure	DX RTU with Gas-Fired Furnace and heat recovery (50% Eff.)	Chilled/Hot Water Custom Air Handlers with energy recovery (>75% Eff.)	
Corridor Cooling Efficiency	10.8 EER	6.1 COP Chiller	
Corridor Heating Efficiency	80% Et Gas Fired Furnace	95% Et Gas Fired Condensing Boiler	
Residential/Office HVAC System	PTAC - DX with hot water coil	4 Pipe Fan Coil Active Chilled Beam	
Residential/Office Cooling Efficiency C406.2 Measure	9.3 EER	4 Pipe Fan Coil - 6.1 COP Chiller Active Chilled Beam - >7 COP Chiller	
Residential/Office Heating Efficiency	90% Ec Boiler	4 Pipe Fan Coil - 95% Et Boiler Active Chilled Beam - 95% Et Boiler	
Retail HVAC System	Air Cooled Packaged VAV w/ Hot Water Coils	Air Cooled Packaged VAV w/ Hot Water Coils	
Retail Cooling Efficiency	12.2 EER	13 EER	
Retail Heating Efficiency	82% Ec Boiler	95% Et Boiler	
Domestic Hot Water	80% Et Boiler	95% Et Boiler (central)	

Table 2-15 Preliminary Energy Model Inputs (Continued)

Input Summary Note: Green cells indicate C406.1 Measures	Natural Gas Baseline Case (ASHRAE 90.1-2013, App. G)	Chilled Water Office - Active Chilled Beams Residential - 4 pipe Fan Coils	
Lighting LPD (Space by Space) C406.3 Measure	0.51 x 90% = 0.46 W/SF (Residential) 0.98 x 90% = 0.88 W/SF (Office) 0.66 x 90% = 0.594 W/SF (Corridor) 0.69 x 90% = 0.621 W/SF (Stairwell) 1.44 W/SF (Retail) 0.19 x 90% = 0.171 W/SF (Parking) 0.42 x 90% = 0.378 W/SF (Mechanical) *Vacancy sensors in common spaces *Dimming panels	0.30 W/SF (Residential) 0.85 W/SF (Office) 0.45 W/SF (Corridor) 0.60 W/SF (Stairwell) 1.44 W/SF (Retail) 0.095 W/SF (Parking) 0.32 (Mechanical) *Vacancy sensors in common spaces *Dimming panels	
Appliances	Standard Efficiency	Energy Star Rated	
Bathroom Fans	N/A - exhaust fans included in total system fan energy	N/A - exhaust fans included in total system fan energy	
Elevators	same as proposed	Regenerative Drive	
Additional Efficiency Package(s) Included in Baseline	Lighting and 10% Improved HVAC Eff.	Lighting and 10% Improved HVAC Eff.	
Input Summary Note: Green cells indicate C406.1 Measures	Natural Gas Baseline Case (ASHRAE 90.1-2013, App. G)	Chilled Water Office - Active Chilled Beams Residential - 4 pipe Fan Coils	
	Whole Building Energy Model Resul	ts	
Electricity Cost [kWh]	\$0.185	\$0.185	
Natural Gas Cost	\$1.000	\$1.000	
Energy Reduction from Baseline	58,274 MMBTU	41,403 MMBTU (28.95%)	
GHG Reduction from Baseline	4,849 Tons GHG	3,458 Tons GHG (1,391 Ton/29% Reduction)	

Roof insulation was evaluated to perform at R-30, or 6 inches of rigid insulation for all space types. Soffit and exposed floors will also input with R-30 insulation. Both the roof and floor targets meet the baseline of R-30.

Curtainwall spandrel will have thermal performance of U-0.15. Additional interior stud back up will enable batt insulation to supplement the exterior cladding depending on the tenant's build out.

Glazing can be a source of both high solar gains and heat loss. The proposed glazing percentage of 49% at the office and 45% at the residences exceeds the code baseline of 40%. However, energy use is mitigated through the use of high efficiency glazing and framing. A U-value of 0.38 improves the baseline performance of 0.42, and an SHGC of 0.27 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 residential units, high efficiency 4-pipe console fan coils with ECM motors will be utilized to heat and cool. Condensing domestic water heaters will supply the domestic hot water. In addition, all domestic hot water fixtures can be specified to be at least 20% below the LEED baseline flowrates. Ventilation will be provided through a central energy recovery ventilator equipped with a 75% efficient total energy recovery wheel that preheats and precools the entering outdoor air with toilet exhaust.

Commercial office spaces will be served by active chilled beam units and back of house spaces by chilled water fan coils. The commercial spaces will be provided valved and capped connections, but the tenants will be responsible for distribution systems.

Interior and Exterior Lighting

All common and amenity spaces will be designed to include daylight photocell sensors wherever possible. 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 will be selected to reduce the connected load by at least 20% in common spaces.

2.5 Climate Change Adaptability

Due to the Project's location adjacent to Boston Harbor, the future impacts of climate change may affect the Site in a number of ways, both directly and indirectly. The Proponent will continute to work with the City, neighbors and stakeholders to plan for the impacts of climate change and incorporate strategies developed through the Climate Ready Boston initiative, including the forthcoming Climate Ready Downtown and North End report, to ensure the Project incorporates appropriate near-term and long-term coastal resilience strategies. The following sections provide a general overview of potential climate change challenges for the Project Site.

2.5.1 Coastal Flooding

Coastal flooding causes normally dry, low-lying land to be inundated by sea water. Most coastal flooding is associated with storm surge from infrequent storm events, including hurricanes, tropical storms, tropical depressions, and extratropical storms (nor'easters), but can also be

caused by higher than normal astronomical tidal events, as is the case of perigean high tides (a.k.a. king tides). Storm surge, the rise in water levels above normal tidal variations, is due to several meteorological factors including low atmospheric pressure and wind field. Boston's Downtown Waterfront District is known to flood occasionally, both from astronomical high tides and coastal storm events, as was the case from two winter storms in January and March of 2018. The Project will incorporate mitigation measures described below to reduce the impacts of coastal flooding on the Project Site and surrounding public realm.

2.5.1.1 Sea Level Rise

One significant effect of climate change is an increase in the mean sea level. Sea level rise increases the risk of flooding posed to infrastructure and ecosystems resulting from both coastal storm events and astronomical high tides. Sea level rise also introduces a factor of uncertainty in planning for future flood risk in addition to traditional challenges in predicting the frequency of flood events.

The City of Boston's *Climate Ready Boston* vulnerability assessment and report uses the 2015 Boston Harbor Flood Risk Model ("BH-FRM") to project future sea level rise and correlated flood risk in Boston. Created as part of a MassDOT and Federal Highway Administration Resilience Pilot Project, the BH-FRM was developed by University of Massachusetts-Boston, Woods Hole Group Inc., and the University of New Hampshire. The project uses climate projections to simulate flooding from extreme weather and sea level rise and predicts that Boston's sea levels will likely rise by 9 inches (from 2013 levels) as soon as 2030 if emissions continue at their current pace, 21 inches as soon as 2050, and 36 inches as soon as 2070.

As emphasized in the *Climate Ready Boston* report, the pace of relative sea level rise in Boston is accelerating, driven by global mean sea level rise in large part due to melting Arctic and Antarctic ice sheets and ocean thermal expansion, as reported with high confidence in the Intergovernmental Panel on Climate Change's *2019 Special Report on the Ocean and Cryosphere in a Changing Climate*. ¹⁰ It is also important to note there is an important element of uncertainty involved in predicting sea level rise, and this uncertainty should be considered when evaluating potential impacts, as well as risk tolerance.

The Project design will provide resiliency now and in the future, adapting to both storm surge and sea level rise. Consistent with the anticipated recommendations of the *Climate Ready Downtown* and *North End* plan, The Project Site will be raised from elevation 17.0-feet BCB to elevation 21.0-feet BCB in order to improve the Site resiliency in light of sea level rise and coastal storms. The Proponet is also evaluating resiliency solutions along the adjacent Harborwalk to provide a

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⁷ Climate Ready Boston interpolates 2050 projections based on BH-FRM 2030 and 2070 projections.

⁸ Note that 36 inches of sea level rise in Climate Ready Boston maps correlate to 40 inches of SLR from the BH-FRM.

⁹ Climate Ready Boston report, City of Boston, pages 20-21.

¹⁰ To view full report: https://report.ipcc.ch/srocc/pdf/SROCC_FinalDraft_FullReport.pdf

catalytic contribution toward a district-wide approach to protection. Near the the water's edge, the elevation will be 21.5-feet BCB to provide additional protection against storm surge and create a more resilient harbor's edge. The Proponenet will coordinate with abutters to explore measures to install a "living shoreline" landwarad of the existing seawall thereby creting a more resilient harbor's edge.

2.5.1.2 Current and Future Flood Risk

FEMA correlates flood depths to the probability of flooding using FIRMs. FIRMs illustrate areas in Special Flood Hazard Areas ("SFHAs"), or areas that are at risk of flooding due to coastal storm events. The flood elevation with a one percent chance¹¹ of being met or exceeded each year at any particular site is given as the Base Flood Elevation ("BFE") on recent FIRMs. Elevations that correlate to additional flood probabilities, such as the 0.2% annual chance, are often included in the Flood Insurance Study ("FIS"). The current BFE for the site is 10 feet (NAVD88) or 16.46 feet BCB.

While climate science points to an increased number of stronger storm events, the current understanding of how this will impact future storm probability is not well understood. In many cases, the practice is to add sea level rise directly to infrequent flood event elevations for a given storm probability. However, the BH-FRM did attempt to account for this effect. As noted above, using the BH-FRM model, the *Climate Ready Boston* report provides a SLR-BFE of 14.0-feet NAVD88 for the site (19.5-feet BCB). This correlates to the 1% annual chance flood elevation with 40 inches of sea level rise in the 2070s. As noted above, the seaward portions of the Project Site will be raised to 21.0-feet BCB and near the the water's edge, the elevation will be 21.5-feet BCB to provide additional protection against storm surge.

2.5.2 Stormwater

From 1958 to 2010, there was a 70% increase in the amount of precipitation that fell on the days with the heaviest precipitation (*Climate Ready Boston*). With climate change, this trend is expected to continue, with more frequent, higher intensity rainfall events. *Climate Ready Boston* recommends considering a 10% increase in the 10-year rainfall event for the 2060s. Although rainfall intensity is expected to increase, the average annual rainfall may not change significantly, indicating the possibility of longer periods of dry weather between storm events.

With more frequent, higher intensity storms, existing drainage systems may not be adequate, resulting in street flooding and ponding. This can be exacerbated by sea level rise which can make storm drainage less efficient. Much of the Downtown Waterfront District comprises filled tidelands which have historically had poor stormwater management. Increased rainfall intensity and sea level rise will only exacerbate this issue in the future.

¹¹ Often referred to as the 100-year flood elevation.

Snowfall is also anticipated to be impacted by climate change. Total annual snowfall accumulations are anticipated to decrease but, similar to rainfall, infrequent high-intensity events are expected.

The co-occurrence of precipitation with high tide or coastal flood events can exacerbate flooding as stormwater cannot leave outfalls and may back up on normally dry land. This was exemplified during winter storm flooding in 2018; much of the inland flooding came from backflow.

The Site design for the Project will anticipate increasingly frequent and intense rain events, providing refuge for Site users while managing stormwater responsibly using a combination of green and conventional infrastructure, including below-grade detention and infiltration systems, where feasible.

2.5.3 Additional Climate Hazards

Although sea level rise and increased rainfall intensity are likely the most impactful effects of climate change for the Project, several other additional climate hazards may pose concerns.

2.5.3.1 Extreme Heat

Extreme heat is a chronic hazard that is expected to worsen in Boston over time. Both average temperatures as well as the frequency, duration, and intensity of extended periods of severe heat – known as heat waves – are projected to increase, following a trend over the course of the past century. In fact, the rate of this increase is itself accelerating, with average summer temperatures in Boston projected to rise from 69 degrees Fahrenheit to as high as 76 degrees by 2050 and 84 degrees by 2100. Additionally, by 2030, as many as 40 days per year may experience a heat wave of over 90 degrees, with as many as 90 days per year by 2070 (including up to 33 days over 100 degrees), assuming a business-as-usual carbon emissions scenario (*Climate Ready Boston*).

The Site design will help mitigate extreme heat events by using trees and planting to reduce impervious cover and shade key use and travel areas. Hardscape materials will be selected with solar reflectance in mind, aiming to reduce glare and minimize contributions to urban heat island effect.

2.5.3.2 **Drought**

Planting materials for the Project are a high priority, as they provide innumerable benefits from reducing urban heat island effect to contributing to an iconic sense of place. While plants will be selected for drought tolerance to the fullest extent possible, there will likely be periods of drought that stress even the hardiest native species. An efficient permanent irrigation system will help plantings survive these periods and protect the many benefits they provide.

2.5.3.3 Storms and Extreme Wind

Boston is and will continue to be subject to both extratropical cyclones (e.g., blizzards and nor'easters) and tropical cyclones (e.g., hurricanes and tropical storms). As noted in the coastal flooding description above, while there is evidence that the frequency of storm events is increasing, the impact of climate change on both extratropical and tropical storms is not currently well understood. The increased storm frequency may mean higher extreme design wind speeds in the future. Each of these sceniarios is being evaluated as the Project's design is refined.

2.5.3.4 Groundwater

Climate change will also impact groundwater. In coastal areas, such as along Boston's inner harbor, sea level rise will cause an increase in adjacent groundwater levels. Depending on the subsurface conditions, a one to one relationship between sea level rise and groundwater rise can be anticipated up to one-half mile inshore. Increased rainfall intensities can also cause temporary increases in the groundwater table. Evaluation of subsurface systems will account for these changes.

2.6 Historic and Archaeological Resources

2.6.1 Historic Resources

The Project Site encompasses an existing parking structure and contains no historic resources. However, the parcel is in the vicinity of several properties and districts included in State and National Registers of Historic Places. Historic districts in the vicinity of the Site include the Long Wharf District, located to the north of the Project Site, which is listed on the National Register of Historic Places,. Further to the west of the Project Site are other National Register properties, including the Custom House District and Quincy Market.

Figure 2-36 depicts historic resources within a one-quarter mile radius of the ProjectSite, and these resources are also listed in Table 2-16.

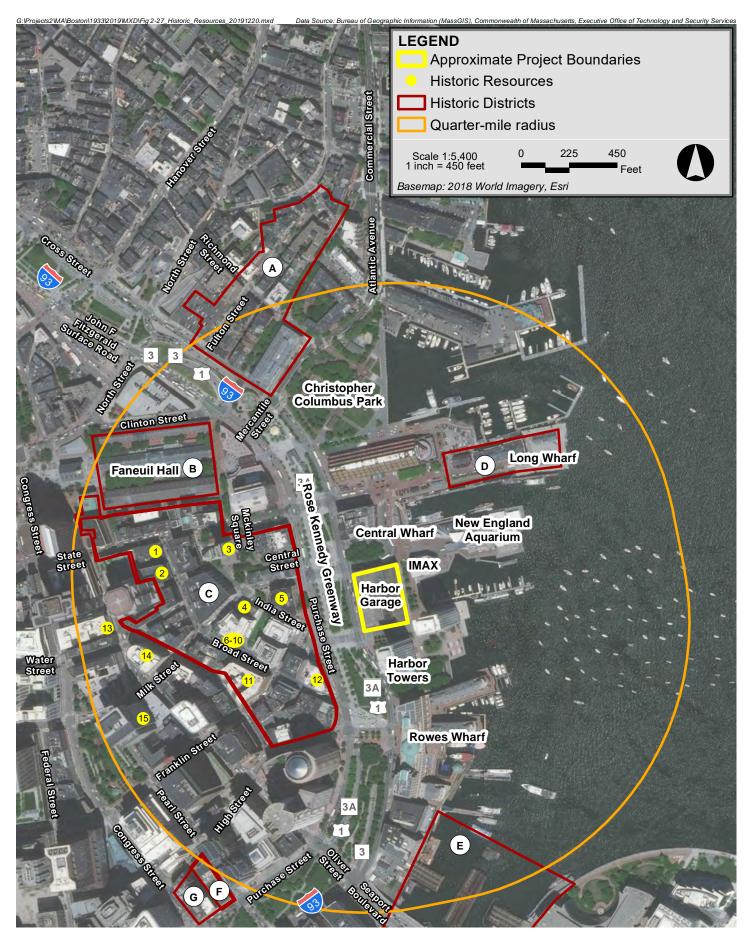
The Project requires state permits, and therefore is subject to review by the Massachusetts Historical Commission in accordance with M.G.L., Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). A MEPA Environmental Notification Form ("ENF") will be submitted to the MHC to initiate the Chapter 254 review process. As the Project progresses, the Proponent will meet with the Massachusetts Historical Commission and the Boston Landmarks Commission if required by the respective agencies to review the indirect impacts that the Project may have on historic resources, primarily in the areas of visual and shadow impacts. During the development review process, the Proponent will identify, map, and describe historic resources in the vicinity of the Project and will discuss potential impacts to these resources.

Table 2-16 Historic Resources in the Vicinity of the Harbor Garage Project Area

No.	State/National Register-Listed Properties &	Address	
А	Districts Fulton Street-Commercial Street Historic District	North End, Fulton, Commercial, Mercantile, Lewis, and Richmond Streets	
В	Quincy Market – Faneuil Hall Market	North and South Market Streets	
С	Custom House Historic District	Between Kilby Street, JFK Expressway, High and Batterymarch streets, Merchants Road, South Market and State Streets	
	Custom House Historic District (1996 Amendment)	Between JFK Expressway, Kilby, High and Batterymarch streets, Merchants Row, South Market and State Streets	
D	Long Wharf and Custom House Block	Foot of State Street, east Atlantic Avenue	
E	Fort Point Channel Historic District	Roughly bounded by the Fort Pont channel seawalls, the Northern Avenue Bridge, Seaport Boulevard, Stillings, Midway, and A Streets, and Necco Court	
Richardson Block 109-119 High S		109-119 High Street and 113-151 Pearl Street	
	Gridley Street Historic District	Roughly bounded by Pearl Street, Purchase Street, Congress Street, and High Street	
1	5-7 Broad Street	5-7 Broad Street	
2	9 Broad Street	9 Broad Street	
3	United States Custom House	McKinley Square	
4	25-27 India Street	25-27 India Street	
5	Flour and Grain Exchange	177 Milk Street	
6	50-52 Broad Street	50-52 Broad Street	
7	64-64A Broad Street	64-64A Broad Street	
8	66 Broad Street	66 Broad Street	
9	68-70 Broad Street	68-70 Broad Street	
10	72 Broad Street	72 Broad Street	
11	Batterymarch Building	54 Batterymarch Street	
12	102 Broad Street	102 Broad Street	
13	Codman Building (10 Liberty Square Building)	51-57 Kilby Street	
14	Samuel Appleton Building	110-114 Milk Street	
15	Federal Reserve Bank Building	30 Pearl Street	

2.6.2 Archaeological Resources

The existing Project Site is a previously developed site. The existing parking garage sits on fill above the peat line. Due to previous development and disturbance, it is anticipated that the Site is unlikely to contain significant archaeological remains.



The Pinnacle at Central Wharf Boston, Massachusetts



2.7 Infrastructure Systems

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

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

The Project includes the construction of a forty-three-story mixed-use tower located at 70 East India Row in Boston. The Site is bounded by East India Row to the south, Atlantic Avenue to the west, Milk Street to the north, and the Harborwalk/East India Row to the east.

2.7.1 Sewer Infrastructure

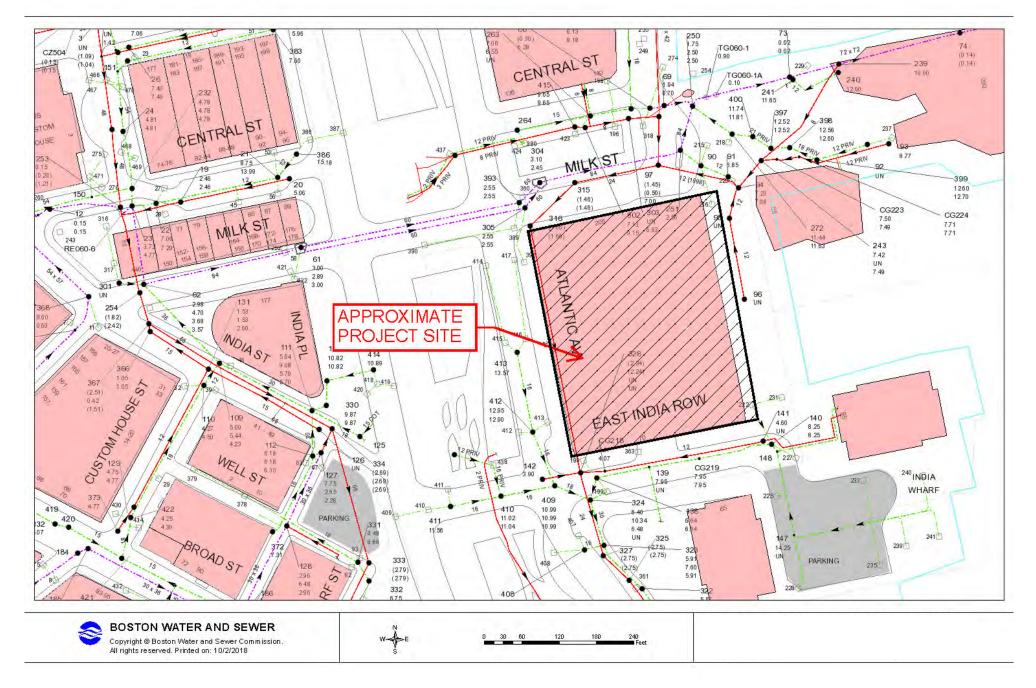
There is an existing Boston Water and Sewer Commission ("BWSC") dedicated 24-inch sewer main in Milk Street and Atlantic Avenue which flows in the southerly direction to the corner of Atlantic Avenue and East India Row. A 12-inch sewer main from East India Row also connects into the 24-inch run pipe in Atlantic Avenue. The 24-inch main continues southerly in Atlantic Avenue, which eventually transitions into a 72-inch main and is classified as the New East Side Interceptor.

In Milk Street, there is also a 60-inch combined sewer main that flows easterly, before connecting into a 72-inch by 72-inch main that discharges into Boston Harbor to the east of the New England Aquarium.

The existing sewer system is illustrated in Figure 2-37.

2.7.1.1 Wastewater Generation

The Site currently contains a seven-story parking garage, with two additional levels of parking below grade and mixed-use space on the ground level The existing water consumption information was determined to be 17,345 gallons per day ("gpd") using water records from September 23, 2018 to September 23, 2019. It is assumed that the water demand is 10% higher than the sewer value, so the existing estimated sewer flow is estimated to be 6,041 gpd.



Boston Harbor Tower Boston, Massachusetts



310 CMR 15.00 lists typical sewage generation values for the proposed building uses, as shown in Table 2-17. Typical generation values are conservative values for estimating the sewage flows from new construction. As shown in Table 2-17, the Project is expected to generate approximately 77,980 gallons of wasterwater flow per day, an increase of approximately 71,939 gpd.

The Project will be high-rise mixed-use building with a total of 323 bedrooms with retail and office components.

Table 2-17 Proposed Project Wastewater Generation

Use	Size/Unit	310 CMR Value (gpd/unit)	Total Flow (gpd)					
Existing Building Prog	Existing Building Program							
Parking Garage /	-	-	6,041					
Retail*								
Total Existing	Sewer Flows		6,041					
Proposed Residential	Building (using average 310 CMR	values)						
Retail	42,000 sf	50/1,000 sf	2,100					
Office	538,000 sd	75/1,000 sf	40,350					
Total Bedrooms	35,530							
Total Proposed Sewer	Total Proposed Sewer Flows 77,980							

Increase in Sewer Flows (gpd): 71,939

2.7.1.2 Sewage Capacity & Impacts

The Project's impact on the existing BWSC mains in Atlantic Avenue were analyzed. The existing sewer system capacity calculations are presented in Table 2-18.

Table 2-18 Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Distance (feet)	Invert Elevation (up)	Invert Elevation (down)	Slope (%)	Dia. (in)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
East India Row								
141 to 328	220	4.60	4.07	0.24%	12	0.013	1.75	1.13
Atlantic Ave								
315 to 316	72	-1.46	-1.66	0.28%	24	0.013	11.92	7.71
316 to 328	307	-1.66	-2.24	0.19%	24	0.013	9.83	6.36
Minimum Flow Analyzed:						9.83	6.36	

Notes:

- 1. Manhole numbers and inverts taken from BWSC Sewer system GIS Map received on October 2, 2018. Pipe lengths taken from a draft survey prepared by Feldman Land Surveyors.
- 2. Flow Calculations based on Manning Equation

^{*}Average Generation Value was determined from existing consumption data from 9/23/2018 to 9/23/2019. It is assumed that the water demand is 10% higher than the sewer value.

Table 2-18 indicates the hydraulic capacity of the existing 24-inch sewer main in Atlantic Avenue. The minimum hydraulic capacity is 6.36 million gallons per day ("MGD") or 9.83 cubic feet per second ("CFS") for the 24-inch main.

Based on an average daily flow estimate for the Project of 77,980 GPD or .07798 MGD; and with a factor of safety estimate of 10 (total estimate = 0.07798 MGD x 10 = 0.7798 MGD), no capacity problems are expected within the BWSC sewer systems in Atlantic Avenue.

2.7.1.3 Proposed Conditions

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. Approval for the increase in sanitary flow will come from BWSC, and the Proponent is committed to contributing to the 4:1 Inflow/Infiltration to assist BWSC in separating the combined public sewers.

New sewer services resulting from the Project will connect to the existing sanitary sewer mains in Atlantic Avenue, East India Row, and/or Milk Street.

Improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the existing and proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts.

2.7.2 Water Infrastructure

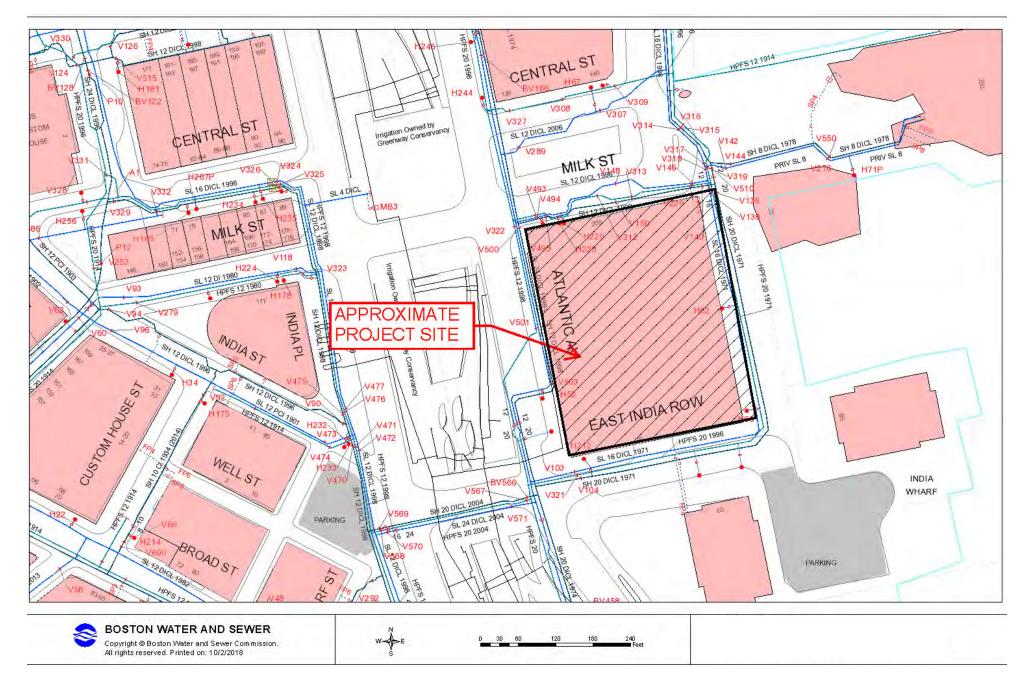
Water for the Project will be provided by the BWSC. There are five water systems within the City, and these provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. There are existing BWSC water mains on all four sides of the existing site.

In East India Row, there is a 16-inch southern low main, a 20-inch southern high main, and a 20-inch high pressure fire service.

In Atlantic Avenue, there is a 12-inch southern high main, 12-inch high pressure fire service, and a 24-inch southern low main.

Adjacent to the site in Milk Street, there is a 12-inch southern low main, a 12-inch southern high main, and a 12-inch high pressure fire service.

The existing water system is illustrated in Figure 2-38.



Boston Harbor Tower Boston, Massachusetts



2.7.2.1 Water Consumption

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater flows calculated with 314 CMR 15.00 values to account for consumption, system losses and other usages to estimate an average daily water demand. The Project's estimated domestic water demand is 6,645 gpd. The water for the Project will be supplied by the BWSC systems in East India Row.

2.7.2.2 Existing Water Capacity and Impacts

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project Site was requested by the Proponent. Hydrant flow data was available for one hydrant near the Site. The existing hydrant flow data is shown in Table 2-19.

Table 2-19 Existing Hydrant Flow Data

Main Type	Flow Hydrant Number	Static Hydrant Number	Date of Test	Static Pressure (psi)	Residual Pressure (psi)	Total Flow (gpm)
Southern Low	H52	H62	10/22/2019	70	67	2,126
Southern High	H60	H212	10/22/2019	104	100	2,004

Note: Data provided by BWSC on October 24, 2019

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

2.7.2.3 Proposed Project

The domestic and fire protection water services for the Project will connect to the existing BWSC water mains in East India Row.

The proposed Project's impacts to the existing water system will be reviewed as part of the BWSC's Site Plan Review process.

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

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

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

2.7.3 Stormwater System

In Atlantic Avenue, there are four catch basins that are routed to an 18-inch BWSC storm drain that flows in the southerly direction. In East India Row, there is an existing 18-inch BWSC storm drain that flows in a westerly direction prior to connecting to the adjacent to the site that connects to the main in Atlantic Ave. The main in Atlantic Avenue then increases to a 30-inch run and continues to flow southerly in Atlantic Avenue, before entering a 42-inch main that discharges into Fort Point Channel to the south of Rowes Wharf.

In Milk Street, there is also a 60-inch combined sewer main that flows easterly, before connecting into a 72-inch by 72-inch main that discharges into Boston Harbor to the east of the New England Aquarium.

The existing BWSC storm drain system is illustrated in Figure 2-37.

2.7.3.1 Proposed Project

Stormwater improvements will be reviewed as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of Project demands and system capacity, and establishment of service accounts. The proposed management system will collect site runoff and 1.25-inch of rainfall over the Project's impervious area, per BWSC's requirements and since the Project is above the threshold criteria of having at or above 100,000 square feet of floor area. The Project's storm drainage system will discharge to the BWSC storm drain in Milk Street and/ or East India Row, and will be coordinated during the BWSC review process.

All work on the drainage systems will be performed in accordance with BWSC standards and will be submitted to the necessary agencies for review and approval prior to implementation.

2.7.3.2 Stormwater Measures During Construction

The Project will not affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, straw bales and/or crushed stone, to provide for sediment removal

from runoff. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

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

2.7.3.3 Groundwater Recharge Measures

The BPDA oversees proposed projects within the Groundwater Conservation Overlay District under Article 32 of the Code. The Site is not located within the City of Boston's Groundwater Conservation Overlay District and therefore does not fall under Article 32.

Furthermore, the BPDA also oversees the Smart Utilities Policy for Article 80 Development Review ("SUP"). Since the Project is above the threshold criteria of having at or above 100,000 square feet of floor area, the Project is required to retain the 1.25 inches of rainfall across the portion of the impervious area on-site.

The Project will comply with both Article 32 and Article 80 by capturing within a suitably-designed system a volume of rainfall on the lot equivalent to no less than 1.25 inch across that portion of the surface area of the lot to be occupied by the Project. The Project will result in no negative impact on groundwater levels within the lot in question or adjacent lots, provided that it is performed in compliance with the terms of any (i) dewatering permit and (ii) cooperation agreement entered into by the Proponent and the BPDA, to the extent that such agreement provides standards for groundwater protection during construction.

2.7.3.4 MassDEP Stormwater Management Policy Standards

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

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

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

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

Standard #2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

Compliance: The Project will comply with this Standard. The existing discharge rate will be met or decreased as a result of the improvements associated with the Project.

Standard #3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmental sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will comply with this Standard to the maximum extent practicable.

Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;
- 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 comply with this Standard. Within the Project's limit of work, there will be mostly building roof, paved sidewalk, and roadway areas. Runoff from paved areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected by deep sump and hooded catch basins and will be conveyed through water quality units before discharging into the BWSC system.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt,

and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

Compliance: The Project will comply with this Standard. The Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-6).

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 will comply with this Standard. The Project will not discharge untreated stormwater to a sensitive area or any other area.

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

Compliance: The Project is a new development and thus this Standard is not applicable.

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

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

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

Compliance: The Project will comply with this Standard. An O&M Plan including long-term BMP operation requirements will be prepared for the Project and will assure proper maintenance and functioning of the stormwater management system.

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

Compliance: The Project will comply with this Standard. There will be no illicit connections associated with the Project.

2.7.4 Electrical Service

Electrical service will be coordinated with the utility company.

2.7.5 Telecommunications Systems

Telecommunication service will be coordinated with the telecommunication providers.

2.7.6 Gas Systems

Natural gas service will be coordinated with the utility company as required.

2.7.7 Protection Proposed During Construction

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

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

Coordination with Other Governmental Agencies

3.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

3.1 Massachusetts Environmental Policy Act (MEPA)

The Project will be subject to review under the Massachusetts Environmental Policy Act requiring the preparation of a mandatory Environmental Impact Report ("EIR") since the Proposed Project requires a Chapter 91 License for new nonwater-dependent use on one or more acres of tidelands, as well as exceeding a review threshold for Transportation and, potentially, other state agency action. The Proponent will submit an Environmental Notification Form to the MEPA office to initiate review.

3.2 Massachusetts Department of Environmental Protection

The Project Site is subject to review under the Public Waterfront Act, M.G.L. c 91 and 310 CMR 9.00 et seq, as administered by the Massachusetts Department of Environmental Protection.

3.3 Massachusetts Historical Commission State Register Review

The Project requires state permits, and therefore is subject to review by the Massachusetts Historical Commission in accordance with M.G.L., Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). The MEPA Environmental Notification Form ("ENF") will be submitted to the MHC to initiate the Chapter 254 review process.

3.5 Architectural Access Board Requirements

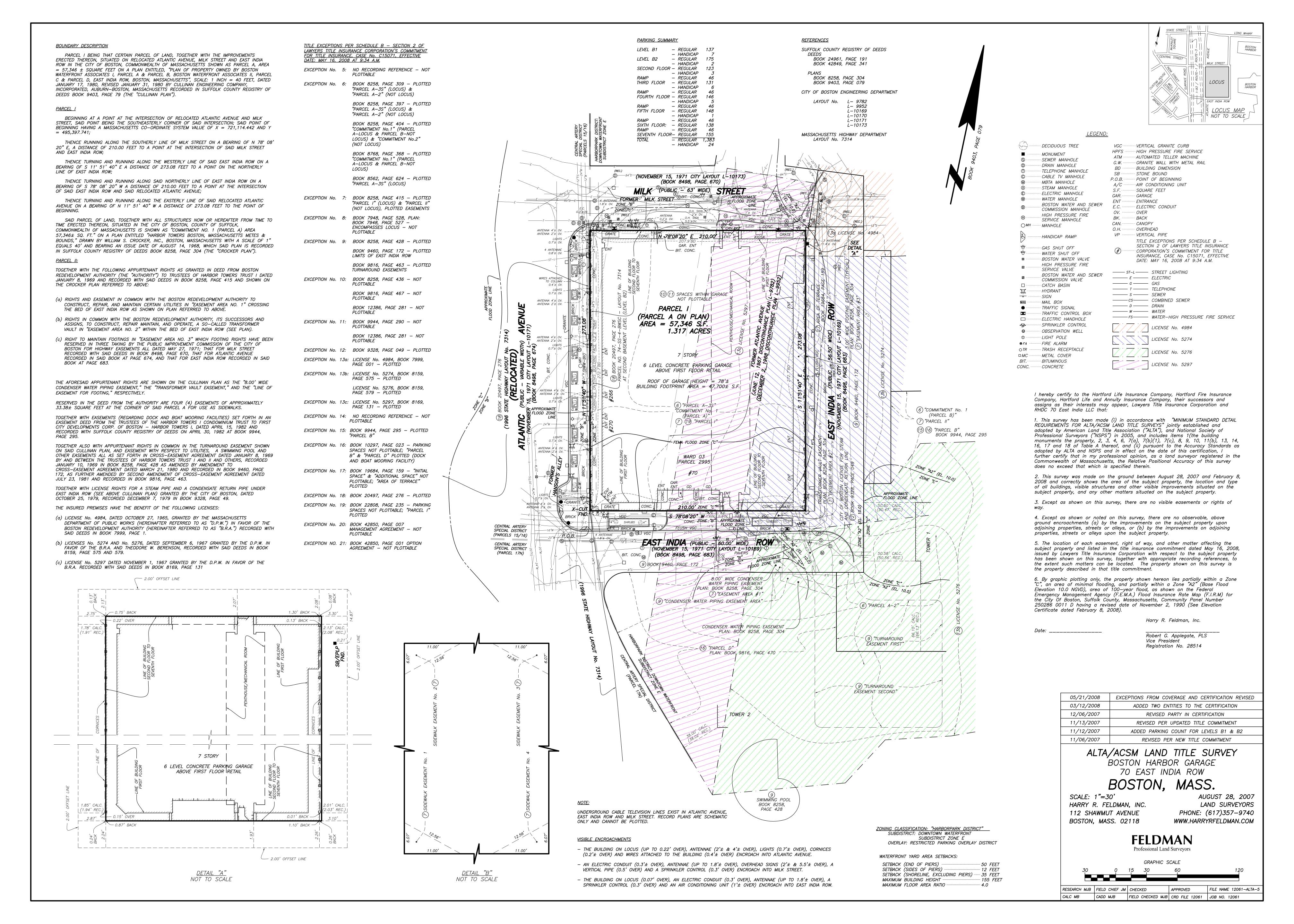
The Project will comply with the requirements of the Massachusetts Architectural Access Board and the standards of the Americans with Disabilities Act. The Accessibility Checklist is included in Appendix E

3.6 Other Permits and Approvals

Section 1.7 provides a list of agencies from which it is anticipated that permits and approvals for the Project will be sought.

Appendix A

Site Survey



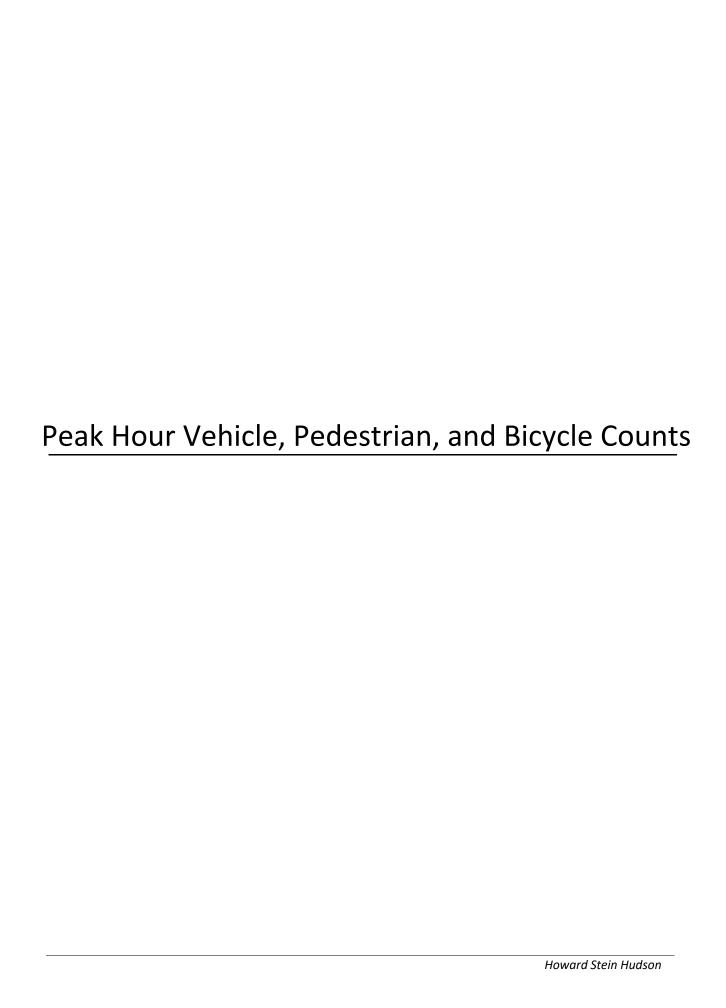
Appendix B

Transportation

Appendix B – Transportation

Peak Hour Vehicle, Pedestrian, and Bicycle Counts Seasonal Adjustment Factors Crash Rate Worksheets Transit Capacity Analysis Proposed Trip Generation Synchro Intersection Level of Service Reports

- Existing (2018) Condition
- No-Build (2026) Condition
- Build (2026) Condition
- Build (2026) Condition with Mitigation



Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 1
Location: Boston, MA
Street 1: Milk Street

Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

	Bosto	on Harbor C	Sarage Driv	eway						Milk	Street			Milk	Street	
		North	bound	-		South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	2	0	0	0	0	0	0	0	0	9	32	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	11	34	0	0	1	0
7:30 AM	0	3	0	0	0	0	0	0	0	0	12	39	0	0	1	0
7:45 AM	0	4	0	0	0	0	0	0	0	0	14	44	0	0	0	0
8:00 AM	0	3	0	0	0	0	0	0	0	0	15	50	0	0	1	0
8:15 AM	0	5	0	0	0	0	0	0	0	0	14	49	0	0	0	0
8:30 AM	0	5	0	0	0	0	0	0	0	0	13	46	0	0	1	0
8:45 AM	0	4	0	0	0	0	0	0	0	0	12	43	0	0	0	0

	Bost	on Harbor (Garage Driv	eway						Milk	Street			Milk S	Street	
		North	bound			South	bound			Eastl	oound			Westl	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	24	0	17	0	0	0	0	0	0	23	8	0	0	0	0
4:15 PM	0	25	0	18	0	0	0	0	0	0	21	9	0	0	1	0
4:30 PM	0	26	0	18	0	0	0	0	0	0	19	10	0	0	1	0
4:45 PM	0	28	0	19	0	0	0	0	0	0	17	12	0	0	0	0
5:00 PM	0	29	0	20	0	0	0	0	0	0	15	12	0	0	1	0
5:15 PM	0	27	0	19	0	0	0	0	0	0	16	11	0	0	2	0
5:30 PM	0	28	0	17	0	0	0	0	0	0	14	12	0	0	0	0
5:45 PM	0	27	0	15	0	0	0	0	0	0	12	11	0	0	0	0

AM PEAK HOUR	Bost	on Harbor C	Garage Drive	eway						Milk	Street			Milk S	Street	
7:45 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	17	0	0	0	0	0	0	0	0	56	189	0	0	2	0
PHF		0.	85			0.	00			0.	94			0.	50	
HV %	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%	0.0%

PM PEAK HOU	R Bost	on Harbor (Garage Driv	eway						Milk S	Street			Milk	Street	
4:30 PM		North	bound	-		South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:30 PM	0	110	0	76	0	0	0	0	0	0	67	45	0	0	4	0
PHF		0.	.95			0.	00			0.	97			0.	50	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 1
Location: Boston, MA
Street 1: Melissa Restrepo
223_073_HSH
BTD #: Location 1
Milk Street

Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

	Bosto	on Harbor (Garage Driv	eway						Milk	Street			Milk	Street	
		North	bound	-		South	bound			Eastl	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bost	on Harbor (Garage Driv	eway						Milk	Street			Milk	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4:30 PM	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	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	Λ	0	Λ	0	0	0	0	0	0	0	0	0

Ī	AM PEAK HOUR	Bosto	on Harbor C	Sarage Driv	eway						Milk	Street			Milk	Street	
	7:15 AM		North	bound			South	bound			Easth	oound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	8:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
-	PHF		0.	00			0.	00			0.	75			0.	00	

PM PEAK HOUR	Bosto	n Harbor C	Sarage Driv	eway						Milk S	Street			Milk S	Street	
4:15 PM		Northl	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
PHF		0.	00			0.	00			0.	75			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 1
Location: Boston, MA
Street 1: Milk Street

Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Boston Ha	rbor Garag	e Driveway							Milk Street				Milk Street		
			Northbound	l			Southbound	d			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	18	0	0	0	0	0	0	0	5	0	0	0	11	
7:15 AM	0	0	0	20	0	0	0	0	0	1	0	8	0	0	0	13	
7:30 AM	0	0	0	22	0	0	0	0	0	1	0	6	0	0	0	14	
7:45 AM	0	0	0	24	0	0	0	0	0	2	0	9	0	1	0	17	
8:00 AM	0	0	0	25	0	0	0	0	0	0	0	7	0	0	0	15	
8:15 AM	0	0	0	28	0	0	0	0	0	2	0	10	0	0	0	14	
8:30 AM	0	0	0	26	0	0	0	0	0	3	0	12	0	0	0	16	
8:45 AM	0	0	0	30	0	0	0	0	0	2	0	11	0	0	0	15	

		Boston Ha	rbor Garage	e Driveway							Milk Street				Milk Street		
			Northbound				Southbound	d			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	98	0	0	0	0	0	2	0	15	0	0	0	32	
4:15 PM	0	0	0	102	0	0	0	0	0	0	0	18	0	0	0	34	
4:30 PM	0	0	0	105	0	0	0	0	0	2	0	22	0	1	0	38	
4:45 PM	0	0	0	118	0	0	0	0	0	2	0	24	0	0	0	35	
5:00 PM	0	0	0	114	0	0	0	0	0	3	0	26	0	0	0	36	
5:15 PM	0	0	0	120	0	0	0	0	0	2	0	23	0	1	0	40	
5:30 PM	0	0	0	118	0	0	0	0	0	1	0	25	0	0	0	42	
5:45 PM	0	0	0	124	0	0	0	0	0	1	0	22	0	0	0	38	

AM PEAK HOUR ¹		Boston Ha	rbor Garage	e Driveway							Milk Street				Milk Street		
7:45 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:45 AM	0	0	0	103	0	0	0	0	0	7	0	38	0	1	0	62	

PM PEAK HOUR ¹			rbor Garage								Milk Street				Milk Street		
4:30 PM			Northbound	l			Southbound	i			Eastbound				Westbound	1	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:30 PM	0	0	0	457	0	0	0	0	0	9	0	95	0	2	0	149	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 2
Location: Boston, MA
Street 1: East India Row

Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

					Bost	on Harbor (Garage Driv	eway		Éast Ind	dia Row			East In	dia Row	
		Northl	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	7	0	7	1	0	0	0	2	0
7:15 AM	0	0	0	0	0	0	0	7	0	8	2	0	0	0	4	0
7:30 AM	0	0	0	0	0	0	0	5	0	7	3	0	0	0	5	0
7:45 AM	0	0	0	0	0	0	0	8	0	8	4	0	0	0	5	0
8:00 AM	0	0	0	0	0	1	0	5	0	6	5	0	0	0	6	0
8:15 AM	0	0	0	0	0	1	0	6	0	6	6	0	0	0	7	0
8:30 AM	0	0	0	0	0	1	0	4	0	5	5	0	0	0	5	0
8:45 AM	0	0	0	0	0	0	0	5	0	8	3	0	0	0	3	0

		North	bound		Bost		Garage Driv bound	eway			dia Row oound				dia Row bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	4	0	5	4	0	0	0	3	0
4:15 PM	0	0	0	0	0	0	0	3	0	3	7	0	0	0	6	2
4:30 PM	0	0	0	0	0	0	0	2	0	1	6	0	0	0	5	0
4:45 PM	0	0	0	0	0	0	0	5	0	3	5	0	0	0	4	0
5:00 PM	0	0	0	0	0	0	0	3	0	2	5	0	0	0	4	0
5:15 PM	0	0	0	0	0	0	0	7	0	2	4	0	0	0	3	1
5:30 PM	0	0	0	0	0	0	0	8	0	3	3	0	0	0	3	0
5:45 PM	0	0	0	0	0	0	0	6	0	5	2	0	0	0	3	0

Ī	AM PEAK HOUR					Bosto	on Harbor C	Sarage Driv	eway		East Ind	dia Row			East Ind	dia Row	
	7:30 AM		Northl	bound			South	bound			Eastb	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	8:30 AM	0	0	0	0	0	2	0	24	0	27	18	0	0	0	23	0
	PHF		0.	00			0.	81			0.	94			0.	82	
	HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR	1				Bosto	on Harbor (Garage Driv	eway		East Ind	dia Row			East Ind	dia Row	
4:00 PM		North	bound			South	bound	-		Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	0	14	0	12	22	0	0	0	18	2
PHF		0.	00			0.	70			0.	85			0.	63	
HV~%	0.0%	0.0%	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%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 2
Location: Boston, MA
Street 1: East India Row

Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

					Bost	on Harbor (Garage Driv	eway		East In	dia Row			East In	dia Row	
		Northl	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	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	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		North	bound		Bost		Garage Driv	reway			dia Row cound				dia Row bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	1				Bosto	on Harbor C	Sarage Driv	eway		East Inc	dia Row			East Ind	dia Row	
7:30 AM		North	bound			South	bound			Easth	oound			Westh	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
PHF		0.	00			0.	00			0.	25			0.0	00	

ſ	PM PEAK HOUR					Bosto	on Harbor (Sarage Driv	eway		East Ind	dia Row			East Inc	dia Row	
	4:00 PM		Northl	bound			South	bound			Easth	ound			Westl	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
_	PHF		0.	00			0.	00			0.	00			0.	25	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 2
Location: Boston, MA
Street 1: East India Row
Street 2: Boston Harbor Garage Driveway

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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						Boston Ha	rbor Garag	e Driveway			E	ast India Ro	W		E	ast India Ro	w	
			Northbound	t			Southbound					Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	0	0	0	0	18		0	0	0	0	0	0	0	3	
7:15 AM	0	0	0	0	0	0	0	22		0	0	0	0	0	0	0	5	
7:30 AM	0	0	0	0	0	0	0	25		0	1	0	2	0	1	0	6	
7:45 AM	0	0	0	0	0	0	0	28		0	0	0	3	0	1	0	9	
8:00 AM	0	0	0	0	0	0	0	35		0	0	0	5	0	0	0	12	
8:15 AM	0	0	0	0	0	0	0	32		0	0	0	3	0	1	0	14	
8:30 AM	0	0	0	0	0	0	0	34		0	1	0	4	0	1	0	15	
8:45 AM	0	0	0	0	0	0	0	36		0	0	0	3	0	0	0	18	

						Boston Ha	rbor Garag	e Driveway		E	ast India Ro	W		E	ast India Ro	w	
			Northbound	I			Southbound				Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	0	0	0	0	48	0	0	0	2	0	0	0	5	
4:15 PM	0	0	0	0	0	0	0	50	0	1	0	5	0	0	0	7	
4:30 PM	0	0	0	0	0	0	0	52	0	0	0	4	0	1	0	8	
4:45 PM	0	0	0	0	0	0	0	54	0	1	0	6	0	1	0	9	
5:00 PM	0	0	0	0	0	0	0	58	0	1	0	5	0	1	0	8	
5:15 PM	0	0	0	0	0	0	0	60	0	0	0	7	0	0	0	9	
5:30 PM	0	0	0	0	0	0	0	55	0	1	0	8	0	1	0	10	
5:45 PM	0	0	0	0	0	0	0	54	0	0	0	6	0	0	0	7	

AM PEAK HOUR ¹						Boston Ha	arbor Garage	e Driveway		Е	ast India Ro	w		E	ast India Ro	w	
7:30 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:30 AM	0	0	0	0	0	0	0	120	0	1	0	13	0	3	0	41	

PM PEAK HOUR ¹							arbor Garag			E	ast India Ro				ast India Ro		
4:00 PM			Northbound	l			Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	0	0	0	0	204	0	2	0	17	0	2	0	29	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 3 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Milk Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								, (- ,	-	··· · · · · · · · · · · · · · · · · ·						
		Atlantic	Avenue			Atlantic	Avenue			Milk S	Street			Milk	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	124	9	0	0	0	0	0	15	32	0	0	0	0	2
7:15 AM	0	0	127	10	0	0	0	0	0	18	35	0	0	0	0	2
7:30 AM	0	0	130	13	0	0	0	0	0	21	38	0	0	0	0	4
7:45 AM	0	0	148	16	0	0	0	0	0	23	42	0	0	0	0	3
8:00 AM	0	0	163	19	0	0	0	0	0	25	46	0	0	0	0	4
8:15 AM	0	0	178	21	0	0	0	0	0	26	42	0	0	0	0	5
8:30 AM	0	0	180	20	0	0	0	0	0	25	39	0	0	0	0	6
8:45 AM	0	0	174	18	0	0	0	0	0	23	37	0	0	0	0	4

		Atlantic	Avenue			Atlantic	Avenue			Milk	Street			Milk	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	122	8	0	0	0	0	0	33	23	0	0	0	0	24
4:15 PM	0	0	106	9	0	0	0	0	0	35	21	0	0	0	0	26
4:30 PM	0	0	109	10	0	0	0	0	0	41	19	0	0	0	0	27
4:45 PM	0	0	130	12	0	0	0	0	0	44	17	0	0	0	0	28
5:00 PM	0	0	169	11	0	0	0	0	0	46	16	0	0	0	0	30
5:15 PM	0	0	183	12	0	0	0	0	0	48	15	0	0	0	0	29
5:30 PM	0	0	193	11	0	0	0	0	0	46	14	0	0	0	0	28
5:45 PM	0	0	191	10	0	0	0	0	0	43	13	0	0	0	0	27

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Milk	Street			Milk S	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	695	78	0	0	0	0	0	99	164	0	0	0	0	19
PHF		0.	97			0.	00			0.	93			0.	79	
HV %	0.0%	0.0%	2.4%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR			Avenue				Avenue				Street				Street	
5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	736	44	0	0	0	0	0	183	58	0	0	0	0	114
PHF		0.	96			0.	00			0.	96			0.	95	
HV~%	0.0%	0.0%	0.8%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 3 Location: Boston, MA Street 1: Atlantic Avenue Milk Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Atlantic	Avenue			Atlantic	Avenue			Milk S	Street			Milk	Street	
		Northl	bound			South	bound			Easth	ound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	5	1	0	0	0	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue			Milk	Street			Milk	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Milk S	Street			Milk S	Street	
7:15 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	0	0	18	1	0	0	0	0	0	2	2	0	0	0	0	0
PHF		0.	79			0.	00			1.	00			0.	00	

1	PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Milk S	Street			Milk S	Street	
	4:15 PM		North	bound			South	bound			Easth	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:15 PM	0	0	7	1	0	0	0	0	0	2	2	0	0	0	0	0
	PHF		0.	67			0.	00			0.	50			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 3 Boston, MA Location: Street 1: Atlantic Avenue Street 2: Milk Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		At	lantic Aven	ue		A	tlantic Aven	ue			Milk Street				Milk Street		
			Northbound				Southbound	t			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	15	0	0	0	14	0	0	0	5	0	0	0	96	
7:15 AM	0	11	0	16	0	0	0	15	0	1	0	6	0	0	0	104	
7:30 AM	0	12	0	18	0	0	0	16	1	1	0	5	0	0	0	108	
7:45 AM	0	14	1	22	0	0	0	20	0	1	0	8	0	0	1	126	
8:00 AM	0	15	0	24	0	0	0	24	1	0	0	10	0	0	0	144	
8:15 AM	0	16	0	26	0	0	0	28	1	2	0	12	0	0	0	152	
8:30 AM	0	15	1	30	0	0	0	32	0	2	0	15	0	0	0	145	
8:45 AM	0	18	1	28	0	0	0	30	0	1	0	14	0	0	0	140	

			tlantic Aven Northbound				tlantic Aven Southbound				Milk Street Eastbound				Milk Street Westbound		
			MOLLIDOULIC				Southbound	1			Eastbound				vvestbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	11	1	40	0	0	0	50	0	1	0	22	0	0	0	136	
4:15 PM	0	13	0	42	0	0	0	54	1	0	0	24	0	0	0	142	
4:30 PM	0	17	0	45	0	0	0	56	0	2	0	25	0	0	1	148	
4:45 PM	0	18	1	47	0	0	0	58	0	1	0	28	0	0	0	150	
5:00 PM	0	21	1	50	0	0	0	60	1	2	0	30	0	0	0	156	
5:15 PM	0	20	0	52	0	0	0	58	0	2	0	26	0	0	1	158	
5:30 PM	0	18	1	48	0	0	0	55	1	0	0	28	0	0	0	155	
5:45 PM	0	17	0	46	0	0	0	54	0	1	0	25	0	0	0	148	

AM PEAK HOUR ¹		At	lantic Aveni	ue		At	lantic Aven	ue			Milk Street				Milk Street		
8:00 AM			Northbound				Southbound	b			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	64	2	108	0	0	0	114	2	5	0	51	0	0	0	581	

PM PEAK HOUR1			lantic Aveni			At	tlantic Aven				Milk Street				Milk Street		
5:00 PM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	76	2	196	0	0	0	227	2	5	0	109	0	0	1	617	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 4
Location: Boston, MA
Street 1: Atlantic Avenue
Street 2: India Street/ East India Row

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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								•		,						
		Atlantic	Avenue			Atlantic	Avenue			India	Street			East In	dia Row	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	29	131	8	0	0	0	0	0	0	0	0	0	0	7	2
7:15 AM	0	32	134	10	0	0	0	0	0	0	0	0	0	0	8	3
7:30 AM	0	35	139	11	0	0	0	0	0	0	0	0	0	0	6	4
7:45 AM	0	34	157	12	0	0	0	0	0	0	0	0	0	0	7	6
8:00 AM	0	33	177	11	0	0	0	0	0	0	0	0	0	0	6	5
8:15 AM	0	31	192	12	0	0	0	0	0	0	0	0	0	0	7	6
8:30 AM	0	30	196	10	0	0	0	0	0	0	0	0	0	0	5	5
8:45 AM	0	29	188	11	0	0	0	0	0	0	0	0	0	0	4	4

		Atlantic	Avenue				Avenue			India	Street			East In	dia Row	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	21	128	9	0	0	0	0	0	0	0	0	0	0	5	2
4:15 PM	0	23	112	10	0	0	0	0	0	0	0	0	0	0	6	4
4:30 PM	0	25	116	7	0	0	0	0	0	0	0	0	0	0	4	3
4:45 PM	0	22	138	8	0	0	0	0	0	0	0	0	0	0	5	4
5:00 PM	0	23	176	7	0	0	0	0	0	0	0	0	0	0	3	4
5:15 PM	0	19	190	6	0	0	0	0	0	0	0	0	0	0	5	5
5:30 PM	0	17	200	6	0	0	0	0	0	0	0	0	0	0	7	4
5:45 PM	0	15	198	7	0	0	0	0	0	0	0	0	0	0	6	3

AM PEAK HOUR	1	Atlantic	Avenue			Atlantic	Avenue			India	Street			East Ind	dia Row	
8:00 AM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	123	753	44	0	0	0	0	0	0	0	0	0	0	22	20
PHF		0.	97			0.	00			0.	00			0.	81	
HV~%	0.0%	1.6%	2.4%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR			Avenue				Avenue				Street				dia Row	
5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	74	764	26	0	0	0	0	0	0	0	0	0	0	21	16
PHF		0.	97			0.	00			0.	00			0.	84	
HV~%	0.0%	1.4%	0.9%	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%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 4
Location: Boston, MA
Street 1: Atlantic Avenue
Street 2: India Street/ East India Row

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Atlantic	Avenue			Atlantic	Avenue			India	Street			East In	dia Row	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

			Avenue				Avenue				Street				dia Row	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			India	Street			East Ind	dia Row	
7:30 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	2	18	1	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	88			0.	00			0.	00			0.	00	

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			India	Street			East Inc	dia Row	
4:15 PM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	3	8	0	0	0	0	0	0	0	0	0	0	0	1	0
PHF		0.	92			0.	00			0.	00			0.	25	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 4
Location: Boston, MA
Street 1: Atlantic Avenue
Street 2: India Street/ East India Row

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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			tlantic Aven				tlantic Aven				India Stree				ast India Ro		
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	1	10	0	22	0	0	0	12	0	0	0	0	0	0	0	115	
7:15 AM	2	11	0	25	0	0	0	15	0	0	0	1	0	0	0	126	
7:30 AM	1	12	1	26	0	0	0	14	0	0	0	2	0	1	0	132	
7:45 AM	2	14	0	28	0	0	0	16	0	0	0	6	0	0	1	148	
8:00 AM	1	15	0	25	0	0	0	20	0	0	0	9	0	0	0	160	
8:15 AM	1	16	0	26	0	0	0	17	0	0	0	10	0	1	0	178	
8:30 AM	4	15	1	24	0	0	0	18	0	0	0	12	0	0	1	185	
8:45 AM	1	19	0	25	0	0	0	16	0	0	0	11	0	0	0	180	

			lantic Aven Northbound				tlantic Aven Southbound				India Street Eastbound				ast India Ro Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	2	12	0	40	0	0	0	10	0	0	0	9	0	0	0	122	
4:15 PM	1	13	1	45	0	0	0	14	0	0	0	11	0	0	0	135	
4:30 PM	2	16	0	48	0	0	0	12	0	0	0	10	0	0	1	156	
4:45 PM	1	19	1	52	0	0	0	13	0	0	0	12	0	1	0	190	
5:00 PM	1	21	1	58	0	0	0	18	0	0	0	14	0	0	1	268	
5:15 PM	3	20	0	60	0	0	0	24	0	0	0	11	0	0	0	315	
5:30 PM	0	19	1	64	0	0	0	30	0	0	0	12	0	1	0	340	
5:45 PM	1	17	0	62	0	0	0	28	0	0	0	10	0	0	0	332	

AM PEAK HOUR ¹]	A	tlantic Aven	ue		Α	tlantic Aven	ue			India Stree	t		E	ast India Ro	w	
8:00 AM			Northbound				Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	7	65	1	100	0	0	0	71	0	0	0	42	0	1	1	703	

PM PEAK HOUR ¹			lantic Aveni			At	tlantic Aven				India Street			E	ast India Ro	w	
5:00 PM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED													
6:00 PM	5	77	2	244	0	0	0	100	0	0	0	47	0	1	1	1255	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 5 Location: Boston, MA Street 1: Surface Road Street 2: India Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,_ (O,,,,	<u> </u>	J. (C)						
		Surfac	e Road			Surfac	e Road			India	Street			India	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	43	3	0	0	0	0	0	16	16	0
7:15 AM	0	0	0	0	0	0	38	4	0	0	0	0	0	17	18	0
7:30 AM	0	0	0	0	0	0	35	5	0	0	0	0	0	18	20	0
7:45 AM	0	0	0	0	0	0	47	6	0	0	0	0	0	19	21	0
8:00 AM	0	0	0	0	0	0	56	8	0	0	0	0	0	23	22	0
8:15 AM	0	0	0	0	0	0	62	9	0	0	0	0	0	21	23	0
8:30 AM	0	0	0	0	0	0	61	8	0	0	0	0	0	19	22	0
8:45 AM	0	0	0	0	0	0	62	7	0	0	0	0	0	16	21	0

			e Road bound				e Road bound				Street cound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	0	0	0	0	170	5	0	0	0	0	0	20	6	0
4:15 PM	0	0	0	0	0	0	161	7	0	0	0	0	0	22	7	0
4:30 PM	0	0	0	0	0	0	148	8	0	0	0	0	0	20	9	0
4:45 PM	0	0	0	0	0	0	128	6	0	0	0	0	0	17	10	0
5:00 PM	0	0	0	0	0	0	108	7	0	0	0	0	0	14	12	0
5:15 PM	0	0	0	0	0	0	106	5	0	0	0	0	0	11	13	0
5:30 PM	0	0	0	0	0	0	104	6	0	0	0	0	0	12	12	0
5:45 PM	0	0	0	0	0	0	102	5	0	0	0	0	0	10	11	0

AM PEAK HOUR		Surfac	e Road			Surface	e Road			India	Street			India	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	241	32	0	0	0	0	0	79	88	0
PHF		0.	00			0.	96			0.	00			0.	93	
HV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	1.1%	0.0%

I	PM PEAK HOUR		Surface	e Road			Surfac	e Road			India	Street			India	Street	
	4:00 PM		Northl	bound			South	bound			Eastb	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:00 PM	0	0	0	0	0	0	607	26	0	0	0	0	0	79	32	0
	PHF		0.	00			0.	90			0.	00			0.	96	
	HV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	3.1%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 5 Location: Boston, MA Street 1: Surface Road Street 2: India Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Surfac	e Road			Surfac	e Road			India	Street			India	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0
7:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
8:00 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

			e Road bound				e Road bound				Street bound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	1	Surfac	e Road			Surfac	e Road			India	Street			India	Street	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	0	0	0	0	16	0	0	0	0	0	0	1	2	0
PHF		0.	00			0.	80			0.	00			0.	75	

PM PEAK HOUR		Surfac	e Road			Surfac	e Road			India	Street			India	Street	
4:00 PM		North	bound			South	bound			Easth	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	8	0	0	0	0	0	0	2	1	0
PHF		0.	00			0.	67			0.	00			0.	38	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 5 Boston, MA Location: Street 1: Surface Road Street 2: India Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		5	Surface Roa	d		5	Surface Roa	nd			India Stree	t			India Street		
			Northbound	l			Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	10	0	6	0	15	0	0	0	35	0	1	0	32	
7:15 AM	0	0	0	12	0	7	1	16	0	0	0	38	1	1	0	35	
7:30 AM	0	0	0	14	0	9	1	18	0	0	0	42	0	2	0	38	
7:45 AM	0	0	0	11	1	10	0	23	0	0	0	46	2	0	0	42	
8:00 AM	0	0	0	10	0	9	0	28	0	0	0	54	0	1	0	45	
8:15 AM	0	0	0	11	0	11	1	32	0	0	0	60	1	1	0	48	
8:30 AM	0	0	0	9	1	10	0	34	0	0	0	65	1	3	0	46	
8:45 AM	0	0	0	8	0	8	0	33	0	0	0	62	0	1	0	45	

			Surface Roa				Surface Roa				India Street				India Street		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	14	0	14	0	20	0	0	0	39	1	1	0	32	
4:15 PM	0	0	0	16	0	15	1	23	0	0	0	41	0	1	0	34	
4:30 PM	0	0	0	18	0	11	0	22	0	0	0	44	1	1	0	36	
4:45 PM	0	0	0	15	1	10	0	21	0	0	0	47	0	2	0	41	
5:00 PM	0	0	0	14	0	12	1	19	0	0	0	50	0	1	0	45	
5:15 PM	0	0	0	12	0	11	0	20	0	0	0	52	1	2	0	50	
5:30 PM	0	0	0	10	0	9	1	18	0	0	0	54	0	1	0	48	
5:45 PM	0	0	0	11	0	10	0	17	0	0	0	53	0	1	0	46	

Ī	AM PEAK HOUR ¹]	S	Surface Roa	d		S	Surface Roa				India Street	t			India Street	t	
	8:00 AM			Northbound				Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	9:00 AM	0	0	0	38	1	38	1	127	0	0	0	241	2	6	0	184	

PM PEAK HOUR ¹ 4:00 PM			Surface Roa Northbound			S	Surface Roa	d I			India Street Eastbound				India Street Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	63	1	50	1	86	0	0	0	171	2	5	0	143	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 6 Location: Boston, MA Street 1: Surface Road Street 2: Milk Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,_ (O,,,,	0 <i>u 11</i> 10 t	,,,,,,						
		Surfac	e Road			Surfac	e Road			Milk	Street			Milk	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	32	43	0	0	0	15	3	0	0	0	0
7:15 AM	0	0	0	0	0	36	38	0	0	0	17	4	0	0	0	0
7:30 AM	0	0	0	0	0	40	36	0	0	0	19	4	0	0	0	0
7:45 AM	0	0	0	0	0	44	48	0	0	0	21	5	0	0	0	0
8:00 AM	0	0	0	0	0	48	61	0	0	0	23	3	0	0	0	0
8:15 AM	0	0	0	0	0	46	67	0	0	0	22	4	0	0	0	0
8:30 AM	0	0	0	0	0	43	66	0	0	0	21	3	0	0	0	0
8:45 AM	0	0	0	0	0	41	65	0	0	0	19	4	0	0	0	0

			e Road bound				e Road bound				Street oound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	0	0	0	27	172	0	0	0	29	3	0	0	0	0
4:15 PM	0	0	0	0	0	25	164	0	0	0	31	4	0	0	0	0
4:30 PM	0	0	0	0	0	28	152	0	0	0	32	4	0	0	0	0
4:45 PM	0	0	0	0	0	27	129	0	0	0	34	5	0	0	0	0
5:00 PM	0	0	0	0	0	26	111	0	0	0	36	4	0	0	0	0
5:15 PM	0	0	0	0	0	28	105	0	0	0	35	6	0	0	0	0
5:30 PM	0	0	0	0	0	27	106	0	0	0	33	4	0	0	0	0
5:45 PM	0	0	0	0	0	25	104	0	0	0	31	3	0	0	0	0

AM PEAK HOUL	R	Surfac	e Road			Surface	e Road			Milk	Street			Milk	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	178	259	0	0	0	85	14	0	0	0	0
PHF		0.	00			0.	97			0.	95			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	5.8%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR		Surfac	e Road			Surfac	e Road			Milk	Street			Milk	Street	
4:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	107	617	0	0	0	126	16	0	0	0	0
PHF		0.	00			0.	91			0.	91			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	1.3%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 6 Location: Boston, MA Street 1: Surface Road Street 2: Milk Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Surfac	e Road			Surfac	e Road			Milk S	Street			Milk	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

			e Road bound				e Road bound				Street oound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Surfac	e Road			Surfac	e Road			Milk S	Street			Milk S	Street	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right												
8:45 AM	0	0	0	0	0	2	16	0	0	0	1	0	0	0	0	0
PHF		0.	00			0.	90			0.	25			0.	00	

PM PEAK HOUR		Surfac	e Road			Surfac	e Road			Milk S	Street			Milk	Street	
4:00 PM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	2	8	0	0	0	1	0	0	0	0	0
PHF		0.	00			0.	83			0.	25			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 6 Boston, MA Location: Street 1: Surface Road Street 2: Milk Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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			Surface Roa				Surface Roa				Milk Street				Milk Street		
			Northbound	l			Southbound	1			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED													
7:00 AM	0	0	0	20	0	6	0	12	0	0	0	32	0	0	0	14	
7:15 AM	0	0	0	24	0	8	0	15	0	1	0	38	0	0	0	18	
7:30 AM	0	0	0	26	0	10	0	14	0	2	0	40	0	0	0	16	
7:45 AM	0	0	0	28	0	10	0	18	0	1	1	48	0	0	0	20	
8:00 AM	0	0	0	38	0	9	0	28	0	1	0	55	0	0	0	18	
8:15 AM	0	0	0	40	0	12	0	35	0	3	0	62	0	0	0	15	
8:30 AM	0	0	0	36	0	10	0	38	0	2	1	65	0	0	0	16	
8:45 AM	0	0	0	35	0	8	0	36	0	1	0	64	0	0	0	15	

			Surface Roa				Surface Roa				Milk Street Eastbound				Milk Street Westbound		
			MOLLIDOULIC				Southbound	1			⊏asibound				vvestbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	32	0	14	0	22	0	1	0	68	0	0	0	22	
4:15 PM	0	0	0	35	0	15	0	26	0	1	1	70	0	0	0	26	
4:30 PM	0	0	0	38	0	11	0	25	0	2	0	75	0	0	0	28	
4:45 PM	0	0	0	36	0	10	0	28	0	1	1	72	0	0	0	30	
5:00 PM	0	0	0	40	0	13	0	32	0	3	0	70	0	0	0	34	
5:15 PM	0	0	0	38	0	11	0	28	0	2	0	74	0	0	0	28	
5:30 PM	0	0	0	35	0	9	0	30	0	1	1	68	0	0	0	25	
5:45 PM	0	0	0	34	0	10	0	27	0	1	0	65	0	0	0	26	

AM PEAK HOUR ¹		S	urface Roa	d			Surface Roa				Milk Street				Milk Street		
8:00 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	149	0	39	0	137	0	7	1	246	0	0	0	64	

]	PM PEAK HOUR ¹		S	urface Roa	d		5	Surface Roa				Milk Street				Milk Street		
	4:00 PM			Northbound				Southbound				Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	5:00 PM	0	0	0	141	0	50	0	101	0	5	2	285	0	0	0	106	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 7 Location: Boston, MA Street 1: Surface Road Street 2: State Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,_ (O,,,,	<u> </u>	J. (C)						
		Surface	e Road			Surfac	e Road			State	Street			State	Street	
		Northl	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	67	146	0	0	0	0	0	8	32	0
7:15 AM	0	0	0	0	0	0	65	151	0	0	0	0	0	9	34	0
7:30 AM	0	0	0	0	0	0	66	155	0	0	0	0	0	11	38	0
7:45 AM	0	0	0	0	0	0	80	156	0	0	0	0	0	12	41	0
8:00 AM	0	0	0	0	0	0	95	161	0	0	0	0	0	14	45	0
8:15 AM	0	0	0	0	0	0	98	162	0	0	0	0	0	15	48	0
8:30 AM	0	0	0	0	0	0	93	160	0	0	0	0	0	16	47	0
8:45 AM	0	0	0	0	0	0	92	158	0	0	0	0	0	14	45	0

			e Road bound				e Road bound				Street				Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	175	63	0	0	0	0	0	18	33	0
4:15 PM	0	0	0	0	0	0	169	65	0	0	0	0	0	20	35	0
4:30 PM	0	0	0	0	0	0	158	71	0	0	0	0	0	22	36	0
4:45 PM	0	0	0	0	0	0	133	75	0	0	0	0	0	23	37	0
5:00 PM	0	0	0	0	0	0	117	80	0	0	0	0	0	20	40	0
5:15 PM	0	0	0	0	0	0	116	84	0	0	0	0	0	17	43	0
5:30 PM	0	0	0	0	0	0	114	83	0	0	0	0	0	19	42	0
5:45 PM	0	0	0	0	0	0	111	81	0	0	0	0	0	18	40	0

AM PEAK HOUR		Surfac	e Road			Surface	e Road			State	Street			State	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	378	641	0	0	0	0	0	59	185	0
PHF		0.	00			0.	98			0.	00			0.	97	
HV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	2.2%	0.0%

PM PEAK HOUR	7		e Road				e Road			State	Street				Street	
4:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	635	274	0	0	0	0	0	83	141	0
PHF		0.	00			0.	95			0.	00			0.	93	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	2.8%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 7 Location: Boston, MA Street 1: Surface Road Street 2: State Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Surfac	e Road			Surfac	e Road			State	Street			State	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	3	2	0	0	0	0	0	1	2	0
7:30 AM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	3	2	0	0	0	0	0	1	1	0
8:00 AM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	2	0
8:15 AM	0	0	0	0	0	0	3	2	0	0	0	0	0	1	1	0
8:30 AM	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	0

			e Road bound				e Road bound				Street bound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	0
5:00 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	1	1	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	1	Surface	e Road			Surfac	e Road			State	Street			State	Street	
7:15 AM		Northl	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	0	0	0	0	0	0	14	6	0	0	0	0	0	2	6	0
PHF		0.	00			1.	00			0.	00			0.	67	

PM PEAK HOUR		Surfac	e Road			Surfac	e Road			State	Street			State	Street	
4:15 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	0	0	0	0	0	7	4	0	0	0	0	0	2	4	0
PHF		0.	00			0.	69			0.	00			0.	75	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 7 Boston, MA Location: Street 1: Surface Road Street 2: State Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		5	Surface Roa	ıd		5	Surface Roa	ad			State Stree	t			State Street	t	
			Northbound	i			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	46	0	6	0	20	0	0	0	29	0	1	0	22	
7:15 AM	0	0	0	52	0	8	0	22	0	0	0	33	0	2	0	26	
7:30 AM	0	0	0	58	0	9	1	24	0	0	0	34	0	1	0	25	
7:45 AM	0	0	0	65	0	10	0	30	0	0	0	36	1	3	0	28	
8:00 AM	0	0	0	78	0	9	1	48	0	0	0	40	0	2	0	35	
8:15 AM	0	0	0	82	0	11	0	58	0	0	0	42	0	3	0	42	
8:30 AM	0	0	0	84	0	10	2	65	0	0	0	38	1	2	0	40	
8:45 AM	0	0	0	88	0	8	1	62	0	0	0	39	0	3	0	41	

			urface Roa Northbound				Surface Roa				State Stree Eastbound				State Street Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	114	0	14	0	72	0	0	0	52	0	2	0	18	
4:15 PM	0	0	0	125	0	15	1	80	0	0	0	54	0	3	0	22	
4:30 PM	0	0	0	128	0	11	2	85	0	0	0	55	1	2	0	20	
4:45 PM	0	0	0	132	0	10	0	78	0	0	0	58	0	4	0	24	
5:00 PM	0	0	0	129	0	12	1	75	0	0	0	62	0	3	0	27	
5:15 PM	0	0	0	135	0	11	2	70	0	0	0	60	1	2	0	32	
5:30 PM	0	0	0	130	0	9	1	78	0	0	0	58	0	3	0	30	
5:45 PM	0	0	0	128	0	10	0	74	0	0	0	62	0	2	0	28	

AM PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa	d			State Stree	t			State Street	t	
8:00 AM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	332	0	38	4	233	0	0	0	159	1	10	0	158	

PM PEAK HOUR ¹ 4:00 PM			Surface Roa Northbound			S	Surface Roa Southbound	ıd İ			State Stree Eastbound				State Street Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	499	0	50	3	315	0	0	0	219	1	11	0	84	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 8 Location: Boston, MA Street 1: Atlantic Avenue Street 2: State Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,_ (O,,,,	<u> </u>	<i></i>						
		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	29	106	10	0	0	0	0	0	0	0	0	0	0	11	1
7:15 AM	0	31	108	12	0	0	0	0	0	0	0	0	0	0	12	2
7:30 AM	0	34	113	11	0	0	0	0	0	0	0	0	0	0	15	5
7:45 AM	0	36	122	13	0	0	0	0	0	0	0	0	0	0	17	7
8:00 AM	0	40	138	12	0	0	0	0	0	0	0	0	0	0	19	9
8:15 AM	0	42	151	13	0	0	0	0	0	0	0	0	0	0	21	11
8:30 AM	0	41	153	12	0	0	0	0	0	0	0	0	0	0	20	10
8:45 AM	0	40	149	11	0	0	0	0	0	0	0	0	0	0	19	9

		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	38	143	4	0	0	0	0	0	0	0	0	0	0	13	9
4:15 PM	0	40	137	6	0	0	0	0	0	0	0	0	0	0	15	10
4:30 PM	0	39	145	7	0	0	0	0	0	0	0	0	0	0	19	11
4:45 PM	0	37	167	8	0	0	0	0	0	0	0	0	0	0	23	12
5:00 PM	0	32	209	10	0	0	0	0	0	0	0	0	0	0	28	14
5:15 PM	0	30	231	9	0	0	0	0	0	0	0	0	0	0	30	13
5:30 PM	0	32	234	8	0	0	0	0	0	0	0	0	0	0	29	12
5:45 PM	0	31	227	7	0	0	0	0	0	0	0	0	0	0	27	11

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	163	591	48	0	0	0	0	0	0	0	0	0	0	79	39
PHF		0.	97			0.	00			0.	00			0.	92	
HV~%	0.0%	1.2%	2.9%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%

PM	PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
	5:00 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	6:00 PM	0	125	901	34	0	0	0	0	0	0	0	0	0	0	114	50
	PHF		0.	97			0.	00			0.	00			0.	95	
	HV %	0.0%	0.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 8 Location: Boston, MA Street 1: Atlantic Avenue Street 2: State Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0

			Avenue bound				Avenue bound				Street cound				Street bound	
Start Time	U-Turn	Left	Thru	Right												
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
7:45 AM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	3	17	1	0	0	0	0	0	0	0	0	0	0	1	0
PHF		0.	88			0.	00			0.	00			0.	25	

PM	I PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			State	Street			State	Street	
	4:15 PM		North	bound			South	bound			Easth	oound			West	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:15 PM	0	2	10	0	0	0	0	0	0	0	0	0	0	0	1	1
	PHF		1.	00			0.	00			0.	00			0.	50	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 8 Boston, MA Location: Street 1: Atlantic Avenue Street 2: State Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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

			tlantic Aven				tlantic Aven				State Stree				State Street		
			Northbound	l			Southbound	b			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	48	0	0	0	35	0	0	0	6	0	0	0	108	
7:15 AM	0	11	0	52	0	0	0	38	0	0	0	8	0	1	0	120	
7:30 AM	1	12	1	54	0	0	0	40	0	0	0	10	0	2	1	132	
7:45 AM	0	16	0	60	0	0	0	44	0	0	0	11	0	0	1	155	
8:00 AM	2	15	0	55	0	0	0	40	0	0	0	12	0	1	0	170	
8:15 AM	1	16	1	50	0	0	0	42	0	0	0	15	0	0	1	185	
8:30 AM	0	15	1	58	0	0	0	38	0	0	0	13	0	1	0	172	
8:45 AM	1	16	0	52	0	0	0	40	0	0	0	11	0	1	0	168	

			tlantic Aven Northbound				tlantic Aven Southbound				State Stree Eastbound	t			State Street Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	11	1	130	0	0	0	138	0	0	0	10	0	0	1	135	
4:15 PM	0	16	0	127	0	0	0	65	0	0	0	12	0	1	0	140	
4:30 PM	1	19	0	125	0	0	0	50	0	0	0	15	0	2	1	142	
4:45 PM	0	18	1	134	0	0	0	46	0	0	0	22	0	1	0	165	
5:00 PM	1	21	0	142	0	0	0	45	0	0	0	28	0	2	1	182	
5:15 PM	1	17	2	148	0	0	0	40	0	0	0	20	0	1	1	195	
5:30 PM	0	19	1	152	0	0	0	44	0	0	0	24	0	1	0	205	
5:45 PM	0	18	0	160	0	0	0	48	0	0	0	25	0	0	1	198	

AM PEAK HOUR ¹		A	lantic Aven	ue		Α	tlantic Aven	ue			State Stree				State Street	t	
8:00 AM			Northbound				Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	4	62	2	215	0	0	0	160	0	0	0	51	0	3	1	695	

Ī	PM PEAK HOUR ¹		At	lantic Aveni	ıe		A ⁻	tlantic Aven				State Stree	t			State Street		
	5:00 PM			Northbound				Southbound				Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
L	6:00 PM	2	75	3	602	0	0	0	177	0	0	0	97	0	4	3	780	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 9 Location: Boston, MA Street 1: Surface Road Street 2: **Broad Street** Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

		Surface	e Road			Surfac	e Road	•		Broad	Street					
		Northl	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	59	0	0	0	0	11	0	0	0	0
7:15 AM	0	0	0	0	0	0	55	0	0	0	0	14	0	0	0	0
7:30 AM	0	0	0	0	0	0	53	0	0	0	0	17	0	0	0	0
7:45 AM	0	0	0	0	0	0	66	0	0	0	0	19	0	0	0	0
8:00 AM	0	0	0	0	0	0	79	0	0	0	0	21	0	0	0	0
8:15 AM	0	0	0	0	0	0	83	0	0	0	0	20	0	0	0	0
8:30 AM	0	0	0	0	0	0	80	0	0	0	0	19	0	0	0	0
8:45 AM	0	0	0	0	0	0	78	0	0	0	0	17	0	0	0	0

		Surfac	e Road			Surfac	e Road			Broad	Street					
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	190	0	0	0	0	17	0	0	0	0
4:15 PM	0	0	0	0	0	0	183	0	0	0	0	16	0	0	0	0
4:30 PM	0	0	0	0	0	0	168	0	0	0	0	15	0	0	0	0
4:45 PM	0	0	0	0	0	0	145	0	0	0	0	14	0	0	0	0
5:00 PM	0	0	0	0	0	0	122	0	0	0	0	13	0	0	0	0
5:15 PM	0	0	0	0	0	0	117	0	0	0	0	15	0	0	0	0
5:30 PM	0	0	0	0	0	0	116	0	0	0	0	14	0	0	0	0
5:45 PM	0	0	0	0	0	0	112	0	0	0	0	13	0	0	0	0

AM PEAK HOU	R	Surfac	e Road			Surfac	e Road			Broad	Street					
8:00 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	320	0	0	0	0	77	0	0	0	0
PHF		0.	.00			0.	96			0.	92			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%

PM P	PEAK HOUR		Surfac	e Road			Surfac	e Road			Broad	Street					
	4:00 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4	5:00 PM	0	0	0	0	0	0	686	0	0	0	0	62	0	0	0	0
	PHF		0.	00			0.	90			0.	91			0.	00	
	HV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 9 Location: Boston, MA Street 1: Surface Road **Broad Street** Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

									0.10							
		Surfac	e Road			Surfac	e Road			Broad	Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

		Surfac	e Road			Surfac	e Road			Broad	Street					
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PE	EAK HOUR		Surfac	e Road			Surface	e Road			Broad	Street					
7:	30 AM		North	bound			South	bound			Easth	oound			Westl	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8::	30 AM	0	0	0	0	0	0	15	0	0	0	0	2	0	0	0	0
	PHF		0.	00			0.	75			0.	50			0.	00	

PM PEAK HOUR	Ī	Surfac	e Road			Surfac	e Road			Broad	Street					
4:00 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	10	0	0	0	0	1	0	0	0	0
PHF		0.	00			0.	83			0.:	25			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 9 Boston, MA Location: Street 1: Surface Road Street 2: Broad Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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

		S	Surface Roa	d		5	Surface Roa	ıd		I	Broad Stree	et					
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	12	0	6	0	5	0	0	2	36	0	0	0	0	
7:15 AM	0	0	0	18	0	7	0	8	0	0	1	40	0	0	0	0	
7:30 AM	0	0	0	22	0	8	0	10	0	0	2	45	0	0	0	0	
7:45 AM	0	0	0	24	0	11	0	12	0	0	1	48	0	0	0	0	
8:00 AM	0	0	0	25	0	10	0	8	0	0	1	52	0	0	0	0	
8:15 AM	0	0	0	30	0	12	0	9	0	0	1	60	0	0	0	0	
8:30 AM	0	0	0	28	0	11	0	10	0	0	1	58	0	0	0	0	
8:45 AM	0	0	0	26	0	7	0	8	0	0	2	55	0	0	0	0	

			Surface Roa			5	Surface Roa	ıd		1	Broad Stree	t					
			Northbound				Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	22	0	16	0	12	0	0	2	42	0	0	0	0	
4:15 PM	0	0	0	30	0	14	0	14	0	0	1	56	0	0	0	0	
4:30 PM	0	0	0	38	0	12	0	11	0	0	1	70	0	0	0	0	
4:45 PM	0	0	0	45	0	10	0	12	0	0	2	82	0	0	0	0	
5:00 PM	0	0	0	52	0	11	0	15	0	0	3	98	0	0	0	0	
5:15 PM	0	0	0	58	0	12	0	14	0	0	1	105	0	0	0	0	
5:30 PM	0	0	0	60	0	9	0	16	0	0	2	102	0	0	0	0	
5:45 PM	0	0	0	55	0	10	0	15	0	0	2	96	0	0	0	0	

AM PEAK HOUR ¹			Surface Roa			5	Surface Roa	ıd		I	Broad Stree	t					
8:00 AM			Northbound				Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	109	0	40	0	35	0	0	5	225	0	0	0	0	

F	PM PEAK HOUR ¹		S	urface Roa	d		5	Surface Roa	d		E	Broad Stree	t					
	4:00 PM			Northbound				Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	5:00 PM	0	0	0	135	0	52	0	49	0	0	6	250	0	0	0	0	

¹ Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 10 Location: Boston, MA Street 1: Surface Road Street 2: High Street 6/19/2018 Count Date: Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

							. • .	(/						
		Purchas	e Street			Surfac	e Road			High	Street			High	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	14	56	0	0	0	10	33	0	0	0	0
7:15 AM	0	0	0	0	0	15	54	0	0	0	11	35	0	0	0	0
7:30 AM	0	0	0	0	0	17	53	0	0	0	14	36	0	0	0	0
7:45 AM	0	0	0	0	0	19	66	0	0	0	16	34	0	0	0	0
8:00 AM	0	0	0	0	0	20	80	0	0	0	19	35	0	0	0	0
8:15 AM	0	0	0	0	0	21	82	0	0	0	21	36	0	0	0	0
8:30 AM	0	0	0	0	0	20	79	0	0	0	20	37	0	0	0	0
8:45 AM	0	0	0	0	0	19	76	0	0	0	18	35	0	0	0	0

			se Street bound				e Road bound				Street oound			•	Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	12	195	0	0	0	22	14	0	0	0	0
4:15 PM	0	0	0	0	0	13	186	0	0	0	24	15	0	0	0	0
4:30 PM	0	0	0	0	0	14	169	0	0	0	32	17	0	0	0	0
4:45 PM	0	0	0	0	0	12	147	0	0	0	39	19	0	0	0	0
5:00 PM	0	0	0	0	0	13	122	0	0	0	49	22	0	0	0	0
5:15 PM	0	0	0	0	0	12	120	0	0	0	58	24	0	0	0	0
5:30 PM	0	0	0	0	0	13	117	0	0	0	56	23	0	0	0	0
5:45 PM	0	0	0	0	0	11	114	0	0	0	54	22	0	0	0	0

AM PEAK HOU	R	Purchas	se Street			Surfac	e Road			High	Street			High	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	80	317	0	0	0	78	143	0	0	0	0
PHF		0.	.00			0.	96			0.	97			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	4.7%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR	7		se Street				e Road			High	Street			•	Street	
4:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	51	697	0	0	0	117	65	0	0	0	0
PHF		0.	00			0.	90			0.	78			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	1.6%	0.0%	0.0%	0.0%	0.9%	1.5%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 10 Location: Boston, MA Street 1: Surface Road High Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

		Purchas	e Street			Surfac	e Road			High	Street			High	Street	
		North	bound			South	bound				oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

		Purchas	se Street				e Road			High	Street			High	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	3	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Purchas	se Street			Surfac	e Road			High	Street			High :	Street	
7:30 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	0	2	15	0	0	0	1	1	0	0	0	0
PHF		0.	00			0.	71			0.	50			0.	00	

Ī	PM PEAK HOUR		Purchas	se Street			Surface	e Road			High \$	Street			High :	Street	
	4:30 PM		North	bound			South	bound			Eastb	ound			West	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:30 PM	0	0	0	0	0	1	11	0	0	0	2	1	0	0	0	0
_	PHF		0.	00			0.	75			0.	75			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 10 Boston, MA Location: Street 1: Surface Road Street 2: High Street 6/19/2018 Count Date: Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Pι	irchase Stre	eet		5	Surface Roa	ad			High Street	İ			High Street	t	
			Northbound	i			Southbound	d			Eastbound				Westbound	I	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	75	0	8	0	30	0	0	0	22	0	0	0	4	
7:15 AM	0	0	0	84	1	7	0	32	0	1	0	25	0	0	0	6	
7:30 AM	0	0	0	92	0	9	0	35	0	0	1	24	0	0	0	8	
7:45 AM	0	0	0	105	2	11	0	38	0	1	0	30	0	0	0	9	
8:00 AM	0	0	0	120	1	9	0	36	0	1	1	42	0	0	0	7	
8:15 AM	0	0	0	115	2	11	0	33	0	0	0	48	0	0	0	8	
8:30 AM	0	0	0	118	0	12	0	32	0	1	0	55	0	0	0	10	
8:45 AM	0	0	0	110	1	7	0	34	0	0	1	52	0	0	0	8	

			irchase Stre				Surface Roa Southbound				High Street				High Street Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	80	1	14	0	22	0	1	0	62	0	0	0	10	
4:15 PM	0	0	0	82	0	13	0	24	0	1	1	65	0	0	0	13	
4:30 PM	0	0	0	86	1	12	0	25	0	2	0	64	0	0	0	12	
4:45 PM	0	0	0	92	1	11	0	28	0	0	1	70	0	0	0	15	
5:00 PM	0	0	0	102	0	13	1	30	0	1	1	78	0	0	0	12	
5:15 PM	0	0	0	105	1	12	0	32	0	0	1	85	0	0	0	14	
5:30 PM	0	0	0	114	0	11	0	35	0	1	0	82	0	0	0	15	
5:45 PM	0	0	0	108	0	11	0	34	0	1	1	86	0	0	0	11	

AM PEAK HOUR ¹		Pu	ırchase Stre	eet		5	Surface Roa	d			High Street	t			High Street		
8:00 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	463	4	39	0	135	0	2	2	197	0	0	0	33	

PM PEAK HOUR ¹		Pι	ırchase Stre	eet		S	Surface Roa	nd			High Street				High Street		
4:00 PM			Northbound				Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	340	3	50	0	99	0	4	2	261	0	0	0	50	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 11 Location: Boston, MA Street 1: Atlantic Avenue High Street Street 2: 6/19/2018 Count Date: Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

										-,						
		Atlantic	Avenue			Atlantic	Avenue			High :	Street					
		Northl	bound			South	bound				oound			Westl	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	144	0	0	0	0	0	0	24	0	0	0	0	0	0
7:15 AM	0	0	150	0	0	0	0	0	0	26	0	0	0	0	0	0
7:30 AM	0	0	154	0	0	0	0	0	0	31	0	0	0	0	0	0
7:45 AM	0	0	168	0	0	0	0	0	0	35	0	0	0	0	0	0
8:00 AM	0	0	182	0	0	0	0	0	0	39	0	0	0	0	0	0
8:15 AM	0	0	193	0	0	0	0	0	0	42	0	0	0	0	0	0
8:30 AM	0	0	196	0	0	0	0	0	0	40	0	0	0	0	0	0
8:45 AM	0	0	191	0	0	0	0	0	0	37	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue			High	Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	124	0	0	0	0	0	0	34	0	0	0	0	0	0
4:15 PM	0	0	108	0	0	0	0	0	0	37	0	0	0	0	0	0
4:30 PM	0	0	102	0	0	0	0	0	0	46	0	0	0	0	0	0
4:45 PM	0	0	117	0	0	0	0	0	0	51	0	0	0	0	0	0
5:00 PM	0	0	144	0	0	0	0	0	0	62	0	0	0	0	0	0
5:15 PM	0	0	145	0	0	0	0	0	0	70	0	0	0	0	0	0
5:30 PM	0	0	154	0	0	0	0	0	0	69	0	0	0	0	0	0
5:45 PM	0	0	155	0	0	0	0	0	0	65	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			High	Street					
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	762	0	0	0	0	0	0	158	0	0	0	0	0	0
PHF		0.	97			0.	00			0.	94			0.	00	
HV~%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOU	R	Atlantic	Avenue			Atlantic	Avenue			High	Street					
5:00 PM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	598	0	0	0	0	0	0	266	0	0	0	0	0	0
PHF		0.	.96			0.	00			0.	95			0.	00	
HV~%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 11 Location: Boston, MA Street 1: Atlantic Avenue High Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Atlantic	Avenue			Atlantic	Avenue			High	Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue			High	Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Atlantic	Avenue			Atlantic	Avenue			High :	Street					
7:30 AM		North	bound			South	bound			Eastb	oound			Westh	ound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	18	0	0	0	0	0	0	3	0	0	0	0	0	0
PHF		0.	90			0.	00			0.	75			0.0	00	

PM PEAK HOUR]	Atlantic	Avenue			Atlantic	Avenue			High	Street					
4:30 PM		North	bound			South	bound			Eastb	ound			West	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:30 PM	0	0	8	0	0	0	0	0	0	3	0	0	0	0	0	0
PHF		0.	67			0.	00			0.	75			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 11 Boston, MA Location: Street 1: Atlantic Avenue Street 2: High Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		At	tlantic Aven	ue		Α	tlantic Aven	ue			High Street						
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	11	0	78	0	0	0	35	0	0	0	8	0	0	0	0	
7:15 AM	0	11	0	88	0	0	0	34	2	0	0	10	0	0	0	0	
7:30 AM	0	12	0	95	0	0	0	40	1	0	1	12	0	0	0	0	
7:45 AM	0	14	0	108	0	0	0	42	2	0	1	10	0	0	0	0	
8:00 AM	0	14	0	116	0	0	0	38	2	0	0	11	0	0	0	0	
8:15 AM	0	17	0	122	0	0	0	36	1	0	1	12	0	0	0	0	
8:30 AM	0	20	0	125	0	0	0	32	0	0	1	9	0	0	0	0	
8:45 AM	0	19	0	118	0	0	0	30	1	0	0	10	0	0	0	0	

			tlantic Aven Northbound				tlantic Aven Southbound				High Street Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	13	0	78	0	0	0	25	1	0	1	18	0	0	0	0	
4:15 PM	0	14	0	84	0	0	0	26	1	0	0	20	0	0	0	0	
4:30 PM	0	15	0	86	0	0	0	28	2	0	1	22	0	0	0	0	
4:45 PM	0	20	0	94	0	0	0	26	1	0	1	24	0	0	0	0	
5:00 PM	0	21	0	105	0	0	0	32	2	0	0	22	0	0	0	0	
5:15 PM	0	23	0	102	0	0	0	30	0	0	1	25	0	0	0	0	
5:30 PM	0	21	0	108	0	0	0	34	1	0	0	24	0	0	0	0	
5:45 PM	0	17	0	105	0	0	0	32	0	0	1	22	0	0	0	0	

AM PEAK HOUR ¹		A	tlantic Aven	ue		At	tlantic Aven	ue			High Street	t					
8:00 AM			Northbound	l			Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	70	0	481	0	0	0	136	4	0	2	42	0	0	0	0	

PM PEAK HOUR ¹		At	lantic Aveni	ue			At	tlantic Aven	ue			High Street						
5:00 PM			Northbound					Southbound	i			Eastbound				Westbound		
to	Left						Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	82	0	420		0	0	0	128	3	0	2	93	0	0	0	0	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 12
Location: Boston, MA
Street 1: Atlantic Avenue

Street 2: Seaport Blvd/I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Atlantic A			Atlantic A		Northbound	On-Ramp		Seaport B Eastb					t Boulevard stbound	
Start Time	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
7:00 AM	21	36	95	27	0	0	0	0	2	7	108	0	0	61	21	42
7:15 AM	22	42	97	28	0	0	0	0	2	9	111	0	0	72	23	44
7:30 AM	23	47	99	29	0	0	0	0	1	8	115	0	0	82	29	47
7:45 AM	25	53	112	30	0	0	0	0	2	7	119	0	0	88	34	49
8:00 AM	24	58	122	31	0	0	0	0	1	6	123	0	0	95	39	54
8:15 AM					0	0	0	0	2	7	120	0	0	94	43	57
8:30 AM	==					0	0	0	2	5	121	0	0	90	42	56
8:45 AM	21	52	133	29	0	0	0	0	1	4	118	0	0	85	41	54

		Atlantic A			Atlantic Av		Northbound bound	On-Ramp		Seaport B Eastbo					Boulevard	
		Northb	ouna			South	Douna			Easib	ouna			wes	sibouna	
Start Time	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
4:00 PM	22	58	86	36	0	0	0	0	1	1	85	0	0	55	41	37
4:15 PM	21	61	68	31	0	0	0	0	2	1	83	0	0	48	43	39
4:30 PM	19	60	59	25	0	0	0	0	2	2	81	0	0	42	47	41
4:45 PM	18	61	75	22	0	0	0	0	1	2	82	0	0	36	51	40
5:00 PM	16	59	101	18	0	0	0	0	2	1	78	0	0	31	56	42
5:15 PM	18	60	102	19	0	0	0	0	2	2	76	0	0	32	59	41
5:30 PM	17	57	113	17	0	0	0	0	1	1	77	0	0	30	58	40
5:45 PM	16	55	114	16	0	0	0	0	1	2	73	0	0	28	56	39

AM PEAK HOUR	1	Atlantic A	Avenue		Atlantic Av	/enue/I-93 N	Northbound	On-Ramp		Seaport B	oulevard			Seaport	Boulevard	
8:00 AM		Northb	ound			South	bound			Eastbo	ound			Wes	stbound	
to	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
9:00 AM	90	219	519	121	0	0	0	0	6	22	482	0	0	364	165	221
PHF		0.9	9			0.	00			0.9	8			(0.97	
HV%	1.1%	3.7%	3.9%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.8%	0.0%	0.0%

PN	M PEAK HOUR		Atlantic A	Avenue		Atlantic A	venue/I-93 N	Northbound	On-Ramp		Seaport B	oulevard			Seaport	Boulevard	
	5:00 PM		Northb	ound			South	bound			Eastb	ound			Wes	stbound	
	to	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
	6:00 PM	67	231	430	70	0	0	0	0	6	6	304	0	0	121	229	162
	PHF		0.9	8			0.	00			0.9	8			(0.97	
	HV%	1.5%	2.6%	1.6%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	1.7%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 12
Location: Boston, MA
Street 1: Atlantic Avenue

Street 2: Seaport Blvd/I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Atlantic A			Atlantic Av		Northbound	On-Ramp		Seaport B					Boulevard	
		Northb	ound			South	bound			Eastb	ound			Wes	stbound	
Start Time	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
7:00 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	2	2	1	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	1	4	0	0	0	0	0	0	0	0	0	0	1	0	0
7:45 AM	1	1	3	2	0	0	0	0	0	1	1	0	0	2	0	0
8:00 AM	0	2	5	1	0	0	0	0	0	0	2	0	0	1	0	0
8:15 AM	1	1	5	2	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	3	6	1	0	0	0	0	0	0	2	0	0	1	0	0
8:45 AM	0	2	4	2	0	0	0	0	0	0	0	0	0	1	0	0

		Atlantic A			Atlantic Av		Northbound bound	On-Ramp		Seaport B Eastbo					Boulevard	
Start Time	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
4:00 PM	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0
4:15 PM	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	2	1	0	0	0	0	0	0	0	0	0	1	0	0
4:45 PM	1	1	2	2	0	0	0	0	0	0	2	0	0	0	0	0
5:00 PM	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	2	2	0	0	0	0	0	0	1	0	0	2	0	0
5:30 PM	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	2	1	0	0	0	0	0	0	1	0	0	0	0	0

AM PEAK HOUR		Atlantic A	venue		Atlantic Av	venue/I-93 I	Northbound	On-Ramp		Seaport Bo	oulevard			Seaport	Boulevard	
7:45 AM		Northbo	ound			South	bound			Eastbo	ound			Wes	stbound	
to	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
8:45 AM	2	7	19	6	0	0	0	0	0	1	6	0	0	4	0	0
PHF		0.8	5			0.	00			0.8	8				0.50	

Ī	PM PEAK HOUR		Atlantic A	Avenue		Atlantic Av	venue/I-93 i	Northbound	On-Ramp		Seaport B	oulevard			Seaport	Boulevard	
	4:30 PM		Northbo	ound			South	bound			Eastb	ound			Wes	stbound	
	to	Left	Thru (I-93)	Thru	Right	U-Turn	Left	Thru	Right	Left (I-93)	Left	Thru	Right	Left	Thru	Right (I-93)	Right
	5:30 PM	1	6	8	6	0	0	0	0	0	0	3	0	0	3	0	0
	PHF		0.8	8			0.	00			0.3	88				0.38	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 12
Location: Boston, MA
Street 1: Atlantic Avenue
Street 2: Seaport Blvd/I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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			tlantic Aven Northbound		Atla	ntic Avenue	e/I-93 Northi Southbound		lamp			aport Boulev Eastbound				aport Boulev Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	55	0	0	0	52		0	3	0	0	0	3	1	165	
7:15 AM	0	11	1	58	0	0	0	56		0	4	0	1	0	5	0	178	
7:30 AM	0	11	1	62	0	0	0	60		0	3	0	0	0	3	1	192	
7:45 AM	1	12	2	68	0	0	0	65		0	4	0	1	0	4	2	204	
8:00 AM	0	13	3	75	0	0	0	62		1	5	0	2	0	4	0	190	
8:15 AM	1	16	2	86	0	0	0	58		0	3	0	4	0	3	1	184	
8:30 AM	1	18	3	90	0	0	0	54		0	4	0	1	0	4	2	186	
8:45 AM	0	17	2	88	0	0	0	58		1	5	0	2	0	3	1	178	

			tlantic Aven Northbound		Atla		/I-93 Northb Southbound		amp		Sea	aport Boulev Eastbound				port Boule Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	11	1	75	0	0	0	62		0	7	0	5	0	6	2	172	
4:15 PM	0	12	1	80	0	0	0	65		1	5	0	6	0	7	1	184	
4:30 PM	1	15	2	84	0	0	0	72		0	4	0	4	0	6	0	190	
4:45 PM	0	19	2	92	0	0	0	80		0	5	0	7	0	7	1	205	
5:00 PM	1	20	1	108	0	0	0	85		1	6	0	10	0	5	0	218	
5:15 PM	2	21	3	120	0	0	0	88		0	4	0	12	0	4	2	226	
5:30 PM	1	19	1	126	0	0	0	94		1	5	0	18	0	5	1	232	
5:45 PM	1	16	2	122	0	0	0	90		0	4	0	15	0	4	1	228	

AM PEAK H	OUR ¹		Atlantic Aver	nue	Atla	ntic Avenue	e/I-93 North	oound On-R	lamp		Sea	aport Boule	vard		Sea	aport Boule	/ard	
8:00 AM	1		Northboun	d			Southbound	t				Eastbound				Westbound	l	
to	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	1 2	64	10	339	0	0	0	232		2	17	0	9	0	14	4	738	

PM PEAK HOUR ¹ 5:00 PM			tlantic Aven Northbound		Atla	ntic Avenue	e/I-93 Northb Southbound		amp		Sea	port Boule Eastbound				aport Boulev Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	5	76	7	476	0	0	0	357		2	19	0	55	0	18	4	904	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 13
Location: Boston, MA

Street 1: Purchase Street/ I-93 SB Off-Ramp Street 2: Oliver Street/ Seaport Boulevard

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

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		Purchas	se Street			Purchas	se Street		J-9	3 Southbo	und Off-Ran	np		Seaport B	Boulevard	
		North	bound			South	bound			South	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	75	14	0	117	87	29	0	43	39	0
7:15 AM	0	0	0	0	0	0	73	16	0	122	89	28	0	52	41	0
7:30 AM	0	0	0	0	0	0	71	18	0	124	88	26	0	59	43	0
7:45 AM	0	0	0	0	0	0	80	20	0	128	92	25	0	66	46	0
8:00 AM	0	0	0	0	0	0	92	23	0	130	89	24	0	71	48	0
8:15 AM	0	0	0	0	0	0	93	25	0	129	90	25	0	70	47	0
8:30 AM	0	0	0	0	0	0	92	24	0	127	87	23	0	67	45	0
8:45 AM	0	0	0	0	0	0	88	23	0	123	85	22	0	63	43	0

		Purchas	se Street			Purchas	se Street		J-9	93 Southbo	und Off-Rar	np		Seaport I	Boulevard	
		North	bound			South	bound			South	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	182	27	0	87	29	12	0	39	38	0
4:15 PM	0	0	0	0	0	0	172	29	0	86	32	12	0	35	34	0
4:30 PM	0	0	0	0	0	0	158	28	0	85	34	11	0	31	30	0
4:45 PM	0	0	0	0	0	0	139	27	0	84	37	12	0	27	27	0
5:00 PM	0	0	0	0	0	0	118	26	0	81	39	10	0	23	24	0
5:15 PM	0	0	0	0	0	0	119	25	0	80	37	11	0	24	26	0
5:30 PM	0	0	0	0	0	0	113	27	0	78	35	10	0	22	25	0
5:45 PM	0	0	0	0	0	0	110	26	0	76	33	11	0	21	23	0

AM PEAK HOUR		Purchas	e Street			Purchas	e Street		1-9	3 Southboo	und Off-Ran	np		Seaport E	Boulevard	
7:45 AM		North	bound			South	bound			South	bound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	0	0	0	0	357	92	0	514	358	97	0	274	186	0
PHF		0.	00			0.	95			0.	99			0.	97	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	1.1%	0.0%	1.4%	1.1%	1.0%	0.0%	0.7%	2.2%	0.0%

PM PEAK H	OUR	Purcha	ase Street			Purchas	se Street		1-9	3 Southboo	und Off-Rar	np		Seaport E	Boulevard	
4:00 PM		Nort	hbound			South	bound			South	bound			Westl	bound	
to	U-Tur	n Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	651	111	0	342	132	47	0	132	129	0
PHF		-	0.00			0.	91			0.	98			0.	85	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.9%	0.0%	0.9%	3.8%	0.0%	0.0%	0.8%	1.6%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 13
Location: Boston, MA

Street 1: Purchase Street/ I-93 SB Off-Ramp Street 2: Oliver Street/ Seaport Boulevard

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Purchas	e Street			Purchas	se Street		I-9	3 Southbo	und Off-Rar	np		Seaport I	Boulevard	
		North	bound			South	bound			South	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	3	0	0	1	0	0	0	1	0	0
7:30 AM	0	0	0	0	0	0	4	0	0	0	1	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	5	0	0	2	2	0	0	1	2	0
8:00 AM	0	0	0	0	0	0	4	1	0	2	1	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	3	0	0	1	1	1	0	0	1	0
8:30 AM	0	0	0	0	0	0	3	0	0	2	0	0	0	1	0	0
8:45 AM	0	0	0	0	0	0	3	0	0	0	1	0	0	0	1	0

		Purchas	se Street				se Street		I-9	93 Southbo		np		Seaport I	Boulevard	
		North	bound			South	bound			South	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	1	1	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	3	0	0	0	1	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	3	1	0	2	2	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	3	0	0	1	2	0	0	1	1	0
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0

AM PEAK HOUR]	Purchas	se Street			Purchas	e Street		1-9	3 Southboo	und Off-Rar	np		Seaport E	Boulevard	
7:30 AM		North	bound			South	bound			South	bound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	0	0	16	1	0	5	5	1	0	1	5	0
PHF		0.	00			0.	85			0.	69			0.	50	

Γ	PM PEAK HOUR		Purchas	e Street			Purchas	e Street		1-9	3 Southboo	und Off-Ran	пр		Seaport E	Boulevard	
	4:30 PM		North	bound			South	bound			South	bound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:30 PM	0	0	0	0	0	0	11	1	0	3	6	0	0	2	2	0
	PHF		0.	00			0.	75			0.	56			0.	50	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 13
Location: Boston, MA

Street 1: Purchase Street/ I-93 SB Off-Ramp Street 2: Oliver Street/ Seaport Boulevard

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Pι	irchase Stre	eet		Pu	irchase Stre	eet			Oliver Stree	t		Sea	aport Boulev	/ard	
			Northbound	i		;	Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	45	0	8	0	28	0	0	0	65	0	2	0	0	
7:15 AM	0	0	0	48	0	7	0	32	0	0	0	72	1	4	0	0	
7:30 AM	0	0	0	52	0	9	1	34	0	1	0	80	0	3	0	0	
7:45 AM	0	0	0	78	1	10	0	42	0	0	0	114	1	3	0	0	
8:00 AM	0	0	0	96	0	8	0	53	0	0	1	148	2	2	0	0	
8:15 AM	0	0	0	124	1	11	0	58	0	0	0	184	0	3	0	0	
8:30 AM	0	0	0	135	2	9	1	60	0	0	0	212	1	4	0	0	
8:45 AM	0	0	0	130	0	8	0	55	0	0	0	204	1	2	0	0	

			irchase Stre				irchase Stre				Oliver Stree Eastbound			Sea	aport Boulev Westbound	ard	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	75	0	11	0	70	0	0	0	108	1	5	0	0	
4:15 PM	0	0	0	80	1	10	0	78	0	0	0	116	0	7	0	0	
4:30 PM	0	0	0	82	0	9	1	75	0	0	1	125	2	6	0	0	
4:45 PM	0	0	0	85	1	11	0	80	0	1	0	122	1	5	0	0	
5:00 PM	0	0	0	90	0	12	1	76	0	0	0	116	0	6	0	0	
5:15 PM	0	0	0	98	0	11	1	74	0	0	1	120	1	5	0	0	
5:30 PM	0	0	0	105	1	10	0	72	0	0	0	118	1	4	0	0	
5:45 PM	0	0	0	96	0	9	0	75	0	0	0	112	0	5	0	0	

AM PEAK HOUR ¹		Pι	rchase Stre	eet		Pi	urchase Stre	eet			Oliver Stree			Sea	port Boule	/ard	
7:45 AM			Northbound	l			Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:45 AM	0	0	0	433	4	38	1	213	0	0	1	658	4	12	0	0	

PM PEAK HOUR ¹ 4:00 PM			ırchase Stre Northbound			Pi	urchase Stre	eet I		(Oliver Stree Eastbound				aport Boulev Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	322	2	41	1	303	0	1	1	471	4	23	0	0	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 14 Location: Boston, MA Street 1: Purchase Street Street 2: Pearl Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Purchas	e Street			Purchas	se Street	•		Pearl	Street			Pearl	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	188	17	0	0	0	0	0	12	58	0
7:15 AM	0	0	0	0	0	0	194	20	0	0	0	0	0	14	59	0
7:30 AM	0	0	0	0	0	0	197	21	0	0	0	0	0	13	62	0
7:45 AM	0	0	0	0	0	0	216	22	0	0	0	0	0	14	63	0
8:00 AM	0	0	0	0	0	0	229	23	0	0	0	0	0	16	64	0
8:15 AM	0	0	0	0	0	0	228	24	0	0	0	0	0	15	78	0
8:30 AM	0	0	0	0	0	0	221	25	0	0	0	0	0	14	91	0
8:45 AM	0	0	0	0	0	0	213	23	0	0	0	0	0	13	85	0

			se Street bound				se Street bound				Street cound				Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	232	18	0	0	0	0	0	13	42	0
4:15 PM	0	0	0	0	0	0	219	20	0	0	0	0	0	14	35	0
4:30 PM	0	0	0	0	0	0	204	19	0	0	0	0	0	13	31	0
4:45 PM	0	0	0	0	0	0	186	17	0	0	0	0	0	12	32	0
5:00 PM	0	0	0	0	0	0	164	16	0	0	0	0	0	11	31	0
5:15 PM	0	0	0	0	0	0	165	15	0	0	0	0	0	10	36	0
5:30 PM	0	0	0	0	0	0	156	14	0	0	0	0	0	11	39	0
5:45 PM	0	0	0	0	0	0	151	13	0	0	0	0	0	9	37	0

AM PEAK HOUR		Purchas	e Street			Purchas	e Street			Pearl	Street			Pearl	Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	891	95	0	0	0	0	0	58	318	0
PHF		0.	00			0.	98			0.	00			0.	90	
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.3%	0.0%

PM PEAK HOUR		Purchas	se Street			Purchas	e Street			Pearl	Street			Pearl	Street	
4:00 PM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	841	74	0	0	0	0	0	52	140	0
PHF		0.	00			0.	92			0.	00			0.	87	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	1.4%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 14 Location: Boston, MA Street 1: Purchase Street Street 2: Pearl Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Purchas	e Street			Purchas	se Street			Pearl	Street			Pearl	Street	
		North	bound			South	bound			Eastl	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	0	0	6	1	0	0	0	0	0	0	2	0
8:00 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0

		Purchas	se Street			Purchas	se Street			Pearl	Street			Pearl	Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	1	1	0
5:15 PM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	1	Purchas	se Street			Purchas	se Street			Pearl	Street			Pearl	Street	
7:15 AM		North	bound			South	bound			Easth	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	0	0	0	0	0	0	20	2	0	0	0	0	0	1	4	0
PHF		0.	00			0.	79			0.	00			0.	63	

PM PEAK HOUR		Purchas	se Street			Purchas	e Street			Pearl	Street			Pearl	Street	
4:30 PM		North	bound			South	bound			Eastb	ound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:30 PM	0	0	0	0	0	0	16	2	0	0	0	0	0	1	3	0
PHF		0.	00			0.	75			0.	00			0.	50	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 14 Boston, MA Location: Street 1: Purchase Street Street 2: Pearl Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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

			rchase Stre				urchase Str				Pearl Stree				Pearl Street		
			Northbound	l			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	38	0	6	0	42	0	0	0	50	0	4	0	35	
7:15 AM	0	0	0	42	0	5	0	48	0	0	0	54	1	1	0	38	
7:30 AM	0	0	0	70	0	8	1	56	0	0	0	78	0	2	0	46	
7:45 AM	0	0	0	92	0	10	0	68	0	0	0	105	1	3	0	58	
8:00 AM	0	0	0	105	0	8	2	75	0	0	0	122	1	3	0	62	
8:15 AM	0	0	0	114	0	11	0	86	0	0	0	130	0	3	0	75	
8:30 AM	0	0	0	125	0	8	1	90	0	0	0	136	1	3	0	80	
8:45 AM	0	0	0	120	0	9	0	88	0	0	0	132	0	2	0	78	

			rchase Stre				urchase Stre				Pearl Stree	t			Pearl Stree		
			Northbound				Southbound	1			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	62	0	7	0	28	0	0	0	35	1	0	0	34	
4:15 PM	0	0	0	65	0	10	1	30	0	0	0	38	0	2	0	36	
4:30 PM	0	0	0	78	0	9	0	48	0	0	0	52	1	1	0	35	
4:45 PM	0	0	0	87	0	11	0	62	0	0	0	64	0	1	0	38	
5:00 PM	0	0	0	94	0	10	1	80	0	0	0	78	0	2	0	42	
5:15 PM	0	0	0	108	0	11	0	92	0	0	0	88	1	0	0	40	
5:30 PM	0	0	0	112	0	9	1	98	0	0	0	92	0	3	0	44	
5:45 PM	0	0	0	118	0	8	0	104	0	0	0	96	0	1	0	46	

AN	I PEAK HOUR ¹	ı	Pu	ırchase Stre	eet		Pu	urchase Stre	eet			Pearl Stree	t			Pearl Street	t	
	8:00 AM			Northbound	I			Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	9:00 AM	0	0	0	464	0	36	3	339	0	0	0	520	2	11	0	295	

F	PM PEAK HOUR ¹			rchase Stre			Pı	urchase Stre				Pearl Stree	t			Pearl Street		
	4:00 PM			Northbound				Southbound				Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	5:00 PM	0	0	0	292	0	37	1	168	0	0	0	189	2	4	0	143	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 15 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Pearl Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,_ (O,,,,	<u> </u>	<i> ,</i>						
		Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	et Extension	i
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	70	176	1	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	73	189	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	74	198	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	77	219	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	78	235	1	0	0	0	0	0	0	0	0	0	0	1	0
8:15 AM	0	92	238	0	0	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	105	240	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	98	235	0	0	0	0	0	0	0	0	0	0	0	0	0

			Avenue				Avenue				Street				t Extension	ı
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	53	203	0	0	0	0	0	0	0	0	0	0	0	2	1
4:15 PM	0	49	181	1	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	44	158	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	43	176	1	0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM	0	42	194	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	45	199	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	49	204	0	0	0	0	0	0	0	0	0	0	0	1	0
5:45 PM	0	46	201	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HO	UR	Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	t Extension	
8:00 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	373	948	1	0	0	0	0	0	0	0	0	0	0	2	1
PHF		0.	.96			0.	00			0.	00			0.	38	
HV~%	0.0%	0.5%	3.7%	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%

PM P	EAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	t Extension	
5	5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6	6:00 PM	0	182	798	1	0	0	0	0	0	0	0	0	0	0	2	1
<u> </u>	PHF		0.	97			0.	00			0.	00			0.	75	
	HV %	0.0%	1.6%	2.4%	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%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 15 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Pearl Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	et Extension	I
		Northl	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0

			Avenue bound				Avenue bound				Street				et Extension bound	I
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	t Extension	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	3	34	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	93			0.	00			0.	00			0.	00	

ſ	PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Pearl	Street			Pearl Stree	t Extension	
	4:30 PM		North	bound			South	bound			Easth	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:30 PM	0	4	21	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHF		0.	89			0.	00			0.	00			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 15 Boston, MA Location: Street 1: Atlantic Avenue Street 2: Pearl Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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			lantic Aven				tlantic Aven				Pearl Stree				Street Exte		
			Northbound	l			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	4	10	0	17	0	0	0	31	0	0	0	16	0	0	0	22	
7:15 AM	2	12	0	22	0	0	0	35	0	0	0	34	0	0	0	32	
7:30 AM	2	11	0	25	0	0	0	48	0	0	0	42	0	0	0	40	
7:45 AM	3	14	0	28	0	0	0	58	0	0	0	53	0	1	0	54	
8:00 AM	4	16	0	31	0	0	0	55	0	0	0	58	0	0	0	58	
8:15 AM	3	19	0	35	0	0	0	60	0	0	0	65	0	0	0	65	
8:30 AM	4	22	0	32	0	0	0	54	0	0	0	67	0	0	0	70	
8:45 AM	2	20	0	34	0	0	0	56	0	0	0	64	0	0	0	68	

			tlantic Aven Northbound				tlantic Aven Southbound				Pearl Stree Eastbound				Street Exte		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	1	11	0	15	0	0	0	38	0	0	0	28	0	0	0	54	
4:15 PM	2	13	0	16	0	0	0	42	0	0	0	32	0	0	0	58	
4:30 PM	2	17	0	22	0	0	0	51	0	0	0	45	0	0	0	76	
4:45 PM	1	20	0	29	0	0	0	64	0	0	0	56	0	0	1	82	
5:00 PM	2	22	0	32	0	0	0	72	0	0	0	69	0	0	0	90	
5:15 PM	1	26	0	34	0	1	0	83	0	0	0	78	0	0	0	102	
5:30 PM	3	21	0	30	0	0	0	78	0	0	0	83	0	0	0	96	
5:45 PM	1	18	0	33	0	0	0	76	0	0	0	80	0	0	0	95	

AM PEAK HOUR ¹		At	lantic Aveni	ue		A	tlantic Aven	ue			Pearl Stree	t		Pearl	Street Exte	ension	
8:00 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	13	77	0	132	0	0	0	225	0	0	0	254	0	0	0	261	

PM PEAK HOUR ¹		At	lantic Aven	ıe		Α	tlantic Aven				Pearl Stree	t		Pearl	Street Exte	nsion	
5:00 PM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	7	87	0	129	0	1	0	309	0	0	0	310	0	0	0	383	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 16
Location: Boston, MA
Street 1: Purchase Street

Street 2: Congress Street/ I-93 SB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Purchas Northl	se Street bound			Purchase Southb		•			ess Street tbound				ss Street bound	
Start Time	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	91	69	40	0	0	109	43	31	0	0	0	0
7:15 AM	0	0	0	0	95	72	41	0	0	113	47	37	0	0	0	0
7:30 AM	0	0	0	0	99	73	38	0	0	111	51	42	0	0	0	0
7:45 AM	0 0 0 0				104	78	48	0	0	126	55	38	0	0	0	0
8:00 AM	0	0	0	0	107	82	56	0	0	138	58	33	0	0	0	0
8:15 AM	0	0	0	0	106	83	54	0	0	137	57	35	0	0	0	0
8:30 AM	0	0	0	0	102	81	52	0	0	133	56	33	0	0	0	0
8:45 AM	0	0	0	0	98	78	50	0	0	128	53	34	0	0	0	0

			se Street bound			Purchase Southb					ess Street tbound				ss Street bound	
Start Time	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	89	89	67	0	0	156	82	70	0	0	0	0
4:15 PM	0	0	0	0	84	84	65	0	0	149	83	72	0	0	0	0
4:30 PM	0	0	0	0	78	78	61	0	0	139	85	69	0	0	0	0
4:45 PM	0	0	0	0	73	75	50	0	0	125	88	65	0	0	0	0
5:00 PM	0	0	0	0	67	72	36	0	0	108	87	64	0	0	0	0
5:15 PM	0	0	0	0	69	68	38	0	0	106	89	61	0	0	0	0
5:30 PM	0	0	0	0	65	62	40	0	0	102	85	63	0	0	0	0
5:45 PM	0	0	0	0	63	58	39	0	0	97	81	62	0	0	0	0

AM PEAK HOUR]	Purchas	se Street			Purchase	Street			Congre	ess Street			Congres	ss Street	
7:45 AM		North	bound			Southb	ound			Eas	tbound			Westl	bound	
to	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	0	0	419	324	210	0	0	534	226	139	0	0	0	0
PHF		0.	00			0.9	7			C).98			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	1.0%	2.8%	2.4%	0.0%	0.0%	1.9%	0.4%	1.4%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR		Purchas	e Street			Purchase	Street			Congre	ess Street			Congres	ss Street	
4:00 PM		North	bound			Southb	ound			Eas	tbound			Westl	bound	
to	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	324	326	243	0	0	569	338	276	0	0	0	0
PHF		0.	00	-		0.9	1	•		(0.96			0.	00	-
HV~%	0.0%	0.0%	0.0%	0.0%	1.5%	2.5%	1.2%	0.0%	0.0%	1.1%	0.6%	0.4%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 16
Location: Boston, MA
Street 1: Purchase Street

Street 2: Congress Street/ I-93 SB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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			e Street bound			Purchase Southb					ess Street tbound				s Street oound	
Start Time	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	2	1	0	0	2	0	0	0	0	0	0
7:30 AM	0	0	0	0	2	3	2	0	0	3	1	0	0	0	0	0
7:45 AM	0	0	0	0	1	2	2	0	0	3	1	1	0	0	0	0
8:00 AM	0	0	0	0	2	2	1	0	0	1	0	0	0	0	0	0
8:15 AM	0 0 0 0				0	2	2	0	0	4	0	1	0	0	0	0
8:30 AM	0	0	0	0	1	3	0	0	0	2	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	2	1	0	0	2	1	0	0	0	0	0

			se Street bound			Purchase Southb					ess Street tbound			Congres West	ss Street bound	
Start Time	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0
4:15 PM	0	0	0	0	1	1	1	0	0	1	0	1	0	0	0	0
4:30 PM	0	0	0	0	2	3	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	3	1	0	0	3	1	0	0	0	0	0
5:00 PM	0	0	0	0	1	2	1	0	0	2	1	1	0	0	0	0
5:15 PM	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	2	0	0	3	0	1	0	0	0	0
5:45 PM	0	0	0	0	1	2	0	0	0	1	1	0	0	0	0	0

AM PEAK HOUR		Purchas	e Street			Purchase	Street			Congre	ess Street			Congres	ss Street	
7:30 AM		North	bound			Southb	ound			Eas	tbound			Westl	oound	
to	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	5	9	7	0	0	11	2	2	0	0	0	0
PHF		0.	00			0.7	5			().75			0.0	00	

ſ	PM PEAK HOUR		Purchas	e Street			Purchase	Street			Congre	ess Street			Congres	s Street	
	4:15 PM		North	bound			Southb	ound			Eas	tbound			Westl	oound	
	to	U-Turn	Left	Thru	Right	Left	Thru (I-93)	Thru	Right	Left	Thru	Right (I-93)	Right	U-Turn	Left	Thru	Right
	5:15 PM	0	0	0	0	5	9	3	0	0	7	2	2	0	0	0	0
_	PHF		0.0	00			0.8	5			(0.69			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 16
Location: Boston, MA
Street 1: Purchase Street

Street 2: Congress Street/ I-93 SB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Pι	rchase Stre	eet		Pι	urchase Str	eet		Co	ongress Stre	eet		Co	ongress Stre	eet	
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	40	0	6	0	68	0	5	1	52	0	0	0	35	
7:15 AM	0	0	0	42	0	8	0	75	0	7	2	56	0	0	0	38	
7:30 AM	0	0	0	65	1	7	0	98	0	6	2	68	0	0	0	52	
7:45 AM	0	0	0	90	2	9	0	135	0	5	3	80	0	0	0	65	
8:00 AM	0	0	0	102	0	8	0	170	0	6	2	92	0	0	0	72	
8:15 AM	0	0	0	114	1	10	0	182	0	6	3	95	0	0	0	78	
8:30 AM	0	0	0	120	0	8	0	195	0	7	4	102	0	0	0	84	
8:45 AM	0	0	0	115	1	9	0	186	0	5	3	98	0	0	0	80	

			rchase Stre				irchase Stre					ongress Stre Eastbound				ongress Stre Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	68	1	6	0	75		0	4	2	54	0	0	0	26	
4:15 PM	0	0	0	72	2	8	0	78		0	5	3	58	0	0	0	30	
4:30 PM	0	0	0	95	0	10	0	108		0	5	2	82	0	0	0	32	
4:45 PM	0	0	0	126	1	9	0	146		0	5	4	125	0	0	0	28	
5:00 PM	0	0	0	140	1	10	0	182		0	5	3	146	0	0	0	30	
5:15 PM	0	0	0	154	2	11	0	205		0	5	4	162	0	0	0	34	
5:30 PM	0	0	0	165	1	9	0	212		0	7	3	170	0	0	0	36	
5:45 PM	0	0	0	158	0	8	0	210	·	0	5	3	165	0	0	0	35	

A	M PEAK HOUR ¹		Pu	ırchase Stre	eet		Pi	urchase Stre	eet		Co	ongress Str	eet		Co	ongress Stre	eet	
	7:45 AM			Northbound	l			Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	8:45 AM	0	0	0	426	3	35	0	682	0	24	12	369	0	0	0	299	

PM PEAK HOUR ¹ 4:00 PM			ırchase Stre Northbound			Pı	urchase Stre			Co	ongress Stre Eastbound				ongress Stre Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	361	4	33	0	407	0	19	11	319	0	0	0	116	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 17 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Congress Street 6/19/2018 Count Date: Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

			Avenue bound				Avenue bound	,			ss Street oound				ss Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	113	37	0	0	0	0	0	60	112	0	0	0	0	74
7:15 AM	0	0	124	39	0	0	0	0	0	62	115	0	0	0	0	76
7:30 AM	0	0	128	38	0	0	0	0	0	65	121	0	0	0	0	80
7:45 AM	0	0	147	36	0	0	0	0	0	66	124	0	0	0	0	83
8:00 AM	0	0	149	35	0	0	0	0	0	68	130	0	0	0	0	97
8:15 AM	0	0	152	34	0	0	0	0	0	69	133	0	0	0	0	109
8:30 AM	0	0	167	37	0	0	0	0	0	71	132	0	0	0	0	107
8:45 AM	0	0	164	35	0	0	0	0	0	67	129	0	0	0	0	102

			Avenue bound				Avenue				ss Street oound				ss Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	135	15	0	0	0	0	0	43	114	0	0	0	0	78
4:15 PM	0	0	106	14	0	0	0	0	0	45	118	0	0	0	0	80
4:30 PM	0	0	87	16	0	0	0	0	0	44	119	0	0	0	0	73
4:45 PM	0	0	93	15	0	0	0	0	0	48	121	0	0	0	0	79
5:00 PM	0	0	108	14	0	0	0	0	0	51	123	0	0	0	0	78
5:15 PM	0	0	116	13	0	0	0	0	0	52	122	0	0	0	0	76
5:30 PM	0	0	123	14	0	0	0	0	0	53	120	0	0	0	0	77
5:45 PM	0	0	122	12	0	0	0	0	0	50	117	0	0	0	0	75

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Congres	ss Street			Congres	ss Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	632	141	0	0	0	0	0	275	524	0	0	0	0	415
PHF		0.	95			0.	00			0.	98			0.	95	
HV~%	0.0%	0.0%	4.7%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	2.1%	0.0%	0.0%	0.0%	0.0%	0.7%

PM PEAK HOUR			Avenue				Avenue			U	s Street			•	ss Street	
5:00 PM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	469	53	0	0	0	0	0	206	482	0	0	0	0	306
PHF		0.	95			0.	00			0.	99			0.	98	
HV~%	0.0%	0.0%	3.4%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	1.5%	0.0%	0.0%	0.0%	0.0%	0.7%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 17 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Congress Street 6/19/2018 Count Date: Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Atlantic	Avenue			Atlantic	Avenue			Congres	ss Street			Congres	ss Street	
		North	bound			South	bound				oound				bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	4	1	0	0	0	0	0	0	2	0	0	0	0	0
7:15 AM	0	0	6	0	0	0	0	0	0	1	2	0	0	0	0	0
7:30 AM	0	0	5	2	0	0	0	0	0	1	3	0	0	0	0	1
7:45 AM	0	0	6	1	0	0	0	0	0	2	4	0	0	0	0	1
8:00 AM	0	0	7	2	0	0	0	0	0	1	3	0	0	0	0	0
8:15 AM	0	0	8	1	0	0	0	0	0	0	2	0	0	0	0	1
8:30 AM	0	0	7	2	0	0	0	0	0	2	4	0	0	0	0	2
8:45 AM	0	0	8	0	0	0	0	0	0	1	2	0	0	0	0	0

			Avenue bound				Avenue bound			Congres Eastl	ss Street oound				ss Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	0	0	0	1	2	0	0	0	0	1
4:15 PM	0	0	5	2	0	0	0	0	0	0	1	0	0	0	0	0
4:30 PM	0	0	4	1	0	0	0	0	0	1	2	0	0	0	0	1
4:45 PM	0	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0
5:00 PM	0	0	6	1	0	0	0	0	0	1	2	0	0	0	0	0
5:15 PM	0	0	4	1	0	0	0	0	0	2	2	0	0	0	0	1
5:30 PM	0	0	3	0	0	0	0	0	0	1	1	0	0	0	0	1
5:45 PM	0	0	3	1	0	0	0	0	0	0	2	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Congres	s Street			Congres	ss Street	
7:45 AM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	28	6	0	0	0	0	0	5	13	0	0	0	0	4
PHF		0.	94			0.	00			0.	75			0.	50	

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Congres	s Street			Congres	ss Street	
4:30 PM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:30 PM	0	0	19	3	0	0	0	0	0	4	9	0	0	0	0	2
PHF		0.	79			0.	00			0.	81			0.	50	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 17 Boston, MA Location: Street 1: Atlantic Avenue Street 2: Congress Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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			lantic Aven				tlantic Aven				ongress Str				ongress Stre		
			Northbound	1			Southbound	a			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	1	23	0	0	0	56	1	4	0	34	0	0	3	102	
7:15 AM	0	11	2	30	0	0	0	72	2	5	0	52	0	0	1	135	
7:30 AM	0	10	1	34	0	0	0	84	1	6	0	70	0	0	2	163	
7:45 AM	0	17	3	62	0	0	0	102	0	7	0	78	0	0	0	182	
8:00 AM	0	18	2	78	0	0	0	120	1	5	0	86	0	0	1	226	
8:15 AM	0	21	3	107	0	0	0	138	1	6	0	94	0	0	0	254	
8:30 AM	0	22	2	112	0	0	0	158	2	5	0	107	0	0	2	285	
8:45 AM	0	21	1	108	0	0	0	152	0	6	0	102	0	0	1	270	

			lantic Aven Northbound					tlantic Aven Southbound				ongress Stre Eastbound				ongress Stre Westbound		
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	9	1	54		0	0	0	75	1	4	0	80	0	0	2	196	
4:15 PM	0	12	0	58		0	0	0	80	1	6	0	92	0	0	2	208	
4:30 PM	0	16	1	62		0	0	0	84	0	5	0	105	0	0	3	224	
4:45 PM	0	17	0	80		0	0	0	102	2	4	0	124	0	0	2	230	
5:00 PM	0	20	2	128		0	0	0	125	1	5	0	146	0	0	3	242	
5:15 PM	0	24	0	164		0	0	0	143	1	6	0	164	0	0	2	252	
5:30 PM								0	165	3	5	0	180	0	0	4	258	
5:45 PM	0	15	0	178		0	0	0	160	1	4	0	176	0	0	3	255	

AM PEAK HOUR ¹		At	lantic Aven	ue		Α	tlantic Aven	ue		Co	ongress Stre	eet		Co	ongress Stre	eet	
8:00 AM			Northbound	l			Southbound	t			Eastbound				Westbound	l	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	82	8	405	0	0	0	568	4	22	0	389	0	0	4	1035	

PM PEAK HOUR ¹ 5:00 PM			lantic Aven			A	tlantic Aven Southbound			Co	ongress Stre Eastbound				ongress Stre Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	76	3	652	0	0	0	593	6	20	0	666	0	0	12	1007	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 18 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Summer Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								1 -		•	_			_	_	
		Atlantic	Avenue			Atlantic	Avenue			Summe	er Street			Summe	er Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	42	105	71	0	0	0	0	0	9	91	0	0	0	79	36
7:15 AM	0	44	114	73	0	0	0	0	0	10	87	0	0	0	82	39
7:30 AM	0	45	117	74	0	0	0	0	0	11	82	0	0	0	74	38
7:45 AM	0	47	137	75	0	0	0	0	0	9	76	0	0	0	64	37
8:00 AM	0	48	138	76	0	0	0	0	0	10	69	0	0	0	55	36
8:15 AM	0	49	141	74	0	0	0	0	0	11	70	0	1	0	45	34
8:30 AM	0	47	162	75	0	0	0	0	0	9	67	0	0	0	44	33
8:45 AM	0	45	157	73	0	0	0	0	0	10	65	0	0	0	43	32

			Avenue bound				Avenue				er Street bound				er Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	28	105	44	0	0	0	0	0	11	68	0	0	0	61	34
4:15 PM	0	27	74	46	0	0	0	0	0	10	67	0	0	0	64	36
4:30 PM	0	25	56	48	0	0	0	0	1	9	64	0	1	0	66	38
4:45 PM	0	24	61	51	0	0	0	0	0	10	63	0	0	0	67	37
5:00 PM	0	22	78	53	0	0	0	0	0	8	61	0	0	0	69	36
5:15 PM	0	24	85	52	0	0	0	0	0	9	62	0	0	0	70	35
5:30 PM	0	23	93	51	0	0	0	0	0	8	59	0	0	0	67	36
5:45 PM	0	21	91	49	0	0	0	0	0	9	56	0	0	0	68	34

AM PEAK HOUR 7:00 AM			Avenue				Avenue bound				r Street oound				er Street bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	0	178	473	293	0	0	0	0	0	39	336	0	0	0	299	150
PHF		0.	91			0.	00			0.9	94			0.	93	
HV~%	0.0%	1.7%	4.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.3%	0.0%	0.0%	0.0%	0.7%	2.0%

PM PEAK HOU	Ł	Atlantic	Avenue			Atlantic	Avenue			Summe	r Street			Summe	er Street	
5:00 PM		North	bound			South	bound			Easth	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	90	347	205	0	0	0	0	0	34	238	0	0	0	274	141
PHF		0.	.96			0.	00			0.	96			0.	99	
HV~%	0.0%	1.1%	4.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.8%	0.0%	0.0%	0.0%	0.4%	0.7%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 18 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Summer Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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									0.10							
		Atlantic	Avenue			Atlantic	Avenue			Summe	r Street			Summe	er Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	6	0	0	0	0	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	5	1	0	0	0	0	0	0	1	0	0	0	0	2
7:45 AM	0	2	4	1	0	0	0	0	0	2	0	0	0	0	1	0
8:00 AM	0	1	6	2	0	0	0	0	0	1	0	0	0	0	0	1
8:15 AM	0	0	9	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	1	8	1	0	0	0	0	0	1	0	0	0	0	1	0
8:45 AM	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	1

			Avenue				Avenue				er Street				er Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	5	0	0	0	0	0	0	1	0	0	0	0	1	0
4:30 PM	0	0	4	1	0	0	0	0	0	0	1	0	0	0	0	2
4:45 PM	0	1	3	1	0	0	0	0	0	0	0	0	0	0	1	1
5:00 PM	0	0	7	0	0	0	0	0	0	1	1	0	0	0	0	0
5:15 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	2	1	0	0	0	0	0	0	1	0	0	0	1	0
5:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Summe	r Street			Summe	er Street	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	4	27	4	0	0	0	0	0	4	1	0	0	0	2	1
PHF		0.	88			0.	00			0.	63			0.	75	

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue			Summe	r Street			Summe	r Street	
4:15 PM		North	bound			South	bound			Eastb	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	2	19	2	0	0	0	0	0	2	2	0	0	0	2	3
PHF		0.	82			0.	00			0.	50			0.	63	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 18 Boston, MA Location: Street 1: Atlantic Avenue Street 2: Summer Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		At	lantic Aven	ue		Α	tlantic Aven	iue		S	ummer Stre	et		S	ummer Stre	et	
			Northbound	l			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	12	0	256	0	0	0	68	0	2	0	158	0	6	1	92	
7:15 AM	0	13	1	368	0	0	0	105	0	3	0	188	0	8	2	140	
7:30 AM	0	12	0	475	0	0	0	164	0	5	0	225	0	10	3	165	
7:45 AM	0	19	1	542	0	0	0	225	0	3	0	248	0	7	2	206	
8:00 AM	0	20	2	560	0	0	0	248	0	4	0	262	0	8	2	228	
8:15 AM	0	25	0	538	0	0	0	275	0	3	0	280	0	9	1	255	
8:30 AM	0	23	1	494	0	0	0	260	0	2	0	268	0	6	3	262	
8:45 AM	0	22	0	436	0	0	0	254	0	3	0	255	0	7	1	242	

			lantic Aven Northbound				tlantic Aven Southbound				ummer Stre Eastbound				ummer Stre Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	11	0	585	0	0	0	120	0	3	0	448	0	4	2	225	
4:15 PM	0	12	1	622	0	0	0	128	0	2	0	455	0	5	3	248	
4:30 PM	0	18	2	705	0	0	0	142	0	4	0	472	0	7	2	285	
4:45 PM	0	17	1	792	0	0	0	165	0	2	0	505	0	8	2	320	
5:00 PM	0	21	1	886	0	0	0	172	0	3	0	586	0	6	3	368	
5:15 PM	0	24	2	926	0	0	0	180	0	3	0	628	0	7	2	420	
5:30 PM	0	17	0	945	0	0	0	186	0	2	0	642	0	9	1	445	
5:45 PM	0	16	1	930	0	0	0	182	0	2	0	630	0	8	2	438	

A	M PEAK HOUR ¹]	A	tlantic Aven	ue		At	tlantic Aven	ue		s	ummer Stre	et		s	ummer Stre	et	
	7:00 AM			Northbound	l			Southbound	t			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	8:00 AM	0	56	2	1641	0	0	0	562	0	13	0	819	0	31	8	603	

PM PEAK HOUR ¹ 5:00 PM	Atlantic Avenue Northbound Left Thru Right PED						A	tlantic Aven Southbound	ue f		S	ummer Stre Eastbound				ummer Stre Westbound		
to	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	78	4	3687		0	0	0	720	0	10	0	2486	0	30	8	1671	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 19
Location: Boston, MA
Street 1: Surface Road

Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Surface	e Road			Surfac	e Road	-		•						
		Northl	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	213	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	216	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	221	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	236	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	256	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	260	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	256	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0	0

		Surfac	e Road			Surfac	e Road									
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	233	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	234	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	229	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	208	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	197	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	197	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	192	0	0	0	0	0	0	0	0	0

AM PEAK HO	DUR	Surfa	ce Road			Surfac	e Road									
8:00 AM		North	nbound			South	bound			Eastl	oound			West	bound	
to	U-Tur	ı Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	1022	0	0	0	0	0	0	0	0	0
PHF		0	.00			0.	98			0.	00			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR		Surfac	e Road			Surface	e Road									
4:00 PM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	904	0	0	0	0	0	0	0	0	0
PHF		0.	00			0.	97			0.	00			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 19
Location: Boston, MA
Street 1: Surface Road

Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Surface	e Road			Surfac	e Road									
		Northl	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0

		Surfac	e Road			Surfac	e Road									
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Surfac	e Road			Surfac	e Road									
7:45 AM		North	bound			South	bound			Easth	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0
PHF		0.	00			0.	92	•		0.	00	•		0.	00	

PM PEAK HOUR		Surfac	e Road			Surfac	e Road									
4:00 PM		North	bound			South	bound			Eastb	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
PHF		0.	00			0.	92			0.	00			0.0	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 19
Location: Boston, MA
Street 1: Surface Road

Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		5	Surface Roa	ıd		5	Surface Roa	ıd									
			Northbound	i			Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	0	0	7	0	56	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	9	0	68	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	10	0	72	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	11	0	78	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	10	0	85	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	13	0	88	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	12	0	90	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	11	0	86	0	0	0	0	0	0	0	0	

		S	Surface Roa	d		5	Surface Roa	nd									
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	0	0	14	0	265	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	15	0	272	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	14	0	285	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	12	0	306	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	14	0	328	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	13	0	340	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	12	0	355	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	11	0	364	0	0	0	0	0	0	0	0	

AM PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa	d									
8:00 AM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	0	0	46	0	349	0	0	0	0	0	0	0	0	

PM PEAK HOUR ¹		5	Surface Roa	d			Surface Roa										
4:00 PM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	0	0	55	0	1128	0	0	0	0	0	0	0	0	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 20
Location: Boston, MA
Street 1: Atlantic Avenue

Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Atlantic	Avenue			Atlantic	Avenue									
		Northl	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	107	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	118	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	129	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	145	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	157	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	154	0	0	0	0	0	0	0	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue									
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	149	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	177	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	219	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	238	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	240	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	237	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUL		Atlantic	Avenue			Atlantic	Avenue									
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	615	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	.97			0.	00			0.	00			0.	00	
HV~%	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%	0.0%	0.0%	0.0%

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue									
5:00 PM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	934	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	97			0.	00			0.	00			0.	00	
HV~%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 20
Location: Boston, MA
Street 1: Atlantic Avenue

Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Atlantic	Avenue			Atlantic	Avenue									
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue									
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue									
7:45 AM		North	bound			South	bound			Easth	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	90			0.	00	•		0.	00	•		0.	00	

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue									
4:00 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	75			0.	00			0.	00			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 20
Location: Boston, MA
Street 1: Atlantic Avenue
Street 2: Christopher Columbus Park Path

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		0 10 0 54 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																		
		At	tlantic Aven	ue			A	tlantic Aven	ue											
			Northbound	l				Southbound	t				Eastbound					Westbound		
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	10	0	54		0	0	0	0		0	0	0	0		0	0	0	0	
7:15 AM	0	11	0	62		0	0	0	0		0	0	0	0		0	0	0	0	
7:30 AM	0	14	0	65		0	0	0	0		0	0	0	0		0	0	0	0	
7:45 AM	0	16	0	80		0	0	0	0		0	0	0	0		0	0	0	0	
8:00 AM	0	15	0	95		0	0	0	0		0	0	0	0		0	0	0	0	
8:15 AM	0	17	0	92		0	0	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	15	0	88		0	0	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	16	0	90		0	0	0	0		0	0	0	0		0	0	0	0	

		At	tlantic Aven	ue		A ^s	tlantic Aven	ue									
			Northbound				Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	12	0	260	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	16	0	256	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	20	0	278	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	18	0	296	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	21	0	318	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	19	0	335	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	20	0	348	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	19	0	355	0	0	0	0	0	0	0	0	0	0	0	0	

AM PEAK HOUR1		At	lantic Aven	ue		Α	tlantic Aven	ue									
8:00 AM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	63	0	365	0	0	0	0	0	0	0	0	0	0	0	0	

PM PEAK HOUR1		A	tlantic Aven	ue			At	tlantic Aven	ue									
5:00 PM			Northbound					Southbound	i			Eastbound				Westbound		
to	Left					Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	79	0	1356		0	0	0	0	0	0	0	0	0	0	0	0	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 21 Location: Boston, MA Street 1: Surface Road Street 2: Mercantile Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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										/						
		Surfac	e Road			Surfac	e Road							Mercant	ile Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	29	186	0	0	0	0	0	0	27	0	0
7:15 AM	0	0	0	0	0	31	187	0	0	0	0	0	0	29	0	0
7:30 AM	0	0	0	0	0	33	189	0	0	0	0	0	0	32	0	0
7:45 AM	0	0	0	0	0	32	201	0	0	0	0	0	0	35	0	0
8:00 AM	0	0	0	0	0	34	218	0	0	0	0	0	0	38	0	0
8:15 AM	0	0	0	0	0	33	220	0	0	0	0	0	0	40	0	0
8:30 AM	0	0	0	0	0	32	217	0	0	0	0	0	0	39	0	0
8:45 AM	0	0	0	0	0	30	213	0	0	0	0	0	0	37	0	0

		Surfac	e Road			Surfac	e Road							Mercant	ile Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	25	189	0	0	0	0	0	0	41	0	0
4:15 PM	0	0	0	0	0	27	191	0	0	0	0	0	0	43	0	0
4:30 PM	0	0	0	0	0	36	184	0	0	0	0	0	0	45	0	0
4:45 PM	0	0	0	0	0	44	162	0	0	0	0	0	0	46	0	0
5:00 PM	0	0	0	0	0	52	150	0	0	0	0	0	0	47	0	0
5:15 PM	0	0	0	0	0	58	152	0	0	0	0	0	0	48	0	0
5:30 PM	0	0	0	0	0	56	148	0	0	0	0	0	0	49	0	0
5:45 PM	0	0	0	0	0	53	147	0	0	0	0	0	0	45	0	0

AM PEAK HOUR		Surfac	e Road			Surface	e Road							Mercanti	ile Street	
8:00 AM		North	oound			South	bound			Easth	oound			West	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	129	868	0	0	0	0	0	0	154	0	0
PHF		0.	00			0.	99			0.	00			0.	96	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	0.0%

PM PEAK HOUR		Surfac	e Road			Surface	e Road							Mercant	ile Street	
4:00 PM		North	bound			South	bound			Easth	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	132	726	0	0	0	0	0	0	175	0	0
PHF		0.	00			0.	98			0.	00			0.	95	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 21 Location: Boston, MA Street 1: Surface Road Street 2: Mercantile Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								,,,,	0,10							
		Surfac	e Road			Surfac	e Road							Mercant	ile Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0
7:30 AM	0	0	0	0	0	1	4	0	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	0	2	3	0	0	0	0	0	0	2	0	0
8:00 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0
8:15 AM	0	0	0	0	0	1	5	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0
8:45 AM	0	0	0	0	0	1	3	0	0	0	0	0	0	2	0	0

		Surfac	e Road			Surfac	e Road							Mercant	ile Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Surfac	e Road			Surfac	e Road							Mercanti	ile Street	
7:30 AM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	0	4	16	0	0	0	0	0	0	6	0	0
PHF		0.	00			0.	83			0.	00			0.	75	

PM PEAK HOUR]	Surfac	e Road			Surfac	e Road							Mercanti	ile Street	
4:15 PM		North	bound			South	bound			Eastb	ound			West	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	0	0	0	0	3	8	0	0	0	0	0	0	4	0	0
PHF		0.	00			0.	69			0.	00			0.	50	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 21 Boston, MA Location: Street 1: Surface Road Street 2: Mercantile Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		S	Surface Roa	d		5	Surface Roa	ad						Me	ercantile Str	eet	
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	0	1	8	0	0	0	0	0	0	3	0	0	18	
7:15 AM	0	0	0	0	2	6	0	0	0	0	0	0	7	0	0	20	
7:30 AM	0	0	0	0	2	9	0	3	0	0	0	0	4	0	0	22	
7:45 AM	0	0	0	1	4	6	0	4	0	0	0	0	5	0	0	25	
8:00 AM	0	0	0	3	5	7	0	4	0	0	0	0	6	0	0	28	
8:15 AM	0	0	0	2	4	8	0	3	0	0	0	0	7	0	0	30	
8:30 AM	0	0	0	10	4	7	0	2	0	0	0	0	9	0	0	34	
8:45 AM	0	0	0	4	3	8	0	2	0	0	0	0	8	0	0	32	

			Surface Roa				Surface Roa				Eastbound				ercantile Str Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	3	3	11	0	3	0	0	0	0	3	0	0	18	
4:15 PM	0	0	0	4	3	12	0	2	0	0	0	0	3	0	0	20	
4:30 PM	0	0	0	6	4	10	0	3	0	0	0	0	4	0	0	22	
4:45 PM	0	0	0	7	3	9	0	4	0	0	0	0	3	0	0	28	
5:00 PM	0	0	0	8	4	10	0	5	0	0	0	0	5	0	0	35	
5:15 PM	0	0	0	10	3	9	0	4	0	0	0	0	4	0	0	42	
5:30 PM	0	0	0	9	3	8	0	5	0	0	0	0	5	0	0	40	
5:45 PM	0	0	Λ	10	3	g	0	4	0	0	0	0	4	0	0	38	

AM PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa	d						Me	rcantile Str		
8:00 AM			Northbound				Southbound				Eastbound			,	Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	0	0	19	16	30	0	11	0	0	0	0	30	0	0	124	

PM PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa							Me	ercantile Stre	eet	
4:00 PM			Northbound				Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	20	13	42	0	12	0	0	0	0	13	0	0	88	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 22
Location: Boston, MA

Street 1: Atlantic Avenue/ Cross Street

Street 2: Mercantile Street
Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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							_			-,						
		Atlantic	Avenue			Cross	Street			Mercant	ile Street			Atlantic	Avenue	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	3	77	24	0	0	0	0	0	7	22	0	0	0	24	9
7:15 AM	0	4	73	36	0	0	0	0	0	6	25	0	0	0	25	8
7:30 AM	0	3	72	47	0	0	0	0	0	7	26	0	0	0	29	7
7:45 AM	0	4	71	54	0	0	0	0	0	8	24	0	0	0	31	6
8:00 AM	0	4	82	59	0	0	0	0	0	6	28	0	0	0	34	5
8:15 AM	0	5	96	58	0	0	0	0	0	7	26	0	0	0	35	6
8:30 AM	0	3	99	56	0	0	0	0	0	6	27	0	0	0	36	5
8:45 AM	0	3	97	54	0	0	0	0	0	5	25	0	0	0	34	4

			Avenue bound				Street				ile Street oound				Avenue bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	3	54	89	0	0	0	0	0	10	15	0	0	0	38	7
4:15 PM	0	4	55	92	0	0	0	0	0	11	16	0	0	0	39	6
4:30 PM	0	5	61	94	0	0	0	0	0	9	27	0	0	0	40	5
4:45 PM	0	4	74	99	0	0	0	0	0	10	34	0	0	0	42	5
5:00 PM	0	6	106	102	0	0	0	0	0	8	44	0	0	0	41	4
5:15 PM	0	5	127	101	0	0	0	0	0	9	49	0	0	0	43	5
5:30 PM	0	3	133	98	0	0	0	0	0	8	48	0	0	0	46	5
5:45 PM	0	4	131	96	0	0	0	0	0	7	46	0	0	0	41	4

AM PEAK HOUR	1	Atlantic	Avenue			Cross	Street			Mercant	ile Street			Atlantic	Avenue	
8:00 AM		North	bound			South	bound			Easth	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	15	374	227	0	0	0	0	0	24	106	0	0	0	139	20
PHF		0.	97			0.	00			0.	96			0.	97	
HV%	0.0%	0.0%	4.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	5.0%	0.0%

PM PEAK HOUR		Atlantic	Avenue			Cross	Street			Mercanti	ile Street			Atlantic	Avenue	
5:00 PM		North	bound			South	bound			Easth	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	18	497	397	0	0	0	0	0	32	187	0	0	0	171	18
PHF		0.	97			0.	00			0.	94			0.	93	
HV~%	0.0%	0.0%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	1.2%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 22
Location: Boston, MA

Street 1: Atlantic Avenue/ Cross Street

Street 2: Mercantile Street
Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Atlantic Northl	Avenue bound				Street bound				ile Street oound				Avenue bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0
7:45 AM	0	0	5	0	0	0	0	0	0	0	2	0	0	0	2	0
8:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15 AM	0	0	3	1	0	0	0	0	0	0	1	0	0	0	1	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	2	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	1	0	0	0	2	0

		Atlantic	Avenue			Cross	Street			Mercant	ile Street			Atlantic	Avenue	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	2	0
4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	0
5:00 PM	0	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

A	M PEAK HOUR		Atlantic	Avenue			Cross	Street			Mercanti	ile Street			Atlantic	Avenue	
	7:45 AM		North	bound			South	bound			Eastb	oound			Westl	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	8:45 AM	0	0	17	1	0	0	0	0	0	0	3	0	0	0	7	0
	PHF		0.	90			0.	00			0.	38			0.	88	

PM PEAK HOUR		Atlantic	Avenue			Cross	Street			Mercanti	le Street			Atlantic	Avenue	
4:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	12	0	0	0	0	0	0	1	1	0	0	0	5	0
PHF		0.	75			0.	00			0.	50			0.	63	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 22
Location: Boston, MA

Weather:

Street 1: Atlantic Avenue/ Cross Street
Street 2: Mercantile Street
Count Date: 6/19/2018
Day of Week: Tuesday

Partly Sunny, 80°F

BOSTON TRAFFIC DATA

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

		At	tlantic Aven	ue			Cross Stree	et		Me	ercantile Str	eet		At	tlantic Aven	ue	
			Northbound	l			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	3	0	0	0	2	0	1	0	6	0	3	0	55	
7:15 AM	1	11	0	5	0	0	0	4	0	2	0	7	0	6	0	58	
7:30 AM	0	13	1	6	0	0	0	5	0	2	0	8	0	4	1	62	
7:45 AM	1	15	0	4	0	0	0	6	1	3	0	7	0	4	0	65	
8:00 AM	0	14	1	5	0	0	0	4	1	4	0	9	0	6	0	68	
8:15 AM	0	17	0	6	0	0	0	5	0	4	0	8	0	7	1	72	
8:30 AM	1	15	0	4	0	0	0	3	1	3	0	6	0	8	0	75	
8:45 AM	0	14	1	5	0	0	0	4	0	3	0	6	0	8	0	70	

			tlantic Aven Northbound				Cross Stree			Me	ercantile Str Eastbound				lantic Aven Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	13	0	12	0	0	0	38	0	3	0	18	0	3	0	54	
4:15 PM	1	14	1	15	0	0	0	42	1	2	0	10	0	2	0	58	
4:30 PM	0	19	1	18	0	0	0	45	0	4	0	22	0	4	1	60	
4:45 PM	0	18	0	14	0	0	0	40	0	3	0	25	0	3	0	85	
5:00 PM	1	20	0	12	0	0	0	34	1	3	0	28	0	4	1	108	
5:15 PM	0	19	0	15	0	0	0	30	0	3	0	32	0	4	1	122	
5:30 PM	0	20	1	10	0	0	0	28	1	2	0	30	0	5	0	135	
5:45 PM	1	18	0	12	0	0	0	25	0	3	0	28	0	3	0	130	

A	M PEAK HOUR ¹		A	tlantic Aven	ue			Cross Stree	t		Me	ercantile Str	eet		A	tlantic Aveni	ue	
	8:00 AM			Northbound	l			Southbound	i			Eastbound				Westbound	l .	
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	9:00 AM	1	60	2	20	0	0	0	16	2	14	0	29	0	29	1	285	

PM PEAK HOUR	1	At	lantic Aven	ue			Cross Stree	t			rcantile Str			At	lantic Avenu	ıe	
5:00 PM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	2	77	1	49	0	0	0	117	2	11	0	118	0	16	2	495	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 23
Location: Boston, MA
Street 1: Surface Road

Street 2: Clinton Street/I-93 Southbound Off-

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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								, (- ,	-	··· · · · · · · · · · · · · · · · · ·						
		Surface	e Road			Surfac	e Road		I-9	3 Southboo	und Off-Ran	np		Clinton	Street	
		Northl	bound			South	bound			Southwe	estbound			Easth	oound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	107	22	0	108	41	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	114	23	0	104	43	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	119	24	0	103	42	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	131	25	0	102	44	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	142	23	0	110	46	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	140	24	0	113	45	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	138	22	0	111	43	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	134	21	0	109	41	0	0	0	0	0

		Surfac	e Road			Surfac	e Road		J-9	93 Southbo	und Off-Rar	np		Clinton	Street	
		North	bound			South	bound			Southwe	estbound			Easth	oound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	122	10	0	92	17	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	121	12	0	97	19	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	117	14	0	103	18	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	113	17	0	93	19	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	106	19	0	96	17	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	105	18	0	105	18	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	103	17	0	101	16	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	101	15	0	99	14	0	0	0	0	0

AM PEAK HOUR	1	Surface	e Road			Surface	e Road		I-9	3 Southboo	und Off-Rar	np		Clinton	Street	
8:00 AM		Northl	bound			South	bound			Southwe	estbound			Easth	ound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	0	0	0	0	554	90	0	443	175	0	0	0	0	0
PHF		0.	00			0.	98			0.	98			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	1.1%	0.0%	1.6%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOU	R	Surfac	e Road			Surfac	e Road		J-9	93 Southboo	und Off-Rar	np		Clintor	Street	
4:00 PM		North	bound			South	bound			Southwe	estbound			Easth	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	0	0	0	0	473	53	0	385	73	0	0	0	0	0
PHF		0.	.00			0.	99			0.	95			0.	00	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	1.9%	0.0%	0.8%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 23
Location: Boston, MA
Street 1: Surface Road

Street 2: Clinton Street/I-93 Southbound Off-

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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									0.10							
		Surface	e Road			Surfac	e Road		I-9	3 Southboo	und Off-Ran	np		Clinton	Street	
		Northl	bound			South	bound			Southwe	estbound			Easth	oound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	3	0	0	2	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	4	1	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	4	0	0	2	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	3	1	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	0

		Surfac	e Road			Surfac	e Road		J-9	93 Southbo	und Off-Rar	np		Clintor	Street	
		North	bound			South	bound			Southwe	estbound			Eastl	oound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	1	0	2	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0

A	M PEAK HOUR		Surfac	e Road			Surfac	e Road		1-9	3 Southboo	und Off-Ran	пр		Clinton	Street	
	7:30 AM		North	bound			South	bound			Southwe	estbound			Eastb	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	8:30 AM	0	0	0	0	0	0	13	1	0	7	4	0	0	0	0	0
	PHF		0.	00			0.	70			0.	69			0.	00	

Γ	PM PEAK HOUR		Surfac	e Road			Surfac	e Road		1-9	3 Southboo	und Off-Ran	np		Clinton	Street	
	4:15 PM		North	bound			South	bound			Southwe	estbound			Eastb	ound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:15 PM	0	0	0	0	0	0	7	2	0	4	3	0	0	0	0	0
_	PHF		0.	00			0.	75			0.	58			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 23
Location: Boston, MA
Street 1: Surface Road

Street 2: Clinton Street/I-93 Southbound Off-

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		S	Surface Roa	d		5	Surface Roa	ad		I-93 So	uthbound O	ff-Ramp		(Clinton Stree	et	
			Northbound				Southbound	d		Sc	uthwestbou	ind			Eastbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	32	0	9	0	4	0	0	0	6	0	0	0	38	
7:15 AM	0	0	0	34	0	10	0	8	0	0	0	10	0	0	0	40	
7:30 AM	0	0	0	35	0	11	0	10	0	0	0	12	0	0	0	45	
7:45 AM	0	0	0	38	0	9	0	15	0	0	0	14	0	0	1	48	
8:00 AM	0	0	0	40	0	11	1	18	0	0	0	16	0	0	0	55	
8:15 AM	0	0	0	42	0	12	0	20	0	0	0	15	0	0	0	62	
8:30 AM	0	0	0	48	0	11	0	16	0	0	0	18	0	0	1	56	
8:45 AM	0	0	0	55	0	10	0	22	0	0	0	20	0	0	0	60	

			Surface Roa				Surface Roa				uthbound O				Clinton Stree Eastbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	28	0	14	0	8	0	0	0	20	0	0	0	124	
4:15 PM	0	0	0	32	0	15	0	10	0	0	0	22	0	0	0	135	
4:30 PM	0	0	0	30	0	14	0	12	0	0	0	25	0	0	1	142	
4:45 PM	0	0	0	35	0	13	1	11	0	0	0	30	0	0	0	168	
5:00 PM	0	0	0	45	0	12	0	15	0	0	0	26	0	0	0	182	
5:15 PM	0	0	0	60	0	13	0	18	0	0	0	32	0	0	1	194	
5:30 PM	0	0	0	52	0	12	0	20	0	0	0	28	0	0	0	210	
5:45 PM	0	0	0	55	0	11	0	22	0	0	0	30	0	0	0	205	

AM I	PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa	ıd		I-93 So	uthbound O	ff-Ramp		(Clinton Stree	et	
	8:00 AM			Northbound	l			Southbound	t		Sc	outhwestboo	und			Eastbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	9:00 AM	0	0	0	185	0	44	1	76	0	0	0	69	0	0	1	233	

PM PEAK HOUR ¹ 4:00 PM			Surface Roa Northbound			S	Surface Roa Southbound	d I			uthbound Outhwestbou			(Clinton Stree Eastbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	125	0	56	1	41	0	0	0	97	0	0	1	569	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 24 Location: Boston, MA Street 1: Cross Street Street 2: Commercial Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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							_			-,						
		Cross	Street			Cross	Street							Commer	cial Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	6
7:15 AM	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	7
7:30 AM	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	10
7:45 AM	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	12
8:00 AM	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	15
8:15 AM	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	17
8:30 AM	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	16
8:45 AM	0	0	106	0	0	0	0	0	0	0	0	0	0	0	0	14

		Cross	Street			Cross	Street							Commerc	cial Street	
		North	bound			South	bound			Easth	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	77	0	0	0	0	0	0	0	0	0	0	0	0	8
4:30 PM	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	9
4:45 PM	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	0	118	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	137	0	0	0	0	0	0	0	0	0	0	0	0	5
5:30 PM	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	0	136	0	0	0	0	0	0	0	0	0	0	0	0	5

AM PEAK HOUR		Cross	Street			Cross	Street							Commerc	cial Street	
8:00 AM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	418	0	0	0	0	0	0	0	0	0	0	0	0	62
PHF		0.	95			0.	00			0.	00			0.	91	
HV~%	0.0%	0.0%	4.1%	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%

PM PEAK HOUR		Cross	Street			Cross	Street							Commerc	cial Street	
5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	531	0	0	0	0	0	0	0	0	0	0	0	0	22
PHF		0.	95			0.	00			0.	00			0.	92	
HV~%	0.0%	0.0%	1.7%	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%

Client: Melissa Restrepo Project #: 223 073 HSH BTD #: Location 24 Location: Boston, MA Street 1: Cross Street Commercial Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Cross	Street			Cross	Street							Commerc	ial Street	
		North	bound			South	bound			Eastb	ound			Westl	oound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0

		Cross	Street			Cross	Street							Commerc	cial Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Cross	Street			Cross	Street							Commerc	cial Street	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	85			0.	00			0.	00			0.	00	

PM PEAK HOUR		Cross	Street			Cross	Street							Commerc	cial Street	
4:00 PM		North	bound			South	bound			Eastb	ound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	81			0.	00			0.	00	•		0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 24 Boston, MA Location: Street 1: Cross Street Street 2: Commercial Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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			Cross Stree	t			Cross Stree	et						Cor	mmercial St	reet	
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	28	0	0	0	0	0	0	0	0	0	0	0	72	
7:15 AM	0	12	0	32	0	0	0	0	0	0	0	0	0	0	0	76	
7:30 AM	0	14	0	38	0	0	0	0	0	0	0	0	0	0	0	82	
7:45 AM	0	16	0	45	0	0	0	0	0	0	0	0	0	0	0	88	
8:00 AM	0	15	0	50	0	0	0	0	0	0	0	0	0	0	0	92	
8:15 AM	0	18	0	56	0	0	0	0	0	0	0	0	0	0	1	95	
8:30 AM	0	16	0	54	0	0	0	0	0	0	0	0	0	0	0	90	
8:45 AM	0	14	0	58	0	0	0	0	0	0	0	0	0	0	0	86	

			Cross Stree Northbound				Cross Stree				Eastbound				nmercial St Westbound		
			Northbourid				Southbound	1			Eastboulin				Westbould	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	14	0	60	0	0	0	0	0	0	0	0	0	0	0	108	
4:15 PM	0	16	0	64	0	0	0	0	0	0	0	0	0	0	0	126	
4:30 PM	0	19	0	72	0	0	0	0	0	0	0	0	0	0	0	148	
4:45 PM	0	18	0	80	0	0	0	0	0	0	0	0	0	0	1	184	
5:00 PM	0	22	0	86	0	0	0	0	0	0	0	0	0	0	0	242	
5:15 PM	0	21	0	95	0	0	0	0	0	0	0	0	0	0	0	270	
5:30 PM	0	20	0	92	0	0	0	0	0	0	0	0	0	0	0	265	
5:45 PM	0	19	0	88	0	0	0	0	0	0	0	0	0	0	0	258	

AM PEAK HOUR ¹		(Cross Stree	t			Cross Stree	ŧ						Cor	nmercial St	reet	
8:00 AM			Northbound				Southbound	t			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	63	0	218	0	0	0	0	0	0	0	0	0	0	1	363	

]	PM PEAK HOUR ¹		(Cross Stree	t			Cross Stree	t						Cor	nmercial Str	eet	
	5:00 PM			Northbound				Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	6:00 PM	0	82	0	361	0	0	0	0	0	0	0	0	0	0	0	1035	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 25
Location: Boston, MA
Street 1: Surface Road

Street 2: North Street/ I-93 NB Off-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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								1 -		•						
		Surfac	e Road			Surfac	e Road			North	Street		I-1	93 Northbo	und Off-Rar	np
		North	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	65	13	0	0	0	17	0	47	67	0
7:15 AM	0	0	0	0	0	0	69	14	0	0	0	18	0	50	72	0
7:30 AM	0	0	0	0	0	0	72	17	0	0	0	21	0	51	76	0
7:45 AM	0	0	0	0	0	0	73	18	0	0	0	23	0	60	79	0
8:00 AM	0	0	0	0	0	0	75	16	0	0	0	25	0	65	82	0
8:15 AM	0	0	0	0	0	0	76	15	0	0	0	26	0	62	81	0
8:30 AM	0	0	0	0	0	0	75	14	0	0	0	25	0	60	80	0
8:45 AM	0	0	0	0	0	0	74	13	0	0	0	23	0	58	78	0

			e Road				e Road			North	Street		I-9		und Off-Rar	np
		North	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	64	18	0	0	0	31	0	37	35	0
4:15 PM	0	0	0	0	0	0	68	20	0	0	0	33	0	32	38	0
4:30 PM	0	0	0	0	0	0	67	18	0	0	0	31	0	33	37	0
4:45 PM	0	0	0	0	0	0	64	16	0	0	0	29	0	37	35	0
5:00 PM	0	0	0	0	0	0	62	15	0	0	0	27	0	36	34	0
5:15 PM	0	0	0	0	0	0	59	14	0	0	0	24	0	40	33	0
5:30 PM	0	0	0	0	0	0	58	15	0	0	0	25	0	37	34	0
5:45 PM	0	0	0	0	0	0	55	14	0	0	0	23	0	38	32	0

AM PEAK HOUR	1	Surfac	e Road			Surfac	e Road			North	Street		1-9	93 Northbou	und Off-Ran	пр
7:45 AM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	0	0	0	0	299	63	0	0	0	99	0	247	322	0
PHF		0.	00			0.	99			0.	95			0.	97	
HV~%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	1.6%	0.0%	0.0%	0.0%	1.0%	0.0%	1.6%	0.9%	0.0%

PM PEAK HO	OUR		Surface	e Road			Surface	e Road			North	Street		1-9	93 Northbou	ınd Off-Ran	пр
4:00 PM			North	oound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Tı	rn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0		0	0	0	0	0	263	72	0	0	0	124	0	139	145	0
PHF			0.0	00			0.9	95			0.	94			0.	99	
HV~%	0.0	%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	1.4%	0.0%	0.0%	0.0%	0.8%	0.0%	1.4%	2.1%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 25
Location: Boston, MA
Street 1: Surface Road

Street 2: North Street/ I-93 NB Off-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Surface Northl					e Road bound				Street stbound		[-1	93 Northbou Southwe	und Off-Ran	np
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
7:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0
7:45 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0
8:00 AM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	2	0
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	1	1	0
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	1	1	0		

		Surfac	e Road			Surfac	e Road			North	Street		J-9	93 Northboo	und Off-Ran	np
		North	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
4:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Surfac	e Road			Surfac	e Road			North	Street		1-9	3 Northbou	und Off-Ram	пр
7:30 AM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	0	0	0	0	0	10	1	0	0	0	1	0	3	4	0
PHF		0.	00			0.	69			0.	25			0.	88	

PM PEAK HOUR		Surface	e Road			Surfac	e Road			North	Street		1-9	3 Northbou	ınd Off-Ram	ιр
4:15 PM		Northl	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	0	0	0	0	0	4	1	0	0	0	1	0	4	2	0
PHF		0.	00			0.	63	•		0.	25			0.	75	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 25
Location: Boston, MA
Street 1: Surface Road

Street 2: North Street/ I-93 NB Off-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		5	Surface Roa	ıd		5	Surface Roa	ad			North Stree	t		I-93 No	rthbound O	ff-Ramp	
			Northbound	i			Southbound	d		No	ortheastbou	nd		Sc	outhwestbou	ınd	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	0	0	9	0	30	0	0	0	22	0	0	0	10	
7:15 AM	0	0	0	0	0	9	0	34	0	0	1	26	0	0	0	15	
7:30 AM	0	0	0	0	0	10	1	38	0	0	1	28	0	0	0	12	
7:45 AM	0	0	0	0	0	9	1	36	0	0	0	30	0	0	0	18	
8:00 AM	0	0	0	0	0	11	0	40	0	0	1	32	0	0	0	16	
8:15 AM	0	0	0	0	0	10	1	38	0	0	2	38	0	0	0	20	
8:30 AM	0	0	0	0	0	10	0	35	0	0	1	35	0	0	0	15	
8:45 AM	0	0	0	0	0	10	1	36	0	0	0	40	0	0	0	16	

			Surface Roa				Surface Roa				North Stree				rthbound Of		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	0	0	0	13	0	122	0	0	1	78	0	0	0	18	
4:15 PM	0	0	0	0	0	13	1	135	0	0	2	82	0	0	0	22	
4:30 PM	0	0	0	0	0	14	0	148	0	0	0	85	0	0	0	20	
4:45 PM	0	0	0	0	0	13	1	132	0	0	1	90	0	0	0	18	
5:00 PM	0	0	0	0	0	12	2	126	0	0	0	85	0	0	0	16	
5:15 PM	0	0	0	0	0	12	1	115	0	0	1	82	0	0	0	12	
5:30 PM	0	0	0	0	0	12	1	120	0	0	0	86	0	0	0	15	
5:45 PM	0	0	0	0	0	10	0	118	0	0	1	84	0	0	0	14	

AM PEAK HOUR ¹		S	Surface Roa	d		5	Surface Roa	ıd			North Stree	t		I-93 No	rthbound O	ff-Ramp	
7:45 AM			Northbound				Southbound	t		No	ortheastbou	nd		So	outhwestbou	und	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:45 AM	0	0	0	0	0	40	2	149	0	0	4	135	0	0	0	69	

PM PEAK HOUR ¹ 4:00 PM			Surface Roa Northbound			S	Surface Roa	d I			North Stree				rthbound Of		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	0	0	0	0	0	53	2	537	0	0	4	335	0	0	0	78	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 26
Location: Boston, MA
Street 1: Cross Street

Street 2: I-93 NB Off-Ramp/ North Street

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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								(•	-	··· · · · · · · · · · · · · · · · · ·						
		Cross	Street			Cross	Street		I-9	93 Northbou	und Off-Ran	пр		North	Street	
		North	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	87	3	0	0	0	0	0	128	17	0	0	0	0	0
7:15 AM	0	0	89	4	0	0	0	0	0	130	16	0	0	0	0	0
7:30 AM	0	0	91	5	0	0	0	0	0	131	14	0	0	0	0	0
7:45 AM	0	0	93	7	0	0	0	0	0	133	13	0	0	0	0	0
8:00 AM	0	0	99	8	0	0	0	0	0	134	11	0	0	0	0	0
8:15 AM	0	0	109	7	0	0	0	0	0	132	12	0	0	0	0	0
8:30 AM	0	0	116	6	0	0	0	0	0	129	11	0	0	0	0	0
8:45 AM	0	0	112	5	0	0	0	0	0	126	10	0	0	0	0	0

			Street bound				Street		1-9		und Off-Ran stbound	np			Street estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	93	4	0	0	0	0	0	74	15	0	0	0	0	0
4:15 PM	0	0	96	3	0	0	0	0	0	65	14	0	0	0	0	0
4:30 PM	0	0	97	4	0	0	0	0	0	54	13	0	0	0	0	0
4:45 PM	0	0	112	5	0	0	0	0	0	49	12	0	0	0	0	0
5:00 PM	0	0	124	3	0	0	0	0	0	43	11	0	0	0	0	0
5:15 PM	0	0	128	4	0	0	0	0	0	44	12	0	0	0	0	0
5:30 PM	0	0	129	3	0	0	0	0	0	45	10	0	0	0	0	0
5:45 PM	0	0	125	3	0	0	0	0	0	43	9	0	0	0	0	0

AM PEAK HOUR		Cross	Street			Cross	Street		J-9	93 Northboo	und Off-Ran	пр		North	Street	
8:00 AM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	436	26	0	0	0	0	0	521	44	0	0	0	0	0
PHF		0.	95			0.	00			0.	97			0.	00	
HV~%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR		Cross	Street			Cross	Street		J-9	93 Northbou	ınd Off-Ran	np		North	Street	
5:00 PM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	506	13	0	0	0	0	0	175	42	0	0	0	0	0
PHF		0.	98			0.	00			0.	97			0.	00	
HV~%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 26
Location: Boston, MA
Street 1: Cross Street

Street 2: I-93 NB Off-Ramp/ North Street

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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									0.10							
		Cross	Street			Cross	Street		I-9	93 Northbou	ınd Off-Ran	пр		North	Street	
		Northl	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0
7:30 AM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0
7:45 AM	0	0	5	0	0	0	0	0	0	3	0	0	0	0	0	0
8:00 AM	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0
8:15 AM	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	4	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0

		Cross	Street			Cross	Street		 -	93 Northboo	und Off-Ran	np		North	Street	
		North	bound			South	bound			Northea	stbound			Southwe	estbound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0
4:15 PM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0
5:00 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0
5:15 PM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0

AM PEAK HOUR		Cross	Street			Cross	Street		J-9	93 Northbou	ınd Off-Ran	пр		North	Street	
7:45 AM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	0	17	0	0	0	0	0	0	14	0	0	0	0	0	0
PHF		0.	85			0.	00			0.	88			0.	00	

PM PEAK HOUR		Cross	Street			Cross	Street		 - 9	93 Northbou	und Off-Ran	np		North	Street	
4:00 PM		North	bound			South	bound			Northea	stbound			Southwe	estbound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	13	0	0	0	0	0	0	8	0	0	0	0	0	0
PHF		0.	81			0.	00			0.	67			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 26
Location: Boston, MA
Street 1: Cross Street

Street 2: I-93 NB Off-Ramp/ North Street

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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			Cross Stree				Cross Stree				rthbound O				North Stree		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	11	0	0	0	0	0	34	0	0	0	0	0	0	0	40	
7:15 AM	0	13	0	0	0	0	0	38	0	0	0	0	0	0	0	42	
7:30 AM	0	14	0	0	0	0	0	40	0	0	0	0	0	0	0	45	
7:45 AM	0	17	0	0	0	0	0	46	0	0	0	0	0	0	0	48	
8:00 AM	0	19	0	0	0	0	0	60	0	0	0	0	0	0	0	52	
8:15 AM	0	18	1	0	0	0	0	72	0	0	0	0	0	0	0	58	
8:30 AM	0	16	0	0	0	0	0	84	0	0	0	0	0	0	0	66	
8:45 AM	0	15	0	0	0	0	0	75	0	0	0	0	0	0	0	70	

			Cross Stree Northbound				Cross Stree				rthbound Of ortheastbou				North Street		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	15	0	0	0	0	0	78	0	0	0	0	0	0	0	62	
4:15 PM	0	17	0	0	0	0	0	82	0	0	0	0	0	0	0	68	
4:30 PM	0	20	0	0	0	0	0	105	0	0	0	0	0	0	0	80	
4:45 PM	0	21	0	0	0	0	0	126	0	0	0	0	0	0	0	98	
5:00 PM	0	22	1	0	0	0	0	138	0	0	0	0	0	0	0	115	
5:15 PM	0	20	0	0	0	0	0	157	0	0	0	0	0	0	0	126	
5:30 PM	0	21	0	0	0	0	0	164	0	0	0	0	0	0	0	132	
5:45 PM	0	19	0	0	0	0	0	172	0	0	0	0	0	0	0	154	

AM PEAK HOUR1		(Cross Stree				Cross Stree	t		I-93 No	rthbound Of	ff-Ramp			North Stree	t	
8:00 AM			Northbound				Southbound			No	ortheastbou	nd		Sc	uthwestbou	ınd	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	68	1	0	0	0	0	291	0	0	0	0	0	0	0	246	

PM PEAK HOUR ¹		(Cross Stree	t			Cross Stree	t		I-93 No	rthbound Of	ff-Ramp		I	North Street		
5:00 PM			Northbound				Southbound			No	ortheastbou			So	uthwestbou	nd	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	0	82	1	0	0	0	0	631	0	0	0	0	0	0	0	527	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 27 Location: Boston, MA Street 1: Cross Street Street 2: Hanover Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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								, (0 ,	-							
		Cross	Street			Cross	Street			Hanove	er Street			Hanove	er Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	31	176	8	0	0	0	0	0	4	7	0	0	0	21	15
7:15 AM	0	33	177	9	0	0	0	0	0	5	8	0	0	0	22	18
7:30 AM	0	41	170	11	0	0	0	0	0	7	9	0	0	0	23	20
7:45 AM	0	48	165	13	0	0	0	0	0	6	10	0	0	0	25	22
8:00 AM	0	55	163	15	0	0	0	0	0	8	12	0	0	0	26	23
8:15 AM	0	61	164	16	0	0	0	0	0	6	11	0	0	0	25	22
8:30 AM	0	60	170	15	0	0	0	0	0	7	10	0	0	0	24	21
8:45 AM	0	57	167	14	0	0	0	0	0	5	9	0	0	0	22	19

			Street bound				Street				er Street bound				er Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	13	147	7	0	0	0	0	0	7	9	0	0	0	27	11
4:15 PM	0	15	138	8	0	0	0	0	0	8	10	0	0	0	30	13
4:30 PM	0	13	131	7	0	0	0	0	0	7	13	0	0	0	32	14
4:45 PM	0	11	145	5	0	0	0	0	0	8	15	0	0	0	35	16
5:00 PM	0	9	152	6	0	0	0	0	0	9	18	0	0	0	38	18
5:15 PM	0	7	161	4	0	0	0	0	0	7	21	0	0	0	37	17
5:30 PM	0	8	161	5	0	0	0	0	0	8	20	0	0	0	36	16
5:45 PM	0	6	159	3	0	0	0	0	0	7	19	0	0	0	34	15

AM	PEAK HOUR		Cross	Street			Cross	Street			Hanove	r Street			Hanove	r Street	
	8:00 AM		North	bound			South	bound			Eastl	ound			Westl	oound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	9:00 AM	0	233	664	60	0	0	0	0	0	26	42	0	0	0	97	85
	PHF		0.	98			0.	00			0.	85			0.	93	
	HV%	0.0%	0.4%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	2.4%	0.0%	0.0%	0.0%	2.1%	3.5%

PM PEAK HOUR		Cross	Street			Cross	Street			Hanove	r Street			Hanove	r Street	
5:00 PM		North	bound			South	bound			Easth	ound			West	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	30	633	18	0	0	0	0	0	31	78	0	0	0	145	66
PHF		0.	98			0.	00			0.	97			0.	94	
HV~%	0.0%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.7%	1.5%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 27 Location: Boston, MA Street 1: Cross Street Street 2: Hanover Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

								,,,,	0,10							
		Cross	Street			Cross	Street			Hanove	er Street			Hanove	er Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	7	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00 AM	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	7	0	0	0	0	0	0	0	1	0	0	0	1	0
8:30 AM	0	0	9	0	0	0	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0

			Street bound				Street bound				er Street bound				er Street bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	0	0	0	0	0	0	1	0	0	0	0	1	0
4:30 PM	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	1	Cross	Street			Cross	Street			Hanove	er Street			Hanove	r Street	
8:00 AM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	1	32	0	0	0	0	0	0	1	1	0	0	0	2	3
PHF		0.	92			0.	00			0.	50			0.	63	

PM Pl	EAK HOUR		Cross	Street			Cross	Street			Hanove	r Street			Hanove	r Street	
4	4:30 PM		North	bound			South	bound			Easth	ound			West	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5	5:30 PM	0	0	22	0	0	0	0	0	0	1	2	0	0	0	1	2
	PHF		0.	92			0.	00			0.	75			0.	75	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 27 Boston, MA Location: Street 1: Cross Street Street 2: Hanover Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		(Cross Stree	t			Cross Stree	et		Н	anover Stre	et		Н	anover Stre	et	
			Northbound	l			Southbound	t			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	11	0	58	0	0	0	62	0	1	0	15	0	2	0	22	
7:15 AM	0	13	0	62	0	0	0	68	0	2	0	18	0	3	0	24	
7:30 AM	0	15	0	64	0	0	0	74	1	1	0	20	0	2	1	25	
7:45 AM	1	17	0	72	0	0	0	90	0	3	0	22	0	1	0	32	
8:00 AM	0	16	1	85	0	0	0	112	1	2	0	24	0	3	1	55	
8:15 AM	1	17	0	92	0	0	0	124	0	2	0	28	0	2	0	64	
8:30 AM	0	18	0	105	0	0	0	132	0	1	0	25	0	3	1	70	
8:45 AM	0	16	1	112	0	0	0	128	1	2	0	26	0	2	0	75	

			Cross Stree				Cross Stree				anover Stre Eastbound				anover Stre Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	15	0	84	0	0	0	122	0	2	0	30	0	1	0	48	
4:15 PM	0	17	0	88	0	0	0	135	0	2	0	32	0	2	1	52	
4:30 PM	0	18	1	92	0	0	0	140	1	3	0	35	0	1	0	54	
4:45 PM	1	21	0	116	0	0	0	158	0	1	0	40	0	3	0	60	
5:00 PM	0	20	0	125	0	0	0	172	0	2	0	44	0	2	1	66	
5:15 PM	0	21	1	130	0	0	0	180	1	2	0	52	0	1	0	70	
5:30 PM	1	19	0	138	0	0	0	192	0	1	0	56	0	2	1	75	
5:45 PM	0	20	0	145	0	0	0	204	0	2	0	60	0	1	0	78	

AM P	PEAK HOUR ¹]		Cross Stree	ŧ			Cross Stree	ŧ		Н	anover Stre	et		Н	anover Stre	et	
	8:00 AM			Northbound				Southbound	t			Eastbound				Westbound	i	
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9	9:00 AM	1	67	2	394	0	0	0	496	2	7	0	103	0	10	2	264	

PM PEAK HOUR1		(Cross Stree	t			Cross Stree	ŧ		Н	anover Stre	et			anover Stre		
5:00 PM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 PM	1	80	1	538	0	0	0	748	1	7	0	212	0	6	2	289	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 28 Location: Boston, MA Street 1: Cross Street Salem Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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										,						
		Cross	Street			Cross	Street							Salem	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	189	6	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	193	7	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	190	7	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	185	8	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	187	7	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	183	9	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	190	8	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	184	7	0	0	0	0	0	0	0	0	0	0	0	0

		Cross	Street			Cross	Street							Salem	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	157	8	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	152	7	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	143	9	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	161	8	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	170	9	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	175	10	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	177	8	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	174	7	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOU	₹ .	Cross	Street			Cross	Street							Salem	Street	
7:00 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	0	0	757	28	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	.98			0.	00			0.	00			0.	00	
HV %	0.0%	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%

PM PEAK HOUR		Cross	Street			Cross	Street							Salem	Street	
5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	696	34	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	99			0.	00			0.	00			0.	00	
HV~%	0.0%	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%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 28 Location: Boston, MA Street 1: Cross Street Street 2: Salem Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Cross	Street			Cross	Street							Salem	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0

		Cross	Street			Cross	Street							Salem	Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR]	Cross	Street			Cross	Street							Salem	Street	
8:00 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	90			0.	00			0.	00			0.	00	

P	M PEAK HOUR		Cross	Street			Cross	Street							Salem	Street	
	4:30 PM		North	bound			South	bound			Easth	oound			West	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:30 PM	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHF		0.	88			0.	00			0.	00			0.	00	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 28 Boston, MA Location: Street 1: Cross Street Street 2: Salem Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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			Cross Stree	t			Cross Stree	et						;	Salem Stree	et	
			Northbound	l			Southbound	d			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	11	0	52	0	0	0	0	0	0	0	0	0	0	0	30	
7:15 AM	0	13	0	74	0	0	0	0	0	0	0	0	0	0	0	35	
7:30 AM	0	15	0	88	0	0	0	0	0	0	0	0	0	0	0	42	
7:45 AM	0	18	0	105	0	0	0	0	0	0	0	0	0	0	0	45	
8:00 AM	0	17	0	116	0	0	0	5	0	0	0	0	0	0	0	48	
8:15 AM	0	18	0	108	0	0	0	0	0	0	0	0	0	0	0	52	
8:30 AM	0	19	0	115	0	0	0	0	0	0	0	0	0	0	0	55	
8:45 AM	0	17	0	120	0	0	0	0	0	0	0	0	0	0	0	62	

		(Cross Stree	t			Cross Stree	et							Salem Stree	et	
			Northbound	l			Southbound	d			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	15	0	96	0	0	0	0	0	0	0	0	0	0	0	38	
4:15 PM	0	17	0	108	0	0	0	0	0	0	0	0	0	0	0	42	
4:30 PM	0	19	0	115	0	0	0	0	0	0	0	0	0	0	0	46	
4:45 PM	0	21	0	122	0	0	0	0	0	0	0	0	0	0	0	50	
5:00 PM	0	20	0	128	0	0	0	0	0	0	0	0	0	0	0	54	
5:15 PM	0	21	0	135	0	0	0	0	0	0	0	0	0	0	0	58	
5:30 PM	0	19	0	132	0	0	0	0	0	0	0	0	0	0	0	62	
5:45 PM	0	21	0	138	0	0	0	0	0	0	0	0	0	0	0	65	

AM PEAK HOUR ¹		(Cross Stree	t			Cross Stree							5	Salem Stree	et	
7:00 AM			Northbound				Southbound				Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:00 AM	0	57	0	319	0	0	0	0	0	0	0	0	0	0	0	152	

P	PM PEAK HOUR ¹		(Cross Stree	t			Cross Stree	t						,	Salem Stree	t	
	5:00 PM			Northbound				Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	6:00 PM	0	81	0	533	0	0	0	0	0	0	0	0	0	0	0	239	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 29
Location: Boston, MA
Street 1: Cross Street

Street 2: Sudbury Street/ I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		Cross	Street			Cross	Street	•		Sudbury	Street		J-9	3 Northbo	und On-Ran	пр
		North	nbound			South	bound			Eastb	ound			South	bound	
Start Time	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	33	156	0	0	0	0	0	37	23	0	0	0	0	0
7:15 AM	0	0	35	158	0	0	0	0	0	41	25	0	0	0	0	0
7:30 AM	0	0	34	156	0	0	0	0	0	42	27	0	0	0	0	0
7:45 AM	0	0	33	152	0	0	0	0	0	43	26	0	0	0	0	0
8:00 AM	0	0	32	155	0	0	0	0	0	44	28	0	0	0	0	0
8:15 AM	0	0	31	152	0	0	0	0	0	45	27	0	0	0	0	0
8:30 AM	0	0	30	160	0	0	0	0	0	44	26	0	0	0	0	0
8:45 AM	0	0	29	155	0	0	0	0	0	42	25	0	0	0	0	0

		Cross	Street			Cross	Street			Sudbury	Street		I-9	93 Northbou	und On-Ran	np
		North	bound			South	bound			Eastb	ound			South	bound	
Start Time	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	65	92	0	0	0	0	0	65	39	0	0	0	0	0
4:15 PM	0	0	67	85	0	0	0	0	0	68	41	0	0	0	0	0
4:30 PM	0	0	66	77	0	0	0	0	0	70	43	0	0	0	0	0
4:45 PM	0	0	64	97	0	0	0	0	0	69	45	0	0	0	0	0
5:00 PM	0	0	63	107	0	0	0	0	0	71	51	0	0	0	0	0
5:15 PM	0	0	61	114	0	0	0	0	0	70	56	0	0	0	0	0
5:30 PM	0	0	62	115	0	0	0	0	0	69	55	0	0	0	0	0
5:45 PM	0	0	60	114	0	0	0	0	0	67	54	0	0	0	0	0

AM PEAK HO	JR	Cros	s Street			Cross	Street			Sudbury	Street		J-9	93 Northbou	und On-Ran	пр
7:15 AM		Nort	hbound			South	bound			Eastbo	ound			South	bound	
to	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
8:15 AM	0	0	134	621	0	0	0	0	0	170	106	0	0	0	0	0
PHF		().98			0.	00			0.9	6			0.	00	
HV~%	0.0%	0.0%	10.4%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%

Ī	PM PEAK HOUR		Cross	Street			Cross	Street			Sudbury	Street		J-9	3 Northbou	ınd On-Ram	пр
	5:00 PM		North	bound			South	bound			Eastb	ound			South	bound	
	to	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
	6:00 PM	0	0	246	450	0	0	0	0	0	277	216	0	0	0	0	0
	PHF		0	.98			0.	00			0.9	98			0.0	00	
	HV %	0.0%	0.0%	4.1%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 29
Location: Boston, MA
Street 1: Cross Street

Street 2: Sudbury Street/ I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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								,,,,	0,10							
		Cross	Street			Cross	Street			Sudbury	Street		I-9	93 Northboo	und On-Ran	np
		North	nbound			South	bound			Eastb	ound			South	bound	
Start Time	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	3	0	0	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	0	4	4	0	0	0	0	0	2	1	0	0	0	0	0
7:45 AM	0	0	3	4	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	0	4	5	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM	0	0	4	4	0	0	0	0	0	1	2	0	0	0	0	0
8:30 AM	0	0	3	7	0	0	0	0	0	0	1	0	0	0	0	0
8:45 AM	0	0	3	6	0	0	0	0	0	1	0	0	0	0	0	0

			s Street nbound				Street			Sudbury Eastb			I-9		und On-Ran bound	np
Start Time	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	3	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	3	3	0	0	0	0	0	0	1	0	0	0	0	0
4:30 PM	0	0	3	5	0	0	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	4	3	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	2	4	0	0	0	0	0	1	1	0	0	0	0	0
5:15 PM	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	3	0	0	0	0	0	1	0	0	0	0	0	0
5:45 PM	0	0	2	3	0	0	0	0	0	0	1	0	0	0	0	0

Ī	AM PEAK HOUR		Cross	Street			Cross	Street			Sudbury	Street		1-9	3 Northbou	ınd On-Ram	пр
	8:00 AM		North	bound			South	bound			Eastbo	ound			Southl	oound	
	to	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
	9:00 AM	0	0	14	22	0	0	0	0	0	2	4	0	0	0	0	0
	PHF		0	.90			0.	00			0.5	i0			0.0	00	

PM PEAK HOUR		Cross	Street			Cross	Street			Sudbury	Street		1-9	93 Northbou	ınd On-Ram	пр
4:15 PM		North	bound			South	bound			Eastbo	ound			South	bound	
to	U-Turn	Left	Thru (I-93)	Thru	U-Turn	Left	Thru	Right	U-Turn	Left (I-93)	Left	Right	U-Turn	Left	Thru	Right
5:15 PM	0	0	12	15	0	0	0	0	0	2	3	0	0	0	0	0
PHF		0	.84			0.	00			0.6	3			0.	00	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 29
Location: Boston, MA
Street 1: Cross Street

Street 2: Sudbury Street/ I-93 NB On-Ramp

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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		C	ross Stree	t			Cross Stree	et		Si	udbury Stre	et		I-93 No	rthbound O	n-Ramp	
		1	Northbound				Southbound	t			Eastbound				Southbound	i	
Start Time	Left	Thru (I-93)	Thru	PED	Left	Thru	Right	PED	Left (I-93)	Left	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	11	70	0	0	0	0	0	0	0	42	0	0	0	0	
7:15 AM	0	0	13	85	0	0	0	0	0	0	0	45	0	0	0	0	
7:30 AM	0	0	15	92	0	0	0	0	0	0	0	48	0	0	0	0	
7:45 AM	0	0	18	98	0	0	0	0	0	0	0	50	0	0	0	0	
8:00 AM	0	0	17	104	0	0	0	0	0	0	0	54	0	0	0	0	
8:15 AM	0	0	18	118	0	0	0	0	0	0	0	55	0	0	0	0	
8:30 AM	0	0	19	124	0	0	0	1	0	0	0	56	0	0	0	1	
8:45 AM	0	0	17	128	0	0	0	0	0	0	0	52	0	0	0	0	

			ross Stree				Cross Stree				udbury Stre Eastbound	et			rthbound O Southbound		
Start Time	Left	Thru (I-93)		PED	Left	Thru	Right	PED	Left (I-93)	Left	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	0	15	125	0	0	0	0	0	0	0	25	0	0	0	0	
4:15 PM	0	0	17	134	0	0	0	1	0	0	0	28	0	0	0	1	
4:30 PM	0	0	19	148	0	0	0	0	0	0	0	32	0	0	0	0	
4:45 PM	0	0	21	155	0	0	0	2	0	0	0	36	0	0	0	2	
5:00 PM	0	0	20	164	0	0	0	1	0	0	0	40	0	0	0	1	
5:15 PM	0	0	21	172	0	0	0	0	0	0	0	45	0	0	0	0	
5:30 PM	0	0	19	178	0	0	0	1	0	0	0	52	0	0	0	1	
5:45 PM	0	0	21	176	0	0	0	0	0	0	0	55	0	0	0	0	

AM PEAK HOUR ¹	Ì	C	ross Street	t				Cross Stree	t		Sı	udbury Stre	et		I-93 No	rthbound O	n-Ramp	
7:15 AM		1	Northbound					Southbound	i			Eastbound				Southbound	t	
to	Left	Thru (I-93)	Thru	PED		Left	Thru	Right	PED	Left (I-93)	Left	Right	PED	Left	Thru	Right	PED	
8:15 AM	0	0	63	379		0	0	0	0	0	0	0	197	0	0	0	0	

PI	M PEAK HOUR ¹		C	ross Street	t			Cross Stree	t		Si	udbury Stre	et		I-93 No	rthbound Oi	n-Ramp	
	5:00 PM		1	Northbound				Southbound	l			Eastbound				Southbound	l	
	to	Left	Thru (I-93)	Thru	PED	Left	Thru	Right	PED	Left (I-93)	Left	Right	PED	Left	Thru	Right	PED	
	6:00 PM	0	0	81	690	0	0	0	2	0	0	0	192	0	0	0	2	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 30 Location: Boston, MA Street 1: Atlantic Avenue Street 2: Central Street Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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										,						
		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	141	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	147	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	6
7:45 AM	0	0	169	0	0	0	0	0	0	0	0	0	0	0	0	5
8:00 AM	0	0	187	0	0	0	0	0	0	0	0	0	0	0	0	6
8:15 AM	0	0	203	0	0	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	207	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	198	0	0	0	0	0	0	0	0	0	0	0	0	3

		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
		North	bound			South	bound			Eastl	bound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	0	167	0	0	0	0	0	0	0	0	0	0	0	0	10
4:30 PM	0	0	177	0	0	0	0	0	0	0	0	0	0	0	0	14
4:45 PM	0	0	198	0	0	0	0	0	0	0	0	0	0	0	0	17
5:00 PM	0	0	239	0	0	0	0	0	0	0	0	0	0	0	0	18
5:15 PM	0	0	254	0	0	0	0	0	0	0	0	0	0	0	0	21
5:30 PM	0	0	262	0	0	0	0	0	0	0	0	0	0	0	0	18
5·45 PM	0	0	253	0	0	0	0	0	0	0	0	0	0	0	0	13

AM PEAK HOUL		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
8:00 AM		North	bound			South	bound			Eastl	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	0	0	795	0	0	0	0	0	0	0	0	0	0	0	0	19
PHF		0.	96			0.	00			0.	00			0.	79	
HV~%	0.0%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%

PM PEAK HOU	Ł	Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
5:00 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 PM	0	0	1008	0	0	0	0	0	0	0	0	0	0	0	0	70
PHF		0.	.96			0.	00			0.	00			0.	83	
HV~%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 30 Location: Boston, MA Street 1: Atlantic Avenue Central Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
		North	bound			South	bound			Easth	ound			Westl	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0

		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
7:15 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	1
PHF		0.	83			0.	00			0.	00			0.	25	

PM PEAK HOUR		Atlantic	Avenue			Atlantic	Avenue							Centra	l Street	
4:00 PM		North	bound			South	bound			Eastb	ound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1
PHF		0.	83			0.	00			0.	00			0.	25	

Client: Melissa Restrepo 223_073_HSH Project #: BTD#: Location 30 Boston, MA Location: Street 1: Atlantic Avenue Street 2: Central Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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		At	tlantic Aven	ue		A	tlantic Aven	ue							Central Stree	et	
			Northbound				Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	114	
7:15 AM	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	125	
7:30 AM	0	13	0	2	0	0	0	0	0	0	0	0	0	0	0	128	
7:45 AM	0	15	0	0	0	0	0	0	0	0	0	0	0	0	1	137	
8:00 AM	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	156	
8:15 AM	0	17	0	0	0	0	0	0	0	0	0	0	0	0	1	168	
8:30 AM	0	16	0	0	0	0	0	0	0	0	0	0	0	0	1	158	
8:45 AM	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	152	

			lantic Aven				lantic Aven								Central Stree		
			Northbound	l			Southbound	d			Eastbound				Westbound	l	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	145	
4:15 PM	0	14	0	0	0	0	0	0	0	0	0	0	0	0	1	152	
4:30 PM	0	18	0	0	0	0	0	0	0	0	0	0	0	0	1	158	
4:45 PM	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	162	
5:00 PM	0	21	0	0	0	0	0	0	0	0	0	0	0	0	1	168	
5:15 PM	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	170	
5:30 PM	0	19	0	0	0	0	0	0	0	0	0	0	0	0	1	162	
5:45 PM	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	157	

AM PEAK HOUR1		At	lantic Aveni	ue		Α	tlantic Aven	ue						C	entral Stree	et	
8:00 AM			Northbound				Southbound	I			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
9:00 AM	0	66	0	0	0	0	0	0	0	0	0	0	0	0	2	634	

PM PEAK	HOUR ¹		At	lantic Aven	ue		At	tlantic Aven	ue						C	Central Stree	ət	
5:00 P	PM			Northbound				Southbound	t			Eastbound				Westbound	l	
to	Ī	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
6:00 P	PM	0	78	0	0	0	0	0	0	0	0	0	0	0	0	2	657	

¹ Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 31 Location: Boston, MA Street 1: Old Atlantic Avenue Central Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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		Old Atlant	ic Avenue			Old Atlant	tic Avenue	•		Centra	I Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	2	7	0	0	0	0	2	0	0	0	0	0	0	0	0
7:15 AM	0	3	8	0	0	0	1	1	0	0	0	0	0	0	0	0
7:30 AM	0	3	9	0	0	0	1	3	0	0	0	0	0	0	0	0
7:45 AM	0	4	10	0	0	0	0	2	0	0	0	0	0	0	0	0
8:00 AM	0	3	12	0	0	0	1	3	0	0	0	0	0	0	0	0
8:15 AM	0	4	10	0	0	0	1	2	0	0	0	0	0	0	0	0
8:30 AM	0	2	11	0	0	0	1	2	0	0	0	0	0	0	0	0
8:45 AM	0	2	10	0	0	0	0	1	0	0	0	0	0	0	0	0

		Old Atlant	tic Avenue			Old Atlant	tic Avenue			Centra	l Street					
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	14	26	0	0	0	1	1	0	0	0	0	0	0	0	0
4:15 PM	0	10	29	0	0	0	2	0	0	0	0	0	0	0	0	0
4:30 PM	0	13	24	0	0	0	1	1	0	0	0	0	0	0	0	0
4:45 PM	0	16	20	0	0	0	0	1	0	0	0	0	0	0	0	0
5:00 PM	0	18	17	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	20	15	0	0	0	2	1	0	0	0	0	0	0	0	0
5:30 PM	0	17	14	0	0	0	0	1	0	0	0	0	0	0	0	0
5:45 PM	0	12	15	0	0	0	1	1	0	0	0	0	0	0	0	0

AM PEAK HOUR	1	Old Atlant	ic Avenue			Old Atlant	ic Avenue			Centra	l Street					
7:30 AM		North	bound			South	bound			Eastl	oound			Westl	oound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	0	14	41	0	0	0	3	10	0	0	0	0	0	0	0	0
PHF		0.	92			0.	81			0.	00			0.	00	
HV~%	0.0%	7.1%	4.9%	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%

PM PEAK HOUR		Old Atlant	ic Avenue			Old Atlant	ic Avenue			Centra	l Street					
4:00 PM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:00 PM	0	53	99	0	0	0	4	3	0	0	0	0	0	0	0	0
PHF		0.	95			0.	88			0.	00			0.	00	
HV~%	0.0%	1.9%	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%

Client: Melissa Restrepo Project #: 223 073 HSH BTD#: Location 31 Location: Boston, MA Street 1: Old Atlantic Avenue Central Street Street 2: Count Date: 6/19/2018 Day of Week: Tuesday Partly Sunny, 80°F Weather:



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

		Old Atlant North	ic Avenue bound				ic Avenue bound				l Street oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	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

		Old Atlant	tic Avenue			Old Atlant	ic Avenue			Centra	l Street					
		North	bound			South	bound			Easth	oound			Westl	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HO	UR	Old A	lantic Av	venue			Old Atlant	ic Avenue			Centra	l Street					
7:15 AM		N	orthboun	nd			South	bound			Easth	oound			Westl	bound	
to	U-Tı	rn Left	T	Γhru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	0	1		2	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF			0.75				0.	00			0.	00			0.	00	

PM PEAK HOUR	1	Old Atlant	ic Avenue			Old Atlant	ic Avenue			Centra	l Street					
4:15 PM		North	bound			South	bound			Easth	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF		0.	75			0.	00			0.	00			0.	.00	

Client: Melissa Restrepo Project #: 223_073_HSH BTD#: Location 31 Boston, MA Location: Street 1: Old Atlantic Avenue Street 2: Central Street 6/19/2018 Count Date: Day of Week: Tuesday Weather: Partly Sunny, 80°F



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									-0 / / (//// 10	. u D.U.	OLLO							
		Old	Atlantic Ave	enue		Old	Atlantic Ave	enue			C	Central Stree	et					
			Northbound				Southbound	d				Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED		Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	8	0	0	0	5		0	0	0	18	0	0	0	0	
7:15 AM	0	0	0	10	0	0	0	7		0	0	0	20	0	0	0	0	
7:30 AM	0	1	0	14	0	0	0	8		0	0	0	21	0	0	0	0	
7:45 AM	1	0	0	16	0	1	0	14		0	0	0	25	0	0	0	0	
8:00 AM	0	1	0	15	0	0	0	16		0	0	0	28	0	0	0	0	
8:15 AM	0	2	0	18	0	0	1	18		0	0	0	30	0	0	0	0	
8:30 AM	1	1	0	15	0	0	0	20		0	0	0	32	0	0	0	0	
8:45 AM	0	1	0	19	0	0	0	17		0	0	0	29	0	0	0	0	

		Old	Atlantic Av	enue		Old	Atlantic Av	enue		C	entral Stree	et					
			Northbound	t			Southbound	d			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	0	1	0	9	0	0	0	40	0	0	0	28	0	0	0	0	
4:15 PM	0	0	0	11	0	0	1	42	0	0	0	30	0	0	0	0	
4:30 PM	1	1	0	12	0	1	0	45	0	0	0	32	0	0	0	0	
4:45 PM	0	2	0	18	0	0	0	47	0	0	0	38	0	0	0	0	
5:00 PM	0	2	0	20	0	0	1	49	0	0	0	47	0	0	0	0	
5:15 PM	0	1	0	22	0	1	0	52	0	0	0	56	0	0	0	0	
5:30 PM	1	0	0	25	0	0	0	48	0	0	0	60	0	0	0	0	
5:45 PM	Λ	1	0	23	0	0	Λ	46	0	n	Λ	58	0	n	n	0	

AM PEAK HOUR ¹		Old	Atlantic Ave	enue		Old	Atlantic Ave	enue		C	Central Stre	et					
7:30 AM			Northbound				Southbound	I			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:30 AM	1	4	0	63	0	1	1	56	0	0	0	104	0	0	0	0	

PM PEAK HOUR ¹			Atlantic Ave			Old	Atlantic Ave	enue		C	entral Stree						
4:00 PM			Northbound				Southbound	i			Eastbound				Westbound	i .	
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
5:00 PM	1	4	0	50	0	1	1	174	0	0	0	128	0	0	0	0	

Peak hours corresponds to vehicular peak hours.

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 32
Location: Boston, MA
Street 1: Old Atlantic Avenue
Street 2: State Street/Long Wharf

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Old Atlant	ic Avenue					-		State	Street			Long	Wharf	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	3	0	4	0	0	0	0	1	0	7	2	0	0	8	0
7:15 AM	0	4	0	5	0	0	0	0	0	0	10	2	0	0	10	0
7:30 AM	0	3	0	6	0	0	0	0	0	0	7	4	0	0	17	0
7:45 AM	0	2	0	8	0	0	0	0	0	0	11	2	0	0	22	0
8:00 AM	0	3	0	9	0	0	0	0	0	0	8	4	0	0	25	0
8:15 AM	0	2	0	8	0	0	0	0	0	0	11	2	0	1	30	0
8:30 AM	0	4	0	7	0	0	0	0	0	0	9	3	0	0	26	0
8:45 AM	0	4	0	6	0	0	0	0	0	0	10	1	0	0	24	0

		Old Atlant	tic Avenue							State	Street			Long	Wharf	
		North	bound			South	bound			Eastl	oound			Westl	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	1	11	0	14	0	0	0	0	0	0	3	1	0	0	11	0
4:15 PM	0	16	0	13	0	0	0	0	0	0	4	2	0	0	9	0
4:30 PM	0	13	0	11	0	0	0	0	0	0	5	2	0	0	17	0
4:45 PM	0	11	0	9	0	0	0	0	0	0	7	1	0	0	24	0
5:00 PM	0	10	0	7	0	0	0	0	0	0	9	1	0	0	32	0
5:15 PM	0	7	0	8	0	0	0	0	0	0	6	3	0	0	36	0
5:30 PM	0	8	0	6	0	0	0	0	0	0	7	1	0	0	33	0
5:45 PM	0	10	0	5	0	0	0	0	0	0	5	2	0	0	28	0

AM PEAK HOUR		Old Atlant	ic Avenue							State	Street			Long	Wharf	
7:45 AM		North	bound			South	bound			Eastl	oound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	11	0	32	0	0	0	0	0	0	39	11	0	1	103	0
PHF		0.	90			0.	00			0.	96			0.	84	
HV %	0.0%	9.1%	0.0%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOUR	1	Old Atlant	tic Avenue							State	Street			Long	Wharf	
4:45 PM		North	bound			South	bound			Easth	ound			West	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:45 PM	0	36	0	30	0	0	0	0	0	0	29	6	0	0	125	0
PHF		0.	83			0.	00			0.	88			0.	87	
HV~%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 32
Location: Boston, MA
Street 1: Old Atlantic Avenue
Street 2: State Street/ Long Wharf

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Old Atlant	ic Avenue							State	Street			Long	Wharf	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	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

		Old Atlant	tic Avenue							State	Street			Long	Wharf	
		North	bound			South	bound			Eastl	oound			West	bound	
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	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	1	0
5:00 PM	0	1	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	Λ	n	Λ	Λ	Λ	Λ	Λ	Λ	n	n	Λ	Λ	n	Λ	0	n

AM PEAK HOUR]	Old Atlant	ic Avenue							State	Street			Long '	Wharf	
7:45 AM		North	bound			South	bound			Eastb	oound			Westl	bound	
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0
PHF		0.	50			0.	00			0.	25			0.	00	

Ī	PM PEAK HOUR		Old Atlant	ic Avenue							State	Street			Long	Wharf	
	4:15 PM		Northl	bound			South	bound			Easth	ound			Westl	bound	
	to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	PHF		0.25				0.	00			0.	00			0.	25	

Client: Melissa Restrepo
Project #: 223_073_HSH
BTD #: Location 32
Location: Boston, MA
Street 1: Old Atlantic Avenue
Street 2: State Street/ Long Wharf

Count Date: 6/19/2018
Day of Week: Tuesday
Weather: Partly Sunny, 80°F



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

		Old	Atlantic Av	enue							State Stree	t			Long Wharf	f	
			Northbound	t			Southboun	d			Eastbound				Westbound	I	
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
7:00 AM	0	0	0	12	0	0	0	0	0	0	0	14	0	0	0	30	
7:15 AM	0	0	0	15	0	0	0	0	0	0	0	16	0	0	0	32	
7:30 AM	1	0	0	14	0	0	0	0	0	0	0	18	0	0	0	35	
7:45 AM	0	0	0	18	0	0	0	0	0	0	0	15	1	0	0	38	
8:00 AM	1	0	0	20	0	0	0	0	0	0	0	16	0	0	0	40	
8:15 AM	1	0	1	22	0	0	0	0	0	0	1	20	0	1	0	42	
8:30 AM	1	0	0	25	0	0	0	0	0	0	0	22	2	0	0	44	
8:45 AM	0	0	1	28	0	0	0	0	0	0	0	25	0	0	0	48	

		Old	Atlantic Ave	enue							State Stree	t			Long Whar	f	
			Northbound				Southbound	b			Eastbound				Westbound		
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
4:00 PM	1	0	0	185	0	0	0	0	0	0	0	40	0	0	0	55	
4:15 PM	0	0	0	90	0	0	0	0	0	0	1	42	0	1	0	58	
4:30 PM	1	0	0	86	0	0	0	0	0	0	0	45	1	0	0	62	
4:45 PM	1	0	1	92	0	0	0	0	0	0	0	43	0	0	0	65	
5:00 PM	2	0	0	88	0	0	0	0	0	0	1	35	0	1	0	70	
5:15 PM	0	0	1	82	0	0	0	0	0	0	0	32	1	0	0	72	
5:30 PM	0	0	0	85	0	0	0	0	0	0	0	30	0	0	0	68	
5:45 PM	1	0	0	90	0	0	0	0	0	0	0	35	0	0	0	65	

AM PEAK HOUR ¹		Old	Atlantic Ave	enue							State Stree	t			Long Whar	f	
7:45 AM			Northbound	l			Southbound	i			Eastbound				Westbound		
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
8:45 AM	3	0	1	85	0	0	0	0	0	0	1	73	3	1	0	164	

P	M PEAK HOUR ¹		Old	Atlantic Ave								State Stree	t			Long Wharf		
	4:45 PM			Northbound				Southbound	i			Eastbound				Westbound		
	to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	
	5:45 PM	3	0	2	347	0	0	0	0	0	0	1	140	1	1	0	275	

Peak hours corresponds to vehicular peak hours.



MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

2011 WEEKDAY SEASONAL FACTORS *	* Note: These	are weekday fa	ctors. The averag	e of the factors I	or the year will r	not equal 1, as w	veekend data ar	e not considered				
FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
GROUP 1 - WEST INTERSTATE	0.98	0.93	0.90	0.89	0.90	0.88	0.91	0.90	0.89	0.89	0.93	0.95
Use group 2 for R5, R6, & R0 GROUP 2 - RURAL MAJOR COLLECTOR (R-5)	1.12	1.12	1.07	0.99	0.91	0.90	0.86	0.86	0.92	0.93	1.01	1.05
GROUP 3A - RECREATIONAL **(1-4) See below	1.26	1.25	1.20	1.06	0.96	0.89	0.76	0.76	0.92	0.99	1.08	1.14
GROUP 3B - RECREATIONAL ***(5) See below	1.22	1.26	1.22	1.06	0.96	0.90	0.72	0.74	0.97	1.02	1.14	1.15
GROUP 4 - I-495 INTERSTATE	1.02	1.00	1.00	0.96	0.92	0.89	0.85	0.83	0.93	0.96	1.01	1.03
GROUP 5 - EAST INTERSTATE	1.04	1.00	0.96	0.93	0.92	0.91	0.91	0.89	0.93	0.93	0.96	1.01
GROUP 6: Use group 6 for U2, U3, U5, U6, U0, R2, & R3 URBAN ARTERIALS, COLLECTORS & RURAL ARTERIALS (R-2, R-3)	1.03	1.01	0.96	0.92	0.91	0.90	0.92	0.92	0.93	0.92	0.97	0.97
GROUP 7 - I-84 PROXIMITY (STA. 17, 3921)	1.24	1.24	1.15	1.04	0.99	1.00	0.93	0.89	1.05	1.05	1.05	1.12
GROUP 8 - I-295 PROXIMITY (STA. 6590)	1.00	0.99	0.95	0.92	0.94	0.91	0.93	0.92	0.95	0.94	0.97	0.95
GROUP 9 - I-195 PROXIMITY (STA. 7)	1.13	1.05	1.03	0.95	0.89	0.87	0.86	0.79	0.88	0.91	0.99	1.03
RECREATIONAL: (ALL YEARS)	[2011 AXLE C	ORRECTION FA	CTORS		X1. 11.				ROUND OFF		10

**GROUP 3A:

1. CAPE COD (ALL TOWNS)

2.PLYMOUTH(SOUTH OF RTE.3A)

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

3.MARTHA'S VINEYARD

4.NANTUCKET

***GROUP 3B:

5.PERMANENTS 2 & 189

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

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

1105,1106,1107,1108,1113,1114,1116,2196,2197,2198

2011 AXLE CORRECTION FACTORS		
ROAD INVENTORY	AXLE CORRECTION	

FACTOR

0.90

FUNCTIONAL CLASSIFICATION

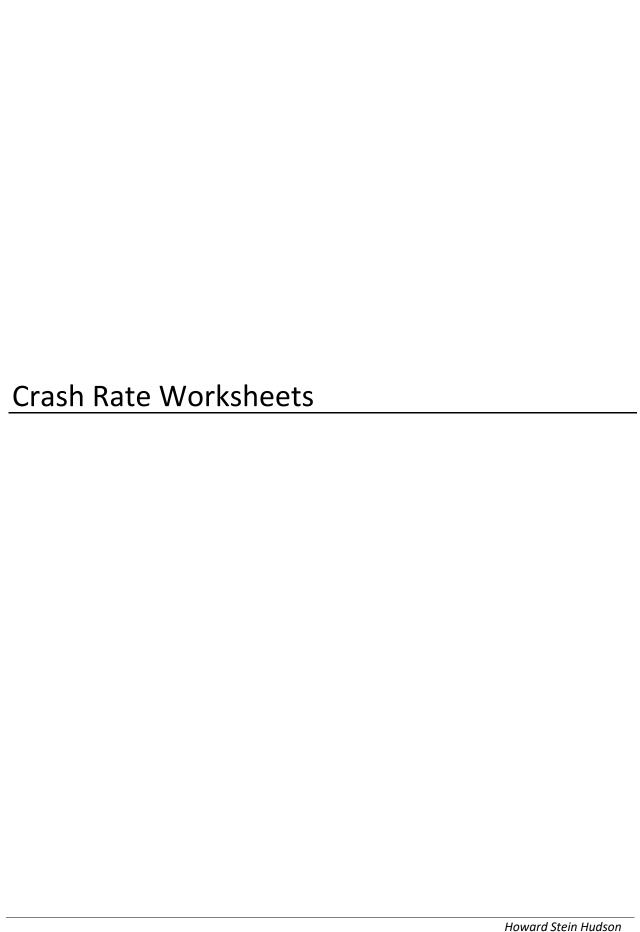
1-84

RURAL	
1	0.95
2	0.97
3	0.98
0,5,6	0.98
URBAN	
1	0.96
2,3	0.98
5	0.98
0,6	0.99

0 - 999.....10

> 1,000.....100

Apply I-84 factor to stations: 3290, 3921, 3929





CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :	Х	SIGNA	LIZED :					
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET :	Milk Street									
MINOR STREET(S):	Garage Drive	Garage Driveway								
INTERSECTION DIAGRAM (Label Approaches)	North	North North								
			PEAK HOUF	R VOLUMES	l I	Total Peak				
APPROACH:	1	2	3	4	5	Hourly				
DIRECTION:	EB	WB	NB			Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	357	6	203			566				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	3,144				
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	0.00				
CRASH RATE CALCU	ILATION :	0.00	RATE =	<u>(A * 1,0</u> (V	000,000) * 365)					
Comments :	Below Distric	t 6 Average (0.00<0.58)							
Project Title & Date:	Harbor Garag	ge, 2009004.	03, October 2	019						



CITY/TOWN : Boston	_			COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :	Х	SIGNA	LIZED :					
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET:	East India Ro	DW								
MINOR STREET(S):	Garage Drive	Garage Driveway								
INTERSECTION DIAGRAM (Label Approaches)	North	North E India Row								
		ı	PEAK HOUR	R VOLUMES	I I	Total Peak				
APPROACH:	1	2	3	4	5	Hourly				
DIRECTION:	EB	WB	SB			Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	79	43	40			162				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	900				
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	0.00				
CRASH RATE CALCU	ILATION :	0.00	RATE =	(A * 1,0	000,000) * 365)					
Comments :	Below Distric	t 6 Average (0.00<0.58)							
Project Title & Date:	Harbor Garag	ge, 2009004.	03, October 2	019						



CITY/TOWN : Boston	_			COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET :	Atlantic Aver	iue								
MINOR STREET(S):	Milk Street									
INTERSECTION DIAGRAM (Label Approaches)	North	North North								
APPROACH :	1	2	PEAK HOUF	4 VOLUMES	5	Total Peak				
DIRECTION :	EB	WB	NB	*	, , , , , , , , , , , , , , , , , , ,	Hourly Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	504	133	1,553			2,190				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	12,167				
TOTAL # OF CRASHES :	3	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	1.00				
CRASH RATE CALCU	ILATION :	0.23	RATE =	(A*1,0	000,000) * 365)					
Comments : Project Title & Date:	Below Distric			019						



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET :	Atlantic Aven	ıue								
MINOR STREET(S):	India Street /	ndia Street / East India Row								
INTERSECTION DIAGRAM (Label Approaches)	North	North E India Row								
ARREGACIA	_	<u> </u>	PEAK HOUR			Total Peak				
APPROACH:	1	2	3	4	5	Hourly Approach				
DIRECTION :	WB	NB				Volume				
PEAK HOURLY VOLUMES (AM/PM) :	79	1,784				1,863				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	10,350				
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	0.33				
CRASH RATE CALCU	LATION :	0.09	RATE =	(A * 1,0	000,000) * 365)					
Comments :	Below Distric	t 6 Average (0.13<0.76)							
Project Title & Date:	Harbor Garag	ge, 2009004.0	03, October 20	019	<u> </u>					



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	IALIZED :		SIGNA	LIZED :	X			
		~ IN]	TERSECTION	DATA ~					
MAJOR STREET :	Surface Roa	d							
MINOR STREET(S):	India Street								
INTERSECTION DIAGRAM (Label Approaches)	North			See Ra	India St				
APPROACH :	1	2	PEAK HOUR	4 VOLUMES	5	Total Peak			
DIRECTION:	WB	SB				Hourly Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	278	906				1,184			
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	6,578			
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.33			
CRASH RATE CALCU	LATION :	0.14	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	ct 6 Average (0.10<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	03, October 20)19					



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ INT	ERSECTION	I DATA ~						
MAJOR STREET :	Surface Road	d								
MINOR STREET(S):	Milk Street	Milk Street								
INTERSECTION DIAGRAM (Label Approaches)	North	Milk St	Surface Rd							
APPROACH :	1	2	PEAK HOUR	4 VOLUMES	5	Total Peak				
DIRECTION:	EB	SB			•	Hourly Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	241	1,161				1,402				
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	7,789				
TOTAL # OF CRASHES :	2	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.67				
CRASH RATE CALCU	LATION :	0.23	RATE =	(A * 1,0	000,000) * 365)					
Comments :	Below Distric	t 6 Average (0	0.18<0.76)							
Project Title & Date:	Harbor Gara	ge, 2009004.0	3, October 20	019						



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	I DATA ~					
MAJOR STREET :	Surface Road	d							
MINOR STREET(S):	State Street								
INTERSECTION DIAGRAM (Label Approaches)	North		Surface Rd		State St				
APPROACH :				R VOLUMES	-	Total Peak			
	1	2	3	4	5	Hourly Approach			
DIRECTION:	WB	SB				Volume			
PEAK HOURLY VOLUMES (AM/PM) :	468	1,928				2,396			
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH	(V) = TOTA IVOLUME :	AL DAILY	13,311			
TOTAL # OF CRASHES :	8	# OF YEARS :	3	CRASHES	GE#OF PERYEAR():	2.67			
CRASH RATE CALCU	LATION :	0.55	RATE =	(A * 1,0	000,000) 365)				
Comments :	Below Distric	t 6 Average (0	0.41<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	3, October 2	019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET :	Atlantic Aver	nue								
MINOR STREET(S):	State Street	State Street								
INTERSECTION DIAGRAM (Label Approaches)	North	North State St								
APPROACH :	1	2	PEAK HOUF	4 VOLUMES	5	Total Peak				
DIRECTION :	WB	NB		7	, , , , , , , , , , , , , , , , , , ,	Hourly Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	282	1,862				2,144				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	11,911				
TOTAL # OF CRASHES :	3	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	1.00				
CRASH RATE CALCU	ILATION :	0.23	RATE =	<u>(A * 1,0</u>	000,000) * 365)					
Comments : Project Title & Date:			0.17<0.76) 03, October 2	 019						



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ INT	ERSECTION	I DATA ~						
MAJOR STREET :	Surface Road	d								
MINOR STREET(S):	Broad Street	Broad Street								
INTERSECTION DIAGRAM (Label Approaches)	North Broad St.									
APPROACH :	1	2	PEAK HOUF	4 VOLUMES	5	Total Peak				
DIRECTION:	EB	SB				Hourly Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	139	1,006				1,145				
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	6,361				
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00				
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) * 365)					
Comments :	Below Distric	t 6 Average (0	0.00<0.76)							
Project Title & Date:	Harbor Garage, 2009004.03, October 2019									



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ IN	TERSECTION	I DATA ~						
MAJOR STREET :	Surface Roa	d / Purchase	Street							
MINOR STREET(S):	High Street	High Street								
INTERSECTION DIAGRAM (Label Approaches)	North	High	St	artine Rd						
			PEAK HOU	R VOLUMES	_	Total Peak				
APPROACH:	1	2	3	4	5	Hourly				
DIRECTION:	EB	SB				Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	403	1,145				1,548				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	8,600				
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	0.33				
CRASH RATE CALCU	ILATION :	0.11	RATE =	(A*1,(000,000) * 365)					
Comments :	Below Distric	ct 6 Average (0.16<0.76)							
Project Title & Date:	Harbor Gara	ge, 2009004.	03, October 2	019						



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ IN ⁻	TERSECTION	I DATA ~					
MAJOR STREET :	Atlantic Aven	ıue							
MINOR STREET(S):	High Street								
	Garage Driveway								
INTERSECTION DIAGRAM (Label Approaches)	North	Hi	gh St Augustic Ave	Garage D					
APPROACH:	1	2	3	4	5	Total Peak Hourly			
DIRECTION:	EB	NB				Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	424	1,360				1,784			
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	9,911			
TOTAL # OF CRASHES :	3	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	1.00			
CRASH RATE CALCU	ILATION :	0.28	RATE =	<u>(A * 1,0</u> (V	000,000) * 365)				
Comments : Project Title & Date:	Below Distric			019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ INT	ERSECTION	I DATA ~						
MAJOR STREET :	Seaport Boul	evard								
MINOR STREET(S):	Atlantic Aven	ue								
	I-93 Northbound On-Ramp									
INTERSECTION DIAGRAM (Label Approaches)	North		PEAK HOUF	R VOLUMES						
APPROACH:	1	2	3	4	5	Total Peak Hourly				
DIRECTION:	EB	WB	NB			Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	826	1,262	1,747			3,835				
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	21,306				
TOTAL # OF CRASHES :	12	# OF YEARS :	3	CRASHES A	GE#OF PERYEAR(.):	4.00				
CRASH RATE CALCU		0.51	RATE =	/Λ*1(
Comments :	Below Distric	t 6 Average ((0.55<0.76)							
Project Title & Date:	Harbor Garao	ne. 2009004 (3. October 20	019						



CITY/TOWN : Boston	_			COUNT DA	TE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ IN 7	TERSECTION	I DATA ~					
MAJOR STREET :	Purchase Str	eet							
MINOR STREET(S):	Oliver Street	/ Seaport Bou	ulevard						
	I-93 Southbound Off-Ramp								
INTERSECTION DIAGRAM (Label Approaches)	North	Oliter of			Senort Brog				
		<u> </u>	PEAK HOUR	VOLUMES		Total Peak			
APPROACH:	1	2	3	4	5	Hourly			
DIRECTION:	WB	SB	SWB			Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	721	1,211	1,490			3,422			
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	19,011			
TOTAL # OF CRASHES :	10	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	3.33			
CRASH RATE CALCU	ILATION :	0.48	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0.43>0.76)						
Project Title & Date:	Harbor Garag	ge, 2009004.0	03, October 20	019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	DATA ~					
MAJOR STREET :	Purchase Sti	reet							
MINOR STREET(S):	Pearl Street								
INTERSECTION DIAGRAM (Label Approaches)	North			Purchase St.					
APPROACH :	1	2	PEAK HOUR	VOLUMES 4	5	Total Peak			
DIRECTION :			<u> </u>	4	5	Hourly Approach			
PEAK HOURLY	WB	SB				Volume			
VOLUMES (AM/PM):	568	1,901				2,469			
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	13,717			
TOTAL # OF CRASHES :	2	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.67			
CRASH RATE CALCU	LATION :	0.13	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0).10<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	3, October 20	019					



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ IN 7	TERSECTION	DATA ~					
MAJOR STREET :	Atlantic Aven	ue							
MINOR STREET(S):	Pearl Street								
INTERSECTION DIAGRAM (Label Approaches)	North North								
APPROACH:	1	2	PEAK HOUR	4	5	Total Peak Hourly			
DIRECTION :	NB					Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	2,303					2,303			
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	12,794			
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00			
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) 365)				
Comments :	Below Distric	t 6 Average (0.05<0.76)						
Project Title & Date:	Harbor Garage, 2009004.03, October 2019								



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018				
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х				
		~ IN ⁻	TERSECTION	N DATA ~						
MAJOR STREET:	Congress Str	eet								
MINOR STREET(S):	Surface Road	Surface Road								
	I-93 Southbound On-Ramp									
INTERSECTION DIAGRAM (Label Approaches)	North Ruchase St. Park and Hilling Ruchase St. Roman Ruchase St.									
APPROACH :	1	2	PEAK HOUI	R VOLUMES 4	5	Total Peak				
DIRECTION :	EB	SB			-	Hourly Approach Volume				
PEAK HOURLY VOLUMES (AM/PM) :	2,082	1,846				3,928				
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH	(V) = TOTA H VOLUME :	AL DAILY	21,822				
TOTAL # OF CRASHES :	17	# OF YEARS :	3	CRASHES A	GE#OF PERYEAR(5.67				
CRASH RATE CALCU		0.71	RATE =	/ A * 1 (
Comments :	Below Distric	t 6 Average (0.69<0.76)							
Proiect Title & Date:	Harbor Garad	ge. 2009004.0	03. October 2	019						



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	I DATA ~					
MAJOR STREET :	Congress St	reet							
MINOR STREET(S):	Atlantic Avenue								
INTERSECTION DIAGRAM (Label Approaches)	North				Hantic Ave				
			PEAK HOUR	VOLUMES		Total Peak			
APPROACH:	1	2	3	4	5	Hourly			
DIRECTION:	EB	WB	NB			Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	1,487	721	1,295			3,503			
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	19,461			
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00			
CRASH RATE CALCU	LATION :	0.00	RATE =	(A*1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average ((0.05<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	03, October 20	019					



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	IALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	I DATA ~					
MAJOR STREET :	Summer Stre	eet							
MINOR STREET(S):	Atlantic Avenue								
INTERSECTION DIAGRAM (Label Approaches)	North	Summer St							
		1	PEAK HOUR	VOLUMES		Total Peak			
APPROACH:	1	2	3	4	5	Hourly			
DIRECTION:	EB	WB	NB			Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	647	864	1,586			3,097			
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	17,206			
TOTAL # OF CRASHES :	4	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	1.33			
CRASH RATE CALCU	LATION :	0.21	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	ct 6 Average (0).20<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	3, October 20	019					



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	I DATA ~					
MAJOR STREET :	Surface Roa	d							
MINOR STREET(S):	Walk to the Sea								
INTERSECTION DIAGRAM (Label Approaches)	North		Sulface Red	Walk to the	ne sea				
APPROACH :	1	2	PEAK HOUR	VOLUMES 4	5	Total Peak			
DIRECTION:	SB	2	3	*	3	Hourly Approach Volume			
PEAK HOURLY VOLUMES (AM) :	1,926					1,926			
"K" FACTOR:	0.090	INTERSE	ECTION ADT APPROACH		AL DAILY	21,400			
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00			
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0	0.00<0.76)						
Project Title & Date:	Harbor Garage, 2009004.03, October 2019								



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	DATA ~					
MAJOR STREET :	Atlantic Aven	ue							
MINOR STREET(S):	Walk to the S	Sea							
INTERSECTION DIAGRAM (Label Approaches)	North	Walk to th		Attendic Ave					
455504011			PEAK HOUR		_	Total Peak			
APPROACH:	1	2	3	4	5	Hourly Approach			
DIRECTION:	SB					Volume			
PEAK HOURLY VOLUMES (AM) :	1,549					1,549			
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	8,606			
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00			
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0	0.00<0.76)						
Project Title & Date:	Harbor Garage, 2009004.03, October 2019								



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INT	ERSECTION	I DATA ~					
MAJOR STREET :	Surface Road	d							
MINOR STREET(S):	Mercantile Street								
INTERSECTION DIAGRAM (Label Approaches)	North		Surface Ro						
APPROACH :	1	2	PEAK HOUR	R VOLUMES 4	5	Total Peak			
DIRECTION:	WB	SB	<u> </u>	4	5	Hourly Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	329	1,855				2,184			
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	12,133			
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00			
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0	0.08<0.76)						
Project Title & Date:	Harbor Gara	ge, 2009004.0	3, October 20	019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018	
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х	
		~ IN 7	TERSECTION	I DATA ~			
MAJOR STREET :	Atlantic Aven	ue					
MINOR STREET(S):	Cross Street						
	Mercantile Street						
INTERSECTION DIAGRAM (Label Approaches)	North	Gos.	PEAK HOUF	And this the			
APPROACH:	1	2	3	4	5	Total Peak Hourly	
DIRECTION :	EB	WB	NB			Approach Volume	
PEAK HOURLY VOLUMES (AM/PM) :	349	348	1,528			2,225	
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	12,361	
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES A	GE # OF PER YEAR ():	0.00	
CRASH RATE CALCU		0.00	RATE =	/ A * 1 (
Comments :	Below Distric	t 6 Average (0.06<0.76)				
Proiect Title & Date:	Harbor Garao	ge. 2009004.0	03. October 20	019			



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х
		~ INT	ERSECTION	I DATA ~		
MAJOR STREET:	Surface Roa	d				
MINOR STREET(S):	Clinton Stree	et				
	I-93 Southbo	und Off-Ramp	1			
INTERSECTION DIAGRAM (Label Approaches)	North	Surface Rd Clinton St		AS SB Off Remode		
APPROACH:	1	2	3	R VOLUMES 4	5	Total Peak Hourly
DIRECTION:	WB	SB				Approach Volume
PEAK HOURLY VOLUMES (AM/PM) :	1,170	1,076				2,246
"K" FACTOR:	0.180	INTERSE	CTION ADT APPROACH	(V) = TOTA I VOLUME :	AL DAILY	12,478
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.33
CRASH RATE CALCU	LATION :	0.07	RATE =	(A * 1,0	000,000) * 365)	
Comments :	Below Distric	ct 6 Average (0	.11<0.76)			
Project Title & Date:	Harbor Garage, 2009004.03, October 2019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018	
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х	
		~ INT	ERSECTION	I DATA ~			
MAJOR STREET :	Cross Street						
MINOR STREET(S):	Commercial	Street					
INTERSECTION DIAGRAM (Label Approaches)	North	Gross					
APPROACH :	1	2	PEAK HOUR	R VOLUMES 4	5	Total Peak	
DIRECTION :	WB	NB		*	3	Hourly Approach	
PEAK HOURLY VOLUMES (AM/PM) :	84	949				1,033	
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	5,739	
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00	
CRASH RATE CALCU	LATION :	0.00	RATE =	(A*1,0	000,000)_ * 365)		
Comments :	Below Distric	ct 6 Average (0	0.00<0.76)				
Project Title & Date:	Harbor Garage, 2009004.03, October 2019						



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018		
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х		
		~ IN 7	TERSECTION	I DATA ~				
MAJOR STREET :	Surface Road	d						
MINOR STREET(S):	North Street							
	I-93 Northbox	I-93 Northbound Off-Ramp						
INTERSECTION DIAGRAM (Label Approaches)	North	Surface of the state of the sta	PEAK HOUF	R VOLUMES				
APPROACH:	1	2	3	4	5	Total Peak Hourly		
DIRECTION:	EB	WB	SB			Approach Volume		
PEAK HOURLY VOLUMES (AM/PM) :	223	853	697			1,773		
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	9,850		
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES A	GE#OF PERYEAR(.):	0.33		
CRASH RATE CALCU		0.09	RATE =	(Λ*1)				
Comments :	Below Distric	t 6 Average (0.07<0.76)					
Project Title & Date:	Harbor Garao	ne. 2009004.0	03. October 20	019				



CITY/TOWN : Boston	_			COUNT DA	TE:	6/19/2018			
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х			
		~ INTERSECTION DATA ~							
MAJOR STREET :	Cross Street								
MINOR STREET(S):	North Street								
	I-93 Northboo	und Off-Ramp)						
INTERSECTION DIAGRAM (Label Approaches)	North	Cross	S. S. No. No. No. No. No. No. No. No. No. No						
			PEAK HOUF	VOLUMES					
APPROACH:	1	2	3	4	5	Total Peak Hourly			
DIRECTION:	NB	WB				Approach Volume			
PEAK HOURLY VOLUMES (AM/PM) :	782	981				1,763			
"K" FACTOR:	0.180	INTERSI	ECTION ADT APPROACH		AL DAILY	9,794			
TOTAL # OF CRASHES :	1	# OF YEARS :	3	CRASHES	GE#OF PERYEAR(.):	0.33			
CRASH RATE CALCU	ILATION :	0.09	RATE =	<u>(A * 1,0</u>	000,000) * 365)				
Comments :	Below Distric	t 6 Average (0.07<0.76)						
Project Title & Date:	Harbor Garag	ge, 2009004.0	03, October 20	019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х
		~ IN	TERSECTION	I DATA ~		
MAJOR STREET :	Cross Street					
MINOR STREET(S):	Hanover Stre	et				
INTERSECTION DIAGRAM (Label Approaches)	North				Gross St.	
			PEAK HOUR	R VOLUMES		Total Peak
APPROACH:	1	2	3	4	5	Hourly
DIRECTION:	NB	EB	WB			Approach Volume
PEAK HOURLY VOLUMES (AM/PM) :	1,638	177	393			2,208
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	12,267
TOTAL # OF CRASHES :	8	# OF YEARS :	3	CRASHES A	GE # OF PER YEAR ():	2.67
CRASH RATE CALCU	LATION :	0.60	RATE =	(A * 1,0	000,000) * 365)	
Comments :	Below Distric	t 6 Average (0.45<0.76)			
Project Title & Date:	Harbor Garage, 2009004.03, October 2019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х
		~ IN	TERSECTION	I DATA ~		
MAJOR STREET :	Cross Street					
MINOR STREET(S):	Salem Street	:				
INTERSECTION DIAGRAM (Label Approaches)	North			To the least of th		
APPROACH :	4		PEAK HOUR		_	Total Peak
	1	2	3	4	5	Hourly Approach
DIRECTION:	NB					Volume
PEAK HOURLY VOLUMES (AM/PM) :	1,515					1,515
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	8,417
TOTAL # OF CRASHES :	3	# OF YEARS :	3	CRASHES A	GE # OF PER YEAR ():	1.00
CRASH RATE CALCU	LATION :	0.33	RATE =	(A * 1,0	000,000) * 365)	
Comments :	Below Distric	t 6 Average (0.24<0.76)			
Project Title & Date:	Harbor Garage, 2009004.03, October 2019					



CITY/TOWN : Boston	_			COUNT DA	TE:	6/19/2018		
DISTRICT: 6	UNSIGN	ALIZED :		SIGNA	LIZED :	Х		
		~ IN7	TERSECTION	I DATA ~				
MAJOR STREET :	Cross Street							
MINOR STREET(S):	New Sudbury Street							
	I-93 Northbou	I-93 Northbound On-Ramp						
INTERSECTION DIAGRAM (Label Approaches)	North	Coss Republication of the second of the seco	Sadding September 1997	E CONTRACTOR OF THE CONTRACTOR				
APPROACH:	1	2	3	4	5	Total Peak Hourly		
DIRECTION :	EB	NB				Approach Volume		
PEAK HOURLY VOLUMES (AM/PM) :	769	1,451				2,220		
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	12,333		
TOTAL # OF CRASHES :	4	# OF YEARS :	3	CRASHES A	GE#OF PERYEAR(.):	1.33		
CRASH RATE CALCU		0.30	RATE =	(Λ*1)				
Comments :	Below Distric	t 6 Average ((0.22<0.76)					
Project Title & Date:	Harbor Garao	ne. 2009004.0	3. October 2	019				



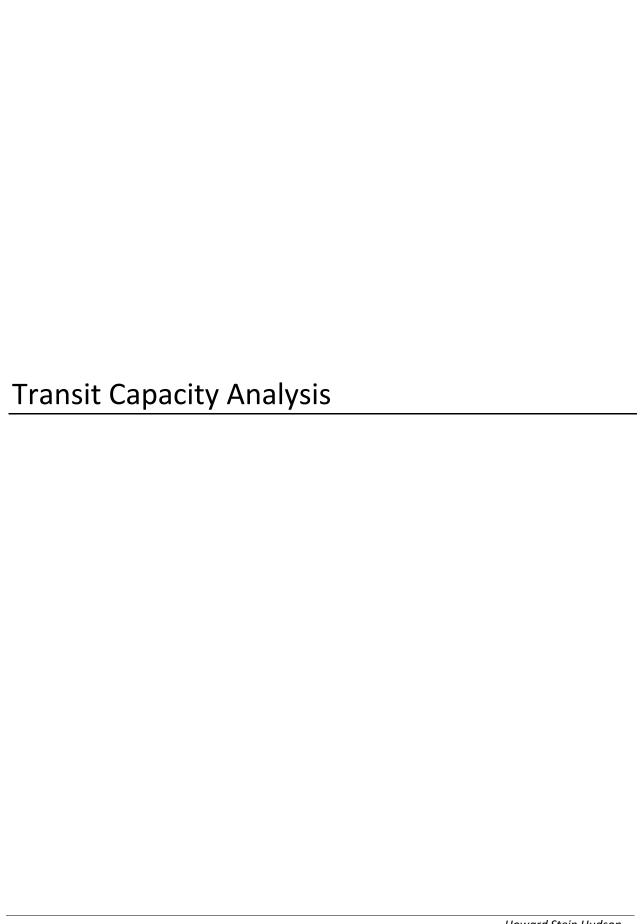
CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018
DISTRICT: 6	UNSIGN	ALIZED :	Х	SIGNA	LIZED :	
		~ INT	ERSECTION	I DATA ~		
MAJOR STREET :	Atlantic Aven	ue				
MINOR STREET(S):	Central Stree	et				
INTERSECTION DIAGRAM (Label Approaches)	North		Atlantic Avenue	Central	Street	
ADDDOACH			PEAK HOUR			Total Peak
APPROACH :	1	2	3	4	5	Hourly Approach
DIRECTION:	WB	NB				Volume
PEAK HOURLY VOLUMES (AM/PM) :	94	1,936				2,030
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	11,278
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000)	
Comments :	Below Distric	t 6 Average (0	0.00<0.58)			
Project Title & Date:	Harbor Garage, 2009004.03, October 2019					



CITY/TOWN : Boston				COUNT DA	TE:	6/19/2018		
DISTRICT: 6	UNSIGN	ALIZED :	Х	SIGNA	LIZED :			
		~ IN	TERSECTION	I DATA ~				
MAJOR STREET :	Old Atlantic A	Avenue						
MINOR STREET(S):	Central Stree	Central Street						
INTERSECTION DIAGRAM (Label Approaches)	North	Cer	ntral Street	old Atlantic Avenue				
			PEAK HOUR	R VOLUMES				
APPROACH:	1	2	3	4	5	Total Peak Hourly		
DIRECTION:	NB	SB				Approach Volume		
PEAK HOURLY VOLUMES (AM/PM) :	222	21				243		
"K" FACTOR:	0.180	INTERS	ECTION ADT APPROACH		AL DAILY	1,350		
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00		
CRASH RATE CALCU	ILATION :	0.00	RATE =	(A * 1,0	000,000) * 365)			
Comments :	Below Distric	t 6 Average (0.00<0.58)					
Project Title & Date:	Harbor Gara	ge, 2009004.0	03, October 2	019				



CITY/TOWN : Boston				COUNT DA	ΓE:	6/19/2018
DISTRICT: 6	UNSIGN	ALIZED :	Х	SIGNA	LIZED :	
		~ INT	ERSECTION	I DATA ~		
MAJOR STREET :	State Street					
MINOR STREET(S):	Old Atlantic Avenue					
INTERSECTION DIAGRAM (Label Approaches)	North	St	ate Street	old Atlantic Avenue		
ADDDOAGU			PEAK HOUR		_	Total Peak
APPROACH:	1	2	3	4	5	Hourly Approach
DIRECTION:	EB	WB	NB			Volume
PEAK HOURLY VOLUMES (AM/PM) :	85	240	142			467
"K" FACTOR:	0.180	INTERSE	ECTION ADT APPROACH		AL DAILY	2,594
TOTAL # OF CRASHES :	0	# OF YEARS :	3	CRASHES	GE # OF PER YEAR ():	0.00
CRASH RATE CALCU	LATION :	0.00	RATE =	(A * 1,0	000,000) * 365)	
Comments :	Below Distric	t 6 Average (0	0.00<0.58)			
Project Title & Date:	Harbor Garage, 2009004.03, October 2019					

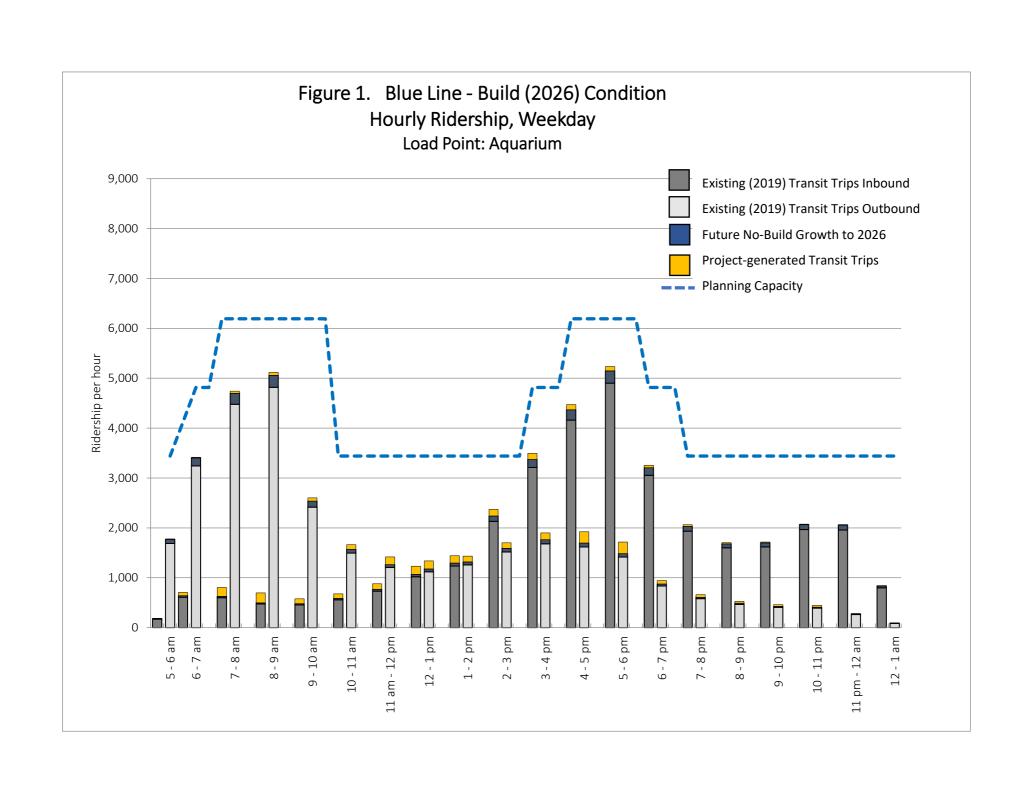


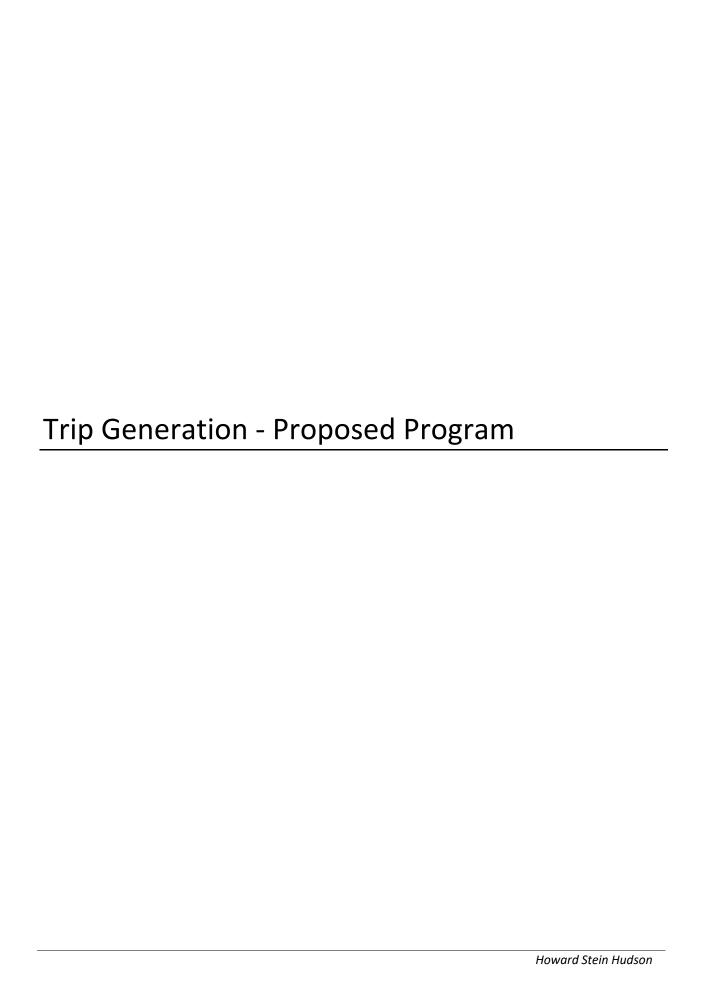
MBTA Rail Flow data (Spring 2018)

Transit Line Station

Blue Aquarium

	NB/EB	SB/WB
5:00 AM	170	1676
6:00 AM	607	3219
7:00 AM	596	4446
8:00 AM	472	4785
9:00 AM	454	2398
10:00 AM	555	1485
11:00 AM	728	1197
12:00 PM	1012	1113
1:00 PM	1226	1248
2:00 PM	2116	1505
3:00 PM	3188	1668
4:00 PM	4131	1606
5:00 PM	4869	1406
6:00 PM	3034	829
7:00 PM	1921	578
8:00 PM	1589	464
9:00 PM	1608	404
10:00 PM	1954	389
11:00 PM	1944	260
12:00 AM	792	84





HOWARD STEIN HUDSON 16-Oct-2019

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate ¹	Unadjusted Person-Trips	Internal Capture Person-Trips ²	Non-Primary Person-Trips	Primary Person- Trips	Transit Share ³	Transit Person- Trips	Walk/Bike/ Other Share ³	Walk/ Bike/ Other Trips	Auto Share ³	Auto Person- Trips	Private Auto Person-Trips	Assumed Loca Auto Occupancy Rate ⁵	Adjusted	Total Adjusted Taxi Trips	Total Adjusted Auto (Private + Taxi) Trips
Daily	200	T		4.450	200	1.10	4.000	000	200		200/		400/		000/		000	4.40	4=0	_	450
Multifamily Housing (High Rise) ⁹		Total In	50%	4.450 2.225	890 445	1.18 1.18	1,050 525	328 164	328 164	722 361	30% 30%	216 108	42% 42%	304 152	28% 28%	202 101	202 101	1.18 1.18	172 86	0	172 86
	units	Out	50%	2.225	445	1.18	525 525	164	164	361	30%	108	42%	152	28%	101	101	1.18	86	0	86
Office Building ¹¹	538	Total		9.740	5,240	1.18	6,184	130	130	6,054	43%	2,604	31%	1,876	26%	1,574	1,574	1.13	1,392	0	1,392
-		In	50%	4.870	2,620	1.18	3,092	65	65	3,027	43%	1,302	31%	938	26%	787	787	1.13	696	0	696
		Out	50%	4.870	2,620	1.18	3,092	65	65	3,027	43%	1,302	31%	938	26%	787	787	1.13	696	0	696
Shopping Center ¹²		Total		37.750	1,812	1.82	3,298	428	428	2,870	20%	574	59%	1,694	21%	602	602	1.82	330	0	330
	KSF	In	50%	18.875	906	1.82	1,649	214	214	1,435	20%	287	59%	847	21%	301	301	1.82	165	0	165
Public Parking Spaces ¹³	612	Out	50%	18.875	906	1.82	1,649	214 0	214	1,435	20%	287 0	59%	847	21%	301	301 2,828	1.82	165 1,554	0	165 1,554
Peak Occupar			50%	2.540 1.270	1,554 777	1.82 1.82	2,828 1,414	0	0	2,828 1,414	0% 0%	0	100% 100%	2,828 1,414	100% 100%	2,828 1,414	1,414	1.82 1.82	1,554 777	0	1,55 4 777
i dan decapai		Out	50%	1.270	777	1.82	1,414	0	0	1,414	0%	0	100%	1,414	100%	1414	1,414	1.82	777	0	777
Private Residential Spaces ¹⁴		Total		1.300	390	1.18	460	0	0	460	0%	0	0%	0	100%	460	460	1.18	390	0	390
Peak Occupar		In	50%	0.650	195	1.18	230	0	0	230	0%	0	0%	0	100%	230	230	1.18	195	0	195
		Out	50%	0.650	195	1.18	230	0	0	230	0%	0	0%	0	100%	230	230	1.18	195	0	195
Total		Total			9,886		13,820	886	886	12,934		3,394		6,702		5,666	5,666		3,838	0	3,838
		In			4,943		6,910	443	443	6,467		1,697		3,351		2,833	2,833		1,919	0	1,919
AM Deale Have		Out			4,943		6,910	443	443	6,467		1,697		3,351		2,833	2,833		1,919	0	1,919
AM Peak Hour	000	T-4-1		0.040		1.40	70		0	20		40		07		22	00	4.40	00	•	
Multifamily Housing (High Rise) ⁹		Total In	24%	0.310 0.074	62 15	1.13 1.13	70 17	2 0	2 0	68 17	52%	18 9	7%	27 1	41%	23 7	23 7	1.13 1.13	20 6	0	20 6
	units	Out	76%	0.074	47	1.13	53	2	2	51	18%	9	51%	26	31%	16	16	1.13	14	0	14
Office Building ¹¹	538	Total	7070	1.16	624	1.18	737	26	26	711	1070	409	0170	54	0170	248	248	1.18	210	0	210
		In	86%	0.998	537	1.18	634	10	10	624	63%	393	5%	31	32%	200	200	1.18	169	0	169
		Out	14%	0.162	87	1.18	103	16	16	87	18%	16	26%	23	56%	48	48	1.18	41	0	41
Shopping Center ¹²	48	Total		0.94	45	1.82	82	26	26	56		18		18		20	20	1.82	11	0	11
		In	62%	0.583	28	1.82	51	17	17	34	46%	16	14%	5	40%	13	13	1.82	7	0	7
Dutylia Davidson On a a a 13		Out	38%	0.357	17	1.82	31	9	9	22	10%	2	58%	13	32%	7	7	1.82	4	0	4
Public Parking Spaces ¹³		Total	86%	0.22 0.189	135 116	1.82 1.82	246 211	0	0	246 211	0%	0 0	100%	246 211	1000/	246 211	246 211	1.82 1.82	135	0 0	135 116
Peak Occupar		Out	14%	0.169	19	1.82	35	0	0	35	0%	0	100%	35	100% 100%	35	35	1.82	116 19	0	116
Private Residential Spaces ¹⁴		Total	1470	0.11	33	1.18	39	0	0	39	070	0	10070	0	10070	39	39	1.18	33	0	33
Peak Occupar			27%	0.030	9	1.18	11	0	0	11	0%	0	0%	0	100%	11	11	1.18	9	0	9
		Out	73%	0.080	24	1.18	28	0	0	28	0%	0	0%	0	100%	28	28	1.18	24	0	24
Total		Total			899		1,174	54	54	1,120		445		345		576	576		409	0	409
		In			705		924	27	27	897		418		248		442	442		307	0	307
		Out			194		250	27	27	223		27		97		134	134		102	0	102
PM Peak Hour										1			1		1		II				
Multifamily Housing (High Rise) ⁹	200	Total	640/	0.360	72	1.13	82	39	39	43	100/	14	E40/	14	940/	15	15	1.13	13	0	13
	units	In Out	61% 39%	0.220 0.140	44 28	1.13 1.13	50 32	25 14	25 14	25 18	18% 52%	5 9	51% 7%	13 1	31% 41%	7 8	7 8	1.13 1.13	6 7	0	6 7
Office Building ¹¹	538	Total	3970	1.15	619	1.13	731	19	19	712	J£ /0	397	1 70	59	1 70	256	256	1.13	217	0	217
Ĭ		In	16%	0.184	99	1.18	117	4	4	113	18%	20	26%	29	56%	64	64	1.18	54	0	54
		Out	84%	0.966	520	1.18	614	15	15	599	63%	377	5%	30	32%	192	192	1.18	163	0	163
Shopping Center ¹²	48	Total		3.81	183	1.82	333	52	52	281		81		99		101	101	1.82	56	0	56
	KSF	In	48%	1.829	88	1.82	160	26	26	134	10%	13	58%	78	32%	43	43	1.82	24	0	24
		Out	52%	1.981	95	1.82	173	26	26	147	46%	68	14%	21	40%	58	58	1.82	32	0	32
Public Parking Spaces ¹³	612		400/	0.28	171	1.82	311	0	0	311	00/	0	4000/	311	4000/	311	311	1.82	171	0	171
Peak Occupar		In Out	18%	0.050	31	1.82	56 355	0	0	56 355	0%	0	100%	56 255	100%	56 355	56	1.82	31 140	0	31 140
Private Residential Spaces ¹⁴		Total	82%	0.230	140 39	1.82	255 46	0	0	255 46	0%	0	100%	255 0	100%	255 46	255 46	1.82	140 39	0	140 39
Peak Occupar			62%	0.13	24	1.18	28	0	0	28	0%	0	0%	0	100%	28	28	1.18	24	0	24
. san 300upu		Out	38%	0.049	15	1.18	18	0	0	18	0%	0	0%	0	100%	18	18	1.18	15	0	15
Total		Total	. ***	. • .•	1,084		1,503	110	110	1,393		492		483		729	729		496	0	496
		In			286		411	55	55	356		38		176		198	198		139	0	139
		Out			798		1,092	55	55	1,037		454	1	307	I	531	531		357	0	357

^{1. 2017} National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational

Based on ITE Trip Generation Handbook, 3rd Edition method

^{3.} Mode shares based on peak-hour BTD Data for Area 2

^{4.} Vehicle Trips = 70% Private Auto and 30% Taxi. Taxi trip rate based on CTPS Taxi activity rates for Hotel lane use, as adopted by Central Artery/Tunnel Project

^{5.} Local vehicle occupancy rates based on 2017 National vehicle occupancy rates

^{6.} For taxi cabs, 1.2 passengers per cab. (2.2 minus 1 driver equals 1.2)

ITE Trip Generation Manual, 10th Edition, LUC 222 (Multifamily Housing High-Rise (11+ Floors)), average rate
 ITE Trip Generation Manual, 10th Edition, LUC 710 (General Office Building), average rate

^{12.} ITE Trip Generation Manual, 10th Edition, LUC 820 (Shopping Center), average rate

^{13.} Based on data provided by Harbor Garage

^{14.} Based on data provided by Interpark

Synchro Intersection Level of Service	Reports
NEXUS at The Allston Innovation Campus	Howard Stein Hudson



Lanes, Volumes, T	•		_		—	•	•	†	~	<u> </u>		4	
		_	•	•							•		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	7	41↑ 165				7		↑ ↑ 703					
Traffic Volume (vph)	99		0	0	0	19	0		80	0	0	0	
Future Volume (vph)	99	165	0	0	1000	19	1000	703	80	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12 0.91	12	12	12	12	16	12 1.00	12	12 0.95	12	12	12	
Lane Util. Factor Ped Bike Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.95 0.99	0.95	1.00	1.00	1.00	
Frt						0.865		0.985					
Flt Protected	0.950					0.003		0.703					
Satd. Flow (prot)	1464	3081	0	0	0	1676	0	2961	0	0	0	0	
Flt Permitted	0.950	3001	U	U	U	1070	U	2701	U	U	U	U	
Satd. Flow (perm)	1464	3081	0	0	0	1676	0	2961	0	0	0	0	
Right Turn on Red	No	0001	Yes	Ū	Ū	Yes	Ū	2701	Yes	Ū	Ū	Yes	
Satd. Flow (RTOR)						404		14					
Link Speed (mph)		25			25	101		25			25		
Link Distance (ft)		161			205			294			151		
Travel Time (s)		4.4			5.6			8.0			4.1		
Confl. Bikes (#/hr)									64				
Peak Hour Factor	0.93	0.93	0.93	0.79	0.79	0.79	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	1%	1%	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%	
Parking (#/hr)								0	0				
Adj. Flow (vph)	106	177	0	0	0	24	0	725	82	0	0	0	
Shared Lane Traffic (%)	0%												
Lane Group Flow (vph)	106	177	0	0	0	24	0	807	0	0	0	0	
Turn Type	Split	NA				Prot		NA					
Protected Phases	5	5				6		1					2
Permitted Phases													
Detector Phase	5	5				6		1					
Switch Phase													
Minimum Initial (s)	8.0	8.0				8.0		8.0					8.0
Minimum Split (s)	27.0	27.0				14.0		51.0					18.0
Total Split (s)	27.0	27.0				14.0		51.0					18.0
Total Split (%)	24.5%	24.5%				12.7%		46.4%					16%
Maximum Green (s)	22.0	22.0				9.0		46.0					14.0
Yellow Time (s)	3.0	3.0				3.0		3.0					4.0
All-Red Time (s)	2.0	2.0				2.0		2.0					0.0
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0					
Total Lost Time (s)	4.0	4.0				4.0		4.0					
Lead/Lag	Lead	Lead				Lag		Lead					Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0				2.0		2.0					2.0
Recall Mode	Max	Max				Max		C-Max					Ped
Walk Time (s)	7.0	7.0				7.0		7.0					7.0
Flash Dont Walk (s)	15.0	15.0				2.0		39.0					7.0
Pedestrian Calls (#/hr)	22.0	0				10.0		47.0					0
Act Effct Green (s)	23.0	23.0						47.0					
Actuated g/C Ratio	0.21 0.35	0.21 0.27				0.09		0.43					
v/c Ratio	0.35 54.6	50.9				0.05		9.0					
Control Delay Queue Delay	54.6 58.4	14.2				0.2		0.9					
Total Delay	113.0	65.1				0.0		9.9					
LOS	113.0 F	65. I				0.2 A		9.9 A					
	r	83.1			0.2	А		9.9					
Approach LOS					0.2 A			9.9 A					
Approach LOS Queue Length 50th (ft)	85	F 70			А	0		64					
Queue Length 95th (ft)	152	110				m0		79					
Internal Link Dist (ft)	102	81			125	IIIU		214			71		
		01			120			214			/ 1		
Turn Bay Length (ft) Base Capacity (vph)	306	644				519		1273					
Starvation Cap Reductn	204	441				0		214					
Spillback Cap Reductin	204	0				0		0					
Storage Cap Reductn	0	0				0		0					
Reduced v/c Ratio	1.04	0.87				0.05		0.76					
	1.04	0.07				0.00		0.70					
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 89 (81%), Reference	ed to phase 1:N	IBT, Start	of Green										
Natural Cycle: 110													
Control Type: Actuated-Coo	ordinated												
Maximum v/c Ratio: 0.63													
Intersection Signal Delay: 2					tersection								
Intersection Capacity Utiliza	ation 53.4%			IC	U Level of	Service A							
Analysis Period (min) 15													

Maximum vic. Ratio: 0.63 Intersection Signal Delay: 28.3 Intersection Capacity Utilization 53.4% Analysis Period (min) 15 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street **T**Ø1 (R) 405 ₹kø2

09004.03::Harbor Garage HSH Existing (2018) Condition, a.m. Peak Hour

	•	→	•	•	←	•	•	†	~	<u> </u>		4
ano Croun	EDI		-		WDT	WIDD			-	CDI	-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations Fraffic Volume (vph)	0	0	0	0	1 ≽ 28	22	139	41}→ 761	45	0	0	0
uture Volume (vph)	0	0	0	0	28	22	139	761	45	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
ed Bike Factor					0.94			0.97				
rt					0.941			0.993				
It Protected		0	0		4444	0		0.993		0		
Satd. Flow (prot)	0	0	0	0	1414	0	0	3107 0.993	0	0	0	0
Flt Permitted Satd. Flow (perm)	0	0	0	0	1414	0	0	3099	0	0	0	0
Right Turn on Red	U	U	Yes	U	1414	Yes	No	3099	Yes	U	U	Yes
Satd. Flow (RTOR)			163		19	163	INO	13	163			163
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		171			179			570			294	
Travel Time (s)		4.7			4.9			15.5			8.0	
Confl. Peds. (#/hr)						71	42		703			
Confl. Bikes (#/hr)						1			65			
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	0%
Parking (#/hr)								0	0			
Adj. Flow (vph)	0	0	0	0	35	27	143	785	46	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	62	0	0	974	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases					F		1	1				
Detector Phase Switch Phase					5		1	1				
Switch Phase Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					24.0		86.0	86.0				
Total Split (s)					24.0		86.0	86.0				
Total Split (%)					21.8%		78.2%	78.2%				
Maximum Green (s)					19.0		81.0	81.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
_ost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
_ead/Lag												
_ead-Lag Optimize?												
/ehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					12.0		74.0	74.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					20.0			82.0				
Actuated g/C Ratio					0.18			0.75				
//c Ratio					0.23 30.8			0.42 6.2				
Control Delay Queue Delay					30.8			0.4				
Total Delay					30.9			6.6				
LOS					30.9 C			0.0 A				
Approach Delay					30.9			6.6				
Approach LOS					30.7 C			Α.				
Queue Length 50th (ft)					26			106				
Queue Length 95th (ft)					57			218				
Internal Link Dist (ft)		91			99			490			214	
Turn Bay Length (ft)												
Base Capacity (vph)					272			2319				
Starvation Cap Reductn					0			725				
Spillback Cap Reductn					20			6				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.25			0.61				
Intersection Summary												
	CBD											
Cycle Length: 110	200											
Actuated Cycle Length: 110												
Offset: 86 (78%), Referenced	to phase 1:N	BTL, Start	t of Green									
Natural Cycle: 110												
Control Type: Actuated-Coord	dinated											
Maximum v/c Ratio: 0.42												
ntersection Signal Delay: 8.1					tersection							
	on 02 20/			IC	U Level of	f Service F						
	UII 72.270											
Intersection Capacity Utilization Analysis Period (min) 15	011 72.270											
alysis Period (min) 15	itic Avenue/Ci											



09004.03::Harbor Garage HSH Existing (2018) Condition, a.m. Peak Hour

ne Configurations or Configuration or Configur		۶	-	•	•	•	•	4	†	/	-	↓	✓	
ne Configurations iff Evolume (pyth) 0 0 0 0 79 88 0 0 0 0 0 242 33 all Flow (pythph) 1900	Lane Group	FRI	FRT	FRR	WRI	WRT	WRR	NRI	NRT	NRR	SRI	SRT	SBR	Ø2
Liter Volume (path)		LDL	201	LDIN				.,,,,,			JDL		CDIN	N.L
Liter Volume (path)		0	0	0	79		0	0	0	0	0	242	33	
Sal Flow (phph) 1900	Future Volume (vph)													
ne Welfin (f)	Ideal Flow (vphpl)													
nel Ulli Facior 1,00	Lane Width (ft)													
Company Comp	Lane Util. Factor													
Protected	Ped Bike Factor													
Int. Flow (prop)	Frt											0.982		
Permitted 0.950	Flt Protected				0.950									
Mathematics Mathematics	Satd. Flow (prot)	0	0	0		1637	0	0	0	0	0	4330	0	
In Turn on Red Yes No	Flt Permitted				0.950									
Id. Flow (RTOR) Speed (mph)	Satd. Flow (perm)	0	0	0	3120	1637	0	0	0	0	0	4330	0	
K Spead (mph)	Right Turn on Red			Yes	No		Yes			Yes			Yes	
K Distance (ft)	Satd. Flow (RTOR)											33		
awel Time (s) 6.8	Link Speed (mph)		25			25			25			25		
Mill Biles (#ihr)	Link Distance (ft)													
ak Hour Factor 0.92 0.92 0.92 0.93 0.93 0.93 0.92 0.92 0.92 0.96 0.96 0.96 0.96 0.99 0.98 0.99 0.96 0.96 0.96 0.96 0.99 0.96 0.96	Travel Time (s)		6.8			4.7			9.0			7.3		
awy Vehicles (%)	Confl. Bikes (#/hr)													
Flow (vph)	Peak Hour Factor													
ared Lane Traffic (%) ne Group Flow (vph) 0 0 0 85 95 0 0 0 0 0 266 0 m Type Split NA NA Jected Phases 5 5 5 1 1 2 tector Phase 5 5 5 1 1 1 inter Phase 5 5 5 1 1 1 inter Phase 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Heavy Vehicles (%)	0%	0%	0%			0%	0%	0%	0%	0%		0%	
me Group Flow (vph) 0 0 0 85 95 0 0 0 0 0 286 0 mm Type Spill NA NA NA vectod Phases 5 5 5 1 1 2 milted Phases	Adj. Flow (vph)	0	0	0	85	95	0	0	0	0	0	252	34	
mType Split NA	Shared Lane Traffic (%)													
mType Split NA	Lane Group Flow (vph)	0	0	0			0	0	0	0	0		0	
Decide Phases S S S S S S S S S	Turn Type					NA						NA		
Sector Phase Sect	Protected Phases											1		2
ritch Phase stock 8.0 1.0 <	Permitted Phases													
Inimum Initial (s)	Detector Phase				5	5						1		
ninum Split (s) 27.0 27.0 62.0 21.0 tal Split (s) 27.0 27.0 62.0 21.0 tal Split (%) 24.5% 56.4% 19% uximum Green (s) 22.0 22.0 56.0 17.0 llow Time (s) 3.0 3.0 4.0 Red Time (s) 2.0 2.0 3.0 0.0 st Time Adjust (s) 3.0 3.0 4.0 4.0 addLag Optimize? 2.0 2.0 2.0 2.0 4.0 addLag Optimize? 4.0 <td>Switch Phase</td> <td></td>	Switch Phase													
tal Split (s) 27.0 27.0 62.0 21.0 tal Split (%) 24.5% 24.5% 56.4% 19% iximum Green (s) 22.0 22.0 56.0 177.0 llow Time (s) 3.0 3.0 4.0 Red Time (s) 2.0 2.0 3.0 0.0 st Time Adjust (s) -2.0 -2.0 -2.0 -2.0 tal Lost Time (s) 3.0 3.0 4.0 -2.0	Minimum Initial (s)													
Lal Spilit (%) 24.5% 56.4% 19% ximum Green (s) 22.0 22.0 56.0 17.0 Ilow Time (s) 3.0 3.0 3.0 4.0 -Red Time (s) 2.0 2.0 3.0 0.0 st Time Adjust (s) -2.0 -2.0 -2.0 st Time Adjust (s) -2.0 -2.0 -2.0 st Time Adjust (s) -2.0 -2.0 -2.0 st Time (s) 3.0 3.0 4.0 ad/Lag Lead Lag Lag ad-Lag Optimize?	Minimum Split (s)													
Description Section	Total Split (s)					27.0						62.0		
Description Section	Total Split (%)				24.5%	24.5%						56.4%		19%
Ilow Time (s)	Maximum Green (s)				22.0	22.0						56.0		
st Time Adjust (s)	Yellow Time (s)				3.0									4.0
tal Lost Time (s) 3.0 3.0 4.0 ad/Lag Lead Lag ad-Lag Optimize?	All-Red Time (s)					2.0						3.0		0.0
Lead Lag	Lost Time Adjust (s)													
ad-Lag Optimize? hicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	Total Lost Time (s)											4.0		
ad-Lag Optimize? hicke Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	Lead/Lag											Lead		Lag
hicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	Lead-Lag Optimize?													
Alk Time (s) 7.0 7	Vehicle Extension (s)													
ssh Dont Walk (s) 15.0 15.0 49.0 10.0 destrian Calls (#hr) 50 50 0 5 LEfter Green (s) 24.0 24.0 58.0 tuated g/C Ratio 0.22 0.22 0.53 Ratio 0.12 0.27 0.12 Introl Delay 29.7 31.7 1.2 ieue Delay 1.3 8.1 0.0 tal Delay 31.0 39.8 1.2 SS C D A proach Delay 35.7 1.2 proach LOS D A ieue Length 50th (ft) 18 40 ieue Length 95th (ft) 39 83 ieue Length 50th (ft) 171 91 249 188 m Bay Length (ft) 80 35.7 2298 arvation Cap Reductn 452 221 0 illback Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12	Recall Mode													
destrian Calls (#/hr) 50 50 0 5 L Effet Green (s) 24.0 24.0 58.0 Luated g/C Ratio 0.22 0.53 Ratio 0.12 0.27 0.12 Introl Delay 29.7 31.7 1.2 seue Delay 1.3 8.1 0.0 tal Delay 31.0 39.8 1.2 SS C D A proach Delay 35.7 1.2 proach LOS D A eue Length 50th (ft) 18 40 eue Length 95th (ft) 39 83 0 emal Link Dist (ft) 171 91 249 188 m Bay Length (ft) 80 35.7 2298 arrayation Cap Reductn 452 221 0 illback Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12 ersection Summary	Walk Time (s)													
t Effct Green (s) 24.0 24.0 58.0 tualed g/C Ratio 0.22 0.22 0.53 sealor 0.12 0.27 0.12 0.12 o.17 0.12 o.17 0.12 o.17 0.12 o.17 0.12 o.17 0.12 o.17 0.12 o.17 0.13 0.13 0.14 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	Flash Dont Walk (s)				15.0									
It Effct Green (s) 24.0 24.0 58.0 Utualed g/C Ratio 0.22 0.22 0.53 Ratio 0.12 0.12 Introl Delay 29.7 31.7 1.2 Interest Delay 1.3 8.1 0.0 Iatal Delay 31.0 39.8 1.2 Is S C D A Interest Delay 35.7 1.2 Interest Delay D A Interest Delay B A	Pedestrian Calls (#/hr)				50	50						0		5
tuated g/C Ratio 0.22 0.22 0.53 Ratio 0.12 0.27 0.12 Introl Delay 29.7 31.7 1.2 Ieue Delay 1.3 8.1 0.0 tal Delay 31.0 39.8 1.2 IS C D A proach Delay 35.7 1.2 proach LOS D A teue Length 50th (ft) 18 40 0 teue Length 95th (ft) 39 83 0 ternal Link Dist (ft) 171 91 249 188 m Bay Length (ft) sec Capacity (vph) 680 357 2298 arvation Cap Reductn 452 221 0 dilback Cap Reductn 0 0 0 ordiced v/c Ratio 0.37 0.70 0.12	Act Effct Green (s)				24.0	24.0						58.0		
Ratio 0.12 0.27 0.12	Actuated g/C Ratio				0.22							0.53		
Introl Delay 29.7 31.7 1.2 Interest Delay 1.3 8.1 0.0 Interest Delay 1.3 8.1 0.0 Interest Delay 31.0 39.8 1.2 Interest Delay 39.8 1.2 Interest Delay 35.7 1.2 Interest Delay 35.7 1.2 Interest Delay 35.7 1.2 Interest Delay 35.7 1.2 Interest Delay 35.7 1.2 Interest Delay 35.7 1.2 Interest Delay 36.7 1.2 Interest Delay 37.7 1.2 Interest Delay 39.8 1.2 Interest Delay 3	v/c Ratio				0.12							0.12		
See Delay 1.3 8.1 0.0	Control Delay													
tal Delay 31.0 39.8 1.2 S C D A proach Delay 35.7 1.2 proach LOS D A ieue Length 50th (ft) 18 40 0 ieue Length 95th (ft) 39 83 0 iemal Link Dist (ft) 171 91 249 188 im Bay Length (ft) 8 2298 arvation Cap Reductn 452 221 0 illback Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12 ersection Summary	Queue Delay													
C D A Proach Delay 35.7 1.2 Proach Delay 35.7 1.2 Proach Delay D A Proach Delay D Proach Delay	Total Delay													
proach Delay 35.7 1.2 proach LOS D A seue Length 50th (ft) 18 40 seue Length 95th (ft) 39 83 0 semal Link Dist (ft) 171 91 249 188 m Bay Length (ft) 5 2298 5 servation Cap Reductn 452 221 0 silback Cap Reductn 0 0 0 orage Cap Reductn 0 0 0 oduced v/c Ratio 0.37 0.70 0.12 ersection Summary CBD CBD 5	LOS													
D A	Approach Delay													
reue Length 50th (ft) 18 40 0 reue Length 95th (ft) 39 83 0 reue Length 95th (ft) 171 91 249 188 rm Bay Length (ft) 582 249 583 rmal Link Dist (ft) 584 585 585 585 585 585 585 585 585 585	Approach LOS													
reue Length 95th (ft) 39 83 0 ernal Link Dist (ft) 171 91 249 188 rm Bay Length (ft) se Capacity (vpth) 680 357 2298 arvation Cap Reductn 452 221 0 illback Cap Reductn 0 0 0 orage Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12 ersection Summary					18									
emal Link Dist (ft) 171 91 249 188 rn Bay Length (ft) 5 se Capacity (vph) 680 357 2298 arvation Cap Reductn 452 221 0 illiback Cap Reductn 0 0 0 orage Cap Reductn 0 0 0 duced vic Ratio 0.37 0.70 0.12 ersection Summary as Type: CBD														
m Bay Length (ft) se Capacity (vph) 680 357 2298 arvation Cap Reductn 452 221 0 libback Cap Reductn 0 0 0 arage Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12 ersection Summary ea Type: CBD	Internal Link Dist (ft)		171		0,				249					
se Capacity (vph) 680 357 2298 arvation Cap Reductn 452 221 0 illback Cap Reductn 0 0 0 orage Cap Reductn 0 0 0 duced v/c Ratio 0.37 0.70 0.12 ersection Summary ea Type: CBD	Turn Bay Length (ft)								,			.00		
arvation Cap Reductn 452 221 0 Illback Cap Reductn 0 0 0 orage Cap Reductn 0 0 0 oduced v/c Ratio 0.37 0.70 0.12 ersection Summary cBD CBD CBD					680	357						2298		
Illback Cap Reductn														
grage Cap Reductn 0 0 0 dduced v/c Ratio 0.37 0.70 0.12 ersection Summary ga Type: CBD	Spillback Cap Reductn													
duced v/c Ratio 0.37 0.70 0.12 ersection Summary ea Type: CBD	Storage Cap Reductn													
ersection Summary pa Type: CBD	Reduced v/c Ratio													
ea Type: CBD	Intersection Summary													
	Area Type:	CBD												
	Cycle Length: 110													
	Actuated Cycle Length: 110													

Actuated Cycle Length: 110
Offset: 2 (2%), Referenced to phase 1:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 14.5
Intersection Capacity Utilization 100.0%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service F

Splits and Phases: 5: Surface/Purchase/SASB & India Street



09004.03::Harbor Garage Existing (2018) Condition, a.m. Peak Hour

Lanes, Volumes, T												,	
	•	-	•	•	—	•	1	†		-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		† ‡	14			0		0	0	170	41	0	
Traffic Volume (vph) Future Volume (vph)	0	85 85	14 14	0	0	0	0	0	0	179 179	261 261	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	14	14	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes Taper Length (ft)	0 25		1	0 25		0	0 25		0	0 25		0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor	1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	1.00	
Frt		0.978											
Flt Protected		2050									0.980		
Satd. Flow (prot) Flt Permitted	0	3352	0	0	0	0	0	0	0	0	4401 0.980	0	
Satd. Flow (perm)	0	3352	0	0	0	0	0	0	0	0	4401	0	
Right Turn on Red		0002	Yes			Yes			Yes	No	1101	Yes	
Satd. Flow (RTOR)		15											
Link Speed (mph)		25			25			25			25		
Link Distance (ft) Travel Time (s)		314 8.6			161 4.4			268 7.3			332 9.1		
Confl. Bikes (#/hr)		δ.0	7		4.4			1.3			9.1		
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	6%	0%	
Adj. Flow (vph)	0	89	15	0	0	0	0	0	0	185	269	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	104	0	0	0	0	0	0	0	0	AF A	0	
Turn Type	U	104 NA	0	0	0	0	0	0	U	Split	454 NA	0	
Protected Phases		5								3piii	1		2
Permitted Phases													
Detector Phase		5								1	1		
Switch Phase Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		29.0								63.0	63.0		18.0
Total Split (s)		29.0								63.0	63.0		18.0
Total Split (%)		26.4%								57.3%	57.3%		16%
Maximum Green (s)		25.0								58.0	58.0		14.0
Yellow Time (s) All-Red Time (s)		3.0 1.0								3.0 2.0	3.0 2.0		4.0 0.0
Lost Time Adjust (s)		-1.0								2.0	-1.0		0.0
Total Lost Time (s)		3.0									4.0		
Lead/Lag										Lead	Lead		Lag
Lead-Lag Optimize?		2.0								2.0	2.0		2.0
Vehicle Extension (s) Recall Mode		2.0 Max								2.0 C-Max	2.0 C-Max		2.0 Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		18.0								51.0	51.0		7.0
Pedestrian Calls (#/hr)		0								0	0		0
Act Effct Green (s)		26.0									59.0		
Actuated g/C Ratio v/c Ratio		0.24 0.13									0.54		
Control Delay		28.8									7.9		
Queue Delay		0.0									0.0		
Total Delay		28.8									7.9		
LOS Approach Delay		C 28.8									A 7.9		
Approach Delay Approach LOS		28.8 C									7.9 A		
Queue Length 50th (ft)		26									24		
Queue Length 95th (ft)		49									34		
Internal Link Dist (ft)		234			81			188			252		
Turn Bay Length (ft) Base Capacity (vph)		803									2360		
Starvation Cap Reductn		0									2300		
Spillback Cap Reductn		1									322		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		0.13									0.22		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110	0												
Actuated Cycle Length: 110 Offset: 103 (94%), Referen		SBTI Sta	art of Green	1									
Natural Cycle: 110	to pridoc 1		0. 0.00										
Control Type: Actuated-Co	ordinated												
Maximum v/c Ratio: 0.19	11.0			,		100.5							
Intersection Signal Delay: 1 Intersection Capacity Utilization					tersection	LOS: B f Service A							
Analysis Period (min) 15	auUII 05.4%			IL	o reaei 0i	Service P	١						
, and your colou (min) 13													

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street

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09004.03::Harbor Garage HSH Existing (2018) Condition, a.m. Peak Hour

Laries, Volumes, Till	•		_		_	Ą.	_	•	_	Τ.	1	1	
		-	•	•	•		1	Ť		-	ţ	*	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	_			ች	4↑↑ 198		_	_		_	ተተ _ጉ		
Traffic Volume (vph)	0	0	0	61 61	198 198	0	0	0	0	0	379 379	643 643	
Future Volume (vph) Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor	1.00	1.00	1.00	0.68	0.71	1.00	1.00	1.00	1.00	1.00	0.94	0.71	
Frt											0.906		
Flt Protected				0.950									
Satd. Flow (prot)	0	0	0	1449	3051	0	0	0	0	0	3881	0	
Flt Permitted				0.950	0054						0004		
Satd. Flow (perm) Right Turn on Red	0	0	0 Yes	992 No	3051	0 Yes	0	0	0 Yes	0	3881	0 Yes	
Satd. Flow (RTOR)			162	INO		162			162		416	162	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		395			161			332			240		
Travel Time (s)		10.8			4.4			9.1			6.5		
Confl. Peds. (#/hr)				332								158	
Confl. Bikes (#/hr)												38	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98	
Heavy Vehicles (%) Adj. Flow (vph)	0% 0	0% 0	0% 0	2% 63	2% 204	0% 0	0% 0	0% 0	0% 0	0% 0	4% 387	1% 656	
Shared Lane Traffic (%)	U	U	U	0%	204	U	U	U	U	U	387	000	
Lane Group Flow (vph)	0	0	0	63	204	0	0	0	0	0	1043	0	
Turn Type				Split	NA						NA		
Protected Phases				5	5						1		
Permitted Phases													
Detector Phase				5	5						1		
Switch Phase				0.0	0.0						0.0		
Minimum Initial (s) Minimum Split (s)				8.0 38.0	8.0 38.0						8.0 72.0		
Total Split (s)				38.0	38.0						72.0		
Total Split (%)				34.5%	34.5%						65.5%		
Maximum Green (s)				29.0	29.0						67.0		
Yellow Time (s)				3.0	3.0						3.0		
All-Red Time (s)				6.0	6.0						2.0		
Lost Time Adjust (s)				-1.0	-1.0						-1.0		
Total Lost Time (s) Lead/Lag				8.0	8.0						4.0		
Lead-Lag Optimize?													
Vehicle Extension (s)				2.0	2.0						2.0		
Recall Mode				Max	Max						C-Max		
Walk Time (s)				7.0	7.0						7.0		
Flash Dont Walk (s)				22.0	22.0						60.0		
Pedestrian Calls (#/hr)				0	0						0		
Act Effct Green (s) Actuated q/C Ratio				30.0 0.27	30.0 0.27						68.0 0.62		
v/c Ratio				0.27	0.27						0.62		
Control Delay				35.9	36.3						3.3		
Queue Delay				3.9	4.6						0.1		
Total Delay				39.7	41.0						3.4		
LOS				D	D						Α		
Approach Delay					40.7						3.4		
Approach LOS				20	D						A		
Queue Length 50th (ft) Queue Length 95th (ft)				38 74	62 91						0		
Internal Link Dist (ft)		315		/4	81			252			160		
Turn Bay Length (ft)		313			01			232			100		
Base Capacity (vph)				395	832						2558		
Starvation Cap Reductn				268	550						545		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.50	0.72						0.52		
Intersection Summary													

Intersection Summary

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 90 (82%), Referenced to phase 1:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 11.0
Intersection Capacity Utilization 140.8%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service H

Splits and Phases: 7: Surface/Purchase/SASB & State Street



09004.03::Harbor Garage Existing (2018) Condition, a.m. Peak Hour

	•	-	•	•	•	•	4	†	~	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	LDL	LDI	LDI	WDL	₩B1	WEN	INDL		NDIX	JDL	351	JUIN
Traffic Volume (vph)	0	0	0	0	80	39	179	41} 616	50	0	0	0
Future Volume (vph)	0	0	0	0	80	39	179	616	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (11)							0.95	0.95				
	1.00	1.00	1.00	1.00	1.00	1.00	0.95		0.95	1.00	1.00	1.00
Ped Bike Factor					0.92			0.96				
Frt					0.956			0.991				
Flt Protected								0.990				
Satd. Flow (prot)	0	0	0	0	1685	0	0	3010	0	0	0	0
Flt Permitted								0.990				
Satd. Flow (perm)	0	0	0	0	1685	0	0	2994	0	0	0	0
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)			, 00		13			11	. 00			. 00
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		161			290			183			264	
Travel Time (s)		4.4			7.9			5.0			7.2	
Confl. Peds. (#/hr)						160	51		695			
Confl. Bikes (#/hr)									62			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	1%	3%	2%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	87	42	185	635	52	0	0	0
Shared Lane Traffic (%)	- 0	U	U	U	07	72	100	000	JŁ	U	U	U
	^	0	0	0	129	0	0	072	0	0	0	0
Lane Group Flow (vph)	0	0	0	0		0	O Colit	872	U	0	U	U
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases												
Detector Phase					5		1	1				
Switch Phase												
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					26.0		74.0	74.0				
Total Split (s)					36.0		74.0	74.0				
Total Split (%)					32.7%		67.3%	67.3%				
Maximum Green (s)					31.0		69.0	69.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
Lead/Lag					1.0			1.0				
Lead-Lag Optimize?					2.0		2.0	2.0				
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					14.0		62.0	62.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					32.0			70.0				
Actuated g/C Ratio					0.29			0.64				
v/c Ratio					0.26			0.45				
Control Delay					28.5			5.1				
Queue Delay					0.0			0.4				
Total Delay					28.5			5.6				
LOS					С			Α				
Approach Delay					28.5			5.6				
Approach LOS					C			A				
Queue Length 50th (ft)					62			50				
					113			58				
Queue Length 95th (ft)		01									104	
Internal Link Dist (ft)		81			210			103			184	
Turn Bay Length (ft)												
Base Capacity (vph)					499			1919				
Starvation Cap Reductn					0			539				
Spillback Cap Reductn					0			140				
Storage Cap Reductn					0			0				
					0.26			0.63				
Reduced V/C Railo					0.20			5.05				
Reduced v/c Ratio												
Intersection Summary												
Intersection Summary	CBD											
	CBD											

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 92 (84%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 8.5
Intersection Capacity Utilization 81.7%
Analysis Period (min) 15 Intersection LOS: A ICU Level of Service D

Splits and Phases: 8: Atlantic Avenue/Cross Street & State Street

#8 #20

#0 1(R)





09004.03::Harbor Garage Existing (2018) Condition, a.m. Peak Hour

	ings •				1	,	
	۶	•	1	†	ţ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations		7			↑↑↑ 321		
Traffic Volume (vph)	0	77	0	0	321	0	
Future Volume (vph)	0	77	0	0	321	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	13	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	
Ped Bike Factor		0.075					
Frt Flt Protected		0.865					
Fit Protected Satd. Flow (prot)	0	1484	0	0	4446	0	
Fit Permitted	U	1404	U	U	4440	U	
Satd. Flow (perm)	0	1484	0	0	4446	0	
Right Turn on Red		Yes	Ū	Ū	1110	Yes	
Satd. Flow (RTOR)		641					
Link Speed (mph)	25			25	25		
Link Distance (ft)	358			212	329		
Travel Time (s)	9.8			5.8	9.0		
Confl. Bikes (#/hr)						40	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.96	
Heavy Vehicles (%)	0%	3%	0%	0%	5%	0%	
Adj. Flow (vph)	0	84	0	0	334	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	84	0	0	334	0	
Turn Type	U	Prot	U	U	NA	U	
Protected Phases		P101 5			1 1		2
Permitted Phases		J					
Detector Phase		5			1		
Switch Phase							
Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		23.0			65.0		22.0
Total Split (s)		23.0			65.0		22.0
Total Split (%)		20.9%			59.1%		20%
Maximum Green (s)		19.0			59.0		18.0
Yellow Time (s)		3.0			3.0		4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		
Total Lost Time (s) Lead/Lag		4.0			4.0 Lead		Log
Lead/Lag Lead-Lag Optimize?					Leau		Lag
Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0			7.0		7.0
Flash Dont Walk (s)		12.0			52.0		11.0
Pedestrian Calls (#/hr)		0			0		5
Act Effct Green (s)		19.0			61.0		
Actuated g/C Ratio		0.17			0.55		
v/c Ratio		0.11			0.14		
Control Delay		0.3			4.9		
Queue Delay		0.0			0.0		
Total Delay		0.3			4.9		
LOS Approach Dolay	0.3	Α			A 4.9		
Approach Delay Approach LOS	0.3 A				4.9 A		
Queue Length 50th (ft)	А	0			22		
Queue Length 95th (ft)		0			31		
Internal Link Dist (ft)	278	U		132	249		
Turn Bay Length (ft)	270			.02	2-17		
Base Capacity (vph)		786			2465		
Starvation Cap Reductn		0			0		
Spillback Cap Reductn		0			0		
Storage Cap Reductn		0			0		
Reduced v/c Ratio		0.11			0.14		
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 7 (6%), Referenced to p	hase 1:SR	Γ, Start of 0	Green				
Natural Cycle: 110							
Control Type: Actuated-Coordi	nated						
Maximum v/c Ratio: 0.14							
Intersection Signal Delay: 4.0 Intersection Capacity Utilization					tersection	LOS: A Service A	

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street



Lanes, Volumes, Tim													
	•	→	•	•	←	•	1	†		-	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		↑↑ 95									414		
Traffic Volume (vph)	0		143	0	0	0	0	0	0	80	318	0	
Future Volume (vph) Ideal Flow (vphpl)	0 1900	95 1900	143 1900	0 1900	0 1900	0 1900	0 1900	0 1900	0 1900	80 1900	318 1900	0 1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25	0.05	0.05	25	1.00	1.00	25	1.00	1.00	25	0.01	1.00	
Lane Util. Factor Ped Bike Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		0.910											
Flt Protected											0.990		
Satd. Flow (prot)	0	3310	0	0	0	0	0	0	0	0	4435	0	
Flt Permitted	0	3310	0	0	0	0	0	0	0	0	0.990 4435	0	
Satd. Flow (perm) Right Turn on Red	U	3310	Yes	U	0	Yes	U	U	Yes	0 No	4435	Yes	
Satd. Flow (RTOR)		147	103			103			163	110		103	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		305			204			514			212		
Travel Time (s)		8.3			5.6			14.0			5.8		
Confl. Bikes (#/hr)	0.97	0.97	0.07	0.00	0.00	0.92	0.92	0.92	0.92	0.07	0.07	0.96	
Peak Hour Factor Heavy Vehicles (%)	0.97	1%	0.97 0%	0.92 0%	0.92 0%	0.92	0.92	0.92	0.92	0.96 1%	0.96 5%	0.96	
Adj. Flow (vph)	0%	98	147	0%	0%	0%	0%	0%	0%	83	331	0%	
Shared Lane Traffic (%)		70					- 0		- 0	- 00	331		
Lane Group Flow (vph)	0	245	0	0	0	0	0	0	0	0	414	0	
Turn Type		NA								Split	NA		
Protected Phases		5								1	1		2
Permitted Phases Detector Phase		5								1	1		
Switch Phase		J											
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		30.0								61.0	61.0		19.0
Total Split (s)		30.0								61.0	61.0		19.0
Total Split (%) Maximum Green (s)		27.3% 25.0								55.5% 56.0	55.5% 56.0		17% 15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		2.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0								2.0	-1.0		0.0
Total Lost Time (s)		4.0									4.0		
Lead/Lag										Lead	Lead		Lag
Lead-Lag Optimize?		2.0								2.0	2.0		2.0
Vehicle Extension (s) Recall Mode		2.0 Max								2.0 C-Max	2.0 C-Max		2.0 Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		18.0								49.0	49.0		8.0
Pedestrian Calls (#/hr)		0								0	0		0
Act Effct Green (s)		26.0									57.0		
Actuated g/C Ratio		0.24									0.52		
v/c Ratio Control Delay		0.27 14.7									0.18 4.4		
Queue Delay		0.0									0.3		
Total Delay		14.7									4.7		
LOS		В									Α		
Approach Delay		14.7									4.7		
Approach LOS		В									A		
Queue Length 50th (ft)		28 62									10 14		
Queue Length 95th (ft) Internal Link Dist (ft)		225			124			434			132		
Turn Bay Length (ft)					.27			75-1			.52		
Base Capacity (vph)		894									2298		
Starvation Cap Reductn		0									1274		
Spillback Cap Reductn		2									22		
Storage Cap Reductn Reduced v/c Ratio		0 0.27									0.40		
		0.27									0.40		
Intersection Summary	000												
	CBD												
Cycle Length: 110 Actuated Cycle Length: 110													
Offset: 15 (14%), Referenced	to phase 1.5	BTL, Start	of Green										
Natural Cycle: 110	pridoc 1.d	_ , _, otd1	. 3. 3.0001										
Control Type: Actuated-Coordi	inated												
Maximum v/c Ratio: 0.27													
Intersection Signal Delay: 8.5	n 41 00/				tersection								
Intersection Capacity Utilizatio Analysis Period (min) 15	11 41.0%			iC	U Level of	f Service A	١						
Analysis Period (Min) 15													

Splits and Phases: 10: Surface/Purchase/SASB & High Street



Lanes, Volumes, T	imings										
	•	•	•	†	ļ	1					
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2				
Lane Configurations	ሻሻ	LDIX	INDL	AA	301	JUIN	, DZ				
Traffic Volume (vph)	175	0	0	↑↑ 770	0	0					
Future Volume (vph)	175	0	0	770	0	0					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Lane Width (ft)	12	12	13	13	12	12					
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00					
Frt											
Flt Protected	0.950										
Satd. Flow (prot)	3120	0	0	3127	0	0					
Flt Permitted	0.950										
Satd. Flow (perm)	3120	0	0	3127	0	0					
Right Turn on Red	No	Yes				Yes					
Satd. Flow (RTOR)											
Link Speed (mph)	25			25	25						
Link Distance (ft)	204			692	570						
Travel Time (s)	5.6			18.9	15.5						
Peak Hour Factor	0.94	0.94	0.97	0.97	0.92	0.92					
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%					
Parking (#/hr)				0							
Adj. Flow (vph)	186	0	0	794	0	0					
Shared Lane Traffic (%)	407	^	•	70.	^	•					
Lane Group Flow (vph)	186	0	0	794	0	0					
Turn Type	Prot			NA 1			^				
Protected Phases	5			1			2				
Permitted Phases				1							
Detector Phase	5			1							
Switch Phase	0.0			0.0			0.0				
Minimum Initial (s)	8.0			8.0			8.0				
Minimum Split (s)	25.0			68.0			17.0				
Total Split (s) Total Split (%)	25.0 22.7%			68.0			17.0 15%				
Maximum Green (s)	20.0			61.8% 63.0			13.0				
Yellow Time (s)	3.0			3.0			4.0				
All-Red Time (s)	2.0			2.0			0.0				
Lost Time Adjust (s)	0.0			-1.0			0.0				
Total Lost Time (s)	5.0			4.0							
Lead/Lag	5.0			Lead			Lag				
Lead-Lag Optimize?				LCdu			Lag				
Vehicle Extension (s)	2.0			2.0			2.0				
Recall Mode	Max			C-Max			Ped				
Walk Time (s)	7.0			7.0			7.0				
Flash Dont Walk (s)	13.0			56.0			6.0				
Pedestrian Calls (#/hr)	0			0			0				
Act Effct Green (s)	20.0			64.0							
Actuated g/C Ratio	0.18			0.58							
v/c Ratio	0.33			0.44							
Control Delay	33.9			9.6							
Queue Delay	2.5			0.0							
Total Delay	36.4			9.6							
LOS	D			Α							
Approach Delay	36.4			9.6							
Approach LOS	D			Α							
Queue Length 50th (ft)	63			102							
Queue Length 95th (ft)	101			123							
Internal Link Dist (ft)	124			612	490						
Turn Bay Length (ft)				1010							
Base Capacity (vph)	567			1819							
Starvation Cap Reductn	269			0							
Spillback Cap Reductn	0			0							
Storage Cap Reductn Reduced v/c Ratio	0			0							
Reduced V/C Ratio	0.62			0.44							
Intersection Summary											
Area Type:	CBD							<u> </u>			
Cycle Length: 110											
Actuated Cycle Length: 110 Offset: 58 (53%), Reference		IBT, Start	of Green								
Natural Cycle: 110	ordinata d										
Control Type: Actuated-Co	ordinated										
Maximum v/c Ratio: 0.44	147			14	orcocling	I OC. D					
Intersection Signal Delay: 1 Intersection Capacity Utilization	14.7				ersection U Level of						
Analysis Period (min) 15	au011 04.2%			iC	o Level 01	service C					
Analysis reliou (IIIII) 15											
Splits and Phases: 11: A	tlantic Avenue/	Cross Stre	et & High	Street							
A		-							# k Ø2	≯ ø5	
Ø1 (R)									17 c	Ø5	
DO 3									17.3	233	

Lanes, volumes, fin	<u> </u>	•		—	*_	•	•	ሻ	†	~		
Lano Group	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	I NBL	I NBT	/ NBR	Ø2	Ø6
Lane Group	FRF7	FRF					INRT7			INRK	WZ	Ŋb
Lane Configurations	,		4↑ 730	}	1 65	220	- 04	219	41} 519	057		
Traffic Volume (vph)	6	22		369		229	91			257		
Future Volume (vph)	6	22	730	369	165	229	91	219	519	257		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	13	11	12	13	12	12	13	12		
Storage Length (ft)		0			250			0		0		
Storage Lanes		0			1			1		0		
Taper Length (ft)		25						25				
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor									0.98			
Frt					0.850	0.850			0.952			
Flt Protected			0.998					0.950	0.999			
Satd. Flow (prot)	0	0	3319	1489	1323	1427	0	1435	2876	0		
Flt Permitted	U	U	0.947	1707	1323	1727	U	0.950	0.999	U		
Satd. Flow (perm)	0	0	3149	1489	1323	1427	0	1435	2876	0		
	U	U	3149	1489	1323		U	1435	28/0			
Right Turn on Red						No				No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506					457			
Travel Time (s)			6.8	13.8					12.5			
Confl. Bikes (#/hr)					14	14				64		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.99	0.99	0.99	0.99		
Heavy Vehicles (%)	0.70	0.76	1%	1%	0.77	0.77	1%	4%	4%	5%		
	6	22	745	380	170	236	92	221	524	260		
Adj. Flow (vph)	0	22	740	380			92		024	200		
Shared Lane Traffic (%)	_	_	776	005	0%	0%	_	10%	201			
Lane Group Flow (vph)	0	0	773	380	170	236	0	291	806	0		
Turn Type	custom	custom	NA	NA	Prot	Prot	Perm	Split	NA			
Protected Phases			5	5	5	5		1	1		2	6
Permitted Phases	25	25	2				1					
Detector Phase	25	25	5	5	5	5	1	1	1			
Switch Phase					Ü							
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		7.0	4.0
			29.0		29.0				39.0			
Minimum Split (s)				29.0		29.0	39.0	39.0			26.0	6.0
Total Split (s)			39.0	39.0	39.0	39.0	39.0	39.0	39.0		26.0	6.0
Total Split (%)			35.5%	35.5%	35.5%	35.5%	35.5%	35.5%	35.5%		24%	5%
Maximum Green (s)			32.5	32.5	32.5	32.5	32.5	32.5	32.5		19.5	4.0
Yellow Time (s)			3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	2.0
All-Red Time (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0		-1.0	-1.0			
Total Lost Time (s)			6.5	5.5	5.5	5.5		5.5	5.5			
Lead/Lag			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
			Lead	Lead	Lead	Lead	Lead	Leau	Lead		Lay	Lay
Lead-Lag Optimize?			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	8.0	8.0		7.0	4.0
Flash Dont Walk (s)			15.5	15.5	15.5	15.5	24.5	24.5	24.5		12.5	0.0
Pedestrian Calls (#/hr)			0	0	0	0	0	0	0		91	0
Act Effct Green (s)			48.1	33.5	33.5	33.5		38.7	38.7			
Actuated g/C Ratio			0.44	0.30	0.30	0.30		0.35	0.35			
v/c Ratio			0.44	0.30	0.30	0.54		0.58	0.80			
Control Delay			5.5	53.6	34.5	37.5		22.7	26.4			
Queue Delay			3.4	52.9	0.0	0.0		0.0	0.0			
Total Delay			8.9	106.5	34.5	37.5		22.7	26.4			
LOS			Α	F	С	D		С	С			
Approach Delay			8.9	70.2					25.4			
			Α	Е					С			
Approach LOS					104	145		78	107			
Approach LOS			16	274				134	#407			
Approach LOS Queue Length 50th (ft)			16 m16	274 #453		232						
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft)			m16	#453	176	232		134				
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft)					176			134	377			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft)			m16 168	#453 426	176 250	250			377			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph)			m16 168 1426	#453 426 453	176 250 402	250 434		505	377 1011			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn			m16 168 1426 539	#453 426 453 0	176 250 402 0	250 434 0		505 0	377 1011 0			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph)			m16 168 1426	#453 426 453	176 250 402	250 434		505	377 1011 0 0			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn			m16 168 1426 539	#453 426 453 0	176 250 402 0	250 434 0		505 0	377 1011 0			
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn			m16 168 1426 539 0	#453 426 453 0 118	250 402 0	250 434 0 0		505 0 0	377 1011 0 0			

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 52 (47%), Referenced to phase 1:NBTL, Start of Green

Natural Cycle: 100

Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 33.9
Intersection Capacity Utilization 78.5%
Analysis Period (min) 15
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. Intersection LOS: C ICU Level of Service D

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp **₫** ÅÅø6

,	<u> </u>	—	↓	1	4	₹	4	
Lane Group	₩BL	WBT	SBT	SBR	SWL2	¥ SWL	SWR	Ø2
Lane Configurations	WDL	₩B1	↑ ↑	JDR	SWL2	SWL	JVVK	ЮZ
Traffic Volume (vph)	274	186	358	103	758	358	97	
Future Volume (vph)	274	186	358	103	758	358	97	
Ideal Flow (vphpl) Lane Width (ft)	1900 12	1900 11	1900 12	1900 12	1900 12	1900 12	1900 12	
Lane Util. Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor			0.99					
Frt Flt Protected		0.971	0.967		0.950	0.968 0.962		
Satd. Flow (prot)	0	3007	4323	0	1608	1577	0	
Flt Permitted		0.971			0.950	0.962		
Satd. Flow (perm)	0	3007	4323	0	1608	1577	0	
Right Turn on Red Satd. Flow (RTOR)			62	Yes				
Link Speed (mph)		25	25			25		
Link Distance (ft)		248	514			293		
Travel Time (s)		6.8	14.0	20		8.0		
Confl. Bikes (#/hr) Peak Hour Factor	0.97	0.97	0.95	38 0.95	0.99	0.99	0.99	
Heavy Vehicles (%)	1%	2%	4%	1%	1%	1%	1%	
Adj. Flow (vph)	282	192	377	108	766	362	98	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	474	485	0	766	460	0	
Turn Type	Split	NA	NA	U	pm+pt	Prot	U	
Protected Phases	6	6	1		5	5		2
Permitted Phases		4	1		2			
Detector Phase Switch Phase	6	6	1		5	5		
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	30.0		39.0	39.0		20.0
Total Split (s) Total Split (%)	21.0 19.1%	21.0 19.1%	30.0 27.3%		39.0 35.5%	39.0 35.5%		20.0 18%
Maximum Green (s)	19.1%	14.0	25.5		34.0	34.0		16.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.0
All-Red Time (s)	3.5	3.5	1.0		1.5	1.5		1.0
Lost Time Adjust (s) Total Lost Time (s)		-2.0 5.0	-1.0 3.5		-1.0 4.0	-1.0 4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0 May	2.0 May	C May		2.0 May	2.0 May		2.0 May
Recall Mode Walk Time (s)	Max 7.0	Max 7.0	C-Max 7.0		Max 7.0	Max 7.0		Max 7.0
Flash Dont Walk (s)	7.0	7.0	18.5		27.0	27.0		9.0
Pedestrian Calls (#/hr)	0	0	0		0	0		50
Act Effct Green (s) Actuated g/C Ratio		16.0 0.15	26.5 0.24		55.0 0.50	35.0 0.32		
v/c Ratio		1.25dl	0.45		0.95	0.32		
Control Delay		86.9	23.9		49.6	61.5		
Queue Delay		6.3	0.0		0.0	0.0		
Total Delay LOS		93.2 F	23.9 C		49.6 D	61.5 E		
Approach Delay		93.2	23.9			54.0		
Approach LOS		F	C		400	D		
Queue Length 50th (ft) Queue Length 95th (ft)		~192 m#264	101 140		498 #767	311 #508		
Internal Link Dist (ft)		168	434		π/0/	213		
Turn Bay Length (ft)								
Base Capacity (vph)		437	1088		804	501		
Starvation Cap Reductn Spillback Cap Reductn		22 0	0		0	0		
Storage Cap Reductin		0	0		0	0		
Reduced v/c Ratio		1.14	0.45		0.95	0.92		
Intersection Summary								
	CBD							
Cycle Length: 110								
Actuated Cycle Length: 110 Offset: 47 (43%), Referenced	to phase 1.9	SBT, Start	of Green					
Natural Cycle: 110		, o	2.0011					
Control Type: Actuated-Coord	dinated							
Maximum v/c Ratio: 1.08 Intersection Signal Delay: 55.8	Ω			Jn	itersection	10S-E		

Intersection Capacity Utilization 84.6%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Tolume for 95th percentile queue is metered by upstream signal.

Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 13: Surface/Purchase/SASB & Oliver Street & I-93 SB OffRamp **√**1₂₀₅ **▼**ø6 l⊨ø2

Lanes, Volumes, Tir	•	_	_		+	•	•	†	~	<u> </u>	Ī	4	
		→	*	•				-		-	*		
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	•	_	^	*	^	•	•	•	•	•	†††	05	
Fraffic Volume (vph)	0	0	0	60	330	0	0	0	0	0	895	95	
Future Volume (vph)	0	0	0	60	330	0	0	0	0	0	895	95	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12 1.00	12	12	11	11 0.95	11 1.00	12 1.00	12	12	12 1.00	12	12 0.91	
Lane Util. Factor Ped Bike Factor	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.91 1.00	0.91	
Frt											0.986		
Flt Protected				0.950							0.700		
Satd. Flow (prot)	0	0	0	1540	3141	0	0	0	0	0	4505	0	
Flt Permitted	•	Ū	Ū	0.950	0111	Ū	Ū	Ū	Ū	Ū	1000	Ū	
Satd. Flow (perm)	0	0	0	1540	3141	0	0	0	0	0	4505	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)											26		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		151			246			252			420		
Travel Time (s)		4.1			6.7			6.9			11.5		
Confl. Bikes (#/hr)												36	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.92	0.92	0.92	0.98	0.98	0.98	
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	2%	1%	
Adj. Flow (vph)	0	0	0	67	367	0	0	0	0	0	913	97	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	67	367	0	0	0	0	0	1010	0	
Turn Type				Split	NA						NA		
Protected Phases				5	5						1		2
Permitted Phases													
Detector Phase				5	5						1		
Switch Phase													
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				28.0	28.0						64.0		18.0
Total Split (s)				28.0	28.0						64.0		18.0
Total Split (%)				25.5%	25.5%						58.2%		16%
Maximum Green (s)				23.0	23.0						60.0		14.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						1.0		0.0
Lost Time Adjust (s)				-1.0	-1.0						-1.0		
Total Lost Time (s)				4.0	4.0						3.0		1
Lead/Lag											Lead		Lag
Lead-Lag Optimize?				2.0	2.0						2.0		2.0
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Ped	Ped						C-Max		Ped
Walk Time (s)				7.0 16.0	7.0 16.0						7.0 53.0		7.0 7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)				16.0	16.0						53.0		7.0
Act Effct Green (s)				24.0	24.0						61.0		U
Actuated g/C Ratio				0.22	0.22						0.55		
v/c Ratio				0.22	0.22						0.33		
Control Delay				49.9	55.1						13.5		
Queue Delay				0.0	8.1						0.4		
Total Delay				49.9	63.2						13.9		
LOS				D	03.2 E						В		
Approach Delay					61.1						13.9		
Approach LOS					E						В		
Queue Length 50th (ft)				50	144						150		
Queue Length 95th (ft)				97	195						m168		
Internal Link Dist (ft)		71		,,	166			172			340		
Turn Bay Length (ft)		7.1			.00			.,,			310		
Base Capacity (vph)				336	685						2509		
Starvation Cap Reductn				0	273						852		
Spillback Cap Reductn				0	0						101		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.20	0.89						0.61		
Intersection Summary													
	CBD												
Area Type: Cycle Length: 110	CBD												
Actuated Cycle Length: 110													
Actuated Cycle Length: 110 Offset: 40 (36%), Referenced	to phace 1.0	RT Start	of Groop										
Natural Cycle: 110	i io biigze 1:2	υι, 3ldil (or Green										
Natural Cycle: 110 Control Type: Actuated-Coord	dinated												
Control Type: Actuated-Coord Maximum v/c Ratio: 0.54	unialed												
Maximum Wc Rallo: 0.54 Intersection Signal Delay: 28.	1			J.	tersection	108.0							
	1			ın	ICI SECHOD	10000							

Intersection Signal Delay: 28.1 Intersection Capacity Utilization 61.2% Analysis Period (min) 15 m Volume for 95th percentile queue is metered by upstream signal. Intersection LOS: C ICU Level of Service B

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street



	٠	*	1	†	↓	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	LDL	LDIN	HUL	4413	551	JUIN	
Traffic Volume (vph)	0	0	390	1086	0	0	
Future Volume (vph)	0	0	390	1086	0	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00	
Frt				0.000			
Flt Protected	•	0		0.987	0	0	
Satd. Flow (prot)	0	0	0	4476	0	0	
Flt Permitted Satd. Flow (perm)	0	0	0	0.987 4476	0	0	
Right Turn on Red	U	Yes	No	4470	U	Yes	
Satd. Flow (RTOR)		103	INU			103	
Link Speed (mph)	25			25	25		
Link Distance (ft)	246			240	457		
Travel Time (s)	6.7			6.5	12.5		
Peak Hour Factor	0.92	0.92	0.96	0.96	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	
Adj. Flow (vph)	0	0	406	1131	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	0	1537	0	0	
Turn Type			Split	NA			
Protected Phases			1	1			2
Permitted Phases							
Detector Phase			1	1			
Switch Phase			25.0	25.0			0.0
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s) Total Split (s)			32.0 92.0	32.0 92.0			18.0 18.0
Total Split (%)			83.6%	92.0 83.6%			16%
Maximum Green (s)			87.0	83.6%			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)				5.0			
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			Ped
Walk Time (s)							7.0
Flash Dont Walk (s)							7.0
Pedestrian Calls (#/hr)				07.0			0
Act Effet Green (s)				87.0 0.79			
Actuated g/C Ratio				0.79			
v/c Ratio Control Delay				7.4			
Queue Delay				2.2			
Total Delay				9.6			
LOS				7.0 A			
Approach Delay				9.6			
Approach LOS				A			
Queue Length 50th (ft)				147			
Queue Length 95th (ft)				179			
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)							
Base Capacity (vph)				3540			
Starvation Cap Reductn				1804			
Spillback Cap Reductn				173			
Storage Cap Reductn				0			
Reduced v/c Ratio				0.89			
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 44 (40%), Referenced	I to phase 1:N	IBTL, Star	t of Greer	1			
Natural Cycle: 50							
Control Type: Actuated-Coord	dinated						
Maximum v/c Ratio: 0.43							
Intersection Signal Delay: 9.6					ersection		
Intersection Capacity Utilization	on 61.2%			IC	U Level of	Service B	
Analysis Period (min) 15							

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street



	-	-	•	-	Ļ	ļ	
Lane Group	EBT	EBR	EBR2	SBL2	SBL	SBT	Ø2
Lane Configurations	*	7		30L2 1) N	\$ 1	D.L
Traffic Volume (vph)	534	226	139	419	326	210	
Future Volume (vph)	534	226	139	419	326	210	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1900	1900	1900	14	1900	1900	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Frt	0.73	0.850	0.850	1.00	1.00	1.00	
FIt Protected		0.000	0.000	0.950	0.950		
Satd. Flow (prot)	3079	1454	1391	1716	1577	1621	
Flt Permitted	3019	1404	1371	0.950	0.950	1021	
	2070	1454	1201			1621	
Satd. Flow (perm) Right Turn on Red	3079	1454	1391 No	1716 No	1577	1621	
Satd. Flow (RTOR)			INU	INU			
	25					ar.	
Link Speed (mph)	25					25	
Link Distance (ft)	173					252	
Travel Time (s)	4.7	0.00	0.00	0.07	0.07	6.9	
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	0%	1%	1%	3%	2%	
Adj. Flow (vph)	545	231	142	432	336	216	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	545	231	142	432	336	216	
Turn Type	NA	Prot	Prot	Split	Split	NA	
Protected Phases	1	1	1	5	5	5	2
Permitted Phases							
Detector Phase	1	1	1	5	5	5	
Switch Phase							
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	36.0	36.0	36.0	47.0	47.0	47.0	20.0
Total Split (s)	43.0	43.0	43.0	47.0	47.0	47.0	20.0
Total Split (%)	39.1%	39.1%	39.1%	42.7%	42.7%	42.7%	18%
Maximum Green (s)	38.0	38.0	38.0	42.0	42.0	42.0	16.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	3.0	5.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead	Lead	Lead				Lag
Lead-Lag Optimize?							9
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	Ped
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	24.0	24.0	24.0	35.0	35.0	35.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	40.0	38.0	40.0	44.0	44.0	44.0	0
Actuated g/C Ratio	0.36	0.35	0.36	0.40	0.40	0.40	
v/c Ratio	0.30	0.35	0.30	0.40	0.40	0.40	
Control Delay	28.9	31.7	26.7	12.6	9.8	5.4	
Queue Delay	0.6	0.0	0.0	0.6	0.9	1.0	
Total Delay	29.5	31.7	26.7	13.2	10.7	6.4	
LOS	29.3 C	31.7 C	20.7 C	13.2 B	10.7 B	0.4 A	
	29.6	C	L	В	В	10.9	
Approach Delay Approach LOS	29.0 C					10.9 B	
	154	126	70	227	38	14	
Queue Length 50th (ft)			122	417	38 269	20	
Queue Length 95th (ft)	207	201	122	417	209		
Internal Link Dist (ft)	93					172	
Turn Bay Length (ft)	1110	F02	FOE	/0/	/20	/ 10	
Base Capacity (vph)	1119	502	505	686	630	648	
Starvation Cap Reductn	0	0	0	64	112	236	
Spillback Cap Reductn	247	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.63	0.46	0.28	0.69	0.65	0.52	
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110	CDD						
Actuated Cycle Length: 110)						
Offset: 98 (89%), Reference		ERT Stort	of Groop				
	eu to priase 1:	EDI, SIBIT	or Green				
Natural Cycle: 105							
Control Type: Actuated-Coo	ordinated						
Maximum v/c Ratio: 0.63							
Intersection Signal Delay: 1					tersection		
Intersection Capacity Utiliza	ition 48.9%			IC	U Level of	Service A	
Analysis Period (min) 15							
		se/SASB 8	& Ramp to	I-93W-			ICU Level of Service A I-90S & Congress Street

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Lane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	EBL		LDK	WDL	WDI		IVDL	††	INDIX	JDL	JDI	אטכ	ХЛZ
Traffic Volume (vph)	429	↑↑ 524	0	0	0	415	0	632	141	0	0	0	
Future Volume (vph)	429	524	0	0	0	415	0	632	141	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	12	12	12	11	12	12	12	12	12	12	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.60							0.91	****				
Frt						0.850		0.973					
Flt Protected	0.950												
Satd. Flow (prot)	2987	3079	0	0	0	2448	0	3962	0	0	0	0	
Flt Permitted	0.950												
Satd. Flow (perm)	1783	3079	0	0	0	2448	0	3962	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		233			288			612			240		
Travel Time (s)		6.4			7.9			16.7			6.5		
Confl. Peds. (#/hr)	568					568			1035				
Confl. Bikes (#/hr)						4			82				
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	2%	0%	0%	0%	1%	0%	5%	4%	0%	0%	0%	
Adj. Flow (vph)	438	535	0	0	0	437	0	665	148	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	438	535	0	0	0	437	0	813	0	0	0	0	
Turn Type	Prot	NA				Prot		NA					
Protected Phases	3	123				1		4					2
Permitted Phases													
Detector Phase	3	123				1		4					
Switch Phase													
Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Split (s)	13.0					26.0		37.0					20.0
Total Split (s)	27.0					26.0		37.0					20.0
Total Split (%)	24.5%					23.6%		33.6%					18%
Maximum Green (s)	22.0					21.0		32.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag	Lead					Lead		Lag					Lag
Lead-Lag Optimize?								, ,					J
Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)						7.0		7.0					7.0
Flash Dont Walk (s)						14.0		25.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	23.0	69.0				22.0		34.0					
Actuated g/C Ratio	0.21	0.63				0.20		0.31					
v/c Ratio	0.70	0.28				0.89		0.66					
Control Delay	40.9	4.9				65.0		22.9					
Queue Delay	10.2	0.4				0.0		1.4					
Total Delay	51.1	5.3				65.0		24.3					
LOS	D	Α				Е		С					
Approach Delay		25.9			65.0			24.3					
Approach LOS		С			Е			С					
Queue Length 50th (ft)	162	72				172		134					
Queue Length 95th (ft)	218	65				#273		156					
Internal Link Dist (ft)		153			208			532			160		
Turn Bay Length (ft)													
Base Capacity (vph)	624	1931				489		1224					
Starvation Cap Reductn	157	862				0		0					
Spillback Cap Reductn	0	0				0		226					
Storage Cap Reductn	0	0				0		0					
Storage Cap Reductif													
Reduced v/c Ratio	0.94	0.50				0.89		0.81					

Intersection Summary

Intersection LOS: C ICU Level of Service D

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 78 (71%), Referenced to phase 1:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 33.0
Intersection Capacity Utilization 76.7%
Analysis Period (min) 15

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

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street **↑**ø4

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		→	•	•		_	-	-	-	-	-		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		4↑ 336			ተተጉ		7	4↑ 552	7				
Traffic Volume (vph)	46		0	0	299	175	178		293	0	0	0	
Future Volume (vph)	46	336	0	0	299	175	178	552	293	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.98								
Frt					0.945				0.850				
Flt Protected		0.994					0.950	0.998					
Satd. Flow (prot)	0	3199	0	0	3998	0	1449	2889	1439	0	0	0	
Flt Permitted	U	0.815	U	U	3770	U	0.950	0.998	1437	U	U	U	
Satd. Flow (perm)	0	2623	0	0	3998	0	1449	2889	1439	0	0	0	
	U	2023		U	3998		1449	2889		U	U		
Right Turn on Red			No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3			16.5			16.7		
Confl. Bikes (#/hr)						31			56				
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	
Heavy Vehicles (%)	8%	0%	0%	0%	1%	2%	2%	4%	1%	0%	0%	0%	
Adj. Flow (vph)	49	357	0	0	322	188	196	607	322	0.0	0	0	
Shared Lane Traffic (%)	77	331	U	U	JLL	100	10%	307	JLL	U	U	U	
Lane Group Flow (vph)	0	406	0	0	510	0	176	627	322	0	0	0	
	D.P+P		U	U		U				U	U	U	
Turn Type		NA			NA		Split	NA	Prot				2
Protected Phases	4	1 4			1		3	3	3				2
Permitted Phases	1												
Detector Phase	4	1 4			1		3	3	3				
Switch Phase													
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				29.0		43.0	43.0	43.0				27.0
Total Split (s)	11.0				29.0		43.0	43.0	43.0				27.0
Total Split (%)	10.0%				26.4%		39.1%	39.1%	39.1%				25%
Maximum Green (s)	5.0				23.0		38.0	38.0	38.0				23.0
	3.0												
Yellow Time (s)					3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	3.0				3.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)					-2.0		-1.0	-1.0	-1.0				
Total Lost Time (s)					4.0		4.0	4.0	4.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode	Max				C-Max		Max	Max	Max				Ped
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				16.0		31.0	31.0	31.0				15.0
Pedestrian Calls (#/hr)	0.0				0		0	0	0				0
	U	22.0					39.0		39.0				U
Act Effct Green (s)		32.0			25.0			39.0					
Actuated g/C Ratio		0.29			0.23		0.35	0.35	0.35				
v/c Ratio		0.51			0.56		0.34	0.61	0.63				
Control Delay		32.6			40.4		28.5	32.4	36.2				
Queue Delay		0.0			0.0		0.0	0.0	0.0				
Total Delay		32.6			40.4		28.5	32.4	36.2				
LOS		С			D		С	С	D				
Approach Delay		32.6			40.4			32.9					
Approach LOS		С			D			С					
Queue Length 50th (ft)		115			117		100	198	187				
Queue Length 95th (ft)		160			156		164	263	288				
Internal Link Dist (ft)		58			333		104	526	200		532		
		50			333			520			332		
Turn Bay Length (ft)		700			000		F13	1024	F10				
Base Capacity (vph)		799			908		513	1024	510				
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		0.51			0.56		0.34	0.61	0.63				

Intersection Summary

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Actuated Cycle Length: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 34.7
Intersection Capacity Utilization 49.5%
Analysis Period (min) 15

Intersection LOS: C ICU Level of Service A

Splits and Phases: 18: Atlantic Avenue/Cross Street & Summer Street



Lane Group Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Util. Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Maximum Green (s) Yellow Time (s) Lead/Lag Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag (polimize? Vehicle Extension (s) Recall Mode Walk Time (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach LoS Approach Delay Approach LoS Approach Delay Approach LoS Conted Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Control Type: Actuated-Coord		۶	•	4	†	ļ	4	
Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Util. Factor Frt Frt Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Fatension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Fatension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Fatension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Fatension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Fatension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Cap Reduct Solution Cap Reduct Sol	Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Traffic Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Lane Util. Factor Fit Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Total Split (%) Maximum Green (s) Yellow Time (s) All. Red Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Control Delay Oueue Delay Total Delay Total Delay Total Delay LOS Approach Delay Approach Delay Approach Delay Approach Delay Total Delay LOS Oueue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Solliback Cap Reductn		LUL	LDIN	.,DL		444	CDIN	20
Future Volume (vph) Ideal Flow (vphp) Ideal Flow (vphp) Ideal Flow (vphp) Ideal Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Fit Satd. Flow (prot) Fit Satd. Flow (prot) Fit Satd. Flow (prot) Shared Lane Traffic (%) Lane Group Flow (pph) Shared Lane Traffic (%) Lane Group Flow (pph) Furn Type Protected Phases Permitted Phases Permitted Phases Detector Phase Switch Phase Minimum Ipitial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time (s) Lost Time (s) Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio Vic Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach LOS Oueue Length 50th (ft) Oueue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Statuarion Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Referenced Natural Cycle: 110 Notes Permitted Natural Cycle: 110		0	0	0	0	↑↑↑ 1022	0	
Ideal Flow (vphpl) Lane Util. Factor Frt Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Witch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Control Delay Oueue Delay Total Dotal Control Delay Oueue Delay Total Dotal Control Delay Oueue Length 50th (ft) Oueue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillba	re Volume (vph)	0	0	0	0	1022	0	
Lane Util. Factor Frt Frt Frt Frt Frt Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Total Split (%) Maximum Green (s) Yellow Time (s) All. Red Time (s) Lost Time (s) Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay Total Delay Los Approach Delay Approach Delay Approach Delay Approach Dos Starvation Cap Reductn Storage Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Oktester 76 (69%), Referenced Natural Cycle: 110		1900	1900	1900	1900	1900	1900	
FrI Frit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Act Effet Green (s) Actuated g/C Ratio Vic Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Stardin Storage Cap Reductn Splitback Cap Reductn Storage Cap Reductn Storag		1.00	1.00	1.00	1.00	0.91	1.00	
Satd. Flow (prot) FIT Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (perm) Right Turn on Red Satd. Flow (perm) Right Turn on Red Satd. Flow (perm) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All. Red Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach Delay Approach Dos Control Delay Coueue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Solvage Cap Reductn Storage								
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LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						0.3		
Approach Delay Approach LOS Oueue Length 50th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						3.4		
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						Α		
Oueue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						3.4		
Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						A		
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						46 53		
Turn Bay Length (ft) Base Capacity (vph) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110		27			160	119		
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110		21			100	119		
Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						3559		
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						1603		
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						0		
Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						0		
Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						0.53		
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110						0.00		
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110								
Actuated Cycle Length: 110 Offset: 76 (69%), Referenced Natural Cycle: 110	Type:	Other						
Offset: 76 (69%), Referenced Natural Cycle: 110		,						
Natural Cycle: 110			DT Ctort	of Cross				
rvatural Cycle: 110 Control Tyne: Actuated-Coord		eu to pnase 1:S	BI, Start	or Green				
D100.7-D9IKIIDA 90VT IOTUU.	ral Type: Actuated Car	ardinated						
Maximum v/c Ratio: 0.32	num v/c Potic: 0.22	ordinated						
Intersection Signal Delay: 3.4		1.4			Int	ersection	10S- A	
Intersection Capacity Utilization							Service A	
Analysis Period (min) 15					10		20. FIGUR	

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street





	•	•	†	~	-	↓	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations	VVDL	****	A.A.	HUIN	JUL	וטט	,,,,
Traffic Volume (vph)	0	0	↑↑ 655	0	0	0	
Future Volume (vph)	0	0	655	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.70	1.00	1.00	1.00	
FIt Protected							
Satd. Flow (prot)	0	0	3505	0	0	0	
	U	U	2202	U	U	U	
Fit Permitted	0	0	2505	0	0	0	
Satd. Flow (perm)	0	0 Voc	3505		0	0	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR) Link Speed (mph)	25		25			25	
			25				
Link Distance (ft)	111		264			262	
Travel Time (s)	3.0	0.00	7.2	0.07	0.00	7.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	
Adj. Flow (vph)	0	0	675	0	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	675	0	0	0	
Turn Type			NA				
Protected Phases			1				5
Permitted Phases							
Detector Phase			1				
Switch Phase							
Minimum Initial (s)			8.0				8.0
Minimum Split (s)			74.0				26.0
Total Split (s)			74.0				36.0
Total Split (%)			67.3%				33%
Maximum Green (s)			69.0				31.0
Yellow Time (s)			3.0				3.0
All-Red Time (s)			2.0				2.0
Lost Time Adjust (s)			-1.0				
Total Lost Time (s)			4.0				
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			62.0				14.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)			70.0				
Actuated g/C Ratio			0.64				
v/c Ratio			0.30				
Control Delay			1.8				
Queue Delay			0.2				
Total Delay			2.1				
LOS			A				
Approach Delay			2.1				
Approach LOS			Α.				
Queue Length 50th (ft)			16				
Queue Length 95th (ft)			21				
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)	Ji		104			102	
Base Capacity (vph)			2230				
Starvation Cap Reductn			757				
Spillback Cap Reductn			757				
			0				
Storage Cap Reductn							
Reduced v/c Ratio			0.46				
Intersection Summary							
	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 92 (84%), Referenced to	phase 1·N	IBTL Star	t of Green				
Natural Cycle: 100	, priase 1.1V	JIL, JIAI	. or Orcell				
Natural Cycle. 100 Control Type: Actuated-Coordir	hated						
Maximum v/c Ratio: 0.45	iulcu						
Intersection Signal Delay: 2.1				Int	ersection	10S: A	
Intersection Signal Delay: 2.1 Intersection Capacity Utilization	21 /0/					Service A	
intersection Capacity Utilization Analysis Period (min) 15	∠1.470			IC	o reaei 0i	Service A	

	•	•	†	~	>	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ 154					414
Traffic Volume (vph)		0	0	0	130	868
Future Volume (vph) Ideal Flow (vphpl)	154 1900	0 1900	0 1900	0 1900	130 1900	868 1900
Lane Width (ft)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97					0.99
Frt Flt Protected	0.950					0.994
Satd. Flow (prot)	2929	0	0	0	0	4549
Flt Permitted	0.950		- 0	0	U	0.994
Satd. Flow (perm)	2849	0	0	0	0	4517
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	25		25			OF.
Link Speed (mph) Link Distance (ft)	25 195		25 199			25 185
Travel Time (s)	5.3		5.4			5.0
Confl. Peds. (#/hr)	19				124	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.99	0.99
Heavy Vehicles (%)	4%	0%	0%	0%	2%	2%
Adj. Flow (vph)	160	0	0	0	131	877
Shared Lane Traffic (%) Lane Group Flow (vph)	160	0	0	0	0	1008
Turn Type	Prot	3		0	Split	NA
Protected Phases	5				1	1
Permitted Phases						
Detector Phase	5				1	1
Switch Phase Minimum Initial (s)	8.0				8.0	8.0
Minimum Split (s)	29.0				81.0	81.0
Total Split (s)	29.0				81.0	81.0
Total Split (%)	26.4%				73.6%	73.6%
Maximum Green (s)	23.0				76.0	76.0
Yellow Time (s)	3.0 3.0				3.0 2.0	3.0 2.0
All-Red Time (s) Lost Time Adjust (s)	-1.0				2.0	-1.0
Total Lost Time (s)	5.0					4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0 May				2.0	2.0
Recall Mode Walk Time (s)	Max 7.0				C-Max 7.0	C-Max 7.0
Flash Dont Walk (s)	16.0				69.0	69.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	24.0					77.0
Actuated g/C Ratio	0.22					0.70
v/c Ratio	0.25					0.32
Control Delay Queue Delay	8.2 0.4					1.7 0.2
Total Delay	8.6					1.9
LOS	Α.					Α
Approach Delay	8.6					1.9
Approach LOS	A					A
Queue Length 50th (ft)	8					29
Queue Length 95th (ft) Internal Link Dist (ft)	12 115		119			20 105
Turn Bay Length (ft)	113		117			103
Base Capacity (vph)	639					3184
Starvation Cap Reductn	203					1188
Spillback Cap Reductn	0					0
Storage Cap Reductn	0 27					0
Reduced v/c Ratio	0.37					0.51
Intersection Summary						
Area Type:	CBD					
Cycle Length: 110 Actuated Cycle Length: 1	ın					
Offset: 76 (69%), Referen		SRT Star	t of Green			
Natural Cycle: 110	con to burge 1	الفاد , ا داد.	or Green			
Control Type: Actuated-C	oordinated					
Maximum v/c Ratio: 0.32						
Intersection Signal Delay:					ersection	
Intersection Capacity Utili. Analysis Period (min) 15	zation 35.7%			IC	U Level of	Service A
Analysis reliou (IIIIII) 15						

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St

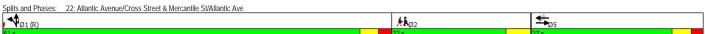




If Producted	Lanes, Volumes, Tir	nings												
New Company Test		•		`	_	←	•	•	†	<i>></i>	-	1	1	
The Control of Contr		-		-	-		_			-				~
and Eventure (php)		EBL		EBR	WBL		WBR	NBL			SBL	SBT	SBR	Ø2
where Votume (par) and Effective (pring) and Effective (pring) and Effective (pring) by the Votume (pring) and Effective (pring) and Effective (pring) by the Votume (pring) by the Votume (pring) and Effective (pring) and Effective (pring) by the Votume (pring) and Effective (pring) and Effective (pring) by the Votume (pring) and Effective (pring) by the Votume (pring) and Effective (pring) by the Votume (pring) continued (pring			ને∱	_	_				-41↑		_	_		
Seal From (prophy) 1900														
Section Sect														
ame Ulli Fador 05 05 05 10 100			1900	1900	1900									
ed Bise Fador 0.993 0.890 1.990														
In Processor 1975 1		0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Protected 0	Ped Bike Factor													
aid: Flave grow) 0 3 383	-rt					0.983				0.850				
Permitted	It Protected		0.991						0.998					
Permitted 0.884 0.984 0.985	Satd. Flow (prot)	0	3063	0	0	1544	0	0	3122	1454	0	0	0	
Ight Turn on Red Yes Yes No Yes No No No No No No No N	It Permitted		0.884											
Ight Turn on Red Yes Yes No Yes No No No No No No No N		0		0	0	1544	0	0		1454	0	0	0	
side Flow (PTOR) 25 25 25 25 25 25 25 25 25 193 Percentage (PTOR) Per														
nk Spane (glup)						6								
ink Distance (ii)			25						25			25		
Travel Time (s)														
onth Pecks (rifty) onth Bakes (r														
ont Black (Am) eakle Hour Factor 0			0.5			12.0	14		7.1			ა.ა		
cask Hour Feature 0.96 0.96 0.97 0.97 0.97 0.97 0.97 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.93 0.96 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
aay Vehicles (%) 0% 2% 0% 0% 5% 0% 0% 4% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%		0.07	0.07	0.07	0.07	0.07		0.07	0.07		0.00	0.00	0.00	
Before (right) 25 110 0 0 143 21 15 410 249 0 0 0 0 0 0 0 0 0														
hared Lang Traffic (%) one Group Flow (typh) of 135 of 164 of 0, 425 of 147 one Group Flow (typh) one Group														
ane Group Flow (phy) 0 135 0 0 164 0 0 425 249 0 0 0 0 um m Type Perm NA NA Split NA Prot Colorated Phases 5 5 5 5 1 1 1 1 1 2 2 elector Phase 5 5 5 5 5 1 1 1 1 1 2 2 elector Phase 5 5 5 5 5 1 1 1 1 1 2 2 elector Phase 6 5 5 5 5 5 1 1 1 1 1 1 2 4 4 4 4 4 4 4 4 4 4 4 4 4		25	110	0	0	143	21	15	410	249	0	0	0	
um Type														
related Phases 5 5 5 5 1 1 1 1 1 2 2				0	0		0				0	0	0	
Section Phases 5 5 5 5 5 1 1 1 1 1	urn Type	Perm								Prot				
elector Phase 5 5 5 1 1 1 1 1 1 1	Protected Phases		5			5		1	1	1				2
wilch Phase Infinum Infilial (s)	Permitted Phases	5												
wilch Phase Infinum Infilial (s)	Detector Phase	5	5			5		1	1	1				
Infinitum Spill (s) 270	Switch Phase													
polal Split (s) 27.0 27.0 27.0 27.0 61.0 61.0 61.0 22.0 cold split (s) 24.5% 24.5% 55.5% 5	Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0	8.0				8.0
polal Split (s) 27.0 27.0 27.0 27.0 61.0 61.0 61.0 22.0 cold split (s) 24.5% 24.5% 55.5% 5	Minimum Split (s)	27.0	27.0			27.0		61.0	61.0	61.0				22.0
Assimum Green (s) 22 0 22 0 22 0 56.0 56.0 56.0 18.0	Total Split (s)													
Assimum Green (s) 22 0 22 0 22 0 56.0 56.0 56.0 18.0	Fotal Split (%)	24.5%	24.5%			24.5%		55.5%	55.5%	55.5%				20%
ellow Time (s)														
Dast Time Adjust (s)														
total Lost Time (s) 4.0<		2.0						2.0						0.00
Lead Lead Lead Lead Lead Lag														
Part Part			4.0			1.0		Lead						Lan
ehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0								LCdu	LCau	LCdu				Eag
ecall Mode		2.0	2.0			2.0		2.0	2.0	2.0				2.0
Valk Time (s) 7.0 10.0 7.0 7.0 7.0 10.0 9.0 7.0 8.0 8.0 8.0 8.0														
Jash Dont Walk (s) 15.0 15.0 15.0 49.0 49.0 49.0 11.0 edestrian Calls (#/hr) 0 0 0 0 0 0 c Effct Green (s) 23.0 23.0 57.0 57.0 ctuated g/C Ratio 0.21 0.21 0.52 0.52 c Ratio 0.24 0.50 0.26 0.33 ontrol Delay 43.8 43.1 17.7 19.2 ueue Delay 1.9 0.0 0.6 1.2 otal Delay 45.7 43.1 18.3 20.4 OS D D B C pproach Delay 45.7 43.1 19.1 pproach LOS D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 ueue Length 95th (ft) 88 169 105 128 um Bay Length (ft) 377 182 113 um Bay Length (ft) 310 0 802 309 pillblack Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
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ctuated g/C Ratio 0.21 0.21 0.52 0.52 c Ratio 0.24 0.50 0.26 0.33 ontrol Delay 43.8 43.1 17.7 19.2 ueue Delay 1.9 0.0 0.6 1.2 otal Delay 45.7 43.1 18.3 20.4 OS D D B C pproach LOS D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 ternal Link Dist (ft) 115 377 182 113 um Bay Length (ft) 377 182 113 um Bay Length (ft) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillblack Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0		U						U						U
Ce Ratio 0.24 0.50 0.26 0.33 ontrol Delay 43.8 43.1 17.7 19.2 ueue Delay 1.9 0.0 0.6 1.2 otal Delay 45.7 43.1 18.3 20.4 OS D D B C opproach Delay 45.7 43.1 19.1 proach LOS D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 tereal Link Dist (ft) 115 377 182 113 urn Bay Length (ft) ass Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0														
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ueue Delay 1.9 0.0 0.6 1.2 otal Delay 45.7 43.1 18.3 20.4 oproach Delay 45.7 43.1 19.1 pproach LOS D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 ternal Link Dist (ft) 115 377 182 113 um Bay Length (ft) ase Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0														
otal Delay 45.7 43.1 18.3 20.4 OS D D B C pproach Delay 45.7 43.1 19.1 pproach LOS D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 terreal Link Dist (ft) 115 377 182 113 um Bay Length (ft) ase Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 0 torage Cap Reductn 0 0 0 0 0														
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pproach Delay 45.7 43.1 19.1 pproach LOS D D B B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 ternal Link Dist (ft) 115 377 182 113 urm Bay Length (ft) ase Capacity (vph) 571 327 1617 753 tarvation Cap Reducth 310 0 802 309 pillback Cap Reducth 0 0 0 0 0 torage Cap Reducth 0 0 0 0 0														
D D B ueue Length 50th (ft) 53 99 66 74 ueue Length 95th (ft) 88 169 105 128 ternal Link Dist (ft) 115 377 182 113 um Bay Length (ft) ase Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 0 torage Cap Reductn 0 0 0 0 0	OS									С				
Leueu Length 50th (ft) 53 99 66 74 Leueu Length 95th (ft) 88 169 105 128 Leteral Link Dist (ft) 115 377 182 113 Lemal Link Dist (ft) 15 377 182 113 Lemal Link Dist (ft) 15 377 1617 753 Leavalion Cap Reducth 310 0 802 309 Leteral Link Cap Reducth 0 0 0 0 0 Lorage Cap Reducth 0 0 0 0 0 0	pproach Delay													
ueue Length 95th (ft) 88 169 105 128 termal Link Dist (ft) 115 377 182 113 urn Bay Length (ft) 115 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0														
ueue Length 95th (ft) 88 169 105 128 termal Link Dist (ft) 115 377 182 113 urn Bay Length (ft) 115 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0	lueue Length 50th (ft)													
Internal Link Dist (ft) 115 377 182 113 urn Bay Length (ft) 350 1617 753 ase Capacity (vph) 571 327 1617 753 atravation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0	Queue Length 95th (ft)					169				128				
urn Bay Length (ft) ase Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 0 torage Cap Reductn 0 0 0 0 0	nternal Link Dist (ft)											113		
ase Capacity (vph) 571 327 1617 753 tarvation Cap Reductn 310 0 802 309 tipliback Cap Reductn 0 0 0 0 0 torage Cap Reductn 0 0 0 0									·-					
tarvation Cap Reductn 310 0 802 309 pillback Cap Reductn 0 0 0 0 torage Cap Reductn 0 0 0 0			571			327			1617	753				
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lorage Cap Reducth 0 0 0 0														
CAUGUCA VIO NATIO 0.52 0.50 0.52 0.50														
	ACCURACE OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF THE INTERIOR OF T		0.02			0.50			0.02	0.30				

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 71 (65%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 26.8
Intersection Capacity Utilization 41.7%
Analysis Period (min) 15 Intersection LOS: C ICU Level of Service A



	•	→	•	•	←	•	4	†	~	-	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations				7	4						**		
Fraffic Volume (vph)	0	0	0	443	175	0	0	0	0	0	555	90	
Future Volume (vph)	0	0	0	443	175	0	0	0	0	0	555	90	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft) ane Util. Factor	12 1.00	12 1.00	12 1.00	14 0.95	16 0.95	12 1.00	1.00	12 1.00	12 1.00	1.00	12 0.91	12 0.91	
Ped Bike Factor	1.00	1.00	1.00	0.90	0.90	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Frt											0.979		
Flt Protected				0.950	0.979								
Satd. Flow (prot)	0	0	0	1614	1767	0	0	0	0	0	4438	0	
Fit Permitted	0	0	0	0.950	0.979	0	0	٥	0	0	4420	0	
Satd. Flow (perm) Right Turn on Red	0	U	Yes	1614 No	1767	Yes	U	0	Yes	0	4438	Yes	
Satd. Flow (RTOR)			103	140		103			103		28	103	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s)		7.6			3.2			5.0			12.4	44	
Confl. Bikes (#/hr) Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	44 0.98	
Heavy Vehicles (%)	0.92	0.92	0.92	0.98	2%	0.98	0.92	0.92	0.92	0.98	2%	1%	
Adj. Flow (vph)	0 / 0	078	0.0	452	179	0.00	078	0/8	078	0 /8	566	92	
Shared Lane Traffic (%)				30%									
Lane Group Flow (vph)	0	0	0	316	315	0	0	0	0	0	658	0	
Turn Type				Split	NA						NA		_
Protected Phases Permitted Phases				5	5						1		2
Detector Phases				5	5						1		
Switch Phase				3	J								
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				51.0	51.0						35.0		24.0
Total Split (s)				51.0	51.0						35.0		24.0
Total Split (%) Maximum Green (s)				46.4% 46.0	46.4% 46.0						31.8% 29.0		22% 20.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag											Lead		Lag
Lead-Lag Optimize? Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				39.0	39.0						22.0		13.0
Pedestrian Calls (#/hr)				0	0						0		0
Act Effct Green (s)				48.0	48.0						31.0		
Actuated g/C Ratio v/c Ratio				0.44 0.45	0.44 0.41						0.28 0.52		
Control Delay				24.3	23.3						28.6		
Queue Delay				0.0	0.0						0.0		
Total Delay				24.3	23.3						28.6		
LOS				С	C						C		
Approach LOS					23.8						28.6 C		
Approach LOS Queue Length 50th (ft)				161	C 156						113		
Queue Length 95th (ft)				244	235						174		
Internal Link Dist (ft)		197			38			105			375		
Turn Bay Length (ft)													
Base Capacity (vph)				704	771						1270		
Starvation Cap Reductn				0	0						0		
Spillback Cap Reductn Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.45	0.41						0.52		
				0.10	0.11						0.02		
Intersection Summary Area Type:	CBD												
Area Type: Cycle Length: 110	CDD												
Actuated Cycle Length: 110													
Offset: 4 (4%), Referenced to	phase 1:SBT	, Start of	Green										
Natural Cycle: 110													
Control Type: Actuated-Coord	linated												
Maximum v/c Ratio: 0.52 Intersection Signal Delay: 26.	2			J.	tersection	108.0							
Intersection Signal Delay: 26. Intersection Capacity Utilization						Service A							
				10	C LCVCI UI	JUI VILL H							

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp

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Lana Craun		WDD		-	CDI	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	0	62	↑↑ 442	0	0	0
Traffic Volume (vph)	0	62		0	0	0
Future Volume (vph)		1000	442		1000	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12 0.95	12	12	12
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frt Flt Protected		0.865				
	^	1500	2124	0	0	0
Satd. Flow (prot) Flt Permitted	0	1509	3124	0	0	0
	0	1509	2124	0	0	0
Satd. Flow (perm) Right Turn on Red	0	Yes	3124	Yes	U	0
Satd. Flow (RTOR)		436		162		
Link Speed (mph)	25	430	25			25
Link Distance (ft)	559		193			493
Travel Time (s)	15.2		5.3			13.4
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Parking (#/hr)	0%	0%	4 70	070	070	0 /0
Adj. Flow (vph)	0	68	465	0	0	0
Shared Lane Traffic (%)	U	00	400	U	U	U
Lane Group Flow (vph)	0	68	465	0	0	0
Turn Type	U	Prot	NA	U	U	U
Protected Phases		5	1			
Permitted Phases		J	-			
Detector Phase		5	1			
Switch Phase		J				
Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		33.0	77.0			
Total Split (s)		33.0	77.0			
Total Split (%)		30.0%	70.0%			
Maximum Green (s)		29.0	72.0			
Yellow Time (s)		3.0	3.0			
All-Red Time (s)		1.0	2.0			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	5.0			
Lead/Lag		5				
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode		Max	C-Max			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		22.0	65.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s)		29.0	72.0			
Actuated g/C Ratio		0.26	0.65			
v/c Ratio		0.09	0.23			
Control Delay		0.3	1.8			
Queue Delay		0.0	0.3			
Total Delay		0.3	2.2			
LOS		Α	Α			
Approach Delay	0.3		2.2			
Approach LOS	Α		Α			
Queue Length 50th (ft)		0	18			
Queue Length 95th (ft)		0	23			
Internal Link Dist (ft)	479		113			413
Turn Bay Length (ft)						
Base Capacity (vph)		718	2044			
Starvation Cap Reductn		0	972			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.09	0.43			
Intersection Summary	CDD					
Area Type:	CBD					
Cycle Length: 110						
Actuated Cycle Length: 110		IDT :	-4.0			
Offset: 68 (62%), Referenced	to phase 1:f	NBT, Start	of Green			
Natural Cycle: 110						
Control Type: Actuated-Coord	dinated					
Maximum v/c Ratio: 0.23						
					tersection	

Splits and Phases: 24: Atlantic Avenue/Cross Street & Commercial Street



Lanes, Volumes, Tim	ings •				—	_	_	_		<u> </u>		1
		→	*	•			1	†	~		ţ	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Traffic Volume (vph)	0	0	7 99	247	4↑↑ 322	0	0	0	0	0	↑↑ 299	63
Future Volume (vph)	0	0	99	247	322	0	0	0	0	0	299	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor Frt			0.865								0.97 0.974	
FIt Protected			0.000		0.979						0.774	
Satd. Flow (prot)	0	0	1465	0	3136	0	0	0	0	0	2985	0
Flt Permitted			4		0.979						00	
Satd. Flow (perm) Right Turn on Red	0	0	1465 No	0 No	3136	0 Yes	0	0	0 Yes	0	2985	0 Yes
Satd. Flow (RTOR)			INU	INU		162			162		23	162
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		127			177			455			423	
Travel Time (s)		3.5			4.8			12.4			11.5	125
Confl. Peds. (#/hr) Confl. Bikes (#/hr)												135 40
Peak Hour Factor	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	0.99	0.99	0.99
Heavy Vehicles (%)	0.75	0.73	1%	2%	1%	0.97	0.72	0.72	0.72	0.77	3%	2%
Parking (#/hr)												0
Adj. Flow (vph)	0	0	104	255	332	0	0	0	0	0	302	64
Shared Lane Traffic (%)	0	0	104	0	F07	0	0	0	0	0	2//	
Lane Group Flow (vph) Turn Type	0	0	104 Perm	0 Perm	587 NA	0	0	0	0	0	366 NA	0
Protected Phases			reilli	reilli	NA 1						NA 3	
Permitted Phases			1	1							3	
Detector Phase			1	1	1						3	
Switch Phase												
Minimum Initial (s)			10.0	10.0	10.0						10.0	
Minimum Split (s) Total Split (s)			73.0 73.0	73.0 73.0	73.0 73.0						37.0 37.0	
Total Split (%)			66.4%	66.4%	66.4%						33.6%	
Maximum Green (s)			64.0	64.0	64.0						32.0	
Yellow Time (s)			3.0	3.0	3.0						3.0	
All-Red Time (s)			6.0	6.0	6.0						2.0	
Lost Time Adjust (s) Total Lost Time (s)			-5.0 4.0		-5.0 4.0						-1.0 4.0	
Lead/Lag			4.0		4.0						4.0	
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0						2.0	
Recall Mode			C-Max	C-Max	C-Max						Max	
Walk Time (s)			7.0	7.0	7.0						7.0	
Flash Dont Walk (s) Pedestrian Calls (#/hr)			57.0 0	57.0 0	57.0 0						25.0 0	
Act Effct Green (s)			69.0	U	69.0						33.0	
Actuated g/C Ratio			0.63		0.63						0.30	
v/c Ratio			0.11		0.30						0.40	
Control Delay			8.6		9.9						30.2	
Queue Delay			0.0		0.0						0.0	
Total Delay LOS			8.6 A		9.9 A						30.2 C	
Approach Delay		8.6	Α.		9.9						30.2	
Approach LOS		A			Α						С	
Queue Length 50th (ft)			27		92						101	
Queue Length 95th (ft)			50		122			0.75			144	
Internal Link Dist (ft)		47			97			375			343	
Turn Bay Length (ft) Base Capacity (vph)			918		1967						911	
Starvation Cap Reductn			918		1967						911	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.11		0.30						0.40	
Intersection Summary												
Area Type: C	CBD											
Cycle Length: 110												
Actuated Cycle Length: 110	4 1 1	MDTI C										
Offset: 104 (95%), Referenced Natural Cycle: 110	to phase 1:	WBIL, SI	art of Gree	en								
Control Type: Actuated-Coordin	nated											
Maximum v/c Ratio: 0.40												
Intersection Signal Delay: 16.8					ntersection							
Intersection Capacity Utilization	62.9%			IC	CU Level o	f Service B						
Analysis Period (min) 15												
Splits and Phases: 25: Surfa	ce/Purchasi	o/S∆SR ₽	North Str	-pet/I_03 N	R ∩ff-Pam	ın						
-	CC/F UI CII a Si	CI SASD 6	(1101111 311	CCI/I-73 IV	D OII-Naii	ıp						
▼ Ø1 (R)												
73 s												

Lanes, Volumes, T	imings												2. Addition Wellac, 01000 Offeet a 1 00 Off Hamphoriti Offee
	٠	-	*	•	—	•	1	†	~	\	+	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	ሻ	ની											
Traffic Volume (vph)	521	44	0	0	0	0	0	↑↑ 471	33	0	0	0	
Future Volume (vph)	521	44	0	0	0	0	0	471	33	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
Ped Bike Factor Frt								0.99					
FIt Protected	0.950	0.960						0.990					
Satd. Flow (prot)	1498	1521	0	0	0	0	0	3078	0	0	0	0	
Flt Permitted	0.950	0.960											
Satd. Flow (perm)	1498	1521	0	0	0	0	0	3078	0	0	0	0	
Right Turn on Red	No		Yes			Yes		_	Yes			Yes	
Satd. Flow (RTOR)		٥٢			٥٢			7			٥٢		
Link Speed (mph) Link Distance (ft)		25 169			25 386			25 493			25 376		
Travel Time (s)		4.6			10.5			13.4			10.3		
Confl. Bikes (#/hr)									68				
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	
Adj. Flow (vph)	537	45	0	0	0	0	0	496	35	0	0	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	42% 311	271	0	0	0	0	0	531	0	0	0	0	
Turn Type	Split	NA	U	U	U	U	U	NA	U	U	U	U	
Protected Phases	3piit	1						5					2
Permitted Phases	•	•						Ü					-
Detector Phase	1	1						5					
Switch Phase													
Minimum Initial (s)	8.0	8.0						8.0					8.0
Minimum Split (s)	15.0	15.0						14.0					18.0
Total Split (s) Total Split (%)	57.0 51.8%	57.0 51.8%						35.0 31.8%					18.0 16%
Maximum Green (s)	52.0	52.0						30.0					14.0
Yellow Time (s)	3.0	3.0						3.0					4.0
All-Red Time (s)	2.0	2.0						2.0					0.0
Lost Time Adjust (s)	-1.0	-1.0						-1.0					
Total Lost Time (s)	4.0	4.0						4.0					
Lead/Lag Lead-Lag Optimize?	Lead	Lead											Lag
Vehicle Extension (s)	2.0	2.0						2.0					2.0
Recall Mode	C-Max	C-Max						Max					Ped
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)	F2 0	F2.0						21.0					0
Act Effct Green (s) Actuated g/C Ratio	53.0 0.48	53.0 0.48						31.0 0.28					
v/c Ratio	0.43	0.40						0.20					
Control Delay	21.0	19.8						44.4					
Queue Delay	0.0	0.0						0.0					
Total Delay	21.0	19.8						44.4					
LOS	С	В						D					
Approach Delay Approach LOS		20.5 C						44.4 D					
Queue Length 50th (ft)	146	123						207					
Queue Length 95th (ft)	224	190						264					
Internal Link Dist (ft)		89			306			413			296		
Turn Bay Length (ft)													
Base Capacity (vph)	721	732						872					
Starvation Cap Reductn	0	0						0					
Spillback Cap Reductn Storage Cap Reductn	0	0						0					
Reduced v/c Ratio	0.43	0.37						0.61					
Intersection Summary	- ·-	-						-					
Area Type:	CBD												
Cycle Length: 110	CDD												
Actuated Cycle Length: 110)												
Offset: 72 (65%), Reference		EBTL, Star	t of Green										
Natural Cycle: 60													
Control Type: Actuated-Coo	ordinated												
Maximum v/c Ratio: 0.61 Intersection Signal Delay: 3	10			Ini	tersection	108.0							
Intersection Signal Delay: 3 Intersection Capacity Utiliza						LUS: C f Service <i>F</i>							
Analysis Period (min) 15				10	S ECVCI U	. JOI VICE P							
,													
Splits and Phases: 26: Al	tlantic Avenue	Cross Stre	eet & I-93 C	Off-Ramp/	North Stre	et							
★										4.1			│ ↑

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	LDL.	<u>LDI</u>	LDIN	WDL	₩B1	WDIN	HUL		NDIN	JUL	201	JUIN
Traffic Volume (vph)	26	T 42	0	0	97	85	247	41} 674	71	0	0	0
Future Volume (vph)	26	42	0	0	97	85	247	674	71	0	0	0
							1900	1900				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.76				0.84			0.86				
Frt					0.937			0.989				
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1562	1676	0	0	1306	0	0	2885	0	0	0	0
FIt Permitted	0.542							0.988				
Satd. Flow (perm)	680	1676	0	0	1306	0	0	2649	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								13				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		157			265			376			181	
					7.2							
Travel Time (s)	401	4.3			1.2	407	20.1	10.3	2/40		4.9	
Confl. Peds. (#/hr)	496					496	394		2640			
Confl. Bikes (#/hr)						10			67			
Peak Hour Factor	0.85	0.85	0.85	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	4%	2%	4%	0%	2%	4%	0%	5%	0%	0%	0%	0%
Parking (#/hr)									0			
Adj. Flow (vph)	31	49	0	0	104	91	252	688	72	0	0	0
Shared Lane Traffic (%)	31	47	U	U	104	71	202	300	12	U	U	U
	21	40	0	0	105	0		1012	0	0	0	0
Lane Group Flow (vph)	31	49	0	0	195	0	0	1012	0	0	U	U
Turn Type	Perm	NA			NA		Split	NA				
Protected Phases		5			5		1	1				
Permitted Phases	5											
Detector Phase	5	5			5		1	1				
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0				
Minimum Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (%)	35.5%	35.5%			35.5%		64.5%	64.5%				
Maximum Green (s)	34.0	34.0			34.0		66.0	66.0				
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0			-1.0				
Total Lost Time (s)	4.0	4.0			4.0			4.0				
Lead/Lag		1.0			1.0			1.0				
Lead-Lag Optimize?												
	2.0	2.0			2.0		2.0	2.0				
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Recall Mode	Max	Max			Max		C-Max	C-Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	27.0	27.0			27.0		59.0	59.0				
Pedestrian Calls (#/hr)	50	50			50		0	0				
Act Effct Green (s)	35.0	35.0			35.0			67.0				
Actuated g/C Ratio	0.32	0.32			0.32			0.61				
v/c Ratio	0.32	0.32			0.32			0.57				
Control Delay	29.1	27.1			34.6			5.2				
Queue Delay	0.0	0.0			0.0			0.4				
Total Delay	29.1	27.1			34.6			5.7				
LOS	С	С			С			Α				
Approach Delay		27.8			34.6			5.7				
Approach LOS		С			С			Α				
Queue Length 50th (ft)	16	24			110			44				
Queue Length 95th (ft)	38	50			181			54				
	38										101	
Internal Link Dist (ft)		77			185			296			101	
Turn Bay Length (ft)												
Base Capacity (vph)	216	533			415			1762				
Starvation Cap Reductn	0	0			0			315				
Spillback Cap Reductn	0	0			0			273				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.14	0.09			0.47			0.70				
	0.14	0.07			0.47			0.70				
Intersection Summary												
Area Type:	CBD											
	000											

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 43 (39%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 11.5
Intersection Capacity Utilization 90.0%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service E

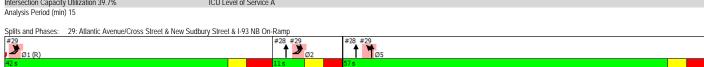
Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street





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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø5
Lane Configurations	**DL		†	DIX	ODL	501	<i>D</i> 1	~L	20
Traffic Volume (vph)	0	0	757	28	0	0			
Future Volume (vph)	0	0	757	28	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00			
Ped Bike Factor			0.99						
Frt Flt Protected			0.995						
Satd. Flow (prot)	0	0	3468	0	0	0			
Flt Permitted	U	U	3400	U	U				
Satd. Flow (perm)	0	0	3468	0	0	0			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)			6						
Link Speed (mph)	25		25			25			
Link Distance (ft)	221		181			194			
Travel Time (s)	6.0		4.9			5.3			
Confl. Peds. (#/hr)				152					
Confl. Bikes (#/hr)	0.00	0.00	0.00	57	0.00	0.00			
Peak Hour Factor	0.92	0.92	0.98	0.98	0.92	0.92			
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%			
Adj. Flow (vph) Shared Lane Traffic (%)	0	0	772	29	0	0			
Shared Lane Traffic (%) Lane Group Flow (vph)	0	0	801	0	0	0			
Turn Type	U	U	NA	U	U	U			
Protected Phases			NA 25				1	2	5
Permitted Phases			2 3				-		Ü
Detector Phase			25						
Switch Phase			2.0						
Minimum Initial (s)							10.0	4.0	10.0
Minimum Split (s)							42.0	10.0	57.0
Total Split (s)							42.0	11.0	57.0
Total Split (%)							38%	10%	52%
Maximum Green (s)							35.0	5.0	51.0
Yellow Time (s)							3.0	3.0	3.0
All-Red Time (s)							4.0	3.0	3.0
Lost Time Adjust (s)									
Total Lost Time (s)									
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							2.0	2.0	2.0
Vehicle Extension (s) Recall Mode								2.0 May	
Walk Time (s)							C-Max 7.0	Max	Max 7.0
Flash Dont Walk (s)							28.0		44.0
Pedestrian Calls (#/hr)							28.0		30
Act Effct Green (s)			62.0				U		30
Actuated g/C Ratio			0.56						
v/c Ratio			0.30						
Control Delay			10.0						
Queue Delay			0.9						
Total Delay			10.9						
LOS			В						
Approach Delay			10.9						
Approach LOS			В						
Queue Length 50th (ft)			164						
Queue Length 95th (ft)			183						
Internal Link Dist (ft)	141		101			114			
Turn Bay Length (ft)									
Base Capacity (vph)			1957						
Starvation Cap Reductn			821						
Spillback Cap Reductn			197						
Storage Cap Reductn			0 71						
Reduced v/c Ratio			0.71						
Intersection Summary	Othor								
	Other								
Cycle Length: 110									
Actuated Cycle Length: 110	to pho 1 "	DI Ct	of Cr						
Offset: 16 (15%), Referenced	ю pnase 1:Е	.BL, Start (ui Green						
Natural Cycle: 110	linated								
Control Type: Actuated-Coord Maximum v/c Ratio: 0.49	mated								
Intersection Signal Delay: 10.	0			Int	ersection	I OS: P			
Intersection Capacity Utilization					U Level of		١		
Analysis Period (min) 15	JII 21.170			10	O ECACI ()	JUI VICE F			
Splits and Phases: 28: Atla	ntic Avenue/	Cross Stra	et & Saler	n Street					
	nuc Avenue/	21022 2016	et & Salei	ii Sireei			#20 #20		#20
#29							#28 #29		#28

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						-					
ane Group	EBL2	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER	Ø1	Ø2
ane Configurations		44			4↑↑ 622						
raffic Volume (vph)	170	106	0	135		0	0	0	0		
Future Volume (vph)	170	106	0	135	622	0	0	0	0		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	12	13	12	11	11	12	12	12	12		
ane Util. Factor	0.95	0.97	1.00	0.95	0.95	1.00	1.00	1.00	1.00		
rt 'It Drotootod		0.050			0.001						
Flt Protected		0.950			0.991						
Satd. Flow (prot)	0	3547	0	0	3317	0	0	0	0		
Fit Permitted	^	0.950	^	_	0.991	_	^	_	^		
Satd. Flow (perm)	0	3547	0	0	3317	0	0	0	0		
Right Turn on Red	No		Yes								
Satd. Flow (RTOR)		25			25	25		25			
Link Speed (mph)		25			25	25		25			
Link Distance (ft)		112			194	254		234			
Fravel Time (s)	0.07	3.1	0.07	0.00	5.3	6.9	0.00	6.4	0.00		
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	2%	2%	0%	10%	3%	0%	0%	0%	0%		
Adj. Flow (vph)	177	110	0	138	635	0	0	0	0		
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	287	0	0	773	0	0	0	0		
Turn Type	Prot	Prot		Split	NA						
Protected Phases	12	12		5	5					1	2
Permitted Phases											
Detector Phase	12	12		5	5						
Switch Phase											
Minimum Initial (s)				10.0	10.0					10.0	4.0
Minimum Split (s)				57.0	57.0					42.0	10.0
Total Split (s)				57.0	57.0					42.0	11.0
Total Split (%)				51.8%	51.8%					38%	10%
Maximum Green (s)				51.0	51.0					35.0	5.0
Yellow Time (s)				3.0	3.0					3.0	3.0
All-Red Time (s)				3.0	3.0					4.0	3.0
ost Time Adjust (s)					-1.0						
Total Lost Time (s)					5.0						
_ead/Lag					5.0					Lead	Lag
_ead-Lag Optimize?										Loud	Lug
Vehicle Extension (s)				2.0	2.0					2.0	2.0
Recall Mode				Max	Max					C-Max	Max
Walk Time (s)				7.0	7.0					7.0	APIAI
Flash Dont Walk (s)				44.0	44.0					28.0	
				30	30					28.0	
Pedestrian Calls (#/hr)		47.0		30	52.0					U	
Act Effct Green (s)											
Actuated g/C Ratio		0.43			0.47						
//c Ratio		0.19			0.49						
Control Delay		20.1			6.0						
Queue Delay		0.0			0.2						
Total Delay		20.1			6.2						
_OS		С			A						
Approach Delay		20.1			6.2						
Approach LOS		С			Α						
Queue Length 50th (ft)		63			203						
Queue Length 95th (ft)		92			58						
Internal Link Dist (ft)		32			114	174		154			
Turn Bay Length (ft)											
Base Capacity (vph)		1515			1568						
Starvation Cap Reductn		0			227						
Spillback Cap Reductn		0			0						
Storage Cap Reductn		0			0						
Reduced v/c Ratio		0.19			0.58						
ntersection Summary	0.1										
Area Type:	Other										
Cycle Length: 110											
Actuated Cycle Length: 110											
Offset: 16 (15%), Referenced	I to phase 1:E	BL, Start	of Green								
Natural Cycle: 110											
Control Type: Actuated-Coord	dinated										
Maximum v/c Ratio: 0.49											
ntersection Signal Delay: 10.	.0			In	tersection	LOS: A					
ntersection Capacity Utilization					U Level of		4				
				10							



TOW Chaighanza ma		о оцр	aony /			
	→	•	•	←	4	-
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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1≽			4	W	
Traffic Volume (veh/h)	56	189	1	2	17	1
Future Volume (Veh/h)	56	189	1	2	17	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.50	0.50	0.85	0.85
Hourly flow rate (vph)	60	201	2	4	20	1
Pedestrians	62			38	103	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	5			3	9	
Right turn flare (veh)	J			J		
Median type	None			None		
Median storage veh)	THORIC			TVOTIC		
Upstream signal (ft)	205					
pX, platoon unblocked	203		0.94		0.94	0.94
vC, conflicting volume			364		334	302
vC1, stage 1 conf vol			304		334	302
vC2, stage 2 conf vol						
vC2, stage 2 coni voi vCu, unblocked vol			290		257	223
			290 4.1		6.4	6.2
tC, single (s)			4.1		0.4	0.2
tC, 2 stage (s)			2.2		2.5	2.2
tF (s)					3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1101		598	683
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	261	6	21			
Volume Left	0	2	20			
Volume Right	201	0	1			
cSH	1700	1101	601			
Volume to Capacity	0.15	0.00	0.03			
Queue Length 95th (ft)	0.13	0.00	3			
Control Delay (s)	0.0	2.8	11.2			
Lane LOS	0.0	2.0 A	11.2 B			
Approach Delay (s)	0.0	2.8	11.2			
Approach LOS	0.0	2.0	11.2 B			
••			D			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			36.4%	IC	U Level of	Service
Analysis Period (min)			15			

HCM Unsignalized Inte	ersecti	on Cap	acity A	naiysis	j	
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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		W	
Traffic Volume (veh/h)	27	18	25	0	2	25
Future Volume (Veh/h)	27	18	25	0	2	25
Sign Control	21	Free	Free	0	Stop	2.5
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.82	0.82	0.81	0.81
	29	19	30	0.82	0.81	31
Hourly flow rate (vph)	29		35	U	137	31
Pedestrians		13				
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	3		11	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		179				
pX, platoon unblocked						
vC, conflicting volume	167				279	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	167				279	180
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					0.1	3.2
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	96
cM capacity (veh/h)	1261				601	761
					001	701
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	48	30	33			
Volume Left	29	0	2			
Volume Right	0	0	31			
cSH	1261	1700	748			
Volume to Capacity	0.02	0.02	0.04			
Queue Length 95th (ft)	2	0.02	3			
Control Delay (s)	4.9	0.0	10.0			
Lane LOS	Α.	0.0	В			
Approach Delay (s)	4.9	0.0	10.0			
Approach LOS	7.7	0.0	В			
			D			
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			26.7%	10	CU Level of	Service
Analysis Period (min)			15			

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Marrian	•	WDD	NDT	•	CDI	-
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		77.77	^	•		
Traffic Volume (veh/h)	0	24 24	821	0	0	0
Future Volume (Veh/h)	O Cton	24	821 Free	U	U	Free
Sign Control Grade	Stop 0%		0%			0%
Peak Hour Factor	0.79	0.79	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	0.79	30	855	0.90	0.92	0.92
Pedestrians	U	30	000	U	U	U
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			151			183
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	855	428			855	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	315	0			315	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	526	858			1004	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2		
Volume Total	15	15	428	428		
Volume Left	0	0	0	0		
Volume Right	15	15	0	0		
cSH	858	858	1700	1700		
Volume to Capacity	0.02	0.02	0.25	0.25		
Queue Length 95th (ft)	1	1	0	0		
Control Delay (s)	9.3	9.3	0.0	0.0		
	Α	Α				
Lane LOS						
Approach Delay (s)	9.3		0.0			
	9.3 A		0.0			
Approach Delay (s) Approach LOS Intersection Summary						
Approach Delay (s) Approach LOS			0.3			
Approach Delay (s) Approach LOS Intersection Summary				IC	CU Level o	f Service

HCM Unsignalized Inte	rsecuc	on Cap	acity A	naiysis		
	•	`	•	†	1	1
	-	•	•		•	
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				4	₽	
Traffic Volume (veh/h)	0	0	14	43	3	10
Future Volume (Veh/h)	0	0	14	43	3	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.81	0.81
Hourly flow rate (vph)	0	0	15	47	4	12
Pedestrians	104					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				460		
pX, platoon unblocked						
vC, conflicting volume	191	114	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	191	114	120			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	100	100	99			
cM capacity (veh/h)	794	944	1437			
			1437			
Direction, Lane #	NB 1	SB 1				
Volume Total	62	16				
Volume Left	15	0				
Volume Right	0	12				
cSH	1437	1700				
Volume to Capacity	0.01	0.01				
Queue Length 95th (ft)	1	0				
Control Delay (s)	1.9	0.0				
Lane LOS	Α					
Approach Delay (s)	1.9	0.0				
Approach LOS						
Intersection Summary						
Average Delay			1.5			
			16.4%	10	U Level of	Condoo
Intersection Capacity Utilization Analysis Period (min)			16.4%	IC	o Level 01	Service
Analysis Periou (Min)			15			

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	₽			4	¥	
Traffic Volume (veh/h)	39	11	2	108	11	32
Future Volume (Veh/h)	39	11	2	108	11	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	41	11	2	129	12	36
Pedestrians	73			164	85	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	6			14	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked						
vC, conflicting volume			137		338	296
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			137		338	296
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			100		98	94
cM capacity (veh/h)			1356		561	595
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	52	131	48			
Volume Left	0	2	12			
Volume Right	11	0	36			
cSH	1700	1356	586			
Volume to Capacity	0.03	0.00	0.08			
Queue Length 95th (ft)	0	0.00	7			
Control Delay (s)	0.0	0.1	11.7			
Lane LOS		Α	В			
Approach Delay (s)	0.0	0.1	11.7			
Approach LOS			В			
Intersection Summary						
Average Delay		_	2.5		_	
Intersection Capacity Utilization			32.8%	IC	U Level of	Condo
Analysis Period (min)			32.8%	IC	o react of	261 AICG
Analysis Pellou (IIIII)			13			

Lane Group EB Lane Configurations 1 Traffic Volume (vph) 18 Future Volume (vph) 18 Ideal Flow (vphpl) 190 Lane Width (ft) 1 Lane Uill. Factor 0.9 Ped Bike Factor	5 3	EBT 4↑ 66	EBR	WBL			4	†	~	-	↓	4	
Lane Configurations 1 Traffic Volume (vph) 18 Future Volume (vph) 18 Ideal Flow (vphp) 190 Lane Width (ft) 1 Lane Util. Factor 0.9	5 3	414			WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Traffic Volume (vph) 18 Future Volume (vph) 18 Ideal Flow (vphpl) 190 Lane Width (ft) 1 Lane Util. Factor 0.9	3	۹ I			******	WDK	INDL	↑ \$	INDIX	JUL	201	אוטכ	IJĹ
Future Volume (vph) 18 Ideal Flow (vphpl) 190 Lane Width (ft) 1 Lane Util. Factor 0.9			0	0	0	114	0	818	56	0	0	0	
Ideal Flow (vphpl) 190 Lane Width (ft) 1 Lane Util. Factor 0.9	J	66	0	0	0	114	0	818	56	0	0	0	
Lane Width (ft) 1. Lane Util. Factor 0.9	n 10	900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor 0.9		12	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
		0.91	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
	1 0	J.91	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	1.00	
Frt Sike Factor						0.865		0.990					
Flt Protected 0.95	Λ					0.003		0.770					
Satd. Flow (prot) 146		1112	0	0	0	1676	0	3009	0	0	0	0	
Flt Permitted 0.95		1112	U	U	U	1070	U	3007	U	U	U	U	
Satd. Flow (perm) 146		1112	0	0	0	1676	0	3009	0	0	0	0	
Right Turn on Red N		1112	Yes	U	U	Yes	U	3007	Yes	U	U	Yes	
Satd. Flow (RTOR)	U		103			293		9	163			103	
Link Speed (mph)		25			25	293		25			25		
Link Speed (mpn) Link Distance (ft)		161			205			294			151		
Travel Time (s)		4.4			5.6			8.0			4.1		
Confl. Bikes (#/hr)		4.4			0.0	1		8.0	76		4.1		
Peak Hour Factor 0.9	6 0	0.96	0.96	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	
Heavy Vehicles (%) 19		0%	0.96	0.95	0.95	0.95	0.96	1%	2%	0.92	0.92	0.92	
Parking (#/hr)	ro	U 70	0%	U%	0%	U%	U%	1%	2% 0	U%	U%	U%	
Adj. Flow (vph) 19	1	69	0	0	0	120	0	852	58	0	0	0	
Shared Lane Traffic (%) 09		07	U	U	U	120	U	032	30	U	U	U	
Lane Group Flow (vph) 19		69	0	0	0	120	0	910	0	0	0	0	
Turn Type Spl		NA	U	U	U	Prot	U	NA	U	U	U	U	
	n 5	5				6		1					2
Permitted Phases	J	J				U							
	5	5				6		1					
Switch Phase	J	J				U		'					
Minimum Initial (s) 8.	n	8.0				8.0		8.0					8.0
Minimum Split (s) 8.1		20.0				14.0		58.0					18.0
Total Split (s) 20.		20.0				14.0		58.0					18.0
Total Split (%) 18.29		20.0				12.7%		52.7%					16%
Maximum Green (s) 15.		15.0				9.0		53.0					14.0
Yellow Time (s) 3.		3.0				3.0		3.0					4.0
All-Red Time (s) 3.		2.0				2.0		2.0					0.0
Lost Time Adjust (s) -1.		-1.0				-1.0		-1.0					0.0
Total Lost Time (s) -1.		4.0				-1.0 4.0		-1.0 4.0					
Lead/Lag Lea		ead.ead						Lead					Loa
	u Le	.cau				Lag		read					Lag
Lead-Lag Optimize? Vehicle Extension (s) 2.	٥	2.0				2.0		2.0					2.0
		2.0 Max				Z.U Max		C-Max					Ped
								C-Max 7.0					
Walk Time (s) 7.		7.0				7.0							7.0
Flash Dont Walk (s) 8.		8.0				2.0		46.0					7.0
	0	0				10.0		0 54.0					0
Act Effct Green (s) 16.		16.0											
Actuated g/C Ratio 0.1		0.15				0.09		0.49					
v/c Ratio 0.9		0.15				0.29		0.61					
Control Delay 80.		35.6				1.7		16.7					
Queue Delay 57.		0.0				0.0		0.5					
Total Delay 137.		35.6				1.7		17.2					
LOS	F	D			, -	Α		В					
	11	10.7			1.7			17.2					
Approach Delay		F			Α			В					
Approach Delay Approach LOS		22				0		108					
Approach Delay Approach LOS Queue Length 50th (ft) 13						m0		177					
Approach Delay Approach LOS Queue Length 50th (ft) 13 Queue Length 95th (ft) #29		44									71		
Approach Delay Approach LOS Queue Length 50th (ft) 13 Queue Length 95th (ft) #29 Internal Link Dist (ft)					125			214					
Approach Delay Approach LOS Queue Length 50th (ft) 13 Queue Length 95th (ft) #29 Internal Link Dist (ft) Turn Bay Length (ft)	4	44 81			125						- 1		
Approach Delay Approach LOS Oueue Length 50th (ft) 13 Oueue Length 95th (ft) #29 Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) 21.	2 4	44 81 452			125	418		1481					
Approach Delay Approach LOS Oueue Length 50th (ft) 13 Oueue Length 95th (ft) #29 Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) 21. Starvation Cap Reductn 8	2 4	44 81 452 0			125	0		1481 210			,,		
Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn	2 4 8 0	44 81 452 0			125	0		1481 210 0					
Approach Delay Approach LOS Queue Length 50th (ft) 13 Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacily (vph) 21 Starvation Cap Reducth Spillback Cap Reductn	2 4 8 0	44 81 452 0			125	0		1481 210			,,		

Intersection Summary

Intersection LOS: C ICU Level of Service A

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50 (45%), Referenced to phase 1:NBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 34.6
Intersection Capacity Utilization 41.6%
Analysis Period (min) 15
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.

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street



Lanes, Volumes, Tin	•		_		—	•	4	†		<u> </u>	 	1
		→	*	•			1		~		-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations raffic Volume (vph)	0	0	0	0	♣ 25	19	86	41≯ 855	34	0	0	0
uture Volume (vph)	0	0	0	0	25	19	86	855	34	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor irt					0.92 0.941			0.98 0.995				
It Protected					0.741			0.995				
Satd. Flow (prot)	0	0	0	0	1376	0	0	3165	0	0	0	0
It Permitted								0.996				
Satd. Flow (perm)	0	0	0	0	1376	0	0	3159	0	0	0	0
Right Turn on Red			Yes		2	Yes	No	0	Yes			Yes
Satd. Flow (RTOR) Link Speed (mph)		25			2 25			9 25			25	
ink Distance (ft)		171			179			570			294	
Travel Time (s)		4.7			4.9			15.5			8.0	
Confl. Peds. (#/hr)						100	47		1255			
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.04	0.01	1	0.07	0.07	77	0.00	0.00	0.00
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%) Parking (#/hr)	0%	0%	0%	0%	0%	0%	1%	1% 0	0% 0	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	30	23	89	881	35	0	0	0
Shared Lane Traffic (%)								50.			Ť	
Lane Group Flow (vph)	0	0	0	0	53	0	0	1005	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					5		1	1				
Permitted Phases Detector Phase					5		1	1				
Switch Phase					5		- 1	1				
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					23.0		87.0	87.0				
Total Split (s)					23.0		87.0	87.0				
Total Split (%)					20.9%		79.1%	79.1%				
Maximum Green (s)					18.0		82.0	82.0				
/ellow Time (s) All-Red Time (s)					3.0 2.0		3.0 2.0	3.0 2.0				
Lost Time Adjust (s)					-1.0		2.0	-1.0				
Total Lost Time (s)					4.0			4.0				
_ead/Lag												
_ead-Lag Optimize?												
/ehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max 7.0				
Walk Time (s) Flash Dont Walk (s)					7.0 11.0		7.0 75.0	7.0 75.0				
Pedestrian Calls (#/hr)					0		75.0	75.0				
Act Effct Green (s)					19.0			83.0				
Actuated g/C Ratio					0.17			0.75				
//c Ratio					0.22			0.42				
Control Delay					40.8			2.5				
Queue Delay					0.0 40.8			0.1				
Fotal Delay LOS					40.8 D			2.6 A				
Approach Delay					40.8			2.6				
Approach LOS					D			Α.				
Queue Length 50th (ft)					31			111				
Queue Length 95th (ft)					64			72				
nternal Link Dist (ft)		91			99			490			214	
Furn Bay Length (ft)					220			2205				
Base Capacity (vph) Starvation Cap Reductn					239 0			2385 290				
Spillback Cap Reductn					0			170				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.22			0.48				
ntersection Summary												
	CBD											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 14 (13%), Referenced	to phase 1:N	BTL, Start	t of Green									
latural Cycle: 110	linatad											
	mated											
Control Type: Actuated-Coord												
Control Type: Actuated-Coord Maximum v/c Ratio: 0.42				Int	tersection	Ι ()S· Δ						
Control Type: Actuated-Coord Maximum v/c Ratio: 0.42 Intersection Signal Delay: 4.5 Intersection Capacity Utilizatio					tersection U Level of	LOS: A f Service F						

Splits and Phases: 4: Atlantic Avenue/Cross Street & India Street/East India Row

↑ø1 (R)

Lane Group Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	EBL	₽BT	EBR	₩BL	←	•	1	†	~	-	↓	4	
Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)		EBT	EBR	WBI	MIDT								
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	0				WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)		0	0	79	↑ 32	0	0	0	0	0	↑↑↑ 625	26	
deal Flow (vphpl) ane Width (ft)	0	0	0	79 79	32	0	0	0	0	0	625	26	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
	12	12	12	12	11	12	12	12	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											1.00		
Frt Flt Protected				0.950							0.994		
Satd. Flow (prot)	0	0	0	3090	1605	0	0	0	0	0	4586	0	
Flt Permitted	- 0			0.950	.505		- 0	- 0		- 0	.000	- 0	
Satd. Flow (perm)	0	0	0	3090	1605	0	0	0	0	0	4586	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)		0.5			05			0.5			8		
Link Speed (mph)		25			25			25			25		
Link Distance (ft) Travel Time (s)		251 6.8			171 4.7			329 9.0			268 7.3		
Confl. Bikes (#/hr)		0.0			4.7			7.0			1.3	50	
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	1%	0%	
Adj. Flow (vph)	0	0	0	82	33	0	0	0	0	0	694	29	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	82	33	0	0	0	0	0	723	0	
Turn Type				Split	NA						NA		_
Protected Phases Permitted Phases				5	5						1		2
Detector Phases				5	5						1		
Switch Phase				J	J								
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				31.0	31.0						58.0		21.0
Total Split (s)				31.0	31.0						58.0		21.0
Total Split (%)				28.2%	28.2%						52.7%		19%
Maximum Green (s)				26.0	26.0						52.0		17.0
Yellow Time (s) All-Red Time (s)				3.0	3.0 2.0						3.0		4.0 0.0
All-Red Time (s) Lost Time Adjust (s)				2.0 -2.0	-2.0						-2.0		U.U
Total Lost Time (s)				3.0	3.0						-2.0 4.0		
Lead/Lag				5.0	5.0						Lead		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				19.0	19.0						45.0		10.0
Pedestrian Calls (#/hr) Act Effct Green (s)				50 28.0	50 28.0						0 54.0		5
Actuated g/C Ratio				0.25	0.25						0.49		
v/c Ratio				0.23	0.23						0.47		
Control Delay				36.4	37.3						5.1		
Queue Delay				1.2	1.8						0.2		
Total Delay				37.6	39.2						5.3		
LOS				D	D						Α		
Approach Delay					38.1						5.3		
Approach LOS				ne.	D 19						A 22		
Queue Length 50th (ft) Queue Length 95th (ft)				25 0	19						22		
Internal Link Dist (ft)		171		U	91			249			188		
Turn Bay Length (ft)		.,,			71			2-17			.00		
Base Capacity (vph)				786	408						2255		
Starvation Cap Reductn				554	294						712		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.35	0.29						0.47		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 103 (94%), Reference	d to phase 1:	SBT, Start	of Green										
Natural Cycle: 110	linatod												
Control Type: Actuated-Coord Maximum v/c Ratio: 0.32	mateu												
				Int	tersection	LOS: A							
						LUU. N							
Intersection Signal Delay: 9.8 Intersection Capacity Utilization						Service G	j						

Splits and Phases: 5: Surface/Purchase/SASB & India Street

ÅÅø2

Lanes, Volumes, Tim													
	•	-	•	•	←	•	1	†	~	-	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		↑↑ 135									414		
Traffic Volume (vph)	0		16	0	0	0	0	0	0	114	635	0	
Future Volume (vph) Ideal Flow (vphpl)	0 1900	135 1900	16 1900	0 1900	0 1900	0 1900	0 1900	0 1900	0 1900	114 1900	635 1900	0 1900	
Lane Width (ft)	1900	1400	1400	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft) Lane Util. Factor	25 1.00	0.05	0.05	25	1.00	1.00	25	1.00	1.00	25 0.91	0.01	1.00	
Ped Bike Factor	1.00	0.95 1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		0.984											
Flt Protected											0.992		
Satd. Flow (prot)	0	3374	0	0	0	0	0	0	0	0	4578	0	
Flt Permitted Satd. Flow (perm)	0	3374	0	0	0	0	0	0	0	0	0.992 4578	0	
Right Turn on Red	U	3374	Yes	U	U	Yes	U	U	Yes	No	4376	Yes	
Satd. Flow (RTOR)		11	103			103			103	140		103	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		314			161			268			332		
Travel Time (s)		8.6	F		4.4			7.3			9.1		
Confl. Bikes (#/hr) Peak Hour Factor	0.91	0.91	5 0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91	
Heavy Vehicles (%)	0.91	1%	0.91	0.92	0.92	0.92	0.92	0.92	0.92	2%	1%	0.91	
Adj. Flow (vph)	0	148	18	0	0	0	0	0	0	125	698	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	166	0	0	0	0	0	0	0	0	823	0	
Turn Type Protected Phases		NA 5								Perm	NA 1		2
Permitted Phases		3								1			2
Detector Phase		5								1	1		
Switch Phase													
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		26.0								66.0	66.0		18.0
Total Split (s) Total Split (%)		26.0 23.6%								66.0 60.0%	66.0 60.0%		18.0 16%
Maximum Green (s)		22.0								61.0	61.0		14.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		1.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s)		3.0								Load	4.0		Log
Lead/Lag Lead-Lag Optimize?										Lead	Lead		Lag
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		15.0								54.0	54.0		7.0
Pedestrian Calls (#/hr) Act Effct Green (s)		0 23.0								0	0 62.0		0
Actuated g/C Ratio		0.21									0.56		
v/c Ratio		0.23									0.32		
Control Delay		34.7									5.4		
Queue Delay		0.3									0.2		
Total Delay LOS		35.0 C									5.6 A		
Approach Delay		35.0									5.6		
Approach LOS		C									A		
Queue Length 50th (ft)		47									43		
Queue Length 95th (ft)		78									50		
Internal Link Dist (ft)		234			81			188			252		
Turn Bay Length (ft) Base Capacity (vph)		714									2580		
Starvation Cap Reductn		0									780		
Spillback Cap Reductn		197									374		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		0.32									0.46		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110 Offset: 102 (93%), Referenced	to phace 1	CDTI C+~	art of Cross	n									
Natural Cycle: 110	no priase 1:	JDTL, Sla	ii oi Greel	11									
Control Type: Actuated-Coordi	inated												
Maximum v/c Ratio: 0.32													
Intersection Signal Delay: 10.5	5				tersection								
Intersection Capacity Utilization	n 41.6%			IC	U Level of	Service A							
Analysis Period (min) 15													

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street



	•	→	•	•	+	•	•	†	~	\		4
Long Craun	EDI		-		MDT		-		-	CDI	-	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Traffic Volume (vph)	0	0	0	97	41↑ 161	0	0	0	0	0	↑↑↑ 651	275
Future Volume (vph)	0	0	0	97	161	0	0	0	0	0	651	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor				0.78							0.98	
Frt				0.055							0.955	
Flt Protected	^	0	^	0.950	2022	^	^	0	_	^	4210	0
Satd. Flow (prot) Flt Permitted	0	0	0	1464 0.950	3022	0	0	0	0	0	4319	0
Satd. Flow (perm)	0	0	0	1143	3022	0	0	0	0	0	4319	0
Right Turn on Red	U	U	Yes	No	JUZZ	Yes	U	U	Yes	U	7317	Yes
Satd. Flow (RTOR)			.03	110		.03			. 03		165	703
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		395			161			332			240	
Travel Time (s)		10.8			4.4			9.1			6.5	
Confl. Peds. (#/hr)				219								84
Confl. Bikes (#/hr)												50
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	104	173	0	0	0	0	0	685	289
Shared Lane Traffic (%)	0	0	0	104	173	0	0	0	0	0	974	0
Lane Group Flow (vph) Turn Type	U	U	U	104 Split	NA	U	U	U	U	0	9/4 NA	U
Protected Phases				Split 5	NA 5						NA 1	
Permitted Phases				J	J						- '	
Detector Phase				5	5						1	
Switch Phase				J	J							
Minimum Initial (s)				8.0	8.0						8.0	
Minimum Split (s)				42.0	42.0						68.0	
Total Split (s)				42.0	42.0						68.0	
Total Split (%)				38.2%	38.2%						61.8%	
Maximum Green (s)				33.0	33.0						63.0	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				6.0	6.0						2.0	
Lost Time Adjust (s)				-1.0	-1.0						-1.0	
Total Lost Time (s)				8.0	8.0						4.0	
Lead/Lag												
Lead-Lag Optimize? Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				2.0 Max	2.0 Max						C-Max	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				26.0	26.0						56.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)				34.0	34.0						64.0	
Actuated g/C Ratio				0.31	0.31						0.58	
v/c Ratio				0.23	0.19						0.38	
Control Delay				31.5	30.1						0.5	
Queue Delay				11.7	4.2						0.1	
Total Delay				43.2	34.3						0.7	
LOS				D	C						A	
Approach LOS					37.6						0.7	
Approach LOS				/1	D						A	
Queue Length 50th (ft)				61 m100	50						0	
Queue Length 95th (ft)		315		m108	79 81			252			0 160	
Internal Link Dist (ft) Turn Bay Length (ft)		315			81			252			160	
Base Capacity (vph)				452	934						2581	
Starvation Cap Reductn				317	679						570	
Spillback Cap Reductn				0	0/9						0	
Storage Cap Reductn				0	0						0	
Reduced v/c Ratio				0.77	0.68						0.48	
Intersection Summary												
	CBD											
Cycle Length: 110	CDD											
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to	phase 1-SRT	. Start of 0	Green									
Natural Cycle: 110	,	, = 01 ,										
Control Type: Actuated-Coord	dinated											
Maximum v/c Ratio: 0.38												
Intersection Signal Delay: 8.9					tersection							
Intersection Capacity Utilization				IC	U Level of	f Service H	I					
Analysis Period (min) 15												

Maximum Wc Ratio: 0.38 Intersection Signal Delay: 8.9 Intersection Capacity Utilization 145.8% Analysis Period (min) 15 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Surface/Purchase/SASB & State Street

▼ Ø1 (R)



Lance, Velamoe, In						_				٠.	-	,
	۶	-	•	€	•	•	1	†	~	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					7							
Traffic Volume (vph)	0	0	0	0	127	55	131	41 → 1019	35	0	0	0
Future Volume (vph)	0	0	0	0	127	55	131	1019	35	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.94			0.98				
Frt					0.959			0.996				
Flt Protected								0.995				
Satd. Flow (prot)	0	0	0	0	1731	0	0	3137	0	0	0	0
Flt Permitted								0.995				
Satd. Flow (perm)	0	0	0	0	1731	0	0	3121	0	0	0	0
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					4			5				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		161			290			183			264	
Travel Time (s)		4.4			7.9			5.0			7.2	
Confl. Peds. (#/hr)						177	97		780			
Confl. Bikes (#/hr)						4			75			
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	134	58	135	1051	36	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	192	0	0	1222	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases												
Detector Phase					5		1	1				
Switch Phase												
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					35.0		75.0	75.0				
Total Split (s)					35.0		75.0	75.0				
Total Split (%)					31.8%		68.2%	68.2%				
Maximum Green (s)					30.0		70.0	70.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					23.0		63.0	63.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					31.0		,	71.0				
Actuated g/C Ratio					0.28			0.65				
v/c Ratio					0.39			0.60				
Control Delay					34.1			5.2				
Queue Delay					0.0			0.1				
Total Delay					34.1			5.3				
LOS					C			Α				
Approach Delay					34.1			5.3				
Approach LOS					C			J.5				
Queue Length 50th (ft)					107			106				
Queue Length 95th (ft)					174			m122				
Internal Link Dist (ft)		81			210			103			184	
Turn Bay Length (ft)		UI			210			103			104	
Base Capacity (vph)					490			2026				
Starvation Cap Reductn					0			118				
Spillback Cap Reductin					1			85				
Storage Cap Reductin					0			0				
Reduced v/c Ratio					0.39			0.64				
Neudeca Ne Kallo					0.39			0.04				

Intersection Summary

Intersection Summary

Area Type: CBD
Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 1:NBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60
Intersection Signal Delay: 9.2
Intersection Capacity Utilization 90.0%

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal. Intersection LOS: A ICU Level of Service E

Splits and Phases: 8: Allantic Avenue/Cross Street & State Street





Lanes, Volumes, Tim		_			<u> </u>	,	
	•	•	1	1	ţ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	_	74	0	0	↑↑↑ 704		
Traffic Volume (vph) Future Volume (vph)	0	74 74	0	0	704 704	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	13	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	
Ped Bike Factor Frt		0.865					
FIt Protected		0.003					
Satd. Flow (prot)	0	1498	0	0	4577	0	
FIt Permitted		4.400			4577		
Satd. Flow (perm) Right Turn on Red	0	1498 Yes	0	0	4577	0 Yes	
Satd. Flow (RTOR)		392				103	
Link Speed (mph)	25			25	25		
Link Distance (ft)	358			212	329		
Travel Time (s) Confl. Bikes (#/hr)	9.8			5.8	9.0	52	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.90	0.90	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	
Adj. Flow (vph)	0	81	0	0	782	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	81	0	0	782	0	
Turn Type		Prot	U		NA	U	
Protected Phases		5			1		2
Permitted Phases		_			4		
Detector Phase Switch Phase		5			1		
Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		19.0			69.0		22.0
Total Split (s)		19.0			69.0		22.0
Total Split (%) Maximum Green (s)		17.3% 15.0			62.7% 63.0		20% 18.0
Yellow Time (s)		3.0			3.0		4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		
Total Lost Time (s) Lead/Lag		4.0			4.0 Lead		Log
Lead-Lag Optimize?					Leau		Lag
Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0 8.0			7.0		7.0 11.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)		0.8			56.0 0		11.0
Act Effct Green (s)		15.0			65.0		3
Actuated g/C Ratio		0.14			0.59		
v/c Ratio		0.15			0.29		
Control Delay Queue Delay		0.6			2.5 0.1		
Total Delay		0.0			2.6		
LOS		A			Α		
Approach Delay	0.6				2.6		
Approach LOS	Α	0			A 23		
Queue Length 50th (ft) Queue Length 95th (ft)		0			23 29		
Internal Link Dist (ft)	278			132	249		
Turn Bay Length (ft)					077		
Base Capacity (vph) Starvation Cap Reductn		542 0			2704		
Starvation Cap Reductn Spillback Cap Reductn		0			698 0		
Storage Cap Reductn		0			0		
Reduced v/c Ratio		0.15			0.39		
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110 Offset: 100 (91%), Referenced	d to phase 1	CDT Ctr-	of Cross				
Offset: 100 (91%), Referenced Natural Cycle: 110	a to priase 1:	JBI, SIAN	i oi Green				
	inated						
Control Type: Actuated-Coord							
Control Type: Actuated-Coord Maximum v/c Ratio: 0.29							
Control Type: Actuated-Coord					tersection U Level of		

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street



Lanes, Volumes, Tim								_					
	•	-	•	•	—	•	1	†		-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		↑↑ 193		_	_	_	_	_	_	04	444	_	
Traffic Volume (vph) Future Volume (vph)	0	193 193	65 65	0	0	0	0	0	0	81 81	697 697	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	16	12	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft) Lane Util. Factor	25 1.00	0.95	0.95	25 1.00	1.00	1.00	25 1.00	1.00	1.00	25 0.91	0.91	1.00	
Ped Bike Factor	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	1.00	
Frt		0.962											
Flt Protected											0.995		
Satd. Flow (prot)	0	3482	0	0	0	0	0	0	0	0	4554	0	
Flt Permitted Satd. Flow (perm)	0	3482	0	0	0	0	0	0	0	0	0.995 4554	0	
Right Turn on Red	U	3402	Yes		U	Yes	0		Yes	No	4554	Yes	
Satd. Flow (RTOR)		35											
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		305			204			514			212		
Travel Time (s) Confl. Bikes (#/hr)		8.3	4		5.6			14.0			5.8		
Peak Hour Factor	0.78	0.78	4 0.78	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	0.76	1%	2%	0.72	0.72	0.72	0.72	0.72	0.72	2%	2%	0.90	
Adj. Flow (vph)	0	247	83	0	0	0	0	0	0	90	774	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	330	0	0	0	0	0	0	0	0	864	0	
Turn Type Protected Phases		NA 5								Split 1	NA 1		2
Protected Phases Permitted Phases		0								- 1			2
Detector Phase		5								1	1		
Switch Phase													
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		19.0								72.0	72.0		19.0
Total Split (s)		19.0 17.3%								72.0 65.5%	72.0 65.5%		19.0 17%
Total Split (%) Maximum Green (s)		14.0								67.0	67.0		15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		2.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s)		4.0									4.0		
Lead/Lag Lead-Lag Optimize?										Lead	Lead		Lag
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		7.0								60.0	60.0		8.0
Pedestrian Calls (#/hr)		0								0	0		0
Act Effct Green (s)		15.0 0.14									68.0 0.62		
Actuated g/C Ratio v/c Ratio		0.14									0.82		
Control Delay		46.9									1.1		
Queue Delay		58.2									0.2		
Total Delay		105.1									1.2		
LOS Approach Dolou		F									A		
Approach Delay Approach LOS		105.1 F									1.2 A		
Queue Length 50th (ft)		105									7		
Queue Length 95th (ft)		129									9		
Internal Link Dist (ft)		225			124			434			132		
Turn Bay Length (ft)													
Base Capacity (vph)		505									2815		
Starvation Cap Reductn		0									951		
Spillback Cap Reductn Storage Cap Reductn		213 0									6		
Reduced v/c Ratio		1.13									0.46		
Intersection Summary													
	CBD												
Cycle Length: 110	CBD												
Actuated Cycle Length: 110													
Offset: 104 (95%), Referenced	d to phase 1:	SBTL, Sta	rt of Gree	n									
Natural Cycle: 110													
Control Type: Actuated-Coord	inated												
Maximum v/c Ratio: 0.65 Intersection Signal Delay: 29.9)			Ini	tersection	108.0							
Intersection Signal Delay: 29.9 Intersection Capacity Utilizatio	n 47 2%					f Service A							
Analysis Period (min) 15	nı T1.∠/0			10	O LCVCI UI	JUINICE F	`						
raidigas i criod (IIIII) 10													

Splits and Phases: 10: Surface/Purchase/SASB & High Street

#1_{Ø2}

	•	•	1	†	↓	4	1
6	EDI	-					
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	1,14	•	•	↑↑ 701	•	•	
Traffic Volume (vph)	274	0	0		0	0	
Future Volume (vph)	274	0	0	701	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	13	13	12	12	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	
Frt	0.97	1.00	1.00	0.90	1.00	1.00	
FIt Protected	0.950						
		0	0	3158	^	0	
Satd. Flow (prot)	3152	U	U	3158	0	U	
Flt Permitted	0.950						
Satd. Flow (perm)	3152	0	0	3158	0	0	
Right Turn on Red	No	Yes				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	204			692	570		
Travel Time (s)	5.6	0.05	0.01	18.9	15.5	0.00	
Peak Hour Factor	0.95	0.95	0.96	0.96	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	
Parking (#/hr)				0			
Adj. Flow (vph)	288	0	0	730	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	288	0	0	730	0	0	
Turn Type	Prot	0	U	NA	0		
Protected Phases				1 1			2
	5						2
Permitted Phases	_						
Detector Phase	5			1			
Switch Phase							
Minimum Initial (s)	8.0			8.0			8.0
Minimum Split (s)	25.0			68.0			17.0
Total Split (s)	25.0			68.0			17.0
Total Split (%)	22.7%			61.8%			15%
Maximum Green (s)	20.0			63.0			13.0
Yellow Time (s)	3.0			3.0			4.0
	2.0			2.0			0.0
All-Red Time (s)							0.0
Lost Time Adjust (s)	0.0			-1.0			
Total Lost Time (s)	5.0			4.0			
Lead/Lag				Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0			2.0			2.0
Recall Mode	Max			C-Max			Ped
Walk Time (s)	7.0			7.0			7.0
Flash Dont Walk (s)	13.0			56.0			6.0
Pedestrian Calls (#/hr)	0			0			0.0
							U
Act Effct Green (s)	20.0			64.0			
Actuated g/C Ratio	0.18			0.58			
v/c Ratio	0.50			0.40			
Control Delay	29.6			5.4			
Queue Delay	27.2			0.0			
Total Delay	56.8			5.4			
LOS	E			Α			
Approach Delay	56.8			5.4			
Approach LOS	50.0 E			Α.4			
Queue Length 50th (ft)	107			94			
Queue Length 95th (ft)	151			96	400		
Internal Link Dist (ft)	124			612	490		
Turn Bay Length (ft)							
Base Capacity (vph)	573			1837			
Starvation Cap Reductn	284			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	1.00			0.40			
	1.00			0.40			
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
		IDT C:	-60				
Offset: 16 (15%), Referenced to	to phase 1:N	NBT, Start	of Green				
Natural Cycle: 110							
Control Type: Actuated-Coordin	nated						
Maximum v/c Ratio: 0.50							
Intersection Signal Delay: 20.0)			Int	ersection I	OS: R	
Intersection Capacity Utilization					U Level of		
	11 02.3%			ICI	o revei oi	Service B	
Analysis Period (min) 15							
	tic Avenue/(Cross Stre	eet & High	Street			
its and Phases: 11: Atlan	ille / Wellaci						

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Lanes, volumes, I	<u> </u>	•	→	—	*_		_	ኘ	<u>†</u>	~		
Lano Group				MDT	MIDD	_			-	-	an	ΩL
Lane Group Lane Configurations	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	Ø2	Ø6
Traffic Volume (vph)	6	6	41↑ 665	♣ 314	5 37	238	71	246	41≯ 457	221		
Future Volume (vph)	6	6	665	314	537	238	71	246	457	221		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	13	11	12	13	12	12	13	12		
Storage Length (ft)		0			250			0		0		
Storage Lanes		0			1			1		0		
Taper Length (ft)		25						25				
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor									0.98			
Frt					0.850	0.850			0.953			
Flt Protected			0.999					0.950	0.998			
Satd. Flow (prot)	0	0	3321	1475	1323	1427	0	1439	2895	0		
Flt Permitted			0.955					0.950	0.998			
Satd. Flow (perm)	0	0	3175	1475	1323	1427	0	1439	2895	0		
Right Turn on Red						No				No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506					457			
Travel Time (s)			6.8	13.8					12.5			
Confl. Bikes (#/hr)					18	18				76		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	2%	3%	2%	7%		
Adj. Flow (vph)	6	6	679	324	554	245	72	251	466	226		
Shared Lane Traffic (%)					0%	0%		10%				
Lane Group Flow (vph)	0	0	691	324	554	245	0	298	717	0		
Turn Type	custom	custom	NA	NA	Prot	Prot	Split	Split	NA			
Protected Phases			5	5	5	5	1	1	1		2	6
Permitted Phases	25	25	2									
Detector Phase	25	25	5	5	5	5	1	1	1			
Switch Phase												
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		4.0	4.0
Minimum Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (%)			31.8%	31.8%	31.8%	31.8%	39.1%	39.1%	39.1%		24%	5%
Maximum Green (s)			28.5	28.5	28.5	28.5	36.5	36.5	36.5		19.5	4.0
Yellow Time (s)			3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	2.0
All-Red Time (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0		-1.0	-1.0			
Total Lost Time (s)			6.5	5.5	5.5	5.5		5.5	5.5			
Lead/Lag			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?											-5	-5
Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	8.0	8.0		7.0	4.0
Flash Dont Walk (s)			21.5	21.5	21.5	21.5	28.5	28.5	28.5		12.5	0.0
Pedestrian Calls (#/hr)			0	0	0	0	0	0	0		91	0
Act Effct Green (s)			44.1	29.5	29.5	29.5		42.7	42.7			
Actuated g/C Ratio			0.40	0.27	0.27	0.27		0.39	0.39			
v/c Ratio			0.53	0.82	1.56	0.64		0.53	0.64			
Control Delay			3.5	56.0	297.9	44.5		19.8	19.2			
Queue Delay			2.1	54.3	0.0	0.0		0.0	0.0			
Total Delay			5.6	110.4	297.9	44.5		19.8	19.2			
LOS			Α.	F	F F	D		В	В			
Approach Delay			5.6	188.5		U		D	19.3			
Approach LOS			3.0 A	100.5 F					19.3 B			
Queue Length 50th (ft)			6	236	~609	161		78	93			
Queue Length 95th (ft)			m6	#398	#842	255		178	203			
Internal Link Dist (ft)			168	426	# 04Z	233		170	377			
Turn Bay Length (ft)			100	420	250	250			311			
Base Capacity (vph)			1310	395	354	382		558	1123			
Starvation Cap Reductn			453	0	0	0		0	0			
Spillback Cap Reductn			455	102	0	0		0	0			
Storage Cap Reductn			0	0	0	0		0	0			
Reduced v/c Ratio			0.81	1.11	1.56	0.64		0.53	0.64			
			0.01	1.11	1.50	0.04		0.55	0.04			
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 19 (17%), Reference		NBTL, Star	rt of Greer	1								
Natural Cycle: 130		,										

Natural Cycle: 130

Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 83.1
Intersection Capacity Utilization 85.1%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: F
ICU Level of Service E

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp

	•	←	+	4	6	4	4	
ane Group	WBL	WBT	SBT	SBR	SWL2	SWL	SWR	Ø2
ane Configurations		414	ተተ _ጉ		¥	¥		
Fraffic Volume (vph) Future Volume (vph)	169 169	216 216	651 651	111 111	677 677	132 132	47 47	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	11	12	12	12	12	12	
ane Util. Factor Ped Bike Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
-rt			0.978			0.961		
Fit Protected		0.979	AAE/	0	0.950	0.964	0	
Satd. Flow (prot) Flt Permitted	0	3027 0.979	4456	0	1608 0.950	1539 0.964	0	
Satd. Flow (perm)	0	3027	4456	0	1608	1539	0	
Right Turn on Red			21	Yes				
Satd. Flow (RTOR) Link Speed (mph)		25	31 25			25		
ink Distance (ft)		248	514			293		
Fravel Time (s)		6.8	14.0			8.0		
Confl. Bikes (#/hr) Peak Hour Factor	0.85	0.85	0.91	41 0.91	0.98	0.98	0.98	
Heavy Vehicles (%)	1%	2%	2%	1%	1%	4%	0.98	
Adj. Flow (vph)	199	254	715	122	691	135	48	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	453	837	0	691	183	0	
Furn Type	Split	NA	NA	U	pm+pt	Prot	U	
Protected Phases	6	6	1		5	5		2
Permitted Phases Detector Phase	6	6	1		2 5	5		
Switch Phase	Ď	b	ı		5	5		
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	38.0		31.0	31.0		20.0
Fotal Split (s) Fotal Split (%)	21.0 19.1%	21.0 19.1%	38.0 34.5%		31.0 28.2%	31.0 28.2%		20.0 18%
Maximum Green (s)	14.0	14.0	33.5		26.0	26.0		16.0
/ellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.0
All-Red Time (s) Lost Time Adjust (s)	3.5	3.5 -2.0	1.0 -1.0		1.5 -1.0	1.5 -1.0		1.0
Total Lost Time (s)		5.0	3.5		4.0	4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize? /ehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		2.0
Recall Mode	Max	Max	C-Max		Max	Max		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)	7.0 0	7.0 0	26.5 0		19.0 0	19.0 0		9.0 50
Act Effet Green (s)	U	16.0	34.5		47.0	27.0		50
Actuated g/C Ratio		0.15	0.31		0.43	0.25		
r/c Ratio Control Delay		1.03 73.0	0.59 16.9		1.01 68.2	0.49 40.7		
Queue Delay		19.8	0.0		0.0	0.0		
Total Delay		92.9	16.9		68.2	40.7		
OS Approach Delay		F 92.9	B 16.9		E	D 62.5		
Approach LOS		92.9 F	10.9 B			02.5 E		
Queue Length 50th (ft)		~180	89		~485	111		
Queue Length 95th (ft) nternal Link Dist (ft)		m#246 168	108 434		#737	182 213		
Furn Bay Length (ft) Base Capacity (vph)		440	1418		687	377		
Starvation Cap Reductn		23	0		0	0		
Spillback Cap Reductn		0	0		0	0		
Storage Cap Reductn Reduced v/c Ratio		1.09	0.59		1.01	0.49		
ntersection Summary		1.07	0.07		1.01	0.47		
Area Type:	CBD							
Cycle Length: 110	000							
Actuated Cycle Length: 110		ODT CL-4	-6.0					
Offset: 16 (15%), Reference Natural Cycle: 110	to phase 1:5	sbi, Start	of Green					
Control Type: Actuated-Coor	dinated							
Maximum v/c Ratio: 1.03								
ntersection Signal Delay: 51 ntersection Capacity Utilizat					itersection CU Level of			
Analysis Period (min) 15	1011 01.370			10	O LEVEI OI	JEIVILE L		
 Volume exceeds capacit 	y, queue is the	eoretically	infinite.					
Queue shown is maximur 95th percentile volume e			may bo lo	nger				
Queue shown is maximur			may be 101	ngor.				
m Volume for 95th percent			upstream :	signal.				
Splits and Phases: 13: Su	rface/Purchas	:e/SASR 9	Oliver Str	oot & I₋02	SR OffDa	mn		
i e	nacen uncida	MUNDU 6	OUVE OUR	υυι αχ I=73	JU UIINdi	1		
▼ Ø1 (R)						^{lll} Ø2		

	ၨ	→	•	•	+	•	1	Ť	~	\	↓	1		
ane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	▼ SBT	SBR	Ø2	
ane Configurations	LUL	LU.	LDIT	*		· · · ·	1102		HEIN	ODE	*	ODIT	S.E.	
affic Volume (vph)	0	0	0	52	↑↑ 142	0	0	0	0	0	878	74		
uture Volume (vph)	0	0	0	52	142	0	0	0	0	0	878	74		
leal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	12	12	12	11	11	11	12	12	12	12	12	12		
ane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91		
ed Bike Factor											1.00			
rt											0.988			
t Protected				0.950										
atd. Flow (prot)	0	0	0	1540	3110	0	0	0	0	0	4509	0		
It Permitted				0.950										
atd. Flow (perm)	0	0	0	1540	3110	0	0	0	0	0	4509	0		
ight Turn on Red			Yes	No		Yes			Yes			Yes		
atd. Flow (RTOR)		0.5			05			05			20			
ink Speed (mph)		25			25			25			25			
ink Distance (ft)		151			246			252			420			
ravel Time (s)		4.1			6.7			6.9			11.5	27		
onfl. Bikes (#/hr)	0.00	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	37		
eak Hour Factor	0.92	0.92 0%	0.92 0%	0.87	0.87 1%	0.87	0.92	0.92	0.92	0.92	0.92	0.92 3%		
eavy Vehicles (%) dj. Flow (vph)	0%	0%	0%	2% 60	163	0% 0	0% 0	0%	0% 0	0% 0	2% 954	3% 80		
aj. Flow (vpn) hared Lane Traffic (%)	U	U	U	OU	103	U	U	U	U	U	704	δU		
ane Group Flow (vph)	0	0	0	60	163	0	0	0	0	0	1034	0		
urn Type	U	U	U	Split	NA	U	U	U	U	U	NA	U		
rotected Phases				Spill 5	5 5						INA 1		2	
ermitted Phases				J	J						-			
etector Phase				5	5						1			
witch Phase				,	,									
linimum Initial (s)				8.0	8.0						8.0		8.0	
linimum Split (s)				18.0	18.0						66.0		18.0	
otal Split (s)				26.0	26.0						66.0		18.0	
otal Split (%)				23.6%	23.6%						60.0%		16%	
laximum Green (s)				21.0	21.0						62.0		14.0	
ellow Time (s)				3.0	3.0						3.0		4.0	
II-Red Time (s)				2.0	2.0						1.0		0.0	
ost Time Adjust (s)				-1.0	-1.0						-1.0			
otal Lost Time (s)				4.0	4.0						3.0			
ead/Lag											Lead		Lag	
ead-Lag Optimize?														
ehicle Extension (s)				2.0	2.0						2.0		2.0	
ecall Mode				Ped	Ped						C-Max		Ped	
/alk Time (s)				7.0	7.0						7.0		7.0	
lash Dont Walk (s)				6.0	6.0						55.0		7.0	
edestrian Calls (#/hr)				0	0						0		0	
ct Effct Green (s)				14.1	14.1						70.9			
ctuated g/C Ratio				0.13	0.13						0.64			
c Ratio				0.30	0.41						0.35			
ontrol Delay				56.6	55.9						3.7			
ueue Delay				0.0	0.0 55.9						0.1 3.9			
otal Delay OS				56.6 E	55.9 E						3.9 A			
pproach Delay				E	56.1						3.9			
pproach LOS					50.1 E						3.9 A			
ueue Length 50th (ft)				45	64						38			
ueue Length 95th (ft)				87	97						m42			
iternal Link Dist (ft)		71		07	166			172			340			
urn Bay Length (ft)		71			100			1,2			3-10			
ase Capacity (vph)				308	622						2914			
tarvation Cap Reductn				0	0						820			
pillback Cap Reductn				0	0						251			
torage Cap Reductn				0	0						0			
educed v/c Ratio				0.19	0.26						0.49			
tersection Summary	D													
rea Type: CB	ש													
ycle Length: 110														
ctuated Cycle Length: 110	phace 1.0	DT Ctort	of Cross											
ffset: 15 (14%), Referenced to partial Cyclo: 105	лызе 1:5	DI, SIBIT (л спееп											
atural Cycle: 105 ontrol Type: Actuated-Coordina	tod													
ontroi Type: Actuated-Coordina aximum v/c Ratio: 0.41	icu													
				Ind	ersection	LOS: D								
tersection Signal Delay: 13.2 tersection Capacity Utilization 3	14 O%					Service A								
nalysis Period (min) 15	14.070			IL	o revei oi	Service A								
			upstream											

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street

∦kø₂ ▼ Ø1 (R)

	•	•	4	†	ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	ÉDL	LDK	INDL	IND I	JDI	лас	ЮZ
Traffic Volume (vph)	0	0	194	4↑↑ 995	0	0	
Future Volume (vph)	0	0	194	995	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00	
Frt Frt			3.71	3.71	00		
Flt Protected				0.992			
Satd. Flow (prot)	0	0	0	4540	0	0	
Flt Permitted				0.992			
Satd. Flow (perm)	0	0	0	4540	0	0	
Right Turn on Red		Yes	No			Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	246			240	457		
Travel Time (s)	6.7			6.5	12.5		
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%	
Adj. Flow (vph)	0	0	200	1026	0	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	0	0	1226	0	0	
Turn Type	U	U	Split	NA	U	U	
Protected Phases			Jpiit 1	1			2
Permitted Phases							2
Detector Phase			1	1			
Switch Phase							
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s)			32.0	32.0			18.0
Total Split (s)			92.0	92.0			18.0
Total Split (%)			83.6%	83.6%			16%
Maximum Green (s)			87.0	87.0			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)			1	5.0			1
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize? Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			2.0 Ped
Walk Time (s)			C-IVIAX	C-IVIAX			7.0
Flash Dont Walk (s)							7.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				87.0			Ü
Actuated g/C Ratio				0.79			
v/c Ratio				0.34			
Control Delay				0.3			
Queue Delay				0.3			
Total Delay				0.6			
LOS				Α			
Approach Delay				0.6			
Approach LOS				Α			
Queue Length 50th (ft)				0			
Queue Length 95th (ft)				m0	277		
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)				2500			
Base Capacity (vph)				3590			
Starvation Cap Reductn				1455 0			
Spillback Cap Reductn				0			
Storage Cap Reductn Reduced v/c Ratio				0.57			
				0.57			
Intersection Summary							
	CBD						
Area Type:							
Area Type: C Cycle Length: 110							
Area Type: C Cycle Length: 110 Actuated Cycle Length: 110							
Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 11 (10%), Referenced to	o phase 1:N	IBTL, Sta	rt of Greer	า			
Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 11 (10%), Referenced to Natural Cycle: 50		IBTL, Sta	rt of Greer	1			
Area Type: C Cycle Length: 110 Actualed Cycle Length: 110 Offset: 11 (10%), Referenced to Natural Cycle: 50 Control Type: Actualed-Coordin		IBTL, Sta	rt of Greer	1			
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 11 (10%), Referenced Iv Natural Cycle: 50 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.34		IBTL, Sta	rt of Greer		toroor!!-	100.4	
Area Type: C Cycle Length: 110 Actuated Cycle Length: 110 Offset: 11 (10%), Referenced to Natural Cycle: 50 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.34 Intersection Signal Delay: 0.6	nated	IBTL, Sta	rt of Greer	Ini	tersection		
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 11 (10%), Referenced Iv Natural Cycle: 50 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.34	nated	IBTL, Sta	rt of Greer	Ini		LOS: A Service A	

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street



	mings			\	Ļ	+	
	-	74	•				
Lane Group	EBT	EBR	EBR2	SBL2	SBL	SBT	Ø2
Lane Configurations Traffic Volume (vph)	↑↑ 569	338	7 276	327	360	↑ 243	
Traffic Volume (vph) Future Volume (vph)	569	338	276	327	360	243	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1700	1700	11	14	1700	11	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor							
Frt		0.850	0.850				
Flt Protected				0.950	0.950		
Satd. Flow (prot)	3110	1439	1405	1699	1593	1637	
Flt Permitted				0.950	0.950		
Satd. Flow (perm)	3110	1439	1405	1699	1593	1637	
Right Turn on Red			No	No			
Satd. Flow (RTOR)	25					25	
Link Speed (mph) Link Distance (ft)	25 173					25 252	
Travel Time (s)	4.7					6.9	
Confl. Bikes (#/hr)	7.7	19	19			0.7	
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	
Heavy Vehicles (%)	1%	1%	0%	2%	2%	1%	
Adj. Flow (vph)	593	352	288	359	396	267	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	593	352	288	359	396	267	
Turn Type	NA	Prot	Prot	Split	Split	NA	
Protected Phases	1	1	1	5	5	5	2
Permitted Phases	-	-	-	-	-	-	
Detector Phase Switch Phase	1	1	1	5	5	5	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (%)	43.6%	43.6%	43.6%	38.2%	38.2%	38.2%	18%
Maximum Green (s)	43.0	43.0	43.0	37.0	37.0	37.0	16.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	3.0	5.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead	Lead	Lead				Lag
Lead-Lag Optimize? Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	Z.u Max	Max	Max	Ped
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	36.0	36.0	36.0	30.0	30.0	30.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	45.0	43.0	45.0	39.0	39.0	39.0	-
Actuated g/C Ratio	0.41	0.39	0.41	0.35	0.35	0.35	
v/c Ratio	0.47	0.63	0.50	0.60	0.70	0.46	
Control Delay	25.2	33.0	27.9	22.3	27.1	18.2	
Queue Delay	0.3	0.0	0.0	2.9	3.3	2.2	
Total Delay	25.5	33.0	27.9	25.2	30.4	20.4	
LOS Approach Delev	C	С	С	С	С	C	
Approach LOS	28.2					26.0	
Approach LOS Queue Length 50th (ft)	C 157	197	149	254	287	C 167	
Queue Length 95th (ft)	209	301	232	360	400	272	
Internal Link Dist (ft)	93	301	232	300	400	172	
Turn Bay Length (ft)	/3					172	
Base Capacity (vph)	1272	562	574	602	564	580	
Starvation Cap Reductn	0	0	0	146	92	190	
Spillback Cap Reductn	200	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.55	0.63	0.50	0.79	0.84	0.68	
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
ACIUALEU CYCLE LENGIN. 110		EBT, Start	t of Green				
Offset: 82 (75%), Referenced							
Offset: 82 (75%), Referenced Natural Cycle: 110							
Offset: 82 (75%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor	dinated						
Offset: 82 (75%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.70							
Offset: 82 (75%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.70 Intersection Signal Delay: 27	'.2				tersection		
Offset: 82 (75%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.70	'.2					LOS: C f Service A	

Splits and Phases: 16: Surface/Purchase/SASB & Ramp to I-93W-I-90S & Congress Street ₩_{Ø2}

Lanes, Volumes, I	•	→	<u></u>	•	+	•	4	†	<i>></i>	\	Ţ	4	
Lane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Group Lane Configurations	EBL		EBK	WBL	MRI	WBR	NRF	↑↑	NBK	SBL	SBI	SBK	XJ2
Traffic Volume (vph)	414	↑↑ 482	0	0	0	306	0	TT № 469	53	0	0	0	
Future Volume (vph)	414	482	0	0	0	306	0	469	53	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	12	12	12	11	12	12	12	12	12	12	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor Frt	0.53					0.850		0.95 0.985					
Flt Protected	0.950					0.030		0.703					
Satd. Flow (prot)	2987	3079	0	0	0	2448	0	4246	0	0	0	0	
Flt Permitted	0.950												
Satd. Flow (perm)	1582	3079	0	0	0	2448	0	4246	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR)		25			٥٢			٥٢			٥٢		
Link Speed (mph) Link Distance (ft)		25 233			25 288			25 612			25 240		
Travel Time (s)		6.4			7.9			16.7			6.5		
Confl. Peds. (#/hr)	593	0.1				593		10.7	1007		0.0		
Confl. Bikes (#/hr)						12			76				
Peak Hour Factor	0.99	0.99	0.99	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	2%	0%	0%	0%	1%	0%	3%	6%	0%	0%	0%	
Adj. Flow (vph)	418	487	0	0	0	312	0	494	56	0	0	0	
Shared Lane Traffic (%)	/10	487	0	0	0	312	0	550	0	0	0	0	
Lane Group Flow (vph) Turn Type	418 Prot	NA	U	U	U	Prot	U	NA	U	U	U	U	
Protected Phases	3	123				1		4					2
Permitted Phases													_
Detector Phase	3	123				1		4					
Switch Phase													
Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Split (s)	13.0					30.0 30.0		39.0 39.0					20.0
Total Split (s) Total Split (%)	21.0 19.1%					27.3%		35.5%					18%
Maximum Green (s)	16.0					25.0		34.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag	Lead					Lead		Lag					Lag
Lead-Lag Optimize? Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)	IVIGA					7.0		7.0					7.0
Flash Dont Walk (s)						18.0		27.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	17.0	67.0				26.0		36.0					
Actuated g/C Ratio	0.15	0.61				0.24		0.33					
v/c Ratio Control Delay	0.91	0.26				40.8		0.40 23.9					
Queue Delay	59.8 12.0	4.2 0.4				0.0		0.0					
Total Delay	71.8	4.6				40.8		23.9					
LOS	E	A				D		C					
Approach Delay		35.6			40.8			23.9					
Approach LOS		D			D			С					
Queue Length 50th (ft)	157	52				110		124					
Queue Length 95th (ft)	#245	48			200	160		156			1/0		
Internal Link Dist (ft) Turn Bay Length (ft)		153			208			532			160		
Base Capacity (vph)	461	1875				578		1389					
Starvation Cap Reductn	38	852				0		0					
Spillback Cap Reductn	0	0				0		0					
Storage Cap Reductn	0	0				0		0					
Reduced v/c Ratio	0.99	0.48				0.54		0.40					
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 63 (57%), Reference	ed to phase 1:E	BT, Start	of Green										
Natural Cycle: 105 Control Type: Actuated-Coo	ordinated												
Maximum v/c Ratio: 0.91	numateu												
Intersection Signal Delay: 3	2.9			Int	ersection	LOS: C							
Intersection Capacity Utiliza						f Service D)						
Analysis Period (min) 15													
# 95th percentile volume			may be lo	nger.									
	0 1	-I											
Queue shown is maximu	ım atter two cyo	cies.											

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street



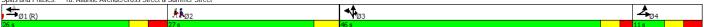
Editor, Volumos, 11	•				_	•	_	†	_	<u> </u>	ı	4	
		→	*	•	-		1	-	~	-	*		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		41↑ 238			ተተ _ጉ		7	4↑↑ 347	7				
Traffic Volume (vph)	34		0	0	274	141	90		205	0	0	0	
Future Volume (vph)	34	238	0	0	274	141	90	347	205	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.98								
Frt					0.949				0.850				
Flt Protected		0.994					0.950	0.999					
Satd. Flow (prot)	0	3190	0	0	4058	0	1464	2865	1454	0	0	0	
Flt Permitted		0.862					0.950	0.999					
Satd. Flow (perm)	0	2766	0	0	4058	0	1464	2865	1454	0	0	0	
Right Turn on Red			No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3			16.5			16.7		
Confl. Bikes (#/hr)						30			78				
Peak Hour Factor	0.96	0.96	0.96	0.99	0.99	0.99	0.96	0.96	0.96	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	1%	0.70	0%	0%	1%	1%	5%	0.70	0.72	0.72	0.72	
Adj. Flow (vph)	35	248	0.0	0 / 0	277	142	94	361	214	0.00	0.70	0.00	
Shared Lane Traffic (%)	JJ	240	U	U	211	142	10%	301	214	U	U	U	
Lane Group Flow (vph)	0	283	0	0	419	0	85	370	214	0	0	0	
Turn Type	D.P+P	NA	U	U	NA	U	Split			U	U	U	
	D.P+P	1 4			NA 1		Split 3	NA 3	Prot 3				2
Protected Phases Permitted Phases	1	14			- 1		3	3	3				2
Detector Phase	4	1 4			1		3	3	3				
	4	14			- 1		3	3	3				
Switch Phase													
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				26.0		46.0	46.0	46.0				27.0
Total Split (s)	11.0				26.0		46.0	46.0	46.0				27.0
Total Split (%)	10.0%				23.6%		41.8%	41.8%	41.8%				25%
Maximum Green (s)	5.0				20.0		41.0	41.0	41.0				23.0
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	3.0				3.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)					-2.0		-1.0	-1.0	-1.0				
Total Lost Time (s)					4.0		4.0	4.0	4.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?	Lug						_500						9
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode	Max				C-Max		Max	Max	Max				Ped
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				13.0		34.0	34.0	34.0				15.0
Pedestrian Calls (#/hr)	0.0				0		0	0	0				0
Act Effet Green (s)	U	29.0			22.0		42.0	42.0	42.0				U
Actuated g/C Ratio		0.26			0.20		0.38	0.38	0.38				
v/c Ratio		0.26			0.20		0.38	0.38	0.38				
					41.9			25.2					
Control Delay		31.9					23.3		27.2				
Queue Delay		0.0			0.0		0.0	0.0	0.0				
Total Delay		31.9			41.9		23.3	25.2	27.2				
LOS		С			D		С	С	С				
Approach Delay		31.9			41.9			25.6					
Approach LOS		С			D			С					
Queue Length 50th (ft)		80			97		42	100	108				
Queue Length 95th (ft)		117			132		82	142	175				
Internal Link Dist (ft)		58			333			526			532		
Turn Bay Length (ft)													
Base Capacity (vph)		756			811		558	1093	555				
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		0.37			0.52		0.15	0.34	0.39				
		0.07			0.02		00	0.01	0.07				

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 59 (54%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52

Intersection Signal Delay: 31.9 Intersection Capacity Utilization 38.5% Analysis Period (min) 15 Intersection LOS: C ICU Level of Service A

Splits and Phases: 18: Atlantic Avenue/Cross Street & Summer Street



<u> </u>	•	•	1	†	+	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	LUL	LDIN	.,,,,,		↑↑↑ 926	SSIN	20
Traffic Volume (vph)	0	0	0	0	926	0	
Future Volume (vph)	0	1000	1000	1000	926	1000	
Ideal Flow (vphpl) Lane Util. Factor	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 0.91	1900 1.00	
Frt Factor	1.00	1.00	1.00	1.00	0.91	1.00	
Flt Protected							
Satd. Flow (prot)	0	0	0	0	5136	0	
Flt Permitted							
Satd. Flow (perm)	0	0	0	0	5136	0	
Right Turn on Red Satd. Flow (RTOR)		Yes				Yes	
Link Speed (mph)	25			25	25		
Link Distance (ft)	107			240	199		
Travel Time (s)	2.9			6.5	5.4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	
Adj. Flow (vph)	0	0	0	0	955	0	
Shared Lane Traffic (%)	0	0	0	0	OFF	0	
Lane Group Flow (vph) Turn Type	0	0	0	0	955 NA	0	
Protected Phases					1		5
Permitted Phases					•		
Detector Phase					1		
Switch Phase							
Minimum Initial (s)					8.0		8.0
Minimum Split (s)					71.0		39.0
Total Split (s) Total Split (%)					71.0 64.5%		39.0 35%
Maximum Green (s)					66.0		33.0
Yellow Time (s)					3.0		3.0
All-Red Time (s)					2.0		3.0
Lost Time Adjust (s)					-1.0		
Total Lost Time (s)					4.0		
Lead/Lag							
Lead-Lag Optimize? Vehicle Extension (s)					2.0		2.0
Recall Mode					C-Max		Max
Walk Time (s)					7.0		7.0
Flash Dont Walk (s)					59.0		26.0
Pedestrian Calls (#/hr)					0		0
Act Effct Green (s)					67.0		
Actuated g/C Ratio					0.61		
v/c Ratio					0.31		
Control Delay Queue Delay					7.0 0.3		
Total Delay					7.4		
LOS					A		
Approach Delay					7.4		
Approach LOS					Α		
Queue Length 50th (ft)					59		
Queue Length 95th (ft)	27			160	69 119		
Internal Link Dist (ft) Turn Bay Length (ft)	21			100	119		
Base Capacity (vph)					3128		
Starvation Cap Reductn					1438		
Spillback Cap Reductn					0		
Storage Cap Reductn					0		
Reduced v/c Ratio					0.57		
Intersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 107 (97%), Reference	d to phase 1:	SBT, Start	t of Green				
Natural Cycle: 110	eller a karal						
Control Type: Actuated-Coord Maximum v/c Ratio: 0.35	umated						
Intersection Signal Delay: 7.4				Int	ersection	I OS: A	
Intersection Capacity Utilization						Service A	
Analysis Period (min) 15				.0			
, , , ,							

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street





Lanes, volumes, 11		•	<u>†</u>	~	\		
	√						~-
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations Traffic Volume (vph)	0	0	↑↑ 1074	0	0	0	
Future Volume (vph)	0	0	1074	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	
Frt							
Flt Protected							
Satd. Flow (prot)	0	0	3574	0	0	0	
Fit Permitted		0	2574	0	0	0	
Satd. Flow (perm) Right Turn on Red	0	0 Yes	3574	0 Yes	0	0	
Satd. Flow (RTOR)		162		162			
Link Speed (mph)	25		25			25	
Link Distance (ft)	111		264			262	
Travel Time (s)	3.0		7.2			7.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	
Adj. Flow (vph)	0	0	1107	0	0	0	
Shared Lane Traffic (%)	_		4407				
Lane Group Flow (vph)	0	0	1107	0	0	0	
Turn Type Protected Phases			NA 1				5
Permitted Phases							Ü
Detector Phase			1				
Switch Phase							
Minimum Initial (s)			8.0				8.0
Minimum Split (s)			75.0				35.0
Total Split (s)			75.0				35.0
Total Split (%)			68.2%				32%
Maximum Green (s)			70.0				30.0
Yellow Time (s)			3.0				3.0
All-Red Time (s) Lost Time Adjust (s)			2.0 -1.0				2.0
Total Lost Time (s)			4.0				
Lead/Lag			4.0				
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			63.0				23.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)			71.0				
Actuated g/C Ratio			0.65				
v/c Ratio			0.48				
Control Delay Queue Delay			2.8 0.2				
Total Delay			3.0				
LOS			3.0 A				
Approach Delay			3.0				
Approach LOS			Α.				
Queue Length 50th (ft)			35				
Queue Length 95th (ft)			41				
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)							
Base Capacity (vph)			2306				
Starvation Cap Reductn			451				
Spillback Cap Reductn			167 0				
Storage Cap Reductn Reduced v/c Ratio			0.60				
			0.00				
Intersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 110		IDTI Ct	t of Cross				
Offset: 44 (40%), Reference	eu to pnase 1:N	ibit, Star	t of Green				
Natural Cycle: 110 Control Type: Actuated-Coo	ordinated						
Maximum v/c Ratio: 0.60	nullialeU						
Intersection Signal Delay: 3.	0			Int	ersection	OS: A	
Intersection Capacity Utiliza						Service A	
Analysis Period (min) 15				.0		2	





Traffic Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Future Volume (vph) Lane Util. Factor Ped Bike Factor Fit Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time (s) Lost Time (s) Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio Vic Ratio Control Delay Oueue Delay Total Delay Approach Delay Approach LoS Queue Length 95th (ft) Uneue Length 95th (ft) Uneue Length 95th (ft) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio		•	*	†	~	-	↓
Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Iane Width (ft) Iane Util. Factor Ped Bike Factor Frt Fit Protected Said. Flow (prot) Fit Permitted Flow (prot) Fit Permitted (prot) Food (prot) Fo	ane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Lane Utill. Factor Ped Bike Factor Fit Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Moaximum Green (s) Yellow Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lost Time Adjust (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated gfC Ratio v/c Ratio Control Delay Approach Delay Approach Delay Approach Delay Approach Uos Uoueue Length 50th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reducth Sclusted Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referent	Lane Configurations	777		.,01		JDL	444
Ideal Flow (vphpl) Lane Width (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Dottmize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead/Lag Dottmixer Lead/Lag Dottmixer Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead/Lag Lead/Lag Lead-Lag Optimixer Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead-Lag Optimixer Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/La	Traffic Volume (vph)	200	0	0	0	219	726
Lane Width (ft) Lane Uill. Factor Ped Bike Factor Ped Bike Factor Fit Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Flost Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Capton (s) Recall Mode Walk Time (s) Lead/Lag Capton (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/Lag Lead/	Future Volume (vph)	200	0	0	0	219	726
Lane Utili. Factor Ped Bike Factor Fit Fit Fit Proflected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Spiti (s) Total Spiti (%) Total Spiti (%) Total Spiti (%) Adj. Flow (yph) Stared Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag (#/hr) Act Effct Green (s) Act Leftct Green (s) Starvation Calls (#/hr) Act Effct Green (s) Act Leftct Green (s) Starvation Calls (#/hr) Starvation Calls (#/hr) Starvation Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Spillback Cap Red		1900	1900 11	1900	1900	1900	1900
Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Los Approach LoS Queue Length 50th (t) Queue Length 95th (t) Internal Link Dist (t) Turn Bay Length (t) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Actuated Type: Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		11 0.97	1.00	12 1.00	12 1.00	12 0.91	12 0.91
Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Total Cast Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead-Lag Detector Recall Mode Walk Time (s) Lead-Lag Detector Recall Mode Walk Time (s) Lead-Lag	Ped Bike Factor	0.98		00		0.71	0.99
Satd. Flow (prot) FIT Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (yph) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (yph) Turn Type Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 95th (tt) Internal Link Dist (tt) Turn Bay Length (tt) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer	Frt						
FIL Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Solution Time (s) Land Time (s) Lost Time (s) Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Oueue Length Split (h) Uoueue Length Split (h) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Solorage Cap Redu	Flt Protected	0.950					0.989
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Total Split (%) Maximum Green (s) Yellow Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Length 95th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Solvage Cap Reductn Splitback Cap Reductn Splitba		2958	0	0	0	0	4561
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Said. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Spilt (s) Total Spilt (s) Total Spilt (s) Total Spilt (s) Total Spilt (s) Total Spilt (s) Total Spilt (s) Flow Time (s) Lad-Lag Coptinize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Length Spilt (h) Uneus Length (h) Starvation Cap Reductn Spillback Cap Reduct	Right Turn on Red	2077	Yes	U	Yes		1317
Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lost Time Adjust (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Queue Length 50th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Schusted g/C Ratio v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer	Satd. Flow (RTOR)						
Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (uph) Turn Type Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recail Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Los Approach LoS Queue Length 95th (tt) Unurn Bay Length (tt) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer	Link Speed (mph)	25		25			25
Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Stotal Split (s) Stotal Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Flow Time (s) Lead/Lag (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Charlo Vic Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach Delay Approach LOS Oueue Length 50th (ft) Oueue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reducth Splitback Cap Reductn Reduced V/c Ratio		195		199			185
Peak Hour Factor Heavy Vehicles (%) Adj. Flow (yph) Shared Lane Traffic (%) Lane Group Flow (yph) Turn Type Protected Phases Permitted Phases Detector Phase Suite Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		5.3 20		5.4		88	5.0
Heavy Vehicles (%) Adj. Flow (vph) Adj. Flow (vph) Adj. Flow (vph) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Los Approach Delay Approach LOS Queue Length 95th (tt) Internal Link Dist (tt) Turn Bay Length (tt) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		0.95	0.95	0.92	0.92	0.98	0.98
Adj. Flow (vph) Shared Lane Tradfic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Queue Length 55th (ft) Oueue Length 95th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Schozel Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		3%	0.73	0.72	0.72	2%	1%
Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time (s) Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Splitback Cap Reductn Splitback Cap Reductn School Cap Reductn School Cap Reductn School Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referen	Adj. Flow (vph)	211	0	0	0	223	741
Turn Type Protected Phases Perrotected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Spilt (s) Total Spilt (s) Total Spilt (s) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Qotlinize? Vehicle Extension (s) Recail Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effct Green (s) Actuated g/C Ratio Vic Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 55th (tt) Ururn Bay Length (tt) Turn Bay Length (tt) Storage Cap Reductn Spillback Cap Reduct	Shared Lane Traffic (%)						
Protected Phases Pretected Phases Detector Phase Detector Phase Switch Phase Switch Phase Switch Phase Minimum Initial (s) Minimum Spilt (s) Total Spilt (%) Stall Red Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Oueue Length 50th (th) Oueue Length 50th (th) Internal Link Dist (th) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Schoel Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referen		211	0	0	0	0	964
Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		Prot 5				Split 1	NA 1
Detector Phase Switch Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Detimize? Vehicle Extension (s) Recail Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio Vic Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (t) Queue Length 95th (t) Internal Link Dist (t) Turn Bay Length (t) Base Capacity (vph) Starvation Cap Reductn Spillback		5				1	-
Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Lead/Lag Cytimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actualed g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach LOS Oueue Length 50th (tt) Oueue Length 50th (tt) Turn Bay Length (tt) Base Capacity (vph) Starvation Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Splitback Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer	Detector Phase	5				1	1
Minimum Split (s) Total Split (s) Total Split (s) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 95th (tt) Internal Link Dist (tt) Turn Bay Length (tt) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Switch Phase						
Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (djust (s) Total Lost Time (a) Lead/Lag Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Oueue Length 50th (ft) Oueue Length 95th (t) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Schozag Cap Reductn Schozag Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Minimum Initial (s)	8.0				8.0	8.0
Total Split (%) Maximum Green (s) Yellow Time (s) All-Red Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		39.0				71.0	71.0
Maximum Green (s) Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Los Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		39.0 35.5%				71.0 64.5%	71.0 64.5%
Yellow Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (djust (s) Total Lost Time (s) Lead/Lag Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Oueue Length 50th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Storage Cap Reductn Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		35.5%				66.0	66.0
All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead-Lag Optimize? Vehicle Extension (s) Recail Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio Vic Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 55th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced Vic Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		3.0				3.0	3.0
Total Lost Time (s) Lead/Lag Lead/Lag Lead/Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Queue Length 50th (ft) Oueue Length 95th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Cap Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	All-Red Time (s)	3.0				2.0	2.0
Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Oueue Delay Total Delay LOS Approach LOS Oueue Length 55th (ft) Internal Link Dist (ft) Uneue Length 95th (ft) Internal Link Dist (ft) Storage Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer	Lost Time Adjust (s)	-1.0					-1.0
Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Total Lost Time (s)	5.0					4.0
Vehicle Extension (s) Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Approach Delay Approach Delay Approach LOS Queue Length 50th (tt) Queue Length 95th (tt) Internal Link Dist (tt) Turn Bay Length (tt) Base Capacity (vph) Starvation Cap Reducth Spillback Cap Reducth Spillback Cap Reducth Reduced V/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer							
Recall Mode Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Approach Delay Approach Delay Approach US Queue Length 50th (ft) Queue Length 50th (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reducth Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Schoze Cap Reductn Schoze Cap Reductn Cycle Length: 110 Actuated Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referer		2.0				2.0	2.0
Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Approach LOS Queue Length 55th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		Max				C-Max	C-Max
Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Loco Approach Delay Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Walk Time (s)	7.0				7.0	7.0
Act Effct Green (s) Actuated g/C Ratio v/c Ratio v/c Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 55th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Offset: 107 (97%), Referer	Flash Dont Walk (s)	26.0				59.0	59.0
Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Pedestrian Calls (#/hr)	0				0	0
v/c Ratio Control Delay Oueue Delay Total Delay LOS Approach Delay Approach Delay Approach LOS Oueue Length 55th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reducth Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Act Effct Green (s)	34.0					67.0
Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Cycle Length: 110 Offset: 107 (97%), Referer		0.31 0.23					0.61 0.35
Oueue Delay Total Delay LOS Approach LOS Approach LOS Oueue Length 55th (ft) Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		9.6					13.3
Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reducth Spillback Cap Reducth Spillback Cap Reducth Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		3.5					0.7
LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Total Delay	13.1					14.0
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	LOS	В					В
Oueue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Approach Delay	13.1					14.0
Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		B					B
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced vic Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		63 67					124 147
Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		115		119			105
Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Turn Bay Length (ft)	110					700
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Base Capacity (vph)	914					2778
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Starvation Cap Reductn	605					1376
Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		0					173
Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Storage Cap Reductn	0					0.69
Area Type: Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer		0.68					0.69
Cycle Length: 110 Actuated Cycle Length: 11 Offset: 107 (97%), Referer	Intersection Summary	0.00					
Actuated Cycle Length: 11 Offset: 107 (97%), Referer		CBD					
Offset: 107 (97%), Referer	Actuated Cycle Longth: 1	10					
Natural Cycle: 110	Actuated Cycle Length: 1 Offset: 107 (97%) Refere	nced to phase 1	·SBT_Start	t of Green			
	Vatural Cycle: 110	льси ю рназе т	.JUI, SIdil	i oi oieeli			
Control Type: Actuated-Co		oordinated					
Maximum v/c Ratio: 0.35	Maximum v/c Ratio: 0.35						
Intersection Signal Delay:	'ntersection Signal Delay.	13.8				tersection	
Intersection Capacity Utiliz		zotion 24 70/			IC	U Level of	f Service A
Analysis Period (min) 15	Intersection Capacity Utili	ZdIIUII 34.170					

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St



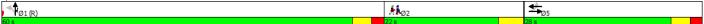


Lanes, Volumes, Til	•				+	•	4	*		<u> </u>	1	1	
	-	→	•	•	-		1	†	~		ţ		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		4↑↑ 187			1>			41↑ 620	7				
Traffic Volume (vph)	32		0	0	180	18	20		434	0	0	0	
Future Volume (vph)	32	187	0	0	180	18	20	620	434	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor					1.00								
Frt					0.988				0.850				
Flt Protected		0.993						0.998					
Satd. Flow (prot)	0	3092	0	0	1614	0	0	3181	1454	0	0	0	
Flt Permitted		0.842						0.998					
Satd. Flow (perm)	0	2622	0	0	1614	0	0	3181	1454	0	0	0	
Right Turn on Red			Yes			Yes			No			Yes	
Satd. Flow (RTOR)					4								
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		195			457			262			193		
Travel Time (s)		5.3			12.5			7.1			5.3		
Confl. Bikes (#/hr)						16			77				
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%	0%	
Adj. Flow (vph)	34	199	0	0	194	19	21	639	447	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	233	0	0	213	0	0	660	447	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Prot				
Protected Phases		5			5			1	1				2
Permitted Phases	5						1						
Detector Phase	5	5			5		1	1	1				
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	28.0	28.0			28.0		60.0	60.0	60.0				22.0
Total Split (s)	28.0	28.0			28.0		60.0	60.0	60.0				22.0
Total Split (%)	25.5%	25.5%			25.5%		54.5%	54.5%	54.5%				20%
Maximum Green (s)	23.0	23.0			23.0		55.0	55.0	55.0				18.0
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)	2.0	-1.0			-1.0		2.0	-1.0	-1.0				5.0
Total Lost Time (s)		4.0			4.0			4.0	4.0				
Lead/Lag		7.0			7.0		Lead	Lead	Lead				Lag
Lead-Lag Optimize?							LCdd	LCau	LCau				Lay
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0	2.0				2.0
Recall Mode	Z.U Max	Max			Max		C-Max	C-Max	C-Max				Ped
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0				7.0
Flash Dont Walk (s)	16.0	16.0			16.0		48.0	48.0	48.0				11.0
Pedestrian Calls (#/hr)	0.01	0.0			0.0		48.0	48.0	48.0				0
	0						0						U
Act Effet Green (s)		24.0			24.0			56.0	56.0				
Actuated g/C Ratio		0.22			0.22			0.51	0.51				
v/c Ratio		0.41			0.60			0.41	0.60				
Control Delay		42.4			46.0			11.0	18.4				
Queue Delay		4.0			0.3			0.9	2.6				
Total Delay		46.4			46.3			12.0	21.0				
LOS		D			D			В	С				
Approach Delay		46.4			46.3			15.6					
Approach LOS		D			D			В					
Queue Length 50th (ft)		92			134			156	292				
Queue Length 95th (ft)		135			215			194	420				
Internal Link Dist (ft)		115			377			182			113		
Turn Bay Length (ft)								1619	740				
Base Capacity (vph)		572			355								
Base Capacity (vph) Starvation Cap Reductn		256			0			646	181				
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn		256 0			0 13			646 0	181 0				
Base Capacity (vph) Starvation Cap Reductn		256			0			646	181				

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 79 (72%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Sinnal Delay: 24 4

Intersection Signal Delay: 24.4 Intersection Capacity Utilization 48.2% Analysis Period (min) 15 Intersection LOS: C ICU Level of Service A

Splits and Phases: 22: Atlantic Avenue/Cross Street & Mercantile St/Atlantic Ave



	•	→	•	•	←	•	4	†	~	\	↓	1	
Lana Craun	EDI	EDT.	-		WDT				-		-		an.
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations Fraffic Volume (vph)	0	0	0	424	€ 1 73	0	0	0	0	0	↑↑ 521	55	
ranic volume (vpn) future Volume (vph)	0	0	0	424	73	0	0	0	0	0	521	55	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	12	14	16	12	12	12	12	12	12	12	
ane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											0.99		
rt											0.986		
It Protected				0.950	0.969								
Satd. Flow (prot)	0	0	0	1630	1754	0	0	0	0	0	4519	0	
Flt Permitted	0	0	0	0.950	0.969	0	0	0	0	0	4510	0	
Satd. Flow (perm) Right Turn on Red	0	0	0 Yes	1630 No	1754	0 Yes	0	0	0 Yes	0	4519	0 Yes	
Satd. Flow (RTOR)			103	INU		103			1.02		18	163	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s)		7.6			3.2			5.0			12.4		
Confl. Bikes (#/hr)												56	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	1%	2%	
Adj. Flow (vph)	0	0	0	446	77	0	0	0	0	0	526	56	
Shared Lane Traffic (%)	0	0	0	30%	211	0	0	0	0	0	Ena	0	
Lane Group Flow (vph)	0	0	0	312 Split	211	0	0	0	0	0	582 NA	0	
Turn Type Protected Phases				Split 5	NA 5						NA 1		2
Permitted Phases				J	J								
Detector Phase				5	5						1		
Switch Phase													
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				42.0	42.0						44.0		24.0
Total Split (s)				42.0	42.0						44.0		24.0
Fotal Split (%)				38.2%	38.2%						40.0%		22%
Maximum Green (s)				37.0	37.0						38.0		20.0
Yellow Time (s) All-Red Time (s)				3.0 2.0	3.0 2.0						3.0		4.0 0.0
_ost Time Adjust (s)				-2.0	-2.0						-2.0		0.0
Fotal Lost Time (s)				3.0	3.0						4.0		
Lead/Lag				3.0	3.0						Lead		Lag
Lead-Lag Optimize?											Loud		Lug
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				30.0	30.0						31.0		13.0
Pedestrian Calls (#/hr)				0	0						0		0
Act Effct Green (s)				39.0	39.0						40.0		
Actuated g/C Ratio				0.35	0.35						0.36		
//c Ratio Control Delay				0.54 32.6	0.34 28.0						0.35 22.4		
Queue Delay				10.3	1.4						0.0		
Total Delay				42.9	29.4						22.4		
OS				D	C C						C		
Approach Delay					37.5						22.4		
Approach LOS					D						С		
Queue Length 50th (ft)				183	113						88		
Queue Length 95th (ft)				277	181						114		
nternal Link Dist (ft)		197			38			105			375		
Furn Bay Length (ft)				F77	101						4/54		
Base Capacity (vph)				577	621						1654		
Starvation Cap Reductn Spillback Cap Reductn				0 231	0 249						0 20		
Storage Cap Reductin				0	249						0		
Reduced v/c Ratio				0.90	0.57						0.36		
ntersection Summary													
	CBD												
Cycle Length: 110	CDD												
Actuated Cycle Length: 110													
Offset: 1 (1%), Referenced to	phase 1:SBT	, Start of 0	Green										
Natural Cycle: 110													
Control Type: Actuated-Coord	inated												
Maximum v/c Ratio: 0.54													
ntersection Signal Delay: 29.5					tersection								
	n 34.4%			IC	U Level of	f Service A							
Intersection Capacity Utilization Analysis Period (min) 15													

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp



	•	•	†	~	/	Ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WDL	WDR	† †	NDIV	JUL	JUI
Traffic Volume (vph)	0	22	670	0	0	0
Future Volume (vph)	0	22	670	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Lane Util. Factor Frt	1.00	1.00	0.95	1.00	1.00	1.00
Fit Protected		0.865				
Satd. Flow (prot)	0	1509	3185	0	0	0
Flt Permitted		. 307	- 100			
Satd. Flow (perm)	0	1509	3185	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		310				
Link Speed (mph) Link Distance (ft)	25 559		25 193			25 493
Travel Time (s)	15.2		5.3			13.4
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Parking (#/hr)	0	0				
Adj. Flow (vph)	0	24	705	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	705	0	0	0
Turn Type		Prot 5	NA 1			
Protected Phases Permitted Phases		5	1			
Detector Phase		5	1			
Switch Phase		,				
Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		25.0	85.0			
Total Split (s)		25.0	85.0			
Total Split (%)		22.7%	77.3%			
Maximum Green (s) Yellow Time (s)		21.0 3.0	80.0			
All-Red Time (s)		1.0	2.0			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	5.0			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode		Max	C-Max			
Walk Time (s)		7.0 14.0	7.0			
Flash Dont Walk (s) Pedestrian Calls (#/hr)		14.0	73.0 0			
Act Effct Green (s)		21.0	80.0			
Actuated g/C Ratio		0.19	0.73			
v/c Ratio		0.04	0.30			
Control Delay		0.1	0.5			
Queue Delay		0.0	0.2			
Total Delay		0.1	0.7			
LOS Approach Delay	0.1	Α	A 0.7			
Approach LOS	Α.1		0.7 A			
Queue Length 50th (ft)	/ /	0	1			
Queue Length 95th (ft)		0	1			
Internal Link Dist (ft)	479		113			413
Turn Bay Length (ft)						
Base Capacity (vph)		538	2316			
Starvation Cap Reductn		0	733			
Spillback Cap Reductn		0	0			
Storage Cap Reductn Reduced v/c Ratio		0.04	0 0.45			
		0.04	0.45			
Intersection Summary						
	BD					
Cycle Length: 110						
Actuated Cycle Length: 110	nhoos 1 h	IDT Ctc-1	of Croo-			
		iki Start	of Green			
Offset: 62 (56%), Referenced to	pnase rav	ib i , otart				
Offset: 62 (56%), Referenced to Natural Cycle: 110		io i y otair				
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina		io i y otalit				
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina Maximum v/c Ratio: 0.30		is i y orai r		In	tersection	LOS: A
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina	ated	, o tark			tersection CU Level o	

Splits and Phases: 24: Atlantic Avenue/Cross Street & Commercial Street



Lanes, Volumes, Timi	ings														
	•	→	•	•	←	•	•	†	~	>	ļ	1			
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations			7		4₽						† ‡				
Traffic Volume (vph)	0	0	135	152	145	0	0	0	0	0	289	72			
Future Volume (vph)	0	0	135	152	145	0	0	0	0	0	289	72			
Ideal Flow (vphpl) Lane Util. Factor	1900 1.00	1900 1.00	1900 1.00	1900 0.95	1900 0.95	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 0.95	1900 0.95			
Ped Bike Factor	1.00	1.00	1.00	0.93	0.93	1.00	1.00	1.00	1.00	1.00	0.95	0.93			
Frt			0.865								0.970				
Flt Protected					0.975										
Satd. Flow (prot)	0	0	1465	0	3121	0	0	0	0	0	2974	0			
Flt Permitted Satd. Flow (perm)	0	0	1465	0	0.975 3121	0	0	0	0	0	2974	0			
Right Turn on Red	U	U	No	No	3121	Yes	U	U	Yes	U	2914	Yes			
Satd. Flow (RTOR)			140	140		103			103		37	103			
Link Speed (mph)		25			25			25			25				
Link Distance (ft)		127			177			455			423				
Travel Time (s)		3.5			4.8			12.4			11.5	251			
Confl. Peds. (#/hr) Confl. Bikes (#/hr)												251 53			
Peak Hour Factor	0.94	0.94	0.94	0.99	0.99	0.99	0.92	0.92	0.92	0.95	0.95	0.95			
Heavy Vehicles (%)	0%	0%	1%	1%	2%	0%	0%	0%	0%	0%	2%	1%			
Parking (#/hr)												0			
Adj. Flow (vph)	0	0	144	154	146	0	0	0	0	0	304	76			
Shared Lane Traffic (%) Lane Group Flow (vph)	0	0	144	0	300	0	0	0	0	0	380	0			
Turn Type	U	U	Perm	Perm	NA	U	U	U	U	U	NA	U			
Protected Phases			1 (1111	1 61111	1						3				
Permitted Phases			1	1											
Detector Phase			1	1	1						3				
Switch Phase			10.0	10.0	10.0						10.0				
Minimum Initial (s) Minimum Split (s)			10.0 56.0	10.0 56.0	10.0 56.0						10.0 54.0				
Total Split (s)			56.0	56.0	56.0						54.0				
Total Split (%)			50.9%	50.9%	50.9%						49.1%				
Maximum Green (s)			47.0	47.0	47.0						49.0				
Yellow Time (s)			3.0	3.0	3.0						3.0				
All-Red Time (s) Lost Time Adjust (s)			6.0 -5.0	6.0	6.0 -5.0						2.0 -1.0				
Total Lost Time (s)			4.0		4.0						4.0				
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)			2.0	2.0	2.0						2.0				
Recall Mode Walk Time (s)			C-Max 7.0	C-Max 7.0	C-Max 7.0						Max 7.0				
Flash Dont Walk (s)			40.0	40.0	40.0						42.0				
Pedestrian Calls (#/hr)			0	0	0						0				
Act Effct Green (s)			52.0		52.0						50.0				
Actuated g/C Ratio			0.47		0.47						0.45				
v/c Ratio Control Delay			0.21 18.0		0.20 17.4						0.28 17.4				
Queue Delay			0.0		0.0						0.0				
Total Delay			18.0		17.4						17.4				
LOS			В		В						В				
Approach Delay		18.0			17.4						17.4				
Approach LOS Queue Length 50th (ft)		В	58		B 63						B 76				
Queue Length 95th (ft)			99		91						111				
Internal Link Dist (ft)		47	,,		97			375			343				
Turn Bay Length (ft)															
Base Capacity (vph)			692		1475						1372				
Starvation Cap Reductn Spillback Cap Reductn			0		0						0				
Storage Cap Reductn			0		0						0				
Reduced v/c Ratio			0.21		0.20						0.28				
Intersection Summary					-										
	CBD														
Cycle Length: 110															
Actuated Cycle Length: 110															
Offset: 0 (0%), Referenced to pl	hase 1:WB	TL, Start	of Green												
Natural Cycle: 110 Control Type: Actuated-Coordin	natad														
Maximum v/c Ratio: 0.28	iated														
Intersection Signal Delay: 17.5				In	ntersection	LOS: B									
Intersection Capacity Utilization					CU Level of										
Analysis Period (min) 15															
0.111 1.101	· ·	(0.4.00			0.0%										
Splits and Phases: 25: Surface	ce/Purchase	e/SASB 8	k North Str	eet/I-93 N	в Off-Ram	р			-	1					
▼ø1 (R)										▼ Ø3				 	
56 s										54 s					

	•	_	_	•	+	•	4	†	~	1	1	1			
		→	*								*				
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2		
ane Configurations raffic Volume (vph)	175	4 1 42	0	0	0	0	0	↑↑ 677	15	0	0	0			
Future Volume (vph)	175	42	0	0	0	0	0	677	15	0	0	0			
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
ane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00			
Ped Bike Factor	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.75	1.00	1.00	1.00			
rt								0.997							
It Protected	0.950	0.969													
Satd. Flow (prot)	1484	1535	0	0	0	0	0	3171	0	0	0	0			
Flt Permitted	0.950	0.969													
Satd. Flow (perm)	1484	1535	0	0	0	0	0	3171	0	0	0	0			
Right Turn on Red	No		Yes			Yes		2	Yes			Yes			
Satd. Flow (RTOR)		٥٢			٥٢			2			25				
ink Speed (mph)		25			25			25			25				
ink Distance (ft)		169			386 10.5			493			376 10.3				
ravel Time (s)		4.6			10.5			13.4	82		10.3				
Confl. Bikes (#/hr) Yeak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92			
eavy Vehicles (%)	4%	0.97	0.97	0.92	0.92	0.92	0.98	2%	0.98	0.92	0.92	0.92			
ij. Flow (vph)	180	43	0%	0%	0%	0%	0%	691	15	0%	0%	0%			
nared Lane Traffic (%)	42%	43	U	U	U	U	U	160	10	U	U	U			
ane Group Flow (vph)	104	119	0	0	0	0	0	706	0	0	0	0			
urn Type	Split	NA	U	U	U	U	U	NA	U	U	U	U			
rotected Phases	Jplit 1	1						5					2		
ermitted Phases								J					_		
etector Phase	1	1						5							
witch Phase								_							
linimum Initial (s)	8.0	8.0						8.0					8.0		
linimum Split (s)	15.0	15.0						14.0					18.0		
otal Split (s)	43.0	43.0						49.0					18.0		
otal Split (%)	39.1%	39.1%						44.5%					16%		
aximum Green (s)	38.0	38.0						44.0					14.0		
ellow Time (s)	3.0	3.0						3.0					4.0		
l-Red Time (s)	2.0	2.0						2.0					0.0		
st Time Adjust (s)	-1.0	-1.0						-1.0							
tal Lost Time (s)	4.0	4.0						4.0							
ead/Lag	Lead	Lead											Lag		
ead-Lag Optimize?															
ehicle Extension (s)	2.0	2.0						2.0					2.0		
ecall Mode	C-Max	C-Max						Max					Ped		
alk Time (s)													7.0 7.0		
ash Dont Walk (s) edestrian Calls (#/hr)													0		
edestrian Calls (#/nr) ct Effct Green (s)	39.0	39.0						45.0					U		
ctuated g/C Ratio	0.35	0.35						0.41							
c Ratio	0.35	0.35						0.41							
ontrol Delay	26.0	26.2						7.9							
ieue Delay	0.0	0.0						0.0							
ital Delay	26.0	26.2						7.9							
OS S	20.0 C	C C						Α.							
proach Delay		26.1						7.9							
proach LOS		C						A							
ueue Length 50th (ft)	53	61						47							
ueue Length 95th (ft)	97	109						57							
ternal Link Dist (ft)		89			306			413			296				
ırn Bay Length (ft)															
se Capacity (vph)	526	544						1298							
arvation Cap Reductn	0	0						0							
illback Cap Reductn	0	0						0							
orage Cap Reductn	0	0						0							
duced v/c Ratio	0.20	0.22						0.54							
ersection Summary															
ea Type:	CBD														
ycle Length: 110															
tuated Cycle Length: 110															
ffset: 25 (23%), Referenced	d to phase 1:1	EBTL, Star	t of Green												
atural Cycle: 50															
ontrol Type: Actuated-Coor	dinated														
aximum v/c Ratio: 0.54															
tersection Signal Delay: 12					tersection										
tersection Capacity Utilizati	on 34.7%			IC	U Level o	Service A	١								
nalysis Period (min) 15															
lite and Dhaces: 27 Att	antic Assesses	Crocc Ct-	ot 0 1 02 4	Off Dome '	Morth Ct	ot									
s and Phases: 26: Atla	andic Avenue	Cross Stre	et & 1-93 (ור-Kamp/	North Stre	eı	_				1 4				
•Ø1 (R)							A Lo	2			↑ _{Ø5}				
- L (15)								_			200				

	•	-	•	•	←	•	4	†	~	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	T T	<u> </u>	LDIN		1		. VDL		.,,,,,,	JDL	551	CDIN
Traffic Volume (vph)	31	78	0	0	145	66	34	41} 798	20	0	0	0
Future Volume (vph)	31	78	0	0	145	66	34	798	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.74				0.87		5.75	0.73	5.75			
Frt	0.74				0.958			0.997				
Flt Protected	0.950							0.998				
Satd. Flow (prot)	1624	1693	0	0	1407	0	0	3125	0	0	0	0
Flt Permitted	0.467							0.998				
Satd. Flow (perm)	589	1693	0	0	1407	0	0	3104	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20			4				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		157			265			376			181	
Travel Time (s)		4.3			7.2			10.3			4.9	
Confl. Peds. (#/hr)	748				,	748	212		289			
Confl. Bikes (#/hr)	, 10					6			80			
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	0.77	1%	0.97	0.74	1%	2%	0.78	3%	0.76	0.72	0.72	0.92
Parking (#/hr)	070	170	070	070	170	270	070	370	0.8	070	370	070
Adj. Flow (vph)	32	80	0	0	154	70	35	814	20	0	0	0
Shared Lane Traffic (%)	32	00	U	U	134	70	33	014	20	U	U	U
Lane Group Flow (vph)	32	80	0	0	224	0	0	869	0	0	0	0
			U	U		U			U	U	U	U
Turn Type	Perm	NA			NA		Split	NA 1				
Protected Phases	_	5			5		1	1				
Permitted Phases	5	-			-		4	-1				
Detector Phase	5	5			5		1	1				
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0				
Minimum Split (s)	34.0	34.0			34.0		76.0	76.0				
Total Split (s)	34.0	34.0			34.0		76.0	76.0				
Total Split (%)	30.9%	30.9%			30.9%		69.1%	69.1%				
Maximum Green (s)	29.0	29.0			29.0		71.0	71.0				
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0			-1.0				
Total Lost Time (s)	4.0	4.0			4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Recall Mode	Max	Max			Max		C-Max	C-Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	22.0	22.0			22.0		64.0	64.0				
Pedestrian Calls (#/hr)	50	50			50		0	0				
Act Effct Green (s)	30.0	30.0			30.0		,	72.0				
Actuated g/C Ratio	0.27	0.27			0.27			0.65				
v/c Ratio	0.20	0.17			0.56			0.42				
Control Delay	34.8	31.8			37.6			1.8				
Queue Delay	0.0	0.0			0.0			0.4				
Total Delay	34.8	31.8			37.6			2.2				
LOS	34.8 C	31.8 C			37.6 D			2.2 A				
	C											
Approach Delay		32.7			37.6			2.2				
Approach LOS		C			D			A				
Queue Length 50th (ft)	17	43			124			5				
Queue Length 95th (ft)	46	83			206			6			101	
Internal Link Dist (ft)		77			185			296			101	
Turn Bay Length (ft)												
Base Capacity (vph)	160	461			398			2046				
Starvation Cap Reductn	0	0			0			616				
Spillback Cap Reductn	0	0			2			323				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.20	0.17			0.57			0.61				
Intersection Summary												
	CBD											
Area Type:	CBD											

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 98 (89%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.6
Intersection Capacity Utilization 94.5%
Analysis Period (min) 15 Intersection LOS: B
ICU Level of Service F

Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street





	•	•	†	~	/	↓			
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø5
Lane Configurations	******		†	bix	JUL	SDI		~/_	
Traffic Volume (vph)	0	0	857	38	0	0			
Future Volume (vph)	0	0	857	38	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor Ped Bike Factor	1.00	1.00	0.95	0.95	1.00	1.00			
Frt			0.994						
Flt Protected									
Satd. Flow (prot)	0	0	3451	0	0	0			
FIt Permitted			2454			_			
Satd. Flow (perm) Right Turn on Red	0	0 Yes	3451	0 Yes	0	0			
Satd. Flow (RTOR)		162	7	1.62					
Link Speed (mph)	25		25			25			
Link Distance (ft)	221		181			194			
Travel Time (s)	6.0		4.9			5.3			
Confl. Peds. (#/hr)				239					
Confl. Bikes (#/hr)		0.00	0.00	81	0.00				
Peak Hour Factor	0.92 0%	0.92	0.99 3%	0.99	0.92 0%	0.92 0%			
Heavy Vehicles (%) Adj. Flow (vph)	0%	0% 0	3% 866	38	0%	0%			
Shared Lane Traffic (%)	U	U	000	30	U	U			
Lane Group Flow (vph)	0	0	904	0	0	0			
Turn Type			NA						
Protected Phases			25				1	2	5
Permitted Phases									
Detector Phase			2 5						
Switch Phase Minimum Initial (s)							10.0	4.0	10.0
Minimum Split (s)							38.0	11.0	61.0
Total Split (s)							38.0	11.0	61.0
Total Split (%)							35%	10%	55%
Maximum Green (s)							31.0	5.0	55.0
Yellow Time (s)							3.0	3.0	3.0
All-Red Time (s) Lost Time Adjust (s)							4.0	3.0	3.0
Lost Time Adjust (s) Total Lost Time (s)									
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?								9	
Vehicle Extension (s)							2.0	2.0	2.0
Recall Mode							C-Max	Max	Max
Walk Time (s)							7.0		7.0
Flash Dont Walk (s)							24.0		48.0
Pedestrian Calls (#/hr) Act Effct Green (s)			66.0				0		30
Actuated g/C Ratio			0.60						
v/c Ratio			0.44						
Control Delay			9.9						
Queue Delay			0.4						
Total Delay			10.2						
LOS Approach Delay			B 10.2						
Approach LOS			10.2 B						
Queue Length 50th (ft)			250						
Queue Length 95th (ft)			296						
Internal Link Dist (ft)	141		101			114			
Turn Bay Length (ft)									
Base Capacity (vph)			2073						
Starvation Cap Reductn			590						
Spillback Cap Reductn			189						
Storage Cap Reductn Reduced v/c Ratio			0.61						
			0.01						
Intersection Summary	Othor								
Area Type: Cycle Length: 110	Other								
Actuated Cycle Length: 110									
Offset: 74 (67%), Referenced	to phase 1-F	BL. Start	of Green						
Natural Cycle: 110	.5 pridoc 1.L	, Start	. 0.0011						
Control Type: Actuated-Coord	dinated								
Maximum v/c Ratio: 0.52									
Intersection Signal Delay: 10.2					tersection				
Intersection Capacity Utilizatio	on 30.2%			IC	U Level of	Service A	4		
Analysis Period (min) 15									
Splits and Phases: 28: Atla	ntic Avenue/	Cross Stra	et & Saler	n Street					
	THE AVEILUE/	01033 3115	or or Jaich	ii Jii CCl		#28 #2	9	#28	#29
#29						#28 #2	•	_	#29

See Comparison Fig. 2 Fig. 180 160 161 151	Lanes, Volumes, Tir												
and Configurations 1		>	۶	•	ሽ	†	↓	4	•	→			
Inflict volume (spit)	Lane Group	EBL2	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER	Ø1	Ø2	
unit volume (yely) 277 276 0 0 225 554 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Lane Configurations		1,1			414							
Said Frow Capabilly 1909 1909 1909 1909 1909 1909 1909 190	Traffic Volume (vph)		216										
ware Water Info													
ave Bull Finder 1 Frozensis 1													
From Horizont Company	Lane Util. Factor												
In Proceeding 1	Ped Bike Factor		1.00										
self Sey (perc) 0 588 0 0 312 0 0 0 Life Terminal College (Park) 0 0 3312 0 0 0 0 3312 0 0 <td< td=""><td>Frt</td><td></td><td>0.050</td><td></td><td></td><td>0.001</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Frt		0.050			0.001							
Permitted 0.900 0.901		n		n	n		n	0	n	0			
and Fise (permy)	Flt Permitted	0		U	U		U	0	U	0			
with Privacy P	Satd. Flow (perm)				0		0	0	0	0			
in Spoel (phip)	Right Turn on Red	No		Yes									
The Color of The C			25			2E	2E		ne.				
Travel Time (s)													
Valk Hor Entodr 0.98	Travel Time (s)		3.1										
leave y Menhades (Sq) 19 19 19 19 19 19 19 19 19 19 19 19 19	Confl. Peds. (#/hr)												
Aj. Free (type) 28 20 0 330 545 0 0 0 0													
Thirde Clark Trailer (b) For Story Prov (ry) For													
ane Croup Flow (php) 0 503 0 0 875 0 0 0 0 I'm Type Phot Phot Spit MA I'm Type Phot Phot Spit MA I'm Type Phot P		203	220		330	545		U					
Trotted Phases 12 12 5 5 1 2 2 2 2 2 2 2 2 2	Lane Group Flow (vph)	0	503	0	0	875	0	0	0	0			
Femile Phases 12	Turn Type												
relector Phase		12	12		5	5					1	2	
with Phase Intrinum Initial (S) 10.0 10.0 10.0 10.0 4.0 Intrinum Initial (S) 10.0 10.0 10.0 38.0 11.0 or dispate (S) 61.0 61.0 61.0 38.0 11.0 or dispate (S) 61.0 61.0 61.0 38.0 11.0 or dispate (S) 65.0 55.8 55.8 39.8 10% or dispate (S) 55.0 35.0 31.0 5.0 10.0 dispate (S) 55.0 35.0 31.0 5.0 10.0 dispate (S) 55.0 35.0 31.0 5.0 10.0 dispate (S) 55.0 35.0 31.0 5.0 10.0 dispate (S) 50.0 31.0 5.0 10.0 dispate (S) 50.0 31.0 5.0 dispate (S) 50.0 dispat		1 2	1 2		5	5							
Informacy Self (s)	Switch Phase	12	12		,	,							
olal Spait (s)	Minimum Initial (s)				10.0	10.0					10.0	4.0	
Description Description	Minimum Split (s)												
Isakmum (Seen (s) 5.0 5.0 3.10 5.0													
All Part Par													
IR-Red Time (s)													
Solition Solition	All-Red Time (s)					3.0							
seadLag Optimize? schiele Extension (9 20 20 20 20 20 20 20 20 20 20 20 20 20	Lost Time Adjust (s)												
Company Comp						5.0					Lood	Log	
Selecial Mode											Leau	Lay	
Valk Time (s) 70 70 70 8 70 8 8 8 8 8 8 8 8 8 8 8 8 8	Vehicle Extension (s)				2.0	2.0					2.0	2.0	
lash Dom Walk (s)	Recall Mode											Max	
edestinal Calls (#hr) 30 30 0 citualed g/C Rafio 0.39 0.51 tc Ratio 0.36 0.52 citualed g/C Rafio 0.39 0.51 to Ratio 0.36 0.52 doubled belay 0.0 0.2 dol belay 0.0 0.2 dol belay 24.7 6.2 OS C A proach LOS C A proach LOS C A tueue Length 50th (10 127 266 tueue Length 50th (10 127 266 tueue Length 50th (10 137 27 27													
Lt Effc Gren (s) 43.0 55.0 c c c c c c c c c c c c c c c c c c c													
Challed gC Ralio 0.39 0.51			43.0		30						U		
Control Delay 24.7 6.1	Actuated g/C Ratio												
Due Delay 0.0 0.2 olal Delay 24.7 6.2 c A proach Delay 24.7 6.2 c A proach Delay 24.7 6.2 c A c proach Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c A c Delay 24.7 6.2 c Del	v/c Ratio												
olal Delay													
OS C A pproach Delay 24.7 6.2 pproach LOS C A bueue Length 50th (ft) 127 266 bueue Length 50th (ft) 127 27 blemal Link Dist (ft) 32 114 174 154 urn Bay Length (ft) ase Capacity (vph) 32 114 174 154 urn Bay Length (ft) ase Capacity (vph) 1400 1686 larvation Cap Reductn 0 179 pillback Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0 0,0 blorage Cap Reductn 0,0 blor													
Proposit LOS	LOS												
Aueue Length 50th (ft) 127 266 Luceue Length 95th (ft) 171 27 Luceue Length 95th (ft) 171 27 Luceue Length 95th (ft) 171 27 Luceue Length 95th (ft) 32 114 174 154 Luceue Length 95th (ft) 32 114 174 174 Luceue Length 95th (ft) 32 114 174 Luceue Length	Approach Delay												
Newe Length P5th (ft) 171 27 Iternal Link Dist (ft) 32 114 174 154 Imm Bay Length (ft) Iase Capacity (vph) 1400 1686 Iarvation Cap Reducth 0 0 179 Ipiliback Cap Reducth 0 0 0 Iorage Cap Reducth 0 0 0 Iorage Cap Reducth 0 0 0 Iorage Cap Reducth 0 0 0 Iorage Cap Reducth 0 0 0 0 Itereduced v/c Ratio 0.36 0.58 Intersection Summary Trea Type: Other Sycle Length: 110 Iditional Cycle Length: 110 Intersection Loss Intersection Signal Delay: 13.0 Intersection LOS: B Intersection Signal Delay: 13.0 Intersection LOS: B Intersection Capacity Utilization 48.7% ICU Level of Service A Inalysis Period (min) 15													
Internal Link Dist (ft) 32 114 174 154 154 154 154 154 154 154 1554 15													
urn Bay Length (ft) ase Capacity (vph) 1400 1686 taravation Cap Reductn 0 179 pillback Cap Reductn 0 0 0 torage Cap Reductn 0 0 0 teduced v/c Ratio 0.36 0.58 telescetion Summary rear Type: Other tycle Length: 110 ctuated Cycle Length: 110 othstel 74 (67%), Referenced to phase 1:EBL, Start of Green latural Cycle: 110 control Type: Actuated-Coordinated laximum v/c Ratio: 0.52 tersection Signal Delay: 13.0 Intersection LOS: B tersection Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15	Internal Link Dist (ft)						174		154				
lativation Cap Reducth 0 179 pillback Cap Reductn 0 0 torage Cap Reductn 0 0 teduced v/c Ratio 0.36 0.58 Itersection Summary Fee Type: Other Cycle Length: 110 Urble Length: 110 Urble Length: 110 Urble Length: 110 Urble Length: 120 Urble Length: 120 Urble Length: 130 Intersection Signal Delay: 13.0 Intersection LOS: B Intersection Capacity Urblitization 48.7% ICU Level of Service A nalysis Period (min) 15	Turn Bay Length (ft)												
pillback Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Base Capacity (vph)												
torage Cap Reducth 0 0 0 reduced v/c Ratio 0.36 0.58 htersection Summary rear Type: Other yote Length: 110 cluated Cycle Length: 110 fifset: 74 (67%), Referenced to phase 1:EBL, Start of Green latural Cycle: 110 control Type: Actuated-Coordinated laavimum v/c Ratio: 0.52 htersection Signal Delay: 13.0 Intersection LOS: B ltersection Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15	Snillback Can Poducto												
teduced vic Ratio 0.36 0.58 htersection Summary rea Type: Other ycle Length: 110 Iffset: 74 (67%), Referenced to phase 1:EBL, Start of Green latural Cycle: 110 ontrol Type: Actuated-Coordinated laximum vic Ratio: 0.52 tersection Signal Delay: 13.0 Intersection LOS: B htersection Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15	Storage Cap Reductin												
rea Type: Other ycle Length: 110 ### Office Cycle Length: 110 ### Office Cycle Length: 110 ### Office Cycle: 110 ### Ontrol Type: Actuated-Coordinated ### Actualed-Coordinated ### Actualed-Coor	Reduced v/c Ratio												
rea Type: Other ycle Length: 110 ### Office Cycle Length: 110 ### Office Cycle Length: 110 ### Office Cycle: 110 ### Ontrol Type: Actuated-Coordinated ### Actualed-Coordinated ### Actualed-Coor	Intersection Summary												
Cycle Length: 110 Ctuated Cycle Length: 110 Iffset: 74 (67%), Referenced to phase 1:EBL, Start of Green Islatural Cycle: 110 Ontrol Type: Actuated-Coordinated Iaximum v/c Ratio: 0.52 Itersection Signal Delay: 13.0 Intersection Los: B Intersection Capacity Utilization 48.7% ICU Level of Service A Inalysis Period (min) 15	Area Type:	Other											
Offset: 74 (67%), Referenced to phase 1:EBL, Start of Green Latural Cycle: 110 Control Type: Actuated-Coordinated Laximum wC: Ratio: 0.52 Letresction Signal Delay: 13.0 Intersection Lops: B Letresction Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15	Cycle Length: 110												
latural Cycle: 110 Control Type: Actualed-Coordinated Askimum v/c Ratio: 0.52 Itersection Signal Delay: 13.0 Intersection LOS: B Itersection Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15			DI 61 1										
Control Type: Actuated-Coordinated laximum v/c Ratio: 0.52 latersection Signal Delay: 13.0 latersection Capacity Utilization 48.7% ltCU Level of Service A nalysis Period (min) 15		то pnase 1:Е	BL, Start (ur Green									
Maximum v/c Ratio: 0.52 Intersection Signal Delay: 13.0 Intersection LOS: B Itersection Capacity Utilization 48.7% ICU Level of Service A Inalysis Period (min) 15		dinated											
ntersection Capacity Utilization 48.7% ICU Level of Service A nalysis Period (min) 15	Maximum v/c Ratio: 0.52												
nalysis Period (min) 15	Intersection Signal Delay: 13.												
		on 48.7%			IC	U Level of	Service A						
plits and Phases: 29: Atlantic Avenue/Cross Street & New Sudbury Street & I-93 NB On-Ramp #28 #29 #28 #29 #28 #29 #28 #29 #28 #29	Analysis Period (min) 15												
#28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29 #28 #29	Splits and Phases: 29: Atla	intic Avenue/	Cross Stre	et & New	Sudbury S	Street & I-9	3 NB On-l	Ramp					
→ _{01 (R)} ↑ → ₀₂ ↑ ↑ ₀₅	#29						#28 #29		#28	#29			
	⊅ ø1 (R)						_†2	Ø2	_ 1	T _{Ø5}			

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĵ.			4	¥	
Traffic Volume (veh/h)	77	45	0	4	110	88
Future Volume (Veh/h)	77	45	0	4	110	88
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.50	0.50	0.95	0.95
Hourly flow rate (vph)	79	46	0	8	116	93
Pedestrians	149			95	457	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			8	38	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	205					
pX, platoon unblocked	200		0.97		0.97	0.97
vC, conflicting volume			582		716	654
vC1, stage 1 conf vol			302		. 10	50 1
vC2, stage 2 conf vol						
vCu, unblocked vol			558		695	632
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					0.1	0.2
tF (s)			2.2		3.5	3.3
p0 queue free %			100		47	65
cM capacity (veh/h)			617		217	269
					217	207
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	125	8	209			
Volume Left	0	0	116			
Volume Right	46	0	93			
cSH	1700	617	238			
Volume to Capacity	0.07	0.00	0.88			
Queue Length 95th (ft)	0	0	181			
Control Delay (s)	0.0	0.0	75.2			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	75.2			
Approach LOS			F			
Intersection Summary						
			4F.C			
Average Delay			45.9	10		Carata
Intersection Capacity Utilization			34.1%	IC	U Level of	Service
Analysis Period (min)			15			

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		W	
Traffic Volume (veh/h)	12	22	26	2	0	18
Future Volume (Veh/h)	12	22	26	2	0	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.63	0.63	0.70	0.70
Hourly flow rate (vph)	14	26	41	3	0.70	26
Pedestrians		29	17		204	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	1		17	
Right turn flare (veh)					.,,	
Median type		None	None			
Median storage veh)		None	THORIC			
Upstream signal (ft)		179				
pX, platoon unblocked		177				
vC, conflicting volume	248				318	276
vC1, stage 1 conf vol	240				310	270
vC2, stage 2 conf vol						
vCu, unblocked vol	248				318	276
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)	7.1				0.1	0.2
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	96
cM capacity (veh/h)	1104				549	622
					547	ULL
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	40	44	26			
Volume Left	14	0	0			
Volume Right	0	3	26			
cSH	1104	1700	622			
Volume to Capacity	0.01	0.03	0.04			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	3.0	0.0	11.0			
Lane LOS	Α		В			
Approach Delay (s)	3.0	0.0	11.0			
Approach LOS			В			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			29.7%	10	CU Level of	Service
Analysis Period (min)			15	I	JO LOVOI UI	JUI VICE
Analysis Fellou (IIIII)			13			

HCM Unsignalized Int	tersecti	on Cap	acity A	nalysis		
	•	•	†	<i>></i>	\	↓
	-	WDD	NDT	, NDD	CDI	
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		77	^	_	_	
Traffic Volume (veh/h)	0	70	1115	0	0	0
Future Volume (Veh/h)	0	70	1115	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	0	84	1161	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)			151			183
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	1161	580			1161	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	669	0			669	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	312	861			734	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2		
Volume Total	42	42	580	580		
Volume Left	0	0	0	0		
Volume Right	42	42	0	0		
cSH	861	861	1700	1700		
Volume to Capacity	0.05	0.05	0.34	0.34		
Queue Length 95th (ft)	4	4	0.34	0.34		
Control Delay (s)	9.4	9.4	0.0	0.0		
Lane LOS	7.4 A	7.4 A	0.0	0.0		
Approach Delay (s)	9.4	А	0.0			
Approach LOS	Α.		0.0			
	А					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			40.8%	IC	U Level o	Service
Analysis Period (min)			15			

HCM Unsignalized Inte		J Oap	raionty 7			
	•	•	4	†	1	1
	-	*	,	ı	*	-
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				4	1>	
Traffic Volume (veh/h)	0	0	66	99	4	4
Future Volume (Veh/h)	0	0	66	99	4	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	0.72	0.72	69	104	5	5
Pedestrians	128			101		
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)	U					
Median type				None	None	
				None	None	
Median storage veh)				4/0		
Upstream signal (ft)				460		
pX, platoon unblocked	070	407	400			
vC, conflicting volume	378	136	138			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378	136	138			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	95			
cM capacity (veh/h)	598	919	1446			
Direction, Lane #	NB 1	SB 1				
Volume Total	173	10				
Volume Left	69	0				
Volume Right	0	5				
cSH	1446	1700				
Volume to Capacity	0.05	0.01				
Queue Length 95th (ft)	4	0				
Control Delay (s)	3.3	0.0				
Lane LOS	Α					
Approach Delay (s)	3.3	0.0				
Approach LOS						
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			18.9%	10	U Level of	Condo
Analysis Period (min)			18.9%	IC	o Level 01	Service
Analysis Periou (Min)			15			

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			र्स	W	
Traffic Volume (veh/h)	29	6	2	128	54	45
Future Volume (Veh/h)	29	6	2	128	54	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	33	7	2	147	65	54
Pedestrians	140			275	347	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			23	29	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked	270					
vC, conflicting volume			387		674	658
vC1, stage 1 conf vol			307		0/4	000
vC2, stage 2 conf vol						
vC2, stage 2 coni voi vCu, unblocked vol			387		674	658
			387 4.1		6.4	6.2
tC, single (s)			4.1		0.4	0.2
tC, 2 stage (s)			2.2		2.5	2.2
tF (s)			2.2		3.5	3.3
p0 queue free %			100		75	79
cM capacity (veh/h)			841		262	256
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	40	149	119			
Volume Left	0	2	65			
Volume Right	7	0	54			
cSH	1700	841	259			
Volume to Capacity	0.02	0.00	0.46			
Queue Length 95th (ft)	0.02	0.00	56			
Control Delay (s)	0.0	0.1	30.1			
Lane LOS	0.0	Α.1	D D			
Approach Delay (s)	0.0	0.1	30.1			
Approach LOS	0.0	0.1	D D			
••			D			
Intersection Summary						
Average Delay			11.7			
Intersection Capacity Utilization			33.3%	IC	U Level of	Service
Analysis Period (min)			15			
, ,						

 No-Build (2026) Condition 	

Lanes, Volumes, T	imings													
<u> </u>	۶	→	•	•	+	•	4	†	/	/	ţ	✓		· · · · · · · · · · · · · · · · · · ·
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	
Lane Configurations	7	414				7		† }						
Traffic Volume (vph)	110	172	0	0	0	20	0	751	83	0	0	0		
Future Volume (vph)	110	172	0	0	0	20	0	751	83	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	12	16	12	12	12 0.95	12	12	12		
Lane Util. Factor Ped Bike Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.95 0.99	0.95	1.00	1.00	1.00		
Frt						0.865		0.985						
Flt Protected	0.950													
Satd. Flow (prot)	1464	3081	0	0	0	1676	0	2961	0	0	0	0		
FIt Permitted	0.950													
Satd. Flow (perm)	1464	3081	0	0	0	1676	0	2961	0	0	0	0		
Right Turn on Red	No		Yes			Yes 383		10	Yes			Yes		
Satd. Flow (RTOR) Link Speed (mph)		25			25	383		13 25			25			
Link Distance (ft)		161			205			294			151			
Travel Time (s)		4.4			5.6			8.0			4.1			
Confl. Bikes (#/hr)									64					
Peak Hour Factor	0.93	0.93	0.93	0.79	0.79	0.79	0.97	0.97	0.97	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	1%	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%		
Parking (#/hr)	110	105	0		^	25	^	774	0	0	0	^		
Adj. Flow (vph) Shared Lane Traffic (%)	118 0%	185	0	0	0	25	0	774	86	0	0	0		
Shared Lane Traffic (%) Lane Group Flow (vph)	118	185	0	0	0	25	0	860	0	0	0	0		
Turn Type	Split	NA	0	- 0	- 0	Prot	- 0	NA	0	U	0	- 0		
Protected Phases	5	5				6		1					2	
Permitted Phases														
Detector Phase	5	5				6		1						
Switch Phase	2.2	0.0				0.0		0.0					0.0	
Minimum Initial (s)	8.0 27.0	8.0 27.0				8.0		8.0 51.0					8.0 18.0	
Minimum Split (s) Total Split (s)	27.0	27.0				14.0 14.0		51.0					18.0	
Total Split (%)	24.5%	24.5%				12.7%		46.4%					16%	
Maximum Green (s)	22.0	22.0				9.0		46.0					14.0	
Yellow Time (s)	3.0	3.0				3.0		3.0					4.0	
All-Red Time (s)	2.0	2.0				2.0		2.0					0.0	
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0						
Total Lost Time (s)	4.0	4.0				4.0		4.0					Lon	
Lead/Lag Lead-Lag Optimize?	Lead	Lead				Lag		Lead					Lag	
Vehicle Extension (s)	2.0	2.0				2.0		2.0					2.0	
Recall Mode	Max	Max				Max		C-Max					Ped	
Walk Time (s)	7.0	7.0				7.0		7.0					7.0	
Flash Dont Walk (s)	15.0	15.0				2.0		39.0					7.0	
Pedestrian Calls (#/hr)	0	0				0		0					0	
Act Effct Green (s)	23.0	23.0				10.0		47.0						
Actuated g/C Ratio v/c Ratio	0.21 0.39	0.21				0.09		0.43						
Control Delay	55.1	50.8				0.05		9.4						
Queue Delay	77.1	18.3				0.2		0.9						
Total Delay	132.2	69.1				0.2		10.3						
LOS	F	E				Α		В						
Approach Delay		93.7			0.2			10.3						
Approach LOS		F			Α			В						
Queue Length 50th (ft)	94	73				0		67						
Queue Length 95th (ft)	163	114 81			125	m0		214			71			
Internal Link Dist (ft) Turn Bay Length (ft)		81			125			214			/1			
Base Capacity (vph)	306	644				500		1272						
Starvation Cap Reductn	203	441				0		178						
Spillback Cap Reductn	0	0				0		0						
Storage Cap Reductn	0	0				0		0						
Reduced v/c Ratio	1.15	0.91				0.05		0.79						
Intersection Summary														
Area Type:	CBD													
Cycle Length: 110														
Actuated Cycle Length: 110														
Offset: 89 (81%), Reference	ed to phase 1:N	NBT, Start	of Green											
Natural Cycle: 110	and a start													
Control Type: Actuated-Co	ordinated													

Intersection LOS: C ICU Level of Service B

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 31.4
Intersection Capacity Utilization 59.0%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

		→	•	•	+	•	•	†	~	<u> </u>	 	4
l C			-	-	WOT				-		-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Fraffic Volume (vph)	0	0	0	0	♣ 29	23	145	41 ≯ 811	47	0	0	0
future Volume (vph)	0	0	0	0	29	23	145	811	47	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.94			0.97				
Frt					0.941			0.993				
Fit Protected	^	^	0	^	1/1/		^	0.993	^	•	^	^
Satd. Flow (prot) Flt Permitted	0	0	0	0	1414	0	0	3108 0.993	0	0	0	0
Satd. Flow (perm)	0	0	0	0	1414	0	0	3100	0	0	0	0
Right Turn on Red	0	U	Yes	· ·	1414	Yes	No	3100	Yes	0	0	Yes
Satd. Flow (RTOR)					17			12				
_ink Speed (mph)		25			25			25			25	
Link Distance (ft)		171			179			570			294	
Travel Time (s)		4.7			4.9			15.5			8.0	
Confl. Peds. (#/hr)						71	42		703			
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.01	0.01	1	0.07	0.07	65	0.00	0.00	0.00
Peak Hour Factor	0.92 0%	0.92 0%	0.92	0.81	0.81 0%	0.81	0.97 2%	0.97	0.97	0.92 0%	0.92 0%	0.92 0%
Heavy Vehicles (%) Parking (#/hr)	U%	U%	0%	0%	U%	0%	270	2% 0	2% 0	U%	U%	U%
Adj. Flow (vph)	0	0	0	0	36	28	149	836	48	0	0	0
Shared Lane Traffic (%)	Ū.	Ü	Ü	Ü	30	20		550	-10	Ü	Ü	Ü
Lane Group Flow (vph)	0	0	0	0	64	0	0	1033	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases												
Detector Phase					5		1	1				
Switch Phase					8.0		8.0	8.0				
Minimum Initial (s) Minimum Split (s)					24.0		86.0	86.0				
Total Split (s)					24.0		86.0	86.0				
Total Split (%)					21.8%		78.2%	78.2%				
Maximum Green (s)					19.0		81.0	81.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
Lead/Lag Lead-Lag Optimize?												
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					12.0		74.0	74.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					20.0			82.0				
Actuated g/C Ratio					0.18			0.75				
//c Ratio					0.24			0.45				
Control Delay					32.1			6.6				
Queue Delay Total Delay					0.1 32.2			0.4 7.0				
LOS					32.2 C			7.0 A				
Approach Delay					32.3			7.0				
Approach LOS					C			7.0 A				
Queue Length 50th (ft)					28			167				
					60			265				
		91			99			490			214	
Internal Link Dist (ft)												
Internal Link Dist (ft) Turn Bay Length (ft)					271			2319				
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph)					0 23			707				
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn								9				
nternal Link Dist (ft) Furn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn								U				
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					0			0.64				
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio								0.64				
nternal Link Dist (ft) Furn Bay Length (ft) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio ntersection Summary					0			0.64				
Internal Link Dist (ff) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: C	BD				0			0.64				
Internal Link Dist (ff) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110	BD				0			0.64				
nternal Link Dist (ft) Furn Bay Length (ft) Slarvation Cap Reducth Spillback Cap Reducth Storage Cap Reducth Reduced v/c Ratio ntersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110		BTL Start	t of Green		0			0.64				
Internal Link Dist (ff) Turn Bay Length (ff) Sase Capacity (vph) Starvation Cap Reducth Spillback Cap Reducth Storage Cap Reducth Reduced v/c Ratio Intersection Summary Area Type: C Cycle Length: 110 Actuated Cycle Length: 110 Offset: 86 (78%), Referenced to		BTL, Starl	t of Green		0			0.64				
nternal Link Dist (ft) Furn Bay Length (ft) Slarvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: C Cycle Length: 110 Actuated Cycle Length: 110 Offset: 86 (78%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordin	phase 1:N	BTL, Starl	t of Green		0			0.64				
nternal Link Dist (ff) Turn Bay Length (ft) Sase Capacity (vph) Starvation Cap Reducth Spilliback Cap Reducth Storage Cap Reducth Seduced vic Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Diffset: 86 (78%), Referenced to Valural Cycle: 110 Control Type: Actuated-Coordin Maximum vic Ratio: 0.45	phase 1:N	BTL, Start	t of Green		0 0.26			0.64				
Internal Link Dist (ff) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: C Cycle Length: 110 Actuated Cycle Length: 110 Offset: 86 (78%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordin Maximum v/c Ratio: 0.45 Intersection Signal Delay: 8.5	phase 1:N ated	BTL, Start	t of Green	In	0 0.26			0.64				
Oueue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: CC Cycle Length: 110 Actuated Cycle Length: 110 Offset: 86 (78%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordin Maximum v/c Ratio: 0.45 Intersection Signal Delay: 8.5 Intersection Capacity Utilization Analysis Period (min) 15	phase 1:N ated	BTL, Starl	t of Green	In	0 0.26	LOS: A		0.64				



09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

	•	→	*	•	-	•	1	†	~	\	+	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Group Lane Configurations	EBL	EBI	EBK			WBK	INDL	INDI	NDK	SBL	↓↓	SBK	V)Z
Traffic Volume (vph)	0	0	0	ሻ ሻ 82	↑ 92	0	0	0	0	0	TT № 393	62	
Future Volume (vph)	0	0	0	82	92	0	0	0	0	0	393	62	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.71	
Frt											0.979		
Flt Protected				0.950							0.777		
Satd. Flow (prot)	0	0	0	3120	1637	0	0	0	0	0	4317	0	
Flt Permitted	U	U	U	0.950	1037	U	U	U	U	U	4317	U	
Satd. Flow (perm)	0	0	0	3120	1637	0	0	0	0	0	4317	0	
	U	U	0 Yes	3120 No	1037	Yes	U	U	Yes	U	4317	Yes	
Right Turn on Red			res	INO		res			res		41	res	
Satd. Flow (RTOR)		0.5			05			0.5			41		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		251			171			329			268		
Travel Time (s)		6.8			4.7			9.0			7.3		
Confl. Bikes (#/hr)												38	
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	6%	0%	
Adj. Flow (vph)	0	0	0	88	99	0	0	0	0	0	409	65	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	88	99	0	0	0	0	0	474	0	
Turn Type				Split	NA						NA		
Protected Phases				5	5						1		2
Permitted Phases													
Detector Phase				5	5						1		
Switch Phase				ŭ									
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				27.0	27.0						62.0		21.0
Total Split (s)				27.0	27.0						62.0		21.0
Total Split (%)				24.5%	24.5%						56.4%		19%
Maximum Green (s)				22.0	22.0						56.0		17.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag											Lead		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				15.0	15.0						49.0		10.0
Pedestrian Calls (#/hr)				50	50						0		5
Act Effct Green (s)				24.0	24.0						58.0		
Actuated g/C Ratio				0.22	0.22						0.53		
v/c Ratio				0.22	0.22						0.33		
Control Delay				31.3	33.5						1.0		
				1.3	9.0						0.2		
Queue Delay													
Total Delay				32.6	42.4						1.2		
LOS				С	D						A		
Approach Delay					37.8						1.2		
Approach LOS					D						А		
Queue Length 50th (ft)				20	44						0		
Queue Length 95th (ft)				41	89						0		
Internal Link Dist (ft)		171			91			249			188		
Turn Bay Length (ft)													
Base Capacity (vph)				680	357						2295		
Starvation Cap Reductn				451	220						974		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.38	0.72						0.36		
				0.30	0.12						0.30		
Intersection Summary	000												
Area Type:	CBD												
Cycle Length: 110													
Cycle Length: 110 Actuated Cycle Length: 110													
Cycle Length: 110	phase 1:SB	, Start of	Green										

Offset: 2 (2%), Referenced to phase 1:SE Natural Cycle: 110 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.28 Intersection Signal Delay: 11.5 Intersection Capacity Utilization 103.3% Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service G

Splits and Phases: 5: Surface/Purchase/SASB & India Street



09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

Lanes, Volumes, T													
	•	-	•	•	—	•	1	†		-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		† ‡									414		
Traffic Volume (vph)	0		15	0	0	0	0	0	0	186	441	0	
Future Volume (vph) Ideal Flow (vphpl)	0 1900	95 1900	15 1900	0 1900	0 1900	0 1900	0 1900	0 1900	0 1900	186 1900	441 1900	0 1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor Ped Bike Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		1.00 0.979											
Flt Protected		0.777									0.985		
Satd. Flow (prot)	0	3355	0	0	0	0	0	0	0	0	4400	0	
Flt Permitted											0.985		
Satd. Flow (perm)	0	3355	0	0	0	0	0	0	0	0	4400	0	
Right Turn on Red		10	Yes			Yes			Yes	No		Yes	
Satd. Flow (RTOR) Link Speed (mph)		15 25			25			25			25		
Link Distance (ft)		314			161			268			332		
Travel Time (s)		8.6			4.4			7.3			9.1		
Confl. Bikes (#/hr)			7										
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	6%	0%	
Adj. Flow (vph) Shared Lane Traffic (%)	0	100	16	0	0	0	0	0	0	192	455	0	
Lane Group Flow (vph)	0	116	0	0	0	0	0	0	0	0	647	0	
Turn Type		NA	0	U	0	0	0	U	U	Split	NA	- 0	
Protected Phases		5								1	1		2
Permitted Phases													
Detector Phase		5								1	1		
Switch Phase		8.0								0.0	0.0		8.0
Minimum Initial (s) Minimum Split (s)		29.0								8.0 63.0	8.0 63.0		18.0
Total Split (s)		29.0								63.0	63.0		18.0
Total Split (%)		26.4%								57.3%	57.3%		16%
Maximum Green (s)		25.0								58.0	58.0		14.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		1.0								2.0	2.0		0.0
Lost Time Adjust (s) Total Lost Time (s)		-1.0 3.0									-1.0 4.0		
Lead/Lag		3.0								Lead	Lead		Lag
Lead-Lag Optimize?										Loud	Loud		Lug
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)		18.0 0								51.0 0	51.0 0		7.0
Act Effct Green (s)		26.0								U	59.0		U
Actuated g/C Ratio		0.24									0.54		
v/c Ratio		0.14									0.27		
Control Delay		29.4									6.9		
Queue Delay		0.0									0.1		
Total Delay		29.4 C									7.0		
LOS Approach Delay		29.4									A 7.0		
Approach LOS		29.4 C									7.0 A		
Queue Length 50th (ft)		29									30		
Queue Length 95th (ft)		54									47		
Internal Link Dist (ft)		234			81			188			252		
Turn Bay Length (ft)		60.1									2212		
Base Capacity (vph) Starvation Cap Reductn		804 0									2360 0		
Spillback Cap Reductn		1									458		
Storage Cap Reductn		0									436		
Reduced v/c Ratio		0.14									0.34		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110	ODD												
Actuated Cycle Length: 110													
Offset: 103 (94%), Reference		SBTL, Sta	ırt of Greei	n									
Natural Cycle: 110													
Control Type: Actuated-Coo	ordinated												
Maximum v/c Ratio: 0.27 Intersection Signal Delay: 1	0.4			Ini	tersection	1 0 S · B							
Intersection Capacity Utiliza	ation 59 0%					f Service E	3						
Analysis Period (min) 15				10		. 50, 1100 L							
,													

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street

09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

	•	-	•	•	←	•	~	†	~	-	↓	4	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ane Configurations				*	412						ተተጉ		
raffic Volume (vph)	0	0	0	63	∢↑↑ 206	0	0	0	0	0	563	671	
uture Volume (vph)	0	0	0	63	206	0	0	0	0	0	563	671	
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
ed Bike Factor	1100	1100	1100	0.68	0.71	1.00	1.00	1.00	1.00	1.00	0.95	0.71	
t											0.918		
It Protected				0.950									
atd. Flow (prot)	0	0	0	1449	3051	0	0	0	0	0	3958	0	
t Permitted				0.950									
atd. Flow (perm)	0	0	0	992	3051	0	0	0	0	0	3958	0	
ight Turn on Red			Yes	No		Yes			Yes			Yes	
atd. Flow (RTOR)											400		
nk Speed (mph)		25			25			25			25		
nk Distance (ft)		395			161			332			240		
avel Time (s)		10.8			4.4			9.1			6.5		
onfl. Peds. (#/hr)		10.0		332	7.7			7.1			0.0	158	
onfl. Bikes (#/hr)				JJZ								38	
eak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98	
	0.92	0.92	0.92	2%	2%	0.97			0.92	0.98	0.98 4%	1%	
eavy Vehicles (%) di. Flow (vph)	0%	0%		2% 65	2%	0%	0% 0	0%	0%		4% 574	685	
	U	U	0	0%	212	U	U	0	U	0	5/4	085	
hared Lane Traffic (%)	0	0	0	0% 65	212	0	0	0	0	0	1259	0	
ane Group Flow (vph)	U	0	0		212	U	U	U	0	0		0	
urn Type				Split	NA						NA		
rotected Phases				5	5						1		
ermitted Phases													
etector Phase				5	5						1		
witch Phase													
linimum Initial (s)				8.0	8.0						8.0		
linimum Split (s)				38.0	38.0						72.0		
otal Split (s)				38.0	38.0						72.0		
otal Split (%)				34.5%	34.5%						65.5%		
aximum Green (s)				29.0	29.0						67.0		
ellow Time (s)				3.0	3.0						3.0		
I-Red Time (s)				6.0	6.0						2.0		
ost Time Adjust (s)				-1.0	-1.0						-1.0		
otal Lost Time (s)				8.0	8.0						4.0		
ead/Lag													
ead-Lag Optimize?													
ehicle Extension (s)				2.0	2.0						2.0		
ecall Mode				Max	Max						C-Max		
alk Time (s)				7.0	7.0						7.0		
ash Dont Walk (s)				22.0	22.0						60.0		
edestrian Calls (#/hr)				0	0						0		
ct Effct Green (s)				30.0	30.0						68.0		
ctuated g/C Ratio				0.27	0.27						0.62		
c Ratio				0.16	0.25						0.48		
ontrol Delay				35.3	35.9						3.4		
ueue Delay				4.0	5.0						0.1		
ital Delay				39.3	41.0						3.5		
)S				D	D						A		
proach Delay					40.6						3.5		
proach LOS					D						A		
eue Length 50th (ft)				39	64						0		
ueue Length 95th (ft)				76	94						0		
ernal Link Dist (ft)		315		, ,	81			252			160		
rn Bay Length (ft)		313			- 01			LUL			100		
ise Capacity (vph)				395	832						2599		
arvation Cap Reductn				267	547						289		
illback Cap Reductn				0	0						0		
orage Cap Reductri				0	0						0		
				0.51	0.74						0.55		
duced v/c Ratio				0.51	0.74						0.55		

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 90 (82%), Referenced to phase 1:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 10.2
Intersection Capacity Utilization 140.8%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service H

Splits and Phases: 7: Surface/Purchase/SASB & State Street



09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

	٠	→	•	•	←	•	4	†	~	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	LDL	LDI	LDIX	WDL	1	WEN	IVDL		NDIC	JDL	351	JUIN
Traffic Volume (vph)	0	0	0	0	83	41	186	41} 667	52	0	0	0
Future Volume (vph)	0	0	0	0	83	41	186	667	52	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.91			0.96				
Frt					0.955			0.991				
Flt Protected								0.990				
Satd. Flow (prot)	0	0	0	0	1680	0	0	3012	0	0	0	0
Flt Permitted	-				4/05	-		0.990				
Satd. Flow (perm)	0	0	0	0	1680	0	0	2997	0	0	0	0
Right Turn on Red			Yes		10	Yes	No	1.0	Yes			Yes
Satd. Flow (RTOR)		25			12			11			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		161			290			183			264	
Travel Time (s)		4.4			7.9	1/0	F1	5.0	(05		7.2	
Confl. Peds. (#/hr)						160	51		695			
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	62	0.00	0.00	0.00
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	1%	3%	2%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	90	45	192	688	54	0	0	0
Shared Lane Traffic (%)	^	^	•	_	405	_	_	00.4	•	^	^	^
Lane Group Flow (vph)	0	0	0	0	135	0	0	934	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases					-							
Detector Phase					5		1	1				
Switch Phase					^ ^		0.0	2.2				
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					26.0		74.0	74.0				
Total Split (s)					36.0		74.0	74.0				
Total Split (%)					32.7%		67.3%	67.3%				
Maximum Green (s)					31.0		69.0	69.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0 4.0			-1.0 4.0				
Total Lost Time (s)					4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?					2.0		2.0	2.0				
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					14.0		62.0	62.0				
Pedestrian Calls (#/hr)					0		0	70.0				
Act Effct Green (s)					32.0			70.0				
Actuated g/C Ratio					0.29			0.64				
v/c Ratio					0.27			0.49				
Control Delay					29.1			5.5				
Queue Delay					0.0			0.6				
Total Delay					29.1			6.0				
LOS Approach Delay					C			Α				
Approach Delay					29.1			6.0				
Approach LOS					C			Α				
Queue Length 50th (ft)					66			57				
Queue Length 95th (ft)		01			119			67			104	
Internal Link Dist (ft)		81			210			103			184	
Turn Bay Length (ft)					497			1920				
Base Capacity (vph)					497			1920 549				
Starvation Cap Reductn					0			139				
Spillback Cap Reductn Storage Cap Reductn					0			139				
Reduced v/c Ratio					0.27			0.68				
					0.27			0.06				
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110												
Actuated Cycle Length: 110												
Officet: 02 (949/) Deferenced		IDTI Ctor										

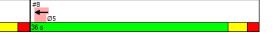
Actuated Cycle Length: 110
Offset: 92 (84%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 8.9
Intersection Capacity Utilization 81.7%
Analysis Period (min) 15 Intersection LOS: A ICU Level of Service D

Splits and Phases: 8: Atlantic Avenue/Cross Street & State Street

#8 #20

#0 1(R)





09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

Lanes, Volumes, Tim	<u>go</u>		_	4	1	1	
		*	1	I	ţ		
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	0	7	0	^	↑↑↑ 498	22	
Traffic Volume (vph)	0	94	0	0	498 498	22 22	
Future Volume (vph) Ideal Flow (vphpl)	1900	94 1900	1900	1900	1900	1900	
Lane Width (ft)	1900	13	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor					1.00		
Frt		0.865			0.994		
Flt Protected							
Satd. Flow (prot)	0	1484	0	0	4419	0	
Flt Permitted	0	1484	0	0	4419	٥	
Satd. Flow (perm) Right Turn on Red	Ü	Yes	0	0	4419	0 Yes	
Satd. Flow (RTOR)		503			10	162	
Link Speed (mph)	25	303		25	25		
Link Distance (ft)	358			212	329		
Travel Time (s)	9.8			5.8	9.0		
Confl. Bikes (#/hr)						40	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.96	
Heavy Vehicles (%)	0%	3%	0%	0%	5%	0%	
Adj. Flow (vph)	0	102	0	0	519	23	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	102	0	0	542	0	
Turn Type		Prot			NA		2
Protected Phases Permitted Phases		5			1		2
Detector Phase		5			1		
Switch Phase		J					
Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		23.0			65.0		22.0
Total Split (s)		23.0			65.0		22.0
Total Split (%)		20.9%			59.1%		20%
Maximum Green (s)		19.0			59.0		18.0
Yellow Time (s)		3.0			3.0		4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		
Total Lost Time (s) Lead/Lag		4.0			4.0 Lead		Lag
Lead-Lag Optimize?					Leau		Lag
Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0			7.0		7.0
Flash Dont Walk (s)		12.0			52.0		11.0
Pedestrian Calls (#/hr)		0			0		5
Act Effct Green (s)		19.0			61.0		
Actuated g/C Ratio		0.17			0.55		
v/c Ratio		0.15			0.22		
Control Delay		0.5			4.3		
Queue Delay Total Delay		0.0			0.0 4.3		
LOS		0.5 A			4.5 A		
Approach Delay	0.5				4.3		
Approach LOS	A				A		
Queue Length 50th (ft)		0			28		
Queue Length 95th (ft)		0			37		
Internal Link Dist (ft)	278			132	249		
Turn Bay Length (ft)							
Base Capacity (vph)		672			2454		
Starvation Cap Reductn		0			0		
Spillback Cap Reductn		1			17		
Storage Cap Reductn		0			0.22		
Reduced v/c Ratio		0.15			0.22		
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110		C C L	C				
Offset: 7 (6%), Referenced to p	pnase 1:SB1	, Start of (Green				
Natural Cycle: 110 Control Type: Actuated-Coordi	inated						
Maximum v/c Ratio: 0.22	mateu						
				In	tersection	LOS: A	
Intersection Signal Delay: 3.7 Intersection Capacity Utilization	n 24.6%					f Service A	

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street



09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

	•	→	•	•	+	•	•	†	~	\	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	LDL	↑ \$	LDIN	WDL	WDI	VVDIN	IVDL	IVDI	NUN	JUL	414	JUN	IJZ
Traffic Volume (vph)	0	99	149	0	0	0	0	0	0	83	509	0	
Future Volume (vph)	0	99	149	0	0	0	0	0	0	83	509	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft) Storage Length (ft)	12 0	16	12 75	12 0	12	12 0	12 0	12	12 0	12 0	12	12 0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor		0.99											
Frt		0.910											
Flt Protected	0	3310	0	0	0	0	0	0	0	0	0.993	0	
Satd. Flow (prot) Flt Permitted	U	3310	U	U	U	U	U	U	U	U	4438 0.993	U	
Satd. Flow (perm)	0	3310	0	0	0	0	0	0	0	0	4438	0	
Right Turn on Red		0010	Yes			Yes			Yes	No	1100	Yes	
Satd. Flow (RTOR)		154											
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		305			204			514			212		
Travel Time (s)		8.3	2		5.6			14.0			5.8		
Confl. Bikes (#/hr) Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	
Heavy Vehicles (%)	0.97	1%	0.97	0.92	0.92	0.92	0.92	0.92	0.92	1%	5%	0.96	
Adj. Flow (vph)	0	102	154	0	0	0	0	0	0	86	530	0	
Shared Lane Traffic (%)					-								
Lane Group Flow (vph)	0	256	0	0	0	0	0	0	0	0	616	0	
Turn Type		NA								Split	NA		
Protected Phases		5								1	1		2
Permitted Phases Detector Phase		5								1	1		
Switch Phase		5											
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		30.0								61.0	61.0		19.0
Total Split (s)		30.0								61.0	61.0		19.0
Total Split (%)		27.3%								55.5%	55.5%		17%
Maximum Green (s)		25.0								56.0	56.0		15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s) Lost Time Adjust (s)		2.0 -1.0								2.0	2.0 -1.0		0.0
Total Lost Time (s)		4.0									4.0		
Lead/Lag		1.0								Lead	Lead		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)		18.0 0								49.0 0	49.0 0		8.0
Act Effct Green (s)		26.0								U	57.0		
Actuated g/C Ratio		0.24									0.52		
v/c Ratio		0.28									0.27		
Control Delay		14.6									4.5		
Queue Delay		0.0									0.3		
Total Delay		14.6									4.8		
LOS Approach Dolay		B 14.6									A 4.8		
Approach Delay Approach LOS		14.6 B									4.8 A		
Queue Length 50th (ft)		30									15		
Queue Length 95th (ft)		64									19		
Internal Link Dist (ft)		225			124			434			132		
Turn Bay Length (ft)													
Base Capacity (vph)		899									2299		
Starvation Cap Reductn		0									999		
Spillback Cap Reductn Storage Cap Reductn		4 0									39 0		
Reduced v/c Ratio		0.29									0.47		
		0.27									0.47		
Intersection Summary	000												
Area Type:	CBD												
Cycle Length: 110		DTI Ctori	t of Green										
Actuated Cycle Length: 110	d to phase 1.5	BIL, SIMI											
Actuated Cycle Length: 110 Offset: 15 (14%), Referenced	d to phase 1:S	BIL, SIAH											
Actuated Cycle Length: 110 Offset: 15 (14%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor		BIL, SIAN											
Actuated Cycle Length: 110 Offset: 15 (14%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.28	dinated	BIL, SIdil											
Actuated Cycle Length: 110 Offset: 15 (14%), Referencet Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.28 Intersection Signal Delay: 7.	rdinated	BBTE, SIdii			tersection								
Actuated Cycle Length: 110 Offset: 15 (14%), Referenced Natural Cycle: 110 Control Type: Actuated-Coor Maximum v/c Ratio: 0.28	rdinated	BBTE, SIdit			tersection U Level of								

Splits and Phases: 10: Surface/Purchase/SASB & High Street

09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

	•	•	•	†	 	1	
		-					
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	102	0	0	^ ^	0	0	
Traffic Volume (vph) Future Volume (vph)	182 182	0	0	820 820	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	
Frt	5.77	1.00	1.00	0.70	1.00		
Flt Protected	0.950						
Satd. Flow (prot)	3120	0	0	3127	0	0	
FIt Permitted	0.950						
Satd. Flow (perm)	3120	0	0	3127	0	0	
Right Turn on Red	No	Yes				Yes	
Satd. Flow (RTOR)	25			25	2E		
Link Speed (mph) Link Distance (ft)	25 204			25 692	25 570		
Travel Time (s)	5.6			18.9	15.5		
Peak Hour Factor	0.94	0.94	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	1%	0%	0.77	2%	0%	0.72	
Parking (#/hr)	170	070	070	0	070	070	
Adj. Flow (vph)	194	0	0	845	0	0	
Shared Lane Traffic (%)		_	-				
Lane Group Flow (vph)	194	0	0	845	0	0	
Turn Type	Prot			NA			
Protected Phases	5			1			2
Permitted Phases	_						
Detector Phase	5			1			
Switch Phase	0.0			0.0			0.0
Minimum Initial (s)	8.0 25.0			8.0 68.0			8.0 17.0
Minimum Split (s) Total Split (s)	25.0			68.0			17.0
Total Split (%)	22.7%			61.8%			15%
Maximum Green (s)	20.0			63.0			13.0
Yellow Time (s)	3.0			3.0			4.0
All-Red Time (s)	2.0			2.0			0.0
Lost Time Adjust (s)	0.0			-1.0			
Total Lost Time (s)	5.0			4.0			
Lead/Lag				Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0			2.0			2.0
Recall Mode	Max			C-Max			Ped
Walk Time (s)	7.0 13.0			7.0 56.0			7.0 6.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)	13.0			56.0			0.0
Act Effet Green (s)	20.0			64.0			U
Actuated g/C Ratio	0.18			0.58			
v/c Ratio	0.34			0.46			
Control Delay	34.1			9.2			
Queue Delay	2.8			0.0			
Total Delay	36.9			9.2			
LOS	D			Α			
Approach Delay	36.9			9.2			
Approach LOS	D			A			
Queue Length 50th (ft)	66			106			
Queue Length 95th (ft) Internal Link Dist (ft)	104 124			m108 612	490		
Turn Bay Length (ft)	124			012	490		
Base Capacity (vph)	567			1819			
Starvation Cap Reductn	268			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.65			0.46			
Intersection Summary	CBD						
Area Type: Cycle Length: 110	CRD						
Cycle Length: 110 Actuated Cycle Length: 110							
Offset: 58 (53%), Reference	d to phase 1.N	IRT Start	of Green				
Natural Cycle: 110	a to priase 1.19	ubi, Staiti	or Orecil				
Control Type: Actuated-Cool	rdinated						
Maximum v/c Ratio: 0.46							
Intersection Signal Delay: 14	1.4			Int	ersection	LOS: B	
Intersection Capacity Utilizat	tion 66.1%					Service C	
Analysis Period (min) 15							

Analysis Period (min) 15 m. Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Atlantic Avenue/Cross Street & High Street

09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

Lanes, Volumes, Tir								_				
	*	•	→	—	*_	•	1	ሽ	†	~		
Lane Group	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	Ø2	Ø6
Lane Configurations Traffic Volume (vph)	6	23	4↑ 915	1 → 421	7 207	238	95	284	41 → 559	470		
Future Volume (vph)	6	23	915	421	207	238	95 95	284	559	470		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12 0	13	11	12 250	13	12	12 0	13	12 0		
Storage Length (ft) Storage Lanes		0			250 1			1		0		
Taper Length (ft)		25						25				
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor Frt					0.850	0.850			0.97 0.933			
Flt Protected			0.998		0.000	0.000		0.950	0.999			
Satd. Flow (prot)	0	0	3318	1489	1323	1427	0	1433	2795	0		
Fit Permitted	0	^	0.933	1400	1222	1/17	0	0.950	0.999 2795	0		
Satd. Flow (perm) Right Turn on Red	U	0	3102	1489	1323	1427 No	0	1433	2145	No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506 13.8					457 12.5			
Travel Time (s) Confl. Bikes (#/hr)			6.8	13.8	14	14			12.5	64		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.99	0.99	0.99	0.99		
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	1%	4%	4%	5%		
Adj. Flow (vph)	6	23	934	434	213	245	96	287	565	475		
Shared Lane Traffic (%) Lane Group Flow (vph)	0	0	963	434	0% 213	0% 245	0	10% 354	1069	0		
Turn Type	custom	custom	NA	NA	Prot	Prot	Perm	Split	NA	U		
Protected Phases			5	5	5	5		1	1		2	6
Permitted Phases	25	25	2				1					
Detector Phase Switch Phase	25	25	5	5	5	5	1	1	1			
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		7.0	4.0
Minimum Split (s)			29.0	29.0	29.0	29.0	39.0	39.0	39.0		26.0	6.0
Total Split (s)			39.0	39.0	39.0	39.0	39.0	39.0	39.0		26.0	6.0
Total Split (%)			35.5%	35.5%	35.5%	35.5%	35.5%	35.5%	35.5%		24%	5%
Maximum Green (s) Yellow Time (s)			32.5 3.5	32.5 3.5	32.5 3.5	32.5 3.5	32.5 3.5	32.5 3.5	32.5 3.5		19.5 3.5	4.0 2.0
All-Red Time (s)			3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0	3.0	-1.0	-1.0		0.0	0.0
Total Lost Time (s)			6.5	5.5	5.5	5.5		5.5	5.5			
Lead/Lag			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize? Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	8.0	8.0		7.0	4.0
Flash Dont Walk (s)			15.5	15.5	15.5	15.5	24.5	24.5	24.5		12.5	0.0
Pedestrian Calls (#/hr) Act Effct Green (s)			0 48.1	0 33.5	0 33.5	0 33.5	0	0 38.7	0 38.7		91	0
Actuated g/C Ratio			0.44	0.30	0.30	0.30		0.35	0.35			
v/c Ratio			0.44	0.96	0.53	0.56		0.33	1.09			
Control Delay			5.8	71.7	37.5	38.2		33.5	82.7			
Queue Delay			44.8	44.7	0.0	0.0		0.0	0.0			
Total Delay LOS			50.6 D	116.4 F	37.5 D	38.2 D		33.5 C	82.7 F			
Approach Delay			50.6	76.1	D	U		C	70.5			
Approach LOS			D	E					E			
Queue Length 50th (ft)			24	329	136	152		118	~503			
Queue Length 95th (ft)			m16	#550	221	242		#407	#646			
Internal Link Dist (ft) Turn Bay Length (ft)			168	426	250	250			377			
Base Capacity (vph)			1420	453	402	434		504	983			
Starvation Cap Reductn			534	0	0	0		0	0			
Spillback Cap Reductn			0	151	0	0		0	0			
Storage Cap Reductn			1.00	1 44	0	0		0 70	1.00			
Reduced v/c Ratio			1.09	1.44	0.53	0.56		0.70	1.09			
Intersection Summary	CDD											
Area Type: Cycle Length: 110	CBD											
Actuated Cycle Length: 110												
Offset: 52 (47%), Referenced	d to phase 1:1	NBTL, Sta	rt of Greer									
Natural Cycle: 120	dia ata 1											
Control Type: Actuated-Coord Maximum v/c Ratio: 1.09	ainated											
Intersection Signal Delay: 66.	.2			In	tersection	LOS: F						
Intersection Capacity Utilizati						f Service I	F					
Analysis Period (min) 15												
 Volume exceeds capacity 			infinite.									
Queue shown is maximum # 95th percentile volume ex			may he lo	nger								
Queue shown is maximum			andy DC IC	ngor.								
m Volume for 95th percenti			upstream	signal.								
		,	-	-								

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp

09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

Lanes, volumes, I			,	-,		,		
	€	+	ţ	4	Ĺ	₹	~	
Lane Group	WBL	WBT	SBT	SBR	SWL2	SWL	SWR	Ø2
Lane Configurations			ተተኈ		ሻ	Y		
Traffic Volume (vph)	322	4↑ 194	551	107	944	466	101	
Future Volume (vph)	322	194	551	107	944	466	101	
		1900		1900		1900		
Ideal Flow (vphpl)	1900		1900		1900		1900	
Lane Width (ft)	12	11	12	12	12	12	12	
Lane Util. Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor			0.99					
Frt			0.976			0.973		
Flt Protected		0.970			0.950	0.961		
Satd. Flow (prot)	0	3005	4368	0	1608	1583	0	
Flt Permitted	0	0.970	1300	U	0.950	0.961	U	
	0		4270	0			0	
Satd. Flow (perm)	0	3005	4368	0	1608	1583	0	
Right Turn on Red				Yes				
Satd. Flow (RTOR)			35					
Link Speed (mph)		25	25			25		
Link Distance (ft)		248	514			293		
Travel Time (s)		6.8	14.0	00		8.0		
Confl. Bikes (#/hr)				38				
Peak Hour Factor	0.97	0.97	0.95	0.95	0.99	0.99	0.99	
Heavy Vehicles (%)	1%	2%	4%	1%	1%	1%	1%	
Adj. Flow (vph)	332	200	580	113	954	471	102	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	532	693	0	954	573	0	
				U			U	
Turn Type	Split	NA	NA		pm+pt	Prot		_
Protected Phases	6	6	1		5	5		2
Permitted Phases					2			
Detector Phase	6	6	1		5	5		
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	30.0		39.0	39.0		20.0
Total Split (s)	21.0	21.0	30.0		39.0	39.0		20.0
Total Split (%)	19.1%	19.1%	27.3%		35.5%	35.5%		18%
Maximum Green (s)	14.0	14.0	25.5		34.0	34.0		16.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.0
All-Red Time (s)	3.5	3.5	1.0		1.5	1.5		1.0
Lost Time Adjust (s)		-2.0	-1.0		-1.0	-1.0		
Total Lost Time (s)		5.0	3.5		4.0	4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	9	9						9
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		2.0
Recall Mode	Max	Max	C-Max		Max	Max		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	7.0	7.0	18.5		27.0	27.0		9.0
Pedestrian Calls (#/hr)	0	0	0		0	0		50
Act Effct Green (s)		16.0	26.5		55.0	35.0		
Actuated g/C Ratio		0.15	0.24		0.50	0.32		
v/c Ratio		1.47dl	0.64		1.19	1.14		
Control Delay		133.5	28.2		124.0	120.0		
Queue Delay		0.5	0.1		0.2	0.0		
Total Delay		134.0	28.3		124.1	120.0		
LOS		F	С		F	F		
Approach Delay		134.0	28.3			122.6		
Approach LOS		F	С			F		
Queue Length 50th (ft)		~231	161		~813	~473		
		m#266	206		#1059	#687		
Queue Length 95th (ft)			42.4		# 1009			
Internal Link Dist (ft)		168	434			213		
Turn Bay Length (ft)								
Base Capacity (vph)		437	1078		804	503		
Starvation Cap Reductn		22	0		0	0		
Spillback Cap Reductn		0	29		21	0		
Storage Cap Reductn		0	0		0	0		
Reduced v/c Ratio		1.28	0.66		1.22	1.14		
		1.28	0.00		1.22	1.14		
Intersection Summary								
Area Type:	CBD							
Cycle Length: 110	000							
Actuated Cycle Length: 110		ODT Ct- :	of Cree					
Offset: 47 (43%), Reference	eu to pnase 1:	sør, Start	of Green					

Intersection LOS: F ICU Level of Service G

Offset: 47 (43%), Referenced to phase 1:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum vic Ratio: 1.22
Intersection Signal Delay: 101.0
Intersection Capacity Utilization 103.2%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

9 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Wolume for 95th percentile queue is melered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 13: Surface/Purchase/SASB & Oliver Street & I-93 SB OffRamp **√**1₂₀₅ **▼**ø6 l⊨ø2

09004.03::Harbor Garage No-Build (2026) Condition, a.m. Peak Hour

	•	→	*	•	+	•	4	Ť	~	1	1	1	
_ane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	▼ SBT	SBR	Ø2
ane Configurations	LDL	LDI	LDK	WDL	↑ ↑	WDK	NDL	INDI	NDK	JDL	**	JUK	X)Z
raffic Volume (vph)	0	0	0	96	351	0	0	0	0	0	1239	99	
uture Volume (vph)	0	0	0	96	351	0	0	0	0	0	1239	99	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	12	11	11	11	12	12	12	12	12	12	
ane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											1.00		
Frt				0.050							0.989		
FIt Protected Satd. Flow (prot)	0	0	0	0.950 1540	3141	0	0	0	0	0	4521	0	
Fit Permitted	U	U	U	0.950	3141	U	U	U	U	U	4321	U	
Satd. Flow (perm)	0	0	0	1540	3141	0	0	0	0	0	4521	0	
Right Turn on Red			Yes	No	0111	Yes	Ū	Ü	Yes	Ū	1021	Yes	
Satd. Flow (RTOR)											19		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		151			246			252			420		
Travel Time (s)		4.1			6.7			6.9			11.5		
Confl. Bikes (#/hr)												36	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.92	0.92	0.92	0.98	0.98	0.98	
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	2%	1%	
Adj. Flow (vph)	0	0	0	107	390	0	0	0	0	0	1264	101	
Shared Lane Traffic (%)	^	^	^	107	200	^	^	^	^	^	12/5	^	
Lane Group Flow (vph)	0	0	0	107	390	0	0	0	0	0	1365	0	
Turn Type Protected Phases				Split	NA						NA 1		2
Permitted Phases				5	5								2
Detector Phase				5	5						1		
Switch Phase				,	J								
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				28.0	28.0						64.0		18.0
Total Split (s)				28.0	28.0						64.0		18.0
Total Split (%)				25.5%	25.5%						58.2%		16%
Maximum Green (s)				23.0	23.0						60.0		14.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						1.0		0.0
Lost Time Adjust (s)				-1.0	-1.0						-1.0		
Total Lost Time (s)				4.0	4.0						3.0		Lon
Lead/Lag											Lead		Lag
Lead-Lag Optimize? Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Ped	Ped						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				16.0	16.0						53.0		7.0
Pedestrian Calls (#/hr)				0	0						0		0
Act Effct Green (s)				24.0	24.0						61.0		
Actuated g/C Ratio				0.22	0.22						0.55		
v/c Ratio				0.32	0.57						0.54		
Control Delay				50.0	53.5						13.6		
Queue Delay				2.3	13.5						0.9		
Total Delay				52.3	66.9						14.4		
LOS Approach Dolou				D	E						B		
Approach Delay Approach LOS					63.8						14.4		
Approach LOS Queue Length 50th (ft)				79	E 153						B 224		
Queue Length 95th (ft)				138	205						m210		
Internal Link Dist (ft)		71		130	166			172			340		
Turn Bay Length (ft)		/ 1			100			172			340		
Base Capacity (vph)				336	685						2515		
Starvation Cap Reductn				135	273						778		
Spillback Cap Reductn				0	0						90		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.53	0.95						0.79		
Intersection Summary													
Area Type:	CBD												
	ODD												
Cycle Length: 110		BT, Start	of Green										
Cycle Length: 110 Actuated Cycle Length: 110	to phase 1.5	- · , Juit !	0.0011										
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced	to phase 1:S												
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced Natural Cycle: 110	· ·												
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord	· ·												
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57 Intersection Signal Delay: 27.	dinated				tersection								
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57 Intersection Signal Delay: 27. Intersection Capacity Utilizati	dinated					LOS: C f Service D)						
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 40 (36%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57 Intersection Signal Delay: 27.	dinated .6 on 76.9%			IC)						

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street

▼ø5 ∄**å**ø2 ▼ Ø1 (R)

09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

Lanes, volumes, Tir	•	•	•	†		4	
		-					95
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	0	0	448	4↑↑ 1408	0	0	
Traffic Volume (vph) Future Volume (vph)	0	0	448 448	1408	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00	
Frt	1.00	1.00	J. / I	0.71	1.00	1.00	
Flt Protected				0.988			
Satd. Flow (prot)	0	0	0	4476	0	0	
Flt Permitted				0.988			
Satd. Flow (perm)	0	0	0	4476	0	0	
Right Turn on Red		Yes	No			Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	246			240	457		
Travel Time (s)	6.7			6.5	12.5		
Peak Hour Factor	0.92	0.92	0.96	0.96	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	
Adj. Flow (vph)	0	0	467	1467	0	0	
Shared Lane Traffic (%)				1007	0	0	
Lane Group Flow (vph)	0	0	O Collit	1934	0	0	
Turn Type Protected Phases			Split 1	NA 1			2
Permitted Phases			- 1				2
Detector Phase			1	1			
Switch Phase							
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s)			32.0	32.0			18.0
Total Split (s)			92.0	92.0			18.0
Total Split (%)			83.6%	83.6%			16%
Maximum Green (s)			87.0	87.0			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)				5.0			
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize?			2.2	2.0			0.0
Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			Ped
Walk Time (s)							7.0
Flash Dont Walk (s)							7.0 0
Pedestrian Calls (#/hr) Act Effct Green (s)				87.0			U
Actuated g/C Ratio				0.79			
v/c Ratio				0.79			
Control Delay				8.4			
Queue Delay				33.3			
Total Delay				41.7			
LOS				D			
Approach Delay				41.7			
Approach LOS				D			
Queue Length 50th (ft)				265			
Queue Length 95th (ft)				m267			
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)							
Base Capacity (vph)				3540			
Starvation Cap Reductn				1724			
Spillback Cap Reductn				192			
Storage Cap Reductn				0			
Reduced v/c Ratio				1.06			
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 44 (40%), Referenced	to phase 1:N	IBTL, Star	rt of Greer	1			
Natural Cycle: 50							
Control Type: Actuated-Coord	inated						
Maximum v/c Ratio: 0.55							
Intersection Signal Delay: 41.7					tersection l		
Intersection Capacity Utilizatio	n 76.9%			IC	U Level of	Service D	
Analysis Period (min) 15							

Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street



09004.03::Harbor Garage HSH No-Build (2026) Condition, a.m. Peak Hour

Lanes, Volumes, T			$\overline{}$	<u> </u>	Ļ	+	
	→	74	*				
Lane Group	EBT	EBR	EBR2	SBL2	SBL	SBT	Ø2
Lane Configurations	^	225	170	407	407	422	
Traffic Volume (vph)	581 581	235 235	178 178	496 496	407 407	433 433	
Future Volume (vph) Ideal Flow (vphpl)	1900	1900	1900	496 1900	1900	1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Frt	- 0.73	0.850	0.850				
Flt Protected				0.950	0.950		
Satd. Flow (prot)	3079	1454	1391	1716	1577	1621	
Flt Permitted				0.950	0.950		
Satd. Flow (perm)	3079	1454	1391	1716	1577	1621	
Right Turn on Red			No	No			
Satd. Flow (RTOR) Link Speed (mph)	25					25	
Link Speed (mpn) Link Distance (ft)	173					252	
Travel Time (s)	4.7					6.9	
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	0%	1%	1%	3%	2%	
Adj. Flow (vph)	593	240	182	511	420	446	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	593	240	182	511	420	446	
Turn Type	NA	Prot	Prot	Split	Split	NA	
Protected Phases	1	1	1	5	5	5	2
Permitted Phases Detector Phase	1	1	1	5	5	5	
Switch Phase	1	1	,	9	Ü	Ü	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	36.0	36.0	36.0	47.0	47.0	47.0	20.0
Total Split (s)	43.0	43.0	43.0	47.0	47.0	47.0	20.0
Total Split (%)	39.1%	39.1%	39.1%	42.7%	42.7%	42.7%	18%
Maximum Green (s)	38.0	38.0	38.0	42.0	42.0	42.0	16.0
Yellow Time (s)	3.0 2.0	3.0	3.0	3.0	3.0	3.0 2.0	4.0 0.0
All-Red Time (s) Lost Time Adjust (s)	-2.0	2.0 0.0	2.0 -2.0	2.0 -2.0	2.0 -2.0	-2.0	0.0
Total Lost Time (s)	3.0	5.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead	Lead	Lead	3.0	3.0	3.0	Lag
Lead-Lag Optimize?							9
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	Ped
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	24.0	24.0	24.0	35.0	35.0	35.0	9.0
Pedestrian Calls (#/hr)	0 40.0	0 38.0	0 40.0	0 44.0	0 44.0	0 44.0	0
Act Effct Green (s) Actuated g/C Ratio	0.36	0.35	0.36	0.40	0.40	0.40	
v/c Ratio	0.53	0.33	0.36	0.40	0.40	0.40	
Control Delay	29.7	32.2	28.2	14.0	11.1	11.8	
Queue Delay	1.6	0.0	0.0	0.6	1.0	0.9	
Total Delay	31.3	32.2	28.2	14.5	12.1	12.7	
LOS	С	С	С	В	В	В	
Approach Delay	30.9					13.2	
Approach LOS	С					В	
Queue Length 50th (ft)	171	132	93	156	63	81	
Queue Length 95th (ft)	227	209	154	489	167	224	
Internal Link Dist (ft) Turn Bay Length (ft)	93					172	
Base Capacity (vph)	1119	502	505	686	630	648	
Starvation Cap Reductn	0	0	0	30	66	57	
Spillback Cap Reductn	336	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.76	0.48	0.36	0.78	0.74	0.75	
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110	ODD						
Actuated Cycle Length: 110							
Offset: 98 (89%), Reference		EBT, Start	of Green				
Natural Cycle: 105							
Control Type: Actuated-Coo	ordinated						
Maximum v/c Ratio: 0.74							
ntersection Signal Delay: 2					tersection		
ntersection Capacity Utiliza	ition 55.0%			IC	CU Level o	f Service B	
Analysis Period (min) 15							
C-114 1 Db 1/ C-		- IC A C D (D 4-	1.0014/1.00	00 0 0		
Splits and Phases: 16: Su	urface/Purchas	se/SASB 8	k Ramp to	1-93W-1-90	JS & Cong	ress Stree	
₩ Ø1 (R)							#1 øz
43 s							20 s

Lanes, Volumes, T	######################################		_		+	•	•	†	~	<u> </u>	+	4	
		→	•	•			1						
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	ሻሻ 501	↑↑ 575	_			77	_	^	4==				
Traffic Volume (vph)	501 501	575 575	0	0	0	451 451	0	804	172 172	0	0	0	
Future Volume (vph) Ideal Flow (vphpl)	1900	1900	1900	1900	0 1900	1900	0 1900	804 1900	1900	0 1900	1900	1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.60	0.70	1.00	1.00	1.00	0.00	1.00	0.92	0.71	1.00	1.00	1.00	
Frt						0.850		0.974					
Flt Protected	0.950												
Satd. Flow (prot)	2987	3079	0	0	0	2448	0	3978	0	0	0	0	
Flt Permitted	0.950												
Satd. Flow (perm)	1783	3079	0	0	0	2448	0	3978	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR) Link Speed (mph)		25			25			25			25		
Link Distance (ft)		233			288			612			240		
Travel Time (s)		6.4			7.9			16.7			6.5		
Confl. Peds. (#/hr)	568	0.1				568		10.7	1035		0.0		
Confl. Bikes (#/hr)						4			82				
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	2%	0%	0%	0%	1%	0%	5%	4%	0%	0%	0%	
Adj. Flow (vph)	511	587	0	0	0	475	0	846	181	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	511	587	0	0	0	475	0	1027	0	0	0	0	
Turn Type	Prot	NA 122				Prot		NA.					2
Protected Phases	3	123				1		4					2
Permitted Phases Detector Phase	3	123				1		4					
Switch Phase	3	123						4					
Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Split (s)	13.0					26.0		37.0					20.0
Total Split (s)	27.0					26.0		37.0					20.0
Total Split (%)	24.5%					23.6%		33.6%					18%
Maximum Green (s)	22.0					21.0		32.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag Lead-Lag Optimize?	Lead					Lead		Lag					Lag
Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)	max					7.0		7.0					7.0
Flash Dont Walk (s)						14.0		25.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	23.0	69.0				22.0		34.0					
Actuated g/C Ratio	0.21	0.63				0.20		0.31					
v/c Ratio	0.82	0.30				0.97		0.84					
Control Delay	45.6	4.5				78.6		23.5					
Queue Delay	45.8	0.5				0.0		48.8					
Total Delay LOS	91.4 F	5.0 A				78.6 E		72.2 E					
Approach Delay	Г	45.2			78.6	E		72.2					
Approach LOS		43.2 D			70.0 E			72.2 E					
Queue Length 50th (ft)	193	69			L	190		146					
Queue Length 95th (ft)	#265	63				#307		m209					
Internal Link Dist (ft)		153			208			532			160		
Turn Bay Length (ft)													
Base Capacity (vph)	624	1931				489		1229					
Starvation Cap Reductn	153	866				0		0					
Spillback Cap Reductn	7	0				0		344					
Storage Cap Reductn	0	0				0		0					
Reduced v/c Ratio	1.08	0.55				0.97		1.16					
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 78 (71%), Reference	ed to phase 1:E	BT, Start	of Green										
Natural Cycle: 100	ordinated												
Control Type: Actuated-Co	ordinated												
Maximum v/c Ratio: 0.97													

Intersection LOS: E ICU Level of Service D

Maximum Vic Ratio: 0.97
Intersection Signal Delay: 62.0
Intersection Capacity Utilization 80.4%
Analysis Period (min) 15
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.

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street



	•	—	$\overline{}$	•	—	•	•	†	~	<u> </u>	 	1	
			500	•	MOT	_				-	-		~~
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		41↑ 446			ተተጉ		105	4↑ 796	7				
Traffic Volume (vph)	48		0	0	323	231	185		373	0	0	0	
Future Volume (vph)	48	446	0	0	323	231	185	796	373	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.98								
Frt					0.937				0.850				
Flt Protected		0.995					0.950	0.999					
Satd. Flow (prot)	0	3208	0	0	3955	0	1449	2891	1439	0	0	0	
Flt Permitted		0.783					0.950	0.999					
Satd. Flow (perm)	0	2524	0	0	3955	0	1449	2891	1439	0	0	0	
Right Turn on Red			No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3			16.5			16.7		
Confl. Bikes (#/hr)		3.0			11.3	31		10.3	56		10.7		
	0.04	0.04	0.04	0.02	0.02		0.01	0.01		0.02	0.02	0.00	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	
Heavy Vehicles (%)	8%	0%	0%	0%	1%	2%	2%	4%	1%	0%	0%	0%	
Adj. Flow (vph)	51	474	0	0	347	248	203	875	410	0	0	0	
Shared Lane Traffic (%)							10%						
Lane Group Flow (vph)	0	525	0	0	595	0	183	895	410	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Prot				
Protected Phases	4	1 4			1		3	3	3				2
Permitted Phases	1												
Detector Phase	4	1 4			1		3	3	3				
Switch Phase													
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				29.0		43.0	43.0	43.0				27.0
Total Split (s)	11.0				29.0		43.0	43.0	43.0				27.0
Total Split (%)	10.0%				26.4%		39.1%	39.1%	39.1%				25%
Maximum Green (s)	5.0				23.0		38.0	38.0	38.0				23.0
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	3.0				3.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)					-2.0		-1.0	-1.0	-1.0				
Total Lost Time (s)					4.0		4.0	4.0	4.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode	Max				C-Max		Max	Max	Max				Ped
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				16.0		31.0	31.0	31.0				15.0
Pedestrian Calls (#/hr)	0				0		0	0	0				0
Act Effct Green (s)		32.0			25.0		39.0	39.0	39.0				-
Actuated g/C Ratio		0.29			0.23		0.35	0.35	0.35				
v/c Ratio		0.68			0.66		0.36	0.87	0.80				
Control Delay		37.3			42.8		28.7	44.1	45.8				
		0.0			0.0		0.0		0.0				
Queue Delay								0.0					
Total Delay		37.3			42.8		28.7	44.1	45.8				
LOS		D			D		С	D	D				
Approach Delay		37.3			42.8			42.7					
Approach LOS		D			D			D					
Queue Length 50th (ft)		156			141		104	321	259				
Queue Length 95th (ft)		209			183		171	#442	#421				
Internal Link Dist (ft)		58			333			526			532		
Turn Bay Length (ft)													
Base Capacity (vph)		777			898		513	1024	510				
Starvation Cap Reductn		0			0		0	0	0				
					0		0	0	0				
		0											
Spillback Cap Reductn		0											
		0 0 0.68			0.66		0	0 0.87	0.80				

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 76 (69%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

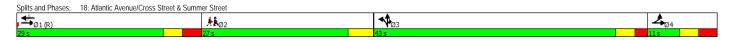
Intersection Signal Delay: 41.6

Intersection Capacity Utilization 62.4%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

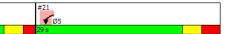
Queue shown is maximum after two cycles. Intersection LOS: D ICU Level of Service B



	٤	•	1	†	+	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations					↑↑↑ 1235		.50
Traffic Volume (vph)	0	0	0	0	1235	0	
Future Volume (vph)	1000	1000	0	0	1235	0	
Ideal Flow (vphpl) Lane Util. Factor	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 0.91	1900 1.00	
Frt	1.00	1.00	1.00	1.00	0.91	1.00	
Flt Protected							
Satd. Flow (prot)	0	0	0	0	5085	0	
Flt Permitted							
Satd. Flow (perm)	0	0 Voc	0	0	5085	0 Voc	
Right Turn on Red Satd. Flow (RTOR)		Yes				Yes	
Link Speed (mph)	25			25	25		
Link Distance (ft)	107			240	199		
Travel Time (s)	2.9			6.5	5.4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.98	0.98	
Heavy Vehicles (%)	0% 0	0% 0	0% 0	0% 0	2% 1260	0% 0	
Adj. Flow (vph) Shared Lane Traffic (%)	U	U	U	U	1200	U	
Lane Group Flow (vph)	0	0	0	0	1260	0	
Turn Type					NA		
Protected Phases					1		5
Permitted Phases							
Detector Phase					1		
Switch Phase Minimum Initial (s)					8.0		8.0
Minimum Initial (s) Minimum Split (s)					81.0		29.0
Total Split (s)					81.0		29.0
Total Split (%)					73.6%		26%
Maximum Green (s)					76.0		23.0
Yellow Time (s)					3.0		3.0
All-Red Time (s) Lost Time Adjust (s)					2.0 -1.0		3.0
Total Lost Time (s)					4.0		
Lead/Lag					4.0		
Lead-Lag Optimize?							
Vehicle Extension (s)					2.0		2.0
Recall Mode					C-Max		Max
Walk Time (s)					7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)					69.0 0		16.0 0
Act Effct Green (s)					77.0		U
Actuated g/C Ratio					0.70		
v/c Ratio					0.35		
Control Delay					3.0		
Queue Delay					0.2		
Total Delay					3.2		
LOS Approach Delay					A 3.2		
Approach LOS					3.2 A		
Queue Length 50th (ft)					52		
Queue Length 95th (ft)					58		
Internal Link Dist (ft)	27			160	119		
Turn Bay Length (ft)					2550		
Base Capacity (vph) Starvation Cap Reductn					3559 1260		
Spillback Cap Reductin					1200		
Storage Cap Reductn					0		
Reduced v/c Ratio					0.55		
Intersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 76 (69%), Reference	ed to phase 1:S	BT, Start	of Green				
Natural Cycle: 110	and to the state of						
Control Type: Actuated-Coo Maximum v/c Ratio: 0.38	ordinated						
Intersection Signal Delay: 3.	2			Int	tersection	10S: A	
Intersection Capacity Utiliza						Service A	
Analysis Period (min) 15							

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street





	•	•	†	-	-	↓	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations	WDL	WDIN		NDIV	JDL	الاد	xJ3
Traffic Volume (vph)	0	0	↑↑ 708	0	0	0	
Future Volume (vph)	0	0	708	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	
Frt	1100	1100	0.70	1.00	1.00	1.00	
Flt Protected							
Satd. Flow (prot)	0	0	3505	0	0	0	
Flt Permitted			2300	-			
Satd. Flow (perm)	0	0	3505	0	0	0	
Right Turn on Red		Yes	2300	Yes			
Satd. Flow (RTOR)							
Link Speed (mph)	25		25			25	
Link Distance (ft)	111		264			262	
Travel Time (s)	3.0		7.2			7.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	
Adj. Flow (vph)	0	0	730	0	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	730	0	0	0	
Turn Type			NA				
Protected Phases			1				5
Permitted Phases							
Detector Phase			1				
Switch Phase							
Minimum Initial (s)			8.0				8.0
Minimum Split (s)			74.0				26.0
Total Split (s)			74.0				36.0
Total Split (%)			67.3%				33%
Maximum Green (s)			69.0				31.0
Yellow Time (s)			3.0				3.0
All-Red Time (s)			2.0				2.0
Lost Time Adjust (s)			-1.0				
Total Lost Time (s)			4.0				
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			62.0				14.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)			70.0				
Actuated g/C Ratio			0.64				
v/c Ratio			0.33				
Control Delay			1.9				
Queue Delay			0.2				
Total Delay			2.1				
LOS			Α				
Approach Delay			2.1				
Approach LOS			A				
Queue Length 50th (ft)			18				
Queue Length 95th (ft)			22			465	
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)							
Base Capacity (vph)			2230				
Starvation Cap Reductn			674				
Spillback Cap Reductn			0				
Storage Cap Reductn			0				
Reduced v/c Ratio			0.47				
Intersection Summary							
	Other						
Cycle Length: 110	Other						
Actuated Cycle Length: 110							
Offset: 92 (84%), Referenced t	to phase 1.N	NBTI Star	t of Green				
Natural Cycle: 100	o priase 1.1	idie, sidi	t or Olcell				
Control Type: Actuated-Coordi	nated						
Maximum v/c Ratio: 0.49	nateu						
Intersection Signal Delay: 2.1				Int	ersection	OS: A	
Intersection Signal Delay, 2.1 Intersection Capacity Utilization	n 22 9%				U Level of		
Analysis Period (min) 15	22.7/0			10	S ECTOI OI	COI VICE A	
raidigoio i citou (IIIIII) 10							
Calle and Dharas 20 Allan		C CI	- 4 0 Ob - 1 -		b D.		
Splits and Phases: 20: Atlan	ilic Avenue/	Cross Stre	et & Chris	topner Col	iumbus Pa	ın	
#8 #20							

	•	•	†	~	\	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ				UDL	414
Traffic Volume (vph)	175	0	0	0	135	1059
Future Volume (vph)	175	0	0	0	135	1059
Ideal Flow (vphpl) Lane Width (ft)	1900 11	1900 11	1900 12	1900 12	1900 12	1900 12
Lane Util. Factor	0.97	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97					0.99
Frt Elt Drotostod	0.55					0.00
Flt Protected Satd. Flow (prot)	0.950 2929	0	0	0	0	0.994 4549
Fit Permitted	0.950	U	U	U	U	0.994
Satd. Flow (perm)	2849	0	0	0	0	4522
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	25		ar.			25
Link Speed (mph) Link Distance (ft)	25 195		25 199			25 185
Travel Time (s)	5.3		5.4			5.0
Confl. Peds. (#/hr)	19				124	
Peak Hour Factor	0.96	0.96	0.92	0.92	0.99	0.99
Heavy Vehicles (%) Adj. Flow (vph)	4% 182	0% 0	0% 0	0% 0	2% 136	2% 1070
Shared Lane Traffic (%)	102	U	U	U	130	10/0
Lane Group Flow (vph)	182	0	0	0	0	1206
Turn Type	Prot				Split	NA
Protected Phases	5				1	1
Permitted Phases Detector Phase	5				1	1
Switch Phase	3				'	'
Minimum Initial (s)	8.0				8.0	8.0
Minimum Split (s)	29.0				81.0	81.0
Total Split (s) Total Split (%)	29.0 26.4%				81.0 73.6%	81.0 73.6%
Maximum Green (s)	23.0				76.0	76.0
Yellow Time (s)	3.0				3.0	3.0
All-Red Time (s)	3.0				2.0	2.0
Lost Time Adjust (s) Total Lost Time (s)	-1.0 5.0					-1.0 4.0
Lead/Lag	0.0					4.0
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0				2.0	2.0
Recall Mode	Max				C-Max	C-Max
Walk Time (s) Flash Dont Walk (s)	7.0 16.0				7.0 69.0	7.0 69.0
Pedestrian Calls (#/hr)	0				0	07.0
Act Effct Green (s)	24.0					77.0
Actuated g/C Ratio	0.22					0.70
v/c Ratio Control Delay	0.28 8.1					0.38
Queue Delay	0.6					0.3
Total Delay	8.6					1.7
LOS	A					A
Approach Delay Approach LOS	8.6 A					1.7 A
Queue Length 50th (ft)	9					24
Queue Length 95th (ft)	13					17
Internal Link Dist (ft)	115		119			105
Turn Bay Length (ft)	/20					3184
Base Capacity (vph) Starvation Cap Reductn	639 211					3184 1192
Spillback Cap Reductin	0					47
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.43					0.61
Intersection Summary						
Area Type:	CBD					
Cycle Length: 110						
Actuated Cycle Length: 110		'DT Ctort	of Croop			
Offset: 76 (69%), Reference Natural Cycle: 110	ea to pnase 1:S	sei, Starti	or Green			
Control Type: Actuated-Coo	ordinated					
Maximum v/c Ratio: 0.38						
Intersection Signal Delay: 2	2.6				ersection	
Intersection Capacity Utiliza Analysis Period (min) 15	ation 39.9%			IC	U Level of	Service A
miaiysis renou (IIIII) 13						

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St

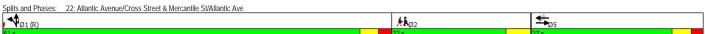




Lanes, Volumes, I	imings												
	•	-	•	•	←	•	1	†	~	/	↓	4	
l C	ED:		-		WOT	WDD							~
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	25	4↑↑ 158	0		1(0	24	11	4↑ 454	257	0	^		
Traffic Volume (vph)	25		0	0	160	31	16		257	0	0	0	
Future Volume (vph)	25	158	0	1000	160	31	16	454	257	1000	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.99				0.050				
Frt Francisco		0.000			0.978			0.000	0.850				
Flt Protected	_	0.993	^	^	1505	^	•	0.998	1.55	^	•	^	
Satd. Flow (prot)	0	3066	0	0	1535	0	0	3122	1454	0	0	0	
Flt Permitted	^	0.890			1505		•	0.998	1457	•		0	
Satd. Flow (perm)	0	2748	0	0	1535	0	0	3122	1454	0	0	0	
Right Turn on Red			Yes			Yes			No			Yes	
Satd. Flow (RTOR)					8								
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		195			457			262			193		
Travel Time (s)		5.3			12.5			7.1			5.3		
Confl. Peds. (#/hr)						16							
Confl. Bikes (#/hr)						29			60				
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	2%	0%	0%	5%	0%	0%	4%	0%	0%	0%	0%	
Adj. Flow (vph)	26	165	0	0	165	32	16	468	265	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	191	0	0	197	0	0	484	265	0	0	0	
Turn Type	Perm	NA			NA		Split	NA	Prot				
Protected Phases		5			5		1	1	1				2
Permitted Phases	5												
Detector Phase	5	5			5		1	1	1				
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	27.0	27.0			27.0		61.0	61.0	61.0				22.0
Total Split (s)	27.0	27.0			27.0		61.0	61.0	61.0				22.0
Total Split (%)	24.5%	24.5%			24.5%		55.5%	55.5%	55.5%				20%
Maximum Green (s)	22.0	22.0			22.0		56.0	56.0	56.0				18.0
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0	-1.0				
Total Lost Time (s)		4.0			4.0			4.0	4.0				
Lead/Lag							Lead	Lead	Lead				Lag
Lead-Lag Optimize?													J
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0	2.0				2.0
Recall Mode	Max	Max			Max		C-Max	C-Max	C-Max				Ped
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0				7.0
Flash Dont Walk (s)	15.0	15.0			15.0		49.0	49.0	49.0				11.0
Pedestrian Calls (#/hr)	0	0			0		0	0	0				0
Act Effct Green (s)	,	23.0			23.0			57.0	57.0				
Actuated g/C Ratio		0.21			0.21			0.52	0.52				
v/c Ratio		0.33			0.60			0.30	0.35				
Control Delay		42.2			46.5			18.7	20.1				
Queue Delay		4.3			0.0			0.7	1.3				
Total Delay		46.5			46.5			19.4	21.4				
LOS		40.5 D			40.5 D			19.4 B	21.4 C				
Approach Delay		46.5			46.5			20.1	C				
Approach LOS		40.5 D			40.5 D			20.1 C					
Queue Length 50th (ft)		72			122			80	83				
Queue Length 95th (ft)		110			200			120	139				
Internal Link Dist (ft)		110			377			182	139		113		
Turn Bay Length (ft)		110			3//			182			113		
		574			327			1617	753				
Base Capacity (vph) Starvation Cap Reductn		305			327			759	753 298				
Spillback Cap Reductin		305			0			759	298				
Storage Cap Reductn		0			0			0	0				
Reduced v/c Ratio		0.71			0.60			0.56	0.58				
vennen Mr Kallo		U./I			U.0U			U.30	U.38				

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 71 (65%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 29.1
Intersection Capacity Utilization 47.4%
Analysis Period (min) 15 Intersection LOS: C ICU Level of Service A



Lanes, Volumes, Tir													
	٠	→	•	•	←	•	4	†	/	-	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		0	0	522	244		0	0	0	0	^^	110	
Traffic Volume (vph) Future Volume (vph)	0	0	0	522	346 346	0	0	0	0	0	691 691	118 118	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	16	12	12	12	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											0.99		
Frt				0.050	0.005						0.978		
FIt Protected Satd. Flow (prot)	0	0	0	0.950 1614	0.985 1778	0	0	0	0	0	4432	0	
Flt Permitted	U	U	U	0.950	0.985	U	U	U	U	U	4432	U	
Satd. Flow (perm)	0	0	0	1614	1778	0	0	0	0	0	4432	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)											30		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s) Confl. Bikes (#/hr)		7.6			3.2			5.0			12.4	44	
Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	0.98	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	2%	1%	
Adj. Flow (vph)	0	0	0	533	353	0	0	0	0	0	705	120	
Shared Lane Traffic (%)				30%									
Lane Group Flow (vph)	0	0	0	373	513	0	0	0	0	0	825	0	
Turn Type Protected Phases				Split 5	NA 5						NA 1		2
Permitted Phases				5	5								
Detector Phase				5	5						1		
Switch Phase													
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				51.0	51.0						35.0		24.0
Total Split (s) Total Split (%)				51.0 46.4%	51.0 46.4%						35.0 31.8%		24.0 22%
Maximum Green (s)				46.4%	46.4%						29.0		20.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0		1.00
Lead/Lag Lead-Lag Optimize?											Lead		Lag
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				39.0	39.0						22.0		13.0
Pedestrian Calls (#/hr)				0	0						0		0
Act Effct Green (s) Actuated g/C Ratio				48.0 0.44	48.0 0.44						31.0 0.28		
v/c Ratio				0.44	0.44						0.26		
Control Delay				26.2	29.7						31.2		
Queue Delay				0.0	0.0						0.0		
Total Delay				26.2	29.7						31.2		
LOS Approach Dolay				С	C 20.2						C 21.2		
Approach Delay Approach LOS					28.2 C						31.2 C		
Queue Length 50th (ft)				198	295						194		
Queue Length 95th (ft)				296	422						242		
Internal Link Dist (ft)		197			38			105			375		
Turn Bay Length (ft)													
Base Capacity (vph)				704	775						1270		
Starvation Cap Reductn Spillback Cap Reductn				0	0						0		
Spillback Cap Reductn Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.53	0.66						0.65		
Intersection Summary				2.00	2.00						2.00		
Area Type:	CBD												
Cycle Length: 110	555												
Actuated Cycle Length: 110													
Offset: 4 (4%), Referenced to	phase 1:SBT	Γ, Start of	Green										
Natural Cycle: 110 Control Type: Actuated-Coord	linated												
Control Type: Actuated-Coord Maximum v/c Ratio: 0.66	unated												
Intersection Signal Delay: 29.	6			In	tersection	LOS: C							
Intersection Capacity Utilization						f Service A							
Analysis Period (min) 15													

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp

▼ø₅ ÅIø2

Lanes, Volumes, Tim	nings					
	•	•	†	~	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WDL	WDR		NDIV	JUL	JUI
Traffic Volume (vph)	0	65	↑↑ 491	0	0	0
Future Volume (vph)	0	65	491	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Lane Util. Factor Frt	1.00	1.00 0.865	0.95	1.00	1.00	1.00
Flt Protected		0.000				
Satd. Flow (prot)	0	1509	3124	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1509	3124	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR) Link Speed (mph)	25	393	25			25
Link Distance (ft)	559		193			493
Travel Time (s)	15.2		5.3			13.4
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Parking (#/hr) Adj. Flow (vph)	0	0 71	517	0	0	0
Shared Lane Traffic (%)	U	71	317	U	U	U
Lane Group Flow (vph)	0	71	517	0	0	0
Turn Type		Prot	NA			
Protected Phases		5	1			
Permitted Phases						
Detector Phase Switch Phase		5	1			
Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		33.0	77.0			
Total Split (s)		33.0	77.0			
Total Split (%)		30.0%	70.0%			
Maximum Green (s)		29.0	72.0			
Yellow Time (s)		3.0	3.0			
All-Red Time (s) Lost Time Adjust (s)		1.0	2.0 0.0			
Total Lost Time (s)		4.0	5.0			
Lead/Lag			0.0			
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode		Max	C-Max			
Walk Time (s) Flash Dont Walk (s)		7.0 22.0	7.0 65.0			
Pedestrian Calls (#/hr)		0	05.0			
Act Effct Green (s)		29.0	72.0			
Actuated g/C Ratio		0.26	0.65			
v/c Ratio		0.10	0.25			
Control Delay		0.3	1.8			
Queue Delay Total Delay		0.0	0.3 2.0			
LOS		0.3 A	2.0 A			
Approach Delay	0.3	^	2.0			
Approach LOS	A		Α			
Queue Length 50th (ft)		0	21			
Queue Length 95th (ft)		0	23			
Internal Link Dist (ft)	479		113			413
Turn Bay Length (ft) Base Capacity (vph)		687	2044			
Starvation Cap Reductn		007	879			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.10	0.44			
Intersection Summary						
	CBD					
	CBD					
Area Type: Cycle Length: 110 Actuated Cycle Length: 110						
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced t		IBT, Start	of Green			
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced t Natural Cycle: 110	to phase 1:N	IBT, Start	of Green			
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi	to phase 1:N	IBT, Start	of Green			
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.25	to phase 1:N	IBT, Start	of Green	lo	torsaction	1 OS: A
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi	to phase 1:N	IBT, Start	of Green		tersection CU Level o	



	•	→	•	•	+	•	•	†	~	1	↓	1	
ine Group	EBL	EBT	₽ EBR	▼ WBL	WBT	WBR	NBL	NBT	/ NBR	SBL	▼ SBT	SBR	
ne Configurations	EBL	EBI	EBR	WBL		WBR	NBL	NBI	NBK	SBL	↑ ↑	SBR	
affic Volume (vph)	0	0	104	285	41↑ 335	0	0	0	0	0	T № 444	74	
iture Volume (vph)	0	0	104	285	335	0	0	0	0	0	444	74	
al Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ne Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	
Bike Factor											0.98		
			0.865		0.070						0.978		
Protected		0	14/5	0	0.978	0	0	0	0	0	2012	0	
d. Flow (prot)	0	0	1465	0	3132	0	0	0	0	0	3013	0	
Permitted					0.978								
d. Flow (perm)	0	0	1465	0	3132	0	0	0	0	0	3013	0	
ht Turn on Red			No	No		Yes			Yes			Yes	
d. Flow (RTOR)											18		
Speed (mph)		25			25			25			25		
Distance (ft)		127			177			455			423		
vel Time (s)		3.5			4.8			12.4			11.5		
fl. Peds. (#/hr)												135	
1. Bikes (#/hr)												40	
k Hour Factor	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	0.99	0.99	0.99	
	0.95	0.95	1%	2%	1%	0.97		0.92	0.92	0.99	3%	2%	
vy Vehicles (%)	U%	0%	176	270	176	U%	0%	U%	0%	0%	370		
king (#/hr)		_	,					_				0	
Flow (vph)	0	0	109	294	345	0	0	0	0	0	448	75	
red Lane Traffic (%)													
e Group Flow (vph)	0	0	109	0	639	0	0	0	0	0	523	0	
n Type			Perm	Perm	NA						NA		
tected Phases					1						3		
mitted Phases			1	1							3		
ector Phase			1	1	1						3		
ch Phase											3		
			10.0	10.0	10.0						10.0		
mum Initial (s)			10.0	10.0	10.0						10.0		
mum Split (s)			73.0	73.0	73.0						37.0		
l Split (s)			73.0	73.0	73.0						37.0		
l Split (%)			66.4%	66.4%	66.4%						33.6%		
mum Green (s)			64.0	64.0	64.0						32.0		
ow Time (s)			3.0	3.0	3.0						3.0		
ed Time (s)			6.0	6.0	6.0						2.0		
Time Adjust (s)			-5.0		-5.0						-1.0		
I Lost Time (s)			4.0		4.0						4.0		
/Lag			1.0		1.0						1.0		
I-Lag Optimize?													
			2.0	2.0	2.0						2.0		
cle Extension (s)													
Il Mode			C-Max	C-Max	C-Max						Max		
Time (s)			7.0	7.0	7.0						7.0		
h Dont Walk (s)			57.0	57.0	57.0						25.0		
estrian Calls (#/hr)			0	0	0						0		
Effct Green (s)			69.0		69.0						33.0		
ated g/C Ratio			0.63		0.63						0.30		
atio			0.12		0.33						0.57		
trol Delay			8.7		10.2						34.3		
ue Delay			0.0		0.0						0.0		
l Delay			8.7		10.2						34.3		
i Delay													
		0.7	Α		B						C		
oach Delay		8.7			10.2						34.3		
oach LOS		Α			В						С		
ue Length 50th (ft)			29		102						158		
ue Length 95th (ft)			52		135						214		
rnal Link Dist (ft)		47			97			375			343		
Bay Length (ft)													
e Capacity (vph)			918		1964						916		
ration Cap Reductn			0		0						0		
back Cap Reductn			0		0						0		
ige Cap Reductin			0		0						0		
ge Cap Reducin iced v/c Ratio			0.12		0.33						0.57		
			U.12		U.33						0.07		
ection Summary													
	BD												
e Length: 110													
lated Cycle Length: 110													
uated Cycle Length: 110 set: 104 (95%), Referenced to	o nhoos 1 l	MDTI C	ort of Cr	n .									
	u pnase 1:\	WBTL, St	art of Gree	en									
ural Cycle: 110	-11												
trol Type: Actuated-Coordina	area												
rimum v/c Ratio: 0.57													
rsection Signal Delay: 19.9					tersection								
section Capacity Utilization	64.5%			IC	U Level of	Service C							
rsis Period (min) 15													

Splits and Phases: 25: Surface/Purchase/SASB & North Street/I-93 NB Off-Ramp ↓ ø3

	•	→	•	•	←	•	4	†	~	\	↓	1	
ine Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ne Configurations	*	4	LDIT			*****	1102	† \$	· · ·	ODL	05.	OBIL	<i>5</i> -
affic Volume (vph)	751	46	0	0	0	0	0	540	34	0	0	0	
iture Volume (vph)	751	46	0	0	0	0	0	540	34	0	0	0	
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ne Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
d Bike Factor								0.99					
Destroy	0.050	0.050						0.991					
Protected td. Flow (prot)	0.950 1498	0.958 1517	0	0	0	0	0	3083	0	0	0	0	
Permitted	0.950	0.958	U	U	U	U	U	3003	U	U	U	U	
td. Flow (perm)	1498	1517	0	0	0	0	0	3083	0	0	0	0	
ght Turn on Red	No	1317	Yes	U	U	Yes	U	3003	Yes	U	U	Yes	
itd. Flow (RTOR)	IVO		103			163		6	163			163	
nk Speed (mph)		25			25			25			25		
nk Distance (ft)		169			386			493			376		
avel Time (s)		4.6			10.5			13.4			10.3		
nfl. Bikes (#/hr)		4.0			10.5			13.4	68		10.5		
ak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	
avy Vehicles (%)	3%	0.97	0.77	0.72	0.72	0.72	0.73	4%	0.73	0.72	0.72	0.72	
. Flow (vph)	774	47	0%	0%	0%	0%	0%	568	36	0%	0%	0%	
ared Lane Traffic (%)	42%	47	U	U	U	U	U	500	30	U	U	U	
ne Group Flow (vph)	449	372	0	0	0	0	0	604	0	0	0	0	
n Type	Split	NA	U	U	U	0	0	NA	U	U	0	U	
otected Phases	3piit	1						5					2
rmitted Phases								3					
tector Phase	1	1						5					
ritch Phase	1							3					
nimum Initial (s)	8.0	8.0						8.0					8.0
nimum Split (s)	15.0	15.0						14.0					18.0
tal Split (s)	57.0	57.0						35.0					18.0
tal Split (%)	51.8%	51.8%						31.8%					16%
iximum Green (s)	52.0	52.0						30.0					14.0
llow Time (s)	3.0	3.0						3.0					4.0
-Red Time (s)	2.0	2.0						2.0					0.0
st Time Adjust (s)	-1.0	-1.0						-1.0					0.0
tal Lost Time (s)	4.0	4.0						4.0					
ad/Lag	Lead	Lead						1.0					Lag
ad-Lag Optimize?	Loud	Lodd											2.59
hicle Extension (s)	2.0	2.0						2.0					2.0
ecall Mode	C-Max	C-Max						Max					Ped
alk Time (s)													7.0
ash Dont Walk (s)													7.0
destrian Calls (#/hr)													0
t Effct Green (s)	53.0	53.0						31.0					
tuated g/C Ratio	0.48	0.48						0.28					
: Ratio	0.62	0.51						0.69					
ntrol Delay	25.8	22.7						47.3					
ieue Delay	0.0	0.0						0.0					
al Delay	25.8	22.7						47.3					
S	С	С						D					
proach Delay		24.4						47.3					
proach LOS		С						D					
eue Length 50th (ft)	238	184						236					
eue Length 95th (ft)	355	277						296					
ernal Link Dist (ft)		89			306			413			296		
rn Bay Length (ft)													
se Capacity (vph)	721	730						873					
rvation Cap Reductn	0	0						0					
Ilback Cap Reductn	0	0						0					
rage Cap Reductn	0	0						0					
duced v/c Ratio	0.62	0.51						0.69					
rsection Summary													
a Type:	CBD												
cle Length: 110													
uated Cycle Length: 110													
set: 72 (65%), Referenced	d to phase 1:	EBTL, Star	t of Green										
tural Cycle: 60	·												
ntrol Type: Actuated-Coor	dinated												
ximum v/c Ratio: 0.69													
ersection Signal Delay: 34				Int	ersection	LOS: C							
ersection Capacity Utilizati				IC	U Level of	Service A							
alysis Period (min) 15													
its and Phases: 26: Atla	antic Avenue	Cross Stre	et & I-93 (Off-Ramp/I	North Stre	et							
•Ø1 (R)										A Bar			† 05

	•	-	•	•	←	•	4	†	~	>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EDL.	EDI	LDI	WDL	WB1 }	WDIN	NDL		INDIX	JUL	JUI	JUN
Traffic Volume (vph)	27	T 47	0	0	107	88	472	41} 738	74	0	0	0
Future Volume (vph)	27	47	0	0	107	88	472	738	74	0	0	0
			1900						1900		1900	1900
Ideal Flow (vphpl)	1900	1900		1900	1900	1900	1900 0.95	1900	0.95	1900	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.77				0.84			0.84				
Frt	0.055				0.939			0.991				
Flt Protected	0.950							0.982				
Satd. Flow (prot)	1562	1676	0	0	1317	0	0	2922	0	0	0	0
FIt Permitted	0.521							0.982				
Satd. Flow (perm)	660	1676	0	0	1317	0	0	2569	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								10				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		157			265			376			181	
Travel Time (s)		4.3			7.2			10.3			4.9	
Confl. Peds. (#/hr)	496	4.3			1.2	496	394	10.3	2640		4.7	
	490						394					
Confl. Bikes (#/hr)				0	0	10	0.00	0	67	0.00	0.00	0.00
Peak Hour Factor	0.85	0.85	0.85	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	4%	2%	4%	0%	2%	4%	0%	5%	0%	0%	0%	0%
Parking (#/hr)									0			
Adj. Flow (vph)	32	55	0	0	115	95	482	753	76	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	55	0	0	210	0	0	1311	0	0	0	0
Turn Type	Perm	NA	U	U	NA	U	Split	NA	0	U	U	U
Protected Phases	L CIIII	5			5		Spiit 1	1				
	-	0			5		- 1					
Permitted Phases	5	-			-							
Detector Phase	5	5			5		1	1				
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0				
Minimum Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (%)	35.5%	35.5%			35.5%		64.5%	64.5%				
Maximum Green (s)	34.0	34.0			34.0		66.0	66.0				
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
							2.0					
Lost Time Adjust (s)	-1.0	-1.0			-1.0			-1.0				
Total Lost Time (s)	4.0	4.0			4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Recall Mode	Max	Max			Max		C-Max	C-Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	27.0	27.0			27.0		59.0	59.0				
Pedestrian Calls (#/hr)	50	50			50		0	0				
	35.0	35.0			35.0		U	67.0				
Act Effct Green (s)												
Actuated g/C Ratio	0.32	0.32			0.32			0.61				
v/c Ratio	0.15	0.10			0.50			0.74				
Control Delay	29.4	27.2			35.5			8.6				
Queue Delay	0.0	0.0			0.0			1.2				
Total Delay	29.4	27.2			35.5			9.8				
LOS	С	С			D			А				
Approach Delay		28.0			35.5			9.8				
Approach LOS		20.0 C			D D			Α.				
Ougus Longth Eath (ff)	16	27			120			70				
Queue Length 50th (ft)												
Queue Length 95th (ft)	39	54			195			111			104	
Internal Link Dist (ft)		77			185			296			101	
Turn Bay Length (ft)												
Base Capacity (vph)	210	533			419			1783				
Starvation Cap Reductn	0	0			0			185				
Spillback Cap Reductn	0	0			0			253				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.15	0.10			0.50			0.86				
	0.10	0.10			0.00			5.00				
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110	300											
CYCIC LUIUIII. 110												

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 43 (39%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 14.1
Intersection Capacity Utilization 90.0%
Analysis Period (min) 15 Intersection LOS: B
ICU Level of Service E

Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street

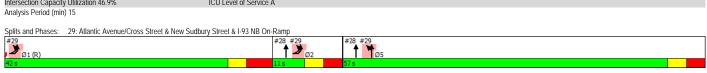




No-Build (2026) Condition, a.m. Peak Hour 09004.03::Harbor Garage

rations		1		•	į.	†	~	>	ļ			
Tablines (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 825 29 0 0 0 (e/ph) 0 0 0 1900 1900 1900 1900 1900 (e/ph) 0 0 0 0 1900 1900 1900 1900 (e/ph) 0 0 0 0 1900 1900 1900 1900 (e/ph) 0 0 0 3469 0 0 0 0 (e/ph) 0 0 0 3469 0 0 0 0 (e/ph) 10 0 0 3469 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 0 0 3469 1 0 0 0 0 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 152 (e/ph) 10 10 842 30 0 0 (e/ph) 10 1842 30 0 0 (e/ph) 10 10 10 10 10 10 10 10 10 10 10 10 10 1	ane Group	W	/BL	WBR	BR		NBR	SBL		Ø1	Ø2	Ø5
(e (vph)	ane Configurations	**						ODL	551	~1	L	20
(e (vph)	raffic Volume (vph)											
tor	uture Volume (vph)				0	825						
Correct Corr	leal Flow (vphpl)											
Content Cont	ane Util. Factor	1.	.00	1.00			0.95	1.00	1.00			
ron) 0 0 3469 0 0 0 0 Red Yes Yes Yes TOR) 5 Figh 25 25 25 25 25 (II) 25 77 Color 5 77 Color 0.92 0.92 0.92 0.92 0.92 0.93 0.98 0.92 0.92 0.92 0.93 0.98 0.98 0.92 0.92 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93	ed Bike Factor											
mm)	rt It Protected				U	J.995						
mm)	atd. Flow (prot)		0	0	0 1	3469	0	0	0			
Red Yes Yes TOR) 5	It Permitted		U	U		3407	0	U	U			
Red Yes Yes TOR) 5	atd. Flow (perm)		0	0	0 3	3469	0	0	0			
npth)	ight Turn on Red											
(m) 221 181 194 s) 6.0 4.9 5.3 s #hr) 152 #hr) 152 #hr) 152 #hr) 157 Exclor 0.92 0.92 0.98 0.98 0.92 0.92 Ex (%) 0% 0% 3% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	atd. Flow (RTOR)											
S	ink Speed (mph)											
#hry	nk Distance (ft)											
ST	ravel Time (s)	6	6.0			4.9	150		5.3			
clor	onfl. Peds. (#/hr)											
as (%)	onfl. Bikes (#/hr)		ดว	0.00	02	0.00		0.02	0.02			
Traffic (%) Traff	eak Hour Factor eavy Vehicles (%)											
Traffic (%) low (vph)	dj. Flow (vph)											
Idow (vph)	hared Lane Traffic (%)		U	U	U	042	30	U	U			
NA asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 5 asses 2 5 5 1 2 10.0 5 7.0 asses 2 5 5 1 2 2 5 asses 2 5 1 2 2 5 asses 2 5 5 1 2 2 5 asses 2 5 1 2 2 5	ane Group Flow (vph)		0	0	0	872	0	0	0			
ases 25 1 2 5	urn Type			U			U	U	U			
ases se 25 s	rotected Phases									1	2	5
se	ermitted Phases											,
al (s)	etector Phase					25						
(s)	witch Phase											
42.0	linimum Initial (s)									10.0	4.0	10.0
Seen (s) 38% 10% 52%	linimum Split (s)											57.0
sen (s) 35.0 5.0 51.0 s) 3.0 3.0 3.0 3.0 s) (s) 4.0 3.0 3.0 3.0 sust (s) se (s) Lead Lag imize? sion (s) 2.0 2.0 2.0 2.0 2.0 2.0 3.0 sits (s)	otal Split (s)										11.0	57.0
S) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	otal Split (%)											52%
(s) ust (s) ust (s) lee (s)	laximum Green (s)											
ust (s) le (s) Lead Lag imize? sion (s) C-Max Max Max 7.0 7.0 alk (s) 28.0 44.0 alls (#hrr) 0 30 re (s) 62.0 Ratio 0.56 8.7 2.8 11.6 B ay 11.6 S B 150th (ft) 136 195th (ft) 155 bist (ft) 141 101 114 gith (ft) y (vph) 1957 p Reductn 941 reductn 208 Reductn 0 Ratio 0.86 ummary Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green : 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A dd (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	ellow Time (s)											3.0
Lead Lag Lead Lag Lead Lag L	II-Red Time (s)									4.0	3.0	3.0
Lead Lag	ost Time Adjust (s)											
imize? sion (s) 2.0 2.0 2.0 2.0 CMax Max Max 7.0 7.0 3lk (s) 28.0 44.0 alls (#hrr) 0 30 and (s) 62.0 Ratio 0.56 8.7 2.8 11.6 B ay 11.6 S B ay 11.6 B ay	otal Lost Time (s) ead/Lag									Load	Log	
Sion (s) 2.0 2.0 2.0 C-Max Max	ead/Lag ead-Lag Optimize?									Leau	Lag	
C-Max Max Ma	ehicle Extension (s)									2.0	2.0	2.0
alk (s)	ecall Mode											Max
alk (s) 28.0 44.0 a) alls (#/hr) 0 30 a) alls (#/hr) 0 30 a) alls (#/hr) 0 30 a) alls (#/hr) 0 0.56 a) as a constant of the co	/alk Time (s)									7.0		7.0
alls (#hr) 0 30 an (s) 62.0 Ratio 0.56 0.45 8.7 2.8 11.6 B ay 11.6 S B n 50th (ft) 136 195th (ft) 155 095tt (ft) 141 101 114 gth (ft) y (vph) 1957 p Reductn 941 Reductn 208 Reductn 208 Reductn 0 0 Ratio 0.86 ummary Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% d (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	lash Dont Walk (s)											44.0
en (s) 62.0 Ratio 0.56 0.45 8.7 2.8 11.6 B ay 11.6 S B 150th (ft) 136 195th (ft) 155 Dist (ft) 141 101 114 glt (ft) 19th (ft) 1957 p Reductn 941 Reductn 208 Reductn 208 Reductn 0 0.86 unmary Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	edestrian Calls (#/hr)											30
0.45 8.7 2.8 11.6 B ay 11.6 S B 150th (tt) 136 195th (tt) 155 195tf (tt) 155 195tf (tt) 157 p Reductn 941 Reductn 941 Reductn 208 Reductn 0 Ratio 0.86 ummary Other 110 Le Length: 110 %), Referenced to phase 1:EBL, Start of Green 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	ct Effct Green (s)											
8.7 2.8 11.6 B 31.6 B 39 11.6 S B 35 B 350th (ft) 136 195th (ft) 155 30ist (ft) 141 101 114 gth (ft) gth (ft) 97 Peductin 941 Reductin 941 Reductin 208 Reductin 0 Ratio 0.86 ummary Other 110 te Length: 110 %), Referenced to phase 1:EBL, Start of Green: 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	ctuated g/C Ratio											
2.8 11.6 B ay 11.6 S B 150in (ft) 136 195in (ft) 135 195in (ft) 155 195in (ft) 155 195in (ft) 157 195in (ft) 157 196in (ft) 197 197 198-deutch 941 Reducth 208 Reducth 208 Reducth 0 Ratio 0.86 ummary Other 110 te Length: 110 %), Refreenced to phase 1:EBL, Start of Green 110 te Length: 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 appacity Utilization 29.0% ICU Level of Service A and (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	c Ratio											
11.6 B ay 11.6 S B 150th (ft) 136 n 95th (ft) 155 slst (ft) 141 101 114 gth (ft) y (vph) 1957 p Reductn 941 Reductn 208 Reductn 0 Ratio 0.86 ummary Other 110 e Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	ontrol Delay											
B ay 11.6 S B 150th (ft) 136 195th (ft) 136 195th (ft) 155 195tt (ft) 141 101 114 19th (ft) 19th	ueue Delay											
ay 11.6 S B S B S S S S S S S S S S S S S S S	otal Delay											
S	OS nnroach Delay											
1 50th (ft) 136	pproach Delay pproach LOS											
1 95h (ft) 155 135 (ft) 141 101 114 136 (ft) 141 101 114 137 (9th (ft) 1957) 1 Reductn 941 Reductn 208 Reductn 0 0.86 ummary Other 110 110 110 110 110 110 110 1	ueue Length 50th (ft)											
Dist (ft) 141 101 114 141 19th (ft) yth (ft) yth (ft) y (vph) 1957 p Reductn 941 Reductn 208 Reductn 0 Reductn 0 886 where the part of the	ueue Length 95th (ft)											
gth (ft) y (vph) 1957 p Reductn 941 Reductn 208 Reductn 0 Ratio 0.86 ummary Other 110 Le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A add (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	iternal Link Dist (ft)	1	141						114			
y (vph) 1957 p Reductn 941 Reductn 208 Reductn 0 Ratio 0.86 ummary Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green: 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A add (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	urn Bay Length (ft)											
p Reductn 941 Reductn 208 Reductn 0 Reductn 0 Reductn 0 Reductn 0 Reductn 0 Reductn 0 Reductn 10	ase Capacity (vph)					1957						
Reductn	tarvation Cap Reductn											
Reductn 0 Ratio 0.86 ummary Other 110 Le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	pillback Cap Reductn											
ummary Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	torage Cap Reductn					0						
Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green : 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A xd (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	educed v/c Ratio					0.86						
Other 110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green : 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A xd (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	tersection Summary											
110 le Length: 110 %), Referenced to phase 1:EBL, Start of Green 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A dd (min) 15 lases: 28: Allantic Avenue/Cross Street & Salem Street		Other										
le Length: 110 %), Referenced to phase 1:EBL, Start of Green :110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 asses: 28: Atlantic Avenue/Cross Street & Salem Street	ycle Length: 110	0.1101										
%), Referenced to phase 1:EBL, Start of Green : 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B iapacity Utilization 29.0% ICU Level of Service A ad (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	ctuated Cycle Length: 110)										
: 110 Actuated-Coordinated Ratio: 0.55 ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A xd (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street			se 1:EE	BL, Start	Start of C	Green						
Actuated-Coordinated Ratio: 0.55 Ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A dd (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	atural Cycle: 110	F. 130		,								
Ratio: 0.55 Ignal Delay: 11.6 Intersection LOS: B apacity Utilization 29.0% ICU Level of Service A ad (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	ontrol Type: Actuated-Coord	ordinated										
apacity Utilization 29.0% ICU Level of Service A od (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	laximum v/c Ratio: 0.55											
od (min) 15 ases: 28: Allantic Avenue/Cross Street & Salem Street	tersection Signal Delay: 11.6											
ases: 28: Atlantic Avenue/Cross Street & Salem Street	tersection Capacity Utilization	ation 29.0%	%				ICI	U Level of	Service A	1		
	nalysis Period (min) 15											
	-114 d Dh 00 111	4141	10	o:	Ch.	0.0.1						
#28 _. #29 #28		tlantic Ave	enue/C	cross Stre	Street 8	& Salen	Street					
A Ma I A	‡29 *									#28 #29		#28 #

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						-					
_ane Group	EBL2	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER	Ø1	Ø2
ane Configurations		125			41↑ 647	_	_	_			
raffic Volume (vph)	256		0	196		0	0	0	0		
Future Volume (vph)	256	125	0	196	647	1000	1000	0	0		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	12	13	12	11	11	12	12	12	12		
ane Util. Factor	0.95	0.97	1.00	0.95	0.95	1.00	1.00	1.00	1.00		
rt It Protected		0.050			0.000						
Fit Protected	^	0.950	0	^	0.989	_	0	^	^		
Satd. Flow (prot)	0	3547	0	0	3299	0	0	0	0		
Fit Permitted	0	0.950	0	0	0.989	0	0	0	0		
Satd. Flow (perm)	0	3547	0	0	3299	0	0	0	0		
Right Turn on Red	No		Yes								
Satd. Flow (RTOR)		0.5			0.5	0.5		0.5			
Link Speed (mph)		25			25	25		25			
Link Distance (ft)		112			194	254		234			
Travel Time (s)	2.24	3.1	0.01	0.00	5.3	6.9	0.00	6.4	0.00		
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	2%	2%	0%	10%	3%	0%	0%	0%	0%		
Adj. Flow (vph)	267	130	0	200	660	0	0	0	0		
Shared Lane Traffic (%)											
ane Group Flow (vph)	0	397	0	0	860	0	0	0	0		
Turn Type	Prot	Prot		Split	NA						
Protected Phases	12	12		5	5					1	2
Permitted Phases											
Detector Phase	12	12		5	5						
Switch Phase											
Minimum Initial (s)				10.0	10.0					10.0	4.0
Minimum Split (s)				57.0	57.0					42.0	10.0
Total Split (s)				57.0	57.0					42.0	11.0
Fotal Split (%)				51.8%	51.8%					38%	10%
Maximum Green (s)				51.0	51.0					35.0	5.0
/ellow Time (s)				3.0	3.0					3.0	3.0
All-Red Time (s)				3.0	3.0					4.0	3.0
ost Time Adjust (s)				3.0	-1.0					1.0	3.0
Total Lost Time (s)					-1.0 5.0						
					0.0					Load	Loa
Lead/Lag										Lead	Lag
Lead-Lag Optimize?				2.0	2.0					2.0	2.0
Vehicle Extension (s)				2.0	2.0					2.0	2.0
Recall Mode				Max	Max					C-Max	Max
Walk Time (s)				7.0	7.0					7.0	
lash Dont Walk (s)				44.0	44.0					28.0	
Pedestrian Calls (#/hr)				30	30					0	
Act Effct Green (s)		47.0			52.0						
Actuated g/C Ratio		0.43			0.47						
//c Ratio		0.26			0.55						
Control Delay		20.9			6.4						
Queue Delay		0.0			0.1						
Total Delay		20.9			6.5						
LOS		С			Α						
Approach Delay		20.9			6.5						
Approach LOS		С			A						
Queue Length 50th (ft)		91			213						
Queue Length 95th (ft)		126			195						
Internal Link Dist (ft)		32			114	174		154			
Turn Bay Length (ft)		JZ			114	174		104			
Base Capacity (vph)		1515			1559						
Starvation Cap Reductn		0			115						
Spillback Cap Reductin		0			115						
Storage Cap Reductin		0			0						
Reduced v/c Ratio		0.26			0.60						
Reduced WC Rallo		0.20			0.00						
ntersection Summary											
Area Type:	Other										
Cycle Length: 110	3										
Actuated Cycle Length: 110											
Offset: 16 (15%), Referenced	to nhace 1.E	RI Start	of Green								
Natural Cycle: 110	i io pridoc 1.E	.DE, JIail	or Orecil								
	dinated										
Control Type: Actuated-Coord	umated										
Maximum v/c Ratio: 0.55						100.5					
ntersection Signal Delay: 11.					tersection						
Intersection Capacity Utilizati	ion 46.9%			IC	U Level of	Service A	١				
nalysis Period (min) 15											



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	-					-
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĵ.			र्स	\	
Traffic Volume (veh/h)	58	189	1	2		1
Future Volume (Veh/h)	58	189	1	2	17	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.50	0.50	0.85	0.85
Hourly flow rate (vph)	62	201	2	4	20	1
Pedestrians	62			38	103	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	5			3	9	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	205					
pX, platoon unblocked	200		0.94		0.94	0.94
vC, conflicting volume			366		336	304
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			290		257	223
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					0.1	O.L
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1100		597	681
					377	001
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	263	6	21			
Volume Left	0	2	20			
Volume Right	201	0	1			
cSH	1700	1100	600			
Volume to Capacity	0.15	0.00	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	2.8	11.2			
Lane LOS		Α	В			
Approach Delay (s)	0.0	2.8	11.2			
Approach LOS			В			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			36.5%	IC	U Level of	Sonico
Analysis Period (min)			15	IC	O LEVEL OF	OCI VICE
Alialysis Fellou (IIIIII)			10			

HCM Unsignalized Inte	ersection	on Cap	асіту А	naıysıs	<u> </u>	
	•	_	-	•	\	4
	-	-		-	_	-
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		W	
Traffic Volume (veh/h)	27	19	26	0	2	25
Future Volume (Veh/h)	27	19	26	0	2	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.82	0.82	0.81	0.81
Hourly flow rate (vph)	29	20	32	0.02	2	31
Pedestrians		13	35	Ü	137	31
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		4.0	3		11	
Right turn flare (veh)			J		- ''	
Median type		None	None			
Median storage veh)		None	None			
Upstream signal (ft)		179				
pX, platoon unblocked		179				
vC, conflicting volume	169				282	182
vC, conflicting volume vC1, stage 1 conf vol	109				282	182
vC2, stage 2 conf vol vCu, unblocked vol	169				282	182
	4.1				282 6.4	6.2
tC, single (s)	4.1				0.4	0.2
tC, 2 stage (s)	2.2				2.5	3.3
tF (s)	2.2				3.5	
p0 queue free %	98				100	96
cM capacity (veh/h)	1259				598	759
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	49	32	33			
Volume Left	29	0	2			
Volume Right	0	0	31			
cSH	1259	1700	746			
Volume to Capacity	0.02	0.02	0.04			
Queue Length 95th (ft)	2	0.02	3			
Control Delay (s)	4.8	0.0	10.0			
Lane LOS	Α.	0.0	В			
Approach Delay (s)	4.8	0.0	10.0			
Approach LOS	1.0	0.0	В			
			D			
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization			26.7%	IC	CU Level of	Service
Analysis Period (min)			15			

HCM Unsignalized Int	ersecti	on Cap	acity A	nalysis		
	•	•	†	~	\	↓
Mayamant	-	WDD	NDT	NBR	SBL	SBT
Movement Long Configurations	WBL	WBR	NBT	NRK	SBL	2R1
Lane Configurations	0	7 7 25	^	0	0	0
Traffic Volume (veh/h)	0	25 25	911 911	0	0	0
Future Volume (Veh/h)		25		0	0	
Sign Control	Stop		Free			Free
Grade	0%	0.70	0%	0.07	0.00	0%
Peak Hour Factor	0.79	0.79	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	0	32	949	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)			151			183
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	949	474			949	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	366	0			366	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	477	837			937	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2		
Volume Total	16	16	474	474		
Volume Left	0	0	0	0		
Volume Right	16	16	0	0		
cSH	837	837	1700	1700		
Volume to Capacity	0.02	0.02	0.28	0.28		
Queue Length 95th (ft)	1	1	0.20	0.20		
Control Delay (s)	9.4	9.4	0.0	0.0		
Lane LOS	A	Α.	0.0	0.0		
Approach Delay (s)	9.4		0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			35.2%	IC	U Level o	Service
Analysis Period (min)			15			

HCM Unsignalized Inte	ersection	on Cap	acity A	nalysis		
	۶	`	4	†	Ţ	1
Management	EDI	EDD	-	NDT	-	SBR
Movement Lane Configurations	EBL	EBR	NBL	NBT	SBT	SBK
Traffic Volume (veh/h)	0	0	15	4 1 45	1	10
Future Volume (Veh/h)	0	0	15	45 45	3	10
Sign Control	Stop	U	15	Free	Free	10
Grade	310p			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.81	0.81
Hourly flow rate (vph)	0.72	0.72	16	49	4	12
Pedestrians	104	U	10	47	7	12
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				460		
pX, platoon unblocked						
vC, conflicting volume	195	114	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	195	114	120			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	100	100	99			
cM capacity (veh/h)	789	944	1437			
Direction, Lane #	NB 1	SB 1				
Volume Total	65	16				
Volume Left	16	0				
Volume Right	0	12				
cSH	1437	1700				
Volume to Capacity	0.01	0.01				
Queue Length 95th (ft)	1	0.01				
Control Delay (s)	1.9	0.0				
Lane LOS	A	0.0				
Approach Delay (s)	1.9	0.0				
Approach LOS						
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			16.4%	10	U Level of	Sonder
Analysis Period (min)			15	IC	O LCVCI UI	JUI VICE
raidiyəsə i cilou (ilili)			13			

	-	•	•	←	4	~
	-	•				
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			ર્ની	M	
Traffic Volume (veh/h)	41	11	2	112	11	33
Future Volume (Veh/h)	41	11	2	112	11	33
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	43	11	2	133	12	37
Pedestrians	73			164	85	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	6			14	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked	270					
vC, conflicting volume			139		344	298
vC1, stage 1 conf vol			137		3-1-1	2,0
vC2, stage 2 conf vol						
vCu, unblocked vol			139		344	298
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)			4.1		0.0	0.2
tF (s)			2.2		3.6	3.3
p0 queue free %			100		98	94
cM capacity (veh/h)			1354		557	593
сім сарасіцу (четілі)					337	593
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	54	135	49			
Volume Left	0	2	12			
Volume Right	11	0	37			
cSH	1700	1354	584			
Volume to Capacity	0.03	0.00	0.08			
Queue Length 95th (ft)	0	0	7			
Control Delay (s)	0.0	0.1	11.7			
Lane LOS		A	В			
Approach Delay (s)	0.0	0.1	11.7			
Approach LOS			В			
••						
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			32.8%	IC	CU Level of	Service
Analysis Period (min)			15			

					_	_				,	1	,	
	•	-	•	•	•	•	1	Ť	~	-	¥	4	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations	7	414				7		∱ ⊅					
raffic Volume (vph)	196	69	0	0	0	119	0	877	58	0	0	0	
uture Volume (vph)	196	69	0	0	0	119	0	877	58	0	0	0	
leal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	12	12	12	16	12	12	12	12	12	12	
ane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
	0.91	0.91	1.00	1.00	1.00	1.00	1.00		0.93	1.00	1.00	1.00	
ed Bike Factor								1.00					
t						0.865		0.991					
Protected	0.950												
atd. Flow (prot)	1464	3112	0	0	0	1676	0	3012	0	0	0	0	
Permitted	0.950												
td. Flow (perm)	1464	3112	0	0	0	1676	0	3012	0	0	0	0	
ght Turn on Red	No	3112	Yes	U	0	Yes	U	3012	Yes	U	U	Yes	
	INU		163					0	1 03			163	
atd. Flow (RTOR)						277		9					
nk Speed (mph)		25			25			25			25		
k Distance (ft)		161			205			294			151		
vel Time (s)		4.4			5.6			8.0			4.1		
onfl. Bikes (#/hr)						1			76				
ak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	
avy Vehicles (%)	1%	0.90	0.70	0.73	0.73	0.73	0.70	1%	2%	0.72	0.72	0.72	
	1 70	076	U70	U70	076	U70	U76			070	070	U70	
rking (#/hr)			_			4		0	0	_		_	
. Flow (vph)	204	72	0	0	0	125	0	914	60	0	0	0	
ared Lane Traffic (%)	0%												
ne Group Flow (vph)	204	72	0	0	0	125	0	974	0	0	0	0	
n Type	Split	NA				Prot		NA					
tected Phases	5	5				6		1					2
rmitted Phases	3	J				U							2
tector Phase		-				,		1					
	5	5				6							
vitch Phase													
nimum Initial (s)	8.0	8.0				8.0		8.0					8.0
nimum Split (s)	20.0	20.0				14.0		58.0					18.0
tal Split (s)	20.0	20.0				14.0		58.0					18.0
tal Split (%)	18.2%	18.2%				12.7%		52.7%					16%
aximum Green (s)	15.0	15.0				9.0		53.0					14.0
ellow Time (s)	3.0	3.0				3.0		3.0					4.0
-Red Time (s)	2.0	2.0				2.0		2.0					0.0
st Time Adjust (s)	-1.0	-1.0				-1.0		-1.0					
tal Lost Time (s)	4.0	4.0				4.0		4.0					
ad/Lag	Lead	Lead				Lag		Lead					Lag
d-Lag Optimize?													
hicle Extension (s)	2.0	2.0				2.0		2.0					2.0
call Mode	Max	Max				Max		C-Max					Ped
lk Time (s)	7.0	7.0				7.0		7.0					7.0
sh Dont Walk (s)	8.0	8.0				2.0		46.0					7.0
destrian Calls (#/hr)	0	0				0		0					0
Effct Green (s)	16.0	16.0				10.0		54.0					
tuated g/C Ratio	0.15	0.15				0.09		0.49					
Ratio	0.96	0.16				0.31		0.66					
ntrol Delay	96.5	39.9				2.0		16.8					
						0.0							
eue Delay	48.0	1.2						0.4					
al Delay	144.5	41.1				2.0		17.3					
5	F	D				Α		В					
roach Delay		117.5			2.0			17.3					
roach LOS		F			Α			В					
eue Length 50th (ft)	154	24			71	0		113					
eue Length 95th (ft)	#323	48				m0		203					
CUC FRIINIII AUIII IIII	#323				105	mu					74		
		81			125			214			71		
ernal Link Dist (ft)													
ernal Link Dist (ft) rn Bay Length (ft)													
ernal Link Dist (ft) rn Bay Length (ft)	212	452				404		1483					
ernal Link Dist (ft) rn Bay Length (ft) se Capacity (vph)	212 86					404 0		1483 158					
ternal Link Dist (ft) urn Bay Length (ft) ase Capacity (vph) arvation Cap Reductn	86	246				0		158					
ernal Link Dist (ft) In Bay Length (ft) se Capacity (vph)													

Intersection Summary

Intersection LOS: D
ICU Level of Service D

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50 (45%), Referenced to phase 1:NBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 36.0
Intersection Capacity Utilization 73.8%
Analysis Period (min) 15

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.

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street



Lanes, Volumes, Tim	٠,		_		+	•	4	†		\	Ţ	4
		→	*	•			1		~		-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations raffic Volume (vph)	0	0	0	0	1 → 26	20	90	41 → 916	35	0	0	0
uture Volume (vph)	0	0	0	0	26	20	90	916	35	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor irt					0.92 0.941			0.98 0.995				
It Protected					0.741			0.995				
Satd. Flow (prot)	0	0	0	0	1376	0	0	3167	0	0	0	0
It Permitted								0.996				
Satd. Flow (perm)	0	0	0	0	1376	0	0	3162	0	0	0	0
Right Turn on Red			Yes		- 1	Yes	No	_	Yes			Yes
Satd. Flow (RTOR) Link Speed (mph)		25			2 25			9 25			25	
ink Distance (ft)		171			179			570			294	
Fravel Time (s)		4.7			4.9			15.5			8.0	
Confl. Peds. (#/hr)						100	47		1255			
Confl. Bikes (#/hr)						1			77			
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Parking (#/hr)	0	0	0	0	21	24	02	0	0	0	0	0
Adj. Flow (vph) Shared Lane Traffic (%)	0	0	0	0	31	24	93	944	36	0	0	0
Snared Lane Traffic (%) Lane Group Flow (vph)	0	0	0	0	55	0	0	1073	0	0	0	0
Turn Type	U	U	U	U	NA	U	Perm	NA	U	U	U	U
Protected Phases					5			1				
Permitted Phases							1					
Detector Phase					5		1	1				
Switch Phase												
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					23.0		87.0	87.0				
Fotal Split (s) Fotal Split (%)					23.0 20.9%		87.0 79.1%	87.0 79.1%				
Maximum Green (s)					18.0		79.1% 82.0	79.1% 82.0				
/ellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
ost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
_ead/Lag												
_ead-Lag Optimize?					^ ^		0.0	2.2				
/ehicle Extension (s) Recall Mode					2.0 May		2.0 C-Max	C-May				
Walk Time (s)					Max 7.0		7.0	C-Max 7.0				
Flash Dont Walk (s)					11.0		75.0	75.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					19.0			83.0				
Actuated g/C Ratio					0.17			0.75				
//c Ratio					0.23			0.45				
Control Delay					40.8			2.6				
Queue Delay					0.0			0.1				
Total Delay LOS					40.8 D			2.6 A				
Approach Delay					40.8			2.6				
Approach LOS					40.8 D			2.0 A				
Queue Length 50th (ft)					33			116				
Queue Length 95th (ft)					66			71				
nternal Link Dist (ft)		91			99			490			214	
Furn Bay Length (ft)												
Base Capacity (vph)					239			2388				
Starvation Cap Reductn					0			224				
Spillback Cap Reductn Storage Cap Reductn					0			67 0				
Reduced v/c Ratio					0.23			0.50				
					0.20			0.00				
ntersection Summary Area Type:	CBD											
aroa Twoo	CBD											
Cycle Length: 110												
Cycle Length: 110 Actuated Cycle Length: 110	to phase 1·N	BTL, Start	t of Green									
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 14 (13%), Referenced	to phase 1:N	BTL, Start	t of Green									
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 14 (13%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi		BTL, Start	t of Green									
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 14 (13%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi Vlaximum v/c Ratio: 0.45		BTL, Start	t of Green									
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 14 (13%), Referenced I Natural Cycle: 110 Control Type: Actuated-Coordi Maximum vic Ratio: 0.45 Intersection Signal Delay: 4.5	inated	BTL, Start	t of Green	In	tersection							
e Length: 110 ated Cycle Length: 110 et: 14 (13%), Referenced I iral Cycle: 110 trol Type: Actuated-Coordi imum v/c Ratio: 0.45	inated	BTL, Start	t of Green	In		LOS: A f Service (ò					

Splits and Phases: 4: Atlantic Avenue/Cross Street & India Street/East India Row

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	•	→	*	•	—	4	4	†	~	-	1	1				
_ane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2			
ane Configurations	LDL	LDI	LDK			WDK	INDL	INDI	NDK	JDL	*	JUK	10Z			
Traffic Volume (vph)	0	0	0	82	33	0	0	0	0	0	979	31				
Future Volume (vph)	0	0	0	82	33	0	0	0	0	0	979	31				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
ane Width (ft)	12	12	12	12	11	12	12	12	12	12	12	12				
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91				
Ped Bike Factor											1.00					
Frt Elt Drotostod				0.050							0.995					
Flt Protected Satd. Flow (prot)	0	0	0	0.950 3090	1605	0	0	0	0	0	4592	0				
Flt Permitted	0	U	U	0.950	1003	U	U	U	0	U	4372	U				
Satd. Flow (perm)	0	0	0	3090	1605	0	0	0	0	0	4592	0				
Right Turn on Red			Yes	No		Yes			Yes			Yes				
Satd. Flow (RTOR)											6					
ink Speed (mph)		25			25			25			25					
Link Distance (ft)		251			171			329			268					
Travel Time (s)		6.8			4.7			9.0			7.3	FΛ				
Confl. Bikes (#/hr)	0.02	0.02	0.02	0.04	0.04	0.04	0.02	0.02	0.02	0.00	0.00	50				
Peak Hour Factor Heavy Vehicles (%)	0.92 0%	0.92 0%	0.92	0.96 2%	0.96 3%	0.96 0%	0.92 0%	0.92 0%	0.92 0%	0.90	0.90 1%	0.90 0%				
Adj. Flow (vph)	0%	0%	0%	85	34	0%	0%	0%	0%	0%	1088	34				
Shared Lane Traffic (%)	· ·	Ü	Ü	00	51	Ü	Ü	Ü	Ü	Ü	.500	3-1				
Lane Group Flow (vph)	0	0	0	85	34	0	0	0	0	0	1122	0				
Turn Type				Split	NA						NA					
Protected Phases				5	5						1		2			
Permitted Phases																
Detector Phase				5	5						1					
Switch Phase				0.0	0.0						0.0		0.0			
Minimum Initial (s) Minimum Split (s)				8.0 31.0	8.0 31.0						8.0 58.0		8.0 21.0			
Total Split (s)				31.0	31.0						58.0		21.0			
Total Split (%)				28.2%	28.2%						52.7%		19%			
Maximum Green (s)				26.0	26.0						52.0		17.0			
Yellow Time (s)				3.0	3.0						3.0		4.0			
All-Red Time (s)				2.0	2.0						3.0		0.0			
Lost Time Adjust (s)				-2.0	-2.0						-2.0					
Total Lost Time (s)				3.0	3.0						4.0					
Lead/Lag											Lead		Lag			
Lead-Lag Optimize? Vehicle Extension (s)				2.0	2.0						2.0		2.0			
Recall Mode				Max	Max						C-Max		Ped			
Walk Time (s)				7.0	7.0						7.0		7.0			
Flash Dont Walk (s)				19.0	19.0						45.0		10.0			
Pedestrian Calls (#/hr)				50	50						0		5			
Act Effct Green (s)				28.0	28.0						54.0					
Actuated g/C Ratio				0.25	0.25						0.49					
v/c Ratio				0.11	0.08						0.50					
Control Delay				35.7 1.2	36.5 1.8						6.3 0.1					
Queue Delay Total Delay				37.0	38.3						6.4					
LOS				D D	D D						Α					
Approach Delay					37.3						6.4					
Approach LOS					D						Α					
Queue Length 50th (ft)				0	19						35					
Queue Length 95th (ft)				0	m0						53					
Internal Link Dist (ft)		171			91			249			188					
Turn Bay Length (ft)				70/	400						0057					
Base Capacity (vph)				786	408						2257					
Starvation Cap Reductn Spillback Cap Reductn				552 0	293 0						237 0					
Storage Cap Reductin				0	0						0					
Reduced v/c Ratio				0.36	0.30						0.56					
Intersection Summary	CBD															
Aroa Tuno:	CDD															
Cycle Length: 110																
Cycle Length: 110 Actuated Cycle Length: 110	to phase 1:	SBT, Start	of Green													
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 103 (94%), Referenced Natural Cycle: 110		SBT, Start	of Green													
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi		SBT, Start	of Green													
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.50		SBT, Start	of Green													
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.50 intersection Signal Delay: 9.4	nated	SBT, Start	of Green	Int	ersection											
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.50	nated	SBT, Start	of Green	Int		LOS: A Service H										

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09004.03::Harbor Garage HSH No-Build (2026) Condition, p.m. Peak Hour

▼ Ø1 (R)

Splits and Phases: 5: Surface/Purchase/SASB & India Street

Lanes, Volumes, Timir	ngs												
	٠	→	•	•	•	•	4	Ť	~	\	ļ	4	
_ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
	EBL		EBK	WBL	WBI	WBK	NBL	INDI	INBK	SBL		SBK	102
_ane Configurations	0	↑ ↑	17	٥	0	0	0	0	0	119	414	0	
Fraffic Volume (vph)		146	17	0							993		
Future Volume (vph)	0	146	17	0	1000	0	0	0	0	119	993	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	14	14	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
ane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor		1.00											
rt		0.984											
It Protected											0.995		
Satd. Flow (prot)	0	3374	0	0	0	0	0	0	0	0	4594	0	
It Permitted											0.995		
atd. Flow (perm)	0	3374	0	0	0	0	0	0	0	0	4594	0	
Right Turn on Red			Yes			Yes			Yes	No		Yes	
Satd. Flow (RTOR)		10											
ink Speed (mph)		25			25			25			25		
ink Distance (ft)		314			161			268			332		
ravel Time (s)		8.6			4.4			7.3			9.1		
Confl. Bikes (#/hr)			5										
eak Hour Factor	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91	
leavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%	0%	
Adj. Flow (vph)	0	160	19	0	0	0	0	0	0	131	1091	0	
Shared Lane Traffic (%)		.00											
ane Group Flow (vph)	0	179	0	0	0	0	0	0	0	0	1222	0	
urn Type		NA								Perm	NA		
Protected Phases		5								1 01111	1		2
Permitted Phases		3								1			2
Detector Phase		5								1	1		
Switch Phase		J									'		
Minimum Initial (s)		8.0								8.0	8.0		8.0
finimum Split (s)		26.0								66.0	66.0		18.0
		26.0											
otal Split (s)		23.6%								66.0	66.0		18.0
otal Split (%)		22.0								60.0%	60.0%		16% 14.0
Maximum Green (s)													
/ellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		1.0								2.0	2.0		0.0
ost Time Adjust (s)		-1.0									-1.0		
otal Lost Time (s)		3.0								1 1	4.0		1
.ead/Lag										Lead	Lead		Lag
ead-Lag Optimize?		0.0								0.0	0.0		
/ehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Valk Time (s)		7.0								7.0	7.0		7.0
lash Dont Walk (s)		15.0								54.0	54.0		7.0
Pedestrian Calls (#/hr)		0								0	0		0
ct Effct Green (s)		23.0									62.0		
ctuated g/C Ratio		0.21									0.56		
/c Ratio		0.25									0.47		
Control Delay		35.3									5.3		
Queue Delay		0.3									0.1		
otal Delay		35.6									5.4		
OS		D									Α		
pproach Delay		35.6									5.4		
pproach LOS		D									Α		
Queue Length 50th (ft)		52									54		
Queue Length 95th (ft)		85									61		
nternal Link Dist (ft)		234			81			188			252		
urn Bay Length (ft)		-											
lase Capacity (vph)		713									2589		
tarvation Cap Reductn		0									392		
pillback Cap Reductn		202									375		
torage Cap Reductn		0									0		
reduced v/c Ratio		0.35									0.56		
		0.33									0.00		
ntersection Summary													
rea Type: CE	3D												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 102 (93%), Referenced to	phase 1:	SBTL, Sta	rt of Greei	n									
Natural Cycle: 110		,											
Control Type: Actuated-Coordina	ited												
Maximum v/c Ratio: 0.47													
ntersection Signal Delay: 9.3				Int	ersection	LOS: A							
ntersection Capacity Utilization	73.8%			10.	[] evel of	Service D)						

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street

#1_{Ø2}

Lanes, volumes, 11	•	→	•	•	—	•	1	1	~	<u> </u>		4
Lana Craun	EDI				WOT		-			CDI		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		0	0	101	4↑↑ 168		0	0	0	0	^^	202
Traffic Volume (vph) Future Volume (vph)	0	0	0	101 101	168 168	0	0	0	0	0	1011 1011	292 292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor	1.00	1.00	1.00	0.78	0.71	1.00	1.00	1.00	1.00	1.00	0.98	0.71
rt				0.70							0.966	
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1464	3022	0	0	0	0	0	4392	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1143	3022	0	0	0	0	0	4392	0
Right Turn on Red			Yes	No		Yes			Yes			Yes
Satd. Flow (RTOR)											113	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		395			161			332			240	
Travel Time (s)		10.8			4.4			9.1			6.5	
Confl. Peds. (#/hr)				219								84
Confl. Bikes (#/hr)												50
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	109	181	0	0	0	0	0	1064	307
Shared Lane Traffic (%)				0%								
Lane Group Flow (vph)	0	0	0	109	181	0	0	0	0	0	1371	0
Turn Type				Split	NA						NA	
Protected Phases				5	5						1	
Permitted Phases												
Detector Phase				5	5						1	
Switch Phase												
Minimum Initial (s)				8.0	8.0						8.0	
Minimum Split (s)				42.0	42.0						68.0	
Total Split (s)				42.0	42.0						68.0	
Total Split (%)				38.2%	38.2%						61.8%	
Maximum Green (s)				33.0	33.0						63.0	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				6.0	6.0						2.0	
Lost Time Adjust (s)				-1.0	-1.0						-1.0	
Total Lost Time (s)				8.0	8.0						4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				Max	Max						C-Max	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				26.0	26.0						56.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)				34.0	34.0						64.0	
Actuated g/C Ratio				0.31	0.31						0.58	
v/c Ratio				0.24	0.19						0.53	
Control Delay				31.8	30.4						1.0	
Queue Delay				14.5	4.9						0.0	
Total Delay				46.3	35.3						1.0	
LOS				D	D						A	
Approach Delay					39.4						1.0	
Approach LOS					D						Α	
Queue Length 50th (ft)				64	52						1	
Queue Length 95th (ft)		045		m110	82			056			6	
Internal Link Dist (ft)		315			81			252			160	
Turn Bay Length (ft)				450	00.4						2/22	
Base Capacity (vph)				452	934						2602	
Starvation Cap Reductn				318	680						29	
Spillback Cap Reductn Storage Cap Reductn				0	0						0	
Storage Cap Reductn Reduced v/c Ratio				0.81	0 71						0.53	
				18.0	0.71						0.53	
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to	o phase 1:SBT	Γ, Start of	Green									
Natural Cycle: 110	,											

Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 7.7
Intersection Capacity Utilization 145.8%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: A ICU Level of Service H

Splits and Phases: 7: Surface/Purchase/SASB & State Street





Coroly	Laries, volumes, rin	•		$\overline{}$		—	•	•	†	_	<u> </u>	+	1
Configuralians			-	*	•	-		-			-		
re Volume (γph) 0 0 0 0 0 132 57 136 1092 36 0 0 0 0 0 100 1160 1900 1900 1900 1900	Lane Group	EBL	EBT	EBR	WBL		WBR	NBL		NBR	SBL	SBT	SBR
re Volume (γph) 0 0 0 0 0 132 57 136 1092 36 0 0 0 0 0 100 1160 1900 1900 1900 1900	Lane Configurations					f)			414				
IF low (reyhan)	Traffic Volume (vph)								1092				
Width (ft)	Future Volume (vph)												
e Utill Facior 1.00 1.00 1.00 1.00 1.00 1.00 0.95 0.95 0.95 1.00	Ideal Flow (vphpl)												
Bike Fator	Lane Width (ft)												
Virolecied (1		1.00	1.00	1.00	1.00		1.00	0.95		0.95	1.00	1.00	1.00
Name	Frt												
Flow (prof)						0.737							
Permitted	Satd. Flow (prot)	0	0	0	0	1732	n	0		0	0	0	0
Flow (perm)	Flt Permitted	- 0	U	- 0	J	1732	- 0	J		U	U	U	U
Turn on Red	Satd. Flow (perm)	0	0	0	0	1732	0	0		0	0	0	0
Speed (mph)	Right Turn on Red												
Speed (mph)	Satd. Flow (RTOR)					3			5				
Distance (1)	Link Speed (mph)		25									25	
rel Time (s)	Link Distance (ft)					290							
Bites (#hr)	Travel Time (s)												
k Hour Factor	Confl. Peds. (#/hr)						177	97					
vy Vehicles (%) 0%	Confl. Bikes (#/hr)												
Flow (pph)	Peak Hour Factor												
Flow (pph)	Heavy Vehicles (%)					1%	0%	1%	1%	0%	0%		
Coroup Flow (vph) 0	Adj. Flow (vph)	0	0	0	0	139	60	140	1126	37			0
NA Split NA ected Phases	Shared Lane Traffic (%)												
eclee Phases setor Phase willted Phases setor Phase will fill (s) mum Split (s)	Lane Group Flow (vph)	0	0	0	0		0			0	0	0	0
Interest	Turn Type												
Sector Phase S	Protected Phases					5		1	1				
Ch Phase	Permitted Phases												
mum Initial (s) 8.0 8.0 8.0 mum Spilt (s) 35.0 75.0 75.0 1 1 1 Spilt (s) 35.0 75.0 75.0 1 1 1 Spilt (s) 35.0 75.0 75.0 1 1 1 Spilt (s) 35.0 75.0 75.0 1 1 Spilt (s) 35.0 75.0 75.0 1 1 Spilt (s) 31.8% 68.2% 68.2% imum Green (s) 30.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0	Detector Phase					5		1	1				
mum Spill (S)	Switch Phase												
Split (s) 35.0 75.0 75.0 Split (%) 31.8% 68.2% 68.2% Split (%) 31.8% 68.2% 68.2% Split (%) 30.0 70.0 Split (%) 30.0 30.0 Split (%) 3	Minimum Initial (s)												
Spilit (%) 31.8% 68.2% 68.2%	Minimum Split (s)												
simum Green (s) 30.0 70.0 70.0 ow Time (s) 3.0 3.0 3.0 sed Time (s) 2.0 2.0 2.0 LTIME Adjust (s) -1.0 -1.0 IL Lost Time (s) 4.0 4.0 d/Lag Optimize?	Total Split (s)												
ow Time (s) 3.0 3.0 3.0 red Time (s) 2.0 2.0 2.0 It Lost Time (s) 4.0 4.0 d/Lag d.0 4.0 d-Lag Optimize? cicle Extension (s) 2.0 2.0 2.0 all Mode Max C-Max C-Max k Time (s) 7.0 7.0 7.0 7.0 h Dont Walk (s) 23.0 63.0 63.0 estrian Calls (#/hr) 0 0 0 Effct Green (s) 31.0 71.0 valed g/C Ratio 0.28 0.65 Ratio 0.41 0.64 Irol Delay 34.6 5.3 ue Delay 0.0 0.1 al Delay 34.6 5.4 Foach Delay 34.6 5.4 Foach Delay 34.6 5.4 Foach Delay 34.6 5.4 Foach LOS C A ue Length 95th (ft) 112 113 ue Length 95th (ft) 81 210 103 184 H Bay Length (ft) 81 210 103 184 H Bay Cappth (ft) 9 85 age Cap Reductn 0 0	Total Split (%)												
Red Time (s) 2.0 2.0 2.0 2.0	Maximum Green (s)												
Time Adjust (s)	Yellow Time (s)												
A								2.0					
d/Lag d-Lag Optimize? icle Extension (s) all Mode Max C-Max C-Max k Time (s) 7.0 7.0 7.0 h Dont Walk (s) estrian Calls (#/hr) 0 0 0 Effct Green (s) 31.0 71.0 lated g/C Ratio 0.28 0.65 Ratio 0.41 0.64 ltrol Delay 34.6 5.3 use Delay 0.0 0.1 li Delay 34.6 5.4 lo C A roach Delay 34.6 5.4 lo C A roach LOS C A roach LOS C A roach LOS Use Length 50th (ft) 112 113 use Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 Bay Length (ft) e Capacily (yeh) 490 2027 valion Cap Reducth 9 85 age Cap Reductn 9 85 age Cap Reductn													
d-Lag Optimize? icle Extension (s) 2.0 2.0 2.0 3.0 3.0 7.0 7.0 7.0 7.0 h Dont Walk (s) 23.0 63.0 63.0 estrian Calls (#hr) 0 0 Effect Green (s) 31.0 71.0 sated g/C Ratio 0.28 0.65 Ratio 0.41 0.64 trol Delay 34.6 5.3 ue Delay 0.0 0.1 id Delay 34.6 5.4 5.6 C A roach Delay 34.6 5.4 5.6 C A roach Delay 34.6 5.4 roach LOS C A roach LOS C Roach						4.0			4.0				
Icle Extension (s) 2.0 2	Lead/Lag												
all Mode						2.0		2.0	2.0				
k Time (s) 7.0 7.0 7.0 h Dont Walk (s) 23.0 63.0 63.0 estrian Calls (#hr) 0 0 0 0 Effet Green (s) 31.0 71.0 estrian Calls (#hr) 0.28 0.65 Ratio 0.28 0.65 Ratio 0.41 0.64 trol Delay 34.6 5.3 estrian Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.1 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 0 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls (#hr) 0.0 estrict Calls	Recall Mode												
th Dont Walk (s) 23.0 63.0 63.0 estrian Calls (#hr) 0 0 0 0 Estrian Calls (#hr) 0 0 0 0 0 Estrian Calls (#hr) 0 0 0 0 0 Estrian Calls (#hr) 0 0 0 0 0 0 Estrian Calls (#hr) 0 0 0 0 0 0 Estrian Calls (#hr) 0 0.28 0.65 Ratio 0.28 0.65 Ratio 0.41 0.64 Estrian Calls (#hr) 0 Estrian Calls (#	Walk Time (s)												
estrian Calls (#hr) 0 0 0 Effet Green (s) 31.0 71.0 lated g/C Ratio 0.28 0.65 Ratio 0.41 0.64 trol Delay 34.6 5.3 ue Delay 0.0 0.1 if Delay 34.6 5.4 S C A roach Delay 34.6 5.4 roach LOS C A ue Length 50th (ft) 112 113 ue Length 95th (ft) 81 210 103 184 mal Link Dist (ft) 81 210 103 184 reach LOS capacity (vph) 490 2027 vation Cap Reducth 0 114 black Cap Reductn 9 85 age Cap Reductn 0 0													
Effct Green (s) 31.0 71.0 stated g/C Ratio 0.28 0.65 Ratio 0.41 0.64 stold on 0.65 stold on 0.65 sto													
valed g/C Ratio 0.28 0.65 Ratio 0.41 0.64 trol Delay 34.6 5.3 vue Delay 0.0 0.1 via Delay 34.6 5.4 via C A roach Delay 34.6 5.4 roach LOS C A vue Length 50th (ft) 112 113 vue Length 95th (ft) 181 m128 roal Link Dist (ft) 81 210 103 184 via Bay Length (ft) 184 184 184 via Capacity (vph) 490 2027 valion Cap Reductin 0 114 186 back Cap Reductin 9 85 age Cap Reductin 0 0	Act Effet Green (s)							U					
Ratio 0.41 0.64 trol Delay 34.6 5.3 use Delay 0.0 0.1 al Delay 0.0 0.0 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 0.1 al Delay 0.0 al Delay 0.0 0.1 al Delay 0.0 a													
Itrol Delay 34.6 5.3 ue Delay 0.0 0.1 31 Delay 34.6 5.4 roach Delay 34.6 5.4 roach DoS C A ue Length 50th (ft) 112 113 ue Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 1 Bay Length (ft) 9 2027 valion Cap Reductn 0 114 black Cap Reductn 9 85 age Cap Reductn 0 0 0	v/c Ratio												
use Delay 0.0 0.1 al Delay 34.6 5.4 5 C A roach Delay 34.6 5.4 roach LOS C A use Length 950th (ft) 112 113 use Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 na Link Dist (ft) 81 210 2027 valion Cap Reducth 0 114 back Cap Reductn 9 85 age Cap Reductn 0 0	Control Delay												
Delay 34.6 5.4 C	Queue Delay												
C A roach Delay 34.6 5.4 roach LoS C A sub-tength 50th (ft) 112 113 use Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 second Log Capacity (vph) 490 2027 valion Cap Reducth 9 85 age Cap Reducth 9 85 age Cap Reducth 0 0 0	Total Delay												
roach Delay 34.6 5.4 roach LOS C A use Length 95th (ft) 112 113 use Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 na Link Dist (ft) 81 210 2027 valion Cap Reducth 9 85 age Cap Reducth 9 85 age Cap Reducth 0 0 0	LOS												
roach LOS C A ue Length 50th (ft) 112 113 ue Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 n Bay Length (ft) 80 2027 valion Cap Reducth 0 114 back Cap Reducth 9 85 age Cap Reducth 0 0 0	Approach Delay												
sue Length 50th (ft) 112 113 sue Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 s Bay Length (ft) 0 2027 valion Cap Reducth 0 114 back Cap Reducth back Cap Reducth 9 85 age Cap Reducth 0 0	Approach LOS												
sue Length 95th (ft) 181 m128 mal Link Dist (ft) 81 210 103 184 1 Bay Length (ft) e Capacity (vph) 490 2027 valion Cap Reductn 0 114 black Cap Reductn 9 85 age Cap Reductn 0 0	Queue Length 50th (ft)												
mal Link Dist (ft) 81 210 103 184 n Bay Length (ft) 490 2027 vation Cap Reductn 0 114 back Cap Reductn 9 85 age Cap Reductn 0 0 0 0	Queue Length 95th (ft)												
n Bay Length (ft) e Capacity (vph) 490 2027 vation Cap Reducth 0 114 back Cap Reducth 9 85 age Cap Reducth 0 0	Internal Link Dist (ft)		81						103			184	
e Capacity (vph) 490 2027 valion Cap Reducth 0 114 back Cap Reductn 9 85 age Cap Reducth 0 0 0	Turn Bay Length (ft)												
black Cap Reductn 9 85 age Cap Reductn 0 0	Base Capacity (vph)					490							
age Cap Reductn 0 0	Starvation Cap Reductn												
	Spillback Cap Reductn												
uced v/c Ratio 0.41 0.68	Storage Cap Reductn												
	Reduced v/c Ratio					0.41			0.68				

Intersection Summary

Intersection Summary

Area Type: CBD
Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 1:NBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 9.3

Intersection Capacity Utilization 90.0%

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: A ICU Level of Service E

Splits and Phases: 8: Allantic Avenue/Cross Street & State Street





Lanes, Volumes, Timings							
-	•	•	1	†	ţ	1	
	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations Traffic Volume (uph)	0	7 89	0	. 0	↑↑↑ 1059	3	
Traffic Volume (vph) Future Volume (vph)	0	89 89	0	0	1059	3	
	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	13	12	12	12	12	
	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor Frt		0.865			1.00		
Flt Protected		0.000					
Satd. Flow (prot)	0	1498	0	0	4576	0	
Flt Permitted	•	4 400			4577		
Satd. Flow (perm) Right Turn on Red	0	1498 Yes	0	0	4576	0 Yes	
Satd. Flow (RTOR)		302			1	163	
Link Speed (mph)	25			25	25		
	358			212	329		
Travel Time (s) Confl. Bikes (#/hr)	9.8			5.8	9.0	52	
	0.91	0.91	0.92	0.92	0.90	0.90	
	0%	2%	0%	0%	2%	0%	
Adj. Flow (vph)	0	98	0	0	1177	3	
Shared Lane Traffic (%)	0	00	0	0	1100	0	
Lane Group Flow (vph) Turn Type	0	98 Prot	0	0	1180 NA	0	
Protected Phases		5			1		2
Permitted Phases							
Detector Phase		5			1		
Switch Phase Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		19.0			69.0		22.0
Total Split (s)		19.0			69.0		22.0
Total Split (%)		17.3%			62.7%		20%
Maximum Green (s) Yellow Time (s)		15.0 3.0			63.0 3.0		18.0 4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		0.0
Total Lost Time (s)		4.0			4.0		
Lead/Lag					Lead		Lag
Lead-Lag Optimize? Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0			7.0		7.0
Flash Dont Walk (s)		8.0			56.0		11.0
Pedestrian Calls (#/hr) Act Effct Green (s)		0 15.0			0 65.0		5
Actuated g/C Ratio		0.14			0.59		
v/c Ratio		0.21			0.44		
Control Delay		1.0			2.1		
Queue Delay Total Delay		0.0			0.0 2.1		
LOS		Α			2.1 A		
Approach Delay	1.0				2.1		
Approach LOS	Α				A		
Queue Length 50th (ft) Queue Length 95th (ft)		0			25 29		
	278	U		132	249		
Turn Bay Length (ft)				.02			
Base Capacity (vph)		465			2704		
Starvation Cap Reductn		0			58		
Spillback Cap Reductn Storage Cap Reductn		0			0		
Reduced v/c Ratio		0.21			0.45		
Intersection Summary							
Area Type: CBD							
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 100 (91%), Referenced to pha	nase 1:	SBT, Start	t of Green				
Natural Cycle: 110 Control Type: Actuated-Coordinated	1						
Maximum v/c Ratio: 0.44	-						
Intersection Signal Delay: 2.0					tersection		
Intersection Capacity Utilization 36.1	1%			IC	U Level of	Service A	
Analysis Period (min) 15							

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street



Lanes, Volumes, T	imings •				_	_		_			1	1	
		-	*	•	—	•	1	†		-	¥		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		† ‡		_	•	_	^	^	^	•	410/2	•	
Traffic Volume (vph)	0	201 201	68 68	0	0	0	0	0	0	84 84	1063 1063	0	
Future Volume (vph) Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1700	16	12	12	12	12	1700	12	1700	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25	0.05	0.05	25	4.00	4.00	25	4.00	4.00	25	0.04	4.00	
Lane Util. Factor Ped Bike Factor	1.00	0.95 1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		0.962											
Flt Protected		0.702									0.996		
Satd. Flow (prot)	0	3482	0	0	0	0	0	0	0	0	4558	0	
Flt Permitted											0.996		
Satd. Flow (perm)	0	3482	0	0	0	0	0	0	0	0	4558	0	
Right Turn on Red		0.5	Yes			Yes			Yes	No		Yes	
Satd. Flow (RTOR)		35			25			25			25		
Link Speed (mph) Link Distance (ft)		25 305			25 204			25 514			25 212		
Travel Time (s)		8.3			5.6			14.0			5.8		
Confl. Bikes (#/hr)		0.0	4		0.0						5.0		
Peak Hour Factor	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	0%	1%	2%	0%	0%	0%	0%	0%	0%	2%	2%	0%	
Adj. Flow (vph)	0	258	87	0	0	0	0	0	0	93	1181	0	
Shared Lane Traffic (%)		2.45		^	^	^	^	0	^	0	1074	^	
Lane Group Flow (vph) Turn Type	0	345 NA	0	0	0	0	0	0	0	0 Split	1274 NA	0	
Protected Phases		NA 5								Spill 1	NA 1		2
Permitted Phases													
Detector Phase		5								1	1		
Switch Phase													
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		19.0								72.0	72.0		19.0
Total Split (s) Total Split (%)		19.0 17.3%								72.0 65.5%	72.0 65.5%		19.0 17%
Total Split (%) Maximum Green (s)		17.3%								67.0	67.0		15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		2.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s)		4.0									4.0		
Lead/Lag										Lead	Lead		Lag
Lead-Lag Optimize?		2.0								2.0	2.0		2.0
Vehicle Extension (s) Recall Mode		2.0 Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		7.0								60.0	60.0		8.0
Pedestrian Calls (#/hr)		0								0	0		0
Act Effct Green (s)		15.0									68.0		
Actuated g/C Ratio		0.14									0.62		
v/c Ratio Control Delay		0.68 48.2									0.45		
Queue Delay		48.2 58.3									1.1 0.1		
Total Delay		106.5									1.2		
LOS		F									Α		
Approach Delay		106.5									1.2		
Approach LOS		F									Α		
Queue Length 50th (ft)		111									9		
Queue Length 95th (ft)		135			40.						10		
Internal Link Dist (ft) Turn Bay Length (ft)		225			124			434			132		
Base Capacity (vph)		505									2817		
Starvation Cap Reductn		0									284		
Spillback Cap Reductn		222									6		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		1.22									0.50		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 104 (95%), Reference	ced to phase 1:	SBTL, Sta	irt of Greei	n									
Natural Cycle: 110	ordinated												
Control Type: Actuated-Coo Maximum v/c Ratio: 0.68	nulnated												
Intersection Signal Delay: 2	3.6			Ini	tersection	LOS: C							
Intersection Capacity Utiliza					U Level of		3						
Analysis Period (min) 15													

Splits and Phases: 10: Surface/Purchase/SASB & High Street

#1_{Ø2}

Lanes, Volumes, Ti	mings						
	•	•	4	†	ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	77	LDIX	NDL		351	JDIC	
Traffic Volume (vph)	285	0	0	↑↑ 756	0	0	
Future Volume (vph)	285	0	0	756	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	13	13	12	12	
ane Util. Factor rt	0.97	1.00	1.00	0.95	1.00	1.00	
It Protected	0.950						
atd. Flow (prot)	3152	0	0	3158	0	0	
It Permitted	0.950						
Satd. Flow (perm)	3152	0	0	3158	0	0	
Right Turn on Red	No	Yes				Yes	
atd. Flow (RTOR) ink Speed (mph)	25			25	25		
ink Speed (mpn) ink Distance (ft)	25 204			25 692	25 570		
ravel Time (s)	5.6			18.9	15.5		
Peak Hour Factor	0.95	0.95	0.96	0.96	0.92	0.92	
leavy Vehicles (%)	0%	0%	0%	1%	0%	0%	
arking (#/hr)				0			
dj. Flow (vph)	300	0	0	788	0	0	
Shared Lane Traffic (%)	200	^	^	700	^		
ane Group Flow (vph) urn Type	300 Prot	0	0	788 NA	0	0	
rotected Phases	5			1			2
ermitted Phases	3						2
etector Phase	5			1			
witch Phase							
Ninimum Initial (s)	8.0			8.0			8.0
Minimum Split (s)	25.0			68.0			17.0
otal Split (s)	25.0			68.0			17.0
otal Split (%) Maximum Green (s)	22.7% 20.0			61.8% 63.0			15% 13.0
'ellow Time (s)	3.0			3.0			4.0
All-Red Time (s)	2.0			2.0			0.0
Lost Time Adjust (s)	0.0			-1.0			
Total Lost Time (s)	5.0			4.0			
.ead/Lag				Lead			Lag
ead-Lag Optimize?	2.0			2.0			2.0
Vehicle Extension (s) Recall Mode	2.0 Max			C-Max			2.0 Ped
Valk Time (s)	7.0			7.0			7.0
lash Dont Walk (s)	13.0			56.0			6.0
edestrian Calls (#/hr)	0			0			0
ct Effct Green (s)	20.0			64.0			
ctuated g/C Ratio	0.18			0.58			
c Ratio	0.52			0.43			
ontrol Delay ueue Delay	29.9 37.2			5.2 0.0			
otal Delay	67.0			5.2			
OS OS	E			Α.2			
pproach Delay	67.0			5.2			
pproach LOS	E			Α			
ueue Length 50th (ft)	112			99			
ueue Length 95th (ft)	158			97	400		
ternal Link Dist (ft) urn Bay Length (ft)	124			612	490		
ase Capacity (vph)	573			1837			
tarvation Cap Reductn	283			0			
pillback Cap Reductn	0			0			
orage Cap Reductn	0			0			
educed v/c Ratio	1.03			0.43			
ersection Summary							
ea Type:	CBD						
ycle Length: 110							
ctuated Cycle Length: 110							
Offset: 16 (15%), Referenced	I to phase 1:N	IBT, Start	of Green				
atural Cycle: 110 ontrol Type: Actuated-Coor	dinatod						
ontroi Type: Actuated-Coor aximum v/c Ratio: 0.52	unidled						
tersection Signal Delay: 22	.3			Int	ersection	LOS: C	
tersection Capacity Utilizat					U Level of		
nalysis Period (min) 15							
·							
lits and Phases: 11: Atla	antic Avenue/	Cross Stre	et & High	Street			
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Lane Group	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	Ø2	Ø6
Lane Configurations	LULZ		414	1}	W I	₩DI(2		NDE.	413	.,,,,,,	~_	20
Traffic Volume (vph)	6	6	757	533	761	248	74	376	502	315		
Future Volume (vph)	6	6	757	533	761	248	74	376	502	315		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	13	11	12	13	12	12	13	12		
Storage Length (ft)		0			250			0		0		
Storage Lanes		0			1			1		0		
Taper Length (ft)	0.0-	25	0.05	0.04	0.04	0.05	0.05	25	0.01	0.05		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor Frt					0.850	0.850			0.98 0.945			
FIt Protected			0.999		0.000	0.000		0.950	0.945			
Satd. Flow (prot)	0	0	3321	1475	1323	1427	0	1438	2853	0		
Flt Permitted			0.955		.020			0.950	0.998			
Satd. Flow (perm)	0	0	3175	1475	1323	1427	0	1438	2853	0		
Right Turn on Red						No				No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506					457			
Travel Time (s)			6.8	13.8					12.5			
Confl. Bikes (#/hr)					18	18				76		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	2%	3%	2%	7%		
Adj. Flow (vph)	6	6	772	549	785	256	76	384	512	321		
Shared Lane Traffic (%)					0%	0%		10%				
Lane Group Flow (vph)	. 0	0	784	549	785	256	0	422	871	0		
Turn Type	custom	custom	NA	NA	Prot	Prot	Split	Split	NA			
Protected Phases			5	5	5	5	1	1	1		2	6
Permitted Phases	25	25	2			_						
Detector Phase	25	25	5	5	5	5	1	1	1			
Switch Phase				~ ~		~ ~		0.0			4.0	
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		4.0	4.0
Minimum Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (%)			31.8%	31.8%	31.8%	31.8%	39.1%	39.1%	39.1%		24%	5%
Maximum Green (s)			28.5	28.5	28.5	28.5	36.5	36.5	36.5		19.5	4.0
Yellow Time (s)			3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	2.0
All-Red Time (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0		-1.0	-1.0			
Total Lost Time (s)			6.5	5.5 Load	5.5 Load	5.5 Load	Load	5.5 Load	5.5 Load		Log	Loa
Lead/Lag Lead-Lag Optimize?			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	C-IVIAX 8.0	8.0		7.0	4.0
Flash Dont Walk (s)			21.5	21.5	21.5	21.5	28.5	28.5	28.5		12.5	0.0
Pedestrian Calls (#/hr)			21.5	0	0	0	26.5	20.0	26.3		91	0.0
Act Effet Green (s)			44.1	29.5	29.5	29.5	U	42.7	42.7		/1	U
Actuated g/C Ratio			0.40	0.27	0.27	0.27		0.39	0.39			
v/c Ratio			0.60	1.39	2.22	0.67		0.76	0.79			
Control Delay			3.7	223.4	580.0	45.8		35.7	31.7			
Queue Delay			5.3	10.7	0.0	0.0		0.0	0.0			
Total Delay			8.9	234.1	580.0	45.8		35.7	31.7			
LOS			Α	F	500.0 F	D		D	C			
Approach Delay			8.9	374.6					33.0			
Approach LOS			A	F					C			
Queue Length 50th (ft)			8	~568	~983	169		209	228			
Queue Length 95th (ft)			m6	#800	#1240	268		#486	#430			
Queue Length 75th (it)			168	426					377			
Internal Link Dist (ft)					250	250						
						200		558	1107			
Internal Link Dist (ft)			1310	395	354	382						
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn			453	0	0	0		0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn			453 0	0 220	0	0		0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn			453 0 0	0 220 0	0 0 0	0 0 0		0 0 0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn			453 0	0 220	0	0		0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio			453 0 0	0 220 0	0 0 0	0 0 0		0 0 0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary	CPD		453 0 0	0 220 0	0 0 0	0 0 0		0 0 0	0			
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio	CBD		453 0 0	0 220 0	0 0 0	0 0 0		0 0 0	0			

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 19 (17%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.22
Intersection Signal Delay: 176.0
Intersection Capacity Utilization 104.4%
Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Intersection LOS: F ICU Level of Service G

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

M Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp



	•	—	 	4	4	<i>\(\lambda \)</i>	1	
Lane Group	WBL	WBT	SBT	SBR	SWL2	SWL	SWR	Ø2
Lane Configurations	WDL	₩B1	↑ ↑	JDK	JWLZ K	SWL SWL	JWK	X)Z
Traffic Volume (vph)	382	225	1016	116	770	193	49	
Future Volume (vph)	382	225	1016	116	770	193	49	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	11	12	12	12	12	12	
Lane Util. Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor Frt			1.00 0.985			0.970		
Fit Protected		0.970	0.985		0.950	0.970		
Satd. Flow (prot)	0	3005	4494	0	1608	1546	0	
Flt Permitted		0.970			0.950	0.962		
Satd. Flow (perm)	0	3005	4494	0	1608	1546	0	
Right Turn on Red				Yes				
Satd. Flow (RTOR)		05	18			05		
Link Speed (mph)		25	25 514			25 293		
Link Distance (ft) Travel Time (s)		248 6.8	514 14.0			293 8.0		
Confl. Bikes (#/hr)		0.0	14.0	41		0.0		
Peak Hour Factor	0.85	0.85	0.91	0.91	0.98	0.98	0.98	
Heavy Vehicles (%)	1%	2%	2%	1%	1%	4%	0%	
Adj. Flow (vph)	449	265	1116	127	786	197	50	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	714	1243	0	786	247	0	
Turn Type	Split	NA	NA		pm+pt	Prot		
Protected Phases	6	6	1		5	5		2
Permitted Phases Detector Phase	6	6	1		2 5	5		
Switch Phase	J	U			3	J		
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	38.0		31.0	31.0		20.0
Total Split (s)	21.0	21.0	38.0		31.0	31.0		20.0
Total Split (%)	19.1%	19.1%	34.5%		28.2%	28.2%		18%
Maximum Green (s)	14.0	14.0	33.5		26.0	26.0		16.0
Yellow Time (s) All-Red Time (s)	3.5 3.5	3.5 3.5	3.5 1.0		3.5 1.5	3.5 1.5		3.0 1.0
Lost Time Adjust (s)	3.3	-2.0	-1.0		-1.0	-1.0		1.0
Total Lost Time (s)		5.0	3.5		4.0	4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	J							
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		2.0
Recall Mode	Max	Max	C-Max		Max	Max		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	7.0 0	7.0	26.5		19.0	19.0		9.0
Pedestrian Calls (#/hr) Act Effct Green (s)	U	0 16.0	0 34.5		0 47.0	0 27.0		50
Actuated g/C Ratio		0.15	0.31		0.43	0.25		
v/c Ratio		1.99dl	0.87		1.14	0.65		
Control Delay		309.7	24.7		112.3	46.5		
Queue Delay		0.5	1.1		0.0	0.0		
Total Delay		310.1	25.8		112.4	46.5		
LOS		F	C		F	D		
Approach LOS		310.1 F	25.8 C			96.6 F		
Approach LOS Queue Length 50th (ft)		~368	123		~652	157		
Queue Length 95th (ft)		m#270	101		#886	247		
Internal Link Dist (ft)		168	434		#000	213		
Turn Bay Length (ft)		100	101			210		
Base Capacity (vph)		437	1421		687	379		
Starvation Cap Reductn		21	0		0	0		
Spillback Cap Reductn		0	54		4	0		
Storage Cap Reductn		0	0		0	0		
Reduced v/c Ratio		1.72	0.91		1.15	0.65		
Intersection Summary								
Area Type:	CBD							
Cycle Length: 110								
Actuated Cycle Length: 110								
Offset: 16 (15%), Referenced to	to phase 1:5	BT, Start	of Green					
Natural Cycle: 130 Control Type: Actuated-Coordi	linated							
Maximum v/c Ratio: 1.63	matcu							
Intersection Signal Delay: 118.	3.1			In	ntersection	LOS: F		
Intersection Capacity Utilizatio					CU Level of		ì	
Analysis Period (min) 15								
 Volume exceeds capacity, 	, queue is the	eoretically	infinite.					

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.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 13: Surface/Purchase/SASB & Oliver Street & I-93 SB OffRamp

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Lanes, Volumes, Tir													
	۶	-	•	•	←	•	1	†		-	¥	4	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations				ሻ	^						ተተኩ		
Fraffic Volume (vph)	0	0	0	145	168	0	0	0	0	0	1504	77	
uture Volume (vph)	0	1000	0	145	168	0	0	0	0	0	1504	77	
deal Flow (vphpl) ane Width (ft)	1900 12	1900 12	1900 12	1900 11	1900 11	1900 11	1900 12	1900 12	1900 12	1900 12	1900 12	1900 12	
ane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor	1.00	1.00	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	0.71	
Frt											0.993		
Flt Protected				0.950									
Satd. Flow (prot)	0	0	0	1540	3110	0	0	0	0	0	4537	0	
Flt Permitted				0.950									
Satd. Flow (perm)	0	0	0	1540	3110	0	0	0	0	0	4537	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)		25			٥٢			٥٢			12		
Link Speed (mph) Link Distance (ft)		25 151			25 246			25 252			25 420		
Travel Time (s)		4.1			6.7			6.9			11.5		
Confl. Bikes (#/hr)		4.1			0.7			0.7			11.0	37	
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	0.72	0.72	0.72	2%	1%	0.07	0.72	0.72	0.72	0.72	2%	3%	
Adj. Flow (vph)	0	0	0	167	193	0	0	0	0	0	1635	84	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	0	167	193	0	0	0	0	0	1719	0	
Turn Type				Split	NA						NA		
Protected Phases				5	5						1		2
Permitted Phases													
Detector Phase				5	5						1		
Switch Phase				0.0	0.0						0.0		0.0
Minimum Initial (s)				8.0 18.0	8.0 18.0						8.0 66.0		8.0 18.0
Minimum Split (s) Total Split (s)				26.0	26.0						66.0		18.0
Total Split (%)				23.6%	23.6%						60.0%		16%
Maximum Green (s)				21.0	21.0						62.0		14.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						1.0		0.0
Lost Time Adjust (s)				-1.0	-1.0						-1.0		
Total Lost Time (s)				4.0	4.0						3.0		
Lead/Lag											Lead		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Ped	Ped						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)				6.0	6.0						55.0 0		7.0
Act Effct Green (s)				17.5	17.5						67.5		U
Actuated g/C Ratio				0.16	0.16						0.61		
v/c Ratio				0.68	0.39						0.62		
Control Delay				67.1	53.0						5.6		
Queue Delay				2.7	0.0						1.2		
Total Delay				69.9	53.0						6.8		
LOS				E	D						Α		
Approach Delay					60.8						6.8		
Approach LOS				45.	E						A		
Queue Length 50th (ft)				126	75						110		
Queue Length 95th (ft) Internal Link Dist (ft)		71		190	111			170			m173 340		
Internal Link Dist (ft) Turn Bay Length (ft)		71			166			172			340		
				308	622						2787		
Base Capacity (vph) Starvation Cap Reductn				66	022						768		
Spillback Cap Reductin				00	0						378		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.69	0.31						0.85		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110	CDD												
Actuated Cycle Length: 110													
Offset: 15 (14%), Referenced	to phase 1.S	BT. Start	of Green										
Natural Cycle: 105		., 5.0.11	2.3011										
Control Type: Actuated-Coord	dinated												
Maximum v/c Ratio: 0.68													
Intersection Signal Delay: 16.					tersection								
Intersection Capacity Utilizati	ion 76.0%			IC	U Level of	Service D)						
Analysis Period (min) 15 m Volume for 95th percenti													

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street **▼**ø5 ∦I_{Ø2} ▼ Ø1 (R)

	۶	•	4	†	ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	EBL	EBK	INDL		381	SBK	X)Z
Traffic Volume (vph)	0	0	313	₹ ††	0	0	
Future Volume (vph)	0	0	313	1267 1267	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00	
Frt Factor	1.00	1.00	0.91	0.91	1.00	1.00	
FIt Protected				0.990			
Satd. Flow (prot)	0	0	0	4531	0	0	
Flt Permitted	U	U	U	0.990	U	U	
Satd. Flow (perm)	0	0	0	4531	0	0	
Right Turn on Red	U	Yes	No	4331	U	Yes	
Satd. Flow (RTOR)		162	INO			162	
Link Speed (mph)	25			25	25		
Link Speed (mpn) Link Distance (ft)	246			240	457		
Travel Time (s)	6.7	0.02	0.07	6.5	12.5	0.02	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%	
Adj. Flow (vph)	0	0	323	1306	0	0	
Shared Lane Traffic (%)	_	-	_	4105	•		
Lane Group Flow (vph)	0	0	0	1629	0	0	
Turn Type			Split	NA			
Protected Phases			1	1			2
Permitted Phases							
Detector Phase			1	1			
Switch Phase			6	07.7			
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s)			32.0	32.0			18.0
Total Split (s)			92.0	92.0			18.0
Total Split (%)			83.6%	83.6%			16%
Maximum Green (s)			87.0	87.0			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)				5.0			
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			Ped
Walk Time (s)							7.0
Flash Dont Walk (s)							7.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				87.0			
Actuated g/C Ratio				0.79			
v/c Ratio				0.45			
Control Delay				0.4			
Queue Delay				0.3			
Total Delay				0.7			
LOS				Α			
Approach Delay				0.7			
Approach LOS				Α			
Queue Length 50th (ft)				0			
Queue Length 95th (ft)				m0			
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)							
Base Capacity (vph)				3583			
Starvation Cap Reductn				1160			
Spillback Cap Reductn				130			
Storage Cap Reductn				0			
Reduced v/c Ratio				0.67			
				5.07			
Intersection Summary							
	BD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 11 (10%), Referenced to	phase 1:N	IBTL, Sta	rt of Green	n			
Natural Cycle: 50							
Control Type: Actuated-Coordin	ated						
Maximum v/c Ratio: 0.45							
Intersection Signal Delay: 0.7				Int	ersection	OS: A	
Intersection Capacity Utilization	76.0%				U Level of		
Analysis Period (min) 15							

Analysis Period (min) 15 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street





	→		•	\	Ļ	 	
Lane Group	EBT	EBR	EBR2	SBL2	SBL	SBT	Ø2
Lane Configurations	^	T T	7	JDLZ 1	3 <u>5</u> 2	<u> </u>	
Traffic Volume (vph)	602	352	307	366	662	621	
Future Volume (vph)	602	352	307	366	662	621	
Ideal Flow (vphpl) Lane Width (ft)	1900 11	1900 12	1900	1900 14	1900 12	1900 11	
Lane Width (11) Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.70	1.00	1.00	1.00	1.00	1.00	
Frt		0.850	0.850				
Flt Protected				0.950	0.950		
Satd. Flow (prot)	3110	1439	1405	1699	1593	1637	
Flt Permitted Satd. Flow (perm)	3110	1439	1405	0.950 1699	0.950 1593	1637	
Right Turn on Red	3110	1437	No	No	1373	1037	
Satd. Flow (RTOR)							
Link Speed (mph)	25					25	
Link Distance (ft)	173					252	
Travel Time (s)	4.7	10	10			6.9	
Confl. Bikes (#/hr) Peak Hour Factor	0.96	19 0.96	19 0.96	0.91	0.91	0.91	
Heavy Vehicles (%)	1%	1%	0.96	2%	2%	1%	
Adj. Flow (vph)	627	367	320	402	727	682	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	627	367	320	402	727	682	
Turn Type	NA	Prot	Prot	Split	Split	NA	_
Protected Phases Permitted Phases	1	1	1	5	5	5	2
Detector Phase	1	1	1	5	5	5	
Switch Phase						Ü	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (%) Maximum Green (s)	43.6% 43.0	43.6% 43.0	43.6% 43.0	38.2% 37.0	38.2% 37.0	38.2% 37.0	18% 16.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	3.0	5.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead	Lead	Lead				Lag
Lead-Lag Optimize? Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	Ped
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	36.0	36.0	36.0	30.0	30.0	30.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	45.0	43.0	45.0	39.0	39.0	39.0	
Actuated g/C Ratio v/c Ratio	0.41	0.39 0.65	0.41 0.56	0.35 0.67	0.35 1.29	0.35 1.18	
Control Delay	25.7	34.1	29.5	20.6	164.5	117.3	
Queue Delay	0.8	0.0	0.0	8.9	0.0	0.0	
Total Delay	26.5	34.1	29.5	29.5	164.5	117.3	
LOS	C	С	С	С	F	F	
Approach LOS	29.4 C					116.8 F	
Approach LOS Queue Length 50th (ft)	169	209	170	256	~680	~598	
Queue Length 95th (ft)	223	317	262	360	#916	#832	
Internal Link Dist (ft)	93					172	
Turn Bay Length (ft)							
Base Capacity (vph)	1272	562	574	602	564	580	
Starvation Cap Reductn Spillback Cap Reductn	0 349	0	0	164 0	0	1	
Storage Cap Reductn	349	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.65	0.56	0.92	1.29	1.18	
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 82 (75%), Referenced to	o phase 1:E	BT, Start	of Green				
Natural Cycle: 120							
Control Type: Actuated-Coordi	nated						
Maximum v/c Ratio: 1.29 Intersection Signal Delay: 80.0				1	torcestle -	LOC. F	
Intersection Signal Delay: 80.0 Intersection Capacity Utilization					tersection	LOS: F f Service C	
Analysis Period (min) 15	1 /2.370			IC	o revei 0	I SEIVILE C	
 Volume exceeds capacity, 			infinite.				
Queue shown is maximum a							

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Surface/Purchase/SASB & Ramp to I-93W-I-90S & Congress Street



	•	-	•	•	←	•	4	†	~	\	ļ	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	ሻሻ	^	LDIX	WDL	*****	717	INDL	110	NDIX	JUL	351	JUIN	DL
Traffic Volume (vph)	454	515	0	0	0	371	0	754	73	0	0	0	
Future Volume (vph)	454	515	0	0	0	371	0	754	73	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	12	12	12	11	12	12	12	12	12	12	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.53							0.96					
Frt						0.850		0.987					
Flt Protected	0.950												
Satd. Flow (prot)	2987	3079	0	0	0	2448	0	4283	0	0	0	0	
Flt Permitted	0.950												
Satd. Flow (perm)	1582	3079	0	0	0	2448	0	4283	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		233			288			612			240		
Travel Time (s)	F02	6.4			7.9	F02		16.7	1007		6.5		
Confl. Peds. (#/hr)	593					593			1007				
Confl. Bikes (#/hr)	0.99	0.00	0.99	0.98	0.98	12	0.95	0.05	76 0.95	0.92	0.92	0.92	
Peak Hour Factor	0.99 2%	0.99 2%	0.99	0.98		0.98 1%	0.95	0.95 3%			0.92	0.92	
Heavy Vehicles (%) Adj. Flow (vph)	2% 459	2% 520	0%	0%	0% 0	379	0%	3% 794	6% 77	0% 0	0%	0%	
Shared Lane Traffic (%)	459	320	U	U	U	3/9	U	194	11	U	U	U	
Lane Group Flow (vph)	459	520	0	0	0	379	0	871	0	0	0	0	
Turn Type	Prot	NA	U	U	U	Prot	U	NA	U	U	U	U	
Protected Phases	3	123				1		4					2
Permitted Phases		123						4					2
Detector Phase	3	123				1		4					
Switch Phase		. 2 3						-					
Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Split (s)	13.0					30.0		39.0					20.0
Total Split (s)	21.0					30.0		39.0					20.0
Total Split (%)	19.1%					27.3%		35.5%					18%
Maximum Green (s)	16.0					25.0		34.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag	Lead					Lead		Lag					Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)						7.0		7.0					7.0
Flash Dont Walk (s)						18.0		27.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	17.0	67.0				26.0		36.0					
Actuated g/C Ratio	0.15	0.61				0.24		0.33					
v/c Ratio	1.00	0.28				0.66		0.62					
Control Delay	76.4	4.0				44.2		28.2					
Queue Delay	25.8	0.4				0.0		0.0					
Total Delay	102.2	4.4				44.2		28.2					
LOS	F	A				D		С					
Approach Delay		50.3			44.2			28.2					
Approach LOS		D			D			С					
Queue Length 50th (ft)	174	51				138		211					
Queue Length 95th (ft)	#281	48				196		258			4		
Internal Link Dist (ft)		153			208			532			160		
Turn Bay Length (ft)													
Base Capacity (vph)	461	1875				578		1401					
Starvation Cap Reductn	35	828				0		0					
Spillback Cap Reductn	0	0				0		0					
Storage Cap Reductn	1.00	0				0		0					
Reduced v/c Ratio	1.08	0.50				0.66		0.62					
Intersection Summary													
Area Type:	CBD												

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 63 (57%), Referenced to phase 1:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 40.6
Intersection Capacity Utilization 77.6%
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles. Intersection LOS: D
ICU Level of Service D

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street ∱_{Ø4}

Laries, volumes, m	•		$\overline{}$		_	•	_	•		Λ.	1	4	
		→	•	•	-	-	1	†	~	*	+		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		414			ተተጉ		7	41∱	7				
Traffic Volume (vph)	35	301	0	0	294	276	94	516	259	0	0	0	
Future Volume (vph)	35	301	0	0	294	276	94	516	259	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.98								
Frt					0.927				0.850				
Flt Protected		0.995					0.950	0.999					
Satd. Flow (prot)	0	3194	0	0	3931	0	1464	2864	1454	0	0	0	
Flt Permitted		0.817					0.950	0.999					
Satd. Flow (perm)	0	2623	0	0	3931	0	1464	2864	1454	0	0	0	
Right Turn on Red			No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3			16.5			16.7		
Confl. Bikes (#/hr)						30			78				
Peak Hour Factor	0.96	0.96	0.96	0.99	0.99	0.99	0.96	0.96	0.96	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	1%	0%	0%	0%	1%	1%	5%	0%	0%	0%	0%	
Adj. Flow (vph)	36	314	0	0	297	279	98	538	270	0	0	0	
Shared Lane Traffic (%)	30						10%						
Lane Group Flow (vph)	0	350	0	0	576	0	88	548	270	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Prot				
Protected Phases	4	1.4			1		3	3	3				2
Permitted Phases	1						J	J	J				
Detector Phase	4	1 4			1		3	3	3				
Switch Phase	-	1.7					3	3	,				
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				26.0		46.0	46.0	46.0				27.0
Total Split (s)	11.0				26.0		46.0	46.0	46.0				27.0
Total Split (%)	10.0%				23.6%		41.8%	41.8%	41.8%				25%
Maximum Green (s)	5.0				20.0		41.8%	41.8%	41.8%				23.0
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				4.0
							2.0						
All-Red Time (s)	3.0				3.0			2.0	2.0				0.0
Lost Time Adjust (s)					-2.0 4.0		-1.0 4.0	-1.0 4.0	-1.0 4.0				
Total Lost Time (s) Lead/Lag	Lag				Lead		Lead	Lead	Lead				Log
	Lag				Lead		Lead	read	Lead				Lag
Lead-Lag Optimize?	2.2				2.0		2.0	2.0	2.0				2.0
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode	Max				C-Max		Max	Max	Max				Ped
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				13.0		34.0	34.0	34.0				15.0
Pedestrian Calls (#/hr)	0	00.5			0		0	0	0				0
Act Effct Green (s)		29.0			22.0		42.0	42.0	42.0				
Actuated g/C Ratio		0.26			0.20		0.38	0.38	0.38				
v/c Ratio		0.48			1.04dr		0.16	0.50	0.49				
Control Delay		34.0			47.6		23.4	28.0	29.5				
Queue Delay		0.0			0.0		0.0	0.0	0.0				
Total Delay		34.0			47.6		23.4	28.0	29.5				
LOS		С			D		С	С	С				
Approach Delay		34.0			47.6			28.0					
Approach LOS		С			D			С					
Queue Length 50th (ft)		102			141		43	160	143				
Queue Length 95th (ft)		144			184		83	215	224				
Internal Link Dist (ft)		58			333			526			532		
Turn Bay Length (ft)													
Base Capacity (vph)		727			786		558	1093	555				
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		0.48			0.73		0.16	0.50	0.49				

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

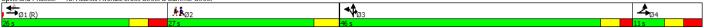
Offset: 59 (54%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

Natural Cycle: 110
Control Type: Actualed-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 35.3
Intersection Capacity Utilization 49.4%
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Intersection LOS: D ICU Level of Service A

Splits and Phases: 18: Atlantic Avenue/Cross Street & Summer Street



	•	•	•	1		4	
Lana Craun		-					αr
Lane Group Lane Configurations	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Traffic Volume (vph)	0	0	0	0	↑↑↑ 1303	0	
Future Volume (vph)	0	0	0	0	1303	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	
Frt							
Flt Protected							
Satd. Flow (prot)	0	0	0	0	5136	0	
Fit Permitted	. 0	0	0	0	E124	0	
Satd. Flow (perm) Right Turn on Red	0	0 Yes	0	0	5136	0 Yes	
Satd. Flow (RTOR)		162				162	
Link Speed (mph)	25			25	25		
Link Distance (ft)	107			240	199		
Travel Time (s)	2.9			6.5	5.4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	
Adj. Flow (vph)	0	0	0	0	1343	0	
Shared Lane Traffic (%)			0	0	1242	0	
Lane Group Flow (vph) Turn Type	0	0	0	0	1343 NA	0	
Protected Phases					NA 1		5
Permitted Phases							J
Detector Phase					1		
Switch Phase							
Minimum Initial (s)					8.0		8.0
Minimum Split (s)					71.0		39.0
Total Split (s)					71.0		39.0
Total Split (%)					64.5%		35%
Maximum Green (s) Yellow Time (s)					66.0 3.0		33.0
All-Red Time (s)					2.0		3.0
Lost Time Adjust (s)					-1.0		3.0
Total Lost Time (s)					4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)					2.0		2.0
Recall Mode					C-Max		Max
Walk Time (s)					7.0		7.0
Flash Dont Walk (s)					59.0 0		26.0 0
Pedestrian Calls (#/hr) Act Effct Green (s)					67.0		U
Actuated g/C Ratio					0.61		
v/c Ratio					0.43		
Control Delay					6.4		
Queue Delay					0.2		
Total Delay					6.6		
LOS					Α		
Approach Delay					6.6		
Approach LOS					A		
Queue Length 50th (ft) Queue Length 95th (ft)					73 83		
Internal Link Dist (ft)	27			160	119		
Turn Bay Length (ft)	21			100	117		
Base Capacity (vph)					3128		
Starvation Cap Reductn					852		
Spillback Cap Reductn					0		
Storage Cap Reductn					0		
Reduced v/c Ratio					0.59		
Intersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 107 (97%), Referen	iced to phase 1:	SBT, Star	t of Green				
Natural Cycle: 110							
Control Type: Actuated-Co	ordinated						
Maximum v/c Ratio: 0.47	, ,			,		100.1	
Intersection Signal Delay: 6 Intersection Capacity Utiliza					tersection	LOS: A Service A	
Analysis Period (min) 15	auUII 20.5%			IC	o Level 01	Service A	
raidiyələ i Gribu (IIIII) 19							

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street





Lanes, volumes, Tirr				_			
	€	•	†	~	-	ţ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations	_	_	^	_	•	^	
Traffic Volume (vph)	0	0	1150	0	0	0	
Future Volume (vph) Ideal Flow (vphpl)	1900	0 1900	1150 1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.70	1.00	1.00	1.00	
Flt Protected							
Satd. Flow (prot)	0	0	3574	0	0	0	
Flt Permitted							
Satd. Flow (perm)	0	0	3574	0	0	0	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	25		25			25	
Link Speed (mph) Link Distance (ft)	111		25 264			262	
Travel Time (s)	3.0		7.2			7.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	
Adj. Flow (vph)	0	0	1186	0	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	1186	0	0	0	
Turn Type			NA				
Protected Phases			1				5
Permitted Phases			1				
Detector Phase			1				
Switch Phase Minimum Initial (s)			8.0				8.0
Minimum Split (s)			75.0				35.0
Total Split (s)			75.0				35.0
Total Split (%)			68.2%				32%
Maximum Green (s)			70.0				30.0
Yellow Time (s)			3.0				3.0
All-Red Time (s)			2.0				2.0
Lost Time Adjust (s)			-1.0				
Total Lost Time (s)			4.0				
Lead/Lag Lead-Lag Optimize?							
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			63.0				23.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)			71.0				
Actuated g/C Ratio			0.65				
v/c Ratio			0.51				
Control Delay			2.9				
Queue Delay			0.3				
Total Delay LOS			3.1 A				
Approach Delay			3.1				
Approach LOS			Α.1				
Queue Length 50th (ft)			37				
Queue Length 95th (ft)			43				
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)							
Base Capacity (vph)			2306				
Starvation Cap Reductn			441				
Spillback Cap Reductn			172				
Storage Cap Reductn			0				
Reduced v/c Ratio			0.64				
Intersection Summary							
	Other						
Cycle Length: 110							
Actuated Cycle Length: 110	to nho 1 *	IDTI Ct	t of C				
Offset: 44 (40%), Referenced t Natural Cycle: 110	to pnase 1:N	ig I L, Star	t of Green				
Control Type: Actuated-Coordi	inatod						
Maximum v/c Ratio: 0.64	mateu						
Intersection Signal Delay: 3.1				Int	ersection	OS: A	
Intersection Capacity Utilization	n 35.1%				U Level of		
Analysis Period (min) 15							





	•	•	†	~	>	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WDL.	TTDIX	INDI	HUIN	JUL	414
Traffic Volume (vph)	249	0	0	0	228	1054
Future Volume (vph)	249	0	0	0	228	1054
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11 0.97	11 1.00	12	12 1.00	12 0.91	12 0.91
Lane Util. Factor Ped Bike Factor	0.97	1.00	1.00	1.00	0.91	0.91
Frt	0.70					3.77
Flt Protected	0.950					0.991
Satd. Flow (prot)	2958	0	0	0	0	4572
Flt Permitted	0.950	0	0		0	0.991
Satd. Flow (perm) Right Turn on Red	2899	Yes	0	0 Yes	0	4537
Satd. Flow (RTOR)		163		163		
Link Speed (mph)	25		25			25
Link Distance (ft)	195		199			185
Travel Time (s)	5.3		5.4		.00	5.0
Confl. Peds. (#/hr) Peak Hour Factor	20 0.95	0.95	0.92	0.92	88 0.98	0.98
Heavy Vehicles (%)	0.95	0.95	0.92	0.92	0.98	0.98
Adj. Flow (vph)	262	0.0	0.0	0 / 0	233	1076
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	0	0	0	0	1309
Turn Type	Prot				Split	NA
Protected Phases Permitted Phases	5				1	1
Detector Phases	5				1	1
Switch Phase	J					
Minimum Initial (s)	8.0				8.0	8.0
Minimum Split (s)	39.0				71.0	71.0
Total Split (s)	39.0				71.0	71.0 64.5%
Total Split (%) Maximum Green (s)	35.5% 33.0				64.5% 66.0	64.5%
Yellow Time (s)	3.0				3.0	3.0
All-Red Time (s)	3.0				2.0	2.0
Lost Time Adjust (s)	-1.0					-1.0
Total Lost Time (s)	5.0					4.0
Lead/Lag Lead-Lag Optimize?						
Vehicle Extension (s)	2.0				2.0	2.0
Recall Mode	Max				C-Max	C-Max
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	26.0				59.0	59.0
Pedestrian Calls (#/hr)	0				0	67.0
Act Effct Green (s) Actuated g/C Ratio	34.0 0.31					67.0 0.61
v/c Ratio	0.29					0.61
Control Delay	8.9					12.6
Queue Delay	8.8					0.7
Total Delay	17.7					13.2
LOS Approach Dolay	B 17.7					B 13.2
Approach Delay Approach LOS	17.7 B					13.2 B
Queue Length 50th (ft)	54					150
Queue Length 95th (ft)	m59					169
Internal Link Dist (ft)	115		119			105
Turn Bay Length (ft)						0===
Base Capacity (vph)	914					2784
Starvation Cap Reductn	607 0					998 382
Snillhack Can Poductn	0					382
Spillback Cap Reductn Storage Cap Reductn	0.85					0.73
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio						
Storage Cap Reductn Reduced v/c Ratio	0.00					
Storage Cap Reductn Reduced v/c Ratio Intersection Summary						
Storage Cap Reductn Reduced v/c Ratio Intersection Summary	CBD					
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (Cycle Length: 110 Actuated Cycle Length: 110	CBD					
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced	CBD	:SBT, Start	t of Green			
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (C Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110	CBD d to phase 1	:SBT, Start	t of Green			
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordii Control Type: Actuated-Coordii	CBD d to phase 1	:SBT, Stari	t of Green			
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actualed Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.47	CBD d to phase 1 inated	:SBT, Stari	t of Green		tarsaction	IOS: R
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (C Cycle Length: 110 Actuated Cycle Length: 110 Coffset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.47 Intersection Signal Delay: 13.9	CBD If to phase 1 inated	:SBT, Stari	t of Green	In	tersection CU Level o	
Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actualed Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.47	CBD d to phase 1 inated on 43.2%			In IC	tersection CU Level o	

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St #19 #21





Lanes, volumes, m													
	•	-	•	<	—	•	1	†	~	-	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	ERL		EBK	WBL		WBK	INPL		NBR	SBL	SBI	SBK	WZ
Traffic Volume (vph)	33	4 ↑ 234	0	0	1₃ 228	48	21	41↑ 670	456	0	0	0	
Future Volume (vph)	33	234	0	0	228	48	21	670	456	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.93	0.93	1.00	1.00	1.00	1.00	0.93	0.93	1.00	1.00	1.00	1.00	
Frt					0.976				0.850				
Flt Protected		0.994			0.770			0.998	0.030				
Satd. Flow (prot)	0	3095	0	0	1592	0	0	3181	1454	0	0	0	
Flt Permitted	U	0.741	U	U	1092	U	U	0.998	1434	U	U	U	
Satd. Flow (perm)	0	2307	0	0	1592	0	0	3181	1454	0	0	0	
	U	2307	Yes	U	1092	Yes	U	3101	No	U	U	Yes	
Right Turn on Red			res		0	res			INO			res	
Satd. Flow (RTOR)		25			9 25			25			25		
Link Speed (mph)								262					
Link Distance (ft)		195			457						193		
Travel Time (s)		5.3			12.5	1/		7.1	77		5.3		
Confl. Bikes (#/hr)	0.01	0.01	0.01	0.00	0.00	16	0.07	0.07	77	0.00	0.00	0.00	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%	0%	
Adj. Flow (vph)	35	249	0	0	245	52	22	691	470	0	0	0	
Shared Lane Traffic (%)	_	204			207			710	470	0	0	0	
Lane Group Flow (vph)	0	284	0	0	297	0	0	713	470	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Prot				
Protected Phases		5			5			1	1				2
Permitted Phases	5						1						
Detector Phase	5	5			5		1	1	1				
Switch Phase													
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	28.0	28.0			28.0		60.0	60.0	60.0				22.0
Total Split (s)	28.0	28.0			28.0		60.0	60.0	60.0				22.0
Total Split (%)	25.5%	25.5%			25.5%		54.5%	54.5%	54.5%				20%
Maximum Green (s)	23.0	23.0			23.0		55.0	55.0	55.0				18.0
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0	-1.0				
Total Lost Time (s)		4.0			4.0			4.0	4.0				
Lead/Lag							Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0	2.0				2.0
Recall Mode	Max	Max			Max		C-Max	C-Max	C-Max				Ped
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0				7.0
Flash Dont Walk (s)	16.0	16.0			16.0		48.0	48.0	48.0				11.0
Pedestrian Calls (#/hr)	0	0			0		0	0	0				0
Act Effct Green (s)		24.0			24.0			56.0	56.0				
Actuated g/C Ratio		0.22			0.22			0.51	0.51				
v/c Ratio		0.56			0.84			0.44	0.64				
Control Delay		43.5			61.5			11.2	18.9				
Queue Delay		12.2			3.7			1.1	3.3				
Total Delay		55.7			65.2			12.3	22.2				
LOS		55.7 E			65.2 E			12.3	C				
Approach Delay		55.7			65.2			16.2					
Approach LOS		55.7 E			E			В					
Queue Length 50th (ft)		111			196			170	312				
Queue Length 95th (ft)		157			#344			208	448				
Internal Link Dist (ft)		115			377			182	-1-10		113		
Turn Bay Length (ft)		113			317			102			113		
Base Capacity (vph)		503			354			1619	740				
Starvation Cap Reductn		192			0			620	176				
Spillback Cap Reductn		0			21			020	0				
Storage Cap Reductin		0			0			0	0				
Reduced v/c Ratio		0.91			0.89			0.71	0.83				
INCUUCCU WC RAIIU		0.71			0.09			0.71	0.00				

Intersection Summary

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 79 (72%), Referenced to phase 1:NBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 30.8

Intersection Capacity Utilization 56.1%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles. Intersection LOS: C ICU Level of Service B

Splits and Phases: 22: Atlantic Avenue/Cross Street & Mercantile St/Atlantic Ave



Lanes, Volumes, Tim	•	_	•	•	+	•	•	†	~	<u> </u>	1	1	
Lano Group		EDT					-				▼		สว
Lane Group Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT ††;	SBR	Ø2
Fraffic Volume (vph)	0	0	0	515	ર્લ 137	0	0	0	0	0	795	96	
Future Volume (vph)	0	0	0	515	137	0	0	0	0	0	795	96	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12 1.00	12 1.00	12 1.00	14	16	12	12 1.00	12	12	12	12	12 0.91	
ane Util. Factor Ped Bike Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91 0.99	0.91	
Frt											0.984		
Flt Protected				0.950	0.974								
Satd. Flow (prot)	0	0	0	1630	1759	0	0	0	0	0	4506	0	
Flt Permitted		_	_	0.950	0.974			_	_				
Satd. Flow (perm) Right Turn on Red	0	0	0 Yes	1630 No	1759	0 Yes	0	0	0 Yes	0	4506	0 Yes	
Satd. Flow (RTOR)			163	NU		163			1.02		21	162	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s)		7.6			3.2			5.0			12.4		
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	56	
Peak Hour Factor Heavy Vehicles (%)	0.92 0%	0.92 0%	0.92 0%	0.95 1%	0.95 3%	0.95 0%	0.92 0%	0.92 0%	0.92 0%	0.99	0.99 1%	0.99 2%	
Adj. Flow (vph)	0%	0%	0%	542	144	0%	0%	0%	0%	0%	803	2% 97	
Shared Lane Traffic (%)				30%									
Lane Group Flow (vph)	0	0	0	379	307	0	0	0	0	0	900	0	
Turn Type				Split	NA						NA		
Protected Phases Permitted Phases				5	5						1		2
Detector Phases				5	5						1		
Switch Phase				J	J						'		
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				42.0	42.0						44.0		24.0
Total Split (s)				42.0	42.0						44.0		24.0
Total Split (%) Maximum Green (s)				38.2% 37.0	38.2% 37.0						40.0% 38.0		22% 20.0
Yellow Time (s)				37.0	37.0						3.0		4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag											Lead		Lag
Lead-Lag Optimize? Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				30.0	30.0						31.0		13.0
Pedestrian Calls (#/hr)				0	0						0		0
Act Effct Green (s) Actuated g/C Ratio				39.0 0.35	39.0 0.35						40.0 0.36		
v/c Ratio				0.66	0.35						0.55		
Control Delay				36.4	31.1						27.7		
Queue Delay				59.2	37.9						0.0		
Total Delay				95.6	69.0						27.7		
LOS Approach Dolov				F	E 83.7						C 27.7		
Approach Delay Approach LOS					83.7 F						21.1 C		
Queue Length 50th (ft)				234	176						171		
Queue Length 95th (ft)				348	266						209		
Internal Link Dist (ft)		197			38			105			375		
Turn Bay Length (ft)				F 7.7	/00						1/51		
Base Capacity (vph)				577	623 0						1651 0		
Starvation Cap Reductn Spillback Cap Reductn				0 303	327						20		
Storage Cap Reductin				0	0						0		
Reduced v/c Ratio				1.38	1.04						0.55		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 1 (1%), Referenced to	phase 1:SBT	, Start of 0	Green										
Natural Cycle: 110	inatad												
Control Type: Actuated-Coord Maximum v/c Ratio: 0.66	ıııdleu												
Intersection Signal Delay: 51.9)			In	tersection	LOS: D							
Intersection Capacity Utilizatio						Service A							
Analysis Period (min) 15													

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp



	•	•	†	~	/	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		7	↑↑ 754			
Traffic Volume (vph)	0	23		0	0	0
Future Volume (vph) Ideal Flow (vphpl)	0 1900	23 1900	754 1900	0 1900	0 1900	0 1900
Lane Width (ft)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frt Flt Protected		0.865				
Satd. Flow (prot)	0	1509	3185	0	0	0
Flt Permitted						
Satd. Flow (perm) Right Turn on Red	0	1509 Yes	3185	0 Yes	0	0
Satd. Flow (RTOR)		263		162		
Link Speed (mph)	25		25			25
Link Distance (ft)	559 15.2		193			493
Travel Time (s) Peak Hour Factor	15.2 0.92	0.92	5.3 0.95	0.95	0.92	13.4 0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Parking (#/hr) Adj. Flow (vph)	0	0 25	794	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	25	794	0	0	0
Turn Type Protected Phases		Prot 5	NA 1			
Permitted Phases						
Detector Phase		5	1			
Switch Phase Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		25.0	85.0			
Total Split (s)		25.0	85.0			
Total Split (%) Maximum Green (s)		22.7% 21.0	77.3% 80.0			
Yellow Time (s)		3.0	3.0			
All-Red Time (s)		1.0	2.0			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s) Lead/Lag		4.0	5.0			
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode Walk Time (s)		Max 7.0	C-Max 7.0			
Flash Dont Walk (s)		14.0	73.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s) Actuated g/C Ratio		21.0 0.19	80.0 0.73			
v/c Ratio		0.19	0.73			
Control Delay		0.2	0.6			
Queue Delay		0.0	0.2			
Total Delay LOS		0.2 A	0.8 A			
Approach Delay	0.2	,,	0.8			
Approach LOS	Α	0	A			
Queue Length 50th (ft) Queue Length 95th (ft)		0	1 m2			
Internal Link Dist (ft)	479	U	113			413
Turn Bay Length (ft)						
Base Capacity (vph) Starvation Cap Reductn		500 0	2316 620			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.05	0.47			
Intersection Summary						
Area Type: Cycle Length: 110	CBD					
Actuated Cycle Length: 110						
Offset: 62 (56%), Referenced	to phase 1:N	IBT, Start	of Green			
Natural Cycle: 110	allia ada al					
Control Type: Actuated-Coord Maximum v/c Ratio: 0.34	dinated					
Intersection Signal Delay: 0.7				Int	ersection	LOS: A
Intersection Capacity Utilization	on 37.3%			IC	U Level of	Service A
Analysis Period (min) 15 m Volume for 95th percentil	lo augua is m	otorod by	unctroam	cianal		
III Volume for 33th percentil	ie queue is iii	letered by	upsireaiii	signai.		
Splits and Phases: 24: Atla	intic Avenue/	Cross Stre	eet & Comr	mercial Str	eet	
↑ø1 (R)						
85 s						

une Group affic Volume (vph) affic Volume (vph) al Flow (vph) al Flow (vph) al Flow (vph) al Flow (vph) al Bike Factor t Protected atd. Flow (prot) atd. Flow (perm)	© 0 1900 1.00	EBT 0 0	EBR	√ WBL	← WBT	WBR	↑ NBL	†	NDD.	>	ţ	✓
ne Configurations affic Volume (vph) ture Volume (vph) eal Flow (vphpl) ne Util. Factor dd Bike Factor l Protected td. Flow (prot) Permitted	0 0 1900	0	7	WBL	WBT	WED	NIDI	NIDT	NDD			
e Configurations file Volume (vph) rue Volume (vph) al Flow (vphpi) e Utili. Factor I Bike Factor Protected d. Flow (prot) Permitted	0 0 1900	0	7				MBI	NBT	NBR	SBL	SBT	SBR
ffic Volume (vph) ure Volume (vph) al Flow (vphpl) e Util. Factor d Bike Factor Protected d. Flow (prot) Permitted	0 1900				44	WDIX	IVDL	IIDI	NDIX	JDL	1	JDIN
ture Volume (vph) sal Flow (vphpl) ne Util. Factor d Bike Factor Protected tt. Flow (prot) Permitted	0 1900		142	184	151	0	0	0	0	0	559	88
eal Flow (vphpl) ine Util. Factor dd Bike Factor t I Protected ttd. Flow (prot)	1900	U	142	184	151	0	0	0	0	0	559	88
ine Util. Factor d Bike Factor t Protected atd. Flow (prot) Permitted		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ed Bike Factor t I Protected atd. Flow (prot) I Permitted	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
t t Protected atd. Flow (prot) t Permitted		1.00	1.00	0.93	0.95	1.00	1.00	1.00	1.00	1.00	0.93	0.93
t Protected atd. Flow (prot) t Permitted			0.865								0.97	
atd. Flow (prot) Permitted			0.000		0.973						0.900	
Permitted	_	0	14/5	0		0	0	0	0	0	20.42	0
	0	0	1465	0	3116	0	0	0	0	0	3042	0
ntd. Flow (perm)					0.973							
11.00	0	0	1465	0	3116	0	0	0	0	0	3042	0
ght Turn on Red			No	No		Yes			Yes			Yes
td. Flow (RTOR)											21	
nk Speed (mph)		25			25			25			25	
nk Distance (ft)		127			177			455			423	
avel Time (s)		3.5			4.8			12.4			11.5	
onfl. Peds. (#/hr)												251
nfl. Bikes (#/hr)												53
ak Hour Factor	0.94	0.94	0.94	0.99	0.99	0.99	0.92	0.92	0.92	0.95	0.95	0.95
avy Vehicles (%)	0%	0%	1%	1%	2%	0%	0%	0%	0%	0%	2%	1%
rking (#/hr)	070	070	170	170	270	070	070	070	070	070	270	0
	0	0	151	104	152	0	0	0	0	0	588	93
j. Flow (vph)	U	U	151	186	153	U	U	U	U	U	200	73
ared Lane Traffic (%)			151		220	^		0			/01	
ne Group Flow (vph)	0	0	151	0	339	0	0	0	0	0	681	0
ırn Type			Perm	Perm	NA						NA	
otected Phases					1						3	
ermitted Phases			1	1								
etector Phase			1	1	1						3	
vitch Phase												
inimum Initial (s)			10.0	10.0	10.0						10.0	
nimum Split (s)			56.0	56.0	56.0						54.0	
otal Split (s)			56.0	56.0	56.0						54.0	
tal Split (%)			50.9%	50.9%	50.9%						49.1%	
aximum Green (s)			47.0	47.0	47.0						49.0	
ellow Time (s)			3.0	3.0	3.0						3.0	
I-Red Time (s)			6.0	6.0	6.0						2.0	
ost Time Adjust (s)			-5.0	0.0	-5.0						-1.0	
			4.0		4.0						4.0	
otal Lost Time (s)			4.0		4.0						4.0	
ead/Lag												
ead-Lag Optimize?			0.0	0.0	0.0						0.0	
ehicle Extension (s)			2.0	2.0	2.0						2.0	
ecall Mode			C-Max	C-Max	C-Max						Max	
alk Time (s)			7.0	7.0	7.0						7.0	
ash Dont Walk (s)			40.0	40.0	40.0						42.0	
edestrian Calls (#/hr)			0	0	0						0	
t Effct Green (s)			52.0		52.0						50.0	
tuated g/C Ratio			0.47		0.47						0.45	
Ratio			0.22		0.23						0.49	
ontrol Delay			18.1		17.7						21.8	
eue Delay			0.0		0.0						0.0	
tal Delay			18.1		17.7						21.8	
)S			В		В						C	
proach Delay		18.1			17.7						21.8	
proach LOS		В.			В						C C	
ieue Length 50th (ft)		В	61		72						167	
ueue Length 95th (ft)			104		102						220	
		47	104					375				
ternal Link Dist (ft)		47			97			3/5			343	
rn Bay Length (ft)												
se Capacity (vph)			692		1473						1394	
arvation Cap Reductn			0		0						0	
illback Cap Reductn			0		0						0	
orage Cap Reductn			0		0						0	
duced v/c Ratio			0.22		0.23						0.49	
ersection Summary												
	BD											
cle Length: 110												
tuated Cycle Length: 110												
fset: 0 (0%), Referenced to ph	nase 1:WBT	ΓL, Start c	of Green									
itural Cycle: 110												
ontrol Type: Actuated-Coordina	ated											
aximum v/c Ratio: 0.49												
ersection Signal Delay: 20.1				le*	ersection I	10S-C						
	71.00/											
tersection Capacity Utilization	11.9%			iCi	o revelot	Service C						
nalysis Period (min) 15												



	•	-	•	•	←	•	4	†	~	\	↓	1	
ine Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ne Configurations	*	4	LDIX			*****	HUL	† \$	HEIN	ODL	05.	OBIT	<i>5</i> 2
affic Volume (vph)	252	44	0	0	0	0	0	762	16	0	0	0	
iture Volume (vph)	252	44	0	0	0	0	0	762	16	0	0	0	
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ine Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
ed Bike Factor								1.00					
Protected	0.950	0.966						0.997					
itd. Flow (prot)	1484	1526	0	0	0	0	0	3171	0	0	0	0	
Permitted	0.950	0.966	U	U	U	U	U	31/1	U	U	U	U	
td. Flow (perm)	1484	1526	0	0	0	0	0	3171	0	0	0	0	
ght Turn on Red	No	1520	Yes	- U	Ū	Yes	Ū	3171	Yes		Ü	Yes	
td. Flow (RTOR)								2					
nk Speed (mph)		25			25			25			25		
nk Distance (ft)		169			386			493			376		
avel Time (s)		4.6			10.5			13.4			10.3		
onfl. Bikes (#/hr)									82				
ak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92	
eavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	
lj. Flow (vph)	260	45	0	0	0	0	0	778	16	0	0	0	
nared Lane Traffic (%)	42%												
ne Group Flow (vph)	151	154	0	0	0	0	0	794	0	0	0	0	
ırn Type	Split	NA						NA					
otected Phases	1	1						5					2
ermitted Phases								_					
etector Phase	1	1						5					
vitch Phase	0.0	0.0						0.0					0.0
inimum Initial (s)	8.0	8.0						8.0					8.0
nimum Split (s)	15.0 43.0	15.0 43.0						14.0 49.0					18.0 18.0
ital Split (s) ital Split (%)	39.1%	39.1%						44.5%					16%
aximum Green (s)	39.1%	39.1%						44.5%					14.0
ellow Time (s)	3.0	3.0						3.0					4.0
I-Red Time (s)	2.0	2.0						2.0					0.0
ost Time Adjust (s)	-1.0	-1.0						-1.0					0.0
otal Lost Time (s)	4.0	4.0						4.0					
ad/Lag	Lead	Lead						1.0					Lag
ead-Lag Optimize?													
ehicle Extension (s)	2.0	2.0						2.0					2.0
ecall Mode	C-Max	C-Max						Max					Ped
'alk Time (s)													7.0
ash Dont Walk (s)													7.0
edestrian Calls (#/hr)													0
ct Effct Green (s)	39.0	39.0						45.0					
tuated g/C Ratio	0.35	0.35						0.41					
Ratio	0.29	0.28						0.61					
ontrol Delay	27.4	27.3						8.5					
ueue Delay	0.0	0.0						0.2					
tal Delay	27.4 C	27.3						8.7					
)S uproach Dolay	C	C						A 8.7					
proach Delay proach LOS		27.3 C						8. / A					
ueue Length 50th (ft)	80	81						60					
ueue Length 95th (ft)	135	137						68					
ernal Link Dist (ft)	133	89			306			413			296		
rn Bay Length (ft)		07			300			713			270		
ise Capacity (vph)	526	541						1298					
arvation Cap Reductn	0	0						81					
pillback Cap Reductn	0	0						5					
orage Cap Reductn	0	0						0					
duced v/c Ratio	0.29	0.28						0.65					
ersection Summary													
ea Type:	CBD												
cle Length: 110	CDD												
tuated Cycle Length: 110													
iset: 25 (23%), Reference	d to phase 1	FBTI Star	t of Green										
itural Cycle: 55	a to phase 1.	LOTE, JIAI	. Ji Olcell										
ontrol Type: Actuated-Coor	dinated												
iximum v/c Ratio: 0.61													
ersection Signal Delay: 13	1.8			Int	tersection	LOS: B							
ersection Capacity Utilizat						Service A	1						
alysis Period (min) 15													
, ,													
its and Phases: 26: Atla	antic Avenue	Cross Stre	eet & I-93 (Off-Ramp/I	North Stre	et							
→ Ø1 (R)							i ka				t _{øs}		

	•	-	•	•	•	•	4	†	~	>	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EDL N		LDIV	WDL	WDI D	WDIX	NDL		INDIX	JUL	JDT	JUK
Traffic Volume (vph)	32	↑ 87	0	0	153	69	107	41} 885	21	0	0	0
Future Volume (vph)	32	87	0	0	153	69	107	885	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.75				0.87			0.98				
Frt					0.958			0.997				
Flt Protected	0.950							0.995				
Satd. Flow (prot)	1624	1693	0	0	1409	0	0	3123	0	0	0	0
Flt Permitted	0.447							0.995				
Satd. Flow (perm)	570	1693	0	0	1409	0	0	3069	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20			4				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		157			265			376			181	
Travel Time (s)		4.3			7.2			10.3			4.9	
Confl. Peds. (#/hr)	748					748	212		289			
Confl. Bikes (#/hr)						6			80			
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	3%	0%	0%	0%	0%
Parking (#/hr)									0			
Adj. Flow (vph)	33	90	0	0	163	73	109	903	21	0	0	0
Shared Lane Traffic (%)			_									
Lane Group Flow (vph)	33	90	0	0	236	0	0	1033	0	0	0	0
Turn Type	Perm	NA			NA		Split	NA				
Protected Phases	7 (1111	5			5		3piit	1				
Permitted Phases	5							-				
Detector Phase	5	5			5		1	1				
Switch Phase		Ū			Ū			•				
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0				
Minimum Split (s)	34.0	34.0			34.0		76.0	76.0				
Total Split (s)	34.0	34.0			34.0		76.0	76.0				
Total Split (%)	30.9%	30.9%			30.9%		69.1%	69.1%				
Maximum Green (s)	29.0	29.0			29.0		71.0	71.0				
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0		2.0	-1.0				
Total Lost Time (s)	4.0	4.0			4.0			4.0				
Lead/Lag	4.0	4.0			4.0			4.0				
Lead/Lag Optimize?												
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Recall Mode	Z.U Max	Max			Max		C-Max	C-Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	22.0	22.0			22.0		64.0	64.0				
Pedestrian Calls (#/hr)	22.0 50	50			50		04.0	04.0				
		30.0			30.0		Ü	72.0				
Act Effct Green (s)	30.0 0.27	30.0 0.27			30.0 0.27							
Actuated g/C Ratio					0.27			0.65 0.51				
v/c Ratio	0.21	0.20										
Control Delay	35.3	32.1			38.8			2.3				
Queue Delay	0.0	0.0			0.0			0.5				
Total Delay	35.3	32.1			38.8			2.7				
LOS	D	С			D			A				
Approach Delay		33.0			38.8			2.7				
Approach LOS		С			D			Α				
Queue Length 50th (ft)	18	49			132			8				
Queue Length 95th (ft)	46	92			218			10				
Internal Link Dist (ft)		77			185			296			101	
Turn Bay Length (ft)												
Base Capacity (vph)	155	461			398			2045				
Starvation Cap Reductn	0	0			0			521				
Spillback Cap Reductn	0	0			0			204				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.21	0.20			0.59			0.68				
Intersection Summary												
intersection Summary												

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 98 (89%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 11.5
Intersection Capacity Utilization 95.4%
Analysis Period (min) 15 Intersection LOS: B
ICU Level of Service F

Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street



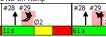


	•	•	†	~	/	↓	·		
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø5
Lane Configurations	******				JUL	551		NL.	20
Traffic Volume (vph)	0	0	↑↑ 947	40	0	0			
Future Volume (vph)	0	0	947	40	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor Ped Bike Factor	1.00	1.00	0.95	0.95	1.00	1.00			
Frt			0.994						
Flt Protected									
Satd. Flow (prot)	0	0	3452	0	0	0			
FIt Permitted		_	2450			_			
Satd. Flow (perm) Right Turn on Red	0	0 Voc	3452	0	0	0			
Satd. Flow (RTOR)		Yes	7	Yes					
Link Speed (mph)	25		25			25			
Link Distance (ft)	221		181			194			
Travel Time (s)	6.0		4.9			5.3			
Confl. Peds. (#/hr)				239					
Confl. Bikes (#/hr)		0.00	0.00	81	0.00				
Peak Hour Factor	0.92 0%	0.92 0%	0.99 3%	0.99	0.92 0%	0.92 0%			
Heavy Vehicles (%) Adj. Flow (vph)	0%	0%	3% 957	40	0%	0%			
Shared Lane Traffic (%)	U	U	/31	40	U	U			
Lane Group Flow (vph)	0	0	997	0	0	0			
Turn Type			NA						
Protected Phases			25				1	2	5
Permitted Phases									
Detector Phase			2 5						
Switch Phase Minimum Initial (s)							10.0	4.0	10.0
Minimum Split (s)							38.0	11.0	61.0
Total Split (s)							38.0	11.0	61.0
Total Split (%)							35%	10%	55%
Maximum Green (s)							31.0	5.0	55.0
Yellow Time (s)							3.0	3.0	3.0
All-Red Time (s) Lost Time Adjust (s)							4.0	3.0	3.0
Lost Time Adjust (s) Total Lost Time (s)									
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?								-9	
Vehicle Extension (s)							2.0	2.0	2.0
Recall Mode							C-Max	Max	Max
Walk Time (s)							7.0		7.0
Flash Dont Walk (s)							24.0 0		48.0 30
Pedestrian Calls (#/hr) Act Effct Green (s)			66.0				U		30
Actuated g/C Ratio			0.60						
v/c Ratio			0.48						
Control Delay			9.7						
Queue Delay			0.3						
Total Delay			10.0						
LOS Approach Delay			B 10.0						
Approach LOS			10.0 B						
Queue Length 50th (ft)			275						
Queue Length 95th (ft)			0						
Internal Link Dist (ft)	141		101			114			
Turn Bay Length (ft)									
Base Capacity (vph)			2074						
Starvation Cap Reductn			467						
Spillback Cap Reductn			189						
Storage Cap Reductn Reduced v/c Ratio			0.62						
			0.02						
Intersection Summary	Other								
Area Type: Cycle Length: 110	Other								
Actuated Cycle Length: 110									
Offset: 74 (67%), Referenced	to phase 1-F	BL. Start	of Green						
Natural Cycle: 110	to pridate 1.L	.oc, Jail	o. Orochi						
Control Type: Actuated-Coord	dinated								
Maximum v/c Ratio: 0.57									
Intersection Signal Delay: 10.					tersection				
Intersection Capacity Utilization	on 32.8%			IC	U Level of	Service A	1		
Analysis Period (min) 15									
Splits and Phases: 28: Atla	ntic Avenue/	Cross Stre	et & Salen	n Street					
	/ WCHUC/	J. 033 Jil C	or a Juici			#28 #2	9	#28	#29
#29						#28 #2	•	A	

	>	۶	•	ሻ	†	ļ	1	•	\		
ano Group	EDIO	EBL	EBR		-	SBT	CDD	SEL	SER	Ø1	Ø2
ane Group	EBL2		FRK	NBL	NBT	2R1	SBR	SEL	SEK	ЮI	V)Z
ane Configurations raffic Volume (vph)	443	254	0	391	41↑ 556	0	0	0	0		
uture Volume (vph)	443	254 254	0	391	556	0	0	0	0		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	1700	13	12	1700	11	12	12	12	12		
ane Util. Factor	0.95	0.97	1.00	0.95	0.95	1.00	1.00	1.00	1.00		
Ped Bike Factor	0.75	1.00	1.00	0.75	0.75	1.00	1.00	1.00	1.00		
rt actor											
It Protected		0.950			0.980						
Satd. Flow (prot)	0	3583	0	0	3307	0	0	0	0		
It Permitted		0.950			0.980						
Satd. Flow (perm)	0	3570	0	0	3307	0	0	0	0		
Right Turn on Red	No	23.0	Yes		220,				-		
Satd. Flow (RTOR)											
ink Speed (mph)		25			25	25		25			
Link Distance (ft)		112			194	254		234			
Fravel Time (s)		3.1			5.3	6.9		6.4			
Confl. Peds. (#/hr)		2			J.3	0.7		0.4			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	1%	0%	4%	3%	0%	0%	0%	0%		
Adj. Flow (vph)	452	259	0	399	567	0	0	0	0		
Shared Lane Traffic (%)					0						
ane Group Flow (vph)	0	711	0	0	966	0	0	0	0		
Turn Type	Prot	Prot		Split	NA						
Protected Phases	12	12		5	5					1	2
Permitted Phases											
Detector Phase	12	12		5	5						
Switch Phase											
Minimum Initial (s)				10.0	10.0					10.0	4.0
Minimum Split (s)				61.0	61.0					38.0	11.0
Total Split (s)				61.0	61.0					38.0	11.0
Fotal Split (%)				55.5%	55.5%					35%	10%
Maximum Green (s)				55.0	55.0					31.0	5.0
/ellow Time (s)				3.0	3.0					3.0	3.0
All-Red Time (s)				3.0	3.0					4.0	3.0
				3.0						4.0	3.0
ost Time Adjust (s)					-1.0						
Total Lost Time (s)					5.0					Land	1
_ead/Lag										Lead	Lag
_ead-Lag Optimize?											
/ehicle Extension (s)				2.0	2.0					2.0	2.0
Recall Mode				Max	Max					C-Max	Max
Walk Time (s)				7.0	7.0					7.0	
Flash Dont Walk (s)				48.0	48.0					24.0	
Pedestrian Calls (#/hr)				30	30					0	
Act Effct Green (s)		43.0			56.0						
Actuated g/C Ratio		0.39			0.51						
//c Ratio		0.51			0.57						
Control Delay		27.0			6.2						
Queue Delay		0.0			0.0						
Total Delay		27.0			6.3						
OS		27.0 C			0.3 A						
Approach Delay		27.0			6.3						
		27.0 C									
Approach LOS					Α						
Queue Length 50th (ft)		193			286						
Queue Length 95th (ft)		249			35						
nternal Link Dist (ft)		32			114	174		154			
Furn Bay Length (ft)											
Base Capacity (vph)		1400			1683						
Starvation Cap Reductn		0			47						
Spillback Cap Reductn		0			0						
Storage Cap Reductn		0			0						
Reduced v/c Ratio		0.51			0.59						
ntersection Summary											
Area Type:	Other										
Cycle Length: 110											
Actuated Cycle Length: 110											
	to phase 1:E	BL, Start	of Green								
Offset: 74 (67%), Referenced											
Offset: 74 (67%), Referenced Natural Cycle: 110	dinated										
Offset: 74 (67%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord	dinated										
Offset: 74 (67%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57				In	tersection	I OS: R					
Offset: 74 (67%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57 Intersection Signal Delay: 15.	.1				tersection						
Offset: 74 (67%), Referenced Natural Cycle: 110 Control Type: Actuated-Coord Maximum v/c Ratio: 0.57 Intersection Signal Delay: 15. Intersection Capacity Utilizati Analysis Period (min) 15	.1				tersection U Level of		3				

Splits and Phases: 29: Atlantic Avenue/Cross Street & New Sudbury Street & I-93 NB On-Ramp





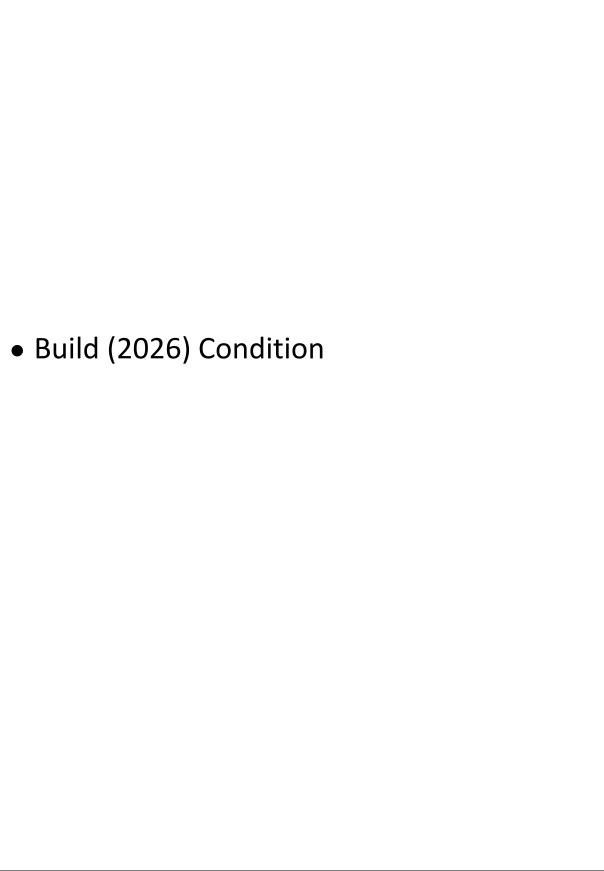
	-	•	€	←	•	-
	-				•	-
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĵ.			4	A	
Traffic Volume (veh/h)	80	45	0	4	110	88
Future Volume (Veh/h)	80	45	0	4	110	88
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.50	0.50	0.95	0.95
Hourly flow rate (vph)	82	46	0.00	8	116	93
Pedestrians	149	10		95	457	,,,
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			8	38	
Right turn flare (veh)	12			O	30	
Median type	None			None		
Median storage veh)	NOUG			INOLIG		
	205					
Upstream signal (ft)	205		0.97		0.97	0.97
pX, platoon unblocked			0.97 585		719	657
vC, conflicting volume			585		/19	65/
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			560		698	634
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		46	65
cM capacity (veh/h)			615		216	268
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	128		209			
Volume Left		8	116			
	0 46	0	93			
Volume Right	46 1700	0 615				
cSH			237			
Volume to Capacity	0.08	0.00	0.88			
Queue Length 95th (ft)	0	0	182			
Control Delay (s)	0.0	0.0	76.1			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	76.1			
Approach LOS			F			
Intersection Summary						
Average Delay			46.1			
Intersection Capacity Utilization			34.1%	IC	U Level of	Sanvica
Analysis Period (min)			15	ic	- LCVCI UI	JUI VICE
Analysis Fellou (IIIIII)			13			

HCM Unsignalized inte		он оцр	aony / t	a.j o.		
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	_	-		_	~	•
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	₽		W	
Traffic Volume (veh/h)	12	23	27	2	0	18
Future Volume (Veh/h)	12	23	27	2	0	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.63	0.63	0.70	0.70
Hourly flow rate (vph)	14	27	43	3	0.70	26
Pedestrians		29	17	J	204	20
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		4.0	4.0		17	
Right turn flare (veh)					17	
Median type		None	None			
		None	None			
Median storage veh)		179				
Upstream signal (ft) pX, platoon unblocked		1/9				
vC, conflicting volume	250				320	278
vC1, stage 1 conf vol	250				320	2/8
vC2, stage 2 conf vol vCu, unblocked vol	250				320	278
					6.4	
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)	2.2				2.5	2.2
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	96
cM capacity (veh/h)	1102				547	621
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	41	46	26			
Volume Left	14	0	0			
Volume Right	0	3	26			
cSH	1102	1700	621			
Volume to Capacity	0.01	0.03	0.04			
Queue Length 95th (ft)	1	0.03	3			
Control Delay (s)	2.9	0.0	11.1			
Lane LOS	Α.	0.0	В			
Approach Delay (s)	2.9	0.0	11.1			
Approach LOS	/	0.0	В			
			D			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			29.7%	10	CU Level of	Service
Analysis Period (min)			15			

SBL SBT 0 0 0 Free 0% 0.92 0.92 0 0.00 None 183 0.77 1242
SBL SBT 0 0 0 0 0 0 Free 0% 0.92 0.92 0 0 0 None 183 0.77 1242
0 (0 0 (0 Free 0% 0.92 0.92 0 (0 None 183 0.77 1242
0 C Free 0% 0.92 0.92 0 C None 183 0.77 1242
0 C Free 0% 0.92 0.92 0 C None 183 0.77 1242
None 183 0.77 1242
0.92 0.92 0 0 0 0 None 183 0.77 1242
None 183 0.77 1242
None 183 0.77 1242
183 0.77 1242
0.77 1242 704
0.77 1242 704
704
704
4.1
2.2
100
691
Level of Service

HCM Unsignalized Int	ersection	оп Сар	acity A	naiysis		
	•	•	4	†	Ţ	1
		•	•		•	
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				ની	- 1>	
Traffic Volume (veh/h)	0	0	69	103	4	4
Future Volume (Veh/h)	0	0	69	103	4	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	0	0	73	108	5	5
Pedestrians	128					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)	,					
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				460		
pX, platoon unblocked				-100		
vC, conflicting volume	390	136	138			
vC1, stage 1 conf vol	370	130	130			
vC2, stage 2 conf vol						
vCu, unblocked vol	390	136	138			
tC, single (s)	6.4	6.2	4.1			
tC, Single (s)	0.4	0.2	4.1			
tF (s)	3.5	3.3	2.2			
			95			
p0 queue free %	100	100				
cM capacity (veh/h)	587	919	1446			
Direction, Lane #	NB 1	SB 1				
Volume Total	181	10				
Volume Left	73	0				
Volume Right	0	5				
cSH	1446	1700				
Volume to Capacity	0.05	0.01				
Queue Length 95th (ft)	4	0.01				
Control Delay (s)	3.3	0.0				
Lane LOS	3.3 A	0.0				
Approach Delay (s)	3.3	0.0				
Approach LOS	٥.٥	0.0				
• • • • • • • • • • • • • • • • • • • •						
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			19.2%	IC	U Level of	Service
Analysis Period (min)			15			

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	∱•			र्स	¥	
Traffic Volume (veh/h)	30	6	2	133	56	47
Future Volume (Veh/h)	30	6	2	133	56	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	34	7	2	153	67	57
Pedestrians	140			275	347	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			23	29	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked						
vC, conflicting volume			388		682	660
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			388		682	660
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		74	78
cM capacity (veh/h)			840		259	256
	ED 1	WD 1				
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	41	155	124			
Volume Left	0	2	67			
Volume Right	7	0	57			
cSH	1700	840	258			
Volume to Capacity	0.02	0.00	0.48			
Queue Length 95th (ft)	0	0	61			
Control Delay (s)	0.0	0.1	31.3			
Lane LOS		Α	D			
Approach Delay (s)	0.0	0.1	31.3			
Approach LOS			D			
Intersection Summary						
Average Delay			12.2			
Intersection Capacity Utilization			33.3%	IC	U Level of	Service
Analysis Period (min)			15			
. ,,						



Lane Group EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR Ø2
Lane Configurations Traffic Volume (yph) 110 26 0 0 0 2 0 797 39 0 0 0 Ideal Flow (yphpp) 1900 1900 1900 1900 1900 1900 1900 1900
Lane Configurations 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Fulture Volume (vph) 110 26 0 0 0 2 0 797 39 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Future Volume (vph) 110 26 0 0 0 2 0 797 39 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Lane Width (ft) 12 12 12 12 12 16 12 12 12 12 12 12 12 12 12 12 12 12 12
Lane Util. Factor 0.91 0.91 1.00 1.00 1.00 0.95 0.95 1.00 1.00 1.00 Ped Bike Factor 1.00 Frt 0.865 0.993
Ped Bike Factor 1.00 Frt 0.865 0.993
Frt 0.865 0.993
Flt Protected 0.950 Satd. Flow (prot) 1464 3081 0 0 1676 0 2996 0 0 0 0
Salu. Film (prof) 1404 3081 0 0 0 1070 0 2990 0 0 0 0 0 1070 Fil Permitted 0.950
Satd. Flow (perm) 1464 3081 0 0 0 1676 0 2996 0 0 0 0
Salut Trum on Red No Yes Yes Yes Yes
Sald. Flow (RTOR) 375 6
Link Speed (mph) 25 25 25 25
Link Distance (ft) 161 309 136 151
Travel Time (s) 4.4 8.4 3.7 4.1
Confl. Bikes (#/hr) 64
Peak Hour Factor 0.93 0.93 0.93 0.79 0.79 0.79 0.97 0.97 0.97 0.92 0.92 0.92
Heavy Vehicles (%) 1% 1% 0% 0% 0% 0% 0% 2% 1% 0% 0% 0%
Parking (#/hr) 0 0
Adj. Flow (vph) 118 28 0 0 0 3 0 822 40 0 0 0
Shared Lane Traffic (%) 0%
Lane Group Flow (vph) 118 28 0 0 0 3 0 862 0 0 0 0
Turn Type Split NA Prot NA
Protected Phases 5 5 6 1 2
Permitted Phases
Detector Phase 5 5 6 1
Switch Phase
Minimum Initial (s) 8.0 8.0 4.0 8.0 8.0
Minimum Split (s) 27.0 27.0 14.0 51.0 18.0
Total Split (s) 27.0 27.0 14.0 51.0 18.0
Total Split (%) 24.5% 24.5% 12.7% 46.4% 16%
Maximum Green (s) 22.0 22.0 9.0 46.0 14.0
Yellow Time (s) 3.0 3.0 3.0 4.0
All-Red Time (s) 2.0 2.0 2.0 2.0 0.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0
Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0
Lead/Lag Lead Lag Lead Lag
Lead Lead Lead Lead Lead Lead Lead Lead
Lead-Lag Optimize: Vehicle Extension (s) 2.0 2.0 2.0 2.0 0.2
Verlide Extension (y) 2.0 2.0 0.2 Recall Mode Max Max Max C-Max Ped
Walk Time (s) 7.0 7.0 7.0 7.0 7.0
Walk Init (s) 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0
Pedestrian Calls (#/hr) 0 0 0 0 0
Act Effect Green (s) 23.0 23.0 10.0 47.0
Actuated g/C Ratio 0.21 0.21 0.09 0.43
V/c Ratio 0.39 0.04 0.01 0.67
Control Delay 60.7 54.6 0.0 12.2
Queue Delay 77.3 0.0 0.0 1.9
Total Delay 138.0 54.6 0.0 14.1
LOS F D A B
Approach Delay 122.0 14.1
Approach LOS F B
Queue Length 50th (ft) 94 10 0 96
Queue Length 95th (ft) 163 26 m0 117
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft)
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacitly (vph) 306 644 493 1283 Slarvation Cap Reductn 204 0 0 262
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 0
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 0
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 29 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.16 0.04 0.01 0.84
Queue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.16 0.04 0.01 0.84 Intersection Summary
Oueue Length 95th (ft) 163 26 m0 117 Internal Link Dist (ft) 81 229 56 71 Turn Bay Length (ft) 71 72 72 72 Base Capacity (vph) 306 644 493 1283 Starvation Cap Reductn 204 0 0 262 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 Reduced v/c Ratio 1.16 0.04 0.01 0.84

Intersection LOS: C ICU Level of Service A

Cycle Length: 110
Offset: 89 (81%), Referenced to phase 1:NBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratlio: 0.67
Intersection Signal Delay: 29.6
Intersection Capacity Utilization 39.2%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



	•	→	•	•	—	•	•	Ť	~	<u> </u>		4
ano Croun	EDI	-	-	-	WDT	WIDD			-	CDI	-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations Fraffic Volume (vph)	0	0	0	0	♣ 58	69	145	4 ↑ 1059	35	0	0	0
uture Volume (vph)	0	0	0	0	58	69	145	1059	35	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.93			0.98				
rt					0.927			0.996				
It Protected			0		4070	0	0	0.994				0
Satd. Flow (prot)	0	0	0	0	1372	0	0	3150 0.994	0	0	0	0
Flt Permitted Satd. Flow (perm)	0	0	0	0	1372	0	0	3144	0	0	0	0
Right Turn on Red	U	U	Yes	U	13/2	Yes	No	3144	Yes	U	U	Yes
Satd. Flow (RTOR)			102		11	1.02	INU	7	1.02			103
ink Speed (mph)		25			25			25			25	
Link Distance (ft)		171			179			570			158	
Travel Time (s)		4.7			4.9			15.5			4.3	
Confl. Peds. (#/hr)						71	42		703			
Confl. Bikes (#/hr)						1			65			
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	0%
Parking (#/hr)								0	0			
Adj. Flow (vph)	0	0	0	0	72	85	149	1092	36	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	157	0	0	1277	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases Permitted Phases					5		1	1				
Permitted Phases Detector Phase					г		1	1				
Switch Phase					5		1	1				
Switch Phase Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					24.0		86.0	86.0				
Total Split (s)					24.0		86.0	86.0				
Total Split (%)					21.8%		78.2%	78.2%				
Maximum Green (s)					19.0		81.0	81.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
_ost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
_ead/Lag												
_ead-Lag Optimize?												
/ehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					12.0		74.0	74.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effet Green (s)					20.0			82.0				
Actuated g/C Ratio					0.18			0.75				
//c Ratio					0.61 49.5			0.54 12.1				
Control Delay Queue Delay					49.5 0.9			0.6				
Total Delay					50.4			12.8				
-OS					50.4 D			12.0 B				
Approach Delay					50.4			12.8				
Approach LOS					D D			12.0 B				
Queue Length 50th (ft)					96			311				
Queue Length 95th (ft)					147			100				
nternal Link Dist (ft)		91			99			490			78	
Turn Bay Length (ft)												
Base Capacity (vph)					258			2349				
Starvation Cap Reductn					0			634				
Spillback Cap Reductn					17			2				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.65			0.74				
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110	300											
Actuated Cycle Length: 110												
Offset: 86 (78%), Referenced	I to phase 1:N	BTL, Start	of Green									
Natural Cycle: 110												
Control Type: Actuated-Coord	dinated											
Maximum v/c Ratio: 0.61												
ntersection Signal Delay: 16.					tersection							
Intersection Capacity Utilization	on 100.0%			IC	U Level of	f Service F						
Analysis Period (min) 15												
Analysis Fellou (Illill) 13												
	ntic Avenue/Cr											

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ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations	LDL	LDI	LDIX	1,000	<u>₩</u>	WDIC	IVDL	INDI	NDIX	JDL	1	JDIK	DZ
raffic Volume (vph)	0	0	0	111	92	0	0	0	0	0	602	62	
uture Volume (vph)	0	0	0	111	92	0	0	0	0	0	602	62	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	12	12	11	12	12	12	12	12	12	12	
ane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
ed Bike Factor											1.00		
rt It Protected				0.950							0.986		
Satd. Flow (prot)	0	0	0	3120	1637	0	0	0	0	0	4346	0	
It Permitted	0	0	0	0.950	1037	0	Ū	0	0	U	1510	U	
Satd. Flow (perm)	0	0	0	3120	1637	0	0	0	0	0	4346	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)											24		
ink Speed (mph)		25			25			25			25		
ink Distance (ft)		251			171			329			268		
Fravel Time (s)		6.8			4.7			9.0			7.3	20	
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	38	
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96	
Heavy Vehicles (%) Adj. Flow (vph)	0% 0	0% 0	0% 0	1% 119	1% 99	0% 0	0% 0	0% 0	0% 0	0% 0	6% 627	0% 65	
Adj. Flow (vpn) Shared Lane Traffic (%)	U	U	U	119	99	U	U	U	U	U	027	00	
Lane Group Flow (vph)	0	0	0	119	99	0	0	0	0	0	692	0	
Turn Type	U	U	U	Split	NA	U	U	U	U	U	NA	U	
Protected Phases				5 5	5						1		2
Permitted Phases					,								
Detector Phase				5	5						1		
Switch Phase													
Vinimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				27.0	27.0						62.0		21.0
Total Split (s)				27.0	27.0						62.0		21.0
Total Split (%)				24.5%	24.5%						56.4%		19%
Maximum Green (s)				22.0	22.0						56.0		17.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0 -2.0	2.0						3.0 -2.0		0.0
Lost Time Adjust (s) Fotal Lost Time (s)				-2.0 3.0	-2.0 3.0						-2.0 4.0		
Lead/Lag				3.0	3.0						Lead		Lag
_ead-Lag Optimize?											Ludu		Lay
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				15.0	15.0						49.0		10.0
Pedestrian Calls (#/hr)				50	50						0		5
Act Effct Green (s)				24.0	24.0						58.0		
Actuated g/C Ratio				0.22	0.22						0.53		
/c Ratio				0.17	0.28						0.30		
Control Delay				30.5	32.8						2.0		
Queue Delay				2.3	11.8						0.2		
otal Delay				32.8	44.6						2.2		
OS Approach Dolay				С	D 38.1						A 2.2		
Approach Delay Approach LOS					38.1 D						2.2 A		
Queue Length 50th (ft)				32	54						6		
Queue Length 95th (ft)				m58	m100						8		
nternal Link Dist (ft)		171		11100	91			249			188		
Furn Bay Length (ft)		.,,			71			2-17			.00		
Base Capacity (vph)				680	357						2302		
Starvation Cap Reductn				450	228						720		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.52	0.77						0.44		
ntersection Summary													
Area Type:	CBD												
Cycle Length: 110	ODD												
Actuated Cycle Length: 110													
Offset: 2 (2%), Referenced to	phase 1:SRT	, Start of	Green										
Natural Cycle: 110	- p.1.000 1.001	, 5.011 01 1	_,00,1										
Control Type: Actuated-Coor	dinated												
					ersection	LOC. D							
Maximum v/c Ratio: 0.30 Intersection Signal Delay: 10	.8			Int	ersection	LUS. D							
Maximum v/c Ratio: 0.30 Intersection Signal Delay: 10 Intersection Capacity Utilizati						Service G	;						
Maximum v/c Ratio: 0.30 Intersection Signal Delay: 10	ion 107.8%			IC			ì						

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▼ Ø1 (R)

Splits and Phases: 5: Surface/Purchase/SASB & India Street

▼ø5

Lanes, Volumes, Tim													
	•	→	•	•	—	•	1	†		-	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		† }									444		
Traffic Volume (vph) Future Volume (vph)	0	84 84	32 32	0	0	0	0	0	0	51 51	633 633	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	14	14	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft) Lane Util. Factor	25 1.00	0.95	0.95	25 1.00	1.00	1.00	25 1.00	1.00	1.00	25 0.91	0.91	1.00	
Ped Bike Factor	1.00	0.99	0.93	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		0.958											
Flt Protected											0.996		
Satd. Flow (prot)	0	3279	0	0	0	0	0	0	0	0	4402	0	
Flt Permitted Satd. Flow (perm)	0	3279	0	0	0	0	0	0	0	0	0.996 4402	0	
Right Turn on Red		3217	Yes		U	Yes			Yes	No	4402	Yes	
Satd. Flow (RTOR)		34											
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		314			161			268			332		
Travel Time (s) Confl. Bikes (#/hr)		8.6	7		4.4			7.3			9.1		
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	
Heavy Vehicles (%)	0.73	1%	0.73	0.72	0.72	0.72	0.72	0.72	0.72	1%	6%	0.47	
Adj. Flow (vph)	0	88	34	0	0	0	0	0	0	53	653	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	122	0	0	0	0	0	0	0	0	706	0	
Turn Type Protected Phases		NA 5								Split 1	NA 1		2
Permitted Phases		5											2
Detector Phase		5								1	1		
Switch Phase													
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		29.0								63.0	63.0		18.0
Total Split (s) Total Split (%)		29.0 26.4%								63.0 57.3%	63.0 57.3%		18.0 16%
Maximum Green (s)		25.0								58.0	58.0		14.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		1.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s)		3.0								Lood	4.0		Lon
Lead/Lag Lead-Lag Optimize?										Lead	Lead		Lag
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		18.0								51.0	51.0		7.0
Pedestrian Calls (#/hr) Act Effct Green (s)		0 26.0								0	0 59.0		0
Actuated g/C Ratio		0.24									0.54		
v/c Ratio		0.15									0.30		
Control Delay		24.4									6.7		
Queue Delay		0.0									0.2		
Total Delay		24.4									6.9		
LOS Approach Delay		C 24.4									A 6.9		
Approach LOS		C C									Α.		
Queue Length 50th (ft)		25									28		
Queue Length 95th (ft)		51									50		
Internal Link Dist (ft)		234			81			188			252		
Turn Bay Length (ft)		001									22/1		
Base Capacity (vph) Starvation Cap Reductn		801 0									2361 762		
Spillback Cap Reductn		0									59		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		0.15									0.44		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Actuated Cycle Length. 110	to phase 1:	SBTL, Sta	irt of Gree	n									
Offset: 103 (94%), Referenced	10												
Offset: 103 (94%), Referenced Natural Cycle: 110													
Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordii													
Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.30 Intersection Signal Delay: 9.5				In	tersection	LOS: A							
Offset: 103 (94%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordin Maximum v/c Ratio: 0.30	nated					LOS: A f Service A							

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street



Lanes, Volumes, Tin								_				
	•	-	•	•	—	•	1	†	~	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ	4 ↑ 218						ተ ተጉ	
Traffic Volume (vph)	0	0	0	56		0	0	0	0	0	627	671
Future Volume (vph) Ideal Flow (vphpl)	1000	1000	1000	56 1000	218	1000	1000	1000	1000	1000	627	671 1900
Lane Util. Factor	1900 1.00	1900 1.00	1900 1.00	1900 0.91	1900 0.91	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 1.00	1900 0.91	0.91
Ped Bike Factor	1.00	1.00	1.00	0.68	0.71	1.00	1.00	1.00	1.00	1.00	0.95	0.71
Frt Flt Protected				0.950							0.922	
Fit Protected Satd. Flow (prot)	0	0	0	0.950 1449	3051	0	0	0	0	0	3984	0
Flt Permitted	U	U	U	0.950	3031	U	U	U	U	U	3704	U
Satd. Flow (perm)	0	0	0	992	3051	0	0	0	0	0	3984	0
Right Turn on Red			Yes	No		Yes			Yes			Yes
Satd. Flow (RTOR)		25			05			05			376	
Link Speed (mph) Link Distance (ft)		25 395			25 161			25 332			25 240	
Travel Time (s)		10.8			4.4			9.1			6.5	
Confl. Peds. (#/hr)		10.0		332	4.4			7.1			0.5	158
Confl. Bikes (#/hr)												38
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	4%	1%
Adj. Flow (vph) Shared Lane Traffic (%)	0	0	0	58 0%	225	0	0	0	0	0	640	685
Lane Group Flow (vph)	0	0	0	0% 58	225	0	0	0	0	0	1325	0
Turn Type		Ü		Split	NA	Ü	Ü	Ü			NA	
Protected Phases				5	5						1	
Permitted Phases												
Detector Phase				5	5						1	
Switch Phase Minimum Initial (s)				8.0	8.0						8.0	
Minimum Initial (s) Minimum Split (s)				38.0	38.0						72.0	
Total Split (s)				38.0	38.0						72.0	
Total Split (%)				34.5%	34.5%						65.5%	
Maximum Green (s)				29.0	29.0						67.0	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s) Lost Time Adjust (s)				6.0 -1.0	6.0 -1.0						2.0 -1.0	
Total Lost Time (s)				8.0	8.0						4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode Walk Time (s)				Max 7.0	Max 7.0						C-Max 7.0	
Flash Dont Walk (s)				22.0	22.0						60.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)				30.0	30.0						68.0	
Actuated g/C Ratio				0.27	0.27						0.62	
v/c Ratio				0.15	0.27						0.51	
Control Delay Queue Delay				34.4	35.4 6.4						3.4 0.1	
Total Delay				3.5 37.9	41.8						3.5	
LOS				37.7 D	41.0 D						3.5 A	
Approach Delay					41.0						3.5	
Approach LOS					D						Α	
Queue Length 50th (ft)				35	69						0	
Queue Length 95th (ft) Internal Link Dist (ft)		315		m71	101 81			252			0 160	
Turn Bay Length (ft)		313			δI			252			100	
Base Capacity (vph)				395	832						2606	
Starvation Cap Reductn				271	547						206	
Spillback Cap Reductn				0	0						0	
Storage Cap Reductn Reduced v/c Ratio				0 47	0.70						0	
				0.47	0.79						0.55	
Intersection Summary	CDD											
Area Type: Cycle Length: 110	CBD											
Actuated Cycle Length: 110												
Offset: 90 (82%), Referenced	to phase 1:S	BT, Start	of Green									
Natural Cycle: 110		,										
Control Type: Actuated-Coord	linated											
Maximum v/c Ratio: 0.51	1					100.5						
Intersection Signal Delay: 10.1 Intersection Capacity Utilization					tersection	LOS: B Service F						
Analysis Period (min) 15	JII 140.070			iC	O LEVEI ()	Service F						
m Volume for 95th percentile	e aueue is m	etered by	upstream	signal.								
	,											

Splits and Phases: 7: Surface/Purchase/SASB & State Street

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Lancs, Volumes, Till	•		$\overline{}$		—	•	4	†	_	\ <u></u>	1	1
		→	*	•	-		1		/	-	ţ	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			_		€			€1} 689			_	
Traffic Volume (vph)	0	0	0	0	82	41	199		52	0	0	0
Future Volume (vph)	0	0	1000	1000	82	41	199	689	52	0	0	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900 12	1900	1900	1900
Lane Width (ft) Lane Util. Factor	12 1.00	12	12 1.00	12 1.00	16 1.00	12 1.00	12 0.95	12 0.95	0.95	12 1.00	12 1.00	12 1.00
Ped Bike Factor	1.00	1.00	1.00	1.00	0.91	1.00	0.90	0.95	0.90	1.00	1.00	1.00
Frt					0.955			0.992				
Flt Protected					0.700			0.990				
Satd. Flow (prot)	0	0	0	0	1679	0	0	3019	0	0	0	0
Flt Permitted		_	-	-			-	0.990	_	_		
Satd. Flow (perm)	0	0	0	0	1679	0	0	3003	0	0	0	0
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					11			11				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		161			290			183			264	
Travel Time (s)		4.4			7.9			5.0	,		7.2	
Confl. Peds. (#/hr)						160	51		695			
Confl. Bikes (#/hr)	0.00	0.05	0.05	0.00	0.00	0.05	0.07	0.0=	62	0.00	0.00	0.00
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1% 89	0%	1%	3%	2%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	89	45	205	710	54	0	0	0
Shared Lane Traffic (%)	0	0	0	0	134	0	0	040	0	0	0	0
Lane Group Flow (vph) Turn Type	0	0	0	0	NA	U	0 Split	969 NA	U	0	U	U
Protected Phases					NA 5		Split 1	NA 1				
Permitted Phases					3							
Detector Phase					5		1	1				
Switch Phase					- 3							
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					26.0		74.0	74.0				
Total Split (s)					36.0		74.0	74.0				
Total Split (%)					32.7%		67.3%	67.3%				
Maximum Green (s)					31.0		69.0	69.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					14.0		62.0	62.0				
Pedestrian Calls (#/hr)					0 32.0		0	70.0				
Act Effct Green (s)					0.29			70.0 0.64				
Actuated g/C Ratio v/c Ratio					0.29			0.50				
Control Delay					29.3			3.5				
Queue Delay					0.0			0.2				
Total Delay					29.3			3.7				
LOS					C C			Α.				
Approach Delay					29.3			3.7				
Approach LOS					C			A				
Queue Length 50th (ft)					66			54				
Queue Length 95th (ft)					119			54				
Internal Link Dist (ft)		81			210			103			184	
Turn Bay Length (ft)												
Base Capacity (vph)					496			1925				
Starvation Cap Reductn					0			265				
Spillback Cap Reductn					0			151				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.27			0.58				
Intersection Summary												

Intersection Summary

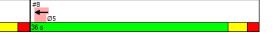
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 92 (84%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 6.8
Intersection Capacity Utilization 81.7%
Analysis Period (min) 15 Intersection LOS: A ICU Level of Service D

Splits and Phases: 8: Atlantic Avenue/Cross Street & State Street

#8 #20

#0 1(R)





Build (2026) Condition, a.m. Peak Hour 09004.03::Harbor Garage

Lanes, Volumes, Tim		_			1	,	
	•	•	1	†	ţ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations		7 94	0	0	^^^	22	
Traffic Volume (vph) Future Volume (vph)	0	94	0	0	736 736	22 22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	13	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor Frt		0.865			1.00 0.996		
Flt Protected		0.003			0.770		
Satd. Flow (prot)	0	1484	0	0	4428	0	
FIt Permitted		4404			4400		
Satd. Flow (perm) Right Turn on Red	0	1484 Yes	0	0	4428	0 Yes	
Satd. Flow (RTOR)		391			6	163	
Link Speed (mph)	25			25	25		
Link Distance (ft)	358			212	329		
Travel Time (s) Confl. Bikes (#/hr)	9.8			5.8	9.0	40	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.96	
Heavy Vehicles (%)	0%	3%	0%	0%	5%	0%	
Adj. Flow (vph)	0	102	0	0	767	23	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	102	0	0	790	0	
Turn Type	U	Prot	U	U	NA	U	
Protected Phases		5			1		2
Permitted Phases							
Detector Phase Switch Phase		5			1		
Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		23.0			65.0		22.0
Total Split (s)		23.0			65.0		22.0
Total Split (%) Maximum Green (s)		20.9% 19.0			59.1% 59.0		20% 18.0
Yellow Time (s)		3.0			3.0		4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		
Total Lost Time (s)		4.0			4.0		Lon
Lead/Lag Lead-Lag Optimize?					Lead		Lag
Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0			7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)		12.0 0			52.0 0		11.0 5
Act Effct Green (s)		19.0			61.0		J.
Actuated g/C Ratio		0.17			0.55		
v/c Ratio		0.18			0.32		
Control Delay Queue Delay		0.7			4.2 0.2		
Total Delay		0.0			4.4		
LOS		Α			Α		
Approach Delay	0.7				4.4		
Approach LOS	Α	0			A 38		
Queue Length 50th (ft) Queue Length 95th (ft)		0			38 46		
Internal Link Dist (ft)	278			132	249		
Turn Bay Length (ft)							
Base Capacity (vph) Starvation Cap Reductn		579 0			2458 717		
Starvation Cap Reductn Spillback Cap Reductn		9			114		
Storage Cap Reductn		0			0		
Reduced v/c Ratio		0.18			0.45		
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110	nhaco 1.CD	C Start of	Groon				
Offset: 7 (6%), Referenced to	priase 1:5B	i , Staft of (oreen				
Natural Cycle: 110	inatad						
Natural Cycle: 110 Control Type: Actuated-Coordi	mateu						
Control Type: Actuated-Coordi Maximum v/c Ratio: 0.32	mateu						
Control Type: Actuated-Coordi					tersection CU Level of		

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street



Lanes, Volumes, Tim	nings												
	•	-	•	•	←	•	4	†	~	>	↓	1	
_ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations	201	↑ 1>	LDIN						DIX	JDL	414	0510	DL
raffic Volume (vph)	0	99	149	0	0	0	0	0	0	299	531	0	
uture Volume (vph)	0	99	149	0	0	0	0	0	0	299	531	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft) Storage Length (ft)	12 0	16	12 75	12 0	12	12 0	12 0	12	12 0	12 0	12	12 0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor		0.99 0.910											
Frt Flt Protected		0.910									0.982		
Satd. Flow (prot)	0	3310	0	0	0	0	0	0	0	0	4427	0	
FIt Permitted											0.982		
Satd. Flow (perm)	0	3310	0	0	0	0	0	0	0	0	4427	0	
Right Turn on Red		154	Yes			Yes			Yes	No		Yes	
Satd. Flow (RTOR) Link Speed (mph)		154 25			25			25			25		
Link Distance (ft)		305			204			514			212		
Travel Time (s)		8.3			5.6			14.0			5.8		
Confl. Bikes (#/hr)			2										
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	5%	0%	
Adj. Flow (vph) Shared Lane Traffic (%)	0	102	154	0	0	0	0	0	0	311	553	0	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	256	0	0	0	0	0	0	0	0	864	0	
Turn Type		NA	0	0	U		0	- 0	0	Split	NA	0	
Protected Phases		5								1	1		2
Permitted Phases													
Detector Phase		5								1	1		
Switch Phase Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Initial (S) Minimum Split (S)		30.0								61.0	61.0		19.0
Total Split (s)		30.0								61.0	61.0		19.0
Total Split (%)		27.3%								55.5%	55.5%		17%
Maximum Green (s)		25.0								56.0	56.0		15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		2.0								2.0	2.0		0.0
Lost Time Adjust (s) Total Lost Time (s)		-1.0 4.0									-1.0 4.0		
Lead/Lag		4.0								Lead	Lead		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s) Flash Dont Walk (s)		7.0 18.0								7.0 49.0	7.0 49.0		7.0 8.0
Pedestrian Calls (#/hr)		18.0								49.0	49.0		8.0
Act Effct Green (s)		26.0								U	57.0		U
Actuated g/C Ratio		0.24									0.52		
//c Ratio		0.28									0.38		
Control Delay		14.6									4.6		
Queue Delay Total Delay		0.0 14.7									0.2 4.8		
Total Delay LOS		14.7 B									4.8 A		
Approach Delay		14.7									4.8		
Approach LOS		В									Α		
Queue Length 50th (ft)		30									15		
Queue Length 95th (ft)		64									18		
Internal Link Dist (ft)		225			124			434			132		
Turn Bay Length (ft) Base Capacity (vph)		899									2293		
Starvation Cap Reductn		899									636		
Spillback Cap Reductn		22									210		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		0.29									0.52		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 15 (14%), Referenced t	to phase 1:S	BTL, Start	of Green										
Natural Cycle: 110	inated												
Control Type: Actuated-Coordi Maximum v/c Ratio: 0.38	mated												
Intersection Signal Delay: 7.0				Int	ersection	LOS: A							
Intersection Capacity Utilization	n 53.0%					Service A							
Analysis Period (min) 15													

Splits and Phases: 10: Surface/Purchase/SASB & High Street



	•	•	•	†	ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	77	LUIN	INDL	↑ ↑	JU1	אוטכ	,UZ
Traffic Volume (vph)	398	0	0	840	0	0	
Future Volume (vph)	398	0	0	840	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	13	13	12	12	
Lane Util. Factor Frt	0.97	1.00	1.00	0.95	1.00	1.00	
Fit Protected	0.950						
Satd. Flow (prot)	3120	0	0	3127	0	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3120	0	0	3127	0	0	
Right Turn on Red	No	Yes				Yes	
Satd. Flow (RTOR) Link Speed (mph)	25			25	25		
Link Speed (mpn) Link Distance (ft)	204			692	570		
Travel Time (s)	5.6			18.9	15.5		
Peak Hour Factor	0.94	0.94	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	
Parking (#/hr)	400	_		0	^	^	
Adj. Flow (vph) Shared Lane Traffic (%)	423	0	0	866	0	0	
Lane Group Flow (vph)	423	0	0	866	0	0	
Turn Type	Prot			NA	- 0	0	
Protected Phases	5			1			2
Permitted Phases							
Detector Phase	5			1			
Switch Phase Minimum Initial (s)	8.0			8.0			8.0
Minimum Initial (s) Minimum Split (s)	25.0			68.0			17.0
Total Split (s)	25.0			68.0			17.0
Total Split (%)	22.7%			61.8%			15%
Maximum Green (s)	20.0			63.0			13.0
Yellow Time (s)	3.0			3.0			4.0
All-Red Time (s)	2.0 0.0			2.0 -1.0			0.0
Lost Time Adjust (s) Total Lost Time (s)	5.0			4.0			
Lead/Lag	3.0			Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0			2.0			2.0
Recall Mode	Max			C-Max			Ped
Walk Time (s)	7.0 13.0			7.0 56.0			7.0 6.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)	13.0			56.0			0.0
Act Effct Green (s)	20.0			64.0			U
Actuated g/C Ratio	0.18			0.58			
v/c Ratio	0.75			0.48			
Control Delay	38.1			9.1			
Queue Delay	51.7			0.0			
Total Delay LOS	89.8 F			9.1 A			
Approach Delay	89.8			9.1			
Approach LOS	F			Α			
Queue Length 50th (ft)	152			107			
Queue Length 95th (ft)	208			m107			
Internal Link Dist (ft)	124			612	490		
Turn Bay Length (ft) Base Capacity (vph)	567			1819			
Starvation Cap Reductn	180			1819			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	1.09			0.48			
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 58 (53%), Referenced	to phase 1:N	IBT, Start o	of Green				
Natural Cycle: 110	inatad						
Control Type: Actuated-Coord Maximum v/c Ratio: 0.75	ıııdıeu						
Intersection Signal Delay: 35.6)			Int	ersection	LOS: D	
					U Level of		
Intersection Capacity Utilizatio							
Intersection Capacity Utilizatio Analysis Period (min) 15	11 00.7 70						

Splits and Phases: 11: Atlantic Avenue/Cross Street & High Street

ÅÅø2

Lanes, Volumes, 1	<u> </u>	٠	→	—	*_	4	1	ሻ	†	~		
Lane Group		EDI		\/\DT	\//DD	WPD2				-	ρ	Ø4
Lane Group	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	Ø2	Ø6
Lane Configurations Traffic Volume (vph)	6	23	4↑ 915	1→ 421	7 207	7 239	95	284	41 → 578	470		
Future Volume (vph)	6	23	915	421	207	239	95 95	284	578	470		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	1900	1900	13	1900	1900	13	1900	1900	13	1900		
Storage Length (ft)		0			250			0		0		
Storage Lanes		0			1			1		0		
Taper Length (ft)		25						25				
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor									0.97			
Frt					0.850	0.850			0.935			
Flt Protected			0.998					0.950	0.999			
Satd. Flow (prot)	0	0	3318	1489	1323	1427	0	1433	2803	0		
Flt Permitted			0.933					0.950	0.999			
Satd. Flow (perm)	0	0	3102	1489	1323	1427	0	1433	2803	0		
Right Turn on Red						No				No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506					457			
Travel Time (s)			6.8	13.8					12.5			
Confl. Bikes (#/hr)					14	14				64		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.99	0.99	0.99	0.99		
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	1%	4%	4%	5%		
Adj. Flow (vph)	6	23	934	434	213	246	96	287	584	475		
Shared Lane Traffic (%)					0%	0%		10%				
Lane Group Flow (vph)	0	0	963	434	213	246	0	354	1088	0		
Turn Type	custom		NA	NA	Prot	Prot	Perm	Split	NA			
Protected Phases			5	5	5	5		1	1		2	6
Permitted Phases	25	25	2	_		-	1					_
Detector Phase	25	25	5	5	5	5	1	1	1			
Switch Phase	2.5	23		- 3	- 3							
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		7.0	4.0
Minimum Split (s)			29.0	29.0	29.0	29.0	39.0	39.0	39.0		26.0	6.0
Total Split (s)			39.0	39.0	39.0	39.0	39.0	39.0	39.0		26.0	6.0
Total Split (%)			35.5%	35.5%	35.5%	35.5%	35.5%	35.5%	35.5%		26.0	5%
			32.5	32.5	32.5	32.5	32.5	32.5	32.5		19.5	4.0
Maximum Green (s)			32.5	32.5	32.5	32.5	32.5	32.5	32.5		3.5	2.0
Yellow Time (s)												
All-Red Time (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0		-1.0	-1.0			
Total Lost Time (s)			6.5	5.5	5.5	5.5	1 2	5.5	5.5		Lee	Lon
Lead/Lag			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?			2.0		0.0	2.2	0.0	0.0	2.2		2.0	2.2
Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	8.0	8.0		7.0	4.0
Flash Dont Walk (s)			15.5	15.5	15.5	15.5	24.5	24.5	24.5		12.5	0.0
Pedestrian Calls (#/hr)			0	0	0	0	0	0	0		91	0
Act Effct Green (s)			48.1	33.5	33.5	33.5		38.7	38.7			
Actuated g/C Ratio			0.44	0.30	0.30	0.30		0.35	0.35			
v/c Ratio			0.68	0.96	0.53	0.57		0.70	1.10			
Control Delay			5.8	71.7	37.5	38.2		34.0	88.8			
Queue Delay			44.8	44.7	0.0	0.0		0.0	0.0			
Total Delay			50.6	116.4	37.5	38.2		34.0	88.8			
LOS			D	F	D	D		С	F			
Approach Delay			50.6	76.1					75.4			
Approach LOS			D	Е					E			
Queue Length 50th (ft)			24	329	136	153		121	~517			
Queue Length 95th (ft)			m16	#550	221	243		#407	#660			
Internal Link Dist (ft)			168	426					377			
Turn Bay Length (ft)					250	250						
Base Capacity (vph)			1420	453	402	434		504	986			
Starvation Cap Reductn			534	0	0	0		0	0			
Spillback Cap Reductn			0	152	0	0		0	0			
Storage Cap Reductn			0	0	0	0		0	0			
Reduced v/c Ratio			1.09	1.44	0.53	0.57		0.70	1.10			
					· · · ·				_			
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110												
Actuated Cycle Length: 11												
Offset: 52 (47%), Reference	ed to phase 1:	NBTL, Star	rt of Greer	1								
Natural Cycle: 120												

Natural Cycle: 120

Intersection LOS: E ICU Level of Service F

Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 68.3
Intersection Capacity Utilization 92.6%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp

Edites, Voldines, Till	•	←	+	4	6	<i>\(\)</i>	4	
	•		-			-		~.
Lane Group	WBL	WBT	SBT	SBR	SWL2	SWL	SWR	Ø2
Lane Configurations		-41	ተተቡ		7	W		
Traffic Volume (vph)	322	194	573	107	944	466	101	
Future Volume (vph)	322	194	573	107	944	466	101	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	11	12	12	12	12	12	
Lane Util. Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor			0.99					
Frt			0.976			0.973		
		0.075	0.970		0.055			
Flt Protected		0.970			0.950	0.961		
Satd. Flow (prot)	0	3005	4368	0	1608	1583	0	
Flt Permitted		0.970			0.950	0.961		
Satd. Flow (perm)	0	3005	4368	0	1608	1583	0	
	U	3003	4300		1000	1303	U	
Right Turn on Red				Yes				
Satd. Flow (RTOR)			33					
Link Speed (mph)		25	25			25		
Link Distance (ft)		248	514			293		
Travel Time (s)		6.8	14.0			8.0		
Confl. Bikes (#/hr)				38				
Peak Hour Factor	0.97	0.97	0.95	0.95	0.99	0.99	0.99	
Heavy Vehicles (%)	1%	2%	4%	1%	1%	1%	1%	
Adj. Flow (vph)	332	200	603	113	954	471	102	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	532	716	0	954	573	0	
		NA	NA	U		Prot	U	
Turn Type	Split				pm+pt			^
Protected Phases	6	6	1		5	5		2
Permitted Phases					2			
Detector Phase	6	6	1		5	5		
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	30.0		39.0	39.0		20.0
Total Split (s)	21.0	21.0	30.0		39.0	39.0		20.0
Total Split (%)	19.1%	19.1%	27.3%		35.5%	35.5%		18%
Maximum Green (s)	14.0	14.0	25.5		34.0	34.0		16.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.0
All-Red Time (s)	3.5	3.5	1.0		1.5	1.5		1.0
Lost Time Adjust (s)		-2.0	-1.0		-1.0	-1.0		
Total Lost Time (s)		5.0	3.5		4.0	4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize?		- 3						
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		2.0
Recall Mode	Max	Max	C-Max		Max	Max		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	7.0	7.0	18.5		27.0	27.0		9.0
Pedestrian Calls (#/hr)	0	0	0		0	0		50
Act Effct Green (s)		16.0	26.5		55.0	35.0		- 00
Actuated g/C Ratio		0.15	0.24		0.50	0.32		
v/c Ratio		1.47dl	0.66		1.19	1.14		
Control Delay		133.5	27.6		124.0	120.0		
Queue Delay		0.5	0.1		0.2	0.0		
			27.7		124.1			
Total Delay		134.0				120.0		
LOS		F	С		F	F		
Approach Delay		134.0	27.7			122.6		
Approach LOS		F	С			F		
Queue Length 50th (ft)		~230	168		~813	~473		
Ougus Longth OFth (ft)			215		#1059	#687		
Queue Length 95th (ft)		m#266			# 1009			
Internal Link Dist (ft)		168	434			213		
Turn Bay Length (ft)								
Base Capacity (vph)		437	1077		804	503		
Starvation Cap Reductn		22	0		0	0		
Spillback Cap Reductn		0	29		21	0		
Storage Cap Reductn		0	0		0	0		
Reduced v/c Ratio		1.28	0.68		1.22	1.14		
Internation Comments								
Intersection Summary								
Area Type:	CBD							
Cycle Length: 110								
Actuated Cycle Length: 110								
ACTUATION OFFICE LETIQUE. TTU								

Cycle Length: 110
Offset: 47 (43%), Referenced to phase 1:SBT, Start of Green Natural Cycle: 150
Control Type: Actualed-Coordinated Maximum v/c Ratio: 1.22
Intersection Signal Delay: 100.3
Intersection Capacity Utilization 103.7%
Analysis Pariod (min) 15

Intersection LOS: F ICU Level of Service G

Intersection Capacity Utilization 103.7%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite.
Oueue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Lanes, Volumes, Tim	<u>go</u>		_		_	•	_			٠,	1	,				
		-	•	•	—		1	†		-	ţ	4				
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2			
Lane Configurations	0		0	`	↑↑ 351						^	00				
Traffic Volume (vph)	0	0	0	96 96	351	0	0	0	0	0	1261 1261	99 99				
Future Volume (vph) Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	1700	12	1700	11	11	11	12	12	12	1700	12	12				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91				
Ped Bike Factor											1.00					
Frt											0.989					
Flt Protected				0.950												
Satd. Flow (prot) Flt Permitted	0	0	0	1540	3141	0	0	0	0	0	4521	0				
Satd. Flow (perm)	0	0	0	0.950 1540	3141	0	0	0	0	0	4521	0				
Right Turn on Red	U	0	Yes	No	3141	Yes	0	U	Yes	U	4321	Yes				
Satd. Flow (RTOR)											18					
Link Speed (mph)		25			25			25			25					
Link Distance (ft)		151			246			252			420					
Travel Time (s)		4.1			6.7			6.9			11.5					
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36				
Peak Hour Factor Heavy Vehicles (%)	0.92 0%	0.92 0%	0.92	0.90 2%	0.90 0%	0.90 0%	0.92 0%	0.92	0.92 0%	0.98	0.98 2%	0.98 1%				
Adj. Flow (vph)	0 / 0	0.70	0/8	107	390	0.70	0.70	0.00	0.70	0.0	1287	101				
Shared Lane Traffic (%)				.07	3.0						0,					
Lane Group Flow (vph)	0	0	0	107	390	0	0	0	0	0	1388	0				
Turn Type				Split	NA						NA					
Protected Phases				5	5						1		2			
Permitted Phases Detector Phase				5							1					
Switch Phase				5	5											
Minimum Initial (s)				8.0	8.0						8.0		8.0			
Minimum Split (s)				28.0	28.0						64.0		18.0			
Total Split (s)				28.0	28.0						64.0		18.0			
Total Split (%)				25.5%	25.5%						58.2%		16%			
Maximum Green (s)				23.0	23.0						60.0		14.0			
Yellow Time (s) All-Red Time (s)				3.0 2.0	3.0 2.0						3.0 1.0		4.0 0.0			
Lost Time Adjust (s)				-1.0	-1.0						-1.0		0.0			
Total Lost Time (s)				4.0	4.0						3.0					
Lead/Lag											Lead		Lag			
Lead-Lag Optimize?																
Vehicle Extension (s)				2.0	2.0						2.0		2.0			
Recall Mode Walk Time (s)				Ped 7.0	Ped 7.0						C-Max 7.0		Ped 7.0			
Flash Dont Walk (s)				16.0	16.0						53.0		7.0			
Pedestrian Calls (#/hr)				0	0						0		0			
Act Effct Green (s)				24.0	24.0						61.0					
Actuated g/C Ratio				0.22	0.22						0.55					
v/c Ratio				0.32	0.57						0.55					
Control Delay Queue Delay				49.9 2.3	53.4 13.5						13.3 0.9					
Total Delay				52.1	66.8						14.3					
LOS				D	E						В					
Approach Delay					63.7						14.3					
Approach LOS					E						В					
Queue Length 50th (ft)				80	153						224					
Queue Length 95th (ft) Internal Link Dist (ft)		71		138	205 166			172			m210 340					
Turn Bay Length (ft)		71			100			172			340					
Base Capacity (vph)				336	685						2515					
Starvation Cap Reductn				135	273						775					
Spillback Cap Reductn				0	0						87					
Storage Cap Reductn				0	0						0					
Reduced v/c Ratio				0.53	0.95						0.80					
Intersection Summary																
	CBD															
Cycle Length: 110																
Actuated Cycle Length: 110 Offset: 40 (36%), Referenced	to phase 1.5	RT Start	of Green													
Natural Cycle: 110	to priase 1.3	ı, Jiail I	or Orecil													
Control Type: Actuated-Coordi	inated															
Maximum v/c Ratio: 0.57																
Intersection Signal Delay: 27.3					tersection											
Intersection Capacity Utilizatio	n 77.8%			IC	U Level of	Service D										
Analysis Period (min) 15 m Volume for 95th percentile	a alialin e m	atarad hu	unetroam	cianal												
m volume for 95th percentile	yucue is III	cicieu by	upsutaill	signal.												

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street

▼ø5 ##ø2 ▼ Ø1 (R)

	•	•	•	<u>†</u>	+	1	
Lana Craun	EDI	-					αn
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations Traffic Volume (vph)	0	0	448	∢↑↑↑ 1427	0	0	
Future Volume (vph)	0	0	448	1427	0	0	
Ideal Flow (vphpl) Lane Util. Factor	1900	1900	1900	1900	1900	1900	
	1.00	1.00	0.91	0.91	1.00	1.00	
Frt Elt Protoctod				0.000			
Flt Protected Satd. Flow (prot)	0	0	0	0.988 4476	0	0	
Fit Permitted	U	U	0	0.988	0	U	
	0	0	0	4476	0	0	
Satd. Flow (perm)	U		0	44/0	0		
Right Turn on Red		Yes	No			Yes	
Satd. Flow (RTOR) Link Speed (mph)	25			25	25		
Link Distance (ft)	246			240	457		
Travel Time (s)	6.7	0.02	0.07	6.5	12.5	0.02	
Peak Hour Factor	0.92	0.92	0.96	0.96	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	
Adj. Flow (vph)	0	0	467	1486	0	0	
Shared Lane Traffic (%)		_		4677			
Lane Group Flow (vph)	0	0	0	1953	0	0	
Turn Type			Split	NA			
Protected Phases			1	1			2
Permitted Phases							
Detector Phase			1	1			
Switch Phase							
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s)			32.0	32.0			18.0
Total Split (s)			92.0	92.0			18.0
Total Split (%)			83.6%	83.6%			16%
Maximum Green (s)			87.0	87.0			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)				5.0			
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			Ped
Walk Time (s)							7.0
Flash Dont Walk (s)							7.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				87.0			
Actuated g/C Ratio				0.79			
v/c Ratio				0.55			
Control Delay				8.4			
Queue Delay				36.8			
Total Delay				45.3			
LOS				D			
Approach Delay				45.3			
Approach LOS				D			
Queue Length 50th (ft)				267			
Queue Length 95th (ft)				m274			
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)							
Base Capacity (vph)				3540			
Starvation Cap Reductn				1721			
Spillback Cap Reductn				193			
Storage Cap Reductn				0			
Reduced v/c Ratio				1.07			
				1.07			
Intersection Summary							
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 44 (40%), Referenced to	o phase 1:N	BTL, Sta	rt of Greer	1			
Natural Cycle: 50	,	, - 10	2.20				
Control Type: Actuated-Coordin	nated						
Maximum v/c Ratio: 0.55							
Intersection Signal Delay: 45.3				Int	tersection I	OS: D	
Intersection Capacity Utilization					U Level of		
Analysis Poriod (min) 15	1 / / . 0 / 0			10	O LUVEI UI	OCI VICE D	

Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street





rsection Capacity Utilization 55.1%		-		•	-	Ļ	ļ	
Time Agnitude Time Agnitude Agnitude	Group	EBT	EBR	EBR2	SBL2	SBL	SBT	Ø2
file Volume (vph)						JDL N	\$ 1	~L
ure Volume (vph)		581				427	434	
al Flow (vphpl)						427	434	
the Width (ft)						1900	1900	
Protected (12	11	
Protected d. Flow (prot) 3079 1454 1391 1716 Permitted 0.950 d. Flow (perm) 3079 1454 1391 1716 Permitted 0.950 d. Flow (perm) 3079 1454 1391 1716 ht Turn on Red 0.950 No No d. Flow (RTOR) C. Distance (ft) 173 veter lime (s) 4.7 via Hour Factor 0.98 0.98 0.98 0.97 aby Vehicles (%) 2% 0% 1% 1% 1% 1Flow (vph) 593 240 182 512 red Lane Traffic (%) veter d. L			1.00	1.00		1.00	1.00	
Protected d. Flow (prot) 3079 1454 1391 1716 Permitted 0.950 d. Flow (perm) 3079 1454 1391 1716 Permitted 0.950 d. Flow (perm) 3079 1454 1391 1716 No No d. Flow (perm) 3079 1454 1391 1716 No No d. Flow (ProtR) 3079 1454 1391 1716 No No d. Flow (ProtR) 3079 1454 1391 1716 No No d. Flow (ProtR) 3079 1454 1391 1716 No No d. Flow (ProtR) 3079 1454 1391 1716 No No d. Flow (ProtR) 3079 3079 3079 3079 3079 3079 3079 3079								
Permitted d. Flow (perm) 3079 1454 1391 1716 ht Turn on Red d. Flow (RTOR) C Speed (mph) 25 c Distance (ft) 173 vet Time (s) 4.7 kt Hour Factor 0.98 0.98 0.98 0.97 avy Vehicles (%) 2% 0% 1% 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) ee Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) and Spit (%) 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	rotected				0.950	0.950		
Permitted d. Flow (perm) d. G. Gettle (perm) d. Flow (perm) d. G. Gettle (perm) d. G. Gettle (perm) d. G. Gettl		3079	1454	1391	1716	1577	1621	
ht Turn on Red d. Flow (RTOR) s	ermitted					0.950		
d. Flow (RTOR) (Speed (mph) 25 Cbistance (ft) 173 vel Time (s) 4.7 vik Hour Factor 0.98 0.98 0.98 0.97 awy Vehicles (%) 2% 0% 1% 1% Flow (vph) 593 240 182 512 red Lane Traffic (%) ree Group Flow (vph) 593 240 182 512 n Type NA Prot Prot Splitt lected Phases 1 1 1 1 5 mittled Phases ector Phase 1 1 1 1 5 finthed Phase imum Initial (s) 8.0 8.0 8.0 8.0 8.0 limum Split (s) 36.0 36.0 36.0 47.0 al Split (s) 33.0 3.0 3.0 3.0 47.0 al Split (%) 39.1% 39.1% 39.1% 42.7% kimum Green (s) 38.0 38.0 38.0 38.0 42.0 kow Time (s) 3.0 3.0 3.0 3.0 3.0 Red Time (s) 2.0 2.0 2.0 2.0 t Time Adjust (s) 2.0 0.0 -2.0 2.0 t Time Adjust (s) 2.0 0.0 -2.0 2.0 tall Mode C-Max C-Max C-Max Max lik Time (s) 7.0 7.0 7.0 7.0 self If Green (s) 40.0 38.0 40.0 44.0 lestrian Calls (#frh) 0 0 0 0 0 0 lestrian Calls (#frh) 0 0 0 0 0 0 lestrian Calls (#frh) 0 0 0 0 0 0 lestrian Calls (#frh) 0 0 0 0 0 0 lestrian Calls (#frh) 0 0 0 0 0		3079	1454			1577	1621	
K Speed (mph)				No	No			
Cistance (ft) 173 vel Time (s) 4.7 sk Hour Factor 0.98 0.98 0.98 0.97 avy Vehicles (%) 2% 0% 1% 1% iFlow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Traffic (%) se Group Flow (vph) 593 240 182 512 ared Lane Jlane Traffic (%) sector Pase 1 1 1 1 1 5 bill telegraph 39,10 8.0 8.0 8.0 8.0 bill the Phase immum Initial (s) 8.0 8.0 8.0 8.0 bill summ Split (s) 36.0 36.0 36.0 47.0 al Split (%) 39,1% 39,1% 39,1% 42,7% clar Split (%) 39,1% 39,1% 39,1% 42,7% clar Split (%) 39,1% 39,1% 39,1% 42,7% clar Split (s) 3.0 3.0 3.0 3.0 3.0 al Split (%) 39,1% 39,1% 39,1% 42,7% clar Split (s) 3.0 3.0 3.0 3.0 3.0 al Split (s) 3.0 3.0 3.0 3.0 3.0 al Split (s) 3.0 3.0 3.0 3.0 3.0 al Cov Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 al Lost Time (s) 3.0 5.0 3.0 3.0 al Lost Time (s) 2.0 2.0 2.0 2.0 al Lost Time (s) 7.0 7.0 7.0 al Edety Split (s) 24.0 24.0 24.0 35.0 destrian Calls (#hr) 0 0 0 0 betrian Calls (#hr) 0 0 0 0 cettral Calls (#hr) 0 0 0								
vel Time (s) ik Hour Factor 0.98 0.98 0.98 0.97 ik Hour Factor 0.98 0.98 0.98 0.97 ix Hour Factor 0.98 0.98 0.98 0.97 ix yo Vehicles (%) 2% 0% 182 512 red Lane Traffic (%) red Cane Traffic (%)							25	
Ak Hour Factor 0.98 0.98 0.98 0.97 avy Vehicles (%) 2% 0% 1% 1% 1% 1% 1.5 thou (vph) 593 240 182 512 ared Lane Traffic (%) 182 512 ared Lane Traffic (%) 183 240 182 512 ared Lane Traffic (%) 184 2512 ared Lane Traffic (%) 185 240 182 512 ared Lane Traffic (%) 195 240 182 512 ared Lane Traffic (%) 185 240 182 512 ared Lane Traffic (%) 185 240 182 240							252	
any Vehicles (%)							6.9	
Flow (vph) 593 240 182 512						0.97	0.97	
reed Lane Traffic (%) lee Group Flow (vph) 593 240 182 512 n Type NA Prot Prot Split lected Phases						3%	2%	
re Group Flow (vph)		593	240	182	512	440	447	
n Type								
tected Phases mitted Phases mitted Phases ctor Phase tector Phase tect						440	447	
mitted Phases ector Phase tich Phase into the Phase imum Initial (s)						Split	NA	
ector Phase itch Phase Phas		1	1	1	5	5	5	2
Itch Phase Immur Initial (s)								
imum Initial (s) 8.0 8.0 8.0 8.0 47.0 al Split (s) 36.0 36.0 36.0 36.0 47.0 al Split (s) 43.0 43.0 47.0 al Split (s) 39.1% 39.1% 39.1% 42.7% imum Green (s) 38.0 38.0 38.0 38.0 42.0 tow Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0		1	1	1	5	5	5	
imum Spilt (s)			0.7	0.5	0.5	0.5	2.0	0.6
al Split (s)						8.0	8.0	8.0
al Split (%) 39.1% 39.1% 42.7% kimum Green (s) 38.0 38.0 38.0 38.0 38.0 38.0 38.0 38.0						47.0	47.0	20.0
kimum Green (s) 38.0 38.0 38.0 42.0 low Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0						47.0	47.0	20.0
low Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 Red Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 1.1 Time Adjust (s) 2.0 0.0 2.0 2.0 3.0 3.0 3.0 d/Lag class (s) 2.0 0.0 2.0 2.0 2.0 al Lost Time (s) 3.0 5.0 3.0 3.0 3.0 d/Lag class (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0						42.7%	42.7%	18%
Red Time (s) 2.0 2.0 2.0 2.0 2.0 1 Time Adjust (s) 2.0 0.0 -2.0 -2.0 2.0 1 Time Adjust (s) 2.0 0.0 -2.0 -2.0 3.0 d/Lag Lost Time (s) 3.0 5.0 3.0 3.0 d/Lag Lead Lead Lead Lead d-Lag Dplimize? Sincie Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 all Mode C-Max C-Max C-Max Max (k Time (s) 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0						42.0	42.0	16.0
t Time Adjust (s)						3.0	3.0	4.0
al Lost Time (s) 3.0 5.0 3.0 3.0 d/dLag						2.0	2.0	0.0
d/Lag Lead Lead Lead d-Lag Optimize? d-Lag Optimize? call Mode C-Max C-Max C-Max Max kit Time (s) 7.0						-2.0	-2.0	
d-Lag Optimize? licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 2.0 2.0 2.0 2.0 licle Extension (s) 7.0 7.0 7.0 7.0 7.0 licle Extension (s) 7.0 7.0 7.0 7.0 7.0 licle Extension (s) 24.0 24.0 24.0 25.0 lestrian Calls (#lhr) 0 0 0 0 0 0 leffct Green (s) 40.0 38.0 40.0 44.0 lestrian Calls (#lhr) 0.36 0.35 0.36 0.40 lestrian Callo 0.53 0.48 0.36 0.75 letrol Delay 29.7 32.2 28.2 13.7 letrol Delay 31.3 32.2 28.2 14.4 letrol Delay 31.3 32.2 28.2 14.4 letrol Delay 30.9 letrol					3.0	3.0	3.0	1
nicle Extension (s) 2.0 2.0 2.0 2.0 zall Mode C-Max C-Max C-Max Max Max Ik Time (s) 7.0 0.36 0.36 0.36 0.36 0.75 18.1 0.0 0.0 0.0 <td></td> <td>Lead</td> <td>Lead</td> <td>Lead</td> <td></td> <td></td> <td></td> <td>Lag</td>		Lead	Lead	Lead				Lag
all Mode		2.2	2.0	2.0	2.0	2.0	2.0	2.0
Ik Time (s) 7.0 7.0 7.0 7.0 35.0 sh Dont Walk (s) 24.0 24.0 35.0 sestion Uwalk (s) 24.0 24.0 35.0 sestion Calls (#/hr) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						2.0	2.0	2.0
sh Dont Walk (s)						Max	Max	Ped
Iestrian Calls (#/hr)						7.0	7.0	7.0
Effct Green (s) 40.0 38.0 40.0 44.0 ualed g/C Ratio 0.36 0.35 0.36 0.40 Ratio 0.53 0.48 0.36 0.75 Introl Delay 29.7 32.2 28.2 13.7 are Delay 1.6 0.0 0.0 0.7 at Delay 31.3 32.2 28.2 14.4 Section Delay 30.9 broach Delay 30.9 broach Delay 30.9 broach LOS C 2 20.0 15.4 453 are Length 95th (tt) 171 132 93 135 are Length 95th (tt) 227 209 154 453 are Length 95th (tt) 93 15 are Length 95th (tt) 93 15 are Length 95th (tt) 3119 502 505 686 broach Capacity (vph) 1119 502 505 686 broach Capacity (vph) 1119 502 505 686 broach Capacity (vph) 33 broach Capacity (vph) 33 broach Capacity (vph) 36 0 0 0 35 broach Capacity (vph) 37 broach Capacity (vph) 38 broach Capacity (vph) 38 broach Capacity (vph) 38 broach Capacity (vph) 39 broach Capacity (vph) 39 broach Capacity (vph) 39 broach Capacity (vph) 39 broach Capacity (vph) 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						35.0	35.0	9.0
uated g/C Ratio						0	0	0
Ratio 0.53 0.48 0.36 0.75 Introl Delay 29.7 32.2 28.2 13.7 use Delay 1.6 0.0 0.0 0.7 al Delay 31.3 32.2 28.2 14.4 So C C C B Orach Delay 30.9 Proach LOS C use Length 50th (ft) 171 132 93 135 use Length 95th (ft) 227 209 154 453 mal Link Dist (ft) 93 In Bay Length (i) 93 In Bay Length (i) 50 505 686 Introl Cap Reductn 0 0 0 0 35 Ilback Cap Reductn 336 0 0 0 0 Inage Cap Reductn 336 0 0 0 0 0 Inage Cap Reductn 0 0 0 0 0 0 0 0 Inage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						44.0	44.0	
Altrol Delay 29.7 32.2 28.2 13.7						0.40	0.40	
eue Delay 1.6 0.0 0.0 0.7 al Delay 31.3 32.2 28.2 14.4 S S C C C B oroach Delay 30.9 roach LOS C eue Length 50th (ft) 171 132 93 135 eue Length 95th (ft) 227 209 154 453 eue Length 95th (ft) 93 nn Bay Length (ft) 93 nn Bay Length (ft) 502 505 686 roach Capacity (vph) 1119 502 505 686 roach Capacit						0.70	0.69	
al Delay 31.3 32.2 28.2 14.4 S C C C C B oroach Delay 30.9 oroach LOS C sue Length 50th (ft) 171 132 93 135 eue Length 95th (ft) 227 209 154 453 mal Link Dist (ft) 93 n Bay Length (ft) 93 n Bay Length (ft) 502 505 686 roacing Agradium 500 0 0 35 siback Cap Reductn 0 0 0 0 35 siback Cap Reductn 336 0 0 0 orage Cap Reductn 336 0 0 0 orage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						12.0	11.5	
S C C C B rorach Delay 30.9 rorach LOS C eue Length 50th (ft) 171 132 93 135 eue Length 95th (ft) 227 209 154 453 ranal Link Dist (ft) 93 rought Capacity (vph) 1119 502 505 686 rovation Cap Reductn 0 0 0 0 35 liback Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap						1.0 13.0	1.1 12.5	
	Delay							
C C C C C C C C C C	aach Dolay		C	L	В	В	B 13.3	
eue Length 50th (ft) 171 132 93 135 eue Length 95th (ft) 227 209 154 453 rmal Link Dist (ft) 93 n Bay Length (ft) se Capacitly (vph) 1119 502 505 686 razidion Cap Reductn 0 0 0 0 0 rage Cap Reductn 336 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 0 0 0 0 rage Cap Reductn 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							13.3 B	
eue Length 95th (ft) 227 209 154 453 rnal Link Dist (ft) 93 154 453 rnal Link Dist (ft) 93 154 453 rnal Link Dist (ft) 93 154 453 rnal Link Dist (ft) 93 154 453 rnal Link Dist (ft) 93 154 453 rnal Link Dist (ft) 93 154 154 154 154 154 154 154 154 154 154			122	ດາ	12F	76	74	
ranal Link Dist (ft) 93 In Bay Length (ft) Ise Capacity (vph) 1119 502 505 686 Irvation Cap Reductn 0 0 0 35 Ilback Cap Reductn 336 0 0 0 Ilback Cap Reductn 0 0 0 0 35 Ilback Cap Reductn 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 0 Idage Cap Reductn 0 0 0 0 0 0 0 0 Idage Cap						210	184	
n Bay Length (ft) see Capacity (vph) 1119 502 505 686 reaction Cap Reductn 0 0 0 35 siback Cap Reductn 336 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 duced v/c Ratio 0.76 0.48 0.36 0.79 resection Summary a Type: CBD see: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 ntrol Type: Actuated-Coordinated kimum v/c Ratio: 0.75 resection Signal Delay: 20.7 Intresection Signal Delay: 20.7 Intresection Capacity Utilization 55.1%			209	134	400	210	172	
se Capacity (vph) 1119 502 505 686 rvation Cap Reductn 0 0 0 35 liback Cap Reductn 336 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 rage Cap Reductn 0 0 0 0 0 0 resection Summary a 1790 resection Summary a 1790 resection Signal Delay: 20.7 Intersection Signal Delay: 20.7 Intersection Capacity Utilization 55.1%		93					172	
rvation Cap Reductn 0 0 0 35 liback Cap Reductn 336 0 0 0 0 arge Cap Reductn 0 0 0 0 0 duced \(\text{tage} \) Cap Reductn 0 0 0 0 duced \(\text{tage} \) Cap Reductn 0 0 0 0 0 duced \(\text{tage} \) Cap Reductn 0 0 0 0 0 duced \(\text{tage} \) Cap Reductn 0 0.76 0.48 0.36 0.79 srsection Summary a Type: CBD cle Length: 110 ualed Cycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 htrol Type: Actuated-Coordinated without \(\text{V} \) Cap Reductor Coordinated without \(\text{V} \) Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Reductor Cap Redu		1110	502	EUE	404	630	648	
						55	62	
rage Cap Reductn 0 0 0 0 0 fueed v/c Ratio 0.76 0.48 0.36 0.79 resection Summary a Type: CBD let Length: 110 uated Cycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 ntrol Type: Actuated-Coordinated kimum v/c Ratio: 0.75 resection Signal Delay: 20.7 Int resection Capacity Utilization 55.1%						0	02	
duced v/c Ratio 0.76 0.48 0.36 0.79 resection Summary a Type: CBD let Length: 110 uated Cycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 ltrol Type: Actuated-Coordinated kimum v/c Ratio: 0.75 resection Signal Delay: 20.7 Int resection Capacity Utilization 55.1% IC						0	0	
rsection Summary a Type: CBD cle Length: 110 uated Cycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 htrol Type: Actuated-Coordinated kimum vic Ratio: 0.75 rsection Signal Delay: 20.7 Int rsection Capacity Utilization 55.1%						0.77	0.76	
a Type: CBD le Length: 110 uated Cycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 ltrol Type: Actuated-Coordinated wimum vic Ratio: 0.75 rsection Signal Delay: 20.7 Introction Capacity Utilization 55.1% IC		0.76	0.48	0.30	0.79	0.77	0.70	
cle Length: 110 uated Cycle Length: 110 see: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 htrol Type: Actuated-Coordinated kimum vic Ratio: 0.75 resection Signal Delay: 20.7 resection Capacity Utilization 55.1% IC								
uated Čycle Length: 110 set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 ntrol Type: Actuated-Coordinated kimum vic Ratio: 0.75 resection Signal Delay: 20.7 Intersection Capacity Utilization 55.1%		CBD						
set: 98 (89%), Referenced to phase 1:EBT, Start of Green ural Cycle: 105 throl Type: Actuated-Coordinated kimum v/c Ratio: 0.75 rsection Signal Delay: 20.7 Intersection Capacity Utilization 55.1%								
ural Cycle: 105 Itrol Type: Actuated-Coordinated kimum v/c Ratio: 0.75 rsection Signal Delay: 20.7 Interestion Capacity Utilization 55.1% IC								
ntrol Type: Actuated-Coordinated kimum viC Ratio: 0.75 rsection Signal Delay: 20.7 Intersection Capacity Utilization 55.1% IC		nced to phase 1:	EBT, Star	t of Green				
ntrol Type: Actuated-Coordinated kimum viC Ratio: 0.75 resection Signal Delay: 20.7 Intersection Capacity Utilization 55.1% IC								
ximum v/c Ratio: 0.75 vrsection Signal Delay: 20.7 vrsection Capacity Utilization 55.1% IC		Coordinated						
rsection Capacity Utilization 55.1%	mum v/c Ratio: 0.75							
						tersection		
alusis Parind (min) 15					IC	U Level of	Service B	
ilysis i Cilou (iliii) 15	sis Period (min) 15							
	. ,							
its and Phases: 16: Surface/Purchase/SASB & Ramp to I-93W-I-90	and Phases: 16:	Surface/Purcha	se/SASR	& Ramp to	1-93W-1-90	S & Cona	ress Street	

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Ø1 (R)

	•	-	*	•	←	•	4	†	~	\	↓	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	**************************************	† †	LDIN	WDL	WDI	WDR 777	IVDL	**1 <u>*</u>	INDIX	JUL	JDT	אטכ	IJΖ
Traffic Volume (vph)	501	576	0	0	0	451	0	↑↑ ↑ 823	172	0	0	0	
Future Volume (vph)	501	576	0	0	0	451	0	823	172	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	12	12	12	11	12	12	12	12	12	12	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.60							0.92					
Frt						0.850		0.974					
Flt Protected	0.950												
Satd. Flow (prot)	2987	3079	0	0	0	2448	0	3985	0	0	0	0	
Flt Permitted	0.950												
Satd. Flow (perm)	1783	3079	0	0	0	2448	0	3985	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		233			288			612			240		
Travel Time (s)	F/0	6.4			7.9	F/0		16.7	1005		6.5		
Confl. Peds. (#/hr)	568					568			1035				
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.05	0.05	4	0.05	0.05	82	0.00	0.00	0.00	
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	2% 511	2% 588	0% 0	0%	0%	1% 475	0%	5%	4%	0%	0%	0%	
Adj. Flow (vph) Shared Lane Traffic (%)	511	200	U	0	0	4/5	0	866	181	0	0	0	
Lane Group Flow (vph)	511	588	0	0	0	475	0	1047	0	0	0	0	
Turn Type	Prot	NA NA	U	U	U	Prot	U	NA	U	U	U	U	
Protected Phases	3	123				1		NA 4					2
Permitted Phases		123						*					
Detector Phase	3	123				1		4					
Switch Phase		. 2 3						-					
Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Split (s)	13.0					26.0		37.0					20.0
Total Split (s)	27.0					26.0		37.0					20.0
Total Split (%)	24.5%					23.6%		33.6%					18%
Maximum Green (s)	22.0					21.0		32.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag	Lead					Lead		Lag					Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)						7.0		7.0					7.0
Flash Dont Walk (s)						14.0		25.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	23.0	69.0				22.0		34.0					
Actuated g/C Ratio	0.21	0.63				0.20		0.31					
v/c Ratio	0.82	0.30				0.97		0.85					
Control Delay	45.6	4.5				78.6		23.9					
Queue Delay	45.8	0.5				0.0		48.5					
Total Delay	91.4	5.0				78.6		72.4					
LOS	F	A 45.0			70.1	Е		E 70.4					
Approach Delay		45.2			78.6			72.4					
Approach LOS		D			Е			E					
Queue Length 50th (ft)	193	69				190		147					
Queue Length 95th (ft)	#265	64			200	#307		m206			1/0		
Internal Link Dist (ft)		153			208			532			160		
Turn Bay Length (ft)	/0/	1001				400		1001					
Base Capacity (vph)	624	1931				489		1231					
Starvation Cap Reductn Spillback Cap Reductn	153	865 0				0		0					
Storage Cap Reductn	6 0	0				0		344 0					
Reduced v/c Ratio	1.08	0.55				0.97		1.18					
	1.06	0.00				0.77		1.10					
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110	10												
Actuated Cycle Length: 11		DT C	-60-										
Offset: 78 (71%), Referen	ced to phase 1:E	BI, Start	or Green										
Natural Cycle: 100 Control Type: Actuated-Co	nordinated												
	ioromaieo												

Intersection LOS: E ICU Level of Service D

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 62.1
Intersection Capacity Utilization 80.4%
Analysis Period (min) 15
9 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.

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street



Lanes, Volumes, I	•		_		—	•	•	†	~	\	 	1	
	-	→	•	•					-				
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		41			↑↑ ↑ 323		<u> </u>	4↑ 815	7				
Traffic Volume (vph)	48	446	0	0		231	185		373	0	0	0	
Future Volume (vph)	48	446	0	0	323	231	185	815	373	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor					0.98								
Frt					0.937				0.850				
Flt Protected		0.995					0.950	0.999					
Satd. Flow (prot)	0	3208	0	0	3955	0	1449	2891	1439	0	0	0	
Flt Permitted		0.783					0.950	0.999					
Satd. Flow (perm)	0	2524	0	0	3955	0	1449	2891	1439	0	0	0	
Right Turn on Red			No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3			16.5			16.7		
Confl. Bikes (#/hr)		0.0				31			56				
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	
Heavy Vehicles (%)	8%	0.94	0.94	0.93	1%	2%	2%	4%	1%	0.92	0.92	0.92	
Adj. Flow (vph)	51	474	0%	0%	347	248	203	896	410	0%	0%	0%	
Shared Lane Traffic (%)	01	4/4	U	U	347	240	10%	070	410	U	U	U	
Lane Group Flow (vph)	0	525	0	0	595	0	183	916	410	0	0	0	
	D.P+P		U	U	NA	U				U	U	U	
Turn Type		NA 1.4					Split 3	NA	Prot				2
Protected Phases	4	1 4			1		3	3	3				2
Permitted Phases													
Detector Phase	4	1 4			1		3	3	3				
Switch Phase													
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				29.0		43.0	43.0	43.0				27.0
Total Split (s)	11.0				29.0		43.0	43.0	43.0				27.0
Total Split (%)	10.0%				26.4%		39.1%	39.1%	39.1%				25%
Maximum Green (s)	5.0				23.0		38.0	38.0	38.0				23.0
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	3.0				3.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)					-2.0		-1.0	-1.0	-1.0				
Total Lost Time (s)					4.0		4.0	4.0	4.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?	-9												
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode	Max				C-Max		Max	Max	Max				Ped
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				16.0		31.0	31.0	31.0				15.0
Pedestrian Calls (#/hr)	0.0				0.0		0	31.0	31.0				0
Act Effct Green (s)	U	22.0					39.0	39.0	39.0				U
		32.0 0.29			25.0 0.23		0.35		0.35				
Actuated g/C Ratio								0.35					
v/c Ratio		0.68			0.66		0.36	0.89	0.80				
Control Delay		37.3			42.8		28.7	46.1	45.8				
Queue Delay		0.0			0.0		0.0	0.0	0.0				
Total Delay		37.3			42.8		28.7	46.1	45.8				
LOS		D			D		С	D	D				
Approach Delay		37.3			42.8			43.9					
Approach LOS		D			D			D					
Queue Length 50th (ft)		156			141		104	332	259				
Queue Length 95th (ft)		209			183		171	#459	#421				
Internal Link Dist (ft)		58			333			526			532		
Turn Bay Length (ft)													
Base Capacity (vph)		777			898		513	1024	510				
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			0.66		0.36	0.89	0.80				
TOURGE WE TRAIL		0.00			0.00		0.30	0.07	0.00				

Intersection Summary

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 76 (69%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

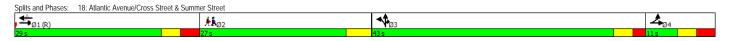
Intersection Signal Delay: 42.3

Intersection Capacity Ullization 63.0%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles. Intersection LOS: D ICU Level of Service B



	•	*	•	†	↓	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
Lane Configurations	LDL	LDIN	INDL	INDI		אטכ	XU J
Traffic Volume (vph)	0	0	0	0	↑↑↑ 1299	0	
Future Volume (vph)	0	0	0	0	1299	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	
Frt							
Flt Protected							
Satd. Flow (prot)	0	0	0	0	5085	0	
Flt Permitted	•	^	•	•	F005	•	
Satd. Flow (perm)	0	0	0	0	5085	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR) Link Speed (mph)	25			25	25		
Link Distance (ft)	107			240	199		
Travel Time (s)	2.9			6.5	5.4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.98	0.98	
Heavy Vehicles (%)	0.72	0.72	0.72	0.72	2%	0.76	
Adj. Flow (vph)	0	0	0	0	1326	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	0	0	1326	0	
Turn Type	-				NA		
Protected Phases					1		5
Permitted Phases							
Detector Phase					1		
Switch Phase							
Minimum Initial (s)					8.0		8.0
Minimum Split (s)					81.0		29.0
Total Split (s)					81.0		29.0
Total Split (%)					73.6%		26%
Maximum Green (s)					76.0		23.0
Yellow Time (s)					3.0		3.0
All-Red Time (s)					2.0		3.0
Lost Time Adjust (s) Total Lost Time (s)					-1.0 4.0		
Lead/Lag					4.0		
Lead-Lag Optimize?							
Vehicle Extension (s)					2.0		2.0
Recall Mode					C-Max		Max
Walk Time (s)					7.0		7.0
Flash Dont Walk (s)					69.0		16.0
Pedestrian Calls (#/hr)					0		0
Act Effct Green (s)					77.0		
Actuated g/C Ratio					0.70		
v/c Ratio					0.37		
Control Delay					2.9		
Queue Delay					0.2		
Total Delay					3.1		
LOS					Α		
Approach Delay					3.1		
Approach LOS					Α		
Queue Length 50th (ft)					53		
Queue Length 95th (ft)				4	58		
Internal Link Dist (ft)	27			160	119		
Turn Bay Length (ft)					05		
Base Capacity (vph)					3559		
Starvation Cap Reductn					1144		
Spillback Cap Reductn					13		
Storage Cap Reductn					0		
Reduced v/c Ratio					0.55		
Intersection Summary							
	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 76 (69%), Referenced t	to phase 1:S	BT, Start	of Green				
Natural Cycle: 110							
Control Type: Actuated-Coordi	inated						
Maximum v/c Ratio: 0.40							

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.40 Intersection Signal Delay: 3.1 Intersection Capacity Utilization 28.4% Analysis Period (min) 15 Intersection LOS: A ICU Level of Service A

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street





	•	•	†	-	-	ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations	****	· · · ·		HUIT	ODL	OD.	
Traffic Volume (vph)	0	0	↑↑ 730	0	0	0	
Future Volume (vph)	0	0	730	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00	
Frt			2.70				
Flt Protected							
Satd. Flow (prot)	0	0	3505	0	0	0	
Flt Permitted	J		2300				
Satd. Flow (perm)	0	0	3505	0	0	0	
Right Turn on Red	J	Yes	2300	Yes			
Satd. Flow (RTOR)				. 00			
Link Speed (mph)	25		25			25	
Link Distance (ft)	111		264			262	
Travel Time (s)	3.0		7.2			7.1	
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0.72	0.72	3%	0%	0.72	0.72	
Adj. Flow (vph)	0	0 / 0	753	0	0	0	
Shared Lane Traffic (%)			700	0			
Lane Group Flow (vph)	0	0	753	0	0	0	
Turn Type			NA	0			
Protected Phases			1				5
Permitted Phases							
Detector Phase			1				
Switch Phase							
Minimum Initial (s)			8.0				8.0
Minimum Split (s)			74.0				26.0
Total Split (s)			74.0				36.0
Total Split (%)			67.3%				33%
Maximum Green (s)			69.0				31.0
Yellow Time (s)			3.0				3.0
All-Red Time (s)			2.0				2.0
Lost Time Adjust (s)			-1.0				0
Total Lost Time (s)			4.0				
Lead/Lag			1.0				
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			62.0				14.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)			70.0				
Actuated g/C Ratio			0.64				
v/c Ratio			0.34				
Control Delay			1.9				
Queue Delay			0.2				
Total Delay			2.1				
LOS			A				
Approach Delay			2.1				
Approach LOS			Α				
Queue Length 50th (ft)			18				
Queue Length 95th (ft)			22				
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)							
Base Capacity (vph)			2230				
Starvation Cap Reductn			645				
Spillback Cap Reductn			043				
Storage Cap Reductn			0				
Reduced v/c Ratio			0.48				
			0.40				
Intersection Summary							
	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 92 (84%), Referenced	to phase 1:1	NBTL, Star	rt of Green				
Natural Cycle: 100	·						
Control Type: Actuated-Coord	dinated						
Maximum v/c Ratio: 0.50							
Intersection Signal Delay: 2.1				Int	ersection	LOS: A	
Intersection Capacity Utilization	on 23.5%					Service A	
Analysis Period (min) 15							
,							
Splits and Phases: 20: Atla	ntic Avenue	Cross Stra	eet & Chris	topher Co	lumbus Pa	ith	
	THIC AVEILUCE	01033 3110	CCL OX CITIES	toprici co	iui iibus i c	itti	
#8 #20							

	•	•	†	<i>></i>	\	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ		.,01		UDL	414
Traffic Volume (vph)	175	0	0	0	135	1123
Future Volume (vph)	175	1000	1000	1000	135	1123
Ideal Flow (vphpl) Lane Width (ft)	1900 11	1900 11	1900 12	1900 12	1900 12	1900 12
Lane Util. Factor	0.97	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97					0.99
Frt	0.050					0.005
Flt Protected Satd. Flow (prot)	0.950 2929	0	0	0	0	0.995 4554
Flt Permitted	0.950	U	U	U	U	0.995
Satd. Flow (perm)	2849	0	0	0	0	4528
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR) Link Speed (mph)	25		25			25
Link Distance (ft)	195		199			185
Travel Time (s)	5.3		5.4			5.0
Confl. Peds. (#/hr)	19		0.00		124	0.00
Peak Hour Factor Heavy Vehicles (%)	0.96 4%	0.96 0%	0.92 0%	0.92 0%	0.99 2%	0.99 2%
Adj. Flow (vph)	182	0%	0%	0%	136	1134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	0	0	0	0	1270
Turn Type	Prot				Split	NA 1
Protected Phases Permitted Phases	5				1	1
Detector Phase	5				1	1
Switch Phase						
Minimum Initial (s)	8.0				8.0	8.0
Minimum Split (s) Total Split (s)	29.0 29.0				81.0 81.0	81.0 81.0
Total Split (%)	26.4%				73.6%	73.6%
Maximum Green (s)	23.0				76.0	76.0
Yellow Time (s)	3.0				3.0	3.0
All-Red Time (s) Lost Time Adjust (s)	3.0 -1.0				2.0	2.0 -1.0
Total Lost Time (s)	5.0					4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0 May				2.0 C May	2.0 C May
Recall Mode Walk Time (s)	Max 7.0				C-Max 7.0	C-Max 7.0
Flash Dont Walk (s)	16.0				69.0	69.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	24.0					77.0
Actuated g/C Ratio v/c Ratio	0.22 0.28					0.70 0.40
Control Delay	8.1					1.4
Queue Delay	0.6					0.4
Total Delay	8.6					1.7
LOS Annroach Delay	A 8.6					A 1.7
Approach Delay Approach LOS	8.0 A					1.7 A
Queue Length 50th (ft)	9					24
Queue Length 95th (ft)	13					18
Internal Link Dist (ft) Turn Bay Length (ft)	115		119			105
Base Capacity (vph)	639					3187
Starvation Cap Reductn	211					1181
Spillback Cap Reductn	0					45
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.43					0.63
Intersection Summary						
Area Type:	CBD					
Cycle Length: 110 Actuated Cycle Length: 110)					
Offset: 76 (69%), Reference		BT, Start	of Green			
Natural Cycle: 110	· ·	., 5.0.1	2.0011			
Control Type: Actuated-Coo	ordinated					
Maximum v/c Ratio: 0.40					oroocat-	1.00. 4
Intersection Signal Delay: 2 Intersection Capacity Utiliza	.o ation 41 3%				ersection	LOS: A f Service <i>F</i>
Analysis Period (min) 15	2511 11570			10	S ECVCI UI	JOI VICE P

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St

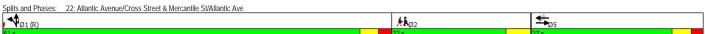




Lane Configurations Lane Configurations Future Volume (right) 25 158 0 0 160 31 16 476 257 0 0 0 Future Volume (right) 25 158 0 0 160 31 16 476 257 0 0 0 Future Volume (right) 1900 1900 1900 1900 1900 1900 1900 190	Lanes, volumes, rin			_		_	_						,	
Lane Configurations Lane Configurations Future Volume (vph) 25 158 0 0 160 31 16 476 257 0 0 0 Future Volume (vph) 25 158 0 0 160 31 16 476 257 0 0 0 Future Volume (vph) 1900 1900 1900 1900 1900 1900 1900 190		7	-	•	•	_	•	1	T		-	¥	∢	
Fulure Violume (right) 25 158 0 0 160 31 16 476 257 0 0 0 0 0 0 0 0 0	Lane Group	EBL		EBR	WBL		WBR	NBL	NBT		SBL	SBT	SBR	Ø2
Fulure Violatine (sph) 25 158 0 0 160 31 16 476 257 0 0 0 0	Lane Configurations		414						4↑	7				
	Traffic Volume (vph)		158			160				257				
Lane Wilf Factor 0.95 0.95 1.00 1.00 1.00 1.00 0.95 0.95 1.00 1.00 1.00 1.00 Ped Bike Factor Fif	Future Volume (vph)													
Lane Utili Factor 0.95 0.95 0.00 1.00 1.00 0.95 0.95 1.00 1.0	Ideal Flow (vphpl)													
Ped Bike Factor Fit 1 0.978	Lane Width (ft)													
Fit Protected		0.95	0.95	1.00	1.00		1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Fill Protected														
Said, Flow (prot) Flow (prot) Said, Flow (perm)	Frt					0.978				0.850				
File Permitted 0,899	Flt Protected													
Sald Flow (perm) Right Turn on Red Said. Flow (RTOR) Link Designer (II) 195 8 167 170		0		0	0	1535	0	0		1454	0	0	0	
Right Turn On Red	Flt Permitted													
Said. Flow (RTOR) Said. Flow (RTOR) 25 25 25 25 25 25 25 2	Satd. Flow (perm)	0	2748		0	1535		0	3122		0	0		
Link Speed (mph)	Right Turn on Red			Yes			Yes			No			Yes	
Link Distance (ff)	Satd. Flow (RTOR)													
Travel Time (s) 5.3	Link Speed (mph)													
Confl. Bikes (Phr)	Link Distance (ft)													
Confl. Bikes (Phr)	Travel Time (s)		5.3			12.5			7.1			5.3		
Peak Hour Factor	Confl. Peds. (#/hr)													
Heavy Vehicles (%)	Confl. Bikes (#/hr)													
Add, Flow (opth)	Peak Hour Factor							0.97	0.97	0.97				
Shared Lane Traffic (%) Lane Group Flow (vph) 0 191 0 0 197 0 0 507 265 0 0 0	Heavy Vehicles (%)													
Lane Group Flow (vph)	Adj. Flow (vph)	26	165	0	0	165	32	16	491	265	0	0	0	
Turn Type Perm NA	Shared Lane Traffic (%)													
Protected Phases 5 5 Permitted Phases 5 5 Permitted Phases 5 5 Permitted Phases 5 5 Permitted Phase 5 5 5 5 1 1 1 1 1 Switch Phase Williamum Ipital (s) 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	Lane Group Flow (vph)			0	0		0				0	0	0	
Permitted Phases 5	Turn Type	Perm						Split	NA	Prot				
Detector Phase 5 5 5 5 5 1 1 1 1 1	Protected Phases		5			5		1	1	1				2
Switch Phase Swit	Permitted Phases													
Minimum Initial (s) 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	Detector Phase	5	5			5		1	1	1				
Minimum Split (s) 27.0 27.0 27.0 27.0 27.0 61.0 61.0 61.0 61.0 22.0 Total Split (s) 27.0 27.0 27.0 27.0 61.0 61.0 61.0 61.0 Total Split (s) 27.0 27.0 27.0 27.0 61.0 61.0 61.0 Total Split (s) 24.5% 24.5% 24.5% 24.5% 55.5% 55.5% 55.5% Maximum Green (s) 22.0 22.0 22.0 22.0 56.0 56.0 Maximum Green (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Wellow Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 Wellow Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 Lost Time (s) 4.0 4.0 4.0 4.0 Lead Lag (lead Lead Lead Lead Lead Lead Lead Lead L	Switch Phase													
Total Split (\$)	Minimum Initial (s)													
Total Split (%)	Minimum Split (s)													
Maximum Green (s) 22.0 22.0 22.0 56.0 56.0 56.0 18.0 Yellow Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 4.0 All Red Time (s) 2.0 <td>Total Split (s)</td> <td></td>	Total Split (s)													
Yellow Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 4.0 All-Red Time (s) 2.0 2.0 2.0 2.0 2.0 0.0 0.0 Lost Time Aglust (s) -1.0 -1	Total Split (%)	24.5%	24.5%					55.5%	55.5%	55.5%				
All-Red Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0	Maximum Green (s)													
Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0 4.0 4.0 Lead Lead Lead Lead Lead-Lag Lead-Lag Clead-Lag Cletters (s) 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	Yellow Time (s)													
Total Lost Time (s) 4.0	All-Red Time (s)	2.0	2.0			2.0		2.0	2.0	2.0				0.0
Lead/Lag Lead	Lost Time Adjust (s)													
Lead-Lag Optimize? Vehicle Extension (s) 2.0 7.0	Total Lost Time (s)		4.0			4.0								
Lead-Lag Optimize? Vehicle Extension (s) 2.0 7.0	Lead/Lag							Lead	Lead	Lead				Lag
Recall Mode Max Max Max C-Max C-Max C-Max Ped Walk Time (s) 7.0 <td>Lead-Lag Optimize?</td> <td></td>	Lead-Lag Optimize?													
Walk Time (s) 7.0 2.0 2.0 7.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 <	Vehicle Extension (s)													
Flash Dont Walk (s) 15.0 15.0 15.0 15.0 49.0 49.0 49.0 11.0 Pedestrian Calls (#/hr) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Recall Mode													
Pedestrian Calls (#hr) 0 0 0 0 0 0 Act Effet Green (s) 23.0 23.0 57.0 57.0 Actualed g/C Ralio 0.21 0.52	Walk Time (s)	7.0												
Act Leffet Green (s) 23.0 23.0 57.0 57.0 Actuated g/C Ratio 0.21 0.21 0.52 0.52 0.52 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.6	Flash Dont Walk (s)	15.0	15.0			15.0		49.0	49.0	49.0				11.0
Actuated g/C Ratio 0.21 0.21 0.52 0.52 v/c Ratio 0.33 0.60 0.31 0.35 Control Delay 42.0 46.5 17.7 19.1 Oueue Delay 4.3 0.0 0.7 1.2 Total Delay 46.3 46.5 18.4 20.3 LOS D D D B C Approach Delay 46.3 46.5 19.1 Approach LOS D D B B C Oueue Length 50th (ft) 72 122 84 84 Oueue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Pedestrian Calls (#/hr)	0						0						0
v/c Ratio 0.33 0.60 0.31 0.35 Control Delay 42.0 46.5 17.7 19.1 Dueue Delay 4.3 0.0 0.7 1.2 Total Delay 46.3 46.5 18.4 20.3 LOS D D B C Approach Delay 46.3 46.5 19.1 Approach LOS D D B Queue Length 50th (ft) 72 122 84 84 Queue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Act Effct Green (s)													
Control Delay 42.0 46.5 17.7 19.1 Queue Delay 4.3 0.0 0.7 1.2 Total Delay 46.3 46.5 18.4 20.3 LOS D D B C Approach Delay 46.3 46.5 19.1 Approach LOS D D B Queue Length 50th (ft) 72 122 84 84 Queue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Storage Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Actuated g/C Ratio													
Queue Delaý 4.3 0.0 0.7 1.2 Total Delay 46.3 46.5 18.4 20.3 LOS D D B C Approach Delay 46.3 46.5 19.1 Approach LOS D D B Oueue Length 50th (ft) 72 122 84 84 Queue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	v/c Ratio		0.33			0.60			0.31					
Total Delay 46.3 46.5 18.4 20.3 LOS D D B C Approach Delay 46.3 46.5 19.1 Approach LOS D D B Oueue Length 50th (ft) 72 122 84 84 Oueue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Control Delay		42.0							19.1				
D D B C	Queue Delay													
Approach Delay 46.3 46.5 19.1 Approach LOS D D B Oueue Length 50th (ft) 72 122 84 84 Queue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0	Total Delay													
Approach LOS D D B Oueue Length 50th (ft) 72 122 84 84 Oueue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) 8ase Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	LOS									С				
Oueue Length 50th (ft) 72 122 84 84 Oueue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Approach Delay													
Queue Length 95th (ft) 110 200 125 139 Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) 8ase Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Approach LOS								В					
Internal Link Dist (ft) 115 377 182 113 Turn Bay Length (ft) Base Capacity (yph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0	Queue Length 50th (ft)													
Turn Bay Length (ft) Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Queue Length 95th (ft)									139				
Base Capacity (vph) 574 327 1617 753 Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Internal Link Dist (ft)		115			377			182			113		
Starvation Cap Reductn 305 0 740 297 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Turn Bay Length (ft)													
Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0	Base Capacity (vph)													
Storage Cap Reductn 0 0 0 0	Starvation Cap Reductn													
	Spillback Cap Reductn													
Reduced v/c Ratio 0.71 0.60 0.58 0.58	Storage Cap Reductn					-								
	Reduced v/c Ratio		0.71			0.60			0.58	0.58				

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 71 (65%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 28.2
Intersection Capacity Utilization 48.1%
Analysis Period (min) 15 Intersection LOS: C ICU Level of Service A



Lanes, Volumes, Timi	ngs												
	۶	→	•	•	←	•	4	†	~	\	↓	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations				ሻ	4						ተ ተጉ		
Traffic Volume (vph)	0	0	0	557	346	0	0	0	0	0	720	118	
Future Volume (vph) Ideal Flow (vphpl)	0 1900	0 1900	0 1900	557 1900	346 1900	0 1900	0 1900	0 1900	0 1900	0 1900	720 1900	118 1900	
Lane Width (ft)	12	12	1700	14	16	12	12	12	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											0.99		
Frt Flt Protected				0.950	0.984						0.979		
Satd. Flow (prot)	0	0	0	1614	1776	0	0	0	0	0	4438	0	
Flt Permitted				0.950	0.984								
Satd. Flow (perm)	0	0	0	1614	1776	0	0	0	0 Yes	0	4438	0 Yes	
Right Turn on Red Satd. Flow (RTOR)			Yes	No		Yes			res		28	res	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s)		7.6			3.2			5.0			12.4	4.4	
Confl. Bikes (#/hr) Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	44 0.98	
Heavy Vehicles (%)	0.72	0.72	0.72	2%	2%	0.76	0.72	0.72	0.72	0.70	2%	1%	
Adj. Flow (vph)	0	0	0	568	353	0	0	0	0	0	735	120	
Shared Lane Traffic (%)	0	^	0	30%	Faa	0	^	^	0	0	OFF	0	
Lane Group Flow (vph) Turn Type	0	0	0	398 Split	523 NA	0	0	0	0	0	855 NA	U	
Protected Phases				5 Spill	5						1		2
Permitted Phases													
Detector Phase Switch Phase				5	5						1		
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				51.0	51.0						35.0		24.0
Total Split (s)				51.0	51.0						35.0		24.0
Total Split (%)				46.4%	46.4%						31.8%		22%
Maximum Green (s) Yellow Time (s)				46.0 3.0	46.0 3.0						29.0 3.0		20.0 4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0 Lead		Loa
Lead/Lag Lead-Lag Optimize?											Leau		Lag
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s) Flash Dont Walk (s)				7.0 39.0	7.0 39.0						7.0 22.0		7.0 13.0
Pedestrian Calls (#/hr)				39.0	39.0						0		0
Act Effct Green (s)				48.0	48.0						31.0		·
Actuated g/C Ratio				0.44	0.44						0.28		
v/c Ratio Control Delay				0.57 27.1	0.68 30.2						0.67 31.7		
Queue Delay				0.0	0.0						0.0		
Total Delay				27.1	30.2						31.7		
LOS Approach Dolov				С	C						C 21.7		
Approach Delay Approach LOS					28.8 C						31.7 C		
Queue Length 50th (ft)				216	303						203		
Queue Length 95th (ft)				320	434						250		
Internal Link Dist (ft) Turn Bay Length (ft)		197			38			105			375		
Base Capacity (vph)				704	774						1270		
Starvation Cap Reductn				0	0						0		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn Reduced v/c Ratio				0 0.57	0.68						0 0.67		
				0.57	0.08						0.07		
Intersection Summary	BD												
Area Type: Cl Cycle Length: 110	עם												
Actuated Cycle Length: 110													
Offset: 4 (4%), Referenced to ph	nase 1:SBT	, Start of	Green										
Natural Cycle: 110	otod												
Control Type: Actuated-Coordina Maximum v/c Ratio: 0.68	иеа												
Intersection Signal Delay: 30.2				In	tersection	LOS: C							
Intersection Capacity Utilization	52.3%				CU Level o		ı						
Analysis Period (min) 15													

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp



Lanes, Volumes, Tim	nngs					
	•	•	†	~	-	. ↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WDL	WBK		HUIN	JUL	JUI
Traffic Volume (vph)	0	65	↑↑ 513	0	0	0
Future Volume (vph)	0	65	513	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Lane Util. Factor Frt	1.00	1.00 0.865	0.95	1.00	1.00	1.00
Flt Protected		0.000				
Satd. Flow (prot)	0	1509	3124	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1509	3124	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR) Link Speed (mph)	25	376	25			25
Link Distance (ft)	559		193			493
Travel Time (s)	15.2		5.3			13.4
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Parking (#/hr)	0	0 71	540	0	0	0
Adj. Flow (vph) Shared Lane Traffic (%)	U	/1	340	U	U	U
Lane Group Flow (vph)	0	71	540	0	0	0
Turn Type		Prot	NA			
Protected Phases		5	1			
Permitted Phases		_				
Detector Phase Switch Phase		5	1			
Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		33.0	77.0			
Total Split (s)		33.0	77.0			
Total Split (%)		30.0%	70.0%			
Maximum Green (s)		29.0	72.0			
Yellow Time (s) All-Red Time (s)		3.0	3.0 2.0			
Lost Time Adjust (s)		1.0	0.0			
Total Lost Time (s)		4.0	5.0			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode		Max	C-Max			
Walk Time (s) Flash Dont Walk (s)		7.0 22.0	7.0 65.0			
Pedestrian Calls (#/hr)		0	05.0			
Act Effct Green (s)		29.0	72.0			
Actuated g/C Ratio		0.26	0.65			
v/c Ratio		0.11	0.26			
Control Delay		0.3	1.7			
Queue Delay Total Delay		0.0	0.3 2.0			
LOS		0.3 A	2.0 A			
Approach Delay	0.3		2.0			
Approach LOS	A		Α			
Queue Length 50th (ft)		0	21			
Queue Length 95th (ft)		0	23			
Internal Link Dist (ft)	479		113			413
Turn Bay Length (ft) Base Capacity (vph)		674	2044			
Starvation Cap Reductn		0/4	834			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.11	0.45			
Intersection Summary						
	CBD					
Area Type: (Cycle Length: 110	CDD					
Area Type: Cycle Length: 110 Actuated Cycle Length: 110						
Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced to		IBT, Start	of Green			
Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced to Natural Cycle: 110	to phase 1:N	IBT, Start	of Green			
Area Type: Cycle Length: 110 Actualed Cycle Length: 110 Offset: 68 (62%), Referenced t Natural Cycle: 110 Control Type: Actualed-Coordin	to phase 1:N	IBT, Start	of Green			
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.26	to phase 1:N	IBT, Start	of Green	lo	torsaction	1 OS: A
Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 68 (62%), Referenced t Natural Cycle: 110 Control Type: Actuated-Coordii	to phase 1:N	IBT, Start	of Green		tersection CU Level o	

	•	→	•	•	—	•	•	†	~	<u> </u>	+	1	
ana Craun													
ne Group ne Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT † î>	SBR	
fic Volume (vph)	0	0	104	304	41↑ 335	0	0	0	0	0	T I→ 454	74	
ure Volume (vph)	0	0	104	304	335	0	0	0	0	0	454	74	
al Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ne Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	
d Bike Factor				2.70	2.70						0.98	2.70	
			0.865								0.979		
Protected					0.977								
d. Flow (prot)	0	0	1465	0	3128	0	0	0	0	0	3018	0	
Permitted					0.977								
d. Flow (perm)	0	0	1465	0	3128	0	0	0	0	0	3018	0	
ht Turn on Red			No	No		Yes			Yes			Yes	
d. Flow (RTOR)											17		
Speed (mph)		25			25			25			25		
Distance (ft)		127			177			455			423		
vel Time (s)		3.5			4.8			12.4			11.5		
fl. Peds. (#/hr)												135	
I. Bikes (#/hr)												40	
Hour Factor	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	0.99	0.99	0.99	
y Vehicles (%)	0%	0%	1%	2%	1%	0%	0%	0%	0%	0%	3%	2%	
ing (#/hr)												0	
Flow (vph)	0	0	109	313	345	0	0	0	0	0	459	75	
ed Lane Traffic (%)													
e Group Flow (vph)	0	0	109	0	658	0	0	0	0	0	534	0	
Туре			Perm	Perm	NA						NA		
ected Phases					1						3		
nitted Phases			1	1									
ctor Phase			1	1	1						3		
ch Phase													
mum Initial (s)			10.0	10.0	10.0						10.0		
num Split (s)			73.0	73.0	73.0						37.0		
Split (s)			73.0	73.0	73.0						37.0		
Split (%)			66.4%	66.4%	66.4%						33.6%		
mum Green (s)			64.0	64.0	64.0						32.0		
w Time (s)			3.0	3.0	3.0						3.0		
ed Time (s)			6.0	6.0	6.0						2.0		
Time Adjust (s)			-5.0		-5.0						-1.0		
Lost Time (s)			4.0		4.0						4.0		
Lag													
I-Lag Optimize?													
cle Extension (s)			2.0	2.0	2.0						2.0		
ll Mode			C-Max	C-Max	C-Max						Max		
Time (s)			7.0	7.0	7.0						7.0		
Dont Walk (s)			57.0	57.0	57.0						25.0		
strian Calls (#/hr)			0	0	0						0		
fct Green (s)			69.0		69.0						33.0		
ed g/C Ratio			0.63		0.63						0.30		
itio			0.12		0.34						0.58		
ol Delay			8.7		10.3						34.6		
e Delay			0.0		0.0						0.0		
Delay			8.7		10.3						34.6		
			Α		В						С		
roach Delay		8.7			10.3						34.6		
roach LOS		Α			В						С		
ue Length 50th (ft)			29		106						162		
ue Length 95th (ft)			52		139						220		
nal Link Dist (ft)		47			97			375			343		
Bay Length (ft)													
Capacity (vph)			918		1962						917		
ration Cap Reductn			0		0						0		
ack Cap Reductn			0		0						0		
ge Cap Reductn			0		0						0		
ced v/c Ratio			0.12		0.34						0.58		
section Summary	ID.												
Type: CB	טו												
e Length: 110													
ated Cycle Length: 110		M/DT:											
et: 104 (95%), Referenced to	phase 1:	WBTL, St	tart of Gree	en									
ral Cycle: 110													
ol Type: Actuated-Coordinat	ted												
num v/c Ratio: 0.58													
section Signal Delay: 20.1					tersection								
ection Capacity Utilization 6	5.1%			IC	U Level of	Service C							
Period (min) 15													
hases: 25: Surface	/Purchase	e/SASB &	k North Str	eet/I-93 N	3 Off-Ram	р							

Splits and Phases: 25: Surface/Purchase/SASB & North Street/I-93 NB Off-Ramp ↓ ø3

affic Volume (vph) 751 46 0 0 0 affic Volume (vph) 751 46 0 0 0 all Flow (vphpl) 1900 1900 1900 1900 1900 all Flow (vphpl) 1900 1900 1900 1900 1900 all Flow (vphpl) 1900 1900 1900 1900 1900 the Ulli Factor 1900 1900 1900 1900 1900 1900 the Bad Bike Factor 1900 1900 1900 1900 1900 the Protected 0.950 0.958 1517 0 0 0 the Permitted 0.950 0.958 1517 0 0 0 and Lister (prh) 1498 1517 0 0 0 and Lister (prh) 25 2 2 2 2 0 the Permitted 1900 1900 1900 1900 1900 1900 1900 190		← ·	•	†	~	-	. ↓	4	
affic Volume (vph) 751 46 0 0 0 affic Volume (vph) 751 46 0 0 0 all Flow (vphpl) 1900 1900 1900 1900 1900 all Flow (vphpl) 1900 1900 1900 1900 1900 all Flow (vphpl) 1900 1900 1900 1900 1900 the Ulli Factor 1900 1900 1900 1900 1900 1900 the Bad Bike Factor 1900 1900 1900 1900 1900 the Protected 0.950 0.958 1517 0 0 0 the Permitted 0.950 0.958 1517 0 0 0 and Lister (prh) 1498 1517 0 0 0 and Lister (prh) 25 2 2 2 2 0 the Permitted 1900 1900 1900 1900 1900 1900 1900 190	T WBR	WBT W	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
affic Volume (vph) 751 46 0 0 0 Iture Volume (vph) 751 46 0 0 0 Iture Volume (vph) 751 46 0 0 0 Iture Volume (vph) 751 46 0 0 0 Iture Volume (vph) 751 46 0 0 0 Ince Util. Factor 0.95 0.95 1.00 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 1900 Iture Volume (vph) 1900 1900 1900 1900 1900 Iture Volume (vph) 1498 1517 0 0 0 Iture Volume (vph) 1498 1517 0 0 0 Iture Volume (vph) 1498 1517 0 0 0 Iture Volume (vph) 169 300 Iture Volume (vph) 169 300 Iture Volume (vph) 169 300 Iture Volume (vph) 25 25 20 Iture Volume (vph) 26 300 300 300 300 300 300 300 300 300 30	· WDIC	***D1 **	IVUL	†	TVDIC	JDL	351	JDIK	52
turue Volume (vph) 751 46 0 0 0 ala Flow (vphph) 1900 1900 1900 1900 1900 ala Blactor 0.95 0.95 1.00 1.00 1.0 ala Blake Factor 1 Protected 0.950 0.958 atd. Flow (prot) 1498 1517 0 0 ght Turn on Red No Yes atd. Flow (RTOR) ak Speed (mph) 25 25 2 ala Split (s) 4.6 10 are Tarffic (%) 42% are Group Flow (vph) 479 372 0 0 are Lane Traffic (%) 42% are Group Flow (vph) 449 372 0 0 are Lane Traffic (%) 42% are Group Flow (vph) 449 372 0 0 are Type Split NA olected Phases 1 1 armitted Phases ala Split (s) 15.0 15.0 atal Split (s) 15.0 15.0 atal Split (s) 15.8% stammur Green (s) 5.2.0 52.0 ala Split (s) 15.0 15.0 atal Lost Time (s) 4.0 4.0 adul Lost Time (s) 5.3 0 53.0 clusted gC Ratio 0.48 0.48 adul Lost Time (s) 2.0 2.0 cut Left Groen (s) 5.3 0 53.0 clusted gC Ratio 0.48 0.48 adul Lost Time (s) 4.0 4.0 adul Lost Time (0 0	0	0	562	34	0	0	0	
aal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 190		0	0	562	34	0	0	0	
Protected 0.950 0.958	0 1900	1900 1	1900	1900	1900	1900	1900	1900	
Protected			1.00	0.95	0.95	1.00	1.00	1.00	
Protected (d. Flow (prot)) 1498				0.99					
td. Flow (prot)				0.991					
Permitted 0.950 0.958 1d. Flow (perm) 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1517 0 0 0 1498 1518 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 1498 1518 0 0 0 0 1498 1518 0 0 0 0 0 0 0 0 0									
td. Flow (perm)	0 0	0	0	3083	0	0	0	0	
the Turn on Red td. Flow (RTOR) k. Speed (mph) k Distance (ft) k Distance (ft) life (s) k Distance (ft) life (s)									
id. Flow (RTOR) k Speed (mph) 25 26 k Distance (ft) 169 38 vel Time (s) 4.6 100 1fl. Bikes (#/hr) ak Hour Factor avy Vehicles (%) 38 0% 0% 0% 0% 0% 0% 0 if low (vph) 774 47 0 0 ared Lane Traffic (%) 42% rea Group Flow (vph) 774 10 10 rea Type Split NA velected Phases 1 1 remitled Phases tector Phase 1 rimum Initial (s) 15.0 15.0 1al Split (s) 15.0 15.0 1al Split (s) 15.0 15.1 18 18 19 19 10 10 11 11 11 11 11 11	0 0	0	0	3083	0	0	0	0	
ik Speed (mph)	Yes	,			Yes			Yes	
As Distance (ft) 169 38 38 avel Time (s) 4.6 10 nfl. Bikes (*fhr) ak Hour Factor 0.97 0.97 0.97 0.97 0.92 0.5 avy Vehicles (%) 3% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%				6					
avel Time (s)		25		25			25		
Infl. Bikes (#/hr) ak Hour Factor 0.97 0.97 0.97 0.92 0.9 ak Hour Factor 0.97 0.97 0.97 0.92 0.9 ak Hour Factor 0.97 0.97 0.97 0.92 0.9 ak Hour Factor 0.97 0.97 0.99 0.90 j. Flow (vph) 774 47 0 0 ared Lane Traffic (%) 42% ne Group Flow (vph) 449 372 0 0 m Type Split NA olected Phases 1 1 minum Flye Split NA olected Phases 1 1 1 minum Split (s) 15.0 15.0 tal Split (s) 57.0 57.0 tal Split (s) 51.8% 51.8% siximum Green (s) 52.0 52.0 sillow Time (s) 3.0 3.0 -Red Time (s) 2.0 2.0 st Time Adjust (s) -1.0 -1.0 tal Lost Time (s) 4.0 4.0 ad/Lag Lead Lead ad-Lag Optimize? hicle Extension (s) 2.0 2.0 call Mode C-Max C-Max sik Time (s) six Dont Walk (s) destrian Calls (#/hr) t Effet Green (s) 1.0 tuated g/C Ratio 0.48 0.48 Ratio 0.62 0.51 ntrol Delay 25.8 22.7 seue Delay 0.0 0.0 tal Delay 25.8 22.7 seue Length 50th (ft) 238 184 seue Length 95th (ft) 355 277 email Link Dist (ft) 89 30 may a so a so a so a so a so a so a so a		386		493			376		
ak Hour Factor 0.97 0.97 0.97 0.92 0.52 avy Vehicles (%) 3% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	5	10.5		13.4			10.3		
avy Vehicles (%) 3% 0% 0% 0% 0% 0 P. Flow (vph) 774 47 0 0 0 are and Lane Traffic (%) 42% are Group Flow (vph) 449 372 0 0 m. Type Split NA before Phases 1 1 1 m. Type Split NA before Phases 1 1 1 m. Type Split NA before Phase International Split (%) 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0					68				
j. Flow (vph) 774 47 0 0 ared Lane Traffic (%) 42% ne Group Flow (vph) 449 372 0 0 m Type Split NA olected Phases 1 1 mitted Phases dector Phase 1 1 mimum Initial (s) 8.0 8.0 nimum Split (s) 15.0 15.0 tal Split (s) 57.0 57.0 tal Split (s) 51.8% 51.8% siximum Green (s) 52.0 52.0 sllow Time (s) 3.0 3.0 -Red Time (s) 2.0 2.0 st Time Adjust (s) -1.0 -1.0 tal Lost Time (s) 4.0 4.0 ad/Lag Lead Lead ad-Lead ad			0.95	0.95	0.95	0.92	0.92	0.92	
ared Lane Traffic (%) 42% the Group Flow (yph) 449 372 0 0 m Type Split NA blected Phases 1 1 titch Phases tector Phase 1 1 titch Phase titch Phase titch Phase 1 1 1 titch Phase titch Phase 1 1 1 titch Phase titch Phase 1 1 1 ti			0%	4%	0%	0%	0%	0%	
ne Group Flow (vph)	0 0	0	0	592	36	0	0	0	
m Type									
Interest Phases	0 0	0	0	628	0	0	0	0	
rmitted Phases tector Phase tector Phase titch Phase nimum Initial (s)				NA					
Itelator Phase 1				5					2
iltich Phase iltimum Initial (s) 8.0 8.0 ilmum Initial (s) 15.0 15.0 al Spitt (s) 57.0 57.0 al Spitt (%) 51.8% 51.8% simum Green (s) 52.0 52.0 ilow Time (s) 3.0 3.0 Red Time (s) 2.0 2.0 st Time Adjust (s) -1.0 -1.0 al Lost Time (s) 4.0 4.0 ad/Lag Lead Lead ad-Lag Optimize? hicle Extension (s) 2.0 2.0 call Mode C-Max C-Max ilk Time (s) sh Dont Walk (s) destrian Calls (#/hr) LEffct Green (s) 3.0 53.0 tauted g/C Ratio 0.48 0.48 Ratio 0.62 0.51 ntrol Delay 25.8 22.7 seue Delay 0.0 0.0 al Delay 25.8 22.7 s C C proach Delay 24.4 proach LOS C eue Length 50th (ft) 238 184 eue Length 95th (ft) 355 277 ernal Link Dist (ft) 89 30 may be a special or of the proach LOS C eue Length 95th (ft) 355 277 ernal Link Dist (ft) 721 730 may length (ft) 89 30 may length (ft) 80 0.62 0.51 ernal Link Dist (ft) 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 may length (ft) 92 0 0 0 0 0 may length (ft) 92 0 0 0 0 0 may length (ft) 92 0 0 0 0 0 may length (ft) 92 0 0 0 0 0 may length (ft) 92 0 0 0 0 0 0 may length (ft) 92 0 0 0 0 0 0 0									
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State Stat				14.0					18.0
ximum Green (s) 52.0 52.0 low Time (s) 3.0 3.0 3.0 Red Time (s) 2.0 2.0 st Time Adjust (s) -1.0 -1.0 at Lost Time (s) 4.0 4.0 add/Lag				35.0					18.0
Illow Time (s) 3.0 3.0 3.0 Red Time (s) 2.0 2.0 st Time Adjust (s) 1.0 -1.0 st Time Adjust (s) 4.0 4.0 addLag Lead Lead add-Lag Optimizer? shicle Extension (s) 2.0 2.0 call Mode C-Max C-Max call Mode C-Max C-Max call K Time (s) sh Dont Walk (s) destrian Calls (#/hr) leffed Green (s) 53.0 53.0 uauted g/C Ratio 0.48 0.48 Ratio 0.62 0.51 ntrol Delay 25.8 22.7 eue Delay 0.0 0.0 al Delay 25.8 22.7 se United Extension (s) 2.0 2.0 call Mode 2.0 call				31.8%					16%
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st Time Adjust (s)				3.0					4.0
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ad/Lag Lead Lead ad-Lag Optimize? hicke Extension (s) 2.0 2.0 call Mode C-Max C-Max should be sh				-1.0					
ad-Lag Optimize? hicle Extension (s) 2.0 2.0 call Mode C-Max C-Max alk Time (s) sish Dont Walk (s) destrian Calls (#hr) 1 Effet Green (s) 53.0 53.0 tuated g/C Ratio 0.48 0.48 Ratio 0.62 0.51 mitrol Delay 25.8 22.7 leue Delay 0.0 0.0 tal Delay 25.8 22.7 leue Delay 0.0 0.0 tal Delay 25.8 22.7 leue Length 95th (ft) 238 184 leue Length 95th (ft) 355 277 lernal Link Dist (ft) 89 30 may a 194 may				4.0					les.
thicle Extension (s) 2.0 2.0 call Mode C-Max C-Max A alk Time (s) ash Dont Walk (s) destrian Calls (#/hr) 1 teffct Green (s) 53.0 53.0 tuated g/C Ratio 0.48 0.48 : Ratio 0.62 0.51 introl Delay 25.8 22.7 ieue Delay 0.0 0.0 tal Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 25.8 22.7 ieue Delay 26.4 ieue Length Soth (ft) 238 184 ieue Length Soth (ft) 355 277 ieuenal Link Dist (ft) 89 30 ieue Length Foth (ft) 355 277 ieuenal Link Dist (ft) 89 30 ieue Length (ft) 50 0.0 ieue Length Guerten 0 0 0 iillback Cap Reductn 0 0 0 0 iillback Cap Reductn 0 0 0 0									Lag
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Luated g/C Ratio 0.48 0.48 Ratio 0.62 0.51 Intol Delay 25.8 22.7 Ieue Delay 0.0 0.0 Iat Delay 25.8 22.7 Is C C C S C C S C C Froach LOS C C eue Length 50th (ft) 238 184 eue Length 95th (ft) 355 277 emal Link Dist (ft) 89 30 m Bay Length (ft) sec Capacity (vph) 721 730 arradion Cap Reductn 0 0 0 aillback Cap Reductn 0 0 0 duced v/c Ratio 0.62 0.51 ersection Summary aa Type: CBD CBD cle Length: 110 Luated Cycle Length: 110 set: 72 (65%), Referenced to phase 1:EBTL, Start of Green tural Cycle: 60				31.0					
Ratio 0.62 0.51 Introl Delay 25.8 22.7 level Delay 0.0 0.0 tal Delay 25.8 22.7 S C C C proach LOS c C C eue Length 50th (ft) 238 184 eue Length 95th (ft) 355 277 emal Link Dist (ft) 89 30 may a separately (pth) 721 730 earapting Cap Reducth 0 0 0 illiback Cap Reducth 0 0 0 illiback Cap Reducth 0 0 0 duced v/c Ratio 0.62 0.51 eresection Summary aa Type: CBD cle Length: 110 set: 72 (65%), Referenced to phase 1:EBTL, Start of Green lural Cycle: 60				0.28					
ntrol Delay 25.8 22.7 eue Delay 0.0 0.0 lat lat Delay 25.8 22.7 IS C C C proach Delay 24.4 proach LOS C C eue Length 50th (ft) 238 184 eue Length 95th (ft) 355 277 ernal Link Dist (ft) 89 30 mr Bay Length (ft) 89 30 mraylien Cap Reductn 0 0 mrayl				0.72					
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uated Cycle Length: 110 set: 72 (65%), Referenced to phase 1:EBTL, Start of Green ural Cycle: 60									
set: 72 (65%), Referenced to phase 1:EBTL, Start of Green ural Cycle: 60									
tural Cycle: 60									
ntrol Type: Actuated-Coordinated									
ximum v/c Ratio: 0.72	1000								
	ion LOS: C								
	el of Service A	evel of Ser							
alysis Period (min) 15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EDI	LDK	WDL	WD1 }	WDIX	INDL		NDK	JUL	JUI	SUK
Traffic Volume (vph)	27	T 47	0	0	107	88	472	41} 760	74	0	0	0
Future Volume (vph)	27	47	0	0	107	88	472	760	74	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.77	1.00	1.00	1.00	0.84	1.00	0.73	0.93	0.73	1.00	1.00	1.00
Frt	0.11				0.939			0.991				
Flt Protected	0.950				5.757			0.982				
Satd. Flow (prot)	1562	1676	0	0	1317	0	0	2924	0	0	0	0
Flt Permitted	0.521		,	,		,		0.982	,			,
Satd. Flow (perm)	660	1676	0	0	1317	0	0	2577	0	0	0	0
Right Turn on Red	230		Yes	,		Yes		20.7	Yes			Yes
Satd. Flow (RTOR)			.00			.00		10	. 00			, 00
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		157			265			376			181	
Travel Time (s)		4.3			7.2			10.3			4.9	
Confl. Peds. (#/hr)	496	7.3			1.2	496	394	10.3	2640		7.7	
Confl. Bikes (#/hr)	470					10	374		67			
Peak Hour Factor	0.85	0.85	0.85	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	4%	2%	4%	0.93	2%	4%	0.98	5%	0.98	0.92	0.92	0.92
	4%	270	476	0%	276	476	U%	3%	0%	U%	U%	0%
Parking (#/hr)	32	55	C	0	115	95	482	776		0	0	0
Adj. Flow (vph)	32	55	0	0	115	95	482	116	76	0	U	0
Shared Lane Traffic (%)	20	r.c.		^	210			1004		0	0	
Lane Group Flow (vph)	32	55	0	0	210	0	0	1334	0	0	0	0
Turn Type	Perm	NA			NA		Split	NA				
Protected Phases		5			5		1	1				
Permitted Phases	5				_							
Detector Phase	5	5			5		1	1				
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0				
Minimum Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (s)	39.0	39.0			39.0		71.0	71.0				
Total Split (%)	35.5%	35.5%			35.5%		64.5%	64.5%				
Maximum Green (s)	34.0	34.0			34.0		66.0	66.0				
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0			-1.0				
Total Lost Time (s)	4.0	4.0			4.0			4.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Recall Mode	Max	Max			Max		C-Max	C-Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	27.0	27.0			27.0		59.0	59.0				
Pedestrian Calls (#/hr)	50	50			50		09.0	0				
Act Effct Green (s)	35.0	35.0			35.0		J	67.0				
Actuated g/C Ratio	0.32	0.32			0.32			0.61				
v/c Ratio	0.32	0.32			0.50			0.75				
	29.4	27.2			35.5			8.6				
Control Delay												
Queue Delay	0.0	0.0			0.0			1.4				
Total Delay	29.4	27.2			35.5			10.0				
LOS Approach Dolou	С	C			D			B				
Approach Delay		28.0			35.5			10.0				
Approach LOS		C			D			В				
Queue Length 50th (ft)	16	27			120			69				
Queue Length 95th (ft)	39	54			195			111			4	
Internal Link Dist (ft)		77			185			296			101	
Turn Bay Length (ft)												
Base Capacity (vph)	210	533			419			1784				
Starvation Cap Reductn	0	0			0			186				
Spillback Cap Reductn	0	0			0			255				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.15	0.10			0.50			0.87				
Intersection Summary												
-	CDC											
Area Type:	CBD											
Cyclo Longth: 110												

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 43 (39%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.3
Intersection Capacity Utilization 90.0%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service E

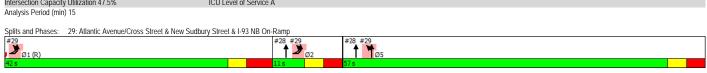
Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street





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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø5
Lane Configurations			↑↑ 847						
Traffic Volume (vph)	0	0		29 29	0	0			
Future Volume (vph)	0 1900	0 1900	847 1900	1900	0 1900	1900			
Ideal Flow (vphpl) Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00			
Ped Bike Factor	1.00	1.00	0.99	0.73	1.00	1.00			
reu bike racioi Frt			0.995						
Flt Protected									
Satd. Flow (prot)	0	0	3469	0	0	0			
Flt Permitted									
Satd. Flow (perm)	0	0	3469	0	0	0			
Right Turn on Red		Yes	_	Yes					
Satd. Flow (RTOR)	25		5			25			
Link Speed (mph)	25		25			25			
Link Distance (ft)	221 6.0		181 4.9			194 5.3			
Travel Time (s)	6.0		4.9	152		5.3			
Confl. Peds. (#/hr) Confl. Bikes (#/hr)				152 57					
Peak Hour Factor	0.92	0.92	0.98	0.98	0.92	0.92			
Heavy Vehicles (%)	0.92	0.92	3%	0.98	0.92	0.92			
Adj. Flow (vph)	0 / 0	0.0	864	30	0 / 0	070			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	894	0	0	0			
Turn Type			NA						
Protected Phases			25				1	2	5
Permitted Phases									
Detector Phase			2 5						
Switch Phase							40.0	4.0	40.0
Minimum Initial (s)							10.0	4.0	10.0
Minimum Split (s) Total Split (s)							42.0 42.0	10.0 11.0	57.0 57.0
Total Split (S) Total Split (%)							42.0 38%	10%	57.0
Maximum Green (s)							35.0	5.0	52%
Yellow Time (s)							3.0	3.0	3.0
All-Red Time (s)							4.0	3.0	3.0
Lost Time Adjust (s)							7.0	3.0	3.0
Total Lost Time (s)									
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?									
Vehicle Extension (s)							2.0	2.0	2.0
Recall Mode							C-Max	Max	Max
Walk Time (s)							7.0		7.0
Flash Dont Walk (s)							28.0		44.0
Pedestrian Calls (#/hr) Act Effct Green (s)			62.0				0		30
Actuated g/C Ratio			0.56						
v/c Ratio			0.36						
Control Delay			8.6						
Queue Delay			3.2						
Total Delay			11.8						
LOS			В						
Approach Delay			11.8						
Approach LOS			В						
Queue Length 50th (ft)			138						
Queue Length 95th (ft)			156			4			
Internal Link Dist (ft)	141		101			114			
Turn Bay Length (ft)			1057						
Base Capacity (vph)			1957						
Starvation Cap Reductn			932 208						
Spillback Cap Reductn Storage Cap Reductn			208						
Reduced v/c Ratio			0.87						
			0.07						
Intersection Summary	Other								
	Other								
Cycle Length: 110 Actuated Cycle Length: 110									
Actuated Cycle Length: 110 Offset: 16 (15%), Referenced	to phase 1.E	RI Stort	of Groop						
Natural Cycle: 110	to pridate 1.E	.DE, Start	or Orccii						
Control Type: Actuated-Coord	dinated								
Maximum v/c Ratio: 0.57									
Intersection Signal Delay: 11.					ersection				
Intersection Capacity Utilization	on 29.6%			IC	U Level of	Service A	1		
Analysis Period (min) 15									
Splits and Phases: 28: Atla	ntic Avenue/	Cross Stre	eet & Saler	n Street					
#29							#28 #29		#28
1 01 (0)						- 1	T 7		1 T

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Lane Group	EBL2	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER	Ø1	Ø2
ane Group ane Configurations	EBL2	EBL TT	EBK	NBL		381	SBK	JEL	SEK	וש	WZ
raffic Volume (vph)	256	125	0	210	41↑ 654	0	0	0	0		
uture Volume (vph)	256	125	0	210	654	0	0	0	0		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	12	13	12	11	11	12	12	12	12		
ane Util. Factor	0.95	0.97	1.00	0.95	0.95	1.00	1.00	1.00	1.00		
rt											
It Protected		0.950			0.988						
Satd. Flow (prot)	0	3547	0	0	3293	0	0	0	0		
Flt Permitted		0.950			0.988						
Satd. Flow (perm)	0	3547	0	0	3293	0	0	0	0		
Right Turn on Red	No		Yes								
Satd. Flow (RTOR)		0.5			05	05		05			
_ink Speed (mph)		25			25	25		25			
_ink Distance (ft)		112			194	254		234			
Travel Time (s)	0.07	3.1	0.07	0.00	5.3	6.9	0.00	6.4	0.00		
Peak Hour Factor	0.96	0.96	0.96	0.98	0.98	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	2%	2%	0%	10%	3%	0%	0%	0%	0%		
Adj. Flow (vph)	267	130	0	214	667	0	0	0	0		
Shared Lane Traffic (%)	0	207	0	0	001	0	0	0	0		
Lane Group Flow (vph)	0 Drot	397 Drot	0	0 Split	881	0	0	0	0		
Turn Type Protected Phases	Prot	Prot		Split 5	NA					1	2
Protected Phases	12	12		5	5					1	2
Permitted Phases	1.0	1.0		F	г						
Detector Phase Switch Phase	12	12		5	5						
				10.0	10.0					10.0	4.0
Minimum Initial (s) Minimum Split (s)				10.0 57.0	10.0 57.0					42.0	4.0 10.0
Total Split (s)				57.0	57.0					42.0	11.0
Fotal Split (%)				51.8%	51.8%					38%	10%
Maximum Green (s)				51.8%	51.8%					35.0	5.0
Yellow Time (s)				3.0	3.0					35.0	3.0
All-Red Time (s)				3.0	3.0					4.0	3.0
				3.0						4.0	3.0
Lost Time Adjust (s)					-1.0						
Total Lost Time (s)					5.0					Load	Loa
_ead/Lag										Lead	Lag
Lead-Lag Optimize?				2.0	2.0					2.0	2.0
Vehicle Extension (s)				2.0	2.0					2.0	2.0
Recall Mode				Max	Max					C-Max	Max
Walk Time (s)				7.0	7.0					7.0	
Flash Dont Walk (s)				44.0 30	44.0					28.0	
Pedestrian Calls (#/hr)		47.0		30	30 52.0					0	
Act Effct Green (s)											
Actuated g/C Ratio		0.43			0.47						
v/c Ratio Control Delay		0.26 20.9			0.57 6.5						
Queue Delay		0.0			0.1						
Total Delay		20.9			6.6						
LOS		20.9 C			0.0 A						
Approach Delay		20.9			6.6						
Approach LOS		20.9 C			0.0 A						
Queue Length 50th (ft)		91			220						
Queue Length 95th (ft)		126			206						
Internal Link Dist (ft)		32			114	174		154			
Turn Bay Length (ft)		32			114	174		104			
Base Capacity (vph)		1515			1556						
Starvation Cap Reductn		0			82						
Spillback Cap Reductn		0			02						
Storage Cap Reductn		0			0						
Reduced v/c Ratio		0.26			0.60						
		0.20			0.00						
ntersection Summary											
	Other										
Cycle Length: 110											
Actuated Cycle Length: 110											
Offset: 16 (15%), Referenced	to phase 1:E	BL, Start	of Green								
Natural Cycle: 110											
Control Type: Actuated-Coord	dinated										
Maximum v/c Ratio: 0.57											
ntersection Signal Delay: 11.0	0				tersection						
Intersection Capacity Utilizatio	on 47.5%			IC	U Level of	Service A	4				
nalucic Poriod (min) 15											



HCM Unsignalized into	croccii	он Сар	acity A	iaiysis		
	•	•	†	~	\	ļ
	•	-		-		-
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		7	ħβ			
Traffic Volume (veh/h)	0	0	836	292	0	0
Future Volume (Veh/h)	0	0	836	292	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	909	317	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)			158			136
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1068	613			1226	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	693	150			882	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	320	733			649	
	WD 1	ND 1	NID 0			
Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	0	606	620			
Volume Left	0	0	0			
Volume Right	0	0	317			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.36	0.36			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	0.0	0.0				
Approach LOS	Α					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			35.8%	IC	U Level o	f Service
Analysis Period (min)			15	10	S ECTOI O	COLVICE
raidigoio i Gilou (iliili)			13			

HCM Unsignalized Inte	ersecti	on Cap	acity A	nalysis		
	•	_	←	•	\	4
	-	-		-	_	-
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		ર્ન	1>		W	
Traffic Volume (veh/h)	15	19	26	0	2	100
Future Volume (Veh/h)	15	19	26	0	2	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.82	0.82	0.81	0.81
Hourly flow rate (vph)	16	20	32	0.02	2	123
Pedestrians	10	13	35	,	137	123
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		4.0	4.0		4.0	
Right turn flare (veh)			3		- 11	
		None	None			
Median type		None	None			
Median storage veh)		170				
Upstream signal (ft)		179				
pX, platoon unblocked	4/0				05.4	400
vC, conflicting volume	169				256	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169				256	182
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	84
cM capacity (veh/h)	1259				626	759
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	36	32	125			
Volume Left	16	0	2			
Volume Right	0	0	123			
cSH	1259	1700	756			
Volume to Capacity	0.01	0.02	0.17			
Queue Length 95th (ft)	1	0	15			
Control Delay (s)	3.6	0.0	10.7			
Lane LOS	Α		В			
Approach Delay (s)	3.6	0.0	10.7			
Approach LOS			В			
Intersection Summary						
Average Delay			7.6			
			29.5%	10	U Level of	Condoc
Intersection Capacity Utilization				IC	U Level of	Service
Analysis Period (min)			15			

HCM Unsignalized Inte	ersecti	on Cap	acity A	nalysis		
	•	•	†	~	\	Ţ
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		77	^			
Traffic Volume (veh/h)	0	25	944	0	0	0
Future Volume (Veh/h)	0	25	944	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.79	0.79	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	0	32	983	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)			151			183
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	983	492			983	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	101				101	
vCu, unblocked vol	406	0			406	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s) tF (s)	3.5	3.3			2.2	
p0 queue free %	100	3.3 96			100	
cM capacity (veh/h)	449	836			905	
					900	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2		
Volume Total	16	16	492	492		
Volume Left	0	0	0	0		
Volume Right	16	16	0	0		
cSH	836	836	1700	1700		
Volume to Capacity	0.02	0.02	0.29	0.29		
Queue Length 95th (ft)	1	1	0	0		
Control Delay (s)	9.4	9.4	0.0	0.0		
Lane LOS	A	Α	0.5			
Approach Delay (s)	9.4		0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			36.1%	IC	U Level o	f Service
Analysis Period (min)			15			

HCM Unsignalized Inte	ersection	лі Сар	асну А	manysis		
	٠	•	4	Ť	Ţ	1
Marriage	EDI	•		NDT	CDT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		_		ની	1≽	
Traffic Volume (veh/h)	0	0	15	44	3	10
Future Volume (Veh/h)	0	0	15	44	3	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.81	0.81
Hourly flow rate (vph)	0	0	16	48	4	12
Pedestrians	104					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				460		
pX, platoon unblocked				-100		
vC, conflicting volume	194	114	120			
vC1, stage 1 conf vol	174	117	120			
vC2, stage 2 conf vol						
vCu, unblocked vol	194	114	120			
tC, single (s)	6.4	6.2	4.2			
	0.4	0.2	4.2			
tC, 2 stage (s) tF (s)	3.5	3.3	2.3			
p0 queue free %	100	100	99			
cM capacity (veh/h)	791	944	1437			
Direction, Lane #	NB 1	SB 1				
Volume Total	64	16				
Volume Left	16	0				
Volume Right	0	12				
cSH	1437	1700				
Volume to Capacity	0.01	0.01				
Queue Length 95th (ft)	0.01	0.01				
Control Delay (s)	1.9	0.0				
Lane LOS	1.9 A	0.0				
	1.9	0.0				
Approach Delay (s)	1.9	U.U				
Approach LOS						
Intersection Summary						
			1.6			
Average Delay Intersection Capacity Utilization			1.6 16.4%	IC	U Level of	Service

· · · · · · · · · · · · · · · · · · ·				y 0.0		
	-	•	€	←	4	_
	-					-
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	₽			र्स	¥	
Traffic Volume (veh/h)	41	11	2	112	10	33
Future Volume (Veh/h)	41	11	2	112	10	33
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	43	11	2	133	11	37
Pedestrians	73			164	85	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	6			14	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked						
vC, conflicting volume			139		344	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			139		344	298
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)					0.0	0.2
tF (s)			2.2		3.6	3.3
p0 queue free %			100		98	94
cM capacity (veh/h)			1354		557	593
					337	575
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	54	135	48			
Volume Left	0	2	11			
Volume Right	11	0	37			
cSH	1700	1354	584			
Volume to Capacity	0.03	0.00	0.08			
Queue Length 95th (ft)	0	0	7			
Control Delay (s)	0.0	0.1	11.7			
Lane LOS		Α	В			
Approach Delay (s)	0.0	0.1	11.7			
Approach LOS			В			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			32.8%	IC	U Level of	Service
Analysis Period (min)			15			

Lane Configurations		•	-	•	•	←	•	•	†	~	>	ļ	4	
Lane Configurations	Lane Group	EBI	EBT	EBR	WBL	WBT	WBR		NBT	NBR	SBL	SBT	SBR	Ø2
Future Volume (right) 1906 194 0 0 0 0 4 0 1067 48 0 0 0 0 1000 1000 1000 1000 1000 100					.,,,,									
Fulure Violatine (typh) 1906 194 0 0 0 0 4 0 1087 48 0 0 0 0 0 1086 1900 1900 1900 1900 1900 1900 1900 190			34	0	0	0		0	1087	48	0	0	0	
	Future Volume (vph)													
Lane Wilsh (10)														
Lame Bulk Factor 94														
Ped Bike Factor Fit	Lane Util. Factor													
Fit Protected														
Fil Protected	Frt						0.865							
Said. Flow (prof) 1464 3112 0 0 0 1676 0 3026 0 0 0 0 0 0 Flow (prof) 1464 3112 0 0 0 1676 0 3026 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0.950												
File Permitted 0.950 Salds - Filow (perm) 1464 3112 0 0 0 1676 0 3026 0 0 0 0 0 0 0 0 0 0 0			3112	0	0	0	1676	0	3026	0	0	0	0	
Said. Flow (perm) 1464 3112 0 0 1676 0 3026 0 0 0 0 0 0 0 0 0														
Right Turn on Red No Yes Yes Yes Yes Yes Yes Children (Communication of Communication of Co			3112	0	0	0	1676	0	3026	0	0	0	0	
Said. Flow (RTOR)					-	-		-			-	-	Yes	
Link Speed (mph)									6					
Link Distance (f) 161 309 132 151 Travel Time (s) 4.4 8.4 3.6 4.1 Conf. Bikes (#hr)			25			25	200					25		
Travel Time (s)														
Conf. Bikes (e/hr) Peak Hour Factor 0,96 0,96 0,96 0,96 0,96 0,96 0,96 0,96														
Peak Hour Factor			7.7			0.4	1_		3.0	76		4.1		
Heavy Vehicles (%)		N 04	0.04	0.04	0.05	0.05		0.06	0.06		0 02	0.02	0.02	
Parking (#hr)														
Adj. Flow (uph)		1 70	076	070	070	076	070	070			076	070	U 70	
Shared Lane Traffic (%) 0% 1812 0 0 0 0 0 0 0 0 0		204	25	0	0	0	Λ	0			0	0	0	
Lane Group Flow (php) 204 35 0 0 0 4 0 1182 0 0 0 0 0 Proto TWA Protocted Phases 5 5 5 6 6 1 2 2 Permitted Phases 5 5 5 5 6 6 1 2 2 Permitted Phases 5 5 5 5 6 6 1 2 2 Permitted Phases 5 5 5 5 6 6 1 2 2 Permitted Phases 5 5 5 5 6 6 1 2 2 Permitted Phases 5 5 5 6 6 1 2 2 Permitted Phase 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			33	U	U	U	4	U	1132	30	U	U	U	
Turn Type			25	C	0	0	A	0	1102	0	0	0	0	
Protected Phases Detector Phase				U	U	U		U		U	U	U	U	
Permitted Phases Detector Phase S S S S S S S S S		Split												2
Detector Phase S		5	5				0		- 1					2
Switch Phase Swit		-	-				,							
Minimum Initial (s) 8.0 8.0 4.0 8.0 8.0 Minimum Split (s) 20.0 20.0 14.0 58.0 18.0 Total Split (s) 20.0 20.0 14.0 58.0 18.0 Total Split (%) 18.2% 18.2% 12.7% 52.7% 16% Maximum Green (s) 15.0 15.0 9.0 53.0 44.0 Vellow Time (s) 3.0 3.0 3.0 3.0 4.0 Vellow Time (s) 3.0 3.0 3.0 4.0 Vellow Time (s) 3.0 3.0 3.0 4.0 All-Red Time (s) 2.0 2.0 2.0 2.0 2.0 0.0 Lost Time Adjust (s) 1.0 2.0 2.0 2.0 2.0 2.0 2.0		5	5				6		1					
Minimum Split (s) 20.0 20.0 14.0 58.0 18.0 18.0 16.0 1														
Total Split (s) 20.0 20.0 14.0 58.0 18.0 Total Split (%) 18.2% 18.2% 12.7% 52.7% 16% Maximum Green (s) 15.0 15.0 9.0 53.0 14.0 Yellow Time (s) 3.0 3.0 3.0 3.0 4.0 All-Red Time (s) 2.0 2.0 2.0 2.0 0.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0 4.0 Lag Lead-Lag Definize? Lead Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lead Lag Lag Lag Lag Lag Lag														
Total Spilt (%) 18.2% 18.2% 12.7% 52.7% 16% Maximum Green (\$) 15.0 15.0 9.0 53.0 14.0 Yellow Time (\$) 3.0 3.0 3.0 3.0 4.0 0.0 All-Red Time (\$) 2.0 2.0 2.0 2.0 2.0 0.0 Clost Time Adjust (\$) 1-1.0 1-1														
Maximum Green (s) 15.0 15.0 9.0 53.0 14.0 Yellow Time (s) 3.0 3.0 3.0 3.0 4.0 All-Red Time (s) 2.0 2.0 2.0 0.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0 4.0 Lead/Lag Qulimize? Lead Lead Lag Lead Lag Vehicle Extension (s) 2.0 2.0 2.0 0.2 Recall Mode Max Max Max C-Max Ped Walk Time (s) 7.0 7.0 7.0 7.0 7.0 7.0 Flash Dont Walk (s) 8.0 8.0 2.0 46.0 7.0 7.0 Flash Dont Walk (s) 8.0 8.0 2.0 46.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 9.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0<														
Yellow Time (s) 3.0 3.0 3.0 3.0 4.0 All-Red Time (s) 2.0 2.0 2.0 0.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0 Lead/Lag Lead														
All-Red Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 -1.0 Total Lost Time (s) 4.0 4.0 4.0 4.0 4.0 Lead/Lag Lead Lead Lead Lag Lead Lead Lag Lead-Lag Optimize? Vehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Recall Mode Max Max Max C-Max Ped Walk Time (s) 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0														
Lost Time Adjust (s) -1.0 -1.0 -1.0 -1.0 1.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
Total Lost Time (s) 4.0 4.0 4.0 4.0 Lead/Lag Lead Lag														0.0
Lead/Lag Lead Lead Lag Lead Lag Lead-Lag Optimize? Vehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.2 2.0 2.0 2.0 2.2 2.0														
Lead-Lag Optimize? Vehicle Extension (s) 2.0 2.0 2.0 0.2 Recall Mode Max Max C-Max Ped Recall Mode Max Max C-Max Ped Walk Time (s) 7.0 7.0 7.0 7.0 7.0 Flash Dont Walk (s) 8.0 8.0 2.0 46.0 7.0 Flash Dont Walk (s) 8.0 8.0 2.0 46.0 7.0 Pedestrian Calls (#hr) 0 0 0 0 0 Act Lated (GC Ratio 0.15 0.15 0.09 0.49 0.0 2.0 4.0 0.0 0	Total Lost Time (s)	4.0					4.0		4.0					
Vehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Ped Max Max Max Ped Wish Ped Max C.Max Ped Ped Max C.Max Ped Ped </td <td>Lead/Lag</td> <td>Lead</td> <td>Lead</td> <td></td> <td></td> <td></td> <td>Lag</td> <td></td> <td>Lead</td> <td></td> <td></td> <td></td> <td></td> <td>Lag</td>	Lead/Lag	Lead	Lead				Lag		Lead					Lag
Vehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Ped Max Max Max Pede Walk Pede Walk Time (s) 7.0 8.0 8.0 7.0	Lead-Lag Optimize?													
Recall Mode Max Max Max C-Max Ped Walk Time (s) 7.0 7.0 7.0 7.0 7.0 Flash Dont Walk (s) 8.0 8.0 2.0 46.0 7.0 Pedestrian Calls (#/hr) 0 0 0 0 0 Act Effet Green (s) 16.0 16.0 10.0 54.0 0 Actuated g/C Ratio 0.15 0.15 0.09 0.49 0	Vehicle Extension (s)	2.0	2.0				2.0							
Flash Dont Walk (s) 8.0 8.0 8.0 2.0 46.0 7.0 Pedestrian Calls (#hr) 0 0 0 0 0 0 Act Leffet Green (s) 16.0 16.0 10.0 54.0 Act Lated gVC Ratio 0.15 0.15 0.09 0.49 vic Ratio 0.96 0.08 0.01 0.79 Control Delay 98.1 40.9 0.0 29.7 Cueue Delay 48.8 0.0 0.0 2.4 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C C Approach Delay 131.4 32.1 Approach LOS F D A C Cueue Length 50th (ft) 157 12 0 395 Cueue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 812 29 5 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Storage Cap Reductn 0 0 0 0 0	Recall Mode	Max	Max				Max		C-Max					Ped
Flash Dont Walk (s) 8.0 8.0 8.0 2.0 46.0 7.0 Pedestrian Calls (#hr) 0 0 0 0 0 0 Act Leffet Green (s) 16.0 16.0 10.0 54.0 Act Leffet Green (s) 16.0 15.5 0.09 0.49 vic Ratio 0.15 0.15 0.09 0.49 vic Ratio 0.96 0.08 0.01 0.79 Control Delay 98.1 40.9 0.0 29.7 Cueue Delay 48.8 0.0 0.0 2.4 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C C Approach Delay 131.4 32.1 Approach LOS F D A C C Cueue Length 50th (ft) 157 12 0 395 Cueue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 812 29 5 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Storage Cap Reductn 0 0 0 0 0 0	Walk Time (s)	7.0	7.0				7.0		7.0					7.0
Pedestrian Calls (#hr) 0 0 0 0 Act Effet Green (s) 16.0 16.0 10.0 54.0 Actuated g/C Ratio 0.15 0.09 0.49 v/c Ratio 0.96 0.08 0.01 0.79 Control Delay 98.1 40.9 0.0 29.7 Queue Delay 48.8 0.0 0.0 2.4 Total Delay 48.8 0.0 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 32.1 Approach LOS F D A C Queue Length 50th (ff) 157 12 0 395 Queue Length 95th (ff) #323 m28 m0 m391 Internal Link Dist (ff) 81 229 52 71 Turn Bay Length (ff) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 </td <td>Flash Dont Walk (s)</td> <td>8.0</td> <td></td> <td>7.0</td>	Flash Dont Walk (s)	8.0												7.0
Act Leffet Green (s) 16.0 16.0 10.0 54.0 Actuated g/C Ratio 0.15 0.15 0.09 0.49 Wic Ratio 0.96 0.08 0.01 0.79 0.49 Wic Ratio 0.96 0.08 0.01 0.79 0.00 29.7 Outeue Delay 48.8 0.0 0.0 24 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C Aproach Delay 131.4 32.1 Approach Delay 131.4 32.1 Approach LOS F C C Outeue Length 50th (ft) 157 12 0 395 00	Pedestrian Calls (#/hr)													
Actuated g/C Ratio 0.15 0.15 0.09 0.49 v/c Ratio 0.96 0.08 0.01 0.79 Control Delay 98.1 40.9 0.0 29.7 Queue Delay 146.9 40.9 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C C Cueue Length 50th (ft) 157 12 0 0 395 Queue Length 98th (t) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (t) Base Capacity (vph) 212 452 379 1488 Slarvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 0														
v/c Ratio 0.96 0.08 0.01 0.79 Control Delay 98.1 40.9 0.0 29.7 Oueue Delay 48.8 0.0 0.0 2.4 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C C Queue Length 50th (ft) 157 12 0 395 Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0	Actuated g/C Ratio													
Control Delay 98.1 40.9 0.0 29.7 Queue Delay 48.8 0.0 0.0 2.4 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C C Cueue Length 50th (ft) 157 12 0 395 Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Turn Bay Length (ft) 12 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0														
Queue Delay 48.8 0.0 0.0 2.4 Total Delay 146.9 40.9 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C C Oueue Length 50th (ft) 157 12 0 395 Oueue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 Spillback Cap Reductn 0 0 0 0														
Total Delay 146.9 40.9 0.0 32.1 LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C Queue Length 50th (ft) 157 12 0 395 Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0														
LOS F D A C Approach Delay 131.4 32.1 Approach LOS F C Queue Length 50th (ft) 157 12 0 395 Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) 8 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0														
Approach Delay 131.4 32.1 Approach LOS F C Oueue Length 50th (ft) 157 12 0 395 Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0		140.9												
Approach LOS F C Oueue Length 50th (ft) 157 12 0 395 Oueue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) 8ase Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0		r					А							
Oueue Length 50th (ft) 157 12 0 395 Oueue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0														
Queue Length 95th (ft) #323 m28 m0 m391 Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) 8 379 1488 Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0		157												
Internal Link Dist (ft) 81 229 52 71 Turn Bay Length (ft) 71 71 Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0														
Turn Bay Length (ft) Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0		#323				220	mu					71		
Base Capacity (vph) 212 452 379 1488 Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0			81			229			52			/1		
Starvation Cap Reductn 91 0 0 187 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0			,						4					
Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0														
Storage Cap Reductn 0 0 0 0														
Reduced v/c Ratio 1.69 0.08 0.01 0.91			0				Λ.		0					

Intersection Summary

Intersection LOS: D ICU Level of Service A

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 50 (45%), Referenced to phase 1:NBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 48.7

Intersection Capacity Utilization 48.4%

Analysis Period (min) 15

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.

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street



Lanes, Volumes, T										,		,
	•	→	*	•	•	•	1	†		-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					1>			41 → 1015				
Traffic Volume (vph)	0	0	0	0	155	230	90	1015	51	0	0	0
Future Volume (vph)	1000	1000	1000	1000	155	230	90	1015 1900	51	1000	1000	1000
Ideal Flow (vphpl) Lane Width (ft)	1900 12	1900 12	1900 12	1900 12	1900 10	1900 12	1900 14	1900	1900 14	1900 12	1900 12	1900 12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	0.89		5.70	0.73	0.70	1.00	1.00	
Frt					0.919			0.993				
Flt Protected								0.996				
Satd. Flow (prot)	0	0	0	0	1298	0	0	3140	0	0	0	0
Flt Permitted		^	_	_	1000	•	_	0.996	•	^	^	^
Satd. Flow (perm) Right Turn on Red	0	0	0 Yes	0	1298	0 Yes	0 No	3136	0 Yes	0	0	0 Yes
Satd. Flow (RTOR)			162		1	res	INO	12	162			res
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		171			179			570			162	
Travel Time (s)		4.7			4.9			15.5			4.4	
Confl. Peds. (#/hr)						100	47		1255			
Confl. Bikes (#/hr)						1			77			
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Parking (#/hr)					,			0	0			
Adj. Flow (vph)	0	0	0	0	185	274	93	1046	53	0	0	0
Shared Lane Traffic (%)	0	0	0	0	459	0	0	1192	0	0	0	0
Lane Group Flow (vph)	0	0	U	U	459 NA	U	Perm	1192 NA	U	U	U	U
Turn Type Protected Phases					NA 5		Penn	NA 1				
Permitted Phases					υ		1	-				
Detector Phase					5		1	1				
Switch Phase					3							
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					23.0		87.0	87.0				
Total Split (s)					23.0		87.0	87.0				
Total Split (%)					20.9%		79.1%	79.1%				
Maximum Green (s)					18.0		82.0	82.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0 -1.0		2.0	2.0 -1.0				
Lost Time Adjust (s) Total Lost Time (s)					4.0			4.0				
Lead/Lag					4.0			4.0				
Lead-Lag Optimize?												
Vehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					11.0		75.0	75.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					19.0			83.0				
Actuated g/C Ratio					0.17			0.75				
v/c Ratio Control Delay					2.04 509.1			0.50 3.1				
Queue Delay					0.0			0.1				
Total Delay					509.1			3.1				
LOS					507.1			Α.				
Approach Delay					509.1			3.1				
Approach LOS					F			Α				
Queue Length 50th (ft)					~516			155				
Queue Length 95th (ft)					#660			85				
Internal Link Dist (ft)		91			99			490			82	
Turn Bay Length (ft)								05:5				
Base Capacity (vph)					225 0			2369 193				
Starvation Cap Reductn					0			193 125				
Spillback Cap Reductn Storage Cap Reductn					0			0				
Reduced v/c Ratio					2.04			0.55				
					2.04			0.00				
Intersection Summary												
Area Type:	CBD											

Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.04
Intersection Signal Delay: 143.8
Intersection Capacity Utilization 121.0%
Analysis Period (min) 15

Intersection LOS: F ICU Level of Service H

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

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



_anes, Volumes, Tim	•				—	•	4	4	_	\	ı	4		
		→	*	•		_	1	Ť			ţ	*		
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	
ane Configurations	_			44				_			ተተኈ			
Fraffic Volume (vph)	0	0	0	211 211	33 33	0	0	0	0	0	1000 1000	31 31		
Future Volume (vph) deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	1700	1700	12	12	1700	12	12	1700	12	1700	12	1700		
ane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91		
Ped Bike Factor											1.00			
-rt											0.996			
It Protected				0.950										
Satd. Flow (prot)	0	0	0	3090	1605	0	0	0	0	0	4597	0		
It Permitted	0	0	0	0.950	4/05		0			0	4507			
Satd. Flow (perm)	0	0	0 Yes	3090 No	1605	0 Yes	0	0	0 Yes	0	4597	0 Yes		
Right Turn on Red Satd. Flow (RTOR)			162	INO		162			162		6	162		
Link Speed (mph)		25			25			25			25			
ink Distance (ft)		251			171			329			268			
Fravel Time (s)		6.8			4.7			9.0			7.3			
Confl. Bikes (#/hr)												50		
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90		
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	1%	0%		
Adj. Flow (vph)	0	0	0	220	34	0	0	0	0	0	1111	34		
Shared Lane Traffic (%)	0	0	0	220	2.4	0	0	0	0	0	1145	0		
Lane Group Flow (vph) Furn Type	0	0	0	220 Split	34 NA	0	0	0	0	0	1145 NA	0		
Protected Phases				5 Spill	1NA 5						NA 1		2	
Permitted Phases				J	J									
Detector Phase				5	5						1			
Switch Phase														
Minimum Initial (s)				8.0	8.0						8.0		8.0	
Minimum Split (s)				31.0	31.0						58.0		21.0	
Total Split (s)				31.0	31.0						58.0		21.0	
Fotal Split (%)				28.2%	28.2%						52.7%		19%	
Maximum Green (s)				26.0	26.0						52.0		17.0	
/ellow Time (s) All-Red Time (s)				3.0 2.0	3.0 2.0						3.0		4.0 0.0	
ost Time Adjust (s)				-2.0	-2.0						-2.0		0.0	
Total Lost Time (s)				3.0	3.0						4.0			
_ead/Lag											Lead		Lag	
_ead-Lag Optimize?													· ·	
/ehicle Extension (s)				2.0	2.0						2.0		2.0	
Recall Mode				Max	Max						C-Max		Ped	
Valk Time (s)				7.0	7.0						7.0		7.0	
Flash Dont Walk (s)				19.0	19.0						45.0 0		10.0	
Pedestrian Calls (#/hr) Act Effct Green (s)				50 28.0	50 28.0						54.0		5	
Actuated g/C Ratio				0.25	0.25						0.49			
/c Ratio				0.28	0.08						0.51			
Control Delay				56.2	54.9						7.2			
Queue Delay				18.4	2.3						0.1			
Total Delay				74.6	57.2						7.3			
.OS				E	E						Α			
Approach Delay					72.3						7.3			
Approach LOS				0	E						A			
Queue Length 50th (ft)				0 m0	23 m22						40			
Queue Length 95th (ft) nternal Link Dist (ft)		171		m0	m23 91			249			66 188			
Furn Bay Length (ft)		171			91			249			100			
Base Capacity (vph)				786	408						2259			
Starvation Cap Reductn				549	303						224			
Spillback Cap Reductn				0	0						0			
Storage Cap Reductn				0	0						0			
Reduced v/c Ratio				0.93	0.32						0.56			
ntersection Summary														
	CBD													
Cycle Length: 110														
Actuated Cycle Length: 110														
Offset: 103 (94%), Referenced	to phase 1:	SBT, Start	of Green											
Natural Cycle: 110														
Control Type: Actuated-Coordi	nated													
Maximum v/c Ratio: 0.51					araact!	LOC. D								
ntersection Signal Delay: 19.1					ersection	LOS: B Service H								
				10	o revei oi	SELVICE H								
ntersection Capacity Utilization nalysis Period (min) 15	n 128.9%													

Splits and Phases: 5: Surface/Purchase/SASB & India Street **⊅**ø5 ▼ Ø1 (R) ∦ik_{Ø2}

Lanes, Volumes, Tim													
	•	→	•	<	—	•	1	†		-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		↑↑ 143									414		
Traffic Volume (vph) Future Volume (vph)	0	143 143	25 25	0	0	0	0	0	0	87 87	1006 1006	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	1700	14	14	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0		1	0		0	0		0	0		0	
Taper Length (ft)	25	0.05	0.05	25	1.00	1.00	25	1.00	1.00	25	0.01	1.00	
Lane Util. Factor Ped Bike Factor	1.00	0.95 1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Frt		0.978											
Flt Protected											0.996		
Satd. Flow (prot)	0	3352	0	0	0	0	0	0	0	0	4600	0	
Flt Permitted	0	3352	0	0	0	0	0	0	0	0	0.996 4600	0	
Satd. Flow (perm) Right Turn on Red	U	3352	Yes	U	0	Yes	U	U	Yes	0 No	4000	Yes	
Satd. Flow (RTOR)		16	103			103			163	110		103	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		314			161			268			332		
Travel Time (s)		8.6	_		4.4			7.3			9.1		
Confl. Bikes (#/hr) Peak Hour Factor	0.91	0.91	5 0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91	
Heavy Vehicles (%)	0.91	1%	0.91	0.92	0.92	0.92	0.92	0.92	0.92	2%	1%	0.91	
Adj. Flow (vph)	0 / 0	157	27	0 / 0	0.8	0 / 0	0 / 0	0 / 0	0 /8	96	1105	0 / 0	
Shared Lane Traffic (%)										,,,			
Lane Group Flow (vph)	0	184	0	0	0	0	0	0	0	0	1201	0	
Turn Type		NA								Perm	NA		^
Protected Phases Permitted Phases		5								1	1		2
Detector Phase		5								1	1		
Switch Phase		- 3											
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s)		26.0								66.0	66.0		18.0
Total Split (s)		26.0								66.0	66.0		18.0
Total Split (%) Maximum Green (s)		23.6%								60.0%	60.0%		16% 14.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		1.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s)		3.0								, .	4.0		
Lead/Lag Lead-Lag Optimize?										Lead	Lead		Lag
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		15.0								54.0	54.0		7.0
Pedestrian Calls (#/hr)		0 23.0								0	0		0
Act Effct Green (s) Actuated g/C Ratio		0.21									62.0 0.56		
v/c Ratio		0.21									0.36		
Control Delay		34.2									4.0		
Queue Delay		0.3									0.1		
Total Delay		34.5									4.2		
LOS Approach Dolay		C 34.5									A		
Approach Delay Approach LOS		34.5 C									4.2 A		
Queue Length 50th (ft)		52									33		
Queue Length 95th (ft)		85									41		
Internal Link Dist (ft)		234			81			188			252		
Turn Bay Length (ft)		740									2522		
Base Capacity (vph) Starvation Cap Reductn		713 0									2592 375		
Spillback Cap Reductn		193									416		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		0.35									0.55		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110													
Offset: 102 (93%), Referenced	to phase 1:	SBTL, Sta	rt of Greei	1									
Natural Cycle: 110 Control Type: Actuated-Coordi	nated												
Maximum v/c Ratio: 0.46	natcu												
Intersection Signal Delay: 8.2					tersection								
	n 40 4%					Service A							
Intersection Capacity Utilization Analysis Period (min) 15	11 40.4 /0												

Splits and Phases: 6: Surface/Purchase/SASB & Milk Street

#1_{Ø2}

Configurations		۶	→	•	•	•	•	4	†	~	-	↓	4
Configurations	Lane Group	FRI	FRT	FRR	WRI	WRT	WRR	NRI	NRT	NRR	SRI	SRT	SRR
Init Cyclame (sph)		LDL	LDI	LDIN			WDIV	INDL	INDI	INDIX	JUL		JUN
uer Volume (right)		0	0	n		₩ T	0	0	0	0	0	1067	202
Selection 1900 19													
well fixed in the content of the con													
Bible Factor 0.78 0.78 0.798 0.796	ane Util. Factor												
Protected	Ped Bike Factor	1.00	1.00	1.00		0.71	1.00	1.00	1.00	1.00	1.00		0.71
Protected 0.950	ed blike i actor				0.70								
It flow (prol)	Flt Protected				0.950							5.700	
Permitted 0,950 143 302 0 0 0 0 4404 0 0 1 1 1 1 1 1 1 1	Satd. Flow (prot)	n	0	0		3022	Ο	n	0	0	0	4404	n
At Flow (perm) National Red Yes No Yes Yes Yes Yes Yes 1 (Flow (RTOR) Chistance (II) 395 161 108 4.4 9.1 6.5 7	Flt Permitted	U	U	U		3022	U	U	U	U	U	7707	U
Mitumin Red		n	Ω	n		3022	n	n	n	n	n	4404	n
I frow (RTOR) Cobscience (II) Cobscience (IIII) Cobscience (IIII) Cobscience (IIII) Cobscience		U	U			JUZZ		U	U		U	7704	
CSpeed (mph) 25				163	INU		163			163		107	1.03
Obstance (ft)			25			25			25				
New Section 10.8													
## 1. Peaks (Amr) ## 1. Peaks (Amr) ## 1. Relactor													
March Marc			10.8		210	4.4			9.1			0.0	0.4
isk Hour Fatoric 0.92 0.92 0.92 0.93 0.93 0.93 0.92 0.92 0.92 0.90 0.95 0.95 0.95 0.95 0.95 0.95 0.95					219								
uny Vehicles (%) 0% 0% 0% 0% 0% 0% 0% 1% 1% 2% 0% 0% 0% 0% 1%		0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.05	
Flow (vph)													
red Lane Traffic (%) of Corup Flow (ph) of C													
Name	Adj. Flow (vph)	0	0	0		215	0	0	0	0	0	1123	307
n Type	Shared Lane Traffic (%)												
Include Phases S S S S S S S S S	Lane Group Flow (vph)	0	0	0			0	0	0	0	0		0
milled Phases clof Phase imum Initial (s) imum Initial (s) imum Spit (s) 42.0 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 42.0 68.0 al Spit (s) 42.0 al Spit (s) 43.0 al Spit (s) 40.0 al Lost Time (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Lost Time (solution (s) 40.0 al Lost Time (solution (s) 40.	Turn Type												
Section Plase Section Place Section Plac	Protected Phases				5	5						1	
Inch Phase	Permitted Phases												
Inch Phase	Detector Phase				5	5						1	
Immum Initial (s) 8.0 8.	Switch Phase												
Infum Spill (s)	Minimum Initial (s)				8.0	8.0						8.0	
al Split (S)	Minimum Split (s)												
al Spit (%)	Total Split (s)												
kimum Green (s) 33.0 33.0 33.0 33.0 33.0 33.0 33.0 33.	Total Split (%)												
Town Time (s) 3.0													
Red Time (s)													
## Time Agijust (s)													
al Lost Time (s) d/Lag d/Lag Optimize? icicle Extension (s)													
ddLag of d-Lag Optimize? licide Extension (s) 2.0 2.0 2.0 2.0 zall Mode Max Max C-Max lik Time (s) 7.0 7.0 7.0 7.0 sh Dont Walk (s) 26.0 26.0 56.0 lestrian Calls (#hr) 0 0 0 0 0 Effet Green (s) 34.0 34.0 4.0 464.0 uated giC Ratio 0.31 0.31 0.31 0.58 Ratio 0.06 0.23 0.55 Ratio 0.07 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.													
d-Lag Optimize? licide Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.	Total Lost Time (s)				8.0	8.0						4.0	
A	_ead/Lag												
Max Max Max C-Max	_ead-Lag Optimize?												
Ik Time (s)	Vehicle Extension (s)												
sh Dont Walk (s) 26.0 26.0 56.0 56.0 sestian Calls (#hr) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Recall Mode												
Effict Green (s)	Walk Time (s)												
Effct Green (s) 34.0 34.0 64.0 ualed g/C Ratio 0.31 0.31 0.31 0.58 Ratio 0.06 0.23 0.55 ntrol Delay 28.6 29.2 1.1 1 200 0.55 ntrol Delay 28.6 29.2 1.1 1 200 0.0 at 1 20.0 at 1	Flash Dont Walk (s)					26.0						56.0	
Effct Green (s) 34.0 34.0 64.0 ualed g/C Ratio 0.31 0.31 0.31 0.58 Ratio 0.06 0.23 0.55 ntrol Delay 28.6 29.2 1.1 1 200 0.55 ntrol Delay 28.6 29.2 1.1 1 200 0.0 at 1 20.0 at 1	Pedestrian Calls (#/hr)				0	0						0	
uated g/C Ratio 0.31 0.31 0.31 0.58 Ratio 0.06 0.23 0.55 Introl Delay 28.6 29.2 1.1 eue Delay 1.6 6.9 0.0 al Delay 30.2 36.2 1.1 SC C D A proach Delay 35.5 1.1 proach LOS D A eue Length 50th (ft) 13 54 1 eue Length 95th (ft) m29 94 6 emal Link Dist (ft) 315 81 252 160 n Bay Length (ft) ec Capacity (vph) 452 934 2607 revalion Cap Reductn 342 663 27 liback Cap Reductn 0 0 0 rage Cap Reductn 0 0 0 duced v/c Ratio 0.25 0.79 0.55 ersection Summary a Type: CBD CBD CBD tel Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green revalued Cycle: 110 1 set: 0 (0%), Referenced to phase 1:SBT, Start of Green revalued Cycle: 110 1 set: 0 (0%), Referenced to phase 1:SBT, Start of Green 1 1 resect	Act Effct Green (s)												
Ratio 0.06 0.23 0.55 Introl Delay 28.6 29.2 1.1 ueu Delay 28.6 29.2 1.1 ueu Delay 1.6 6.9 0.0 al Delay 30.2 36.2 1.1 Stock C D A stock Delay 35.5 1.1 stock Delay 35.5 1.1 stock Delay 5.5 1.1 stock Delay 5.5 1.1 stock Delay 6.1 1.1 stock Delay 9.4 1.1 stock Delay 1.1	Actuated g/C Ratio												
Annited Delay 28.6 29.2 1.1	v/c Ratio												
See Delay See Delay See	Control Delay												
al Delay 30.2 36.2 1.1 Stock C D A Stock D A Stock D D A Stock D D A Bay Length Stoth (tt) 13 54 1 Final Link Dist (tt) 315 81 252 160 Final Link Dist (tt) 315 81 252 160 Final Link Dist (tt) 315 81 252 160 Final Link Dist (tt) 32 934 2607 Fivation Cap Reduct 342 663 27 Fivation Cap Reduct 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 0 0 0 0 0 0 Final Cap Reduct 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Queue Delay												
A A A A A A A A A A	Total Delay												
Street S	LOS												
D					C								
eue Length 50th (ft) 13 54 1 6 eue Length 95th (ft) m29 94 6 mal Link Dist (ft) 315 81 252 160 m Bay Length (ft)													
eue Length 95th (ft)					10								
Stand Link Dist (ft) 315 81 252 160													
n Bay Length (ff) see Capacity (vph)			0.15		m29								
se Capacity (vph)	Internal Link Dist (ft)		315			81			252			160	
rvation Cap Reductn 342 663 27 Ilback Cap Reductn 0 0 0 0 0 arage Cap Reductn 0 0 0 0 0 0 duced v/c Ratio 0.25 0.79 0.55 resection Summary a Type: CBD tele Length: 110 uated Cycle Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 viritor Type: Actuated-Coordinated kimum v/c Ratio: 0.55 rsection Signal Delay: 6.1 Intersection LOS: A rsection Capacity Utilization 145.8% ICU Level of Service H stlysis Period (min) 15	Turn Bay Length (ft)												
Ilback Cap Reductn	Base Capacity (vph)												
Ilback Cap Reductn	Starvation Cap Reductn				342	663						27	
rage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Spillback Cap Reductn												
duced vic Ratio 0.25 0.79 0.55 resection Summary a Type: CBD cle Length: 110 usated Cycle Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 Virtual C	Storage Cap Reductn												
resection Summary a Type: CBD tele Length: 110 uated Cycle Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 ntrol Type: Actuated-Coordinated kimum v/c Ratio: 0.55 resection Signal Delay: 6.1 resection Capacity Utilization 145.8% ICU Level of Service H stysis Period (min) 15	Reduced v/c Ratio												
a Type: CBD le Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 set: 0 (10%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 without yet: Actuated-Coordinated wimum v/c Ratio: 0.55 rsection Signal Delay: 6.1 Intersection LOS: A wresction Capacity Utilization 145.8% ICU Level of Service H													
cle Length: 110 uated Cyde Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 ntrol Type: Actuated-Coordinated kimum vic Ratio: 0.55 rsection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H													
uated Čycle Length: 110 set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 trol Type: Actuated-Coordinated kimum v/c Ratio: 0.55 ssection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H		CBD											
set: 0 (0%), Referenced to phase 1:SBT, Start of Green ural Cycle: 110 writhout Type: Actuated-Coordinated kimum v/c Ratio: 0.55 rsection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H	Cycle Length: 110												
ural Cycle: 110 Itrol Type: Actuated-Coordinated kimum vic Ratio: 0.55 resection Signal Delay: 6.1 Intersection LOS: A resection Capacity Utilization 145.8% ICU Level of Service H	Actuated Cycle Length: 110												
htrol Type: Actuated-Coordinated kinnum vic Ratio: 0.55 rsection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H slysis Period (min) 15		hase 1:SBT	Γ, Start of 0	Green									
htrol Type: Actuated-Coordinated kinnum vic Ratio: 0.55 rsection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H slysis Period (min) 15	Natural Cycle: 110												
kimum v/c Ratio: 0.55 rsection Signal Delay: 6.1 rsection Capacity Utilization 145.8% ICU Level of Service H lysis Period (min) 15		nated											
rsection Signal Delay: 6.1 Intersection LOS: A resection Capacity Utilization 145.8% ICU Level of Service H slysis Period (min) 15	Maximum v/c Ratio: 0.55												
rsection Capacity Utilization 145.8% ICU Level of Service H slysis Period (min) 15	Intersection Signal Delay: 6.1				Int	tersection	LOS: A						
slysis Period (min) 15		145.8%						l					
					10		30,71001						
Volume for 95th percentile queue is metered by upstream signal.													

Splits and Phases: 7: Surface/Purchase/SASB & State Street

▼ø5 ▼ Ø1 (R)

Confugations		•	→	•	•	←	•	•	<u>†</u>	~	/	 	1
Configurations Conf	Lane Group	FBI	FBT			WRT	WRR				SBI		SBR
Verbulen (γph) 0 0 0 0 88 57 124 1147 36 0 0 0 0 0 0 0 0 0	Lane Configurations	LDL	LDI	LDK	WDL		WDR	INDL	<u>√11.</u>	NDK	JUL	JUI	JUK
Verbulen (γph) 0 0 0 0 88 57 124 1147 36 0 0 0 0 0 0 0 0 0		0	0	0	n	88	57	124	1147	36	0	0	0
Flow (pshph 1900	Future Volume (vph)								1147				
Width (n)													
UNIF Factor 100 100 100 100 100 0.95 0.95 0.95 0.90 100	Lane Width (ft)												
Bike Factor 0.947 0.996	Lane Util. Factor												
Second S	Ped Bike Factor	1.00	1.00	1.00	1.00		1.00	0.73		0.73	1.00	1.00	1.00
The Content The Content	Frt												
Flow (prof)	FIt Protected					0.747							
Finding		0	0	0	0	1670	0	0		0	0	0	٥
Flow (perm)	Flt Permitted	U	U	U	U	1076	U	0		U	U	U	U
Turn on Red		0	0	0	0	1670	0	0		0	0	0	0
Flow (RTOR)		U	U		U	10/8			3121		U	U	
Speed (mph)				res		2	res	NO	-	res			res
Distance (iii)			05									05	
El Time (s)	Link Speed (mph)												
Feds. (#hr)	Link Distance (ft)												
Likkes (Amh)	Travel Time (s)		4.4			7.9			5.0	_		7.2	
Chour Factor	Confl. Peds. (#/hr)							97					
yl Vehicles (%)	Confl. Bikes (#/hr)												
Flow (pph) 0 0 0 0 93 60 128 1182 37 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92
Flow (pph) 0 0 0 0 93 60 128 1182 37 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Heavy Vehicles (%)												
ed Lane Traffic (%) Group Flow (php) 0 0 0 0 153 0 0 1347 0 0 0 0 0 Type NA Split NA split NA	Adj. Flow (vph)												
Group Flow (rph) 0 0 0 0 153 0 0 1347 0 0 0 0 0 Type	Shared Lane Traffic (%)	_	_	-						-	_		_
Type	Lane Group Flow (vph)	n	0	0	n	153	n	ρ	1347	0	0	0	n
Second Phases Second Phases Second Phases Second Phases Second Phases Second Phase	Turn Type	0	U	U	0		J			U	U	U	U
Section Phase Signature													
Color Phase S						3		- 1					
th Phase hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Initial (s) hum Split (s) hum								1	1				
num Initial (s) 8.0 8.0 8.0 num Spili (s) 35.0 75.0 75.0 Spili (s) 35.0 75.0 75.0 Spili (%) 31.8% 68.2% 68.2% mum Green (s) 30.0 70.0 70.0 w Time (s) 3.0 3.0 3.0 ed Time (s) 2.0 2.0 2.0 Lost Time (s) 4.0 4.0 // Log 1.10 1.0 // Log 1.0 4.0 // Log (Lost Time (s)) 4.0 4.0 // Log 4.0 4.0 // Log 4.0 4.0 // Log 1.10 1.0 // Log (Lost Time (s)) 2.0 2.0 2.0 // Log (Lost Time (s)) 2.0 2.0 2.0 Ill Mode Max C-Max C-Max Time (s) 7.0 7.0 7.0 7.0 Don't Walk (s) 23.0 63.0 63.0 63.0 63.						5		1					
Spill (S) 35.0 75.0 75.0 75.0	Switch Phase												
Split (s) 35.0 75	Minimum Initial (s)												
Split (%) 31.8% 68.2% 68.2% mmm Green (s) 30.0 70.0 70.0 mmm Green (s) 30.0 30	Minimum Split (s)												
mum Green (s) 30.0 70.0 70.0 w Time (s) 3.0 3.0 3.0 3.0 ed Time (s) 2.0 2.0 2.0 Time Adjust (s) -1.0 -1.0 Lost Time (s) 4.0 4.0 //Lag //Lag //Lag -Lag Optimize?	Total Split (s)												
W Time (s) 3.0 3.0 3.0 3.0 3.0 4 4 4 4 4 4 4 4 4	Total Split (%)												
W Time (s) 3.0 3.0 3.0 3.0 3.0 4 4 4 4 4 4 4 4 4	Maximum Green (s)					30.0		70.0	70.0				
ed Time (s) 2.0 2.0 2.0	Yellow Time (s)												
Time Adjust (s) -1.0 -1.0 Lost Time (s) 4.0 A.0 Lost Time (s) Lag Optimize?	All-Red Time (s)												
Lost Time (s)	Lost Time Adjust (s)							2.0					
/Lag Optimize? -Lag O	Total Lost Time (s)												
FLag Optimize?	Lead/Lag					4.0			4.0				
Cle Extension (s) 2.0 2.0 2.0 2.0 1													
Max C-Max C-Max C-Max						2.0		2.0	2.0				
Time (s) 7.0 7.0 7.0 7.0 1 Dont Walk (s) 23.0 63.0 63.0 63.0 63.0 63.0 63.0 63.0 6													
n Dont Walk (s) strian Calls (#hr) 0 0 0 0 0 clifet Green (s) 31.0 71.0 sled g/C Ralio 0.28 0.65 statio 0.32 0.66 rol Delay 32.9 0.0 10 0	Recall Mode												
setrian Calls (#hr) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Walk Time (s)												
Effet Green (s) 31.0 71.0 aled g/c Ratio 0.28 0.65 statio 0.32 0.66 rol Delay 32.9 3.2 se Delay 0.0 0.1 I Delay 32.9 3.3 c A oach Delay 32.9 3.3 oach Delay 32.9 3.3 oach LOS C A se Length 50th (ft) 84 82 se Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) 475 2028 ration Cap Reductn 0 118 oack Cap Reductn 0 97 oge Cap Reductn 0 0	Flash Dont Walk (s)												
ated g/C Ratio 0.28 0.65 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.66 atio 0.32 0.6 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.1 atio 0.28 0.65 atio 0.29 atio 0.20	Pedestrian Calls (#/hr)							0					
Italio 0.32 0.66 rol Delay 32.9 3.2 ue Delay 0.0 0.1 Delay 32.9 3.3 c A oach Delay 32.9 3.3 oach LOS C A ue Length 50th (ft) 84 82 ue Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) 475 2028 atlon Cap Reductn 0 118 back Cap Reductn 0 97 tge Cap Reductn 0 0	Act Effct Green (s)												
rol Delay 32.9 3.2 ie Delay 0.0 0.1 Delay 32.9 3.3 C A oach Delay 32.9 3.3 C A oach Delay 32.9 3.3 c A oach LOS C A ie Length 50th (ft) 84 82 ie Length 95th (ft) 141 68 al Link Dist (ft) 81 210 103 184 Bay Length (ft) c Capacity (vph) 475 2028 ration Cap Reductn 0 118 oack Cap Reductn 0 97 oge Cap Reductn 0 0	Actuated g/C Ratio												
rol Delay 32.9 3.2 ie Delay 0.0 0.1 Delay 32.9 3.3 C A oach Delay 32.9 3.3 C A oach Delay 32.9 3.3 c A oach LOS C A ie Length 50th (ft) 84 82 ie Length 95th (ft) 141 68 al Link Dist (ft) 81 210 103 184 Bay Length (ft) c Capacity (vph) 475 2028 ration Cap Reductn 0 118 oack Cap Reductn 0 97 oge Cap Reductn 0 0	v/c Ratio					0.32			0.66				
ue Delaý 0.0 0.1 Delay 32.9 3.3 C A oach Delay 32.9 3.3 oach LOS C A ue Length 95th (ft) 84 82 ue Length 95th (ft) 81 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) C apacity (vph) 475 2028 ration Cap Reductn 0 18 ue Cap Reductn 0 97 uge Cap Reductn 0 0 0	Control Delay												
Delay 32.9 3.3 C	Queue Delay												
C A oach Delay 32.9 3.3 oach LOS C A se Length 50th (ft) 84 82 se Length 95th (ft) 141 68 seal Link Dist (ft) 81 210 103 184 Bay Length (ft) 475 2028 station Cap Reductn 0 118 oack Cap Reductn 0 97 oge Cap Reductn 0 0 0	Total Delay												
oach Delay 32.9 3.3 oach LOS C A ue Length 50th (ft) 84 82 ue Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft)	LOS												
oach LOS C A se Length 50th (ft) 84 82 se Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) 475 2028 salton Cap Reductn 0 118 sack Cap Reductn 0 97 ge Cap Reductn 0 0													
ue Length 50th (ft) 84 82 ue Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) 52 2028 atlanc Cap Reductn 0 118 ueck Cap Reductn 0 97 uge Cap Reductn 0 0 0	Approach LOS												
ue Length 95th (ft) 141 68 nal Link Dist (ft) 81 210 103 184 Bay Length (ft) Capacily (vph) 475 2028 ration Cap Reductn 0 118 acak Cap Reductn 0 97 tge Cap Reductn 0 0													
nal Link Dist (ft) 81 210 103 184 Bay Length (ft) 2028 Capacity (vph) 475 2028 ration Cap Reductn 0 118 pack Cap Reductn 0 97 age Cap Reductn 0 0													
Bay Length (ft) Capacity (vph) 475 2028 atlon Cap Reductn 0 118 ack Cap Reductn 0 97 ge Cap Reductn 0 0			01									104	
Capacity (vph) 475 2028 atlon Cap Reductn 0 118 acack Cap Reductn 0 97 ge Cap Reductn 0 0			δI			210			103			184	
varion Cap Reductn 0 118 back Cap Reductn 0 97 tige Cap Reductn 0 0						475			2022				
pack Cap Reductn 0 97 age Cap Reductn 0 0	Base Capacity (vph)												
nge Cap Reductn 0 0													
	Spillback Cap Reductn												
uced y/c Ratio 0.32 0.71	Storage Cap Reductn												
	0 1 1 1 0 "					0.32			0.71				

Intersection Summary

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 44 (40%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 6.3
Intersection Capacity Utilization 90.0%
Analysis Period (min) 15

Intersection LOS: A ICU Level of Service E

Splits and Phases: 8: Atlantic Avenue/Cross Street & State Street

#8 #20

#0 1(R)





Lanes, Volumes, Tim		_			<u> </u>	,	
	•	•	1	†	ţ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	_	7 89	0		↑↑↑ 1209	3	
Traffic Volume (vph) Future Volume (vph)	0	89 89	0	0	1209	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	13	12	12	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor Frt		0.865			1.00		
Flt Protected		0.003					
Satd. Flow (prot)	0	1498	0	0	4576	0	
FIt Permitted		4.400		0	4577		
Satd. Flow (perm) Right Turn on Red	0	1498 Yes	0	0	4576	0 Yes	
Satd. Flow (RTOR)		283				163	
Link Speed (mph)	25			25	25		
Link Distance (ft)	358			212	329		
Travel Time (s) Confl. Bikes (#/hr)	9.8			5.8	9.0	52	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.90	0.90	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	
Adj. Flow (vph)	0	98	0	0	1343	3	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	98	0	0	1346	0	
Turn Type	U	Prot	U	U	NA	U	
Protected Phases		5			1		2
Permitted Phases		_					
Detector Phase Switch Phase		5			1		
Switch Phase Minimum Initial (s)		8.0			8.0		8.0
Minimum Split (s)		19.0			69.0		22.0
Total Split (s)		19.0			69.0		22.0
Total Split (%) Maximum Green (s)		17.3%			62.7%		20% 18.0
Yellow Time (s)		15.0 3.0			63.0 3.0		4.0
All-Red Time (s)		1.0			3.0		0.0
Lost Time Adjust (s)		0.0			-2.0		
Total Lost Time (s)		4.0			4.0		Lon
Lead/Lag Lead-Lag Optimize?					Lead		Lag
Vehicle Extension (s)		2.0			2.0		2.0
Recall Mode		Ped			C-Max		Ped
Walk Time (s)		7.0			7.0		7.0
Flash Dont Walk (s) Pedestrian Calls (#/hr)		8.0			56.0 0		11.0 5
Act Effct Green (s)		15.0			65.0		J
Actuated g/C Ratio		0.14			0.59		
v/c Ratio		0.22			0.50		
Control Delay Queue Delay		1.1 0.0			4.0 0.0		
Total Delay		1.1			4.0		
LOS		A			Α		
Approach Delay	1.1				4.0		
Approach LOS	Α	0			A 64		
Queue Length 50th (ft) Queue Length 95th (ft)		0			76		
Internal Link Dist (ft)	278			132	249		
Turn Bay Length (ft)		,			077		
Base Capacity (vph) Starvation Cap Reductn		448 0			2704		
Starvation Cap Reductn Spillback Cap Reductn		0			48 0		
Storage Cap Reductn		0			0		
Reduced v/c Ratio		0.22			0.51		
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110	d to obooo 1.	CDT Ctori	of Croon				
Offset: 100 (91%), Referenced	a to priase 1:	JBI, SIAN	i oi Green				
Natural Cycle: 110	inated						
Natural Cycle: 110 Control Type: Actuated-Coord	iiiatcu						
Control Type: Actuated-Coord Maximum v/c Ratio: 0.50							
Control Type: Actuated-Coord					tersection OU Level of		

Splits and Phases: 9: Surface/Purchase/SASB & Broad Street

Lanes, Volumes, Tim													
	•	-	•	•	-	•	1	†		-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations		↑↑ 201	/0							100	4117		
Fraffic Volume (vph) Future Volume (vph)	0	201	68 68	0	0	0	0	0	0	180 180	1117 1117	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	16	12	12	12	12	12	12	12	12	12	12	
Storage Length (ft)	0		75	0		0	0		0	0		0	
Storage Lanes	0 25		1	0 25		0	0		0	0		0	
Taper Length (ft) Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	25 1.00	1.00	1.00	25 0.91	0.91	1.00	
Ped Bike Factor	1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	1.00	
Frt		0.962											
Flt Protected				_					_		0.993		
Satd. Flow (prot)	0	3482	0	0	0	0	0	0	0	0	4545	0	
Flt Permitted Satd. Flow (perm)	0	3482	0	0	0	0	0	0	0	0	0.993 4545	0	
Right Turn on Red		3402	Yes			Yes			Yes	No	1010	Yes	
Satd. Flow (RTOR)		35											
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		305			204			514			212		
Travel Time (s) Confl. Bikes (#/hr)		8.3	4		5.6			14.0			5.8		
Peak Hour Factor	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	0.76	1%	2%	0.72	0%	0.72	0.72	0.72	0.72	2%	2%	0%	
Adj. Flow (vph)	0	258	87	0	0	0	0	0	0	200	1241	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	345	0	0	0	0	0	0	0	0 Colit	1441	0	
Turn Type Protected Phases		NA 5								Split 1	NA 1		2
Permitted Phases		J											Z
Detector Phase		5								1	1		
Switch Phase													
Minimum Initial (s)		8.0								8.0	8.0		8.0
Minimum Split (s) Total Split (s)		19.0 19.0								72.0 72.0	72.0 72.0		19.0 19.0
Total Split (%)		17.3%								65.5%	65.5%		17%
Maximum Green (s)		14.0								67.0	67.0		15.0
Yellow Time (s)		3.0								3.0	3.0		4.0
All-Red Time (s)		2.0								2.0	2.0		0.0
Lost Time Adjust (s)		-1.0									-1.0		
Total Lost Time (s) Lead/Lag		4.0								Lead	4.0		Log
Lead-Lag Optimize?										Leau	Lead		Lag
Vehicle Extension (s)		2.0								2.0	2.0		2.0
Recall Mode		Max								C-Max	C-Max		Ped
Walk Time (s)		7.0								7.0	7.0		7.0
Flash Dont Walk (s)		7.0								60.0	60.0		8.0
Pedestrian Calls (#/hr) Act Effct Green (s)		0 15.0								0	0 68.0		0
Actuated g/C Ratio		0.14									0.62		
v/c Ratio		0.68									0.51		
Control Delay		48.2									1.2		
Queue Delay		66.6									0.0		
Total Delay LOS		114.7 F									1.2 A		
Approach Delay		114.7									1.2		
Approach LOS		F									Α		
Queue Length 50th (ft)		111									9		
Queue Length 95th (ft)		135									10		
Internal Link Dist (ft)		225			124			434			132		
Turn Bay Length (ft) Base Capacity (vph)		505									2809		
Starvation Cap Reductn		505									2809 48		
Spillback Cap Reductn		342									6		
Storage Cap Reductn		0									0		
Reduced v/c Ratio		2.12									0.52		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110		ODTI O											
Offset: 104 (95%), Referenced Natural Cycle: 110	d to phase 1:	SBTL, Sta	irt of Greei	n									
Natural Cycle: 110 Control Type: Actuated-Coord	linated												
Maximum v/c Ratio: 0.68													
Intersection Signal Delay: 23.1	1				tersection								
Intersection Capacity Utilizatio	on 61.1%			IC	U Level of	f Service E	3						
Analysis Period (min) 15													

Splits and Phases: 10: Surface/Purchase/SASB & High Street

#1_{Ø2}

	•	•	•	†	↓	1	
	EDI	-					~~
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	77	^		↑↑ 775	•	^	
Traffic Volume (vph)	381	0	0	775	0	0	
Future Volume (vph)	381	1000	1000	775	1000	1000	
Ideal Flow (vphpl) Lane Width (ft)	1900	1900	1900	1900	1900	1900 12	
Lane Util. Factor	12 0.97	12 1.00	13 1.00	13 0.95	12 1.00	1.00	
Frt Factor	0.97	1.00	1.00	0.95	1.00	1.00	
Fit Protected	0.950						
Satd. Flow (prot)	3152	0	0	3158	0	0	
Flt Permitted	0.950	U	U	3130	U	U	
Satd. Flow (perm)	3152	0	0	3158	0	0	
Right Turn on Red	No	Yes	U	3130	U	Yes	
Satd. Flow (RTOR)	110	.03				. 03	
Link Speed (mph)	25			25	25		
Link Distance (ft)	204			692	570		
Travel Time (s)	5.6			18.9	15.5		
Peak Hour Factor	0.95	0.95	0.96	0.96	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	
Parking (#/hr)				0			
Adj. Flow (vph)	401	0	0	807	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	401	0	0	807	0	0	
Turn Type	Prot			NA			
Protected Phases	5			1			2
Permitted Phases							
Detector Phase	5			1			
Switch Phase	0.0			0.0			0.0
Minimum Initial (s)	8.0			8.0			8.0
Minimum Split (s)	25.0			68.0			17.0
Total Split (s) Total Split (%)	25.0 22.7%			68.0 61.8%			17.0 15%
Maximum Green (s)	22.7%			63.0			13.0
Yellow Time (s)	3.0			3.0			4.0
All-Red Time (s)	2.0			2.0			0.0
Lost Time Adjust (s)	0.0			-1.0			0.0
Total Lost Time (s)	5.0			4.0			
Lead/Lag	0.0			Lead			Lag
Lead-Lag Optimize?				_000			Lug
Vehicle Extension (s)	2.0			2.0			2.0
Recall Mode	Max			C-Max			Ped
Walk Time (s)	7.0			7.0			7.0
Flash Dont Walk (s)	13.0			56.0			6.0
Pedestrian Calls (#/hr)	0			0			0
Act Effct Green (s)	20.0			64.0			
Actuated g/C Ratio	0.18			0.58			
v/c Ratio	0.70			0.44			
Control Delay	40.4			5.1			
Queue Delay	57.0			0.0			
Total Delay	97.4			5.1			
LOS Approach Delay	F			Α			
Approach LOS	97.4			5.1			
Approach LOS	F 143			A 99			
Queue Length 50th (ft)	143			99			
Queue Length 95th (ft) Internal Link Dist (ft)	194			612	490		
Turn Bay Length (ft)	124			UIZ	490		
Base Capacity (vph)	573			1837			
Starvation Cap Reductn	253			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	1.25			0.44			
	20			21.17			
Intersection Summary	000						
	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110	to nt a ·	IDT. C	of C				
Offset: 16 (15%), Referenced	to phase 1:N	ııı, Startı	or Green				
Natural Cycle: 110	linatad						
Control Type: Actuated-Coord	inated						
Maximum v/c Ratio: 0.70	0				0000011	00.0	
Intersection Signal Delay: 35.					ersection I		
Intersection Capacity Utilizatio	JII /U.4%			IC	U Level of	service C	
Analysis Period (min) 15							
Colite and Dhacoes 11: Alla	ntic Avanual	Crocc Stra	ot 8. Lliah	Stroot			
Splits and Phases: 11: Atla	THIC AVENUE/	cross Stre	eા & High	oreer			
T ø1 (R)							
68 s							

	>	٠	→	←	*_	•	4	ኘ	†	~		
Lane Group	EBL2	EBL	EBT	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	Ø2	Ø6
Lane Configurations	LULE	LUL	41	1	W I	₩DI(2		Ä	413		~_	20
Traffic Volume (vph)	6	6	757	533	761	249	74	376	520	315		
Future Volume (vph)	6	6	757	533	761	249	74	376	520	315		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	13	11	12	13	12	12	13	12		
Storage Length (ft)		0			250			0		0		
Storage Lanes		0			1			1		0		
Taper Length (ft)		25						25				
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.95	0.95	0.91	0.91	0.95		
Ped Bike Factor									0.98			
Frt					0.850	0.850			0.946			
Flt Protected			0.999					0.950	0.998			
Satd. Flow (prot)	0	0	3321	1475	1323	1427	0	1438	2859	0		
Flt Permitted			0.955					0.950	0.998			
Satd. Flow (perm)	0	0	3175	1475	1323	1427	0	1438	2859	0		
Right Turn on Red						No				No		
Satd. Flow (RTOR)												
Link Speed (mph)			25	25					25			
Link Distance (ft)			248	506					457			
Travel Time (s)			6.8	13.8					12.5			
Confl. Bikes (#/hr)			0.0	.0.0	18	18			12.0	76		
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	0.76	0.76	1%	2%	0.97	0.97	2%	3%	2%	7%		
Adj. Flow (vph)	6	6	772	549	785	257	76	384	531	321		
Shared Lane Traffic (%)	0	U	112	347	0%	0%	70	10%	331	JZI		
	0	0	784	549	785	257	0	422	890	0		
Lane Group Flow (vph)										U		
Turn Type	custom	custom	NA	NA	Prot	Prot	Split	Split	NA 1		2	,
Protected Phases	2.5	2.5	5	5	5	5	1	1	1		2	6
Permitted Phases	25	25	2	-	-	-		_				
Detector Phase	25	25	5	5	5	5	1	1	1			
Switch Phase												, -
Minimum Initial (s)			8.0	8.0	8.0	8.0	8.0	8.0	8.0		4.0	4.0
Minimum Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (s)			35.0	35.0	35.0	35.0	43.0	43.0	43.0		26.0	6.0
Total Split (%)			31.8%	31.8%	31.8%	31.8%	39.1%	39.1%	39.1%		24%	5%
Maximum Green (s)			28.5	28.5	28.5	28.5	36.5	36.5	36.5		19.5	4.0
Yellow Time (s)			3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	2.0
All-Red Time (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	0.0
Lost Time Adjust (s)			0.0	-1.0	-1.0	-1.0		-1.0	-1.0			
Total Lost Time (s)			6.5	5.5	5.5	5.5		5.5	5.5			
Lead/Lag			Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?											-5	-5
Vehicle Extension (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode			Max	Max	Max	Max	C-Max	C-Max	C-Max		None	Ped
Walk Time (s)			7.0	7.0	7.0	7.0	8.0	8.0	8.0		7.0	4.0
Flash Dont Walk (s)			21.5	21.5	21.5	21.5	28.5	28.5	28.5		12.5	0.0
Pedestrian Calls (#/hr)			0	21.3	21.5	0	26.5	20.0	26.3		91	0.0
Act Effet Green (s)			44.1	29.5	29.5	29.5	U	42.7	42.7		71	U
						0.27			0.39			
Actuated g/C Ratio			0.40	0.27	0.27			0.39				
v/c Ratio			0.60	1.39	2.22	0.67		0.76	0.80			
Control Delay			3.7	223.4	580.0	46.0		36.1	32.8			
Queue Delay			5.3	10.7	0.0	0.0		0.0	0.0			
Total Delay			8.9	234.1	580.0	46.0		36.1	32.8			
LOS			Α	F	F	D		D	С			
Approach Delay			8.9	374.4					33.9			
Approach LOS			Α	F					С			
Queue Length 50th (ft)			8	~568	~983	170		213	242			
Queue Length 95th (ft)			m6	#800	#1240	269		#486	#445			
Internal Link Dist (ft)			168	426					377			
Turn Bay Length (ft)					250	250						
Base Capacity (vph)			1310	395	354	382		558	1109			
Starvation Cap Reductn			453	0	0	0		0	0			
Spillback Cap Reductn			0	220	0	0		0	0			
Storage Cap Reductn			0	0	0	0		0	0			
Reduced v/c Ratio			0.91	3.14	2.22	0.67		0.76	0.80			
								20				
Intersection Summary												
Area Type:	CBD								·	·		
Cycle Length: 110												
Actuated Cycle Length: 110												
,												

Actuated Cycle Length: 110
Offset: 19 (17%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.22
Intersection Signal Delay: 175.5
Intersection Capacity Utilization 104.7%
Analysis Period (min) 15
Volume exceeds capacity, queue is theoretically infinite. Intersection LOS: F ICU Level of Service G

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

M Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Atlantic Avenue/Cross Street & Oliver Street/Seaport Boulevard & I-93 NB On-Ramp



	•	•	↓	1	4	₹	1	
Lane Group	WBL	WBT	SBT	SBR	SWL2	SWL	SWR	Ø2
Lane Configurations	WDL	41↑	4 † }	JUN	JVILZ	→ SWL	JAAL	IJΖ
Traffic Volume (vph)	382	225	1070	116	770	193	49	
Future Volume (vph)	382	225	1070	116	770	193	49	
Ideal Flow (vphpl)	1900 12	1900 11	1900 12	1900 12	1900 12	1900 12	1900 12	
Lane Width (ft) Lane Util. Factor	0.95	0.95	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.73	0.73	1.00	0.71	1.00	1.00	1.00	
Frt			0.985			0.970		
Flt Protected		0.970			0.950	0.962	_	
Satd. Flow (prot) Flt Permitted	0	3005 0.970	4494	0	1608 0.950	1546 0.962	0	
Satd. Flow (perm)	0	3005	4494	0	1608	1546	0	
Right Turn on Red				Yes				
Satd. Flow (RTOR)			17					
Link Speed (mph)		25	25			25		
Link Distance (ft) Travel Time (s)		248 6.8	514 14.0			293 8.0		
Confl. Bikes (#/hr)		0.0	14.0	41		0.0		
Peak Hour Factor	0.85	0.85	0.91	0.91	0.98	0.98	0.98	
Heavy Vehicles (%)	1%	2%	2%	1%	1%	4%	0%	
Adj. Flow (vph)	449	265	1176	127	786	197	50	
Shared Lane Traffic (%) Lane Group Flow (vph)	0	714	1303	0	786	247	0	
Turn Type	Split	NA	NA	U	pm+pt	Prot	U	
Protected Phases	6	6	1		5	5		2
Permitted Phases					2			
Detector Phase Switch Phase	6	6	1		5	5		
Minimum Initial (s)	8.0	8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	21.0	21.0	38.0		31.0	31.0		20.0
Total Split (s)	21.0	21.0	38.0		31.0	31.0		20.0
Total Split (%)	19.1%	19.1%	34.5%		28.2%	28.2%		18%
Maximum Green (s)	14.0 3.5	14.0 3.5	33.5 3.5		26.0 3.5	26.0 3.5		16.0 3.0
Yellow Time (s) All-Red Time (s)	3.5	3.5	3.5 1.0		3.5 1.5	3.5 1.5		1.0
Lost Time Adjust (s)	5.5	-2.0	-1.0		-1.0	-1.0		1.0
Total Lost Time (s)		5.0	3.5		4.0	4.0		
Lead/Lag	Lag	Lag	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	2.0	2.0	2.0		2.0	2.0		2.0
Vehicle Extension (s) Recall Mode	2.0 Max	Max	C-Max		2.0 Max	2.0 Max		2.0 Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	7.0	7.0	26.5		19.0	19.0		9.0
Pedestrian Calls (#/hr)	0	0	0		0	0		50
Act Effet Green (s)		16.0	34.5		47.0	27.0		
Actuated g/C Ratio v/c Ratio		0.15 1.99dl	0.31 0.92		0.43 1.14	0.25 0.65		
Control Delay		309.7	28.0		112.3	46.5		
Queue Delay		0.5	3.1		0.0	0.0		
Total Delay		310.1	31.1		112.4	46.5		
LOS Approach Delay		F 310.1	C 31.1		F	D 96.6		
Approach Delay Approach LOS		310.1 F	31.1 C			90.0 F		
Queue Length 50th (ft)		~367	83		~652	157		
Queue Length 95th (ft)		m#270	#111		#886	247		
Internal Link Dist (ft)		168	434			213		
Turn Bay Length (ft) Base Capacity (vph)		437	1421		687	379		
Starvation Cap Reductn		21	0		007	0		
Spillback Cap Reductn		0	64		4	0		
Storage Cap Reductn		0	0		0	0		
Reduced v/c Ratio		1.72	0.96		1.15	0.65		
Intersection Summary	CDD							
Area Type: Cycle Length: 110	CBD							
Actuated Cycle Length: 110								
Offset: 16 (15%), Reference		SBT, Start	of Green					
Natural Cycle: 120								
Control Type: Actuated-Coor Maximum v/c Ratio: 1.63	rainated							
Intersection Signal Delay: 11	18.6			In	tersection	LOS: F		
Intersection Signal Delay. 11 Intersection Capacity Utilizat					CU Level of		;	
Analysis Period (min) 15								
 Volume exceeds capacit 	ty queue is th	enretically	infinite					

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Wolume for 95th percentile queue is metered by upstream signal.

IDefacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 13: Surface/Purchase/SASB & Oliver Street & I-93 SB OffRamp



≯	→	•	•	←	•	4	†	~	\	1	1	
		•	-	WDT	WDD					▼ CDT		Ø2
EDL	EDI	EDR	WDL		WDR	INDL	INDI	INDIX	SDL		SDR	WZ
0	0	0	145	168	0	0	0	0	0	1558	77	
1.00	1.00	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00		0.71	
			0.050							0.773		
0	۸	٥		2110	0	٥	٥	٥	0	/E27	٥	
U	U	U		3110	U	U	U	U	U	4007	U	
0	0	0		2110	0	0	0	0	0	4527	٥	
Ü	U			3110		0	0		0	4537		
		Yes	INO		Yes			Yes			Yes	
	4.1			6.7			6.9			11.5		
0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	
	0%	0%	2%	1%	0%	0%	0%	0%	0%	2%	3%	
0	0	0	167	193	0	0	0	0	0	1693	84	
0	0	0	167	193	0	0	0	0	0	1777	0	
			Split	NA						NA		
			5	5						1		2
			5	5						1		
			8.0	8.0						8.0		8.0
												18.0
												18.0
												16%
												14.0
												4.0
												0.0
			4.0	4.0								l
										Lead		Lag
			0.0	0.0						0.0		0.0
												2.0
												Ped
												7.0
												7.0
												0
			67.0	52.9						5.6		
			2.7	0.0						1.5		
			69.7	52.9						7.1		
			E	D						Α		
				60.7						7.1		
				E						Α		
			126									
			190	111						m172		
	71						172					
				.00			.12			0.10		
			308	622						2786		
			66	022						764		
				U								
				0						301		
			0	0						384 0		
	0% 0	0 0 0 0 1900 1900 12 12 12 1.00 1.00 0 0 0 0 25 151 4.1 0.92 0.92 0% 0% 0 0	0 0 0 0 1900 1900 12 12 12 12 12 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0	0 0 0 145 1900 1900 1900 1900 12 12 12 12 11 1.00 1.00 1.00 1.00 0 0 0 1540 0 .950 0 0 0 1540 0 .950 0 0 0 1540 Yes No 25 151 4.1 0.92 0.92 0.92 0.87 0% 0% 0% 2% 0 0 0 167 Split 5 8.0 18.0 26.0 23.6% 21.0 3.0 2.0 2.0 92 0 -1.0 4.0 Ped 7.0 6.0 0 -15 0 16 0 6.0 0 -16 0 6.8 67.0 0 6.7 0 6.7 0 126	0 0 0 145 168 1900 1900 1900 1900 12 12 12 12 11 11 1.00 1.00 1.00 1.00 0.95 0 0 0 1540 3110 0.950 0 0 1540 3110 0.950 0 0 0 1540 3110 Yes No 25 25 151 246 4.1 6.7 0.92 0.92 0.92 0.87 0.87 0% 0% 0% 2% 1% 0 0 0 167 193 0 0 0 0 167 193	0 0 0 145 168 0 1900 1900 1900 1900 1900 12 12 12 12 11 11 11 1.00 1.00 1.00 1.00 0.95 1.00 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 3110 0 0.950 0 0 0 1540 310 0 0 0 157 0 0 0 1580 310 0 0 0 1580 310 0 0 0 1590 310 0 0 0 167 0.07 0 0 0 167 193 0 0 0 0 0 167 193 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 145 168 0 0 0 1900 1900 1900 1900 12 12 12 12 11 11 11 11 12 1.00 1.00	0 0 0 145 168 0 0 0 0 1900 1900 1900 1900 1900 1900 1	0 0 0 145 168 0 0 0 0 0 0 1900 1900 1900 1900 1900 1	No. No.		

Splits and Phases: 14: Surface/Purchase/SASB & Pearl Street

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	•	•	4	<u>†</u>	+	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations	EDL	LDK	INDL	444	JDI	אטכ	XJZ
Traffic Volume (vph)	0	0	313	4 TT 1285	0	0	
Future Volume (vph)	0	0	313	1285	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00	
Frt Elt Protoctod				0.000			
Flt Protected	0	0	^	0.990	0	0	
Satd. Flow (prot)	0	0	0	4531	0	0	
Fit Permitted	^			0.990		^	
Satd. Flow (perm)	0	0	0	4531	0	0	
Right Turn on Red		Yes	No			Yes	
Satd. Flow (RTOR)	0.5			05	0.5		
Link Speed (mph)	25			25	25		
Link Distance (ft)	246			240	457		
Travel Time (s)	6.7			6.5	12.5		
Peak Hour Factor	0.92	0.92	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%	
Adj. Flow (vph)	0	0	323	1325	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	0	1648	0	0	
Turn Type			Split	NA			
Protected Phases			1	1			2
Permitted Phases							_
Detector Phase			1	1			
Switch Phase							
Minimum Initial (s)			25.0	25.0			8.0
Minimum Split (s)			32.0	32.0			18.0
Total Split (s)			92.0	92.0			18.0
Total Split (%)			83.6%	83.6%			16%
Maximum Green (s)			87.0	87.0			14.0
Yellow Time (s)			3.0	3.0			4.0
All-Red Time (s)			2.0	2.0			0.0
Lost Time Adjust (s)				0.0			
Total Lost Time (s)				5.0			
Lead/Lag			Lead	Lead			Lag
Lead-Lag Optimize?							
Vehicle Extension (s)			2.0	2.0			2.0
Recall Mode			C-Max	C-Max			Ped
Walk Time (s)							7.0
Flash Dont Walk (s)							7.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				87.0			
Actuated g/C Ratio				0.79			
v/c Ratio				0.46			
Control Delay				0.4			
Queue Delay				0.3			
Total Delay				0.7			
LOS				Α.			
Approach Delay				0.7			
Approach LOS				Α.7			
				0 0			
Queue Length 50th (ft)							
Queue Length 95th (ft)	1//			m0	277		
Internal Link Dist (ft)	166			160	377		
Turn Bay Length (ft)							
Base Capacity (vph)				3583			
Starvation Cap Reductn				1156			
Spillback Cap Reductn				142			
Storage Cap Reductn				0			
Reduced v/c Ratio				0.68			
Intersection Summary							
Area Type:	CBD						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 11 (10%), Referenced	I to phase 1:N	BTL, Sta	rt of Greer	n			
Natural Cycle: 50							
Control Type: Actuated-Coord	dinated						
Maximum v/c Ratio: 0.46							
Intersection Signal Delay: 0.7				Int	tersection I	OS: A	
Intersection Capacity Utilization					U Level of		
Analysis Poriod (min) 15				.0			

Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Atlantic Avenue/Cross Street & Pearl Street





	→		•	<u> </u>	Ļ	+	
Lane Group			▼ EBR2	SBL2			αn
Lane Group Lane Configurations	EBT ↑↑	EBR 7	EBR2	SBL2	SBL	SBT	Ø2
Traffic Volume (vph)	602	352	307	369	710	624	
Future Volume (vph)	602	352	307	369	710	624	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11 0.95	12	1.00	14	12	11	
Lane Util. Factor Ped Bike Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Frt		0.850	0.850				
Flt Protected				0.950	0.950		
Satd. Flow (prot)	3110	1439	1405	1699	1593	1637	
Flt Permitted	2110	1.400	1405	0.950	0.950	1/07	
Satd. Flow (perm) Right Turn on Red	3110	1439	1405 No	1699 No	1593	1637	
Satd. Flow (RTOR)			INU	INU			
Link Speed (mph)	25					25	
Link Distance (ft)	173					252	
Travel Time (s)	4.7					6.9	
Confl. Bikes (#/hr)	0.07	19	19	0.04		0.04	
Peak Hour Factor Heavy Vehicles (%)	0.96 1%	0.96 1%	0.96 0%	0.91 2%	0.91 2%	0.91 1%	
Adj. Flow (vph)	627	367	320	405	780	686	
Shared Lane Traffic (%)	027	307	320	100	,,,,	300	
Lane Group Flow (vph)	627	367	320	405	780	686	
Turn Type	NA	Prot	Prot	Split	Split	NA	
Protected Phases Permitted Phases	1	1	1	5	5	5	2
Detector Phases	1	1	1	5	5	5	
Switch Phase	'			J	J	J	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (s)	48.0	48.0	48.0	42.0	42.0	42.0	20.0
Total Split (%) Maximum Green (s)	43.6% 43.0	43.6% 43.0	43.6% 43.0	38.2% 37.0	38.2% 37.0	38.2% 37.0	18% 16.0
Maximum Green (s) Yellow Time (s)	3.0	3.0	3.0	37.0	37.0	37.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Lost Time Adjust (s)	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	3.0	5.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead	Lead	Lead				Lag
Lead-Lag Optimize? Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	Ped
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	36.0	36.0	36.0	30.0	30.0	30.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	45.0	43.0	45.0	39.0	39.0	39.0	
Actuated g/C Ratio v/c Ratio	0.41 0.49	0.39	0.41 0.56	0.35 0.67	0.35 1.38	0.35 1.18	
Control Delay	25.7	34.1	29.5	19.9	204.2	119.3	
Queue Delay	0.8	0.0	0.0	11.0	0.0	0.1	
Total Delay	26.5	34.1	29.5	31.0	204.2	119.4	
LOS	C	С	С	С	F	F	
Approach LOS	29.4 C					135.6 F	
Approach LOS Queue Length 50th (ft)	169	209	170	245	~761	~605	
Queue Length 95th (ft)	223	317	262	338	#1005	#839	
Internal Link Dist (ft)	93					172	
Turn Bay Length (ft)							
Base Capacity (vph)	1272	562	574	602	564	580	
Starvation Cap Reductn Spillback Cap Reductn	349	0	0	170 0	0	7	
Storage Cap Reductn	349	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.65	0.56	0.94	1.38	1.20	
Intersection Summary							
	CBD						
Cycle Length: 110	300						
Actuated Cycle Length: 110							
Offset: 82 (75%), Referenced	to phase 1:	EBT, Start	of Green				
Natural Cycle: 130							
Control Type: Actuated-Coord	linated						
Maximum v/c Ratio: 1.38 Intersection Signal Delay: 91.	ρ.			In	ntersection	LOS: E	
Intersection Signal Delay: 91.						f Service D	
Analysis Period (min) 15	5 70.470				J LCVCI U	JOI VICE L	
 Volume exceeds capacity 			infinite.				
Queue shown is maximum	after two cy	rcles.					

Oueue shown is maximum after two cycles.

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

Splits and Phases: 16: Surface/Purchase/SASB & Ramp to I-93W-I-90S & Congress Street

ÅÅø2

Lanes, Volumes, T	•	—	•	1	+	•	4	†	~	<u> </u>		4	
		-			14/5-				-		-		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations Traffic Volume (vph)	ሻሻ 454	↑↑ 518	0	0	0	371	0	↑↑ ↑ 772	73	0	0	0	
Future Volume (vph)	454	518	0	0	0	371	0	772	73	0	0	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	12	12	12	11	12	12	12	12	12	12	
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00	
Ped Bike Factor	0.53							0.96					
Frt	0.050					0.850		0.987					
Flt Protected Satd. Flow (prot)	0.950 2987	3079	0	0	0	2448	0	4287	0	0	0	0	
Flt Permitted	0.950	3079	U	U	U	2448	U	4287	U	U	U	U	
Satd. Flow (perm)	1582	3079	0	0	0	2448	0	4287	0	0	0	0	
Right Turn on Red	No		No			No			No			No	
Satd. Flow (RTOR)													
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		233			288			612			240		
Travel Time (s)	F02	6.4			7.9	F02		16.7	1007		6.5		
Confl. Peds. (#/hr)	593					593			1007 76				
Confl. Bikes (#/hr) Peak Hour Factor	0.99	0.99	0.99	0.98	0.98	12 0.98	0.95	0.95	0.95	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	2%	0.99	0.96	0.96	1%	0.93	3%	6%	0.92	0.92	0.92	
Adj. Flow (vph)	459	523	0	0	0.0	379	0.0	813	77	0	0	0	
Shared Lane Traffic (%)						J.,		3.0					
Lane Group Flow (vph)	459	523	0	0	0	379	0	890	0	0	0	0	
Turn Type	Prot	NA				Prot		NA					
Protected Phases	3	123				1		4					2
Permitted Phases		100											
Detector Phase	3	123				1		4					
Switch Phase Minimum Initial (s)	8.0					8.0		8.0					8.0
Minimum Initial (s) Minimum Split (s)	13.0					30.0		39.0					20.0
Total Split (s)	21.0					30.0		39.0					20.0
Total Split (%)	19.1%					27.3%		35.5%					18%
Maximum Green (s)	16.0					25.0		34.0					15.0
Yellow Time (s)	3.0					3.0		3.0					3.0
All-Red Time (s)	2.0					2.0		2.0					2.0
Lost Time Adjust (s)	-1.0					-1.0		-2.0					
Total Lost Time (s)	4.0					4.0		3.0					
Lead/Lag	Lead					Lead		Lag					Lag
Lead-Lag Optimize? Vehicle Extension (s)	2.0					2.0		2.0					2.0
Recall Mode	Max					C-Max		Max					Max
Walk Time (s)	IVIGA					7.0		7.0					7.0
Flash Dont Walk (s)						18.0		27.0					8.0
Pedestrian Calls (#/hr)						0		0					0
Act Effct Green (s)	17.0	67.0				26.0		36.0					
Actuated g/C Ratio	0.15	0.61				0.24		0.33					
v/c Ratio	1.00	0.28				0.66		0.63					
Control Delay Queue Delay	76.4 25.8	4.0 0.4				44.2 0.0		27.9 0.0					
Total Delay	25.8 102.2	4.4				44.2		27.9					
LOS	102.2 F	4.4 A				44.2 D		21.9 C					
Approach Delay	•	50.1			44.2			27.9					
Approach LOS		D			D			С					
Queue Length 50th (ft)	174	52				138		217					
Queue Length 95th (ft)	#281	48				196		263					
Internal Link Dist (ft)		153			208			532			160		
Turn Bay Length (ft)		46						4/					
Base Capacity (vph)	461	1875				578		1403					
Starvation Cap Reductn	35	826				0		0					
Spillback Cap Reductn Storage Cap Reductn	0	0				0		0					
Reduced v/c Ratio	1.08	0.50				0.66		0.63					
	1.00	0.30				0.00		0.03					
Intersection Summary	ODD												
Area Type:	CBD												
Cycle Length: 110 Actuated Cycle Length: 110	١												
Offset: 63 (57%), Reference		RT Start	of Green										
Natural Cycle: 105	ou to priase 1.E	ا Ji, Jiail ال	or Orcen										
Control Type: Actuated-Coo	ordinated												
Maximum v/c Ratio: 1.00													
Intersection Signal Delay: 40					tersection								
Intersection Capacity Utiliza	ation 77.6%			IC	U Level of	Service D)						
Analysis Period (min) 15													
Analysis Period (min) 15 # 95th percentile volume 6			may be lo	nger.									
alysis Period (min) 15			may be lo	nger.									

Splits and Phases: 17: Atlantic Avenue/Cross Street & Congress Street ∱_{Ø4}

Laries, volumes, i						-					-	-	
	•	-	•	€	+	•	1	†	_	-	ţ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	LDL	41	LDIX	WDL	† †	WDIC	NDL	41	TIDIK T	JDL	301	JUIN	XUZ.
Traffic Volume (vph)	35	301	0	0	294	276	94	534	259	0	0	0	
Future Volume (vph)	35	301	0	0	294	276	94	534	259	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	12	12	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.75	0.75	1.00	1.00	0.98	0.71	0.71	0.71	1.00	1.00	1.00	1.00	
Frt					0.927				0.850				
Flt Protected		0.995			0.721		0.950	0.999	0.000				
Satd. Flow (prot)	0	3194	0	0	3931	0	1464	2864	1454	0	0	0	
Flt Permitted	U	0.817	U	U	3931	U	0.950	0.999	1404	U	U	U	
Satd. Flow (perm)	0	2623	0	0	3931	0	1464	2864	1454	0	0	0	
Right Turn on Red	U	2023	No	U	3931	No	1404	2004	No	U	U	No	
			INO			INO			INO			IVO	
Satd. Flow (RTOR)		25			25			25			25		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		138			413			606			612		
Travel Time (s)		3.8			11.3	0.5		16.5	70		16.7		
Confl. Bikes (#/hr)						30			78				
Peak Hour Factor	0.96	0.96	0.96	0.99	0.99	0.99	0.96	0.96	0.96	0.92	0.92	0.92	
Heavy Vehicles (%)	3%	1%	0%	0%	0%	1%	1%	5%	0%	0%	0%	0%	
Adj. Flow (vph)	36	314	0	0	297	279	98	556	270	0	0	0	
Shared Lane Traffic (%)							10%						
Lane Group Flow (vph)	0	350	0	0	576	0	88	566	270	0	0	0	
Turn Type	D.P+P	NA			NA		Split	NA	Prot				
Protected Phases	4	1 4			1		3	3	3				2
Permitted Phases	1												
Detector Phase	4	1 4			1		3	3	3				
Switch Phase													
Minimum Initial (s)	4.0				8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	10.0				26.0		46.0	46.0	46.0				27.0
Total Split (s)	11.0				26.0		46.0	46.0	46.0				27.0
Total Split (%)	10.0%				23.6%		41.8%	41.8%	41.8%				25%
Maximum Green (s)	5.0				20.0		41.0	41.0	41.0				23.0
Yellow Time (s)	3.0				3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	3.0				3.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)	3.0				-2.0		-1.0	-1.0	-1.0				0.0
Total Lost Time (s)					4.0		4.0	4.0	4.0				
Lead/Lag	Lag				Lead		Lead	Lead	Lead				Lag
Lead-Lag Optimize?	Lay				Luau		Loau	Leau	Leau				Lay
Vehicle Extension (s)	2.0				2.0		2.0	2.0	2.0				2.0
Recall Mode													Ped
	Max				C-Max		Max	Max	Max				
Walk Time (s)	0.0				7.0		7.0	7.0	7.0				8.0
Flash Dont Walk (s)	0.0				13.0		34.0	34.0	34.0				15.0
Pedestrian Calls (#/hr)	0				0		0	0	0				0
Act Effct Green (s)		29.0			22.0		42.0	42.0	42.0				
Actuated g/C Ratio		0.26			0.20		0.38	0.38	0.38				
v/c Ratio		0.48			1.04dr		0.16	0.52	0.49				
Control Delay		34.0			47.6		23.4	28.3	29.5				
Queue Delay		0.0			0.0		0.0	0.0	0.0				
Total Delay		34.0			47.6		23.4	28.3	29.5				
LOS		С			D		С	С	С				
Approach Delay		34.0			47.6			28.2					
Approach LOS		С			D			С					
Queue Length 50th (ft)		102			141		43	167	143				
Queue Length 95th (ft)		144			184		83	223	224				
Internal Link Dist (ft)		58			333			526			532		
Turn Bay Length (ft)		- 55			000			020			002		
Base Capacity (vph)		727			786		558	1093	555				
Starvation Cap Reductn		0			0		0	0	0				
Spillback Cap Reductn		0			0		0	0	0				
Storage Cap Reductin		0			0		0	0	0				
Reduced v/c Ratio		0.48			0.73		0.16	0.52	0.49				
reduced v/c Rall0		0.48			0.73		U. 10	0.52	0.49				

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 59 (54%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 35.3

Intersection Capacity Utilization 50.0%

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Intersection LOS: D ICU Level of Service A

Splits and Phases: 18: Atlantic Avenue/Cross Street & Summer Street



ane Group		•	4	†	ţ	4	
	EBL	EBR	NBL	NBT	SBT	SBR	Ø5
ane Configurations	LDL	LDIN	.400		444	ODIN	20
Fraffic Volume (vph)	0	0	0	0	↑↑↑ 1359	0	
uture Volume (vph)	0	0	0	0	1359	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
ane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	
-rt							
It Protected							
Satd. Flow (prot)	0	0	0	0	5136	0	
It Permitted							
Satd. Flow (perm)	0	0	0	0	5136	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)							
ink Speed (mph)	25			25	25		
ink Distance (ft)	107			240	199		
Fravel Time (s)	2.9	0.00	0.00	6.5	5.4	207	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	
Adj. Flow (vph)	0	0	0	0	1401	0	
Shared Lane Traffic (%)	0	0	0	0	1401	0	
ane Group Flow (vph)	0	0	0	0	1401	0	
Furn Type					NA 1		г
Protected Phases Permitted Phases					1		5
Detector Phase					1		
Switch Phase							
Minimum Initial (s)					8.0		8.0
Minimum Split (s)					71.0		39.0
Fotal Split (s)					71.0		39.0
Fotal Split (%)					64.5%		35%
Maximum Green (s)					66.0		33.0
/ellow Time (s)					3.0		3.0
All-Red Time (s)					2.0		3.0
ost Time Adjust (s)					-1.0		
Total Lost Time (s)					4.0		
_ead/Lag							
_ead-Lag Optimize?							
/ehicle Extension (s)					2.0		2.0
Recall Mode					C-Max		Max
Walk Time (s)					7.0		7.0
Flash Dont Walk (s)					59.0		26.0
Pedestrian Calls (#/hr)					0		0
Act Effct Green (s)					67.0		
Actuated g/C Ratio					0.61		
/c Ratio					0.45		
Control Delay					6.2		
Queue Delay					0.2		
Total Delay					6.4		
.OS					A		
Approach Delay					6.4		
Approach LOS					A 72		
Queue Length 50th (ft)					73 83		
Queue Length 95th (ft) nternal Link Dist (ft)	27			160	119		
Furn Bay Length (ft)	21			100	119		
Base Capacity (vph)					3128		
Starvation Cap Reductn					751		
Spillback Cap Reductn					0		
Storage Cap Reductin					0		
Reduced v/c Ratio					0.59		
					0.37		
ntersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 107 (97%), Referen	ced to phase 1	:SBT, Star	t of Green				
Natural Cycle: 110							
valurar Cycle. 110	ordinated						
Control Type: Actuated-Coo							
Control Type: Actuated-Coo Maximum v/c Ratio: 0.49							
Control Type: Actuated-Coo Maximum v/c Ratio: 0.49 ntersection Signal Delay: 6					tersection		
Control Type: Actuated-Coo Maximum v/c Ratio: 0.49						LOS: A Service A	

Splits and Phases: 19: Surface/Purchase/SASB & S Market Street #19 #21





Lane Group Lane Configurations Traffic Volume (vph) Future Volume (vph) Gleal Flow (vphpl) Lane Util. Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Distance (tt) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type Protected Phases	WBL 0 0 1900 1.00 0 25 111 3.0 0.992 0% 0 0	0 0 1900 1.00 0 Yes	NBT 1205 1205 1205 1900 0.95 3574 3574 25 264 7.2 0.97	NBR 0 0 1900 1.00 0 Yes	SBL 0 0 1900 1.00 0 0	SBT 0 0 1900 1.00 0	Ø5
Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Util. Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0 0 1900 1.00 0 0 25 111 3.0 0.92 0%	0 0 1900 1.00 0 Ves	1205 1205 1205 1900 0.95 3574 3574 25 264 7.2	0 0 1900 1.00	0 0 1900 1.00	0 0 1900 1.00	23
Traffic Volume (vph) Future Volume (vph) Gledal Flow (vphpl) Lane Util. Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0 1900 1.00 0 0 25 111 3.0 0.92 0%	0 1900 1.00 0 Ves	1205 1900 0.95 3574 3574 25 264 7.2	0 1900 1.00	0 1900 1.00	0 1900 1.00	
Future Volume (vph) Ideal Flow (vphpi) Lane Util, Factor Frt Fit Prolected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0 1900 1.00 0 0 25 111 3.0 0.92 0%	0 1900 1.00 0 Ves	1205 1900 0.95 3574 3574 25 264 7.2	0 1900 1.00	0 1900 1.00	0 1900 1.00	
Ideal Flow (vphpl) Lane Util. Factor Frt Frt Fit Protected Said. Flow (prot) Fit Permitted Said. Flow (perm) Right Turn on Red Said. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	1900 1.00 0 0 25 111 3.0 0.92 0% 0	1900 1.00 0 Ves	1900 0.95 3574 3574 25 264 7.2	1900 1.00 0	1900 1.00	1900 1.00	
Lane Util. Factor Frt Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	1.00 0 0 25 111 3.0 0.92 0% 0	0 0 Yes	0.95 3574 3574 25 264 7.2	0 0	1.00	1.00	
Frt Frt Protected Satd. Flow (prot) Frt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0 0 25 111 3.0 0.92 0% 0	0 Yes	3574 3574 25 264 7.2	0	0	0	
Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (t) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	25 111 3.0 0.92 0%	0 Yes 0.92 0%	3574 25 264 7.2	0			
Satd. Flow (prot) FIT Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	25 111 3.0 0.92 0%	0 Yes 0.92 0%	3574 25 264 7.2	0			
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	25 111 3.0 0.92 0%	0.92 0%	25 264 7.2		0	0	
Right Turn on Red Sald. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	25 111 3.0 0.92 0%	0.92 0%	25 264 7.2		0	0	
Said. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	111 3.0 0.92 0% 0	0.92 0%	264 7.2	Yes			
Link Speed (mph) Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	111 3.0 0.92 0% 0	0%	264 7.2				
Link Distance (ft) Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	111 3.0 0.92 0% 0	0%	264 7.2				
Travel Time (s) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	3.0 0.92 0% 0	0%	7.2			25	
Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0.92 0% 0	0%				262	
Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0% 0	0%	0.97	0.07	0.00	7.1	
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type	0			0.97	0.92	0.92	
Shared Lane Traffic (%) Lane Group Flow (vph) Turn Type			1%	0%	0%	0%	
Lane Group Flow (vph) Turn Type	0	Ū	1242	0	0	0	
Turn Type		0	1242	0	0	0	
	- 0	U	NA	U	U	U	
			1VA				5
Permitted Phases							J
Detector Phase			1				
Switch Phase			•				
Minimum Initial (s)			8.0				8.0
Minimum Split (s)			75.0				35.0
Total Split (s)			75.0				35.0
Total Split (%)			68.2%				32%
Maximum Green (s)			70.0				30.0
Yellow Time (s)			3.0				3.0
All-Red Time (s)			2.0				2.0
Lost Time Adjust (s)			-1.0				
Total Lost Time (s)			4.0				
Lead/Lag							
Lead-Lag Optimize?			2.0				2.0
Vehicle Extension (s)			2.0				2.0
Recall Mode			C-Max				Max
Walk Time (s) Flash Dont Walk (s)			7.0 63.0				7.0 23.0
Pedestrian Calls (#/hr)			03.0				23.0
Act Effct Green (s)			71.0				U
Actuated g/C Ratio			0.65				
v/c Ratio			0.54				
Control Delay			2.8				
Queue Delay			0.3				
Total Delay			3.1				
LOS			Α				
Approach Delay			3.1				
Approach LOS			Α				
Queue Length 50th (ft)			33				
Queue Length 95th (ft)			55				
Internal Link Dist (ft)	31		184			182	
Turn Bay Length (ft)							
Base Capacity (vph)			2306				
Starvation Cap Reductn			419				
Spillback Cap Reductn			136				
Storage Cap Reductn			0				
Reduced v/c Ratio			0.66				
Intersection Summary							
Area Type:	Other						
Cycle Length: 110							
Actuated Cycle Length: 11							
Offset: 44 (40%), Reference		NBTL, Star	rt of Green				
Natural Cycle: 110							
Control Type: Actuated-Co	oordinated						
Maximum v/c Ratio: 0.66							
Intersection Signal Delay:					ersection		
Intersection Capacity Utiliz	zation 36.6%			IC	U Level of	Service A	
Analysis Period (min) 15							

Splits and Phases: 20: Atlantic Avenue/Cross Street & Christopher Columbus Path #8 #20





	•	•	†	~	-	Ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	1/1/					414
Traffic Volume (vph)	249	0	0	0	228	1110
Future Volume (vph)	249	0	1000	0	228	1110
Ideal Flow (vphpl) Lane Width (ft)	1900 11	1900 11	1900 12	1900 12	1900 12	1900 12
Lane Util. Factor	0.97	1.00	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98	1.00	1.00	1.00	0.71	0.99
Frt						
Flt Protected	0.950					0.992
Satd. Flow (prot)	2958	0	0	0	0	4577
FIt Permitted Satd. Flow (perm)	0.950 2899	0	0	0	0	0.992 4543
Right Turn on Red	2077	Yes	0	Yes	0	7373
Satd. Flow (RTOR)						
Link Speed (mph)	25		25			25
Link Distance (ft)	195		199			185
Travel Time (s)	5.3 20		5.4		00	5.0
Confl. Peds. (#/hr) Peak Hour Factor	0.95	0.95	0.92	0.92	88 0.98	0.98
Heavy Vehicles (%)	3%	0.75	0.72	0%	2%	1%
Adj. Flow (vph)	262	0	0	0	233	1133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	0	0	0	0	1366
Turn Type	Prot				Split	NA 1
Protected Phases Permitted Phases	5				1	1
Detector Phase	5				1	1
Switch Phase						
Minimum Initial (s)	8.0				8.0	8.0
Minimum Split (s)	39.0				71.0	71.0
Total Split (s)	39.0 35.5%				71.0 64.5%	71.0 64.5%
Total Split (%) Maximum Green (s)	35.5%				66.0	66.0
Yellow Time (s)	3.0				3.0	3.0
All-Red Time (s)	3.0				2.0	2.0
Lost Time Adjust (s)	-1.0					-1.0
Total Lost Time (s)	5.0					4.0
Lead/Lag						
Lead-Lag Optimize? Vehicle Extension (s)	2.0				2.0	2.0
Recall Mode	Max				C-Max	C-Max
Walk Time (s)	7.0				7.0	7.0
Flash Dont Walk (s)	26.0				59.0	59.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s) Actuated g/C Ratio	34.0 0.31					67.0 0.61
v/c Ratio	0.31					0.49
Control Delay	9.1					13.1
Queue Delay	8.8					8.0
Total Delay	17.9					13.9
LOS Approach Dolou	B					12.0
Approach Delay Approach LOS	17.9 B					13.9 B
Queue Length 50th (ft)	54					159
Queue Length 95th (ft)	m60					201
Internal Link Dist (ft)	115		119			105
Turn Bay Length (ft)						
Base Capacity (vph)	914					2787
	607 0					997 377
Starvation Cap Reductn						3//
Spillback Cap Reductn	()					0.76
Spillback Cap Reductn Storage Cap Reductn	0.85					3
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio						
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary	0.85					
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110	0.85					
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (0.85 CBD	:SBT, Stari	t of Green	1		
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110	0.85 CBD I to phase 1	:SBT, Stari	t of Green	1		
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordir	0.85 CBD I to phase 1	:SBT, Start	t of Green	1		
Spillback Cap Reductn Stlorage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordin Maximum v/c Ratio: 0.49	0.85 CBD I to phase 1	:SBT, Start	t of Green			100.5
Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordii Maximum v/c Ratio: 0.49 Intersection Signal Delay: 14.5	0.85 CBD I to phase 1	:SBT, Stari	t of Green	In	tersection	
Spillback Cap Reductn Stlorage Cap Reductn Reduced v/c Ratio Intersection Summary Area Type: (Cycle Length: 110 Actuated Cycle Length: 110 Offset: 107 (97%), Referenced Natural Cycle: 110 Control Type: Actuated-Coordin Maximum v/c Ratio: 0.49	0.85 CBD I to phase 1	:SBT, Start	t of Green	In	tersection CU Level o	

Splits and Phases: 21: Surface/Purchase/SASB & Mercantile St #19 #21



Lanes, volumes, m													
	•	-	•	<	—	•	4	†	~	/	↓	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations	EBL	4 ↑	EBK	WBL	WB1	WBK	INBL		NBK	SBL	201	SBK	WZ
Traffic Volume (vph)	33	⇔T 234	0	0	228	48	21	41↑ 725	456	0	0	0	
Future Volume (vph)	33	234	0	0	228	48	21	725 725	456 456	0	0	0	
		1900			1900		1900		1900				
Ideal Flow (vphpl)	1900	1900	1900 11	1900		1900	1900	1900		1900	1900	1900 12	
Lane Width (ft) Lane Util. Factor	11 0.95	0.95	1.00	11	11	11	0.95	12 0.95	12 1.00	12 1.00	12 1.00	1.00	
	0.95	0.95	1.00	1.00		1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor Frt					1.00				0.850				
		0.994			0.976			0.000	0.850				
Flt Protected			•		4500		•	0.999	4454		•	•	
Satd. Flow (prot)	0	3095	0	0	1592	0	0	3184	1454	0	0	0	
Flt Permitted		0.741	•		4500		•	0.999	4454		•	•	
Satd. Flow (perm)	0	2307	0	0	1592	0	0	3184	1454	0	0	0	
Right Turn on Red			Yes			Yes			No			Yes	
Satd. Flow (RTOR)					9								
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		195			457			262			193		
Travel Time (s)		5.3			12.5			7.1			5.3		
Confl. Bikes (#/hr)						16			77				
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%	0%	
Adj. Flow (vph)	35	249	0	0	245	52	22	747	470	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	284	0	0	297	0	0	769	470	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Prot			-	
Protected Phases		5			5		1 01171	1	1				2
Permitted Phases	5	J			3		1						
Detector Phase	5	5			5		1	1	1				
Switch Phase		,			3								
Minimum Initial (s)	8.0	8.0			8.0		8.0	8.0	8.0				8.0
Minimum Split (s)	28.0	28.0			28.0		60.0	60.0	60.0				22.0
	28.0	28.0											
Total Split (s)					28.0		60.0	60.0	60.0				22.0
Total Split (%)	25.5%	25.5%			25.5%		54.5%	54.5%	54.5%				20%
Maximum Green (s)	23.0	23.0			23.0		55.0	55.0	55.0				18.0
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0	3.0				4.0
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0	2.0				0.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0	-1.0				
Total Lost Time (s)		4.0			4.0			4.0	4.0				
Lead/Lag							Lead	Lead	Lead				Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0	2.0				2.0
Recall Mode	Max	Max			Max		C-Max	C-Max	C-Max				Ped
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0				7.0
Flash Dont Walk (s)	16.0	16.0			16.0		48.0	48.0	48.0				11.0
Pedestrian Calls (#/hr)	0	0			0		0	0	0				0
Act Effct Green (s)		24.0			24.0			56.0	56.0				
Actuated g/C Ratio		0.22			0.22			0.51	0.51				
v/c Ratio		0.56			0.84			0.47	0.64				
Control Delay		43.0			61.5			9.3	15.6				
Queue Delay		12.2			3.7			1.3	3.8				
Total Delay		55.2			65.2			10.7	19.4				
LOS		55.2 E			03.2 E			В	17.4 B				
Approach Delay		55.2			65.2			14.0	D				
Approach LOS		55.2 E			03.2 E			14.0 B					
		111			196			142	247				
Queue Length 50th (ft)													
Queue Length 95th (ft)		157			#344			182	389		110		
Internal Link Dist (ft)		115			377			182			113		
Turn Bay Length (ft)								4					
Base Capacity (vph)		503			354			1620	740				
Starvation Cap Reductn		192			0			605	186				
Spillback Cap Reductn		0			21			0	0				
Storage Cap Reductn		0			0			0	0				
Reduced v/c Ratio		0.91			0.89			0.76	0.85				

Intersection Summary

Intersection Summary

Area Type: CBD

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 79 (72%), Referenced to phase 1:NBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 28.8

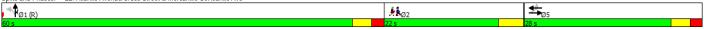
Intersection Capacity Utilization 57.8%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles. Intersection LOS: C ICU Level of Service B

Splits and Phases: 22: Atlantic Avenue/Cross Street & Mercantile St/Atlantic Ave



	•	→	•	•	←	•	4	†	~	-	↓	4	
Lana Croun	EDI	EDT	-		WDT				-				αn
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations Fraffic Volume (vph)	0	0	0	ኝ 547	4 137	0	0	0	0	0	↑↑↑ 820	96	
uture Volume (vph)	0	0	0	547	137	0	0	0	0	0	820	96	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Width (ft)	12	12	12	14	16	12	12	12	12	12	12	12	
ane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor											0.99		
rt											0.984		
It Protected				0.950	0.973								
Satd. Flow (prot)	0	0	0	1630	1758	0	0	0	0	0	4507	0	
FIt Permitted				0.950	0.973	_	_	_		_			
Satd. Flow (perm)	0	0	0	1630	1758	0 Yes	0	0	0 Yes	0	4507	0 Yes	
Right Turn on Red Satd. Flow (RTOR)			Yes	No		res			res		21	res	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		277			118			185			455		
Travel Time (s)		7.6			3.2			5.0			12.4		
Confl. Bikes (#/hr)		7.0			J.2			5.0			.2.7	56	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	1%	2%	
Adj. Flow (vph)	0	0	0	576	144	0	0	0	0	0	828	97	
Shared Lane Traffic (%)				30%									
Lane Group Flow (vph)	0	0	0	403	317	0	0	0	0	0	925	0	
Turn Type				Split	NA						NA		
Protected Phases				5	5						1		2
Permitted Phases				_	_								
Detector Phase Switch Phase				5	5						1		
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				42.0	42.0						44.0		24.0
Total Split (s)				42.0	42.0						44.0		24.0
Total Split (%)				38.2%	38.2%						40.0%		22%
Maximum Green (s)				37.0	37.0						38.0		20.0
Yellow Time (s)				3.0	3.0						3.0		4.0
All-Red Time (s)				2.0	2.0						3.0		0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag											Lead		Lag
Lead-Lag Optimize?				^ ^	2.2						2.2		0.0
Vehicle Extension (s)				2.0	2.0 May						2.0		2.0 Dod
Recall Mode Walk Time (s)				Max 7.0	Max 7.0						C-Max 7.0		Ped 7.0
Walk Time (s) Flash Dont Walk (s)				30.0	30.0						31.0		13.0
Pedestrian Calls (#/hr)				30.0	30.0						0		13.0
Act Effct Green (s)				39.0	39.0						40.0		U
Actuated g/C Ratio				0.35	0.35						0.36		
//c Ratio				0.70	0.51						0.56		
Control Delay				38.1	31.5						27.8		
Queue Delay				59.1	55.5						0.0		
Total Delay				97.2	87.0						27.8		
_OS				F	F						С		
Approach Delay					92.7						27.8		
Approach LOS				05.4	F 104						C		
Queue Length 50th (ft)				254	184						175		
Queue Length 95th (ft)		107		375	275			105			218		
nternal Link Dist (ft) Furn Bay Length (ft)		197			38			105			375		
Base Capacity (vph)				577	623						1652		
Starvation Cap Reductn				0	023						0		
Spillback Cap Reductn				308	332						20		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				1.50	1.09						0.57		
ntersection Summary													
	CBD												
Cycle Length: 110	ODD												
Actuated Cycle Length: 110													
	hase 1:SBT	, Start of 0	Green										
Offset: 1 (1%), Referenced to a													
Natural Cycle: 110													
Natural Cycle: 110 Control Type: Actuated-Coordi	nated												
Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.70													
Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.70 Intersection Signal Delay: 56.2					tersection								
Offsel: 1 (1%), Referenced to p Natural Cycle: 110 Control Type: Actuated-Coordi Maximum v/c Ratio: 0.70 Intersection Signal Delay: 56.2 Intersection Capacity Utilization Analysis Period (min) 15						LOS: E f Service A							

Splits and Phases: 23: Surface/Purchase/SASB & Clinton Street/I-93 SB Off-Ramp



	•	•	†	~	/	
Lane Group	₩BL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	VVDL	WBR	↑ ↑	NDIX	JDL	JD I
Traffic Volume (vph)	0	23	804	0	0	0
Future Volume (vph)	0	23	804	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frt Flt Protected		0.865				
Satd. Flow (prot)	0	1509	3185	0	0	0
Flt Permitted	Ü	.507	5 100	0	J	J
Satd. Flow (perm)	0	1509	3185	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		239				
Link Speed (mph)	25		25			25
Link Distance (ft)	559 15.2		193 5.3			493 13.4
Travel Time (s) Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	50%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Parking (#/hr)	0	0				
Adj. Flow (vph)	0	25	846	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	25	846	0	0	0
Turn Type Protected Phases		Prot 5	NA 1			
Permitted Phases		0	- 1			
Detector Phase		5	1			
Switch Phase						
Minimum Initial (s)		8.0	8.0			
Minimum Split (s)		25.0	85.0			
Total Split (s)		25.0	85.0			
Total Split (%)		22.7%	77.3%			
Maximum Green (s) Yellow Time (s)		21.0 3.0	80.0			
All-Red Time (s)		1.0	2.0			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	5.0			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		2.0	2.0			
Recall Mode		Max	C-Max			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s) Pedestrian Calls (#/hr)		14.0 0	73.0 0			
Act Effet Green (s)		21.0	80.0			
Actuated g/C Ratio		0.19	0.73			
v/c Ratio		0.05	0.37			
Control Delay		0.2	0.6			
Queue Delay		0.0	0.1			
Total Delay		0.2	0.7			
LOS Approach Delay	0.2	Α	A 0.7			
Approach LOS	0.2 A		0.7 A			
Queue Length 50th (ft)	Λ.	0	1			
Queue Length 95th (ft)		0	1			
Internal Link Dist (ft)	479		113			413
Turn Bay Length (ft)						
Base Capacity (vph)		481	2316			
Starvation Cap Reductn		0	510			
Spillback Cap Reductn		0	0			
Storage Cap Reductn Reduced v/c Ratio		0.05	0 0.47			
		0.03	0.47			
Intersection Summary						
	BD					
Cycle Length: 110						
Actuated Cycle Length: 110	nhoo- 1 *					
Offset: 62 (56%), Referenced to	phase 1:N	IBT, Start	of Green			
Offset: 62 (56%), Referenced to Natural Cycle: 110		IBT, Start	of Green			
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina		IBT, Start	of Green			
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina Maximum v/c Ratio: 0.37		IBT, Start	of Green	In	tersection	LOS: A
Offset: 62 (56%), Referenced to Natural Cycle: 110 Control Type: Actuated-Coordina	ated	IBT, Start	of Green		itersection	

Splits and Phases: 24: Atlantic Avenue/Cross Street & Commercial Street

Lanes, Volumes, Tim	•		$\overline{}$		—	•	_	†	_	<u> </u>	ī	4	
		→	*	•			1		~		ţ		
_ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations			7		41↑ 151		_	_		_	↑ ↑		
Traffic Volume (vph)	0	0	142	200		0	0	0	0	0	567	88	
Future Volume (vph)	0	0	142	200	151	0	0	0	0	0	567	88	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor			0.0/5								0.97		
Frt Flt Protected			0.865		0.972						0.980		
Satd. Flow (prot)	0	0	1465	0	3113	0	0	0	0	0	3043	0	
Flt Permitted	U	U	1400	U	0.972	U	U	U	U	U	3043	U	
Satd. Flow (perm)	0	0	1465	0	3113	0	0	0	0	0	3043	0	
Right Turn on Red		U	No	No	3113	Yes	U	U	Yes	0	3043	Yes	
Satd. Flow (RTOR)			110	140		103			103		21	103	
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		127			177			455			423		
Travel Time (s)		3.5			4.8			12.4			11.5		
Confl. Peds. (#/hr)												251	
Confl. Bikes (#/hr)												53	
Peak Hour Factor	0.94	0.94	0.94	0.99	0.99	0.99	0.92	0.92	0.92	0.95	0.95	0.95	
Heavy Vehicles (%)	0%	0%	1%	1%	2%	0%	0%	0%	0%	0%	2%	1%	
Parking (#/hr)												0	
Adj. Flow (vph)	0	0	151	202	153	0	0	0	0	0	597	93	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	0	151	0	355	0	0	0	0	0	690	0	
Turn Type			Perm	Perm	NA						NA		
Protected Phases					1						3		
Permitted Phases			1	1							^		
Detector Phase			1	1	1						3		
Switch Phase			400	40.0	400						40.0		
Minimum Initial (s)			10.0	10.0	10.0						10.0		
Minimum Split (s)			56.0	56.0	56.0						54.0		
Total Split (s)			56.0	56.0	56.0						54.0		
Total Split (%)			50.9%	50.9%	50.9%						49.1% 49.0		
Maximum Green (s) Yellow Time (s)			47.0 3.0	47.0 3.0	47.0 3.0						3.0		
All-Red Time (s)			6.0	6.0	6.0						2.0		
Lost Time Adjust (s)			-5.0	0.0	-5.0						-1.0		
Total Lost Time (s)			4.0		4.0						4.0		
Lead/Lag			1.0		1.0						1.0		
Lead-Lag Optimize?													
Vehicle Extension (s)			2.0	2.0	2.0						2.0		
Recall Mode			C-Max	C-Max	C-Max						Max		
Walk Time (s)			7.0	7.0	7.0						7.0		
Flash Dont Walk (s)			40.0	40.0	40.0						42.0		
Pedestrian Calls (#/hr)			0	0	0						0		
Act Effct Green (s)			52.0		52.0						50.0		
Actuated g/C Ratio			0.47		0.47						0.45		
v/c Ratio			0.22		0.24						0.49		
Control Delay			18.1		17.8						21.9		
Queue Delay			0.0		0.0						0.0		
Total Delay			18.1		17.8						21.9		
LOS Approach Delay		18.1	В		B 17.8						C 21.9		
Approach LOS		18.1 B			17.8 B						21.9 C		
Queue Length 50th (ft)		ь	61		76						170		
Queue Length 95th (ft)			104		107						223		
Internal Link Dist (ft)		47			97			375			343		
Turn Bay Length (ft)								-					
Base Capacity (vph)			692		1471						1394		
Starvation Cap Reductn			0		0						0		
Spillback Cap Reductn			0		0						0		
Storage Cap Reductn			0		0						0		
Reduced v/c Ratio			0.22		0.24						0.49		
Intersection Summary													
	CBD												
Cycle Length: 110	טטי												
Actuated Cycle Length: 110													
Offset: 0 (0%), Referenced to p	hase 1·W/R	TL Start	of Green										
Natural Cycle: 110		. _{-,} Jant (o. Orochi										
Control Type: Actuated-Coordin	nated												
Maximum v/c Ratio: 0.49													
Intersection Signal Delay: 20.2				In	tersection	LOS; C							
Intersection Capacity Utilization						Service C							
Analysis Period (min) 15													
, , .,													
Splits and Phases: 25: Surfa	ce/Purchase	e/SASB &	North Str	eet/I-93 NI	B Off-Ram	р							
Ø1 (R)										↓ ø3			
										▼ Ø3			

	•	-	•	•	←	•	4	†	~	-	↓	4	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
ane Configurations	T T	4	LDIX	WDL	WDI	WDIX	INDL	† \$	INDIX	JDL	351	SDIC	92
raffic Volume (vph)	252	44	0	0	0	0	0	817	16	0	0	0	
uture Volume (vph)	252	44	0	0	0	0	0	817	16	0	0	0	
eal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
ane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	
ed Bike Factor	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.75	1.00	1.00	1.00	
t determine								0.997					
Protected	0.950	0.966						0.777					
	1484	1526	0	0	0	0	0	3171	0	0	0	0	
atd. Flow (prot) Permitted	0.950	0.966	U	U	U	U	U	31/1	U	U	U	U	
itd. Flow (perm)	1484	1526	0	0	0	0	0	3171	0	0	0	0	
ght Turn on Red	No	1320	Yes	U	U	Yes	U	31/1	Yes	U	U	Yes	
atd. Flow (RTOR)	INO		162			162		2	162			162	
		25			25						25		
nk Speed (mph)								25			376		
nk Distance (ft)		169			386			493					
avel Time (s)		4.6			10.5			13.4	00		10.3		
onfl. Bikes (#/hr)	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	82	0.00	0.00	0.00	
ak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.98	0.98	0.98	0.92	0.92	0.92	
avy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	
j. Flow (vph)	260	45	0	0	0	0	0	834	16	0	0	0	
ared Lane Traffic (%)	42%												
ne Group Flow (vph)	151	154	0	0	0	0	0	850	0	0	0	0	
ırn Type	Split	NA						NA					
otected Phases	1	1						5					2
ermitted Phases													
etector Phase	1	1						5					
vitch Phase													
inimum Initial (s)	8.0	8.0						8.0					8.0
nimum Split (s)	15.0	15.0						14.0					18.0
otal Split (s)	43.0	43.0						49.0					18.0
otal Split (%)	39.1%	39.1%						44.5%					16%
aximum Green (s)	38.0	38.0						44.0					14.0
llow Time (s)	3.0	3.0						3.0					4.0
l-Red Time (s)	2.0	2.0						2.0					0.0
ost Time Adjust (s)	-1.0	-1.0						-1.0					
otal Lost Time (s)	4.0	4.0						4.0					
ad/Lag	Lead	Lead						110					Lag
ead-Lag Optimize?	Loud	Loud											Lag
ehicle Extension (s)	2.0	2.0						2.0					2.0
ecall Mode	C-Max	C-Max						Max					Ped
alk Time (s)	C-IVIAN	C-IVIGA						IVIGA					7.0
ash Dont Walk (s)													7.0
edestrian Calls (#/hr)													0
t Effct Green (s)	39.0	39.0						45.0					
tuated g/C Ratio	0.35	0.35						0.41					
Ratio	0.33	0.33						0.41					
introl Delay	27.4	27.3						8.8					
ieue Delay	0.0	0.0						0.2					
tal Delay	27.4	27.3						9.0					
OS .	С	С						A					
proach Delay		27.3						9.0					
proach LOS		C						A					
ueue Length 50th (ft)	80	81						61					
ueue Length 95th (ft)	135	137						68					
ernal Link Dist (ft)		89			306			413			296		
rn Bay Length (ft)													
se Capacity (vph)	526	541						1298					
arvation Cap Reductn	0	0						69					
illback Cap Reductn	0	0						11					
orage Cap Reductn	0	0						0					
duced v/c Ratio	0.29	0.28						0.69					
ersection Summary													
	CBD												
rcle Length: 110													
tuated Cycle Length: 110													
fset: 25 (23%), Referenced to	o phase 1:E	EBTL, Start	of Green										
itural Cycle: 60													
ontrol Type: Actuated-Coordi	nated												
ximum v/c Ratio: 0.65													
ersection Signal Delay: 13.8				Int	ersection	LOS: B							
				IC	U Level of	Service A							
ersection Capacity Utilization													
ersection Capacity Utilization alysis Period (min) 15													

Method 1966 1967 1968 1969		•	-	•	•	•	•	4	†	~	>	ļ	1
ane Configurations of the first Newbure (purple) 32 87 0 0 153 69 107 940 21 0 0 0 0 100 1000 1000 1000 1000 10	Lane Group	FRI	FRT	FRR	WRI	WRT	WRR	NRI	NRT	NRR	SRI	SRT	SRR
ulture Volume (viph) 32 87 0 0 153 69 107 940 21 0 0 0 00 100 </td <td></td> <td></td> <td></td> <td>LDIN</td> <td>WDL</td> <td></td> <td>WDIX</td> <td>NDL</td> <td></td> <td>INDIX</td> <td>JUL</td> <td>JDT</td> <td>JUK</td>				LDIN	WDL		WDIX	NDL		INDIX	JUL	JDT	JUK
ulture Volume (viph) 32 87 0 0 153 69 107 940 21 0 0 0 00 100 </td <td></td> <td></td> <td>87</td> <td>0</td> <td>0</td> <td></td> <td>69</td> <td>107</td> <td>940</td> <td>21</td> <td>0</td> <td>0</td> <td>0</td>			87	0	0		69	107	940	21	0	0	0
Seal Flow (phiph) 1900 1													
ane Ulli Factor 1.00 1.00 1.00 1.00 1.00 1.00 0.95 0.95 0.95 1.00													
Method 1975 1976	Lane Util. Factor												
In the content of the	Ped Bike Factor							0.75		0.75			1.00
Il Protected 0.950	Frt	0.73											
saled Flow (prop) 1624 1673 0 0 1409 0 0 3123 0 0 0 0 0 0 0 0 0	Flt Protected	0.950											
Il Permitted	Satd. Flow (prot)		1693	0	0	1409	0	0		0	0	0	0
Salta Flow (perm) 570 1693 0 0 1409 0 0 0 3072 0 0 0 0 0 0 0 0 0	Flt Permitted												
Sight Turn on Red staff Flow (FOR) Flow	Satd. Flow (perm)		1693	0	0	1409	0	0		0	0	0	0
Saide Flow (RTOR) 157 20	Right Turn on Red												
ink Spead (mph)	Satd. Flow (RTOR)					20			4				
ink Distance (ft)	Link Speed (mph)		25									25	
Travel Time (s)	Link Distance (ft)												
Conf. Petes. (frhr)	Travel Time (s)												
Configuration Configuratio	Confl. Peds. (#/hr)	748					748	212		289			
Peak Hour Factor	Confl. Bikes (#/hr)												
Reamy Vehicles (%)	Peak Hour Factor	0.97	0.97	0.97	0.94	0.94		0.98	0.98		0.92	0.92	0.92
Searching (#m) Sear	Heavy Vehicles (%)												
sid, Flow (ryh) (whyh) 33 90 0 163 73 109 959 21 0 0 0 10-14-14-14-14-14-14-14-14-14-14-14-14-14-	Parking (#/hr)												
infaired Lane Traffic (%) Jame Group Flow (yph) 33 90 0 0 236 0 0 1089 0 0 0 0 Jum Type Perm NA NA NA Split NA Volceted Phases 5 5 5 1 1 1 Vertical Phase 5 5 Velector Phase Vertical Phase Verti	Adj. Flow (vph)	33	90	0	0	163	73	109	959		0	0	0
ame Group Flow (vph) 33 90 0 236 0 0 1089 0 0 0 0 0 urn Type Perm NA NA Split NA Spl	Shared Lane Traffic (%)												
Lim Type Perm NA NA Split NA remitted Phases 5 5 1 1 remitted Phases 5 5 1 1 remitted Phases 5 5 5 1 1 which Phase 4 80 8.0 8.0 8.0 8.0 filminum Split (s) 34.0 34.0 34.0 36.0 76.0 76.0 otal Split (%) 30.9% 30.9% 30.9% 69.1% 69.1% 69.1% dasainum Gren (s) 29.0 29.0 29.0 71.0 71.0 71.0 ellow Time (s) 3.0	Lane Group Flow (vph)	33	90	0	0	236	0	0	1089	0	0	0	0
Protected Phases 5	Turn Type												- 3
Demitted Phases 5	Protected Phases	, ,,,,,,											
Detector Phase 5 5 5 5 1 1 1	Permitted Phases	5											
Witch Phase Minimum Initial (s)	Detector Phase		5			5		1	1				
Minimum Initial (s)	Switch Phase												
Minimum Split (s)		8.0	8.0			8.0		8.0	8.0				
rotal Split (%)	Minimum Split (s)												
Total Split (%) 30.9% 30.9% 30.9% 30.9% 30.9% 69.1% 69	Total Split (s)												
Maximum Green (s) 29.0 29.0 29.0 71.0 71.0 Eellow Time (s) 3.0 <td< td=""><td>Total Split (%)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Total Split (%)												
Tellow Time (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Maximum Green (s)												
All-Red Time (s) 2.0	Yellow Time (s)												
ost Time Adjust (s)	All-Red Time (s)												
State Control Contro	Lost Time Adjust (s)												
ead/Lag Optimize?	Total Lost Time (s)												
ead-Lag Optimize? rehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	Lead/Lag												
Periode Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.	Lead-Lag Optimize?												
Recall Mode Max Max Max C-Max C-Max Valk Time (s) 7.0 7.0 7.0 7.0 7.0 Lash Dont Walk (s) 22.0 22.0 22.0 64.0 64.0 Leedestrian Calls (#/hr) 50 50 50 0 0 Leet Effic Green (s) 30.0 30.0 30.0 72.0 0.65 Iccitated g/C Ratio 0.27 0.27 0.27 0.65 0.65 Icatio 0.21 0.20 0.59 0.53 0.59 0.53 Centrol Delay 35.3 32.1 38.8 2.3 0.00 0.0 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.0 0.6 0.0 0.6 0.0 0.6 0.0 0.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0<	Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0				
Valk Time (s) 7.0 7.0 7.0 7.0 7.0 lash Dont Walk (s) 22.0 22.0 22.0 64.0 64.0 64.0 redestsrian Calls (#/hr) 50 50 0	Recall Mode												
Alsh Dont Walk (s) 22.0 22.0 22.0 22.0 64.0 64.0	Walk Time (s)												
Pedestrian Calls (#/hr) 50 50 50 0 0 0 0 Ct Effic Green (s) 30.0 30.0 30.0 72.0 Ct Effic Green (s) 30.0 30.0 30.0 72.0 Ct Lateria Green (s) 20.0 30.0 30.0 72.0 Ct Lateria Green (s) 20.0 27 0.27 0.65 72.0 Ct Ratio 0.21 0.20 0.59 0.53 72.0 Ct Ratio 0.21 0.20 0.59 0.53 72.0 Ct Ratio 0.21 0.20 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Flash Dont Walk (s)												
act Effet Green (s) 30.0 30.0 30.0 72.0 cctuated g/C Ratio 0.27 0.27 0.27 0.55 /c Ratio 0.27 0.27 0.55 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.59 0.53 /c Ratio 0.21 0.20 0.00 0.00 0.00 0.00 0.00 0.00	Pedestrian Calls (#/hr)												
actuated g/C Ratio 0.27 0.27 0.27 0.65 /c Ratio 0.21 0.20 0.59 0.53 control Delay 35.3 32.1 38.8 2.3 cheue Delay 0.0 0.0 0.6 otal Delay 35.3 32.1 38.8 2.8 oS D C D A approach Delay 33.0 38.8 2.8 approach LOS C D A bueue Length 50th (ft) 18 49 132 8 bueue Length 95th (ft) 46 92 218 10 ternal Link Dist (ft) 77 185 296 101 turn Bay Length (ft) tase Capacity (vph) 155 461 398 2045 starvation Cap Reductn 0 0 520 pillblack Cap Reductn 0 0 0 storage Cap Reductn 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71	Act Effct Green (s)												
Ic Ratio 0.21 0.20 0.59 0.53 Icontrol Delay 35.3 32.1 38.8 2.3 Joueue Delay 0.0 0.0 0.6 otal Delay 35.3 32.1 38.8 2.8 OS D C D A Opproach Delay 33.0 38.8 2.8 Upproach LOS C D A Dueue Length 50th (II) 18 49 132 8 Dueue Length 95th (II) 46 92 218 10 Internal Link Dist (II) 77 185 296 101 um Bay Length (II) 46 92 218 10 Internal Link Dist (III) 77 185 296 101 um Bay Length (II) 388 2045 101 Jarvalion Cap Reductin 0 0 520 50 Ipiliblack Cap Reductin 0 0 0 0 0 Ipiliblack Cap Reductin 0	Actuated g/C Ratio												
Control Delay 35.3 32.1 38.8 2.3 Dueue Delay 0.0 0.0 0.0 0.0 Cotal Delay 35.3 32.1 38.8 2.8 OS D C D A Approach Delay 33.0 38.8 2.8 Deproach Delay 33.0 38.8 2.8 Deproach LOS C D A Deproach LOS C D A Dueue Length 50th (ft) 18 49 132 8 Dueue Length 95th (ft) 46 92 218 10 Deternal Link Dist (ft) 77 185 296 101 Turn Bay Length (ft) Lase Capacity (vph) 155 461 398 2045 Jarvation Cap Reductn 0 0 0 520 Deteduced v/c Ratio 0.21 0.20 0.59 0.71													
Queue Delay 0.0 0.0 0.6 otal Delay 35.3 32.1 38.8 2.8 OS D C D A Approach Delay 33.0 38.8 2.8 Approach LOS C D A Dueue Length 50th (ft) 18 49 132 8 Dueue Length 95th (ft) 46 92 218 10 Internal Link Dist (ft) 77 185 296 101 Irum Bay Length (ft) Isase Capacity (vph) 155 461 398 2045 Siarvation Cap Reductn 0 0 520 Ipilliback Cap Reductn 0 0 1 Siorage Cap Reductn 0 0 0 Ideduced v/c Ratio 0.21 0.20 0.59 0.71													
otal Delay 35.3 32.1 38.8 2.8 OS D C D A upproach Delay 33.0 38.8 2.8 upproach LOS C D A ueue Length 50th (tt) 18 49 132 8 ueue Length 95th (tt) 46 92 218 10 ueue Length 95th (tt) 77 185 296 101 um Bay Length (t) uase Capacity (vph) 155 461 398 2045 starvation Cap Reductn 0 0 0 520 uppillback Cap Reductn 0 0 0 0 520 storage Cap Reductn 0 0 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71													
OS D C D A pproach Delay 33.0 38.8 2.8 pproach LOS C D A Lueue Length 50th (ft) 18 49 132 8 Lueue Length 95th (ft) 46 92 218 10 ternal Link Dist (ft) 77 185 296 101 turn Bay Length (ft) lase Capacity (vph) 155 461 398 2045 larvalion Cap Reductn 0 0 0 520 pipillback Cap Reductn 0 0 0 1 318 clorage Cap Reductn 0 0 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71													
Approach Delay 33.0 38.8 2.8 Approach LOS C D A A Clueue Length 50th (ft) 18 49 132 8 Dueue Length 95th (ft) 46 92 218 10 D D D D D D D D D D D D D D D D D D	LOS												
D		U											
Dueue Length 50th (ft) 18 49 132 8 Dueue Length 95th (ft) 46 92 218 10 Iternal Link Dist (ft) 77 185 296 101 um Bay Length (ft) Iasse Capacity (vph) 155 461 398 2045 starvation Cap Reductn 0 0 520 pillblack Cap Reductn 0 0 1 318 storage Cap Reductn 0 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71													
Dueue Length 95th (ft) 46 92 218 10 Iternal Link Dist (ft) 77 185 296 101 urn Bay Length (ft) tase Capacity (vph) 155 461 398 2045 starvation Cap Reductn 0 0 520 pipillback Cap Reductn 0 0 1 storage Cap Reductn 0 0 0		19											
nternal Link Dist (ft) 77 185 296 101 turn Bay Length (ft) 2045 tase Capacity (vph) 155 461 398 2045 taivarvation Cap Reductn 0 0 0 520 pilliback Cap Reductn 0 0 1 318 torage Cap Reductn 0 0 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71													
Furn Bay Length (ft) Jase Capacity (vph) 155 461 398 2045 Starvation Cap Reductn 0 0 520 Spillback Cap Reductn 0 0 1 318 Storage Cap Reductn 0 0 0 Leduced v/c Ratio 0.21 0.20 0.59 0.71		40										101	
Jase Capacity (vph) 155 461 398 2045 Jarvation Cap Reductn 0 0 0 520 Spillback Cap Reductn 0 0 1 318 Glorage Cap Reductn 0 0 0 0 Jeduced v/c Ratio 0.21 0.20 0.59 0.71			11			100			270			101	
Starvation Cap Reductn 0 0 520 pillback Cap Reductn 0 0 1 318 storage Cap Reductn 0 0 0 0 ceduced v/c Ratio 0.21 0.20 0.59 0.71		155	//61			200			2045				
ipillback Cap Reductn 0 0 1 318 storage Cap Reductn 0 0 0 0 ceduced v/c Ratio 0.21 0.20 0.59 0.71													
torage Cap Reductn 0 0 0 0 0 teduced v/c Ratio 0.21 0.20 0.59 0.71													
Reduced v/c Ratio 0.21 0.20 0.59 0.71													
ntersection Summary		U.Z I	0.20			0.09			0.71				
	Intersection Summary												

Intersection Summary
Area Type: CBD
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 98 (89%), Referenced to phase 1:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 11.3
Intersection Capacity Utilization 95.4%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service F

Splits and Phases: 27: Atlantic Avenue/Cross Street & Hanover Street





09004.03::Harbor Garage Build (2026) Condition, p.m. Peak Hour

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø1	Ø2	Ø5
Lane Group Lane Configurations	WBL	WBK		NBK	SBL	381	וש	ХÚZ	כש
Traffic Volume (vph)	0	0	↑↑ 1002	40	0	0			
Future Volume (vph)	0	0	1002	40	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00			
Ped Bike Factor			0.99						
Frt			0.994						
Flt Protected									
Satd. Flow (prot)	0	0	3454	0	0	0			
FIt Permitted									
Satd. Flow (perm)	0	0	3454	0	0	0			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	0.5		6			05			
Link Speed (mph)	25		25			25			
Link Distance (ft)	221		181			194			
Travel Time (s)	6.0		4.9	220		5.3			
Confl. Peds. (#/hr)				239 81					
Confl. Bikes (#/hr) Peak Hour Factor	0.92	0.92	0.99	0.99	0.92	0.92			
Heavy Vehicles (%)	0.92	0.92	0.99 3%	0.99	0.92	0.92			
Adj. Flow (vph)	0%	0%	1012	40	0%	0%			
Shared Lane Traffic (%)	U	U	1012	40	U	U			
Lane Group Flow (vph)	0	0	1052	0	0	0			
Turn Type	U	U	NA	U	U	U			
Protected Phases			25				1	2	5
Permitted Phases			2.3						J
Detector Phase			25						
Switch Phase									
Minimum Initial (s)							10.0	4.0	10.0
Minimum Split (s)							38.0	11.0	61.0
Total Split (s)							38.0	11.0	61.0
Total Split (%)							35%	10%	55%
Maximum Green (s)							31.0	5.0	55.0
Yellow Time (s)							3.0	3.0	3.0
All-Red Time (s)							4.0	3.0	3.0
Lost Time Adjust (s)									
Total Lost Time (s)									
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?									
Vehicle Extension (s)							2.0	2.0	2.0
Recall Mode							C-Max	Max	Max
Walk Time (s)							7.0		7.0
Flash Dont Walk (s)							24.0		48.0
Pedestrian Calls (#/hr)			44.0				0		30
Act Effct Green (s) Actuated g/C Ratio			66.0 0.60						
v/c Ratio			0.60						
Control Delay			9.8						
Queue Delay			0.4						
Total Delay			10.2						
LOS			В						
Approach Delay			10.2						
Approach LOS			В						
Queue Length 50th (ft)			303						
Queue Length 95th (ft)			305						
Internal Link Dist (ft)	141		101			114			
Turn Bay Length (ft)									
Base Capacity (vph)			2074						
Starvation Cap Reductn			458						
Spillback Cap Reductn			191						
Storage Cap Reductn			0						
Reduced v/c Ratio			0.65						
Intersection Summary									
	Other								
Cycle Length: 110	Julio								
Actuated Cycle Length: 110									
Offset: 74 (67%), Referenced	to phase 1.F	BL Start	of Green						
Natural Cycle: 110	· ·	, otait t	0.0011						
Control Type: Actuated-Coord	dinated								
Maximum v/c Ratio: 0.61									
Intersection Signal Delay: 10.	2			Int	ersection	LOS: B			
Intersection Capacity Utilization					U Level of		١		
Analysis Period (min) 15									
Splits and Phases: 28: Atla	intic Avenue/	Cross Stre	et & Salen	n Street					
#29		040		2501		#28 #29)	#28	#29
M						A 1		A	

09004.03::Harbor Garage HSH Build (2026) Condition, p.m. Peak Hour

	<u> </u>	•	•	ኘ	<u>†</u>	 	4	•	\		
Lana Craun								CEI	-	G1	an.
Lane Group Lane Configurations	EBL2	EBL TT	EBR	NBL	NBT	SBT	SBR	SEL	SER	Ø1	Ø2
Traffic Volume (vph)	443	<u>ግግ</u> 254	0	425	4↑↑ 575	0	0	0	0		
future Volume (vph)	443	254	0	425	575	0	0	0	0		
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900		
ane Width (ft)	12	13	12	11	11	12	12	12	12		
ane Util. Factor Ped Bike Factor	0.95	0.97 1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00		
rt Bike Factor		1.00									
It Protected		0.950			0.979						
Satd. Flow (prot)	0	3583	0	0	3303	0	0	0	0		
It Permitted		0.950			0.979						
Satd. Flow (perm)	0	3570	0	0	3303	0	0	0	0		
Right Turn on Red	No		Yes								
Satd. Flow (RTOR)		25			25	25		25			
Link Speed (mph) Link Distance (ft)		112			194	254		234			
Travel Time (s)		3.1			5.3	6.9		6.4			
Confl. Peds. (#/hr)		2			5.5	5.7		5.1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	1%	0%	4%	3%	0%	0%	0%	0%		
Adj. Flow (vph)	452	259	0	434	587	0	0	0	0		
Shared Lane Traffic (%)		711	0	0	1021	0	0	0	0		
Lane Group Flow (vph) Turn Type	0 Prot	711 Prot	U	0 Split	1021 NA	U	U	U	U		
Protected Phases	1 2	1 2		Spill 5	NA 5					1	2
Permitted Phases	12	12		3	J						
Detector Phase	12	12		5	5						
Switch Phase											
Minimum Initial (s)				10.0	10.0					10.0	4.0
Minimum Split (s)				61.0	61.0					38.0	11.0
Total Split (s)				61.0	61.0					38.0	11.0
Total Split (%) Maximum Green (s)				55.5% 55.0	55.5% 55.0					35% 31.0	10% 5.0
Yellow Time (s)				3.0	3.0					3.0	3.0
All-Red Time (s)				3.0	3.0					4.0	3.0
Lost Time Adjust (s)					-1.0						
Total Lost Time (s)					5.0						
Lead/Lag										Lead	Lag
Lead-Lag Optimize?											
Vehicle Extension (s)				2.0	2.0					2.0	2.0
Recall Mode Walk Time (s)				Max 7.0	Max 7.0					C-Max 7.0	Max
Flash Dont Walk (s)				48.0	48.0					24.0	
Pedestrian Calls (#/hr)				30	30					24.0	
Act Effct Green (s)		43.0		- 30	56.0						
Actuated g/C Ratio		0.39			0.51						
v/c Ratio		0.51			0.61						
Control Delay		27.0			6.5						
Queue Delay		0.0			0.0						
Total Delay LOS		27.0 C			6.5						
Approach Delay		27.0			A 6.5						
Approach LOS		27.0 C			0.5 A						
Queue Length 50th (ft)		193			311						
Queue Length 95th (ft)		249			28						
Internal Link Dist (ft)		32			114	174		154			
Turn Bay Length (ft)											
Base Capacity (vph)		1400			1681						
Starvation Cap Reductn		0			0						
Spillback Cap Reductn		0			0						
Storage Cap Reductn Reduced v/c Ratio		0 0.51			0.61						
		0.51			0.01						
ntersection Summary											
Area Type:	Other										
Cycle Length: 110											
Actuated Cycle Length: 110 Offset: 74 (67%), Referenced		DI Stort	of Groon								
Natural Cycle: 110	i to priase i.e.	.DL, Slait	oi Green								
Control Type: Actuated-Coor	dinated										
Maximum v/c Ratio: 0.61											
Intersection Signal Delay: 14					ersection						
Intersection Capacity Utilizati	ion 62.0%			IC	U Level of	Service B	3				
Analysis Period (min) 15											
Splits and Phases: 29: Atla	antic Avonuel	rnce Stra	ot & Now	Sudbury S	troot 9. I O	3 NB Or I	Damn				
⊅µiis anu rnases: 29: Alla #29	and Avenue/0	CIUSS SIFE	CL & NEW	Suubury S	11 CC1 & 1-9	3 ND UII-1	raiii)	#20	#29		
#29 Ø1 (R)						#28 #29		#20	#29 Ø5		
Ø1 (R)						-	Ø2		Ø5		

09004.03::Harbor Garage HSH Build (2026) Condition, p.m. Peak Hour

HCM Unsignalized In	tersection	on Cap	acity Ai	nalysis		
	•	•	Ť	<i>></i>	\	↓
				,	-	
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		7	† 1>			
Traffic Volume (veh/h)	0	0	1136	109	0	0
Future Volume (Veh/h)	0	0	1136	109	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1235	118	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)			162			132
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1294	676			1353	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1016	298			1085	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	2.5	2.2			2.2	
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	204	605			559	
Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	0	823	530			
Volume Left	0	0	0			
Volume Right	0	0	118			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.48	0.31			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	0.0	0.0				
Approach LOS	Α					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			38.2%	IC	U Level of	Sanrica
Analysis Period (min)			15	10	- C LCVCI UI	JUI VILL
Analysis i criod (IIIII)			13			

09004.03::Harbor Garage
Build (2026) Condition, p.m. Peak Hour
HSH

HCM Unsignalized inte	7130001	оп Сар	acity A	lialysis	,	
	•		←	•	\ <u>\</u>	1
	_	-		`	_	•
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		W	
Traffic Volume (veh/h)	28	23	27	2	0	357
Future Volume (Veh/h)	28	23	27	2	0	357
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.63	0.63	0.70	0.70
Hourly flow rate (vph)	33	27	43	3	0	510
Pedestrians		29	17		204	0.0
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	1		17	
Right turn flare (veh)					- ''	
Median type		None	None			
Median storage veh)		THORIC	140110			
Upstream signal (ft)		179				
pX, platoon unblocked		1/7				
vC, conflicting volume	250				358	278
vC1, stage 1 conf vol	250				330	270
vC2, stage 2 conf vol						
vCu, unblocked vol	250				358	278
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)	7.1				0.4	0.2
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	18
cM capacity (veh/h)	1102				511	621
civi capacity (verini)					311	021
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	60	46	510			
Volume Left	33	0	0			
Volume Right	0	3	510			
cSH	1102	1700	621			
Volume to Capacity	0.03	0.03	0.82			
Queue Length 95th (ft)	2	0	214			
Control Delay (s)	4.7	0.0	32.0			
Lane LOS	Α		D			
Approach Delay (s)	4.7	0.0	32.0			
Approach LOS			D			
Intersection Summary						
Average Delay			26.9			
Intersection Capacity Utilization			44.7%	IC	CU Level of	Service
Analysis Period (min)			15			

09004.03::Harbor Garage HSH Build (2026) Condition, p.m. Peak Hour

HCM Unsignalized Inte	ersecti	on Cap	acity A	nalysis		
	•	•	†	<i>></i>	\	↓
	•			,		-
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		77	^			
Traffic Volume (veh/h)	0	29	1279	0	0	0
Future Volume (Veh/h)	0	29	1279	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	0	35	1332	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)			NONE			NONE
			151			100
Upstream signal (ft)	0.70	0.70	151		0.70	183
pX, platoon unblocked	0.68	0.68			0.68	
vC, conflicting volume	1332	666			1332	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	548	0			548	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	320	742			702	
Discouling I am a #	WD 1	WD 2	ND 1	ND 0		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2		
Volume Total	18	18	666	666		
Volume Left	0	0	0	0		
Volume Right	18	18	0	0		
cSH	742	742	1700	1700		
Volume to Capacity	0.02	0.02	0.39	0.39		
Queue Length 95th (ft)	2	2	0	0		
Control Delay (s)	10.0	10.0	0.0	0.0		
Lane LOS	Α	Α				
Approach Delay (s)	10.0		0.0			
Approach LOS	Α					
"						
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			45.4%	IC	U Level o	Service
Analysis Period (min)			15			

09004.03::Harbor Garage
Build (2026) Condition, p.m. Peak Hour
HSH

HCM Unsignalized Int	ersection	оп Сар	асну А	ınaıysıs		
	•	•	4	†	Ţ	1
	EDI	•	•	NOT	ODT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				र्स	ĵ _è	
Traffic Volume (veh/h)	0	0	25	59	4	4
Future Volume (Veh/h)	0	0	25	59	4	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	0	0	26	62	5	5
Pedestrians	128					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)				INOTIC	IVOITC	
Upstream signal (ft)				460		
pX, platoon unblocked				400		
vC, conflicting volume	250	136	138			
vC1, stage 1 conf vol	250	130	138			
vC2, stage 2 conf vol						
vCu, unblocked vol	250	136	138			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	730	919	1446			
Direction, Lane #	NB 1	SB 1				
Volume Total	88	10				
Volume Left	26	0				
Volume Right	0	5				
cSH	1446	1700				
Volume to Capacity	0.02	0.01				
Queue Length 95th (ft)	1	0				
Control Delay (s)	2.3	0.0				
Lane LOS	Α					
Approach Delay (s)	2.3	0.0				
Approach LOS						
-11						
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			16.5%	IC	U Level of	Service
Analysis Period (min)			15			

09004.03::Harbor Garage
Build (2026) Condition, p.m. Peak Hour
HSH

09004.03::Harbor Garage HSH Build (2026) Condition, p.m. Peak Hour



	mings															
	•	-	•	•	•	•	~	Ť	~	/	↓	4				
ne Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2			
e Configurations	۲	414						↑ ↑								
ffic Volume (vph)	110	26	0	0	0	0	0	797	39	0	0	0				
ure Volume (vph)	110	26	0	0	0	0	0	797	39	0	0	0				
al Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
ne Width (ft)	12	12	12	12	12	16	12	12	12	12	12	12				
ne Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00				
d Bike Factor								1.00								
								0.993								
Protected	0.950		_	_	_	_	_		_			_				
d. Flow (prot)	1464	3081	0	0	0	0	0	2997	0	0	0	0				
Permitted	0.950	2001	0	0	0	0	0	2007	0	0	0	0				
d. Flow (perm)	1464 No	3081	0 Yes	0	0	0 Yes	0	2997	0 Yes	0	0	Yes				
ht Turn on Red d. Flow (RTOR)	INU		162			162		7	162			162				
		25			25			25			25					
Speed (mph) Distance (ft)		161			309			127			151					
vel Time (s)		4.4			8.4			3.5			4.1					
fl. Bikes (#/hr)		4.4			0.4			3.5	64		4.1					
k Hour Factor	0.93	0.93	0.93	0.79	0.79	0.79	0.97	0.97	0.97	0.92	0.92	0.92				
vy Vehicles (%)	1%	1%	0.93	0.79	0.79	0.79	0.97	2%	1%	0.92	0.92	0.92				
king (#/hr)	170	170	370	370	070	370	370	0	0	370	070	070				
Flow (vph)	118	28	0	0	0	0	0	822	40	0	0	0				
red Lane Traffic (%)	0%	20	0	0		0		ULL	.0	0						
e Group Flow (vph)	118	28	0	0	0	0	0	862	0	0	0	0				
n Type	Split	NA						NA								
ected Phases	5	5						1					2			
mitted Phases																
ector Phase	5	5						1								
tch Phase																
imum Initial (s)	8.0	8.0						8.0					8.0			
imum Split (s)	27.0	27.0						51.0					18.0			
al Split (s)	31.0	31.0						61.0					18.0			
al Split (%)	28.2%	28.2%						55.5%					16%			
kimum Green (s)	26.0	26.0						56.0					14.0			
ow Time (s)	3.0	3.0						3.0					4.0			
Red Time (s)	2.0	2.0						2.0					0.0			
t Time Adjust (s)	-1.0	-1.0						-1.0								
al Lost Time (s)	4.0	4.0						4.0								
nd/Lag								Lead					Lag			
nd-Lag Optimize?	2.0	2.0						2.0					2.0			
hicle Extension (s) call Mode	Max	2.0 Max						C-Max					Ped Ped			
lk Time (s)	7.0	7.0						7.0					7.0			
sh Dont Walk (s)	15.0	15.0						39.0					7.0			
destrian Calls (#/hr)	0	0						0					0			
Effct Green (s)	27.0	27.0						57.0								
uated g/C Ratio	0.25	0.25						0.52								
Ratio	0.33	0.04						0.55								
trol Delay	32.2	27.5						9.0								
ue Delay	18.9	0.0						0.7								
il Delay	51.0	27.5						9.7								
	D	С						Α								
oach Delay		46.5						9.7								
roach LOS		D						Α								
ue Length 50th (ft)	58	6						93								
ue Length 95th (ft)	92	15						93								
rnal Link Dist (ft)		81			229			47			71					
Bay Length (ft)																
e Capacity (vph)	359	756						1556								
vation Cap Reductn	223	0						357								
back Cap Reductn	0	0						0								
age Cap Reductn	0	0						0								
uced v/c Ratio	0.87	0.04						0.72								
section Summary																
Type:	CBD															
de Lenath: 110																
le Length: 110 lated Cycle Length: 110	d to phase 1.N	NBT, Start	of Green													
ated Cycle Length: 110	p 1.1	.5., Start	0.0011													
rated Cycle Length: 110 et: 89 (81%), Referenced																
ated Čycle Length: 110 et: 89 (81%), Referenced Iral Cycle: 100	dinated															
ated Cycle Length: 110 et: 89 (81%), Referenced ral Cycle: 100 Irol Type: Actuated-Coor	dinated															
ated Čycle Length: 110 et: 89 (81%), Referenced ral Cycle: 100 rol Type: Actuated-Coor imum v/c Ratio: 0.55				Int	ersection	LOS; B										
ated Cycle Length: 110 et: 89 (81%), Referenced	5.0				ersection U Level of	LOS: B										

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street

†ø1 (R) #1_{Ø2}

	•	→	•	•	←	•	•	<u>†</u>	~	<u> </u>		4
Lano Croun	EDI		-	-	WDT	WIDD			-	CDI	-	
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Fraffic Volume (vph)	0	0	0	0	♣ 58	69	145	41 → 1059	35	0	0	0
future Volume (vph)	0	0	0	0	58	69	145	1059	35	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
ed Bike Factor					0.93			0.98				
irt					0.927			0.996				
Fit Protected	0	0	0	0	1272	0	0	0.994	0	0	0	0
Satd. Flow (prot) Flt Permitted	0	0	0	0	1372	0	0	3150 0.994	0	0	0	0
Satd. Flow (perm)	0	0	0	0	1372	0	0	3144	0	0	0	0
Right Turn on Red		•	Yes		1072	Yes	No	0111	Yes			Yes
Satd. Flow (RTOR)					11			7				
ink Speed (mph)		25			25			25			25	
Link Distance (ft)		171			179			570			167	
Travel Time (s)		4.7			4.9	74	10	15.5	700		4.6	
Confl. Peds. (#/hr)						71	42		703			
Confl. Bikes (#/hr) Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.01	0.07	0.97	65 0.97	0.92	0.92	0.92
Heavy Vehicles (%)	0.92	0.92	0.92	0.81	0.81	0.81	0.97 2%	2%	2%	0.92	0.92	0.92
Parking (#/hr)	U70	U 70	U70	U70	U70	U 70	Z 70	2%	2%	U 70	U 70	U 70
Adj. Flow (vph)	0	0	0	0	72	85	149	1092	36	0	0	0
Shared Lane Traffic (%)		Ü	Ü	Ü		33	. 17	,2	30	Ü	Ü	
Lane Group Flow (vph)	0	0	0	0	157	0	0	1277	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					5		1	1				
Permitted Phases												
Detector Phase					5		1	1				
Switch Phase												
Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					24.0		86.0	86.0				
Total Split (s)					24.0 21.8%		86.0 78.2%	86.0 78.2%				
Total Split (%) Maximum Green (s)					19.0		78.2% 81.0	78.2% 81.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.0		2.0	-1.0				
Fotal Lost Time (s)					4.0			4.0				
_ead/Lag												
_ead-Lag Optimize?												
/ehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					12.0		74.0	74.0				
Pedestrian Calls (#/hr) Act Effct Green (s)					20.0		0	0 82.0				
Actuated g/C Ratio					0.18			0.75				
//c Ratio					0.10			0.73				
Control Delay					49.5			12.3				
Queue Delay					0.9			0.6				
Total Delay					50.4			12.9				
_OS					D			В				
Approach Delay					50.4			12.9				
Approach LOS					D			В				
Queue Length 50th (ft)					96			314				
Queue Length 95th (ft)		01			147			101			07	
Internal Link Dist (ft)		91			99			490			87	
Turn Bay Length (ft)					258			2349				
Base Capacity (vph) Starvation Cap Reductn					258			636				
Spillback Cap Reductn					17			030				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.65			0.75				
Intersection Summary												
	CBD											
Area Type: Cycle Length: 110	CDD											
Actuated Cycle Length: 110												
Offset: 86 (78%), Referenced	to phase 1-N	BTL, Start	of Green									
Natural Cycle: 110	p550 1.114	, Otali	210011									
Control Type: Actuated-Coord	linated											
Maximum v/c Ratio: 0.61												
ntersection Signal Delay: 17.0					ersection							
ntersection Capacity Utilization	on 100.1%			IC	U Level of	Service C	3					
Analysis Period (min) 15												
plits and Phases: 4: Atlant	tic Avenue/Cr	nce Strapt	t & India S	treet/Fast	India Roy	v						



	•	→	•	•	+	•	•	†	~	\		4	
Lane Group	EBL	EBT	EBR	₩BL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations				ሻሻ 111	↑ 92						ተተጉ		
Traffic Volume (vph)	0	0	0			0	0	0	0	0	602	62	
Future Volume (vph)	0	0	0	111	92	0	0	0	0	0	602	62	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft) Lane Util. Factor	12 1.00	12	12	12	11	12	12	12	12	12	12	12	
Ped Bike Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91 1.00	0.91	
Frt											0.986		
Flt Protected				0.950							0.700		
Satd. Flow (prot)	0	0	0	3120	1637	0	0	0	0	0	4346	0	
Flt Permitted				0.950									
Satd. Flow (perm)	0	0	0	3120	1637	0	0	0	0	0	4346	0	
Right Turn on Red			Yes	No		Yes			Yes			Yes	
Satd. Flow (RTOR)											24		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		251			171			329			268		
Travel Time (s)		6.8			4.7			9.0			7.3		
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.07	0.07	38	
Peak Hour Factor	0.92 0%	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96 0%	
Heavy Vehicles (%) Adj. Flow (vph)	0%	0% 0	0% 0	1% 119	1% 99	0% 0	0% 0	0% 0	0% 0	0% 0	6% 627	0% 65	
Shared Lane Traffic (%)	U	U	U	119	77	U	U	U	U	U	027	υυ	
Lane Group Flow (vph)	0	0	0	119	99	0	0	0	0	0	692	0	
Turn Type	3	Ü	Ü	Split	NA		Ü	Ü	Ü	Ü	NA	Ü	
Protected Phases				5 Spill	5						1		2
Permitted Phases													
Detector Phase				5	5						1		
Switch Phase													
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				27.0	27.0						62.0		21.0
Total Split (s)				27.0	27.0						62.0		21.0
Total Split (%)				24.5%	24.5%						56.4%		19%
Maximum Green (s)				22.0	22.0						56.0		17.0
Yellow Time (s)				3.0	3.0						3.0		4.0 0.0
All-Red Time (s) Lost Time Adjust (s)				2.0 -2.0	2.0 -2.0						3.0 -2.0		0.0
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag				3.0	3.0						Lead		Lag
Lead-Lag Optimize?											Loud		Lug
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				15.0	15.0						49.0		10.0
Pedestrian Calls (#/hr)				50	50						0		5
Act Effct Green (s)				24.0	24.0						58.0		
Actuated g/C Ratio				0.22	0.22						0.53		
v/c Ratio				0.17	0.28						0.30		
Control Delay				30.5	32.8						2.0		
Queue Delay				2.3	11.8						0.2		
Total Delay				32.8	44.6						2.2		
LOS Approach Delay				С	D 38.1						A 2.2		
Approach LOS					38.1 D						2.2 A		
Queue Length 50th (ft)				32	54						5		
Queue Length 95th (ft)				m58	m99						8		
Internal Link Dist (ft)		171		11100	91			249			188		
Turn Bay Length (ft)		.,,,			71			2-17			.00		
Base Capacity (vph)				680	357						2302		
Starvation Cap Reductn				450	228						717		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn				0	0						0		
Reduced v/c Ratio				0.52	0.77						0.44		
Intersection Summary													
Area Type:	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110)												
Offset: 2 (2%), Referenced	to phase 1:SB	, Start of	Green										
Natural Cycle: 110													

Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 10.8
Intersection Capacity Utilization 107.8%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal. Intersection LOS: B
ICU Level of Service G

Splits and Phases: 5: Surface/Purchase/SASB & India Street



09004.03::Harbor Garage Build Mitigated (2026) Condition, a.m. Peak Hour

Lanes, Volumes,	Timings													
	•	→	•	•	←	•	4	†	~	\	ļ	1		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	
ane Configurations	ሻ	414	LDIT		****	WER	HDL	† 1>		ODL	001	ODIK	- 52	
Traffic Volume (vph)	196	34	0	0	0	0	0	1087	48	0	0	0		
Future Volume (vph) Ideal Flow (vphpl)	196 1900	34 1900	0 1900	0 1900	0 1900	0 1900	0 1900	1087 1900	48 1900	0 1900	0 1900	0 1900		
Lane Width (ft)	12	12	12	12	12	16	12	12	12	12	12	12		
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt Flt Protected	0.950							0.994						
Satd. Flow (prot)	1464	3112	0	0	0	0	0	3027	0	0	0	0		
Flt Permitted	0.950													
Satd. Flow (perm)	1464 No	3112	0 Yes	0	0	0 Yes	0	3027	0 Yes	0	0	0 Yes		
Right Turn on Red Satd. Flow (RTOR)	INU		162			162		6	162			162		
Link Speed (mph)		25			25			25			25			
Link Distance (ft)		161			309			132			151			
Travel Time (s) Confl. Bikes (#/hr)		4.4			8.4	1		3.6	76		4.1			
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	2%	0%	0%	0%		
Parking (#/hr)	00:	0.5	•	_	_	_	_	0	0	^	•			
Adj. Flow (vph) Shared Lane Traffic (%)	204 0%	35	0	0	0	0	0	1132	50	0	0	0		
Lane Group Flow (vph)	204	35	0	0	0	0	0	1182	0	0	0	0		
Turn Type	Split	NA						NA						
Protected Phases	5	5						1					2	
Permitted Phases Detector Phase	5	5						1						
Switch Phase	J	J												
Minimum Initial (s)	8.0	8.0						8.0					8.0	
Minimum Split (s)	20.0	20.0 31.0						58.0 61.0					18.0 18.0	
Total Split (s) Total Split (%)	31.0 28.2%	28.2%						55.5%					16%	
Maximum Green (s)	26.0	26.0						56.0					14.0	
Yellow Time (s)	3.0	3.0						3.0					4.0	
All-Red Time (s) Lost Time Adjust (s)	2.0 -1.0	2.0 -1.0						2.0 -1.0					0.0	
Total Lost Time (s)	4.0	4.0						4.0						
Lead/Lag								Lead					Lag	
Lead-Lag Optimize?	2.0	2.0						2.0					2.0	
Vehicle Extension (s) Recall Mode	2.0 Max	2.0 Max						2.0 C-Max					2.0 Ped	
Walk Time (s)	7.0	7.0						7.0					7.0	
Flash Dont Walk (s)	8.0	8.0						46.0					7.0	
Pedestrian Calls (#/hr) Act Effct Green (s)	0 27.0	0 27.0						0 57.0					0	
Actuated g/C Ratio	0.25	0.25						0.52						
v/c Ratio	0.57	0.05						0.75						
Control Delay	34.6	22.1						17.7						
Queue Delay Total Delay	11.2 45.8	0.0 22.1						1.4 19.2						
LOS	45.0 D	C C						17.2 B						
Approach Delay		42.3						19.2						
Approach LOS	150	D 5						B 201						
Queue Length 50th (ft) Queue Length 95th (ft)	150 236	m11						201 231						
Internal Link Dist (ft)		81			229			52			71			
Turn Bay Length (ft)														
Base Capacity (vph)	359	763						1571						
Starvation Cap Reductn Spillback Cap Reductn	126 0	0						208 0						
Storage Cap Reductn	0	0						0						
Reduced v/c Ratio	0.88	0.05						0.87						
Intersection Summary														
Area Type: Cycle Length: 110	CBD													
Actuated Cycle Length: 11 Offset: 14 (13%), Referen		NBT, Start	of Green											
Natural Cycle: 100 Control Type: Actuated-Co														
Maximum v/c Ratio: 0.75	Jorumaieu													
Intersection Signal Delay:					ersection									
Intersection Capacity Utiliz	zation 48.4%			IC	U Level of	Service A								
Analysis Period (min) 15 m Volume for 95th perce	antile queue is m	netered by	unstream	signal										
volume tot 95th betce	andre quede is fi	icicied by	upsii edii)	əiyi idi.										

Splits and Phases: 3: Atlantic Avenue/Cross Street & Milk Street

↑_{Ø1 (R)} **4**_{Ø5} ÅÅø2

Lanes, Volumes, T								_				
	٠	-	•	•	-	•	1	†	~	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
ane Configurations			0	- 0	155	220	.00	4 7	F1		0	0
raffic Volume (vph) future Volume (vph)	0	0	0	0	155 155	230 230	90 90	1015 1015	51 51	0	0	0
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane Width (ft)	12	12	12	12	10	12	14	14	14	12	12	12
ane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor Frt					0.89			0.97 0.993				
-rt -It Protected					0.919			0.993				
Satd. Flow (prot)	0	0	0	0	1299	0	0	3128	0	0	0	0
Flt Permitted								0.996				
Satd. Flow (perm)	0	0	0	0	1299	0	0	3121	0	0	0	0
Right Turn on Red			Yes			Yes	No	4	Yes			Yes
Satd. Flow (RTOR) Link Speed (mph)		25			25			6 25			25	
Link Distance (ft)		171			179			570			162	
Travel Time (s)		4.7			4.9			15.5			4.4	
Confl. Peds. (#/hr)						100	47		1255			
Confl. Bikes (#/hr)		0.00	0.00		0.00	1	0	0	77	0.00	0.00	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97	0.92	0.92	0.92
Heavy Vehicles (%) Parking (#/hr)	0%	0%	0%	0%	0%	0%	1%	1% 0	0% 0	0%	0%	0%
Parking (#/nr) Adj. Flow (vph)	0	0	0	0	185	274	93	1046	53	0	0	0
Shared Lane Traffic (%)	J	U	U	U	100	217	73	1040	33	U	U	U
Lane Group Flow (vph)	0	0	0	0	459	0	0	1192	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					5			1				
Permitted Phases					_		1					
Detector Phase					5		1	1				
Switch Phase Minimum Initial (s)					8.0		8.0	8.0				
Minimum Split (s)					23.0		60.0	60.0				
Total Split (s)					50.0		60.0	60.0				
Total Split (%)					45.5%		54.5%	54.5%				
Maximum Green (s)					45.0		55.0	55.0				
Yellow Time (s)					3.0		3.0	3.0				
All-Red Time (s) Lost Time Adjust (s)					2.0 -1.0		2.0	2.0 -1.0				
Total Lost Time (s)					4.0			4.0				
_ead/Lag					7.0			7.0				
_ead-Lag Optimize?												
/ehicle Extension (s)					2.0		2.0	2.0				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s) Pedestrian Calls (#/hr)					11.0 0		48.0 0	48.0 0				
Act Effct Green (s)					46.0		U	56.0				
Actuated g/C Ratio					0.42			0.51				
//c Ratio					0.85			0.75				
Control Delay					45.0			21.8				
Queue Delay					0.8			1.0				
Total Delay LOS					45.9 D			22.9				
Approach Delay					45.9			C 22.9				
Approach LOS					43.9 D			22.9 C				
Queue Length 50th (ft)					286			197				
Queue Length 95th (ft)					#417			419				
Internal Link Dist (ft)		91			99			490			82	
Turn Bay Length (ft)								4555				
Base Capacity (vph)					543			1591				
Starvation Cap Reductn Spillback Cap Reductn					0 12			121 182				
Storage Cap Reductin					0			182				
Reduced v/c Ratio					0.86			0.85				
Intersection Summary												
Area Type:	CBD											
Cycle Length: 110	CDD											
Actuated Cycle Length: 110)											
Offset: 14 (13%), Referenc	ed to phase 1:N	IBTL, Star	t of Green									
Natural Cycle: 95												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.85	00.2			J.	tersection	108:0						
Intersection Signal Delay: 2 Intersection Capacity Utilization	ation 98 6%				U Level of							
Analysis Period (min) 15	J. 10.070			10	S ECACI O	. JUI VILE I						
# 95th percentile volume	exceeds capac	itv. aueue	may be lo	naer.								
Oueue shown is maximi	um after two cv	rles	, 10	,								

Queue shown is maximum after two cycles.

Splits and Phases: 4: Atlantic Avenue/Cross Street & India Street/East India Row

↑ø1 (R)

Lanes, Volumes, Tim													
	•	→	•	•	-	•	4	†	~	\	Ţ	1	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations				211	↑ 33						ተተጉ		
Traffic Volume (vph)	0	0	0			0	0	0	0	0	1000	31	
Future Volume (vph) Ideal Flow (vphpl)	1000	1000	1000	211	33	1000	1000	1000	1000	1000	1000	31	
Lane Width (ft)	1900 12	1900 12	1900 12	1900 12	1900 11	1900 12	1900 12	1900 12	1900 12	1900 12	1900 12	1900 12	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	
Ped Bike Factor	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	
Frt											0.996		
Flt Protected				0.950									
Satd. Flow (prot)	0	0	0	3090	1605	0	0	0	0	0	4597	0	
Flt Permitted				0.950									
Satd. Flow (perm)	0	0	0	3090	1605	0	0	0	0	0	4597	0	
Right Turn on Red Satd. Flow (RTOR)			Yes	No		Yes			Yes		4	Yes	
Link Speed (mph)		25			25			25			6 25		
Link Distance (ft)		251			171			329			268		
Travel Time (s)		6.8			4.7			9.0			7.3		
Confl. Bikes (#/hr)												50	
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	1%	0%	
Adj. Flow (vph)	0	0	0	220	34	0	0	0	0	0	1111	34	
Shared Lane Traffic (%)	_		_	200		_	_	_	_		11.5	_	
Lane Group Flow (vph)	0	0	0	220 Split	34	0	0	0	0	0	1145	0	
Turn Type Protected Phases				Split 5	NA 5						NA 1		2
Permitted Phases				3	ິນ								2
Detector Phase				5	5						1		
Switch Phase													
Minimum Initial (s)				8.0	8.0						8.0		8.0
Minimum Split (s)				31.0	31.0						58.0		21.0
Total Split (s)				31.0	31.0						58.0		21.0
Total Split (%)				28.2%	28.2%						52.7%		19%
Maximum Green (s)				26.0	26.0						52.0		17.0
Yellow Time (s) All-Red Time (s)				3.0 2.0	3.0 2.0						3.0		4.0 0.0
Lost Time Adjust (s)				-2.0	-2.0						-2.0		0.0
Total Lost Time (s)				3.0	3.0						4.0		
Lead/Lag				3.0	3.0						Lead		Lag
Lead-Lag Optimize?													- 3
Vehicle Extension (s)				2.0	2.0						2.0		2.0
Recall Mode				Max	Max						C-Max		Ped
Walk Time (s)				7.0	7.0						7.0		7.0
Flash Dont Walk (s)				19.0	19.0						45.0		10.0
Pedestrian Calls (#/hr) Act Effct Green (s)				50 28.0	50 28.0						0 54.0		5
Actuated g/C Ratio				0.25	0.25						0.49		
v/c Ratio				0.28	0.08						0.51		
Control Delay				28.5	29.3						6.6		
Queue Delay				6.5	1.9						0.1		
Total Delay				35.0	31.2						6.7		
LOS				С	C						A		
Approach Delay Approach LOS					34.5 C						6.7 A		
Queue Length 50th (ft)				44	13						42		
Queue Length 95th (ft)				m62	m19						48		
Internal Link Dist (ft)		171			91			249			188		
Turn Bay Length (ft)													
Base Capacity (vph)				786	408						2259		
Starvation Cap Reductn				507	295						218		
Spillback Cap Reductn				0	0						0		
Storage Cap Reductn Reduced v/c Ratio				0.79	0.30						0.56		
				0.79	0.30						0.30		
Intersection Summary													
	CBD												
Cycle Length: 110													
Actuated Cycle Length: 110	nhaca 1.CDT	Ctort of	Croon										
Offset: 0 (0%), Referenced to Natural Cycle: 110	priase 1:5B1	, Start of (oreen										
Control Type: Actuated-Coordi	inated												
Maximum v/c Ratio: 0.51	arcu												
Intersection Signal Delay: 11.8	3			In	tersection	LOS: B							
Intersection Capacity Utilizatio						f Service G	ì						
Analysis Period (min) 15													
m Volume for 95th percentile				oiam ol									

Splits and Phases: 5: Surface/Purchase/SASB & India Street **▼**ø₅ ₩_{Ø2} ▼ Ø1 (R)

09004.03::Harbor Garage HSH Build Mitigated (2026) Condition, p.m. Peak Hour

Appendix C

Climate Change Checklist



Submitted: 01/21/2020 15:08:20

A.1 - Project Information

Project Name: The Pinnacle at Central Wharf

Project Address: 70 East India Row (a/k/a 270 Atlantic Avenue)

Filing Type: Initial (PNF, EPNF, NPC or other substantial filing)

Filing Contact: Steven G. The Chiofaro smitchell@chiofaro.com 6173305250

Mitchell

Company

Is MEPA approval required?

Yes

MEPA date:

A.2 - Project Team

Owner / Developer: RHDC 70 East India LLC c/o The Chiofaro Company

Architect: Kohn Pedersen Fox Associates PC; Copley Wolff Design Group

Engineer: Haley and Aldrich; McNamara Salvia; Nitsch Engineering

Sustainability / LEED: Cosentini Associates

Permitting: Epsilon Associates, Inc.

Construction Management: TBD

A.3 - Project Description and Design Conditions

List the principal Building Uses: Office, Residential, Retail

List the First Floor Uses: Building Entrances, Lobby, Loading Dock Entrances, Below Grade Parking

Entrance, and Public Amenity

List any Critical Site Infrastructure

and or Building Uses:

None

Site and Building:

Site Area (SF):	58000	Building Area (SF):	864600
Building Height (Ft):	600	Building Height (Stories):	42
Existing Site Elevation – Low (Ft BCB):	16.0	Existing Site Elevation – High (Ft BCB):	17.0
Proposed Site Elevation – Low (Ft BCB):	21.0	Proposed Site Elevation – High (Ft BCB):	21.0
Proposed First Floor Elevation	21.0	Below grade spaces/levels (#):	6

(Ft BCB):

Article 37 Green Building:

LEED Certification: LEED Version - Rating System: LEED V4



Proposed LEED rating:	Gold	Proposed LEED point score (Pts.):	63
Puilding Envolones			
Building Envelope:			**
		inuous and R continuous. For example, use been reporting U value, report total assembly	
Roof:	30	Exposed Floor:	30
Foundation Wall:	7.5	Slab Edge (at or below grade):	7.5
Vertical Above-grade Assemblies (%	's are of total vertical	area and together should total 100%):	
Area of Opaque Curtain Wall & Spandrel Assembly:	51	Wall & Spandrel Assembly Value:	0.155
Area of Framed & Insulated / Standard Wall:	0	Wall Value:	10
Area of Vision Window:	49	Window Glazing Assembly Value:	0.38
		Window Glazing SHGC:	0.27
Area of Doors:	<2%	Door Assembly Value :	0.77
Energy Loads and Performance			
For this filing – describe how energy loads & performance were determined	A whole building end loads and performan	ergy model was developed in eQuest to detence.	ermine the energy
Annual Electric (kWh):	7331109	Peak Electric (kW):	2500
Annual Heating (MMbtu/hr):	16500	Peak Heating (MMbtu):	12
Annual Cooling (Tons/hr):	910000	Peak Cooling (Tons):	2200
Energy Use - Below ASHRAE 90.1 - 2013 (%):	29	Have the local utilities reviewed the building energy performance?:	No
Energy Use - Below Mass. Code (%):	26	Energy Use Intensity (kBtu/SF):	30
Back-up / Emergency Power Syst	em		
Electrical Generation Output (kW):	2000	Number of Power Units:	1
System Type (kW):	Combustion	Fuel Source:	Fuel Oil
Emergency and Critical System L	oads (in the event of a	a service interruption)	
Electric (kW):	2000	Heating (MMbtu/hr):	8
		Cooling (Tons/hr):	350



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

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

B.1 - GHG Emissions - Design Conditions

For this filing - Annual Building GHG Emissions (Tons):	3460
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For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

"Shoebox" energy modeling and daylight simulation were applied by Kohn Pedersen Fox Associates PC ("KPF") during conceptual design. An energy goal setting meeting was organized involving the Proponent, KPF and Cosentini to identify MA 2020 code requirements and advanced EUI targets. Cosentini has integrated energy modeling along the design process, providing feedback on façade composition, shading and systems.

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

The Project will include a high-efficiency building envelope that combines high performance glazing for solar protection with highly insulated vertical piers, also integrating operable opening for natural ventilation on the residential section of the tower. Exterior shading fins are being explored as additional shading.

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

Ventilation heat recovery will be combined with high efficiency active chilled beams in the office floors, served by water-cooled chillers, water-side economizer and condensing boilers. In residential floors heating and cooling will be provided with high efficiency 4 pipe fan coils, served by same hot/cold supply. The proponent is studying the introduction of a network of open loop geothermal wells to serve part of heating and cooling loads in the residential section of the tower.

Central building controls will be provided for the central plants and sized to be expanded for use by tenants, including daylight harvesting and occupancy sensors. LED lighting will be utilized throughout the Project. Furthermore, the Proponent will continue to evaluate energy efficiency measures ("EEMs") for possible inclusion in select portions of the Proposed Project. The EEMs may include better glazing, increased insulation, lower lighting power densities, etc.

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

The Proponent is studying the incorporation of solar PV in the roof tower.

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



The Proponent is studying the feasibility of incorporating a combined heat and power facility.

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

The Proponent will work with local utilities and institutions such as Mass CEC and Mass DOER to determine potential incentive programs available and will continue to work with these organizations throughout the design process.

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):

The Proponent will design and construct the Project to use HVAC systems with centralized space and domestic hot water heating sources that allow for an "electric ready" building, which could adapt to zero site emissions by 2035.

C - Extreme Heat Events

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

C.1 - Extreme Heat - Design Conditions

Temperature Range - Low (Deg.):	0	Temperature Range - High (Deg.):	100
Annual Heating Degree Days:	5541	Annual Cooling Degree Days	2897

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

Days - Above 90° (#):	9	Days - Above 100° (#):	5
Number of Heatwaves / Year (#):	3	Average Duration of Heatwave (Days):	3

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

At the street level, the Proponent aims to reduce the heat island effect using light-colored paving materials and integration of greenery, such as tree canopy cover and several landscape features along the streetscape and common open space which encompasses 50% of site area. Roof areas not dedicated to solar generation may be dedicated to vegetated roofs or high albedo cool roofs.

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:



Incorporation of high albedo pavement materials and/or vegetated roofs will reduce heat island effect in project vicinity. Façade shading in the form of horizontal reveals will minimize solar gains, helping to maintain building spaces cool during heatwaves. Proponent's design team will run the HVAC load calculations to make sure that building systems can maintain safe indoor temperatures during heat wave conditions.

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:

Exposed thermal mass in the façade and slab, combined with operable panels integrated in façade piers in the residential floors, will provide a passive survivability alternative to the cooling system in case of a power interruption in Summer. Similarly, a high-performance façade will allow for shelter in place for residents during any other interruption and will reduce cooling loads in the summer and heat loss in the winter. A low lighting power density and energy-efficient receptacle equipment will also reduce tenant loads. Roof mounted solar PV is being studied to provide grid relief and resilient back-up power generation.

D - Extreme Precipitation Events

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

D.1 - Extreme Precipitation - Design Conditions

What is the project design precipitation level? (In. / 24 Hours)

6

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

The project will include measures to strive to, at a minimum, control on site 1.25" of storm water from a 24-hour storm event. This will be achieved through the introduction of a rainwater cistern, with an option for reuse, combined with green infrastructure measures on outdoor areas to minimize imperviousness, including vegetated retention surfaces and porous pavement solutions.

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 storm water retention to reduce the peak discharge rate of runoff. Redundant



connections for domestic water and fire protection systems ensure functionality in case of damage or other problems caused by extreme weather events. Sewage backflow valves will prevent backflow into buildings during rainstorms and floods to avoid building damage and maintain occupant safety and comfort.

E - Sea Level Rise and Storms

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

Is any portion of the site in a FEMA Special Flood Hazard Area?	Yes	What Zone:	AE
What is the current FEMA SFHA Zone	Base Flood Ele	evation for the site (Ft BCB)?	16.5
Is any portion of the site in the BPDA Sea Level Rise Flood Hazard Area (see SLR-FHA online map)?	Yes		

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

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

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented by the Sea Level Rise Flood Hazard Area (SLR-FHA), which includes 3.2' of sea level rise above 2013 tide levels, an additional 2.5" to account for subsidence, and the 1% Annual Chance Flood. After using the SLR-FHA to identify a project's Sea Level Rise Base Flood Elevation, proponents should calculate the Sea Level Rise Design Flood Elevation by adding 12" of freeboard for buildings, and 24" of freeboard for critical facilities and infrastructure and any ground floor residential units.

What is the Sea Level Rise - Base Flood Elevation for the site (Ft BCB)?	19.5		
What is the Sea Level Rise - Design Flood Elevation for the site (Ft BCB)?	20.5	First Floor Elevation (Ft BCB):	21.0
What are the Site Elevations at Building (Ft BCB)?	21.0	What is the Accessible Route Elevation (Ft BCB)?	21.0

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 Project Site and the adjacent Harborwalk will be elevated, which, in conjunction with the proposed development in the vicinity of the New England Aquarium site, creates a barrier for tidal flooding and protects the access to the surrounding Downtown Waterfront District. In addition, storm water retention throughout the Site is provided to control localized storm water flooding as the result of ground and sewage saturation.

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.:

Critical systems will be installed above the second level of the building. If placing sensitive building mechanical equipment at higher elevations is cost-prohibitive, ground-mounted equipment will include waterproofing measures, such as setting equipment on pads, curbs at equipment room entrances, and/or floor drains. Automated flood barriers will be integrated in building entrance and underground vehicle access.

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:

All indoor spaces and critical infrastructure is planned to be located above the Sea level Rise Design Flood Elevation (SLR DFE). Emergency lighting, water booster and storm water protection pumps will be on stand-by power.

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

All inhabitable floors of the building are expected to be located above the Sea Level Rise Design Flood Elevation (El. 19.5' BCB). Critical systems will be installed above the second level of the building.

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 Project introduces an elevated site access level which, in conjunction with proposed development in the vicinity of the New England Aquarium site, creates a barrier for tidal flooding and protects the access to the surroundings. In addition, storm water retention throughout the Site is provided to control localized storm water flooding as the result of ground and sewage saturation.

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

Finished floor elevation and critical infrastructure is expected to be designed at or above the SLR DFE, installed at the second level of building.

Thank you for completing the Boston Climate Change Checklist!

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

Appendix D

Accessibility Checklist

ARTICLE 80 - ACCESSIBILITY CHECKLIST

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

The Mayor's Commission for Persons with Disabilities works to reduce architectural barriers that impact accessibility in Boston's built environment. This Checklist is intended to ensure that accessibility is planned at the beginning of projects, rather than after a design is completed. It aims to ensure that projects not only meet minimum MAAB/ADA requirements, but that they create a built environment which provides equitable experiences for all people, regardless of age or ability.

All BPDA Small or Large Project Review, including Institutional Master Plan modifications, must complete this Checklist to provide specific detail and data on accessibility. An updated Checklist is required if any project plans change significantly.

For more information on compliance requirements, best practices, and creating ideal designs for accessibility throughout Boston's built environment, proponents are strongly encouraged to meet with Disability Commission staff prior to filing.

Accessibility Analysis Information Sources:

- Age-Friendly Design Guidelines Design features that allow residents to Age in Place https://www.enterprisecommunity.org/download?fid=6623&nid=3496
- Americans with Disabilities Act 2010 ADA Standards for Accessible Design http://www.ada.gov/2010ADAstandards_index.htm
- 3. 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

- 4. Massachusetts State Building Code 780 CMR
 - http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
- 5. Massachusetts Office of Disability Disabled Parking Regulations
 - http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
- 6. MBTA Fixed Route Accessible Transit Stations
 - http://www.mbta.com/riding_the_t/accessible_services/
- 7. City of Boston Complete Street Guidelines
 - http://bostoncompletestreets.org/
- 8. City of Boston Mayor's Commission for Persons with Disabilities
 - http://www.boston.gov/disability
- $9. \hspace{0.5cm} \hbox{City of Boston-Public Works Sidewalk Reconstruction Policy} \\$
 - http://www.cityofboston.gov/images_documents/sidewalk%2opolicy%200114_tcm3-41668.pdf
- 10. City of Boston Public Improvement Commission Sidewalk Café Policy
 - http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf
- 11. International Symbol of Accessibility (ISA)
 - https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards/guidance-on-the-isa
- 12. LEED Pilot Credits for Social Equity and Inclusion
 - $\underline{https://www.usgbc.org/articles/social-equity-pilot-credits-added-leed-nd-and-leed-om}$

Glossary of Terms:

- Accessible Route A continuous and unobstructed path of travel that meets or exceeds the dimensional requirements set forth by MAAB 521 CMR: Section 20
- Accessible Guestrooms Guestrooms with additional floor space, that meet or exceed the dimensional requirements set forth by MAAB 521 CMR: Section 8.4
- 3. Age-Friendly Implementing structures, settings and polices that allow people to age with dignity and respect in their homes and communities
- 4. Housing Group 1 Units Residential Units that contain features which can be modified without structural change to meet the specific functional needs of an occupant with a disability, per MAAB 521 CMR: Section 9.3
- 5. **Housing 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
- 6. Ideal Design for Accessibility Design which meets, as well as exceeds, compliance with AAB/ADA building code requirements
- 7. 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
- 8. **Public Improvement Commission (PIC)** The regulatory body in charge of managing the public right of way in Boston. For more information visit: https://www.boston.gov/pic
- 9. Social Equity LEED Credit Pilot LEED credit for projects that engage neighborhood residents and provide community benefits, particularly for persons with disabilities
- 10. Visitability A structure that is designed intentionally with no architectural barriers in its common spaces (entrances, doors openings, hallways, bathrooms), thereby allowing persons with disabilities who have functional limitations to visit

Today's Date: January 22, 2020	Your Name and Title: Erik Rexford, Senior Plar	nner					
1. Project Information If this is a multi-phase	n: ed or multi-building project, fill ou	t a separate Checklist for (each phase/bui	lding.			
Project Name:	The Pinnacle at Central Wharf						
Project Address(es):	70 East India Row (a/k/a 270 Atla	antic Avenue)					
Total Number of Phases/Buildings:	One Building						
Primary Contact: (Name / Title / Company / Email / Phone):	Steven G. Mitchell, The Chiofaro Company; smitchell@chiofaro.com; 617-330-5250						
Owner / Developer:	RHDC 70 East India LLC c/o The	Chiofaro Company					
Architect:	Kohn Pedersen Fox Associates F	PC .					
Civil Engineer:	Nitsch Engineering						
Landscape Architect:	Copley Wolff Design Group						
Code Consultant:	TBD						
Accessibility Consultant (If you have one):	TBD						
What stage is the project on the date this checklist is being filled out?	PNF						
•	cion and Description: es preliminary construction inform	nation about the project in	cluding size an	d uses.			
What are the dimensions o	f the project? See below:						
Site Area:	~58,000 SF	Building Area:		864,600 GSF			
First Floor Elevation:	21.0-feet BCB	Any below-grade space		Yes			
What is the construction classification?	New Construction	Renovation	Addition	Change of Use			
Do you anticipate filing any (Massachusetts Architectu compliance with 521 CMR?	ral Access Board) due to non-		YES				
infeasibility, OR (2) excess	or MAAB variance: (1) technical sive and unreasonable cost tor persons with disabilities?	Variances, as necessary, infeasibility of items whe requirements will require	re conflicts bet				

applying for a variance? Ex	plain:					
What are principal building uses? (using IBC definitions, select all appropriate that apply):	Residential – One - Th	nree Unit	Residential - Multi- unit, Four+	Institutional	Educational	
	Business		Mercantile	Factory	Hospitality	
	Laboratory / Medical	Storage, Utility and Other: Other				
List street-level uses of the building:	Building Entrances, Amenity	Lobby, Load	ding Dock Entrances, Bel	ow Grade Parking Er	trance, and Publi	С
routes to these sites	through sidowalk and				n of the accessibl	
Provide a description of the neighborhood where	The neighborhood in	ncludes a mix	ramp reports. x of commercial, resident evelopments and existing		properties, as we	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity	The neighborhood in number of new and p generally flat.	ncludes a mix	x of commercial, resident evelopments and existing		properties, as we	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail,	The neighborhood in number of new and p generally flat. Route Rapid Transit	proposed de Description	x of commercial, resident evelopments and existing		properties, as we around the Project	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	The neighborhood in number of new and p generally flat. Route Rapid Transit Blue Line	Description	x of commercial, resident evelopments and existing		Properties, as we around the Project Proximity 500 feet	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site,	The neighborhood in number of new and p generally flat. Route Rapid Transit	Description	x of commercial, resident evelopments and existing		properties, as we around the Project	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	The neighborhood in number of new and p generally flat. Route Rapid Transit Blue Line Orange Line	Description Bowdoin —	x of commercial, resident evelopments and existing		Properties, as we around the Project Proximity 500 feet	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	Route Rapid Transit Blue Line Orange Line Local Bus Routes	Description Bowdoin — Forest Hills	x of commercial, resident evelopments and existing n - Wonderland s – Oak Grove	buildings. The area	Proximity 500 feet 0.4 miles	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	Route Rapid Transit Blue Line Orange Line Local Bus Routes 4	Description Bowdoin — Forest Hills North Stati	x of commercial, resident evelopments and existing in - Wonderland s – Oak Grove	buildings. The area	Proximity 500 feet 0.4 miles	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	Route Rapid Transit Blue Line Orange Line Local Bus Routes 4 92	Description Bowdoin — Forest Hills North Stati Sullivan Sta	x of commercial, resident velopments and existing velopments and existing velopments and existing velopments and existing velopments and existing velopments and velopments and velopments	Main Street	Proximity 500 feet 0.4 miles	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	Route Rapid Transit Blue Line Orange Line Local Bus Routes 4 92 93	Description Bowdoin — Forest Hills North Stati Sullivan State State Stree	x of commercial, resident velopments and existing velopments and existing velopments and existing velopments and existing velopments and existing velopments and velopments and velopments	Main Street	Proximity 500 feet 0.4 miles 0.4 miles	
Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: List the surrounding accessible MBTA transit lines and their proximity to development site, including commuter rail, subway stations, and bus	Route Rapid Transit Blue Line Orange Line Local Bus Routes 4 92 93 352	Description Bowdoin — Forest Hills North Stati Sullivan State State Stree	x of commercial, resident velopments and existing velopments and existing velopments and existing velopments and existing velopments and existing velopments and velopments velo	Main Street	Proximity 500 feet 0.4 miles 0.4 miles 0.4 miles	

	Hingham/Hull	Hingham – Hull – Logan Airport – Boston (Long Wharf)	0.2 miles						
	Hingham/Hull	Boston (Long Wharf) – Hingham	0.2 miles						
List surrounding institutions and their proximity: hospitals, public housing, elderly and disabled housing, educational facilities, others:	Proximity: 0.9 miles -Boston Centers for 0.4 miles Educational Facilitie -Elliot K-8 Innovatio -Elliot School –16 Ch -St. John School, 9 I	Youth & Families – Mirabelle Pool, 475 Commercial St Youth & Families – City Hall Childcare, 1 City Hall Plaz es: on Upper School – 585 Commercial Street, Boston, MA narter Street, Boston, MA. Proximity: 0.9 miles Moon Street, Boston, MA. Proximity: 0.8 miles	a, Boston, MA. Proximi . Proximity: 1.1 miles						
	-North End Branch of the Boston Public Library – 25 Parmenter Street, Boston, MA. Proximity: 0.8 miles West End Branch of the Boston Public Library – 151 Cambridge Street, Boston, MA. Proximity: 1.1 miles Public Housing: -Charlestown Apartments - 55 Bunker Hill Street, Charlestown, MA 02129 -West Broadway – 81 Orton Marotta Way, South Boston, MA. Proximity: 1.5 miles								
	-West Broadway Homes - 73 Crowley Rogers Way, South Boston, MA. Proximity: 1.4 mile -Old Colony - 265 East 9th Street, South Boston, MA. Proximity: 2.0 miles -Mary Ellen McCormack - 10 Kemp Street, South Boston, MA. Proximity: 1.5 miles								
	Elderly / Disabled Housing: -Ausonia Apartments, 185 Fulton Street, Boston, MA 02109. Proximity: 0.7 miles -Heritage Elderly - 209 Sumner Street, East Boston, MA 02128. Proximity: 0.9 miles -General Warren, 114 Rutherford Ave, Charlestown, MA 02129. Proximity: 1.6 miles -Bay Cove Group Home III, 267 West 3rd Street, South Boston, MA. Proximity: 1.6 miles								
	-Massachusetts Gen	ire: er, 800 Washington Street, Boston, MA. Proximity: 0.8 eral Hospital, 15 Parkman Street, Boston, MA 02114. enter, 72 E Concord Street, Boston, MA. Proximity: 2.0	Proximity: 1.2 miles						
List surrounding government buildings and their proximity: libraries, community centers, recreational facilities, and related facilities:	-District Hall Civic C -Nazarro Communit	Hall Plaza, Boston, MA. Proximity: 0.4 miles enter, 75 Northern Avenue, Boston, MA. Proximity: 0. cy Center, 30 N Bennet St, Boston, MA. Proximity: 0.9 ary – 700 Boylston Street, Boston, MA. Proximity: 1.7 r	miles						

4. Surrounding Site Conditions – Existing:

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

Is the development site	NO
within a formally	
recognized historic	
district? <i>If yes,</i> which	
one?	
Are there existing	YES
sidewalks and pedestrian	
ramps at the	Site property is bounded on all four sides by sidewalks.
development site? <i>If yes</i> ,	East India Row/Harborwalk (pedestrianized public way east of Site): 60' wide, brick, flat, good
list the existing sidewalk	condition.
and pedestrian ramp	East India Row (vehicular way south of site): 14' wide, brick and concrete, flat, good condition.
slopes, dimensions,	Atlantic Avenue: 20' to 32' wide, brick and concrete, flat, good condition.
materials, and physical	Milk Street: 12' wide, bituminous concrete and concrete, flat, good condition.
condition:	
Are the sidewalks and	NO
pedestrian ramps	NO
existing-to-remain? <i>If</i>	All existing sidewalks will be replaced from curb to building.
yes, have they been	All existing sidewarks will be replaced from cold to boilding.
verified as ADA/MAAB	
compliant (with yellow	
composite detectable	
warnings, cast in	
concrete)? <i>If yes</i> , provide	
description and photos.	
If no , explain plans for	
compliance:	
5. Surrounding Site C	onditions – Proposed
This section identifie	s the proposed condition of the sidewalks and pedestrian ramps around the development site. Ideal
	ributes to lively pedestrian activity, allowing people to walk side by side and pass each other
comfortably walking	alone in nairs or using a wheelchair or walker
comfortably walking	alone, in pairs, or using a wheelchair or walker.
	y alone, in pairs, or using a wheelchair or walker. YES
	· · · · · · · · · · · · · · · · · · ·
Are the proposed	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown Commercial, Downtown	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use,	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main,	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the
Are the proposed sidewalks consistent with Boston Complete Streets? <i>If yes</i> , choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential,	YES The proposed sidewalks will be consistent with City of Boston Complete Streets standards. It is anticipated that the Downtown Mixed-Use type may be applied to East India and Milk Street and the

What are the total dimensions and slopes of the proposed sidewalks? List the widths of each proposed zone: Frontage, Pedestrian and Furnishing Zone:	The exact dimensions of each sidewalk shall be developed in collaboration with City of Boston, BPDA, Accessibility Commission and BCDC during the Article 80 process. All sidewalks shall have a greenscape/furnishing zone, pedestrian zone and frontage (café) zone which comply with current City of Boston Complete Streets Guidelines. All sidewalks shall have a cross slope of 2% or less and a directional slope of 5% or less.
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?	The materials of each sidewalk shall be developed in collaboration with City of Boston, BPDA, Accessibility Commission and BCDC during the Article 80 process. Current assumptions include a pedestrian zone comprised primarily of medium broom finish cast-in-place concrete with small areas of concrete or unit pavers selected for continuity with existing conditions on pedestrian plazas and Harborwalk. The furnishing zone will primarily consist of precast concrete unit pavers and vegetated surface. The frontage (café) zone will consist of unit pavers complimentary to the adjacent ground floor uses.
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?	YES The development of the frontage (café) zone program, dimensions and portions of the remaining Right of Way shall be developed in collaboration with City of Boston, BPDA, Accessibility Commission and BCDC during the Article 80 process. All frontage (café) zones shall be delineated in a manner which allows a clear and continuous pedestrian zone along the sidewalk. Bike lanes, cycle tracks, loading zones, etc., which may be included within the Right of Way, shall be coordinated closely with BPDA, BTD and other City of Boston Agencies.
If the pedestrian right-of- way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	YES Along some of the Rights of Way, a portion of the pedestrian zone may be located on private property and a pedestrian easement shall be part of the documentation during the PIC process.
Will any portion of this project be going through the Public Improvement Commission (PIC)? <i>If</i> yes, identify PIC actions and provide details:	YES The Project will go through PIC on items including but not limited to potential earth retention plans, surface improvements in the public right-of-way, and discontinuance.

6. Building Entrances, Vertical Connections, Accessible Routes, and Common Areas:

The primary objective in ideal accessible design is to build smooth, level, continuous routes and vertical connections that are integrated with standard routes, not relocated to alternate areas. This creates universal access to all entrances and spaces, and creates equity for persons of all ages and abilities by allowing for "aging in place" and "visitability" (visiting neighbors).

Are all of the building entrances accessible?
Describe the accessibility of each building entrance: flush condition, stairs, ramp, lift, elevator, or other. If all of the building entrances are *not* accessible, explain:

YES

Maximizing accessibility and inclusivity is a core principle that has guided the Project's design and the Proponent intends to comply accessibility requirements for the building's entrances.. Addition details regarding accessibility and inclusion will be provided as the Project's design is further refined. The Project team looks forward to working with the Staff to the Mayor's Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the Project is accessibility and inclusive.

Are all building entrances well-marked with signage, lighting, and protection from weather?

YES

Maximizing accessibility and inclusivity is a core principle that has guided the Project's design and the Proponent intends to comply with best practices for signage, lighting and protection from weather at the building's entrances. Addition details regarding accessibility and inclusion will be provided as the Project's design is further refined. The Project team looks forward to working with the Staff to the Mayor's Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the Project is accessibility and inclusive.

Are all vertical connections located within the site (interior and exterior) integrated and accessible? Describe each vertical connection (interior and exterior): stairs, ramp, lift, elevator, or other. If all the vertical connections are not integrated and accessible, explain:

YES

Maximizing accessibility and inclusivity is a core principle that has guided the Project's design and the Proponent intends to comply accessibility requirements for integrating vertical connections on the Site. Addition details regarding accessibility and inclusion will be provided as the Project's design is further refined. The Project team looks forward to working with the Staff to the Mayor's Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the Project is accessibility and inclusive.

Are all common spaces in the development located on an accessible route? Describe:

YES

Maximizing accessibility and inclusivity is a core principle that has guided the Project's design and the Proponent intends to ensure that all common spaces at the Project Site are on an accessible route. Addition details regarding accessibility and inclusion will be provided as the Project's design is further refined. The Project team looks forward to working with the Staff to the Mayor's Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the Project is accessibility and inclusive.

Are all of the common	YES
spaces accessible for	
persons with mobility	Maximizing accessibility and inclusivity is a core principle that has guided the Project's design and the
impairments? (Examples:	Proponent intends to ensure that all common spaces are accessible for persons with mobility
community rooms,	impairments. Addition details regarding accessibility and inclusion will be provided as the Project's
laundry areas, outdoor	design is further refined. The Project team looks forward to working with the Staff to the Mayor's
spaces, garages,	Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the
decks/roof decks):	Project is accessibility and inclusive.
What built-in features	Built in furnishings will be accessible as per 521 CMR and ADA and/or FHA as applicable.
are provided in common	
public spaces?	
(Examples: built-in	
furnishings such as	
•	
tables, seating;	
countertop heights,	
outdoor grills and	
benches). Are these	
accessible? Do benches	
and seats have armrests?	
Describe:	
If this project is subject	YES
to Large Project	
= =	
Review/Institutional	The way-finding/signage will be developed as the Project design progresses and details are
= =	The way-finding/signage will be developed as the Project design progresses and details are determined.
Review/Institutional	
Review/Institutional Master Plan, describe the accessible routes way-finding / signage	
Review/Institutional Master Plan, describe the accessible routes	
Review/Institutional Master Plan, describe the accessible routes way-finding / signage	
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package:	
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing	determined. Junits (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create accessions	determined. g Units (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms cessible housing and hospitality rooms, this section addresses the number of accessible units that are
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create accessions	determined. Junits (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create acc proposed for barrier	determined. g Units (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms cessible housing and hospitality rooms, this section addresses the number of accessible units that are effree housing and hotel rooms in this development.
Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create acc proposed for barrier-	determined. g Units (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms cessible housing and hospitality rooms, this section addresses the number of accessible units that are
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Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create acc proposed for barrier. What is the total number of proposed housing units or hotel rooms for this development? If a residential development, how many units are for sale? How	determined. g Units (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms cessible housing and hospitality rooms, this section addresses the number of accessible units that are free housing and hotel rooms in this development. 200 UNITS All proposed residential units are rental. The affordable breakdown will be consistent with the
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Review/Institutional Master Plan, describe the accessible routes way-finding / signage package: 7. Accessible Housing In order to create acc proposed for barrier. What is the total number of proposed housing units or hotel rooms for this development? If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs.	determined. g Units (If applicable) – Residential Group 1, Group 2, and Hospitality Guestrooms cessible housing and hospitality rooms, this section addresses the number of accessible units that are free housing and hotel rooms in this development. 200 UNITS All proposed residential units are rental. The affordable breakdown will be consistent with the

If a residential development, will all units be constructed as MAAB Group 1* units, which have blocking and other built-in infrastructure that makes them adaptable for access modifications in the future? (*this is required in all new construction):	YES All units will meet MAAB Group 1 requirements as required.
If a residential development, how many fully built-out ADA (MAAB Group 2) units will there be? (requirement is 5%):	Development will meet MAAB Group 2 requirements for 5% of units (5% of 200 = 10 units)
If a residential development, how many units will be built-out as ADA/MAAB sensory units? (requirement is 2%):	Development will meet ADA/MAAB sensory requirements for 2% of units (2% of 200 = 4 units)
If a residential development, how many of the fully built-out ADA (MAAB Group 2) units will also be IDP units? If none, explain:	It is expected 5% of affordable units will meet MAAB Group 2 requirements. The remaining affordable units will meet MAAB Group 1 requirements.
If a hospitality development, how many of the accessible units will feature a wheel-in shower? Will accessibility features and equipment be built in or provided (built-in bench, tub seat, etc.)? If yes, provide details and location of equipment:	N/A
Do the proposed housing and hotel units that are standard, non-ADA units	NO

(MAAB Group 1) have	
any architectural barriers	
that would prevent entry	
or use of the space by	
persons with mobility	
impairments? (Example:	
stairs or thresholds	
within units, step up to	
balcony, etc.). <i>If yes</i> ,	
explain:	
8. Accessible Parking	
•	
See Massachusetts A	Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible

parking requirements 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? Will they be mechanically stacked? Explain:	The Project includes 1,100 parking spaces in a below-grade garage. The Project does not currently include mechanically stacked parking.
How many of these parking spaces will be designated as Accessible Parking Spaces? How many will be "Van Accessible" spaces with an 8 foot access aisle? Describe:	Based on the current anticipated garage parking spaces, the Project will have 31 Accessible Parking Spaces, 6 of which will be Van Accessible Spaces.
Will visitor parking be provided? If <i>yes</i> , where will the accessible visitor parking be located?	YES Visitor accessible parking will be provided in the garage. The garage design will differentiate between visitor parking and other user groups. Accessible Spaces will be provided for the separated group(s) and the shared parking groups separately.
Has a drop-off area been identified? <i>If yes</i> , where is it located, and is it wheelchair accessible?	YES Accessible drop-off areas are planned for Milk Street, Atlantic Avenue, and East India Row. Drop-off location(s) adjacent to each entrance will be refined during the design process. All will be wheelchair accessible.

9. Community Impact:

Accessibility and inclusion extend past required compliance with building codes to providing an overall development that allows full and equal participation of persons with disabilities and older adults.

Has the proponent	YES
looked into either of the	
two new LEED Credit	Pilot credits will be developed as the Project design progresses and details are determined.
Pilots for (1) Inclusion, or	
(2) Social Equity — with a	
proposal that could	
increase inclusion of	
persons with disabilities?	
<i>If yes,</i> describe:	
These new LEED Pilot	YES
Credits may be awarded	
for filling out this	Pilot credits will be developed as the Project design progresses and details are determined.
checklist and evaluating	Thou deales will be developed as the thoject design progresses and details are determined.
ways to add features to	
your design that will	
increase equity for	
persons with disabilities.	
·	
Have you looked at this list to assess the	
feasibility of adding any	
of these features?	
	VEC.
Is this project providing	YES
funding or	
improvements to the	The Project includes significant public realm improvements, including along Milk Street and the
surrounding	pedestrianized section of East India Row. The DWMHP offsets specific to the Project Site, as
neighborhood or to	designed, are \$10 million in funding to be provided by the Proponent for the design and construction
adjacent MBTA Station	of the public realm improvements associated with the Aquarium's proposed "Blueway" vision and
infrastructure?	\$300,000 for planning, feasibility assessment, design, engineering and permitting for a signature
(Examples: adding street	waterfront park and water transportation gateway at the BPDA-owned Chart House parking lot.
trees, building or	
refurbishing parks,	
adding an additional	
MBTA elevator or	
funding other	
accessibility	
improvements or other	
community initiatives)?	
If yes, describe:	
Mell III	
Will any public	NO
transportation	
infrastructure be	Public transportation infrastructure is not anticipated to be affected by this development.
affected by this	
development, during	
and/or post-construction	
(Examples: are any bus	
stops being removed or	

relocated)? <i>If yes</i> , has the proponent coordinated with the MBTA for mitigation? Explain:	
During construction, will any on-street accessible parking spaces be impacted (during and/or post-construction)? If yes, what is the plan for relocating the spaces?	YES On-street accessible parking spaces may be affected during construction. The Proponent will work closely with BTD and other stakeholders to develop, as necessary, reasonable measures intended to mitigate any adverse impacts to on-street accessible parking.
Has the proponent reviewed these plans with the City of Boston Disability Commission Architectural Access staff? <i>If no</i> , will you be setting up a meeting before filing?	Maximizing accessibility and inclusivity is a core principle that has guided the Project's design. Addition details regarding accessibility and inclusion will be provided as the Project's design is further refined. The Project team looks forward to working with the Staff to the Mayor's Commission for Persons with Disabilities, the BPDA Staff, PIC Staff and others to insure that that the Project is accessibility and inclusive. The Project team will meet with the City of Boston Disability Commission Architectural Access staff at the appropriate stage of design, with the guidance of the BPDA Staff

10. Attachments

Include a list of all documents you are submitting with this Checklist – drawings, diagrams, photos, or any other materials that describe the accessible and inclusive elements of this project.

Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances. See attached diagram. Additional detail will be provided in next submission.

Provide a diagram of the accessible route connections through the site, including distances.

See attached diagram. Additional detail will be provided in next submission.

Provide a diagram the accessible route to any roof decks or outdoor space (if applicable).

Details of upper floor public space(s) have not been determined. Additional detail will be provided in next submission..

Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.

Details of unit have not been determined, but will be spaced out accordingly and provided in next submission.

Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.

- •
- •
- •
- •

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 ensure that all buildings, sidewalks, parks, and open spaces are welcoming and usable to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

Article 80 | ACCESSIBILTY CHECKLIST - Updated October, 2019

For questions about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or contact our Architectural Access staff at:

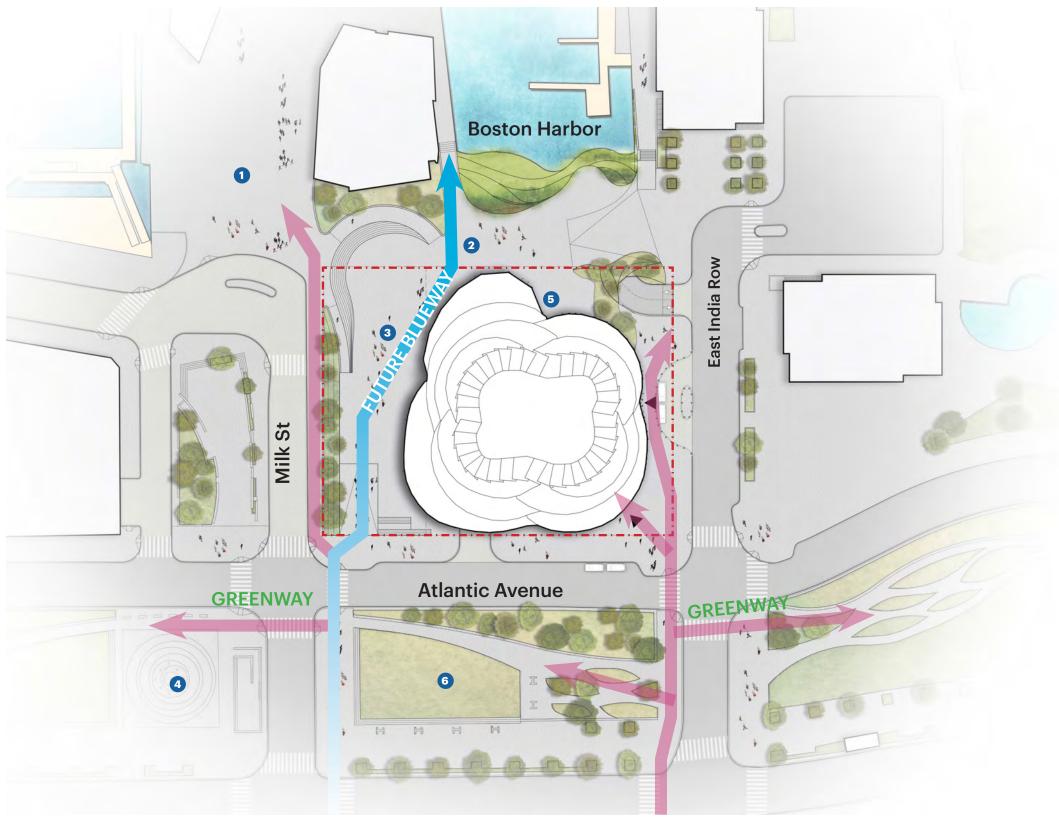
<u>ADA@boston.gov</u> | <u>patricia.mendez@boston.gov</u> | <u>sarah.leung@boston.gov</u> | 617-635-3682 (phone) | 617-635-2726 (fax) | 617-635-2541 (tty)

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

Updated: October, 2019

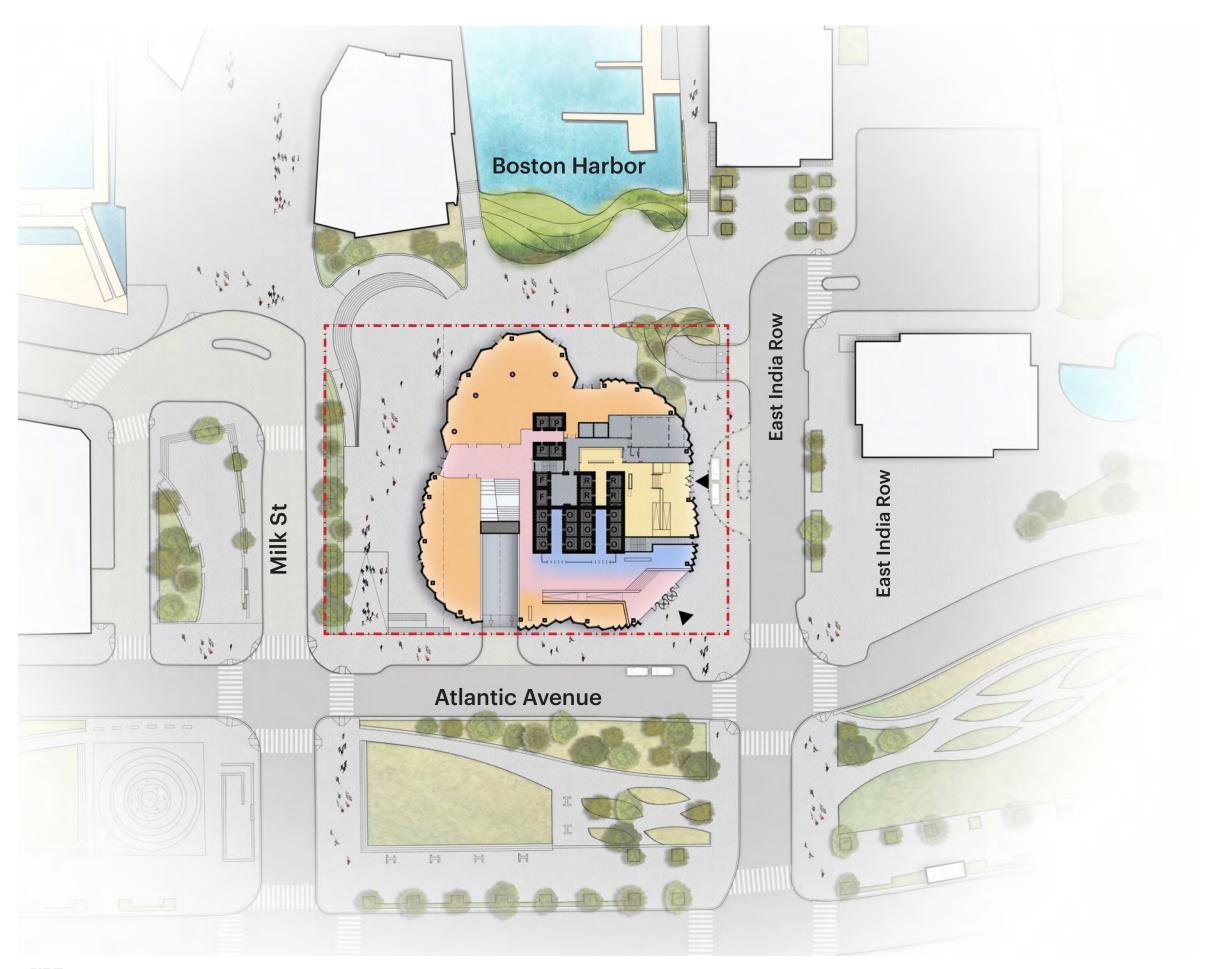
Public Space Network





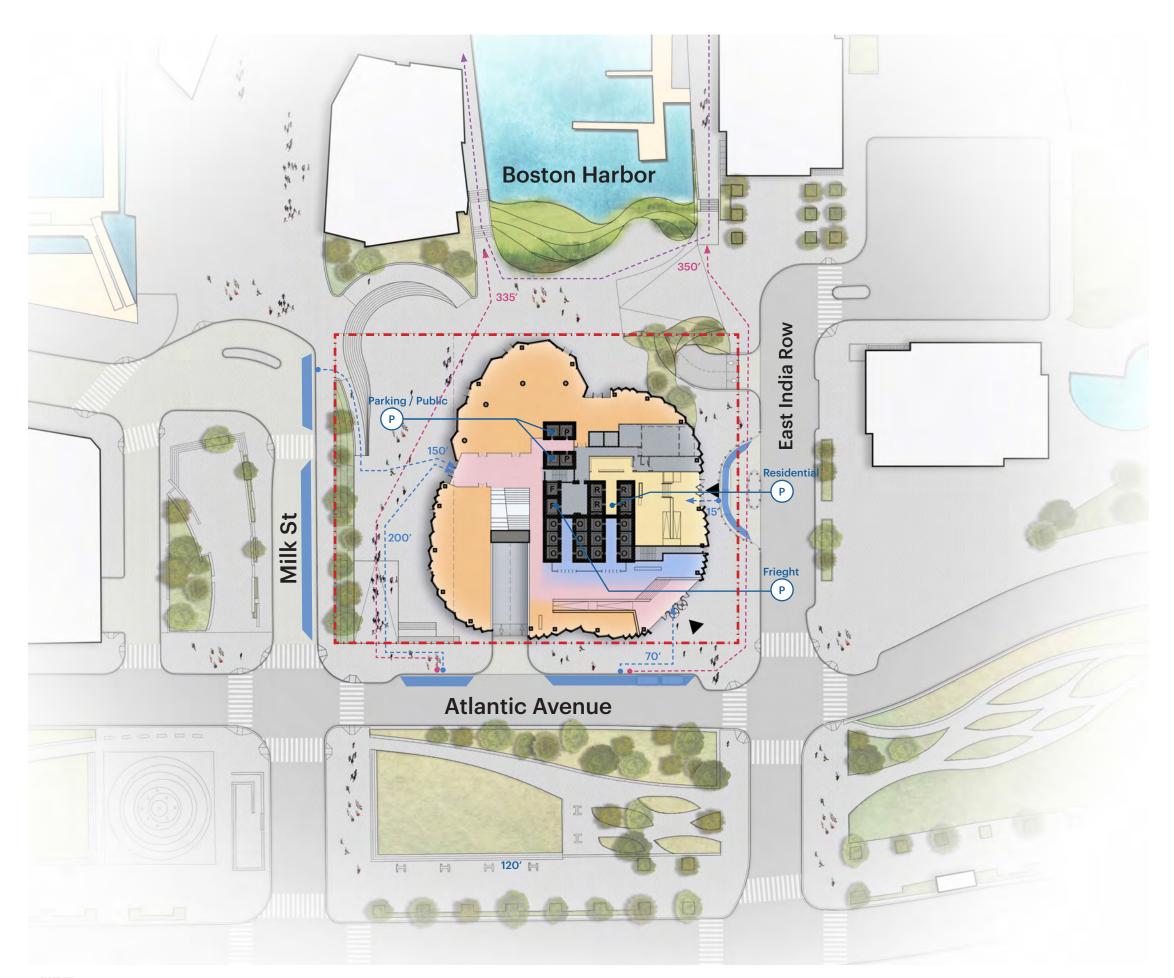
KPF

Ground Level Plan



KPF

Accessibility Diagram



Drop Off Area

Accessible Route + Distance

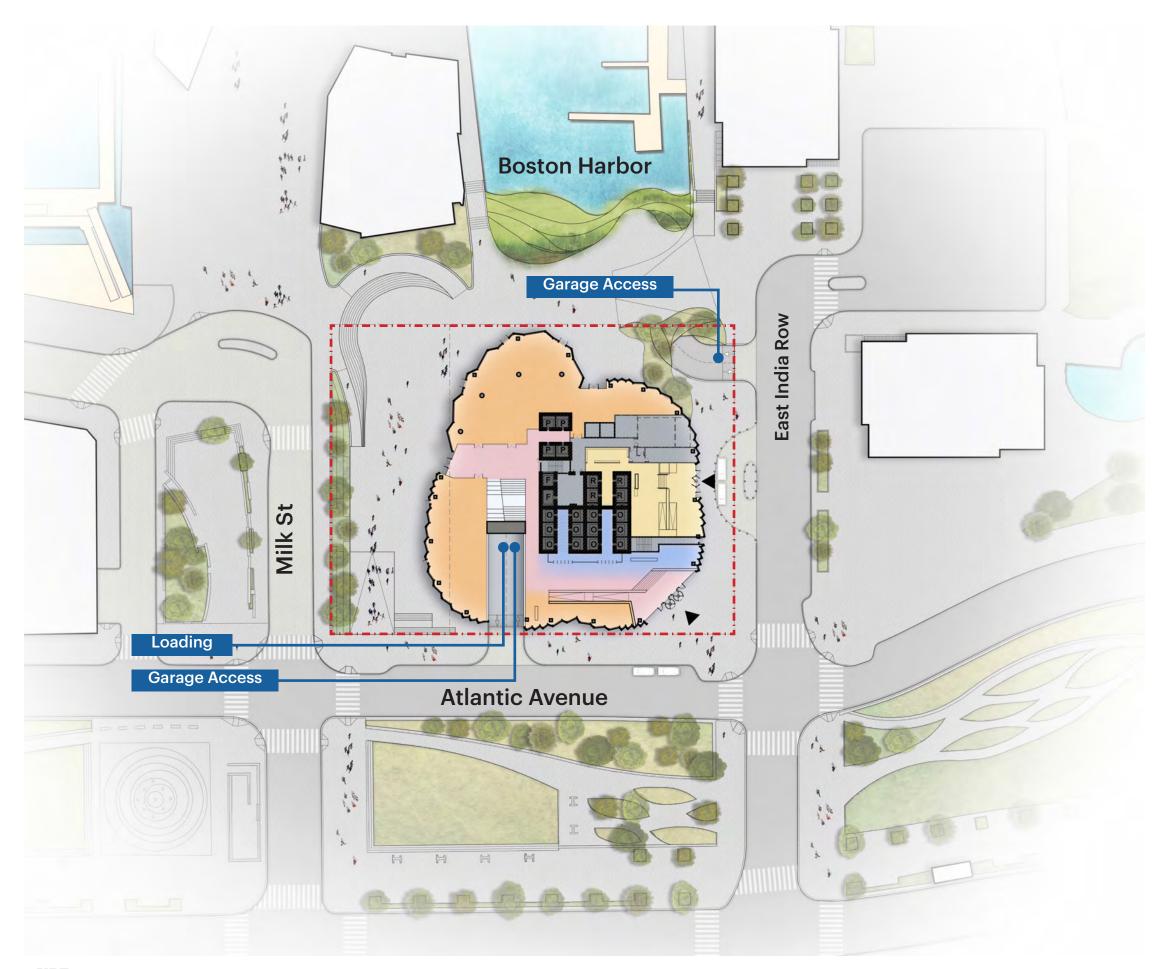
Accessible Route to Harborwalk + Distance

P

Harborwalk

Accessible Lift Lobby to Parking Garage

Site Access Plan



KPF 6

Appendix E

Smart Utilities Checklist



Date Submitted: 01/21/2020 17:12:23

Submitted by: erexford@epsilonassociates.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

<u>Note:</u> Any documents submitted via email to <u>manuel.esquivel@boston.gov</u> 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 The Pinnacle at Central Wharf

1.2 Project Address 70 East India Row (a/k/a) 270 Atlantic Avenue

1.3 Building Size (square feet) 864600

*For a multi-building development, enter total development size (square feet)

1.4 Filing Stage Initial Filing (i.e., PNF)

1.5 Filing Contact Information

1.5a Name John Schmid



1.5b Company Nitsch Engineering

1.5c E-mail jschmid@nitscheng.com

1.5d Phone Number 6173380063

1.6 Project Team

1.6a Project Owner/Developer RHDC 70 East India LLC c/o The Chiofaro Company

1.6b Architect Kohn Pederson Fox Associates PC

1.6c Permitting Epsilon Associates, Inc,

1.6d Construction Management TBD

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

2.1 Consultant Assessing/Designing District Energy Microgrid (if applicable)	Not Applicable

2.2 Latest document submitted



2.3 Date of latest submission				
2.4 Which of the following have you had engagement/review meetings with regarding District Energy Microgrids? (select all that apply)				
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)				
2.6 Additional Information				
Part 3 - Telecommunications Ut	ilidor			
Fill out this section if the proposed project's than 1.5 million square feet OR if the project 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.esquive	el@boston.gov			
3.1 Consultant Assessing/Designing Telecom Utilidor (if applicable)	Not Applicable			
3.2 Date Telecom Utilidor Map/Diagram was submitted				
3.3 Dimensions of Telecom Utilidor (include units)				



3.3a Cross-section (i.e., diameter, width X height)				
3.3b Length				
3.4 Capacity of Telecom Utilidor (i.e., number of interducts, 2 inch (ID) pipes, etc.)				
3.5 Which of the following have you had engagement/review meetings with regarding the Telecom Utilidor? (select all that apply)				
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)				
3.7 Additional Information				
Part 4 - Green Infrastructure	s total davalance est size is assual to as greater			
than 100,000 square feet.	s total development size is equal to or greater			
Please submit a map/diagram highlighting where on the development Green Infrastructure will be installed.				
Please email submission to manuel.esquive	el@boston.gov			
4.1 Consultant Assessing/Designing Green Infrastructure (if applicable)	Nitsch Engineering			
4.2 Date Green Infrastructure Map/Diagram was submitted				



4.3 Types of Green Infrastructure included in the project (select all that apply)	Rainwater Reuse/Stormwater Recharge Systems
4.4 Total impervious area of the development (in square inches)	8257825
4.5 Volume of stormwater that will be retained (in cubic inches)*	10322280
*Note: Should equal to at least "Total impervious area (entered in section 4.4)" times "1.25 inches"	
4.6 Which of the following have you had engagement/review meetings with regarding Green Infrastructure? (select all that apply)	None to date
4.7 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding Green Infrastructure? (Optional: include dates)	None to date
4.8 Additional Information	Will be coordinated with the Boston Water and Sewer Commission through the Site Plan Approval process.

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.

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

Not Applicable



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

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)	Nitsch Engineering
6.2 Date Smart Street Lights Map/Diagram was submitted	
6.3 Which of the following have you had engagement/review meetings with regarding Smart Street Lights? (select all	
that apply)	None to date
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)	None to date
	If required, Smart Street Lights infrastructure will be coordinated with Boston Street Lighting during the PIC
6.5 Additional Information	process.

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.

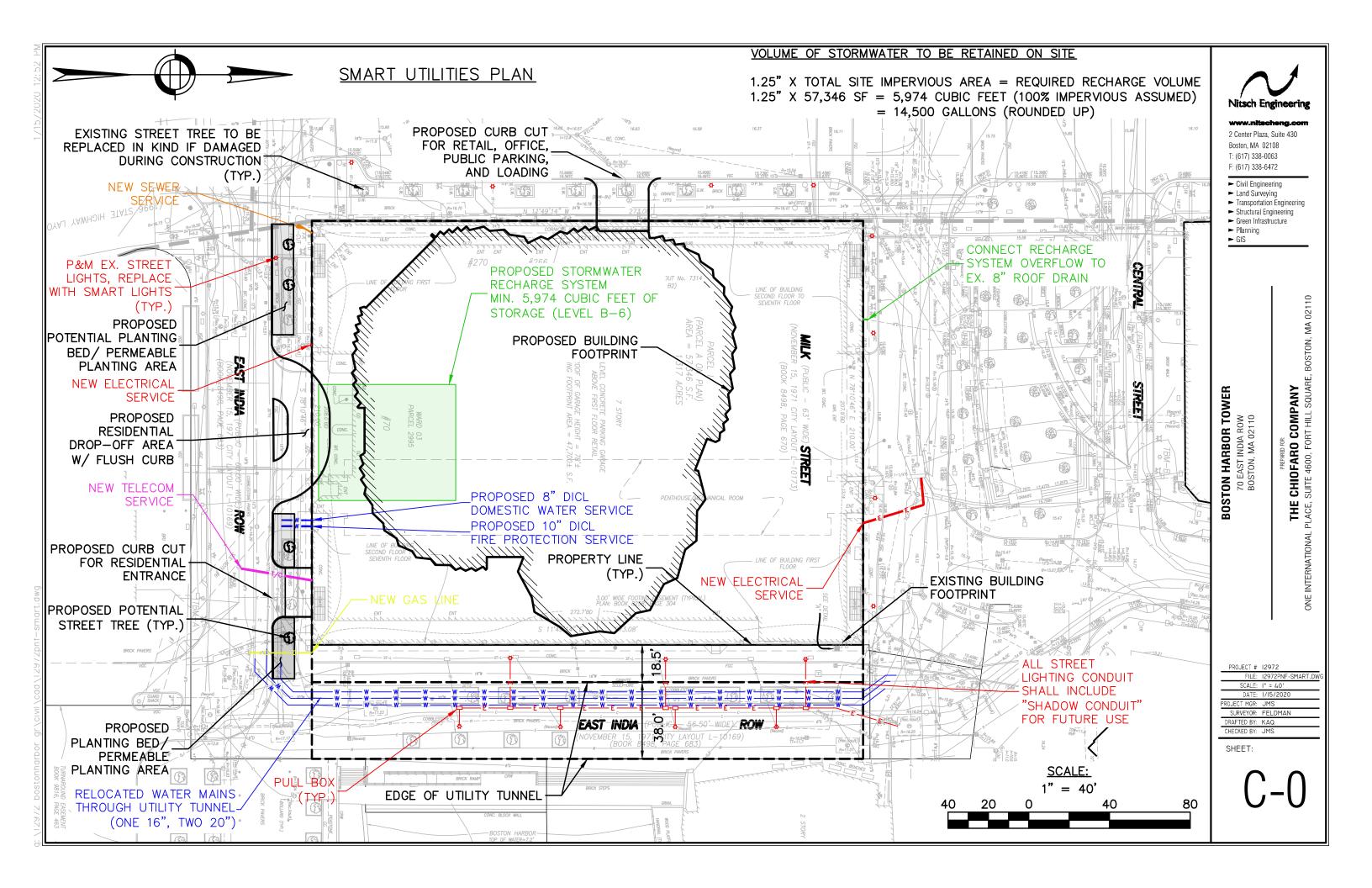
Please submit typical below and above grade cross section diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

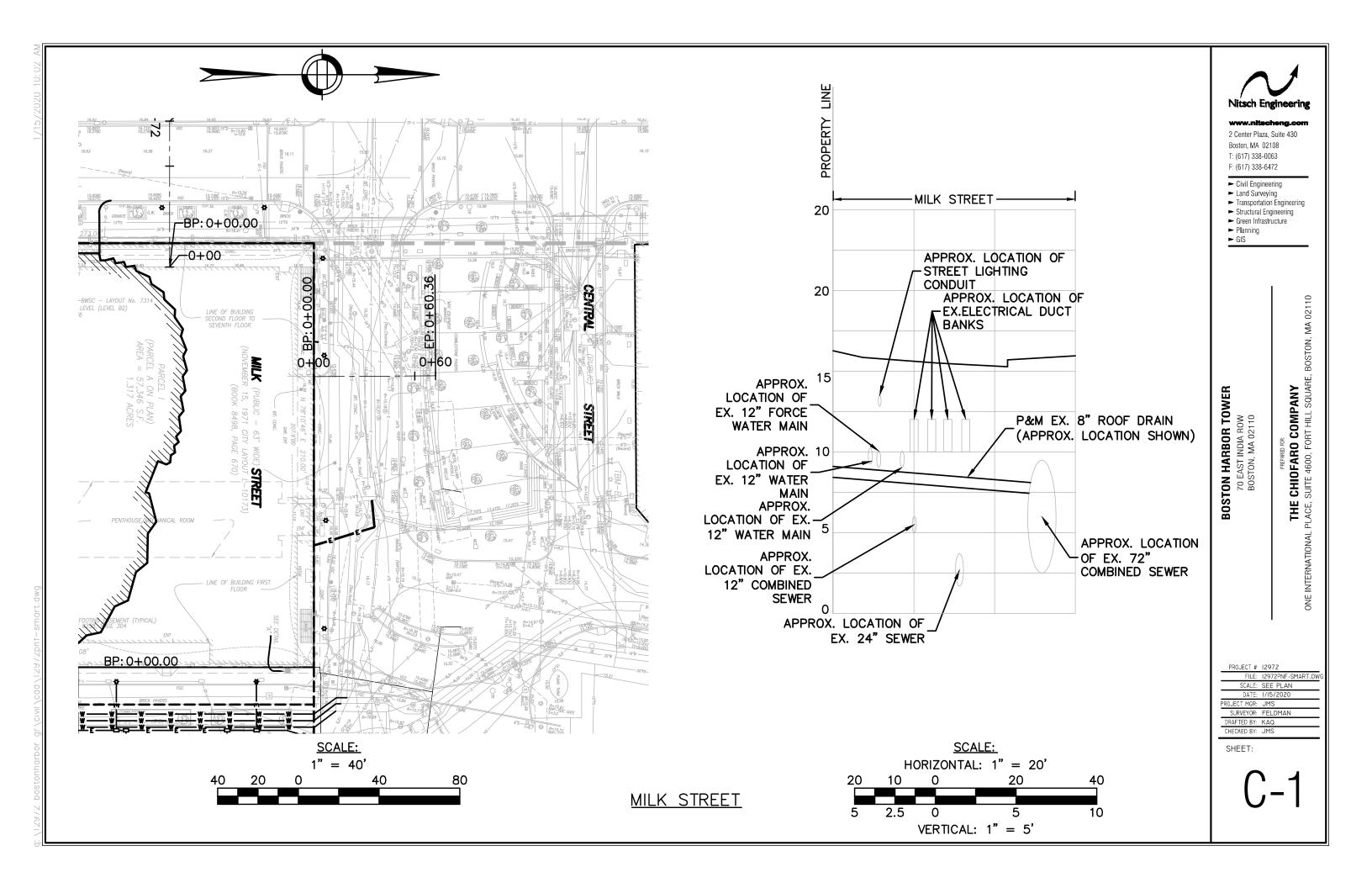
Please submit typical below and above grade lateral diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

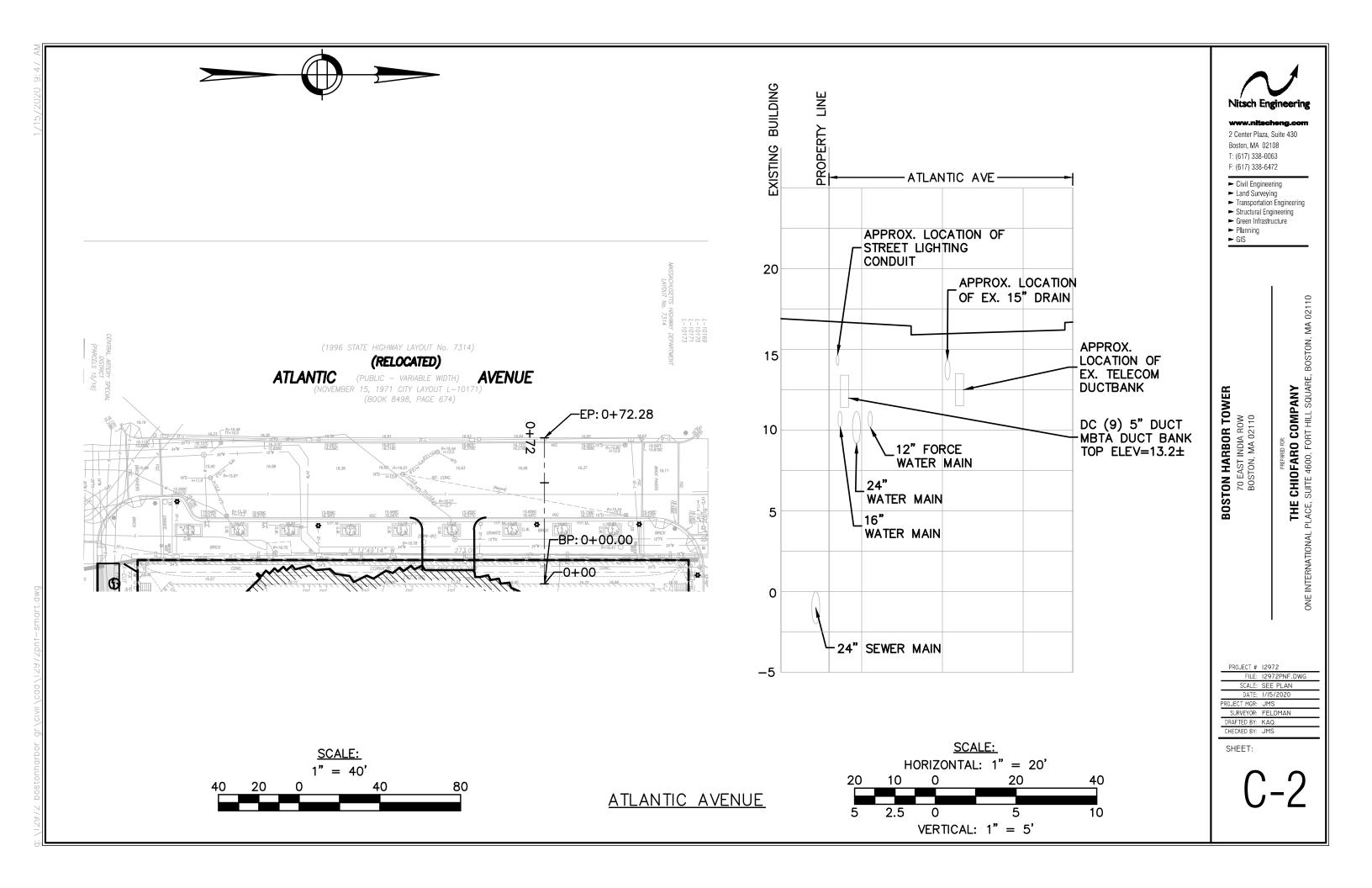


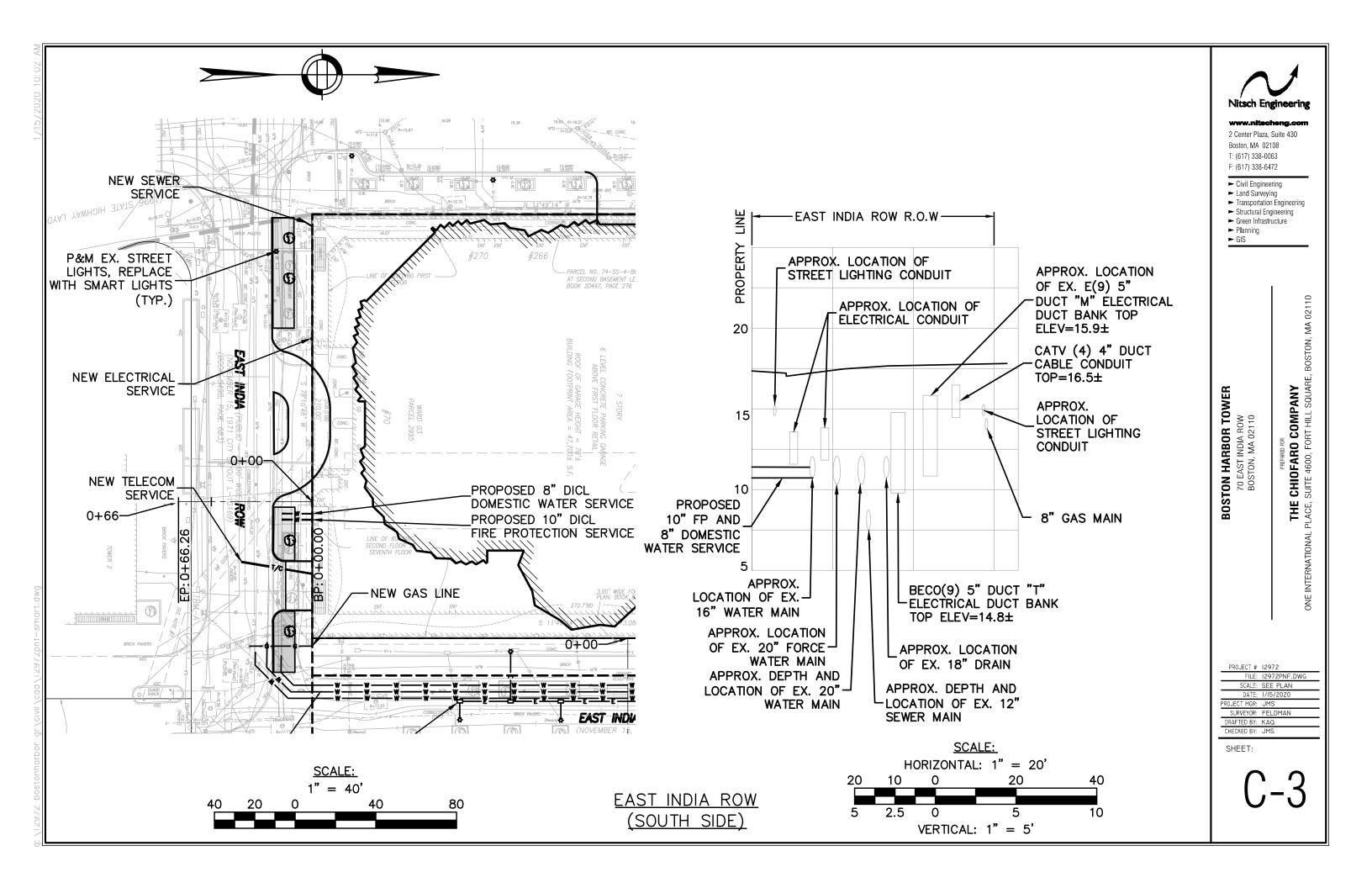
Please email submission to manuel.esquivel@boston.gov

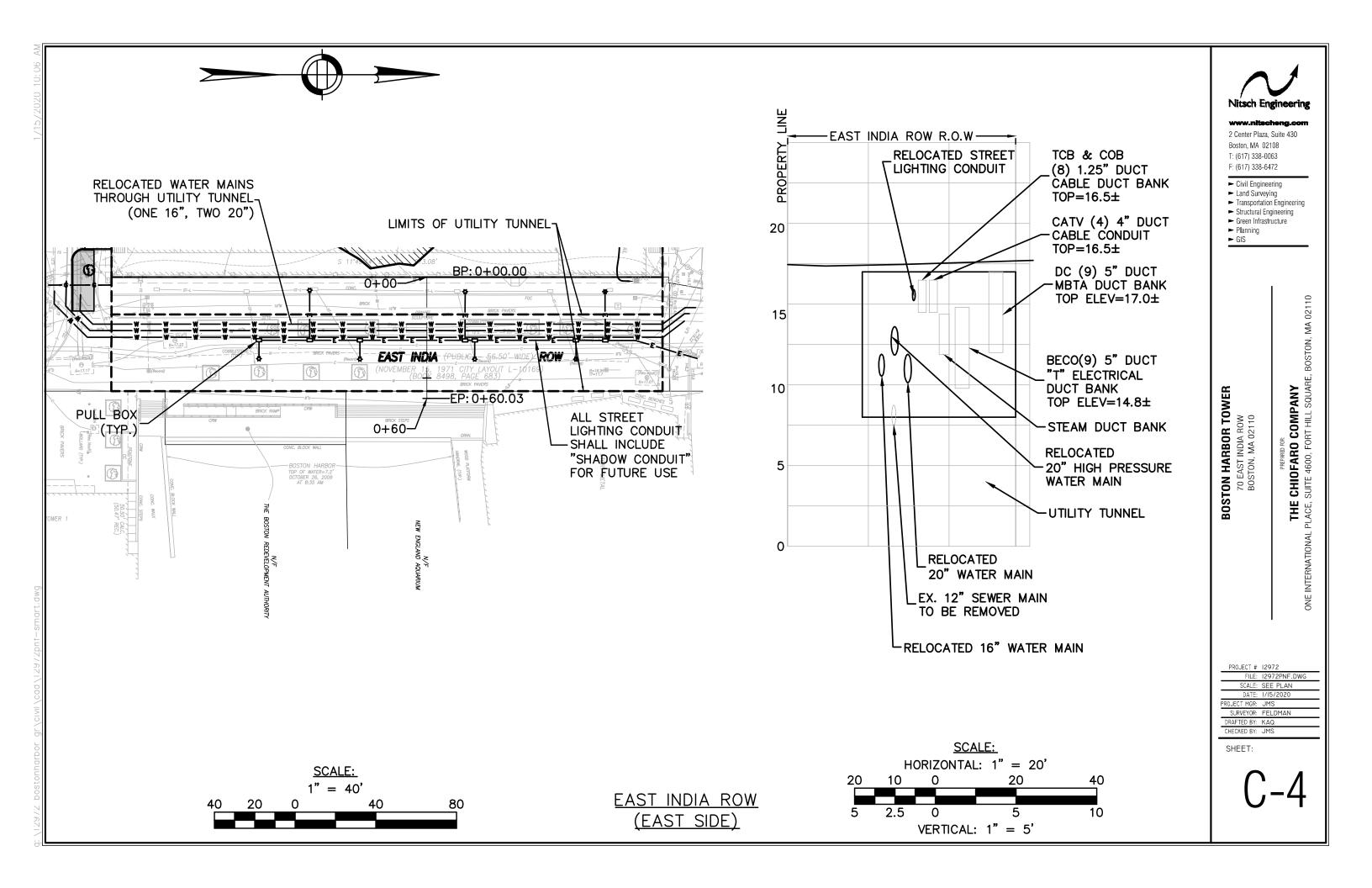
7.1 Date Cross Section Diagram(s) was submitted	
7.2 Date Lateral Diagram(s) was submitted	
7.3 Additional Information	











Appendix F

Broadband Checklist

34				01/21/2020 12:38:09
34		Form Publisher		01/21/2020 12:38:08
		Template		
		Tompiato		
01/21/2020				
				100 E
This is a simple template	document automatically g	enerated by Form Publisher.		<u></u>
Feel free to personalize it				
			r	ormPublisher
Overations list.				
Questions list:				
Project Name::				
Project Address Additional:				
Project Address Additional: : Project Contact (name / Title /				
Company / email / phone): :				
Expected completion date:				
	RHDC 70 East India LLC c/o			
Owner / Developer:	The Chiofaro Company			
Architect:	Kohn Pedersen Fox Associates PC			
Engineer (building systems)::	Cosentini Associates			
Permitting::	Epsilon Associates, Inc.			
Construction Management:	TBD			
Number of Points of Entry:	Two Entry Locations			
	Atlantic Avenue and Milk			
Locations of Points of Entry:	Street			
Quantity and size of conduits:	Four (4) at 4 inches each			
Location where conduits connect (e.g. building-owned				
manhole, carrier-specific				
manhole or stubbed at property line) :	TBD			
Other information/comments:				
Do you plan to conduct a				
utility site assessment to				
identify where cabling is located within the street? This				
information can be helpful in				
determining the locations of POEs and telco rooms.				
Please enter 'unknown' if				
these decisions have not yet been made or you are				
presently unsure.:	Yes			
Number of risers:	One			
Distance between risers (if more than one):	Not Applicable			
more than one).	TBD, currently programmed a	4		
Dimensions of riser closets:	6'X4'			
Riser or conduit will reach to	.,			
top floor : Number and size of conduits	Yes			
or sleeves within each riser:	TBD			
	Located in a dedicated room			
Proximity to other utilities (e.g. electrical, heating):	with core and other MEP elements			
Other information/comments:	CICITICITIS			
Care iniornation/comments.	TBD, currently programmed a	<u> </u>		
What is the size of the telecom room?:	15' X 10', located above flood level			
Describe the electrical				
capacity of the telecom room (i.e. # and size of electrical	TBD, will be determined			
circuits):	during detailed design			

Will the telecom room be located in an area of the building containing one or			
more load bearing walls?: Will the telecom room be	No		
climate controlled? :	Yes		
If the building is within a flood- prone geographic area, will the telecom equipment will be located above the floodplain?:	Yes		
Will the telecom room be located on a floor where water or other liquid storage is present?:	Yes		
Will the telecom room contain a flood drain?:	Unknown		
Will the telecom room be single use (telecom only) or shared with other utilities?:	Yes		
Other information/comments:			
Will building/developer supply common inside wiring to all floors of the building? :	Yes		
If yes, what transmission medium (e.g. coax, fiber)? Please enter 'unknown' if these decisions have not yet been made or you are presently unsure.:	TBD based on detailed design		
Is the building/developer providing wiring within each unit?:	Unknown		
If yes, what transmission medium (e.g. coax, fiber)? Please enter 'unknown' if these decisions have not yet been made or you are presently unsure.:	TBD based on detailed design		
Will the building conduct any RF benchmark testing to assess cellular coverage?:	Unknown		
Will the building allocate any floor space for future in- building wireless solutions (DAS/small cell/booster equipment)?:	Unknown		
Will the building be providing an in-building solution (DAS/ Small cell/ booster)? :	Unknown		
If so, are you partnering with a carrier, neutral host provider, or self-installing?:			
Will you allow cellular providers to place equipment on the roof?:	No		
Will you allow broadband providers (fixed wireless) to install equipment on the roof?	No		
Will you allow broadband providers (fixed wireless) to install equipment on the roof?	No		
Date contacted:			
Does Comcast intend to serve the building?:	Unknown		
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Date contacted:			

Does RCN intend to serve the			
building?:	Unknown		
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Date contacted:			
Does Verizon intend to serve the building?:	Unknown		
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Date contacted:			
Does netBlazr intend to serve the building?:	Unknown		
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Date contacted:			
Does WebPass intend to serve the building?:			
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Date contacted:			
Does Starry intend to serve the building?:	Unknown		
Transmission Medium:	Unknown		
If no or unknown, why?:	This outreach will begin with the detailed design phase of the Project		
Do you plan to abstain from exclusivity agreements with broadband and cable providers?:	Unknown		
Do you plan to make public to tenants and prospective tenants the list of broadband/cable providers who serve the building?:	Yes		