PROJECT NOTIFICATION FORM

NEXUS at The Allston Innovation Corridor

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

Submitted by:
King Street Properties
800 Boylston Street, Suite 1570
Boston, MA 02199

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

In Association with:
Mugar Enterprises, Inc.
The DiStefano Family
DiMella Schaffer
Goulston & Storrs
Howard Stein Hudson
enviENERGY Studio

November 6, 2018

Epsilon
ASSOCIATES INC.

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Chapter 1.0

Project Description

1.0 PROJECT DESCRIPTION

1.1 Introduction

King Street Properties (the Proponent), in partnership with Mugar Enterprises, Inc. and the DiStefano family, propose to redevelop two parcels located at 305 Western Avenue and 250-280 Western Avenue in the Allston neighborhood of Boston (the Project site). The DiStefano family has owned the majority of the Project site for over 50 years and operated it as an autobody shop along with other industrial and auto-related uses. As the uses along Western Avenue have transitioned from intensive, industrial uses, the family recognized that the current uses are outdated and began a process to determine how the family wanted to redevelop the Project site. After meeting with Mugar Enterprises and King Street Properties, which has a long track record of success in life science development, the family determined that a project anchored by an innovative commercial research and development use was the best direction for the future reuse of the Project site.

The redevelopment, known as NEXUS - The Allston Innovation Corridor, will renew and revitalize the Western Avenue corridor with a mixed-use development anchored by state-of-the-art research facilities, new residential opportunities, open space, and active ground-floor uses such as retail and restaurant uses (the Project). Overall, the Project will include approximately 539,400 square feet (sf) of laboratory/research and development/office space, 40 residential units, 21,100 sf of retail/restaurant space, and 1,900 sf of civic space.

The approximately 4.3-acre Project site currently contains outdated industrial and auto-related uses, with approximately 20 curb cuts/driveways of varying widths along Western Avenue, Riverdale Street, Everett Street, and McDonald Avenue. The Project will reduce the total number of curb cuts to three, and will eliminate all curb cuts on Western Avenue, which will significantly improve vehicle and pedestrian safety adjacent to the Project site and eliminate pedestrian-vehicle conflict points. The streetscape will be improved with active ground-floor uses such as restaurant and retail uses, wider sidewalks, and new street trees and lighting. As part of the streetscape improvements, the Project will create a protected eastbound bike lane along its frontage, extending uninterrupted to Riverdale Street. Approximately 19,000 sf of property within the Project site will be dedicated to streetscape improvements. The Project will also include a new open space including a pocket park and visual connection between the axis of Speedway Avenue to the north and Westford Street/Everett Square to the south. Known as Artists' Way, this space will celebrate the vibrant artists' community in Allston, and may include art installations commissioned by local artists.

The Project will be home to innovative biotechnology research companies, working to discover cures for diseases that affect the global population. The scale of the Project will help foster a collaborative ecosystem for emerging companies to grow and expand as they

advance their research. The Proponent is expert at accelerating emerging nodes such as the life science cluster that is developing in this area, and has a successful track record of attracting growing life science companies to areas outside of Kendall Square.

In addition to the benefits to the public realm, the Project will create hundreds of new permanent jobs and construction jobs, new housing opportunities, including affordable units, and improved tax revenues for the City. The new permanent jobs will include employment opportunities at all levels from vocationally trained technicians to those holding advanced degrees.

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

1.2 Existing Site and Area Context

The Project site consists of two parcels with a combined site area of approximately 4.3 acres. One parcel, 305 Western Avenue, is located at the northeasterly corner of Western Avenue and Everett Street and consists of approximately 1.05 acres. The second parcel, 250-280 Western Avenue, extends along Western Avenue from Riverdale Street west to the Century Bank building at 300 Western Avenue and south to Westford Street and consists of approximately 3.24 acres. All existing buildings on the Project site will be demolished. The Project site currently contains a variety of outdated industrial and auto-related uses, including Stadium Autobody, Enterprise Rental, residential uses, restaurant uses and surface parking areas used by various construction and industrial operators for diesel truck and supply storage. Fairly recently, the Project site was also used as an automotive tow yard, where over 20,000 cars per year were towed and/or stored on the site. See Figure 1-1 for an aerial locus map, and Figures 1-2 to 1-4 for photographs of existing conditions on the site.

Western Avenue is undergoing a transformation and becoming a vibrant mixed-use corridor. Many of the recent development projects in the area have focused on either multi-family housing or institutional uses for Harvard University. The Project will transform the Project site from its existing outdated uses and will provide a necessary commercial/mixed-use component at a critically important section of Western Avenue between Barry's Corner and Everett Street. The Project will be an employment center that will provide local jobs at all education and skill levels. The location of the Project site also provides an opportunity to improve pedestrian and bicycle connections between the residential neighborhoods south of and along Western Avenue and the Charles River and Herter Park.

The Project site enjoys excellent local and regional roadway access due to proximity to North Harvard Street, Soldiers Field Road and the Massachusetts Turnpike. The Project is conceived as a comprehensive, fully-integrated development centered near MBTA bus and public transit. The Project site is located in close proximity to several bus routes and is approximately 0.6 miles from the Boston Landing MBTA Commuter Rail station.

1.3 Project Description

The Project will transform an underdeveloped and outdated streetscape into a dynamic hub of research, residential housing, and retail activity. As shown in Table 1-1 below, the Project is comprised of three buildings containing approximately 539,400 sf of laboratory/research and development/office space, approximately 21,100 sf of ground floor retail space, 40 residential units, and 1,900 sf of civic space, which may include art uses. The amount of ground floor retail/restaurant space is subject to refinement, and will be determined based on market conditions at the time of construction. The Project also will include approximately 884 parking spaces. A portion of the parking supply allocated to employees in the 305 Western Avenue building will be located in the structured parking garage at 280 Western Avenue. These employees will be able to safely cross Western Avenue at the Everett Street intersection. An aerial view of the proposed Project is presented in Figure 1-5, and a site plan is presented in Figure 1-6. Floor plans, sections, and elevations are included in Appendix A.

Table 1-1 Project Program

Project Element[1]	250 Western Ave. Building	280 Western Ave. Building	305 Western Ave. Building	Total
Laboratory/Research and Development/Office	319,000 sf	None	220,400 sf	539,400 sf
Retail/Restaurant	6,000 sf	5,500 sf	9,600 sf	21,100 sf
Civic Space[2]		1,900 sf		1,900 sf
Residential		45,500 sf / 40 units		45,500 sf / 40 units
Gross Floor Area[3]	**325,000 sf**	**52,900 sf**	**230,000 sf**	**607,900 sf**
Zoning Height[4]	7 stories / 130 feet	5-6 stories / 60-72 feet	6 stories / 116 feet	
Parking Spaces[5]	146 spaces	557 spaces	181 spaces	884 spaces

1 - To be developed in multiple buildings, each of which can be developed together or independently of the other. Consistent with the uses as detailed above, the mix of uses constructed will be in response to evolving market conditions and the uses and Project details are subject to refinement.

2 - Civic space may include art uses.

3 - Excluding below-grade space, parking, ramps, mechanical space and interior bike storage space.

4 - As defined in Article 2 of the Boston Zoning Code. The heights for the 250 and 305 Western Avenue buildings include 20-foot laboratory support penthouses.

5 - Parking spaces at the various buildings may service uses in some or all of the buildings at the Project.

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 1-1

Aerial Locus Map

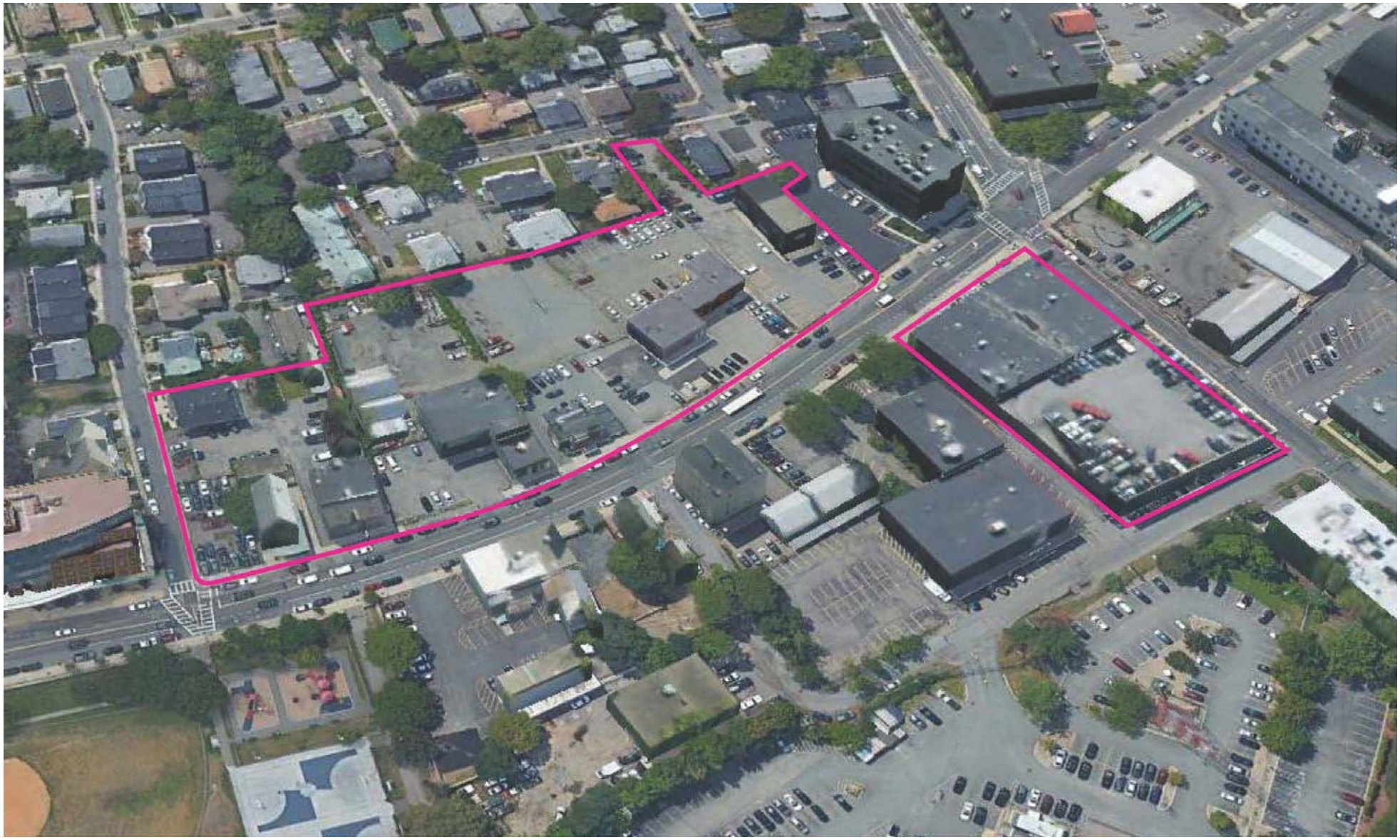


Figure 1-2
Aerial View of Existing Conditions

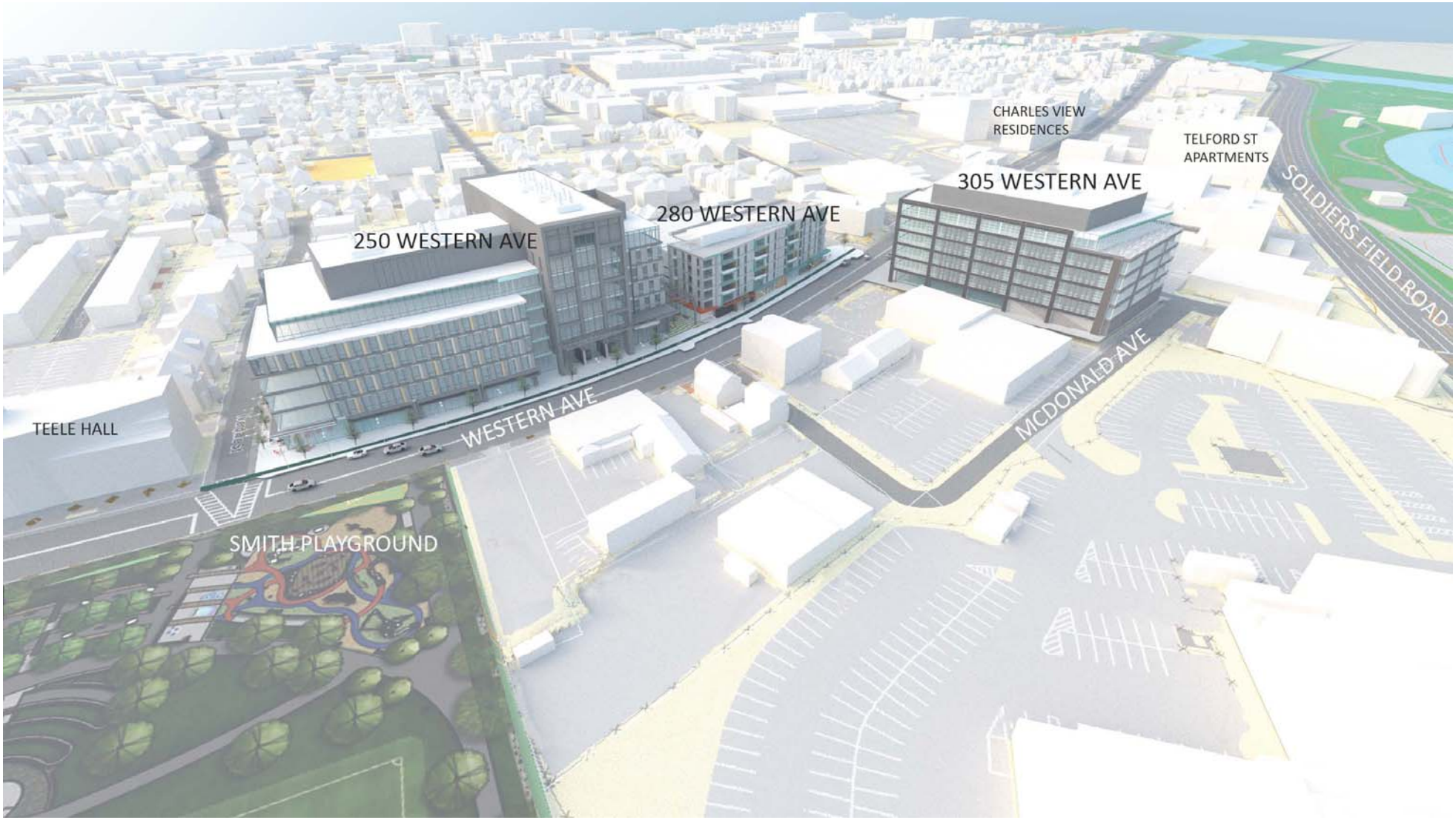
NEXUS at The Allston Innovation Corridor Boston, Massachusetts

DIMELLA SHAFFER

Figure 1-3

Existing Conditions – Western Avenue and Everett Street Facing East

Figure 1-4
Existing Conditions – Western Avenue Facing West



NEXUS at The Allston Innovation Corridor Boston, Massachusetts

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Figure 1-5
Aerial View of Project

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

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Figure 1-6

Proposed Site Plan

The Project aims to further the North Allston-Brighton Community Wide Plan and Imagine Boston vision for a vibrant mixed-use urban corridor along Western Avenue. The placement of the buildings on the Project site was informed by how the community could move through the to be redeveloped site in order to create potential pedestrian connections to and through the Project site.

Pedestrian, bicycle, and automobile connections on Western Avenue were studied from Charles River to the east to Market Street to the west. The Project site is envisioned as a nexus between the height and scale of the existing and future taller academic buildings to the east and the 5-6 story residential buildings to the west. The length of the Project site provides an opportunity for significant improvements to the streetscape from Teele Hall and Riverdale Street to Everett Street, visually extending the Barry's Corner redevelopment and public realm enhancements further west. The north south link along Everett Street from Herter Park to Boston Landing was also considered in order to understand opportunities to improve access along that route (see Figure 1-7). As shown in Figure 1-8, the number of stories and height of the buildings is consistent with the scale of other current and future projects along Western Avenue.

As a result of the analysis of how pedestrians move through the site area and existing connections to public transit, it was determined that the east-west pedestrian travel could be improved by an enhanced sidewalk and significant reduction of the 20 curb cuts that currently exist on the Project site. The north-south pedestrian travel could also be improved through an increased sidewalk width along Everett Street from Western Avenue to Soldiers Field Road. The building façade of 305 Western Avenue will be pulled back on Everett Street approximately three feet from where the existing Stadium Autobody building is located to allow for a wider sidewalk and improved connection to Herter Park. Most importantly, connections to the Westford Street neighborhood directly to Western Avenue could be made through the Project site, if desired by the residents of the neighborhood to the south.

Bicycle routes through the site area were also considered. Currently, there are dedicated bike lanes on Western Avenue both east and west of the Project site. Shared bike lanes are noted in the westbound travel lane of Western Avenue. The Project proposes to create a protected eastbound bike lane along the Project frontage on the southern, eastbound side of Western Avenue, extending uninterrupted to Riverdale Street. Along the northern, westbound side of Western Avenue, the Project will preserve the necessary right-of-way for a protected bike lane adjacent to 305 Western Avenue. As shown in Figure 1-9, the 250 and 280 Western Avenue building façades will be set back from the property line to create a full streetscape similar to what has been proposed at the Harvard Enterprise Research Campus to the east with enhanced sidewalks. The south curb line along Western Avenue is proposed to create a street parking and rideshare drop-off zone, a protected bike lane, and a sidewalk with tree wells and a planting zone.

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

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Figure 1-7
Site Analysis

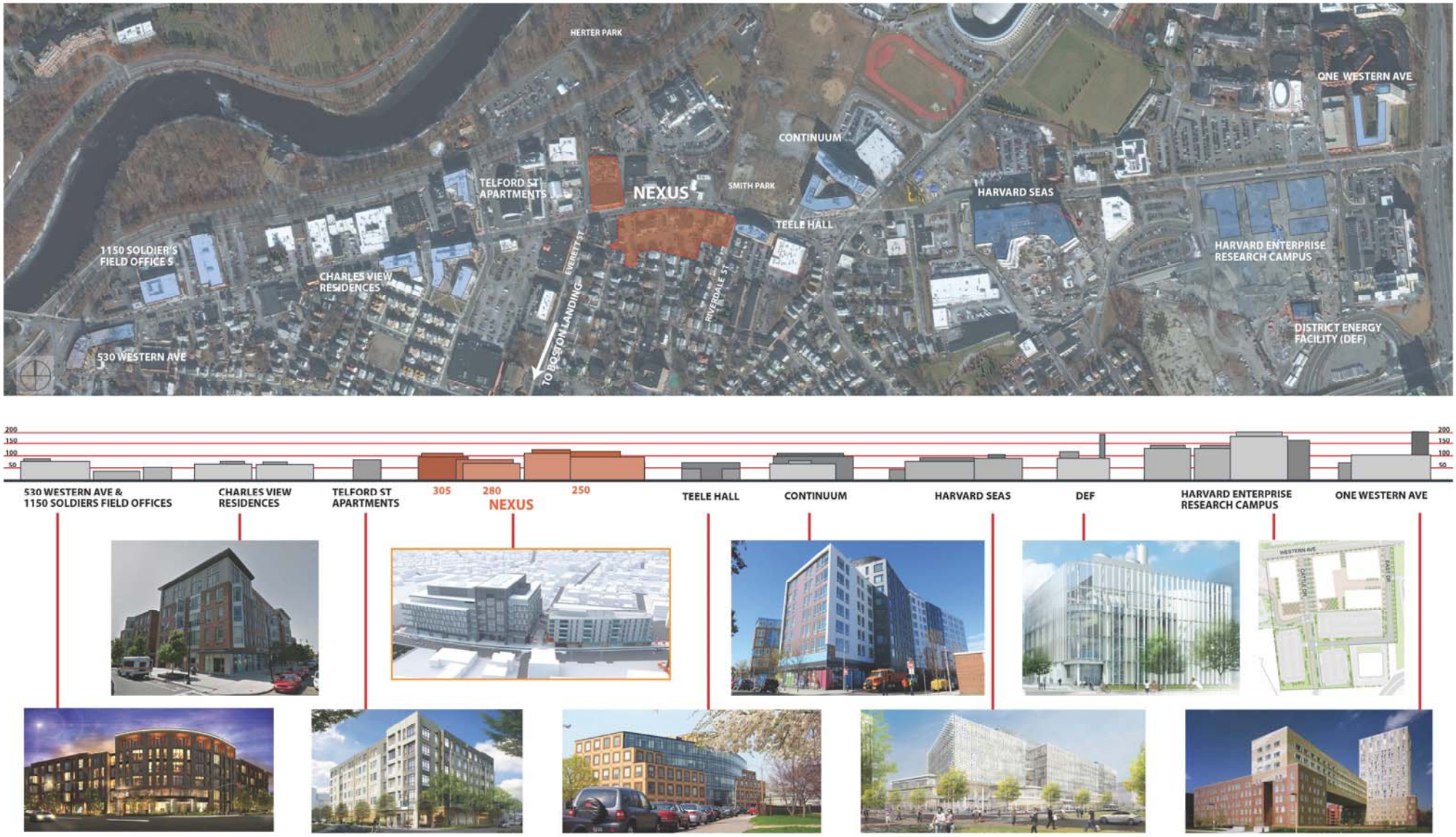

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Figure 1-8
Neighborhood Context

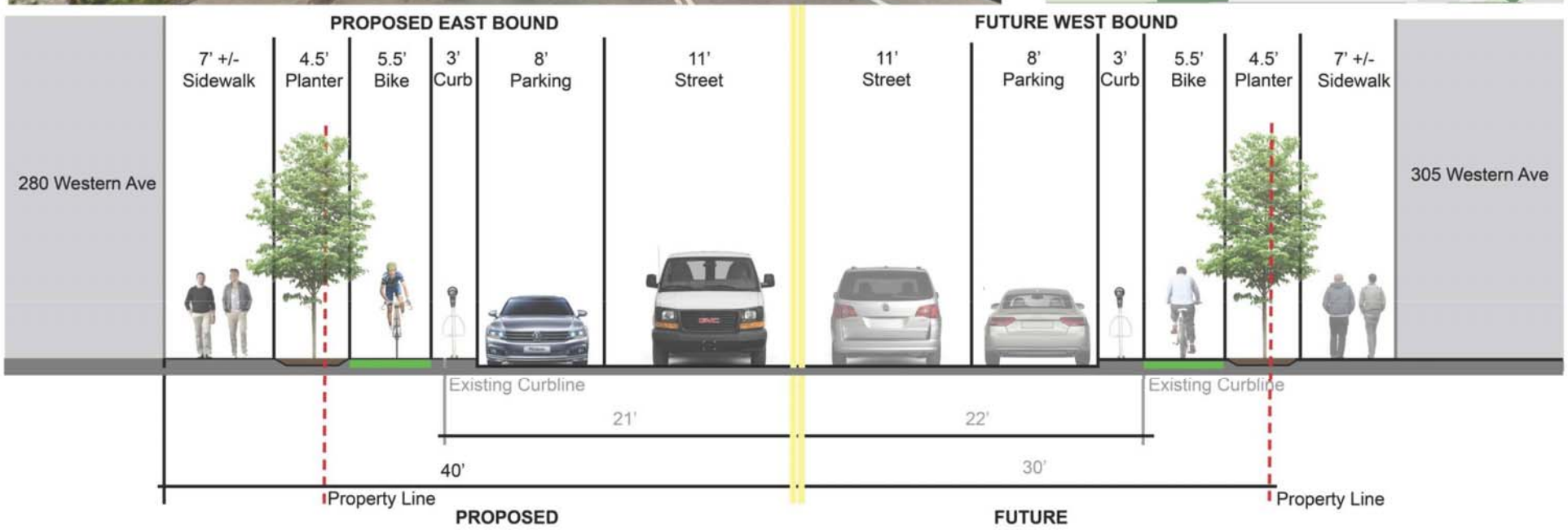

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Figure 1-9

Proposed Western Avenue Street Section

Open Spaces

In addition to the enhanced public streetscape and widened sidewalks, the Project will include two significant open spaces on the site.

Artists' Way will be located between the 250 and 280 Western Avenue buildings and will include outdoor seating, art installations, and green space that will abut the civic space to be provided as part of the Project program. This approximately 8,000 sf open space will create a visual and pedestrian connection between the axis of Speedway Avenue to the north and Westford Street/Everett Square to the south, encouraging pedestrian access through the center of the Project site. Artists' Way can be physically connected to the neighborhood to the south if desired by the residents. The Proponent intends to activate Artists' Way by engaging with the artist community for art installations, with ground floor restaurant/café uses that will spill out into the open space, and active programming such as food truck events (see Figure 1-10). The Proponent is seeking input from the Allston Artist's community to fully develop the final vision for the space. This space is being named Artists' Way in order to celebrate the vibrant artist community in Allston. The neighborhood of Allston is named for Washington Allston, a 19th Century painter and poet of the Romantic Landscape era. That focus on art in Allston is alive today and apparent to all who visit. The science community has a strong appreciation and synergy with the arts, as discovery is at the heart of success in both professions.

Westford Park will be located on the portion of the site that currently contains a surface parking lot that connects Westford Street with the southern parcels. This approximately 5,000 sf open space will be open to the public and accessible from Westford Street, and is envisioned as landscaped space that will serve as an amenity for both the building tenants and the residential community.

250 Western Avenue

The proposed 250 Western Avenue building, located at the corner of Riverdale Street and Western Avenue, will be an approximately seven-story laboratory/research and development/office building with active ground floor uses such as retail/restaurant space and approximately 146 below-grade parking spaces. There will be two retail/restaurant spaces totaling approximately 6,000 sf. One retail space will be located at the corner of Western Avenue and Riverdale Street, with the main entrance on Western Avenue. Another retail space will be located at the western edge of the building, along Western Avenue and Artists' Way. The primary entrance to the lobby of the research building will be located on Western Avenue, with an additional entrance on Artists' Way. All parking and loading will be accessed in the rear of the site, away from Western Avenue.

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

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Figure 1-10
View of Artists' Way

280 Western Avenue

The proposed 280 Western Avenue building, located to the west of 250 Western Avenue on the other side of Artists' Way, will be approximately six stories along Western Avenue with retail/restaurant space on the ground floor, and approximately 40 residential units above. The building will then step down to five stories to the rear, containing approximately 557 parking spaces in an above and below-grade garage. The ground floor frontage of the building along Western Avenue will be lined with retail and restaurant uses that will active the public realm. The parking garage and lower level parking entrance will be located along a service drive that will be accessed via an access easement from the parcel adjacent to the western edge of the site. The garage is designed to be as compact as possible, with screening elements facing the residential neighborhood (see Figure 1-11). Along the southern edge of the Project site, there will be approximately 10,000 sf of landscaped buffer area between the Project and the residential neighborhood to the south of the site.

305 Western Avenue

The proposed 305 Western Avenue building, located at the northeastern corner of Western Avenue and Everett Street, will be an approximately six-story laboratory/research and development/office building with ground floor retail/restaurant space along Western Avenue. Along Everett Street, the building will be set back an additional approximately three feet compared to existing conditions to allow a wider sidewalk and an improved connection to Herter Park. Along Western Avenue, the ground floor is pulled back to allow for outdoor seating that will activate the streetscape, and to create a larger pedestrian space at the Western Avenue and Everett Street intersection. The Project is also pulled back in order to preserve the necessary right-of-way for a protected bike lane on Western Avenue adjacent to the 305 Western Avenue building. All main entrances will be on Western Avenue. Loading and parking will be accessed from McDonald Avenue.

1.4 Public Benefits

The Project will transform nearly four acres of outdated industrial and auto-related uses on Western Avenue with a mixed-use development that will provide many public benefits for the surrounding neighborhood and the City of Boston as a whole, both during construction, and on an ongoing basis upon its completion. These benefits include urban design and public realm improvements, job opportunities, affordable housing, exaction payments, and additional tax revenues. Specific public benefits include:

Figure 1-11

View from Westford Street Facing North

Urban Design and Public Realm Benefits

- Create Artists' Way, an approximately 8,000 square foot open space, which will include outdoor seating and will create a visual connection between Westford Avenue/Everett Square north to Speedway Avenue. The Proponent will collaborate with the local artist community in the creation of potential art installations in this space.

- Create Westford Park, an approximately 5,000 square foot open space that will connect Westford Street with the southern parcels. This open space is envisioned as landscaped space that will serve as an amenity for both the building tenants and the residential community.

- Create inviting, continuous street frontage on this portion of Western Avenue, activated by vibrant and engaging ground floor uses including restaurant and retail spaces.

- Reduce the number of curb cuts on the site from 20 to three, to create a safe and continuous pedestrian and bike pathway with a protected bike lane along Western Avenue.

- Upgrade sidewalks, street lighting, landscaping, and other public amenities consistent with the Boston Transportation Department's Complete Streets Guidelines.

- Expand the sidewalk on Everett Street northbound in order to facilitate and encourage pedestrian connections to Herter Park.

Economic and Community Benefits

- Provide employment opportunities at all levels from vocationally trained technicians to those holding advanced degrees. Life science research companies employ people with a wide range of skills and vocational experience including facilities personnel, mechanical contractors, administrative professionals, and scientists.

- The Project will be home to innovative biotechnology research companies, working to discover cures for diseases that affect the global population. The scale of the Project will help foster a collaborative ecosystem for emerging companies to grow and expand as they advance their research. The Proponent is expert at accelerating emerging nodes such as the life science cluster that is developing in this area, and has a successful track record of attracting growing life science companies to areas outside of Kendall Square.

- Provide new, diverse retail opportunities to be enjoyed by residents and visitors alike.

- Create of new residential units, including affordable housing consistent with the City's Inclusionary Development Policy.
- Create of approximately 2,000 construction jobs as well as hundreds of permanent jobs.
- Create approximately $10 million in new property tax revenues to the City of Boston.
- Provide an approximately $5 million community benefits payment to the City.

1.5 Community Outreach Overview

The Proponent has conducted early community outreach by meeting with Project abutters, local elected officials and civic leaders. The Proponent has also met with the BPDA and other City agencies on multiple occasions.

The Proponent continues to be committed to a comprehensive and effective community outreach and will continue to engage the community to ensure public input on the Project. The Proponent looks forward to working with the BPDA and city agencies, local officials, the Impact Advisory Group (IAG), neighbors, and others as the design and review processes move forward.

1.6 Schedule

It is anticipated that the Project may be constructed in two or more phases, with the construction of 250 and 280 Western Avenue being constructed first, and 305 Western Avenue to be constructed at a later date. It is anticipated that construction will begin immediately following Project approvals. Once the first phase has begun, construction is expected to last approximately two years.

Chapter 2.0

General Information

2.0 GENERAL INFORMATION

2.1 Applicant/Proponent Information

King Street Properties (KSP), the Proponent, is a privately held Boston based developer, owner, and operator of commercial real estate with an expertise in life science research space. KSP focuses on creating collaborative multi-tenant environments for innovative companies racing to develop lifesaving drugs, makers of medical devices and diagnostic tools, and clean tech companies harnessing renewable materials and energy sources. KSP owns and operates approximately 1.7 million square feet of life science space in the Greater Boston area and is expert at accelerating emerging areas of innovation.

Mugar Enterprises Inc. (MEI), a development partner, is a privately held, family firm with over 50 years of real estate development and investment expertise. MEI pursues both commercial and philanthropic endeavors.

MEI has partnered with KSP on several successful life science focused projects in the past including multi-tenant projects in Lexington and Cambridge. MEI's diverse commercial real estate portfolio includes shopping centers, entertainment venues, parking garages, and commercial office and industrial space. MEI has invested in or developed a wide variety of projects, including life science research space, an innovation campus, and vibrant retail centers such as the open-air Derby Street Shoppes in Hingham.

Over the years, the Mugar family has maintained a strong commitment to community service and philanthropic activities. The family actively supports the New England community through annual community events including 43 years of sponsorship of the Boston Fourth of July concert and fireworks on the Esplanade, plus generous gifts to area museums, educational institutions and hospitals.

The DiStefano Family, led by Joe DiStefano, has owned and operated the site for over 50 years with a variety of automotive and industrial uses and is excited to partner with King Street Properties and Mugar Enterprises to realize their vision for a greater use for the property.

2.2 Development Team

The following lists the key members of the development team for the proposed Project:

Address/Location:	250-280 Western Avenue and 305 Western Avenue

Developer:	King Street Properties 800 Boylston Street, Suite 1570 Boston, MA 02199 (617) 910-5500 Thomas Ragno Michael DiMinico
Development Partners:	Mugar Enterprises, Inc. 222 Berkeley Street, #1325 Boston, MA 02116 (617) 267-3000 David Ting Robert Reibstein The DiStefano Family 300 Western Avenue Boston, MA 02134 Joe DiStefano
Architect:	DiMella Schaffer 281 Summer Street, 6th Floor Boston, MA 02210 (617) 426-5004 Randy Kreie David Godfroy
Legal Counsel:	Goulston & Storrs 400 Atlantic Avenue Boston, MA 02110 (617) 482-1776 Christian Regnier David Linhart
Permitting Consultant:	Epsilon Associates, Inc. 3 Mill & Main Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Cindy Schlessinger Talya Moked

Transportation Consultant:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Guy Busa Elizabeth Peart
Civil Engineer:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Rick Latini James Downing
LEED Consultant:	enviENERGY Studio 831 Beacon Street, #115 Newton, MA 02459 (617) 446-3114 Samira Ahmadi

2.3 Zoning and Regulatory Controls

Large Project Review

Because the Project involves new construction in excess of 50,000 square feet of Gross Floor Area, the Project is subject to Large Project Review pursuant to Article 80B of the Boston Zoning Code (the "Code"). On August 28, 2018, the Proponent filed a Letter of Intent to file this Project Notification Form with the BPDA to commence study of the potential impacts of the Project. Under the Mayor's Executive Order dated October 10, 2000, and amended on April 3, 2001, regarding mitigation for development projects, the Mayor will appoint an Impact Advisory Group to advise the BPDA on mitigation measures for projects undergoing Large Project Review.

This PNF initiates the development review process and aims to meet requirements of the City of Boston Article 80B, Large Project Review by presenting initial details on the Project based on its conceptual design, including supporting plans, preliminary information of sustainability and resiliency in accordance with Boston Zoning Code Article 37 Green Buildings (Article 37) and the Climate Change Preparedness and Resiliency Policy (Resiliency Policy), respectively, information related to the Smart Utility Policy, a comprehensive transportation analysis, initial evaluation of potential environmental impacts and descriptions of available infrastructure and nearby historic resources. Upon review of public and agency comments on this PNF, as well as any further responses to comments made by the Proponent, the BPDA will issue a Scoping Determination which will outline the additional information required as part of the Draft Project Impact Report (DPIR) filing.

Also in connection with the Large Project Review, the Project will be subject to, among other requirements (i) BCDC Review; (ii) Development Impact Project Exactions under Section 80B-7 of the Code; and (iii) the green building requirements of Article 37 of the Code.

Zoning District

The Project site is located within the Allston-Brighton Neighborhood District, governed by Article 51 of the Code. The majority of the Project site is located within the Western Avenue/Soldiers Field Road Community Commercial (CC-1) Subdistrict. Other portions of the Project site are located partially within the CC-1 Subdistrict (but not within the Western Avenue/Soldiers Field Road CC-1 Subdistrict) and partially within the 3F-4000 Residential Subdistrict. There are no applicable zoning overlay districts.

Uses

In the Western Avenue/Soldiers Field Road CC-1 and the CC-1 Subdistricts, allowed or conditional uses include research laboratory, product development or prototype manufacturing, general office, multifamily, restaurant, local retail, gallery/art, fitness center (up to 2,500 sf), open space and accessory parking (provided not above the ground floor). In the 3F-4000 Residential Subdistrict, research laboratory, product development or prototype manufacturing, general office, multifamily, restaurant, local retail, gallery/art and fitness center uses are forbidden. Open space uses are also allowed in the 3F-4000 Residential Subdistrict. The establishment of any uses not currently permitted under the underlying zoning will require zoning relief and the Proponent is exploring adoption of a Planned Development Area (PDA) Development Plan (described below).

Building Dimensions

Under the Western Avenue/Soldiers Field Road CC-1 and the CC-1 Subdistricts, the allowed floor area ratio is up to 1.0 (underlying, and up to 1.75 in the Western Avenue/Soldiers Field Road CC-1 in a PDA Development Plan) and the allowed building height is up to 35 feet. A PDA Development Plan in the Western Avenue/Soldiers Field Road CC-2 Subdistrict, which is a zoning Subdistrict in the vicinity of the Project site, may provide a floor area ratio of up to 4.0. In the 3F-4000 Residential Subdistrict, the allowed floor area ratio is up to 0.8 and the allowed building height is up to 35 feet. The Western Avenue/Soldiers Field Road CC-1 and the CC-1 Subdistrict and the 3F-4000 Residential Subdistrict have various yard setback requirements and the 3F-4000 Residential Subdistrict also has minimum lot area and minimum usable open space per dwelling unit requirements.

The Project's preliminary building heights range from approximately 72 feet (for the 280 Western Avenue building); approximately 96 feet, plus an approximately 20 foot mechanical penthouse (for the 305 Western Avenue building); and approximately 110 feet, plus an approximately 20 foot mechanical penthouse (for the 250 Western Avenue building). The Project's preliminary FAR based on the total area of the Project site is approximately 3.5 (excluding below-grade space, parking, ramps, mechanical space and interior bike storage space).

The Project will require zoning relief from the building height, FAR and other dimensional requirements of underlying zoning. As noted above, the Proponent is exploring adoption of a PDA Development Plan.

2.4 List of Anticipated Permits and Approvals

Table 2-1 below presents a preliminary list of governmental permits and approvals that are expected to be required for the Project. The list is based on currently available information about the Project, and is subject to change as the Project program and design evolve.

Table 2-1 Anticipated Permits and Approvals

Agency	Approval
	City
Boston Planning & Development Agency	Large Project Review and ancillary documents (including Cooperation Agreement, Development Impact Project Agreement, Affordable Housing Agreement and Boston Residents Construction Employment Plan) Planned Development Area Development Plan Approval Certification of Compliance and Consistency
Boston Zoning Commission/Mayor	Map Amendment and Planned Development Area Development Plan Approval
Boston Interagency Green Building Committee	Article 37 Green Building
Boston Civic Design Commission	Design Review
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Landmarks Commission	Demolition Delay Review
Boston Parks Commission	Approval of Demolition/Construction within 100 feet of a Park (Smith Playground)
Boston Water and Sewer Commission	Site Plan Review Water and Sewer Connection Permits Cross Connection Backflow Prevention Approval (as required) Temporary Construction Dewatering Permit (as required)
Boston Public Safety Commission, Committee on Licenses	Inflammables Storage Permit/Garage License
Public Improvement Commission	Specific Repair Plan approval and License for changes to the public right of way

Table 2-1 Anticipated Permits and Approvals (Continued)

Agency	Approval
Public Works Department	Curb Cut and Street/Sidewalk Opening Permits
Boston Inspectional Services Department	Building/Occupancy Permits
State	
Executive Office of Energy and Environmental Affairs	MEPA Review
Massachusetts Historical Commission	State Register Review
Department of Conservation and Recreation	Access Permit Sidewalk Easement
Massachusetts Department of Environmental Protection	Fossil Fuel Utilization Permit (as required) Notice of Demolition/Construction Air Quality Permit for heating boilers and emergency generators (as required)
Massachusetts Water Resources Authority	8(m) Permit
Federal	
Environmental Protection Agency	National Pollutant Discharge Elimination System Permit
Federal Aviation Administration	Determination of No Hazard to Air Navigation (if required for cranes)

2.5 Legal Information

2.5.1 Legal Judgments or Actions Pending Concerning the Proposed Project

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

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

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

2.5.3 Evidence of Site Control/Public Easements

The Proponent's affiliate, Western Avenue Joint Venture LLC, owns the Project site pursuant to deeds recorded with the Suffolk County Registry of Deeds as follows: (a) deed recorded in Book 57038, Page 245; (b) deed recorded in Book 59006, Page 321; (c) deed recorded in Book 59408, Page 226; (d) deed recorded in Book 59690, Page 202; and (e) deed recorded in Book 59690, Page 200.

There are no public easements into, through, or surrounding the Project site that would impair the advancement of the Project.

A site survey is presented in Appendix B.

Chapter 3.0

Transportation

3.0 TRANSPORTATION

3.1 Overview

The Proponent engaged Howard Stein Hudson (HSH) to conduct an evaluation of the transportation impacts of this Project in the Allston neighborhood of Boston, Massachusetts. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and Boston Planning and Development Agency (BPDA) Article 80 Large Project Review process. This study includes an evaluation of the existing conditions, future conditions with and without the Project, projected parking demand, loading/delivery plan, transit services, pedestrian and bicycle activity, transportation demand management (TDM) strategies for the Project and construction-period impacts.

3.1.1 Project Description

The Project site is comprised of two parcels located at 250-280 Western Avenue and 305 Western Avenue. Combined, the site is approximately 4.3 acres and has a variety of current (or recently closed) uses including Stadium Autobody, Enterprise Car Rental, residential uses, restaurant uses, and surface parking areas used by several vehicle maintenance and industrial operators for vehicle and supply storage.

The Project includes the removal of all existing on-site structures and the construction of a new residential building at 280 Western Avenue and two new laboratory/research and development/office buildings at 250 Western Avenue and 305 Western Avenue, designed to create an innovation-focused science research center. Each building will have supporting retail/restaurant space. Civic space, which may include art uses, will be incorporated into 280 Western Avenue. The planned parking supply reflects BTD's recommended guidelines for this neighborhood, as the Project site is a half-mile from the Boston Landing MBTA Commuter Rail station. Table 3-1 summarizes the development program.

Table 3-1 Project Development Program

Land Use	Proposed Project
Residential	45,500 sf/40 units
Laboratory/Research and Development/Office	539,400 sf
Retail/restaurant	21,100 sf
Civic	1,900 sf
Parking (spaces) Residential Laboratory/Research and Development/Office Total	 40 844 884

3.1.2 Methodology

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

- The Existing (2018) Condition analysis includes an inventory of the existing transportation conditions 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 analyses evaluate potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2025, based on a seven-year horizon from the year of the filing of this traffic study.
- The No-Build (2025) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned near the Project site.
- The Build (2025) Condition analysis includes the No-Build condition plus the net change in traffic volume due to the Project. Expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading facilities associated with the Project, are identified.
- The final sections of the transportation study identify the transportation demand management measures to minimize automobile usage and Project-related impacts and outline the requirements of the Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP).

3.1.3 Transportation Evaluation Summary

Key transportation characteristics of the Project and analysis results include:

- The current Project site has approximately 20 curb-cuts/driveways of varying widths along Western Avenue, Riverdale Street, Everett Street, and McDonald Avenue. At 250-280 Western Avenue, all site curb-cuts along Western Avenue will be removed and a new Service Road between Riverdale Street and Everett Street will provide access/egress to parking and loading/service bays. This new service road is described in more detail Section 3.4.1. At 305 Western Avenue, curb-cuts along Western Avenue and Everett Street will be removed and all vehicle access/egress will occur on McDonald Avenue. Reducing the number of curb-cuts will significantly improve vehicle and pedestrian safety adjacent to the Project site by removing mid-block turning maneuvers and eliminating pedestrian-vehicle conflict points at driveways.

- During the a.m. peak hour, the Project will generate 88 net new entering vehicle trips and 33 net new exiting vehicle trips. During the p.m. peak hour, the Project will generate 8 net new entering trips and 127 net new exiting trips. Vehicle trips include automobiles, taxicabs, and transportation network company (TNC) services such as Uber and Lyft.
- Of the fourteen study area intersections, all except one will adequately process the new Project vehicle trips without a change in level of service or significant increase in peak hour delays. The signalized intersection of Everett Street/Western Avenue, which operates near capacity today during the p.m. peak hour, would be the most impacted in terms of increased delay. The Proponent has developed a mitigation plan for this location, which involves changing the signal phasing and cycle length, including conversion from exclusive to concurrent pedestrian phasing to reduce delays and improve pedestrian safety. The Proponent will continue to work with the City of Boston to refine these proposed improvements.
- For the Project driveway at Riverdale Avenue, the Proponent will work with the City and neighborhood to convert the short segment of Riverdale Avenue between Western Avenue and the driveway to two-way to accommodate Project vehicles exiting toward Western Avenue. The Proponent will prohibit right turns out of this Project driveway onto Riverdale Avenue southbound through signage and curbing elements.
- The Proponent will supply parking at the City of Boston's maximum recommended parking ratio of 1.5 spaces/1,000 sf for the laboratory/research and development/office uses of the Project. Residential parking will be supplied at approximately 1.0 spaces/unit. Though new mixed-use developments in nearby Watertown are providing office parking at ratios of 2.0 spaces/1,000 sf and higher, the Proponent is committed to providing a parking supply consistent with Boston's guidelines.
- The Proponent will construct new sidewalks adjacent to the Project site in accordance with Boston Complete Streets guidelines and requirements of the Americans with Disabilities Act and Massachusetts Architectural Access Board (ADA/AAB) to the extent feasible. The Proponent will set back the Project buildings along Western Avenue and Everett Street to create wider sidewalks and enhance the pedestrian environment with tree wells and planting zones.
- Adequate street width on Western Avenue will be maintained/created adjacent to the Project site to support 1) protected bicycle lanes along Western Avenue and 2) potential bus-only lanes, should the City implement such a service in the future. The Proponent will construct a protected bicycle lane along the southern side of Western Avenue between Riverdale Street and Everett Street and preserve the necessary right-of-way for a protected bicycle lane along the northern side of Western Avenue adjacent to the 305 Western Avenue building.
- In accordance with the City of Boston Bicycle Guidelines, and to encourage bicycling as an alternative mode of transportation, the Proponent will provide secure bicycle storage capacity for employees and residents. Approximately 170 bicycle spaces will be provided for employees and 40 spaces for residents.

- A designated drop-off/pick-up zone, with capacity for approximately two vehicles, will be located on Western Avenue near Artists' Way, to serve taxicabs and transportation network company (TNC) vehicles, such as Uber and Lyft.
- All Project loading/deliveries and trash pick-up will occur off-street. Service for the 250-280 Western Avenue buildings will occur at three loading bays located along the Service Road. Residential move-in/move-out activity will occur via the bays on the Service Road. At the 305 Western Avenue building, three bays will be located along McDonald Avenue.
- The Proponent is committed to implementing Transportation Demand Management (TDM) measures to reduce employees' and residents' dependence on automobiles. TDM measures to be undertaken by the Proponent include: promoting transit services in marketing and orientation materials, providing adequate secure bicycle storage, joining the Allston Transportation Management Association (TMA), and designating an on-site transportation coordinator. These measures, along with others discussed in Section 3.6, reflect the transportation mobility goals of the BTD's "Go Boston 2030" plan and will help increase Project travel by transit, walking, and bicycle, and reduce automobile travel.
- A Transportation Access Plan Agreement (TAPA) will be entered into between the Proponent and BTD and will set forth the specific TDM measures and agreements between the Proponent and the City of Boston.

3.1.4 Study Area

The study area, shown in Figure 3-1, consists of the following fourteen intersections in the vicinity of the Project site.

- Everett Street/Western Avenue (signalized);
- Riverdale Avenue/Western Avenue (signalized)
- Everett Street/Soldiers Field Road (signalized);
- Telford Street/Western Avenue/ (signalized);
- North Harvard Street/Western Avenue/ (signalized);
- Western Avenue/Arsenal Street/Leo Birmingham Parkway (signalized);
- Soldiers Field Road/Western Avenue (signalized);
- Memorial Drive/Western Avenue/ (signalized);
- Soldiers Field Road/Cambridge Street (signalized);
- Memorial Drive/Cambridge Street/ (signalized);
- Everett Street/McDonald Avenue (unsignalized);
- Speedway Avenue/Western Avenue (unsignalized);
- Spurr Street/Western Avenue (unsignalized); and
- North Harvard Street/Spurr Street/Bertram Street (unsignalized).

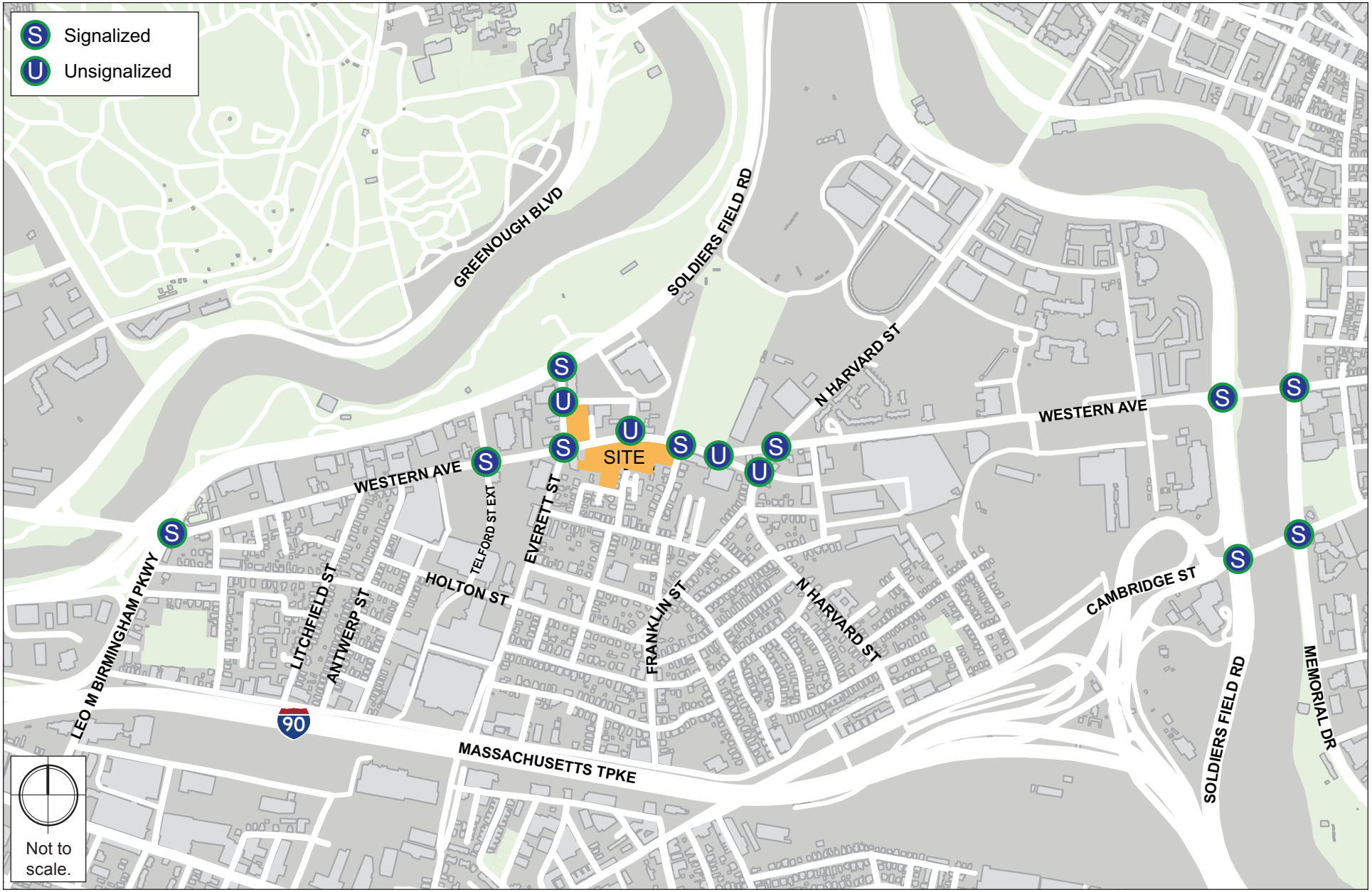

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Figure 3-1
Study Area

3.2 Existing Condition

This section includes a description of existing study area roadway geometry, intersection geometry, intersection traffic control, curb usage (parking), public transportation services, peak-hour traffic volumes for vehicles, bicycles, and pedestrians, and intersection traffic operations.

3.2.1 Existing Roadway Conditions

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

Western Avenue is a two-way roadway classified as an urban minor arterial under BTD jurisdiction and generally runs in an east-west direction between the Watertown Town Line to the west and Central Square in Cambridge the east. Within the study area, on-street parking and sidewalks are generally provided along both sides of the roadway.

Soldiers Field Road is a two-way, four lane roadway in the Project vicinity and is classified as an urban principal arterial under the Department of Conservation and Recreation (DCR) jurisdiction and generally runs in an east-west direction between North Beacon Street to the west and Storrow Drive to the east. Soldiers Field Road provides access to downtown Boston and Cambridge to the east and to Newton and Watertown to the west. On-street parking and sidewalks are not provided along either side of the roadway; however, the Paul Dudley White mixed-use path runs along the Charles River and is located along the north side of the roadway.

Leo M. Birmingham Parkway is a two-way roadway classified as an urban principal arterial under the jurisdiction of DCR and generally runs in an east-west direction between North Beacon Street to the west and Western Avenue to the east. The directions of travel are separated by a raised grass median, with each direction of travel consisting of two to three travel lanes. On-street parking is allowed on the east (northbound) side of the roadway between Market Street and Lothrop Street and on both sides of the roadway west of Market Street. Sidewalks are provided north of Lincoln Street and not provided west of Market Street.

Everett Street is a two-way, two-lane roadway classified as an urban collector and generally runs in a north-south direction between Beacon Street to the south and Soldiers Field Road to the north. The roadway is under BTD jurisdiction except for the segment between Western Avenue and Soldiers Field Road, which is under DCR jurisdiction. There is a bicycle lane on the southbound direction of Everett Street and sharrows are provided on the northbound direction. Sidewalks are generally provided along both sides of Everett Street. In the vicinity of the Project site, on-street parking is prohibited on both sides of the roadway.

Telford Street is a two-way, two-lane roadway classified as a local roadway under BTD jurisdiction that generally runs in a north-south direction between Soldiers Field Road to the north and Holton Street to the south. Designated bicycle lanes are provided on both sides of the roadway. Sidewalks are provided along both sides of Telford Street. On-street parking is prohibited on both sides of the roadway.

North Harvard Street is a two-way, two-lane roadway classified as an urban minor arterial under BTD jurisdiction that runs in a north-south direction between Soldiers Field Road to the north and Cambridge Street to the south. Designated bicycle lanes are provided on both sides of the roadway between the segment between Empire Street and Kingsley Street and the segment between Western Avenue and Soldiers Field Road. All remaining segments provide painted sharrows on pavement. Within the study area, on-street parking and sidewalks are generally provided along both sides of the roadway.

Memorial Drive is a two-way, two-lane roadway classified as an urban principal arterial under DCR jurisdiction that runs in an east-west direction between Gerrys Landing Road to the west and Edwin H Land Boulevard to the east. Memorial Drive provides access to downtown Boston and Cambridge to the east and to Newton and Watertown to the west. Within the study area, on-street parking is prohibited along both sides of the roadway. Sidewalks are provided along both sides of Memorial Drive

River Street is a one-way eastbound roadway classified as an urban principal arterial under the City of Cambridge jurisdiction that runs between Memorial Drive and Massachusetts Avenue. On-street parking is generally restricted for resident permit only and provided on one side of the roadway only. Sidewalks are provided on both sides of River Street.

McDonald Avenue is a two-way, unmarked two-lane roadway classified as a local roadway under BTD jurisdiction that runs east-west between Everett Street to the west and Speedway Avenue to the east. There are no sidewalks or on-street parking provided along McDonald Avenue.

3.2.2 Existing Intersection Conditions

Existing conditions at the study area intersections are described below.

Everett Street/ Western Avenue is a four-leg, signalized intersection with four approaches. The Western Avenue eastbound approach consists of a shared left-turn/through lane, an exclusive right-turn only lane, with about 120 feet of storage, and a bicycle lane. The Western Avenue westbound approach consists of an exclusive left-turn lane with approximately 90 feet of storage, a shared through/right-turn lane, and a bicycle lane. The Everett Street northbound approach consists of an exclusive left-turn lane with approximately 200 feet of storage and a shared through/right-turn lane. The Everett Street southbound approach consists of a shared

left-turn/through/right-turn lane. There are two MBTA Bus stops located on the west side of the intersection, one on each side of Western Avenue. Crosswalks are provided across all approaches to the intersection. On-street parking is not permitted along any of the approaches.

Riverdale Avenue/Western Avenue is a signalized intersection with three approaches. The signal provides an exclusive, actuated pedestrian phase for all pedestrian movements, including across Western Avenue between the Smith Playground and the neighborhood south of Western Avenue and across Riverdale Avenue. The Western Avenue eastbound and westbound approaches each have one, general purpose travel lane and on-street parking. The Riverdale Avenue approach is one-way southbound away from the intersection. Crosswalks are provided across all approaches to the intersection.

Everett Street/Soldiers Field Road is a signalized intersection with four approaches. The Soldiers Field Road eastbound approach consists of an exclusive through lane and a shared through/right-turn lane. The Soldiers Field Road westbound approach consists of two exclusive through lanes. The directions of travel along Soldiers Field Road are separated by a raised grass median. The Everett Street northbound approach consists of a shared left-turn/right-turn lane. The one-way Everett Street southbound approach consists of a shared left-turn/through/right-turn lane. Crosswalks and pedestrian signal equipment are not provided across any of the approaches to the intersection. Sidewalks are provided along all approaches but are in a deteriorated condition. North-south pedestrian crossings are facilitated one block to the west at Telford Street via a pedestrian overpass.

Telford Street/Western Avenue is a four-leg, signalized intersection with four approaches. The Western Avenue eastbound approach consists of a shared left-turn/through/right-turn lane. The Western Avenue westbound approach consists of an exclusive left-turn lane with approximately 180 feet of storage, a shared through/right-turn lane, and a bicycle lane. The Telford Street northbound approach consists of a shared left-turn/through lane and a right-turn lane. The Telford Street southbound approach consists of a shared left-turn/through/right-turn lane. Crosswalks are provided across all approaches to the intersection. On-street parking is only provided along the south side of the Western Avenue eastbound approach.

North Harvard Street/Western Avenue is a four-leg, signalized intersection with four approaches. The Western Avenue eastbound approach consists of an exclusive left-turn lane, a shared through/right-turn lane, and a bicycle lane. The Western Avenue westbound approach consists of an exclusive left-turn lane, an exclusive through lane, a bicycle lane, and a yield-controlled channelized right-turn. An MBTA Bus stop is located approximately 30 feet before the channelized right-turn. The North Harvard Street northbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane, with painted sharrows on each lane. The North Harvard Street southbound approach consists of a shared left-turn/through lane, a bicycle lane, and an exclusive right-turn lane. Crosswalks are provided along all approaches to the intersection. On-street parking is provided along the north side of Western Avenue, west of the intersection.

Western Avenue/Arsenal Street/Leo Birmingham Parkway is part of three interconnected, adjacent, signalized intersections. Western Avenue is intersected from the north by the Soldiers Field Road eastbound on-ramp and from the south by Birmingham Parkway to form the eastern intersection. The Western Avenue eastbound approach to this intersection consists of two general-purpose travel lanes. The Western Avenue westbound approach consists of a short exclusive left-turn lane, two general-purpose travel lanes and a channelized right-turn slip ramp to Soldiers Field Road eastbound. The Birmingham Parkway northbound approach consists of an exclusive left-turn lane, a shared left-turn/through lane, a through lane, and an exclusive right-turn lane. The Soldiers Field Road eastbound on-ramp consists of a single lane accommodating northbound vehicles only (vehicles exiting the intersection).

The middle intersection consists of Arsenal Street, Western Avenue, and the Soldiers Field Road westbound off-ramp. The Arsenal Street eastbound approach to this intersection consists of two general-purpose travel lanes and a channelized right-turn slip ramp to Soldiers Field Road eastbound. The Western Avenue westbound approach consists of two through lanes. The Soldiers Field Road westbound off-ramp southbound approach consists of one general purpose travel lane.

The western intersection consists of Arsenal Street and the Soldiers Field Road westbound ramps. The Arsenal Street eastbound approach consists of a through lane and a shared through/right-turn lane. The Arsenal Street westbound approach consists of a shared left-through lane and an exclusive through lane. The Soldiers Field Road westbound off-ramp southbound approach consists of a shared through/right-turn lane and an exclusive right-turn lane. The Soldiers Field Road on-ramp consists of a single lane that accommodates southbound vehicles only (departing the intersection). Trucks and buses are prohibited from accessing Soldiers Field Road. Sidewalks are provided along both sides of Western Avenue and Arsenal Street; along the east side of Birmingham Parkway and the Soldiers Field Road eastbound on-ramp; and along the west side of the Soldiers Field Road westbound on and off-ramps.

A marked crosswalk is provided across the western leg of Arsenal Street and across the northern leg of Soldiers Field Road westbound offramp. Minor intersection improvements were done in November 2016 to restripe lane markings, add crosswalks to all but the southern legs of the intersection, and to add pedestrian signals.

Soldiers Field Road/Western Avenue is a signalized intersection with four approaches. The Western Avenue eastbound approach consists of a channelized right-turn only. The Western Avenue westbound approach consists of three lanes; two exclusive left turn lanes, and a shared through/right-turn lane. The Soldiers Field Road northbound approach consists of a shared left-turn/through lane and an exclusive through lane. The Soldiers Field Road eastbound off-ramp southbound approach consists of an exclusive through lane and a shared through/right-turn lane. Crosswalks are provided across all approaches to the intersection. On-street parking is restricted along all approaches.

Memorial Drive/Western Avenue is a four-leg, signalized intersection with three approaches. The Western Avenue westbound approach consists of shared left-turn/through lane, an exclusive through lane, a shared through/right-turn lane, and a separated bicycle lane. The Memorial Drive northbound approach consists of a shared left-turn/through lane and an exclusive through lane. The Memorial Drive southbound approach consists of an exclusive through lane and a shared through/right-turn lane. Crosswalks are provided across all legs of the intersection except for the Memorial Drive south leg. On-street parking is restricted along all approaches. This intersection is located in the City of Cambridge

Soldiers Field Road/*Cambridge Street* is a signalized intersection with three approaches. The River Street eastbound approach consists of two through lanes, a through-right lane and an exclusive right-turn lane. The Soldiers Field Road westbound off-ramp northbound approach consists of an exclusive left-turn lane and a general purpose travel lane. The Soldiers Field Road southbound approach consists of an exclusive left-turn lane, a shared left-turn/through lane, an exclusive through lane, and an exclusive right-turn lane. Crosswalks are provided across all approaches to the intersection. On-street parking is restricted along all approaches.

Memorial Drive/Cambridge Street is a signalized intersection with three approaches. The River Street eastbound approach consists of a shared left-turn/through lane, an exclusive through lane, and an exclusive right-turn only. The Memorial Drive northbound approach consists of an exclusive through lane and a shared through/right-turn. The Memorial Drive southbound approach consists of a shared left-turn/through lane and an exclusive through lane. Crosswalks are provided across all approaches to the intersection. On-street parking is restricted in the vicinity of the intersection. This intersection is located in the City of Cambridge, where Cambridge Street continues east as River Street.

Everett Street/McDonald Avenue is an unsignalized intersection with three approaches. The McDonald Avenue westbound minor approach consists of a shared unmarked left-turn/right-turn lane. Although there is no stop or yield sign, this approach operates as a stop-controlled movement. The Everett Street northbound approach consists of a shared through/right-turn lane. The Everett Street southbound approach consists of a shared left-turn/through lane. Both Everett Street approaches operate as free movements. Crosswalks are not provided across any of the approaches to the intersection. On-street parking is restricted in the vicinity of the intersection.

Speedway Avenue/Western Avenue is an unsignalized intersection with three approaches. Both the Western Avenue eastbound and westbound approaches consist of one general purpose lane. Both Western Avenue approaches operate as free movements. The Speedway Avenue southbound approach has one general purpose lane, and although there is no stop or yield sign, operates as a stop-controlled movement. A crosswalk is provided across Speedway Avenue. Parking is permitted along Western Avenue and the west side of Speedway Avenue

Spurr Street/Western Avenue is an unsignalized intersection with four approaches, two of which are one-way from the intersection. The Western Avenue eastbound and westbound approaches each have one travel lane. The Western Avenue approaches operate as free movements. Spurr Street, which diverges from Western Avenue eastbound, is a one lane, one-way eastbound approach toward North Harvard Street. A private driveway is one-way northbound from the intersection. Crosswalks are not provided. On-street parking is permitted along the Western Avenue eastbound approach and on both sides of Spurr Street.

North Harvard Street/Spurr Street/Bertram Street is an unsignalized intersection with four approaches. Spurr Street eastbound is a one-lane, one-way approach controlled by a stop sign. The Bertram Street westbound approach is a one lane, two-way approach controlled by a stop sign. The North Harvard Avenue northbound approach consists of one general purpose land and the southbound approach has one general purpose lane and one bicycle lane. Crosswalks are provided across Spurr Street and Bertram Street. On-street parking is permitted along the North Harvard Street northbound approach and along the north side of the Spurr Street approach.

3.2.3 Parking

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

3.2.3.1 On-Street Parking and Curb Usage

On-street parking surrounding the Project site consists of predominately of 2-hour parking, resident permit parking, and no parking. The on-street parking regulations within the study area are shown in Figure 3-2.

3.2.3.2 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 company in the Boston car sharing market. There are currently seven Zipcar locations within a quarter-mile radius of the Project site. The nearby car sharing locations are shown in Figure 3-3.

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Figure 3-2
On-street Parking

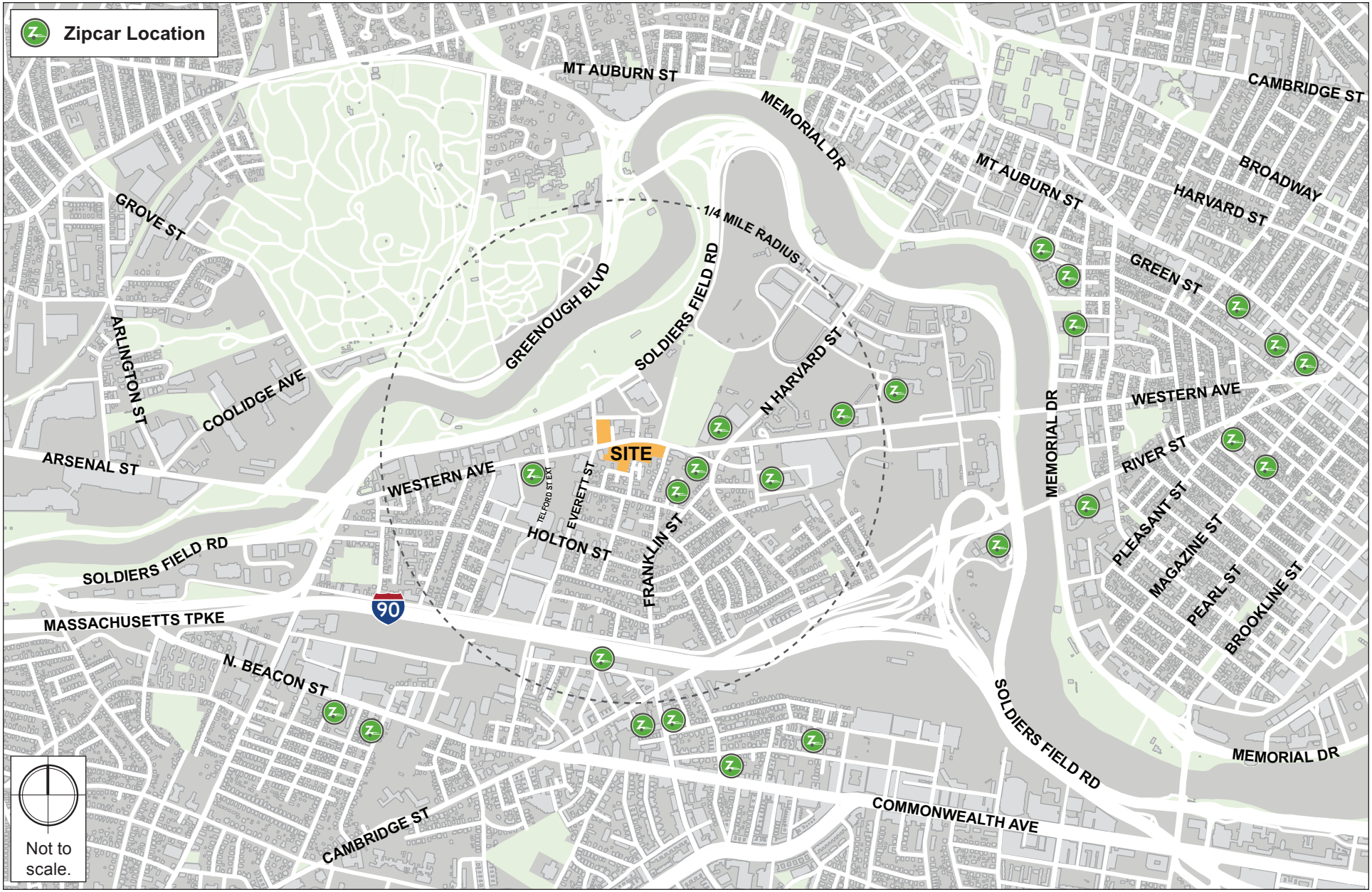

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Figure 3-3
Car Sharing Locations

3.2.4 Existing Public Transportation Services

The Project site is in the Allston neighborhood of Boston with many public transportation options. The MBTA operates six bus routes in close proximity to the site, including three that run along Western Avenue adjacent to the Project site. The site is about one-half-mile from the MBTA's Framingham/Worcester Commuter Line at Boston Landing Station. The MBTA's Red Line is about one mile away at the Harvard Square Station and about one and a half miles away at the Central Square Station.

Nearby public transportation services are mapped in Figure 3-4 and listed in Table 3-2 below.

Table 3-2 Existing Public Transportation Service Summary

Transit Service	Description	Peak-Hour Headway (minutes)[1]
Commuter Rail		
Commuter Rail	Framingham/Worcester Line – South Station – Worcester	35
Subway Lines		
Red Line	Alewife – Braintree Alewife – Ashmont "M" Ashmont – Mattapan	9 9 5
Bus Routes		
64	Oak Square – University Park or Kendall/MIT	18-22
66	Harvard Square – Dudley Station	9-10
70	Cedarwood, Market Place Dr, or Central Square, Waltham – University Park	9-25
70A	North Waltham – University Park	26-28
86	Sullivan Square Station – Reservoir Station (Cleveland Circle)	10-20

1 Headway is the scheduled time between trains or buses. Headways are approximate.
Source: www.mbta.com, September 2018.

On-going transit and mobility studies by the City of Boston and MassDOT/MBTA are described in Section 3.3.3.

3.2.5 Existing Traffic Data

Turning Movement Counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and weekday p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively) on Wednesday, April 11, 2018 when local schools, colleges, and universities were in session. The traffic classification counts included car, heavy vehicle, pedestrian, and bicycle movements. The detailed traffic counts for the study area intersections are provided in Appendix C.

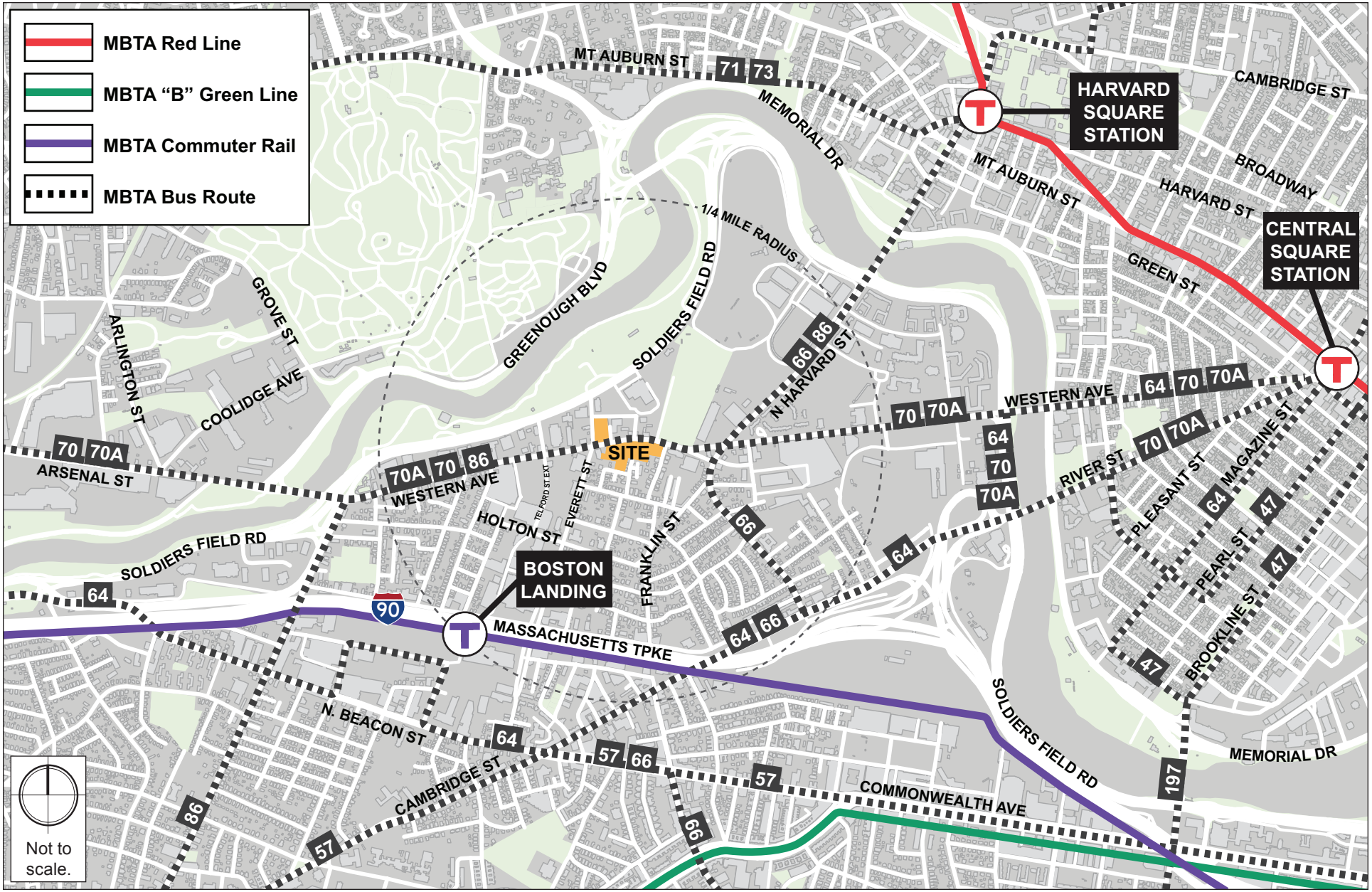

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Figure 3-4
Public Transportation

To account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT was reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the April 2018 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6) in the month of April is 0.92. This indicates that average month traffic volumes are approximately eight percent less than the traffic volumes that were collected. Therefore, the traffic counts were not adjusted downward to reflect average month conditions 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 C.

3.2.6 Existing Vehicular Traffic Volumes

The existing traffic volumes that were collected in April 2018 were used to develop the Existing (2018) Condition traffic volumes. The volumes were balanced where necessary across the roadway network within the study area.

The resulting Existing (2018) weekday a.m. peak hour and weekday p.m. peak hour traffic volumes are shown in Figure 3-5 and Figure 3-6, respectively.

3.2.7 Existing Bicycle Volumes and Accommodations

In recent years, bicycle use has increased dramatically throughout the City of Boston. The City's "Bike Routes of Boston" map assigns a level of difficulty to many Boston streets. Study area streets and their associated level are presented below:

- Western Avenue (between Soldiers Field Road and North Harvard Street), Cambridge Street, and River Street, are designated as an advance route which is suitable for experienced and traffic-confident cyclists. Traffic volumes and/or speeds can be high.
- Western Avenue (between North Harvard Street and Memorial Drive), North Harvard Street, and Everett Street are designated as an intermediate route which is suitable for riders with some on-road experience. Traffic volumes and speeds tend to be moderate.
- The Paul Dudley White (PDW) bicycle paths along Soldiers Field Road and Memorial Drive are designated as beginner routes which are suitable for all riders including children, and people with no on-road experience.

Bicycle counts, presented in Figure 3-7, were conducted concurrently with the vehicular TMCs and based on the counts, bicycle activity in the area was generally high along Western Avenue, Soldiers Field Road, and Memorial Drive during the data collection period.

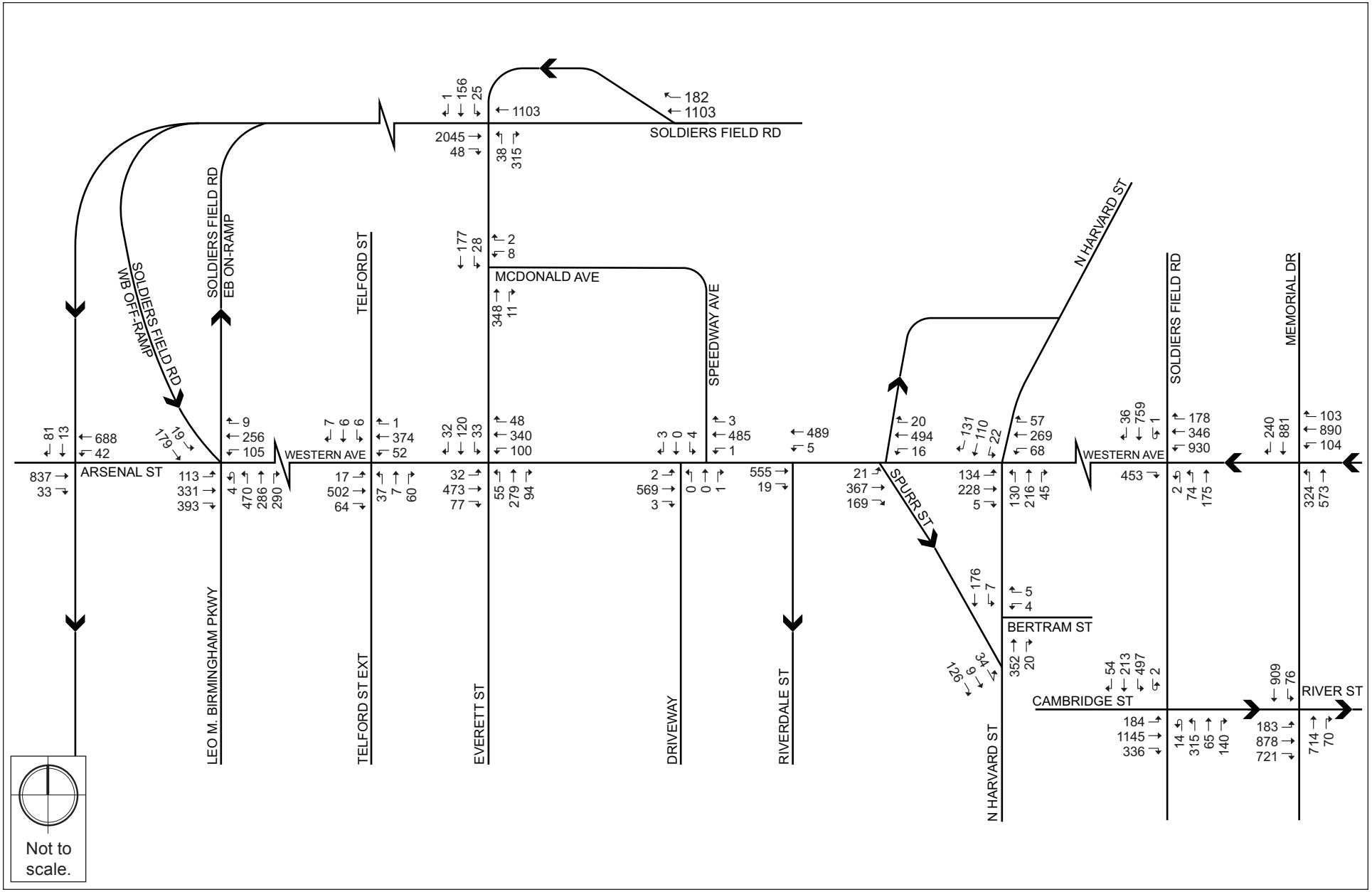

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Figure 3-5

Existing (2018) Condition Traffic Volumes, Weekday a.m. Peak Hour

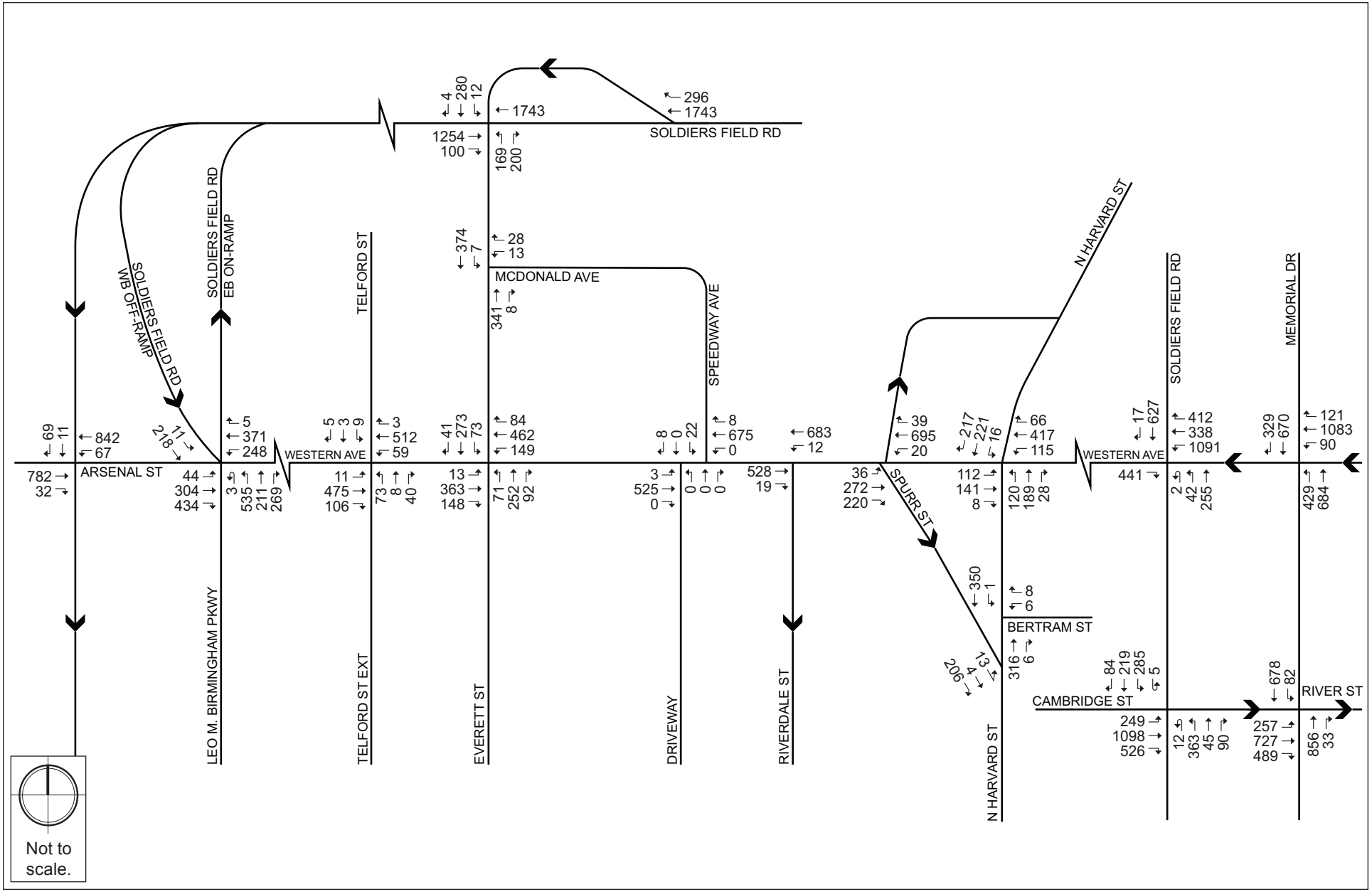

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Figure 3-6

Existing (2018) Condition Traffic Volumes, Weekday p.m. Peak Hour

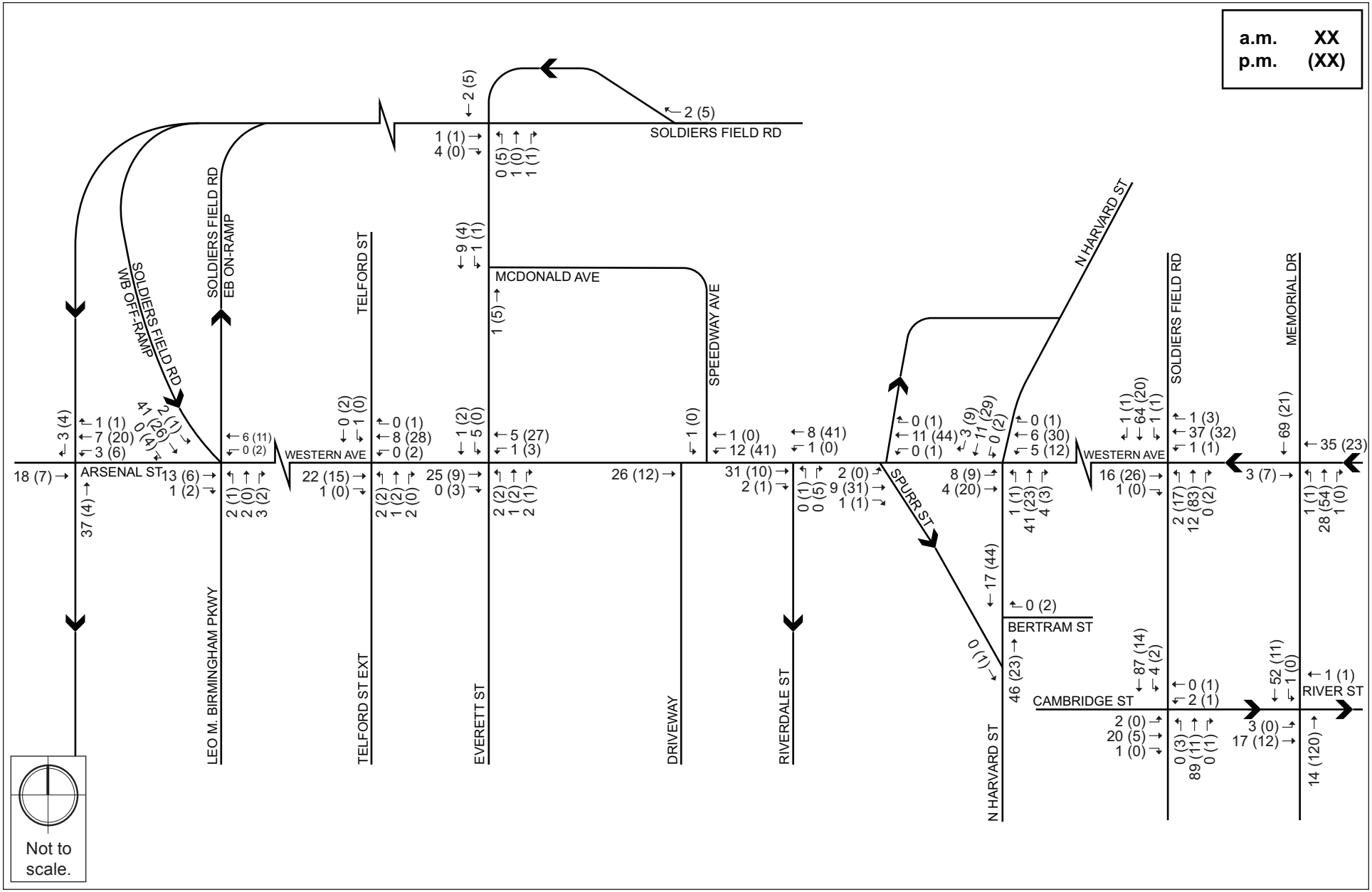

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Figure 3-7

Existing (2018) Condition Bicycle Volumes, Weekday a.m. and p.m. Peak Hours

The Project site is also located in proximity to three bicycle sharing stations provided by BLUEbikes (formerly 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. As shown in Figure 3-8, there are three BLUEbike stations located within five minutes of the site, and 16 BLUEbike stations located outside of a half-mile walk.

3.2.8 Existing Pedestrian Volumes and Accommodations

In general, sidewalks are provided along all roadways and are in good condition. Crosswalks are provided at all signalized study area intersections and at two of the unsignalized intersections. Pedestrian signal equipment is provided at all signalized intersections with the exception of Soldiers Field Road/Everett Street. Note that pedestrian improvements to the Soldiers Field Road/Everett Street intersection are currently being studied by Harvard University as part their community benefits package for Allston. See Section 3.3.3 for a further discussion.

To determine the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrently with the TMCs at the study area intersections and are presented in Figure 3-9.

3.3 No-Build Condition

The No-Build (2025) 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 facility, and bicycle facility improvements.

3.3.1 Background Growth Traffic

The methodology to account for generic future background traffic growth is to evaluate how traffic volumes may be affected by changes in demographics, smaller scale development projects, or projects unforeseen at this time.

Based on a review of recent and historic traffic data collected and to account for any additional unforeseen traffic growth, a traffic growth rate of one-quarter percent (0.25%) per year, compounded annually through the horizon year seven years in the future, was used.

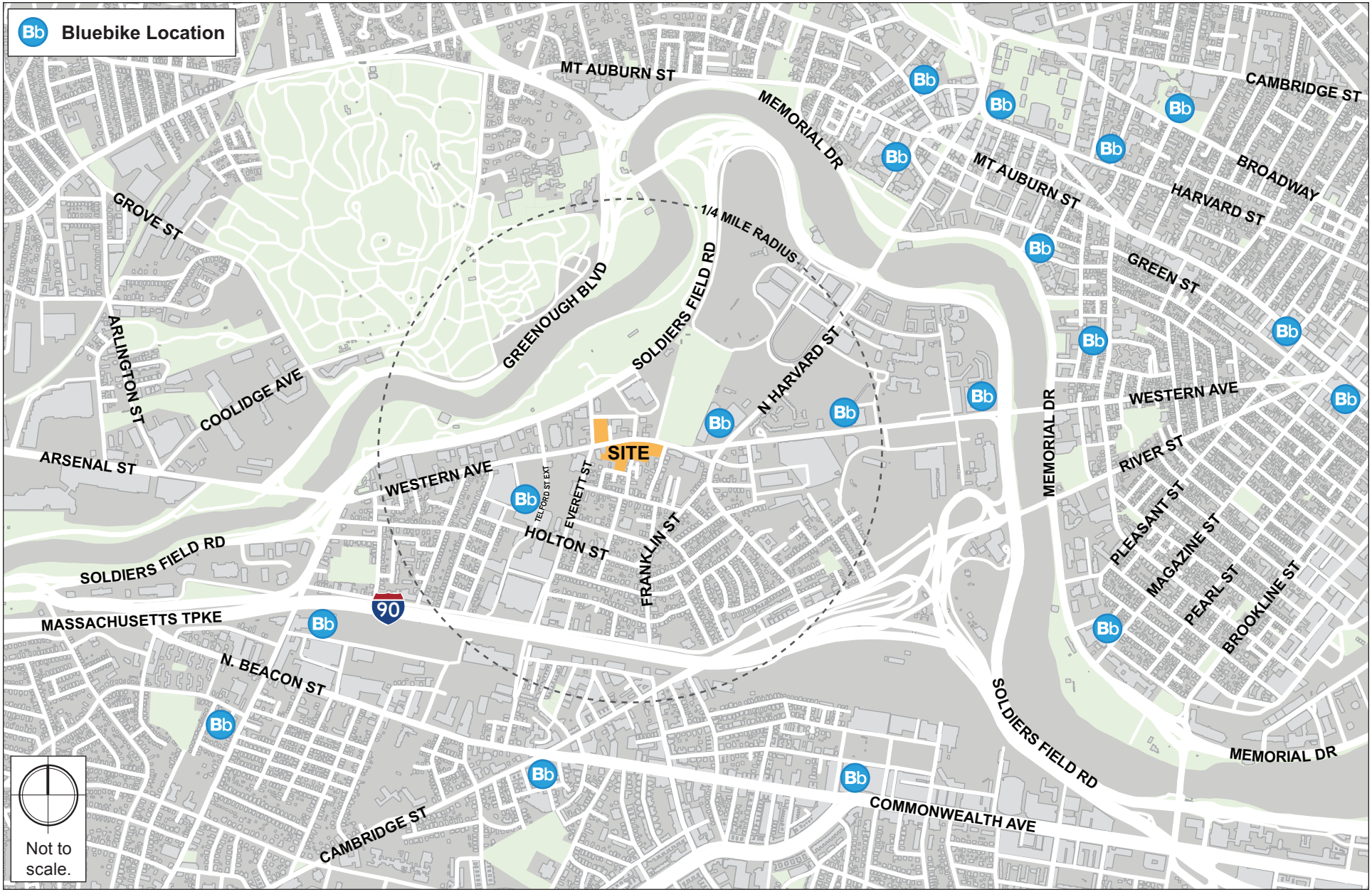

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Figure 3-8
Bicycle Sharing Locations

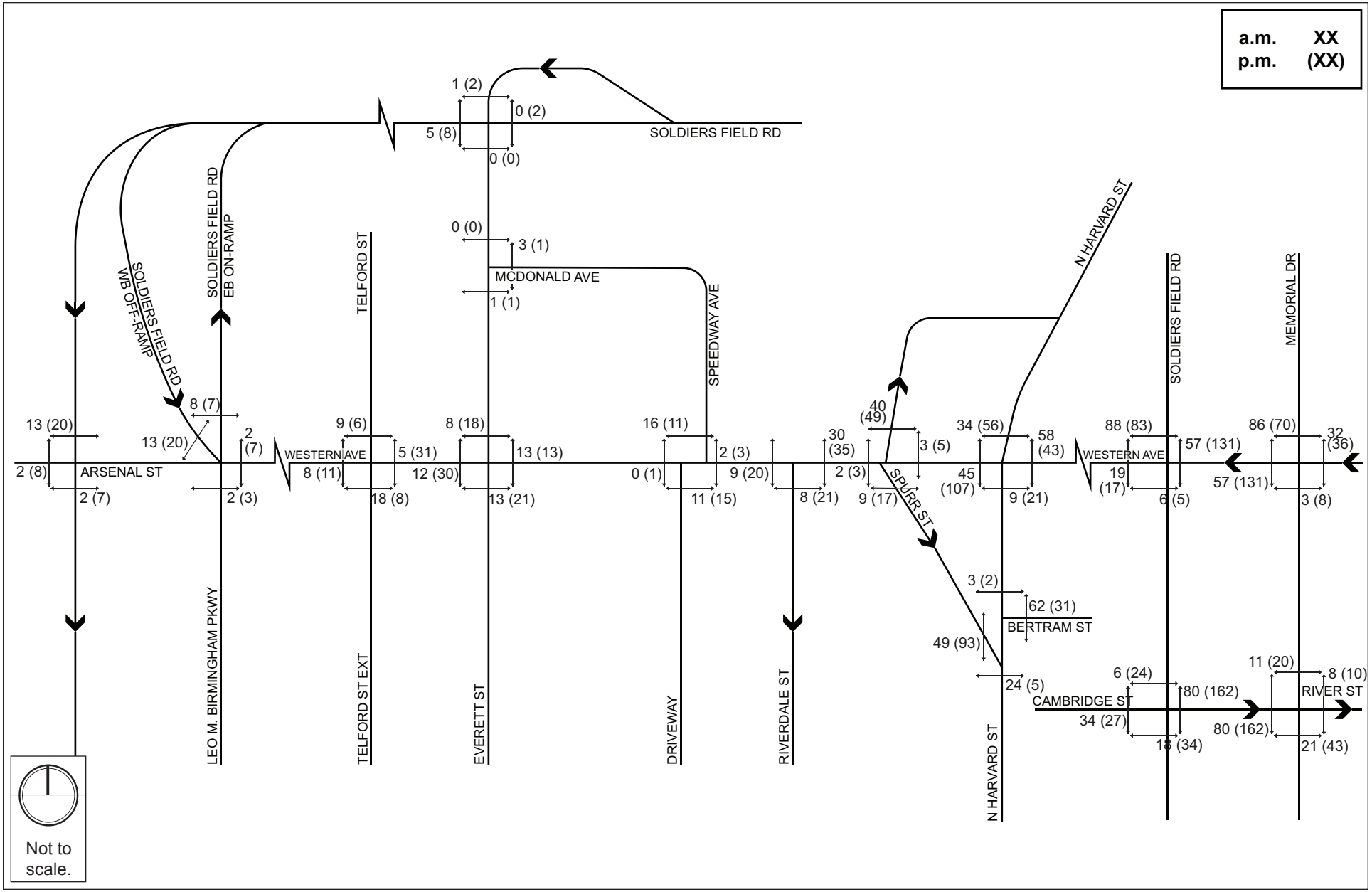

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Figure 3-9

Existing (2018) Condition Pedestrian Volumes, Weekday a.m. and p.m. Peak Hours

3.3.2 Specific Development Traffic Growth

Traffic volumes associated with known, larger, or adjacent development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Key background development projects were identified in the vicinity of the Project site and are shown in Figure 3-10. Traffic volumes associated with the following projects were directly incorporated into the future conditions traffic volumes:

- Allston Square – This proposed project consists of a new, six building mixed-use development, with approximately 334 residential units, 22,145 sf of office space, and 237 parking spaces. This project is currently under review by the BPDA.
- Allston Yards – The proposed project consists of a mix-use project including up to 1,050 residential units, 300,000 gross square feet (gsf) of office space, 67,000 gsf of grocery, 50,000 gsf of retail/restaurant space, 0.5 acres of community green space, and up to 1,300 parking spaces. The project will be built out in phases over several years, beginning with relocating the existing supermarket to a new building, along with approximately 360 newly constructed residential units. This project is currently under review by the BPDA.
- 70 Leo M. Birmingham Parkway – This proposed project consists of approximately 82 residential units and 59 parking spaces. This project has been approved by the BPDA Board.
- Harvard University IMP and ERC PDA – The proposed Institutional Master Plan (IMP) and Enterprise Research Campus (ERC) Planned Development Area (PDA) for Harvard University's Allston campus consists of five projects included in the IMP that are either under construction, approved, or partially completed. Only trips associated with undeveloped/unoccupied uses were included as part of the No-Build Condition. The following projects were included:
  - Enterprise Research Campus: This 900,000 sf PDA includes 400,000 sf of office, 200-room hotel, and 250 units of residential space. This project will construct two new roadways, Cattle Drive and East Drive providing access from Western Avenue to the Campus and may eventually connect to Cambridge Street. This project is approved but not yet constructed.
  - Science and Engineering Complex: This 500,000-sf academic development to the south of Western Avenue and east of North Harvard Street is under construction.
  - Harvard Business School (HBS) Faculty & Administrative Office Building: This 100,000 sf Harvard office building located at the Harvard Business School is approved but not yet constructed.

- Harvard Gateway Project: This institutional project of 300,000 sf of office space and ground floor retail will occupy the northeast corner of Western Avenue and North Harvard Street in North Allston. This project is under construction.

- Harvard Mixed Use Project: This institutional project of 200,000 to 250,000 sf campus residential space, 30,000 sf of retail and a 60,000 sf/3,000 seat basketball venue will occupy the northwest corner of Western Avenue and North Harvard Street in North Allston. This project is under construction.

- **Western Avenue Residences –** This project consists of 132 residential units, 108 parking spaces, and approximately 5,180 gross square feet (gsf) of retail/commercial space. This project is currently under construction and set to be completed by November 2018.

- **Arsenal Yards –** This project is located at 485 Arsenal Street in Watertown and includes an expansion of the Arsenal Mall consisting of approximately 165,000 sf of office space, 150-room hotel, 425 residential units, and 325,000 sf of retail space including a grocery store, a bowling alley, and a movie theater. This project is currently under construction.

- **Boston Landing –** This 14-acre project located adjacent to I-90 in Allston consists of 900,00 sf of office space, 323,000 sf sports facility, a 175-room hotel, and 65,000 sf of retail. This project is under construction and partially complete with much of the planned development program completed as of October 2018. Only trips associated with the as-of-yet unbuilt uses were included as part of the No-Build Condition.

Traffic volumes for several smaller or more remote projects, listed below, are reflected in the general background traffic growth.

- **90 Antwerp Street** – This project consists of a new 20-unit residential building and on-site parking for 22 vehicles. This project has been approved by the BPDA Board.

- **1550 Soldiers Field Road and 21 Soldiers Field Place** – This project consists of the demolition of the existing office building and surface parking lot and the construction of two new residential buildings. The 1550 Soldiers Field Road building consists of 211 residential units with approximately 148 parking spaces. The 21 Soldiers Field Place building consists of 38 residential units with 27 parking spaces. This project has been approved by the BPDA Board.

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Figure 3-10
Background Projects

- **46 Hichborn Street** – This project consists of a five-story building with 46 condo units and 50 parking spaces totaling approximately 49,600 sf. This project has been approved by the BPDA Board.
- **40 Rugg Road** – This project consists of 265 new residential units, 2,700 sf of ground-floor retail, and 180 parking spaces. This project has been approved by the BPDA Board.
- **392-398 Cambridge Street** – This project consists of a new five-story mixed-use building with 32 condominium units, 5,100 sf of ground floor retail and 58 off-street parking spaces. This project has been approved by the BPDA Board.
- **89 Brighton Avenue** - This project consists of 129 residential rental apartments, 7,500 sf of retail space, and 79 parking spaces. This project has been approved by the BPDA Board.
- **31 North Beacon Street** - This project consists of the demolition of an existing rooming house and the construction of 20 residential rental units, 2,000 sf of ground floor retail spaces and 22 off street parking spaces. This project has been approved by the BPDA Board.

3.3.3 Proposed Infrastructure and Transit 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 study area. These improvements have been incorporated into the future analysis, as appropriate.

- As part of its community benefits package for Allston, Harvard University is working with the DCR and the City to study and improve the Soldiers Field Road crossings at Telford Street and Everett Street. This project aims to enhance pedestrian and bicycle connections between the Allston neighborhood and Charles River reservation parks. Recommendations include a new at-grade signalized crossing at Everett Street and shared-use path along Everett Street, connecting Western Avenue across Soldiers Field Road, through the DCR parking lot to the Charles River Paul Dudley White path. Telford Street improvement elements are still being assessed.
- The proponent for the 530 Western Avenue residential project was required to fund a study that detailed improvements to the Western Avenue/Leo Birmingham Parkway/Arsenal Street/Soldiers Fields Road ramps to address safety and pedestrian and bicycle mobility. To simplify the intersection, two of the ramps leading out of the intersection will be closed. The first ramp closed is a redundant ramp from Leo Birmingham Parkway to Soldiers Field Road eastbound. The second ramp to be closed is the ramp from Western Avenue to Soldiers Field Road westbound. Vehicles that previously used this ramp will be rerouted down Leo Birmingham Parkway where they reconnect to Soldiers Field Road. The removal of the ramps allowed for removal of travel lanes on the Leo Birmingham Parkway northbound approach and on the

Western Avenue eastbound approach which creates more space for bicycles and pedestrians. This project has submitted a conceptual design report (CDR) and is currently seeking funding for initial design.

- Harvard University is proposing a series of roadway improvements/mitigation as part of continuing development of their Allston campus.
  - Western Avenue improvements as a part of Harvard's Science and Engineering Complex include an added eastbound separated bicycle lane and buffered westbound bicycle lane within the existing right of way.
  - A new roadway Cattle Drive and Cattle Drive Extension will connect Western Avenue with Cambridge Street via Windom Street and Dedham Parrish Road. This roadway serves as mitigation to Harvard's Enterprise Research Campus. Cattle Drive at Western Avenue will be under traffic signal control by the year 2022 when the Education and Research Center becomes absorbed.
  - A new roadway East Drive will connect to Harvard's Enterprise Research Campus and Kresge Way on the Harvard Business School Campus. Driveway access to the Genzyme property at the corner of Western Avenue and Soldier's Field Road will be modified for continued egress from Western Avenue. Harvard University, as part of their Institutional Master Plan, will monitor this intersection for future signalization if traffic warrants are met.
- The MassDOT I-90 Allston Interchange project involves the realignment of the turnpike within Allston to remove a large curve previously occupied by the CSX railyard and now owned by Harvard University. With the advent of All Electronic Tolling (AET), and a deteriorating highway viaduct, state officials were compelled to take a new look at the vision for this highway corridor and unlocked land. The reconfigured urban interchange will seek to build a new grid of streets connecting Harvard's Allston Campus, Cambridge Street, and Soldier's Field Road in a new roadway network. Because these roadway improvements have not been finalized, they have not been included in the future analysis. Even when the final design is constructed, the changes would not significantly affect traffic circulation patterns near the Project site.
- Evolving from the I-90 Interchange Project, the City of Boston and MassDOT/MBTA have committed to two studies addressing transit and mobility deficiencies in the area. The first is a short-term assessment of the local Allston Brighton bus network, Green Line along Commonwealth Avenue, and the Boston Landing commuter rail station. The Central Transportation Planning Staff (CTPS) is using the regional travel demand model set to evaluate ridership and operational characteristics of these services. Secondly, the Allston Brighton Mobility study will evaluate existing and future transportation conditions and generate recommendations for improved mobility on all travel modes. These studies are not yet complete.

- Other transit improvements in the area include additional Harvard University Shuttles to relieve the MBTA's 66 and 86 bus routes. Additionally, Harvard has committed to improve the Route 70/70A bus through increased capacity and a new stop near the new Cattle Drive intersection.

3.3.4 No-Build Traffic Volumes

The one-quarter percent per year annual growth rate, compounded annually, was applied to the Existing (2018) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above were added to develop the No-Build (2025) Condition traffic volumes. The No-Build (2025) weekday a.m. peak hour and p.m. peak hour traffic volumes are shown on Figure 3-11 and Figure 3-12, respectively.

3.4 Build Condition

The Project includes the demolition of the existing buildings, and the construction of approximately 539,400 sf of laboratory/research and development/office space, 40 residential units, 1,900 sf of civic space, and 21,100 sf of retail/restaurant space in three buildings at 250, 280, and 305 Western Avenue. Approximately 884 parking spaces will be provided within the three buildings.

3.4.1 Site Access and Vehicle Circulation

The site plan is shown in Figure 3-13. The current Project site has approximately 20 curb-cuts/driveways along Western Avenue, Riverdale Street, Everett Street, and McDonald Avenue. At 250-280 Western Avenue, all site curb-cuts along Western Avenue will be removed, and a new Service Road between Riverdale Street and Everett Street will provide access/egress to parking and loading/service bays. At 305 Western Avenue, curb-cuts along Western Avenue and Everett Street will be removed, and all vehicle access/egress will occur on McDonald Avenue. Reducing the number of curb-cuts will significantly improve vehicle and pedestrian safety adjacent to the Project site by removing mid-block turning maneuvers and eliminating pedestrian-vehicle conflict points at driveways.

Access/egress for Project parking will be provided as shown in Figure 3-13. The assignment of new Project vehicle trips at study area intersections and site driveways is presented later in Figure 3-16 and Figure 3-17 for the a.m. and p.m. peak hours, respectively. For the Project driveway at Riverdale Avenue, the Proponent will work with the City and the neighborhood to convert the short segment of Riverdale Avenue between Western Avenue and the driveway to two-way to accommodate Project vehicles exiting toward Western Avenue. The Proponent will prohibit right turns out of this Project driveway onto Riverdale Avenue southbound through signage and curbing elements.

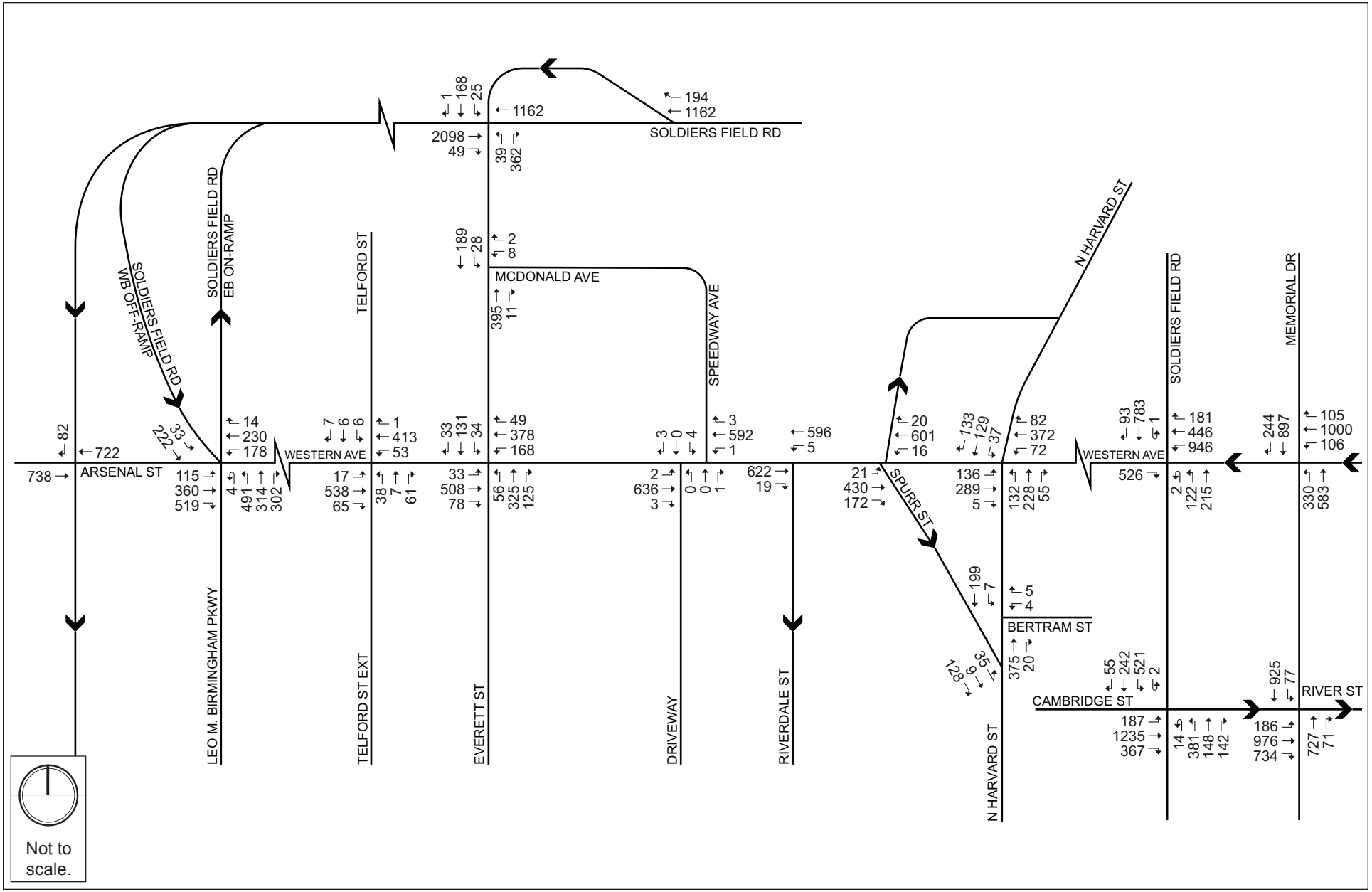

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Figure 3-11

No-Build (2025) Condition Traffic Volumes, Weekday a.m. Peak Hour

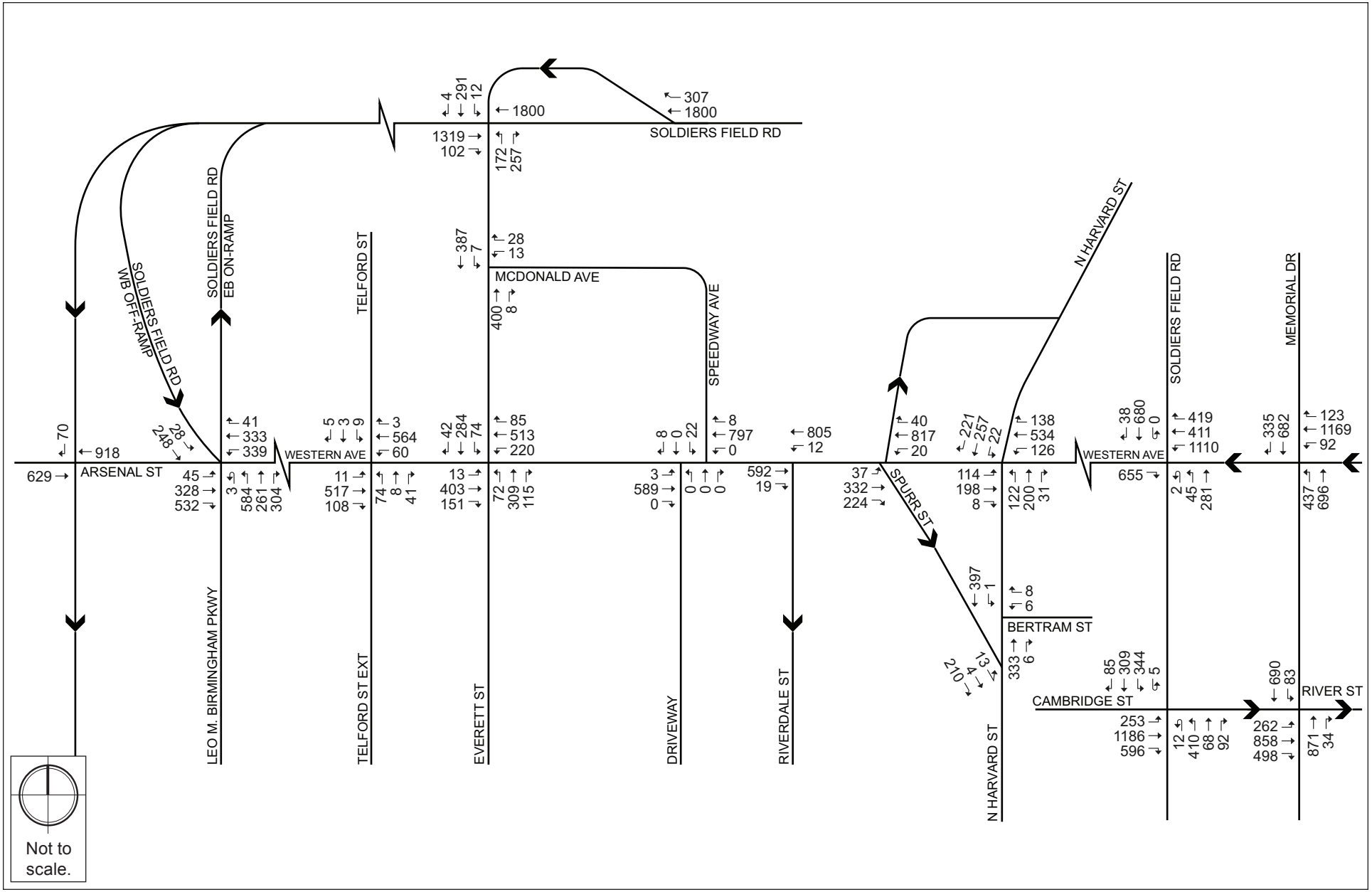

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Figure 3-12

No-Build (2025) Condition Traffic Volumes, Weekday p.m. Peak Hour

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Figure 3-13
Site Plan

- The access/egress locations for vehicles and deliveries are shown on the site plan. A designated drop-off/pick-up zone, with capacity for about two vehicles, will be located on Western Avenue near Artists' Way, to serve taxicabs and transportation network company (TNC) vehicles, such as Uber and Lyft.

The primary pedestrian entrances to the building lobbies will be located along Western Avenue, as shown on the site plan. The Proponent will construct new sidewalks adjacent to the Project site in accordance with Boston Complete Streets guidelines and requirements of the Americans with Disabilities Act and Massachusetts Architectural Access Board (ADA/AAB), to the extent feasible. Adequate street width on Western Avenue will be maintained/created adjacent to the Project site to support 1) protected bicycle lanes along Western Avenue and 2) potential bus-only lanes, should the City implement such a service in the future. The Proponent will construct a protected bicycle lane along the southern side of Western Avenue between Riverdale Street and Everett Street and preserve the necessary right-of-way for a protected bicycle lane along the northern side of Western Avenue adjacent to the 305 Western Avenue building.

3.4.2 Project Parking

The Project will provide approximately 884 total parking spaces distributed in the project buildings as shown in Table 3-3.

Table 3-3 Project Parking Supply

Building	Users	Number of Spaces
250 Western Avenue	Employees/visitors	146
280 Western Avenue	Employees/visitors Residential tenants	517 40
305 Western Avenue	Employees/visitors	181
Total		**884**

Access to the three parking areas is shown in Figure 3-13. The 146 parking spaces at 250 Western Avenue will be below-grade. At the 280 Western Avenue building, about 84 spaces will be provided below-grade and the rest will be provided in above-grade parking levels. At the 305 Western Avenue building, all 181 parking spaces will be provided below grade. Parking spaces at the various buildings will service uses in some or all of the buildings at the Project.

A portion of the parking supply allocated to employees in the 305 Western Avenue building will be located in the structured parking garage at 280 Western Avenue. These employees will be able to safely cross Western Avenue at the Everett Street intersection. As presented in Section 3.5.4, the Proponent will be instituting changes at the Everett Street/Western Avenue intersection to improve pedestrian safety and reduce vehicle delay.

BTD has set parking space goals and guidelines throughout the City to establish the amount of parking supply provided with new developments. BTD's maximum parking ratio guidelines for non-residential uses in Allston/Brighton is 1.5 spaces per 1,000 sf for projects at least a ten-minute walk away from a MBTA station.

This ratio is applicable to standard land uses such as research and development space, laboratory space, and retail space. The Project parking plan is to provide 844 spaces for these uses, resulting in a parking ratio of 1.5 spaces per 1,000 sf.

The Project parking plan is to provide 40 spaces for residential units, or a rate of 1.0 spaces/unit.

The Proponent will be establishing a new market for commercial laboratory research space in an evolving area of the City. For the Project to be successful, it needs to compete with other laboratory/research projects in the area, including the parking ratio provided to commercial tenants. Competitive projects in neighboring locations such as Watertown, and other areas of Boston offer tenants parking ratios above 2.0 and 3.0 per 1,000 sf. of office space. Earlier Project concepts contemplated a Project parking ratio of 2.0 per 1,000 sf of laboratory/office space, but due the proximity to public transit options and the Proponent's commitment to a robust TDM plan, the Proponent is committed to providing a parking ratio that meets BTD's maximum parking guidelines for non-residential uses at 1.5 per 1,000 sf of laboratory/office uses.

3.4.3 Loading and Service Accommodations

The Project's loading and service areas are shown on the site plan in Figure 3-13. All Project loading/deliveries and trash pick-up will occur off-street. Service for 250-280 Western Avenue will occur at two loading bays located along the Service Road. Residential move-in/move-out activity will occur via the bays on the Service Road. At 305 Western Avenue, two bays will be located along McDonald Avenue. All loading bays will accommodate SU-36 size trucks.

Daily delivery trip estimates for the Project were developed based on Central Transportation Planning Staff (CTPS) data for the identified land uses. Overall the Project is expected to generate approximately 22 daily deliveries to 250-280 Western Avenue and approximately 12 daily deliveries to 305 Western Avenue. On average, delivery vehicles occupy a loading bay for about 15 minutes. Given the number of available loading bays and daily deliveries, ample loading capacity will be provided by the Project. While some deliveries will occur via truck (mostly single-unit box trucks), most will occur via cars/vans.

Note that trash trips are not included in the number of daily deliveries. Trash trips generally occur between 5:00 a.m. – 7:00 a.m. and do not coincide with regular delivery activity.

3.4.4 Trip Generation Methodology

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

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

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

Land Use Code 221 – Multifamily Housing Mid-Rise. Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Calculations of the number of trips use ITE's average rate per dwelling units.

Land Use Code 760 – Research and Development Center. A research and development center is a facility or group of facilities devoted almost exclusively to research and development activities. Research and development centers may contain offices and light fabrication areas. Calculations of the number of trips use ITE's average rate per 1,000 square feet.

Land Use Code 820 – Retail/Shopping Center. A retail shopping center is 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. Of the ITE retail categories, this one best suits the retail component proposed within the Project. Calculations of the number of trips use ITE's average rate per 1,000 square feet.

The Project also includes approximately 1,900 sf of civic space, which may be art space. During peak hours, the trip activity associated with this use will be minimal and has not been incorporated in the trip generation.

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

While the Project, as currently envisioned, includes 21,100 sf of ground level retail use, it is possible that some retail space could be re-programmed as additional lab space depending on market conditions. Because trip generation for retail space as compared to lab space results in a similar or higher estimate of trips, the analysis presented in this Chapter reflects a conservative (i.e. higher impact) evaluation.

3.4.5 Travel Mode Share

BTD provides vehicle, transit, and walking mode share rates for different areas of Boston. The Project is located in the eastern portion of designated Area 17 – North Allston.

The unadjusted vehicular trips were converted to person-trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[2]. The person-trips were then distributed to different modes according to the mode shares shown in Table 3-4.

Table 3-4 Travel Mode Shares

Land Use		Walk/Bicycle Share	Transit Share	Vehicle Share	Vehicle Occupancy Rate
Daily					
Residential	In	31%	22%	47%	1.18
	Out	31%	22%	47%	1.18
Research and Development Center	In	19%	12%	69%	1.18
	Out	19%	12%	69%	1.18
Retail	In	40%	8%	52%	1.82
	Out	40%	8%	52%	1.82
a.m. Peak Hour					
Residential	In	33%	30%	37%	1.18
	Out	36%	21%	43%	1.18
Research and Development Center	In	23%	18%	59%	1.18
	Out	23%	12%	65%	1.18
Retail	In	46%	11%	43%	1.82
	Out	46%	7%	47%	1.82
p.m. Peak Hour					
Residential	In	36%	21%	43%	1.18
	Out	33%	30%	37%	1.18
Research and Development Center	In	23%	18%	65%	1.18
	Out	23%	12%	59%	1.18
Retail	In	46%	7%	47%	1.82
	Out	46%	11%	43%	1.82

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

3.4.6 Existing Trip Generation

When assessing a site with existing, active land uses, it is standard practice to estimate existing trips and subtract those trips from the projected new future trips. The result of this process yields "net new" trips that become the basis for traffic analysis.

The existing site generates trips associated with the Enterprise car rental, various insurance offices, Stadium Autobody shop, tow facility and lot, the Breakfast Club Diner, Subway fast food restaurant, the Bus Stop Pub, and several residential units. The study team estimated the existing site trips with information provided by the owner and using the following ITE LUCs:

- LUC 220 – Multifamily Housing Low-Rise
- LUC 710 – General Office Building
- LUC 712 – Small Office Building
- LUC 925 – Drinking Place
- LUC 930 – Fast Casual Restaurant
- LUC 932 – High-Turnover (Sit-Down) Restaurant

The trips associated with each of these existing uses are provided in Appendix C. For the Build (2025) Condition, the trips associated with the existing land uses have been subtracted from the study area roadway network. Note that the Project site also housed a gas station that closed in 2017. To provide a conservative (i.e. higher impact) analysis, the vehicle trips associated with the gas station were not included as part of the existing site trip generation.

3.4.7 Project Trip Generation

The travel mode share percentages shown in Table 3-4 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. Vehicle trips include automobiles, taxicabs, and transportation network company (TNC) services, such as Uber and Lyft. The trip generation for the Project by travel mode is shown in Table 3-5. The detailed trip generation information is provided in Appendix C.

Table 3-5 Project Trip Generation

Land Use		Walk/Bicycle Trips	Transit Trips	Vehicle Trips		
				Private	Taxicab/ TNC	Total Vehicle Trips
Daily						
Residential 40 units	In	40	28	49	6	55
	Out	40	28	49	6	55
	Total	**80**	**56**	**98**	**12**	**110**
Research and Development Center 539,400 sf	In	681	2,473	2,054	84	2,138
	Out	681	2,473	2,054	84	2,138
	Total	**1,362**	**4,946**	**4,108**	**168**	**4,276**
Retail 21,100 sf	In	290	58	202	8	210
	Out	290	58	202	8	210
	Total	**580**	**116**	**404**	**16**	**420**
a.m. Peak Hour						
Residential 40 units	In	2	2	1	0	1
	Out	5	3	4	0	4
	Total	**7**	**5**	**5**	**0**	**5**
Research and Development Center 539,400 sf	In	46	36	99	4	103
	Out	15	8	36	4	40
	Total	**61**	**44**	**135**	**8**	**143**
Retail 21,100 sf	In	10	2	5	0	5
	Out	7	1	4	0	4
	Total	**17**	**3**	**9**	**0**	**9**
p.m. Peak Hour						
Residential 40 units	In	5	3	4	0	4
	Out	3	2	3	0	3
	Total	**8**	**5**	**7**	**0**	**7**
Research and Development Center 539,400 sf	In	11	6	25	6	31
	Out	61	48	131	6	137
	Total	**72**	**54**	**156**	**12**	**168**
Retail 21,100 sf	In	33	5	18	2	20
	Out	35	8	18	2	20
	Total	**68**	**13**	**36**	**4**	**40**

The net vehicle trip generation for the Project was determined by adjusting the Project-generated vehicle trips to account for the removal of the trips associated with the existing uses on the Project site. The net vehicle trip generation for the Project during the weekday a.m. and p.m. peak hours is shown in Table 3-6.

Table 3-6 Net Vehicle Trip Generation

Time Period/Direction		Project-Generated Vehicle Trips	Existing Vehicle Trips (removed)	Net New Vehicle Trips
a.m. Peak Hour	In	109	21	+88
	Out	48	15	+33
	Total	**157**	**36**	**+121**
p.m. Peak Hour	In	55	47	+8
	Out	160	33	+127
	Total	**215**	**80**	**+135**

As shown in Table 3-6, the Project is expected to generate approximately 121 more vehicle trips than the existing conditions during the weekday a.m. peak hour and 135 more vehicle trips during the weekday p.m. peak hour.

Because transit activity associated with the existing site is limited due to the nature of the current businesses (auto repair, car rental, etc.), the transit trips presented in Table 3-5 are all considered new. During the a.m. peak hour, the Project will generate 40 entering transit trips and 12 exiting transit trips. During the p.m. peak hour, the Project will generate 14 entering transit trips and 58 exiting transit trips. Because the number of new trips is relatively small and will be spread over several available transit services, shown in Figure 3-4, no adverse impact to area transit operations is expected. On-going transit and mobility studies by the City of Boston and MassDOT/MBTA are described in Section 3.3.3.

3.4.8 Trip Distribution

The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 4 and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in Figures 3-14 and Figure 3-15.

3.4.9 Build Traffic Volumes

The net trip generation associated with the removal of the existing site trips and the Project-generated vehicle trips were distributed throughout the study area according to the trip distribution patterns. The Project-generated trips at the study area intersections are shown for the weekday a.m. peak hour and the weekday p.m. peak hour in Figure 3-16 and Figure 3-17, respectively.

The trip assignments were added to the No-Build (2025) Condition vehicular traffic volumes to produce the Build (2025) Condition vehicular traffic volumes. The Build (2025) Condition a.m. and p.m. peak hour traffic volumes are shown in Figure 3-18 and Figure 3-19, respectively.

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Figure 3-14
Vehicle Trips Entering

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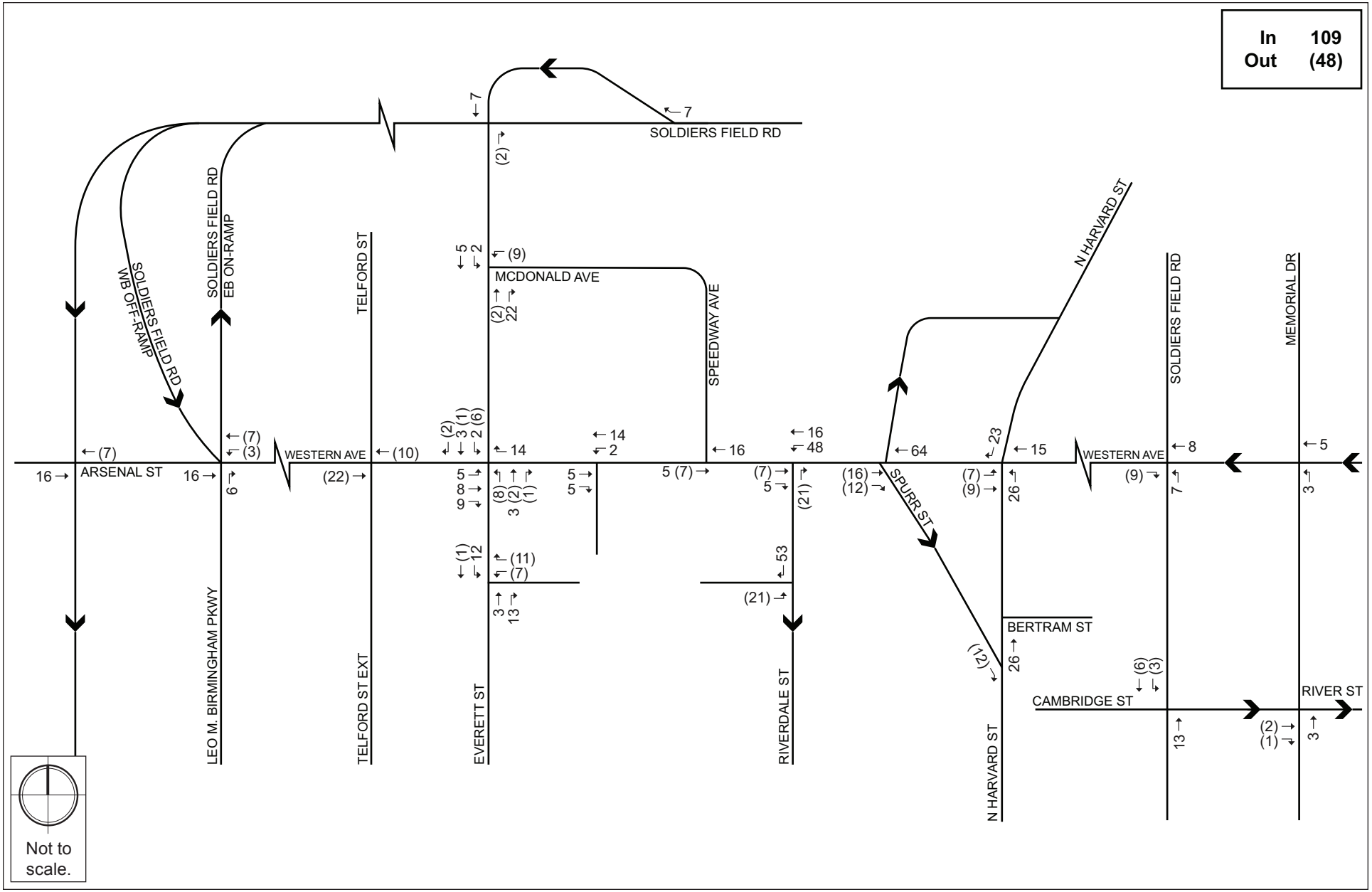
Figure 3-15
Vehicle Trips Exiting

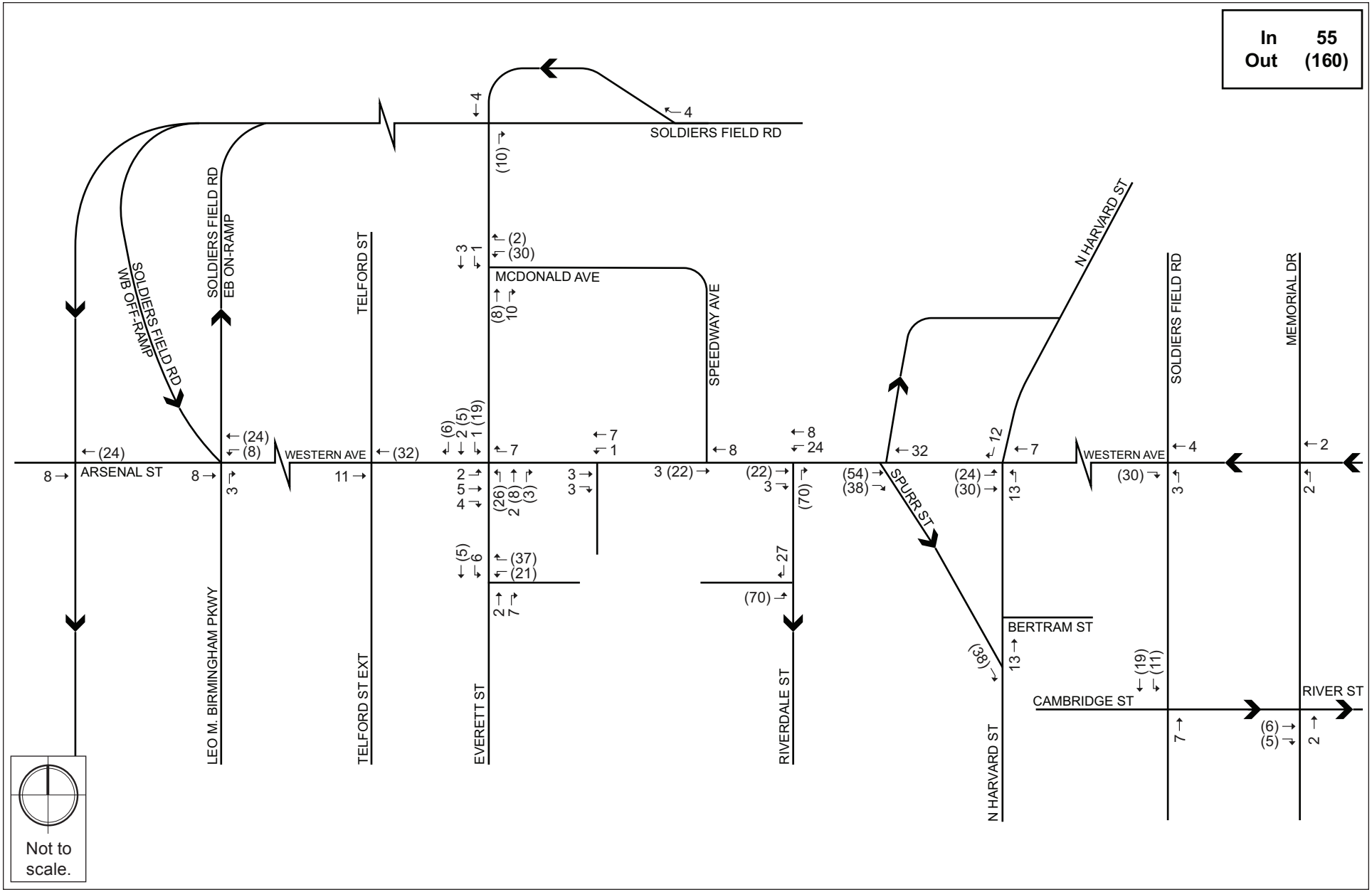


NEXUS at The Allston Innovation Campus Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-16

Project Generated Vehicle Trips, Weekday a.m. Peak Hour



NEXUS at The Allston Innovation Campus Boston, Massachusetts

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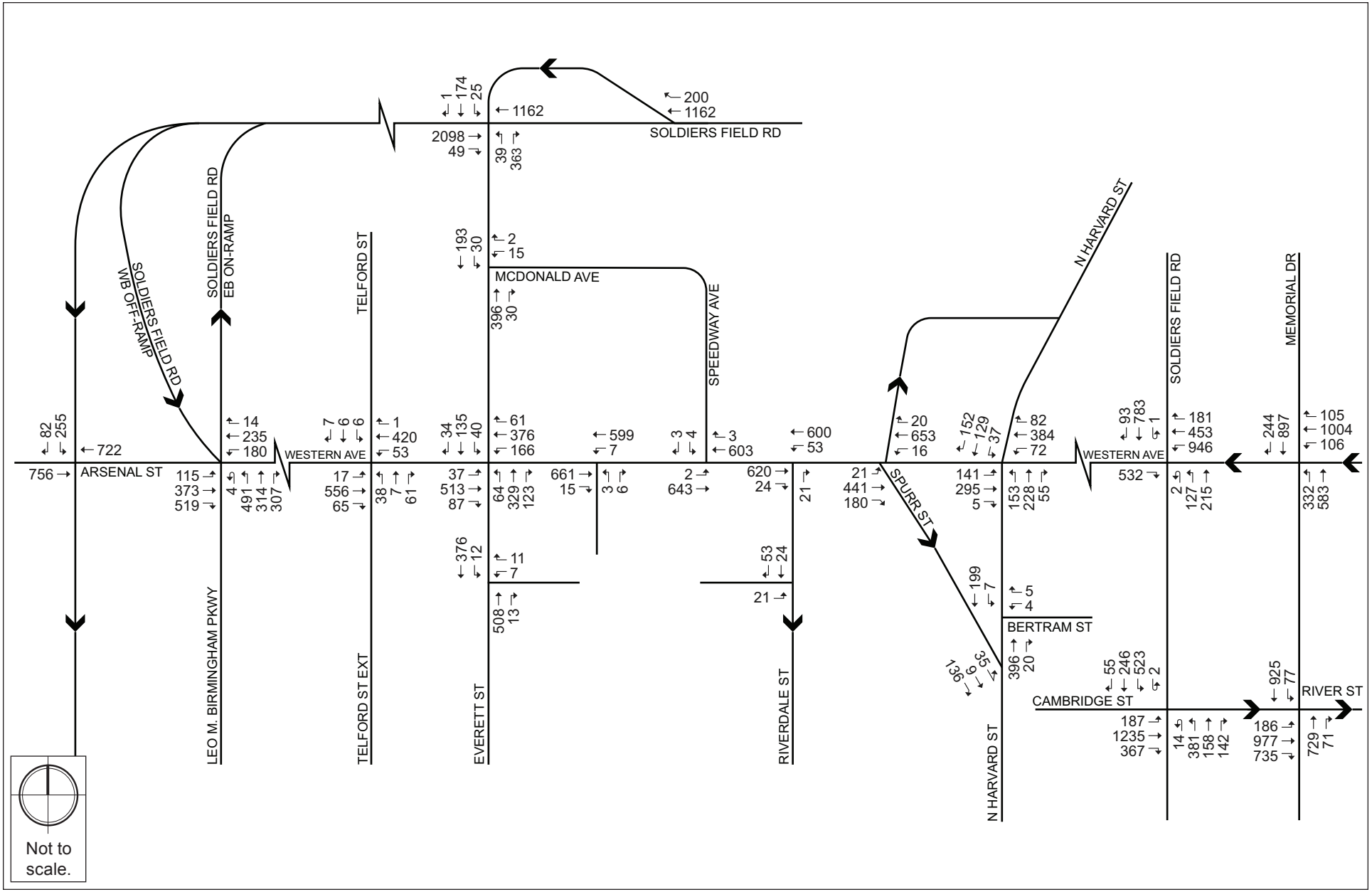
Engineers + Planners

Figure 3-17

Project Generated Vehicle Trips, Weekday p.m. Peak Hour



NEXUS at The Allston Innovation Campus Boston, Massachusetts

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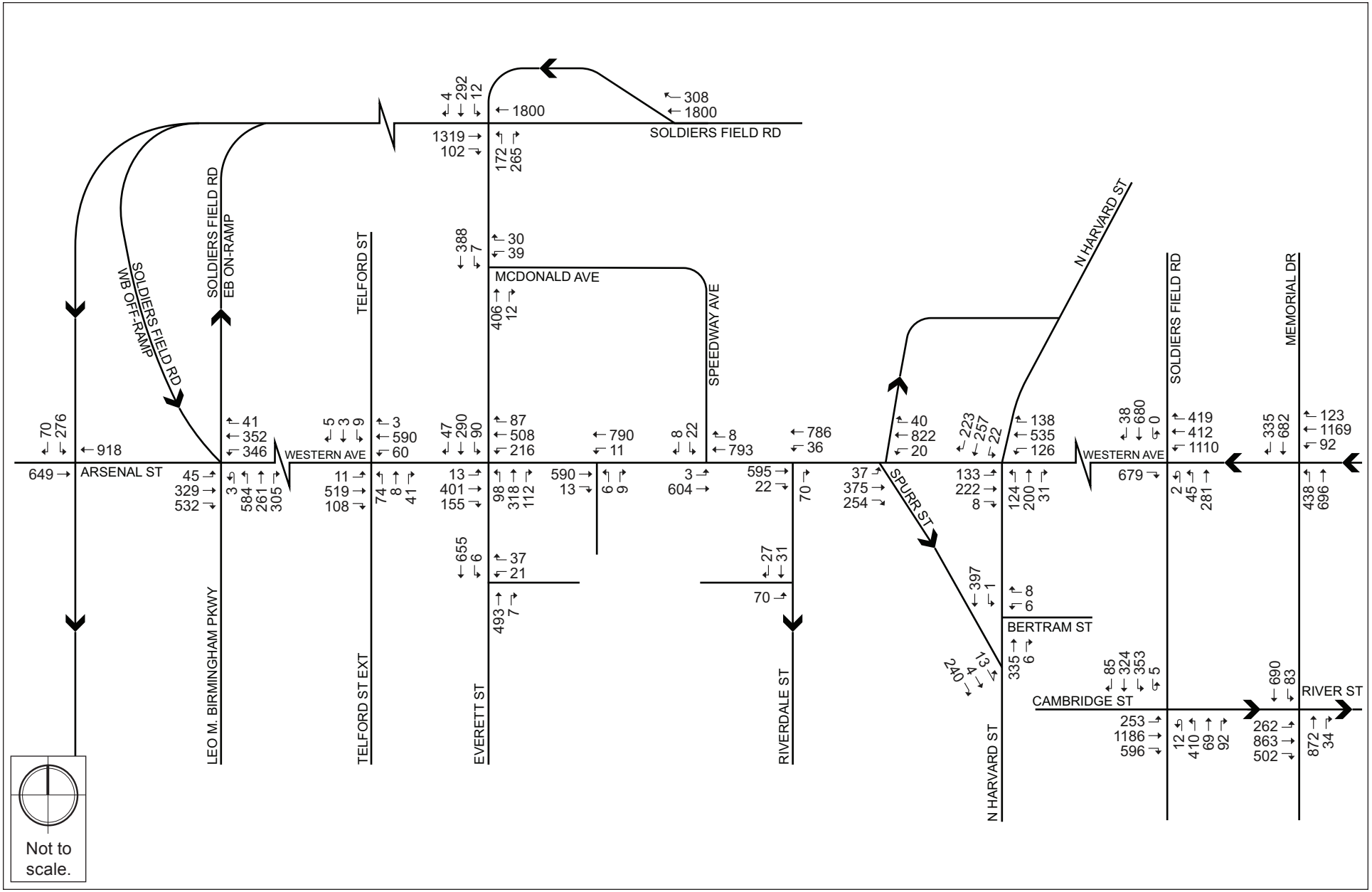
Figure 3-18

Build (2025) Condition Traffic Volumes, Weekday a.m. Peak Hour



NEXUS at The Allston Innovation Campus Boston, Massachusetts

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Figure 3-19

Build (2025) Condition Traffic Volumes, Weekday p.m. Peak Hour

3.4.10 Bicycle Accommodations

Secure bicycle parking will be provided for residents and employees, who will have access to shower/locker rooms. Based on BTD guidelines for bicycle accommodations, the Project will provide approximately 170 secure bicycle spaces for employees (0.3 spaces/1,000 sf) and 40 spaces for residents (1.0 space/ per residential unit). Bicycle spaces will be provided within parking areas of the three Project buildings. If desired, a BLUEbike bicycle sharing station will be located in the Project site in conjunction with BTD's recommendation. Note that three BLUEbike stations are located within five minutes of the Project site, as shown in Figure 3-8, with many more in the wider area.

3.5 Traffic Capacity Analysis

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay experienced by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM). Field observations were performed by HSH to collect intersection geometry such as number of turning lanes, lane length, and lane width that were then incorporated into the operations analysis.

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table 3-7 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered desirable during the peak hours of traffic in urban and suburban settings. However, LOS E or F is often typical for a stop-controlled minor street that intersects a major roadway and does not necessarily indicate that the operations at the intersection are poor or failing.

Table 3-7 Vehicle Level of Service Criteria

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

Source: 2000 Highway Capacity Manual, Transportation Research Board.

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

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

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

Table 3-8 and Table 3-9 present, respectively, the a.m. and p.m. peak hour capacity analysis for the study area intersections under each analysis condition: Existing (2018) Condition, No-Build (2025) Condition, and the Build (2025) Condition. The detailed analysis sheets are provided in Appendix C. The sections below present results for each condition.

3.5.1 Existing (2018) Condition

As shown under the Existing (2018) Conditions of Table 3-8 and Table 3-9, a majority of the study area intersections and approaches operate at acceptable levels of service (LOS D or better) with the exception of the following movements:

The signalized intersection of **Everett Street/Western Avenue** operates at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour. The Western Avenue eastbound shared left-turn/through approach operates at LOS F during the p.m. peak hour. The Western Avenue westbound exclusive left-turn lane operates at LOS F and the westbound shared through/right-turn approach operates at LOS E during the p.m. peak hour. The Everett Street southbound approach operates at LOS E and LOS F during the a.m. and p.m. peak hour, respectively. The longest queues at the intersection occur at the Western Avenue eastbound shared left-turn/through approach during the a.m. peak hour and at the Western Avenue westbound exclusive left-turn approach during the p.m. peak hour.

The signalized intersection of **Everett Street/Soldiers Field Road/** operates at an acceptable LOS during both the peak hours. During the p.m. peak hour, the Everett Street northbound approach operates at LOS F. The longest queues at the intersection occur at the Soldiers Field Road eastbound approach during the a.m. peak hour and at the Soldiers Field Road westbound approach during the p.m. peak hour.

The signalized intersection of **North Harvard Street/Western Avenue** operates at an acceptable LOS during the a.m. and p.m. peak hour. The North Harvard Street southbound shared left-turn/through approach operates at LOS E during the p.m. peak hour. The longest queues at the intersection occur at the Western Avenue westbound through approach during both the a.m. and the p.m. peak hours.

The signalized intersection of **Western Avenue/Arsenal Street/Leo M. Birmingham Parkway/Soldiers Field Off-Ramp** operates at an acceptable LOS during both the peak hours. The Leo M. Birmingham Parkway northbound exclusive left and through lanes operates at LOS E during the a.m. and p.m. peak hours. The Soldiers Field Road Off-ramp southbound left approach operates at LOS E during both the a.m. and p.m. peak hours. The longest queues at the intersection occur on the Arsenal Street eastbound shared through/right lanes during the a.m. peak hour and at the Leo Birmingham Parkway northbound exclusive left-turn lane during the p.m. peak hour.

The signalized intersection of **Soldiers Field Road/Western Avenue** operates at an acceptable LOS during both peak hours. The Western Avenue westbound exclusive left-turn approach operates at LOS E during the a.m. and p.m. peak hours. During the a.m. peak hour only, the Western Avenue westbound approach operates at LOS E. The Soldiers Field Road southbound approach operates at LOS E during the p.m. peak hour. The longest queues at the intersection occur in the Western Avenue westbound exclusive left turn lane during both the a.m. and the p.m. peak hours.

The signalized intersection of **Memorial Drive/Western Avenue** operates at an acceptable LOS during both the a.m. and p.m. peak hours. During the p.m. peak hour, the Western Avenue westbound approach operates at LOS E. The Memorial Drive northbound exclusive left-turn approach operates at LOS F during the p.m. peak hour. The longest queues at the intersection occur at the Memorial Drive southbound approach during the a.m. peak hour and at the Western Avenue westbound approach during the p.m. peak hour.

The signalized intersection of **Soldiers Field Road/Cambridge Street** operates at an acceptable LOS during both the peak hours. The Soldiers Field Road northbound approaches operate at LOS F during the a.m. and p.m. peak hours. The Soldiers Field Road southbound exclusive left and through lanes operate at LOS E during the a.m. peak hour only. The longest queues at the intersection occur at the Soldiers Field Road northbound exclusive left-turn approach during the a.m. peak hour and at the Cambridge Street eastbound left/through lanes during the p.m. peak hour.

3.5.2 No-Build (2025) Condition

As shown under the No-Build (2025) Conditions of Table 3-8 and Table 3-9, a majority of the study area intersections and approaches continue to operate at acceptable levels of service (LOS D or better) with the exception of the following movements:

The signalized intersection of **Everett Street/Western Avenue** deteriorates from LOS D to LOS F during the a.m. peak hour and continues to operate at LOS F during the p.m. peak hour. The Western Avenue eastbound shared left-turn/through approach continues to operate at LOS F during the p.m. peak hour. The Western Avenue westbound exclusive left-turn lane deteriorates from LOS D to LOS F during the a.m. peak hour and continues to operate at LOS F during the p.m. peak hour. The Western Avenue westbound shared through/right-turn approach deteriorates from LOS E to LOS F during the p.m. peak hour. The Everett Street northbound approach deteriorates from LOS D to LOS F during the a.m. peak hour and the southbound approach deteriorates from LOS E to LOS F during the a.m. peak hour and continues to operate at LOS F during the p.m. peak hour. The longest queues at the intersection occur at the Western Avenue eastbound shared left-turn/through approach during the a.m. peak hour and at the Western Avenue westbound exclusive left-turn approach during the p.m. peak hour.

The signalized intersection of **Everett Street/Soldiers Field Road** operates at an acceptable LOS during both the peak hours. The Soldiers Field Road eastbound through and through/right-turn movement deteriorates from LOS D to LOS E during the a.m. peak hour. During the p.m. peak hour, the Everett Street northbound approach continues to operate at LOS F. The longest queues at the intersection occur at the Soldiers Field Road eastbound approach during the a.m. peak hour and at the Soldiers Field Road westbound approach during the p.m. peak hour.

The signalized intersection of **North Harvard Street/Western Avenue** operates at an acceptable LOS during the a.m. and p.m. peak hour. The Western Avenue eastbound left approach deteriorates from LOS C to LOS F during the p.m. peak hour. The Western Avenue westbound right approach deteriorates from LOS A to LOS E during the p.m. peak hour. The North Harvard Street northbound left approach deteriorates from LOS D to LOS E during the p.m. peak hour. The North Harvard Street southbound shared left-turn/through approach deteriorates from LOS D to LOS E during the a.m. peak hour and continues to operate at LOS E during the p.m. peak hour. The longest queues at the intersection occur at the Western Avenue westbound through approach during both the a.m. and the p.m. peak hours.

The signalized intersection of **Western Avenue/Arsenal Street/Leo M. Birmingham Parkway/Soldiers Field Off-Ramp** operates at an acceptable LOS during both the peak hours. The Leo M. Birmingham Parkway northbound left/through approaches improve from LOS E to LOS C during the a.m. peak hour and improves from LOS E to LOS D during the p.m. peak hour. The Soldiers Field Road Off-ramp southbound left lanes continue to operate at LOS E during the a.m. peak hour and improves from LOS E to LOS D during the p.m. peak hours.

The longest queues at the intersection occur at the Leo Birmingham Parkway northbound left/through lanes during the a.m. peak hour and at the Leo Birmingham Parkway northbound left/through lanes during the p.m. peak hour.

The signalized intersection of **Soldiers Field Road/Western Avenue** deteriorates from LOS D to LOS E during the a.m. peak hour and from LOS D to LOS F during the p.m. peak hour. The Western Avenue westbound exclusive left-turn approach deteriorates from LOS E to LOS F during both the a.m. and p.m. peak hours. The Western Avenue westbound approach deteriorate from LOS E to LOS F during the a.m. peak hour and from LOS D to LOS F during the p.m. peak hour. The Soldiers Field Road southbound approach deteriorates from LOS D to LOS E during the a.m. peak hour and from LOS E to LOS F during the p.m. peak hour. The longest queues at the intersection occur at the Western Avenue westbound exclusive left-turn approach during both the a.m. and the p.m. peak hours.

The signalized intersection of **Memorial Drive/Western Avenue** continues to operate at an acceptable LOS during the a.m. peak hour and deteriorates from LOS D to LOS E during the p.m. peak hour. The Western Avenue westbound approach deteriorates from LOS D to LOS E during the a.m. peak hour and from LOS E to LOS F during the p.m. peak hour. The Memorial Drive northbound exclusive left-turn approach deteriorates from LOS D to LOS E during the a.m. peak hour and continues to operate at LOS F during the p.m. peak hour. The longest queues at the intersection occur at the Memorial Drive southbound approach during the a.m. peak hour and at the Western Avenue westbound approach during the p.m. peak hour.

The signalized intersection of **Soldiers Field Road/Cambridge Street** deteriorates from LOS D to LOS F during the a.m. peak hour and from LOS D to LOS E during the p.m. peak hour. The Cambridge Street eastbound left/through lanes deteriorate from LOS D to LOS F during both the a.m. and p.m. peak hours. The Soldiers Field Road northbound approaches continues to operate at LOS F during the a.m. and p.m. peak hours. The Soldiers Field Road southbound approaches continue to operate at LOS E during the a.m. peak hour and the exclusive left-turn approach deteriorates from LOS D to LOS E during the p.m. peak hour. The longest queues at the intersection occur at the Soldiers Field Road northbound exclusive left-turn approach during the a.m. peak hour and at the Cambridge Street eastbound shared left-turn/through | through | through/right-turn approach during the p.m. peak hour.

The signalized intersection of **Memorial Drive/Cambridge Street** continues to operate at an acceptable LOS during both the a.m. and p.m. peak hours. The Cambridge Street approach deteriorates from LOS D to LOS E during the a.m. peak hour and the shared left-turn/through movement deteriorates from LOS D to LOS E during the p.m. peak hour. The longest queues at the intersection occur at the Cambridge Street eastbound shared left/through approach during both the a.m. and the p.m. peak hours.

3.5.3 Build (2025) Condition

All intersections continue to operate at the same overall LOS as under the No-Build (2025) Condition, with the exception of one intersection. The signalized intersection of **Soldiers Field Road/Western Avenue** deteriorates from LOS E to LOS F during the a.m. peak hour and continues to operate at the same LOS during the p.m. peak hour. The Western Avenue eastbound approach decreases from LOS D to E during the p.m. peak hour. As shown in Table 3-7, the threshold for LOS F is 80 seconds. Although the change in overall intersection delay during the a.m. peak hour is less than one second, it does change the operation designation to LOS F. Because of the small delay change, the forecasted impact at this intersection is considered minimal.

All other intersections will operate at the same overall LOS as under No-Build (2025) Conditon. Most individual approaches will continue to operate at the same LOS as under the No-Build (2025) Conditions with the exception of the following movements:

The signalized intersection of **Everett Street/Western Avenue** continues to operate at LOS F as in the No-Build during both the peak hours. During the p.m. peak hour, the Everett Street northbound shared through/right-turn approach decreases from LOS D to E.

The signalized intersection of **North Harvard Street/Western Avenue** continues to operate at the same overall LOS during the weekday a.m. and p.m. peak hours. The Western Avenue eastbound exclusive left-turn approach decreases from LOS D to E during the a.m. peak hour.

The signalized intersection of **Soldiers Field Road/Cambridge Street** continues to operate at the same overall LOS during both the a.m. and p.m. peak hours. The Soldiers Field Road southbound shared left-turn/through and through approach decreases from LOS D to E during the p.m. hour.

The Bertram Street westbound approach, at the unsignalized intersection of **North Harvard Street/Spurr Street/Bertram Street**, decreases from LOS D to E during the p.m. peak hour. All other approaches continue to operate at the same LOS during both the peak hours.

Of the results presented above, most are minor increases to approach delay and do not represent a significant impact to overall intersection operation. The exception is the intersection of Everett Street/Western Avenue which operates near capacity today during the p.m. peak hour. This intersection is forecast to operate at LOS F under No-Build Conditions without the Project and additional vehicle trips generated by the Project will cause longer delays.

To mitigate the conditions at the Everett Street/Western Avenue intersection, the Proponent is proposing to change the signal phasing, including conversion from exclusive to concurrent pedestrian phasing, and a lane reconfiguration to reduce delays and improve pedestrian safety. The proposed improvements are presented in the next section.

Table 3-8 Capacity Analysis Summary, Weekday a.m. Peak Hour

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)	
				50th	95th				50th	95th				50th	95th
Signalized Intersections															
Everett Street/Western Avenue	**D**	**39.8**	**-**	**-**	**-**	**F**	**100.1**	**-**	**-**	**-**	**F**	**123.4**	**-**	**-**	**-**
Western Ave EB left/thru	C	34.9	0.79	~328	#522	D	42.7	0.88	~385	#573	D	52.4	0.95	~408	#593
Western Ave EB right	A	1.7	0.12	1	9	A	1.7	0.12	1	9	A	2.4	0.13	1	12
Western Ave WB left	D	54.5	0.70	~58	#156	F	>80.0	>1.00	~148	#266	F	>80.0	>1.00	~149	#266
Western Ave WB thru/right	C	25.0	0.54	190	#334	C	29.2	0.65	235	#413	C	29.7	0.67	241	#424
Everett St NB left	C	27.9	0.25	23	56	C	29.1	0.28	24	57	C	30.4	0.32	27	64
Everett St NB thru/right	D	54.9	0.90	180	#349	F	>80.0	>1.00	~263	#445	F	>80.0	>1.00	~266	#448
Everett St SB left/thru/right	E	60.4	0.86	98	#214	F	>80.0	>1.00	~165	#291	F	>80.0	>1.00	~189	#317
Riverdale Avenue/Western Avenue	**A**	**5.9**	**-**	**-**	**-**	**A**	**6.2**	**-**	**-**	**-**	**A**	**2.5**	**-**	**-**	**-**
Western Ave EB thru/right	A	6.3	0.43	0	223	A	6.6	0.48	0	269	A	2.4	0.43	0	124
Western Ave WB left/thru	A	5.4	0.35	0	162	A	5.8	0.42	0	215	A	2.6	0.44	0	124
Riverdale Ave NB right	-	-	-	-	-	-	-	-	-	-	A	0.1	0.03	0	0
Everett Street/Soldiers Field Road	**D**	**36.8**	**-**	**-**	**-**	**D**	**43.0**	**-**	**-**	**-**	**D**	**43.0**	**-**	**-**	**-**
Soldiers Field Rd EB thru | thru/right	D	52.8	1.05	~575	#713	E	62.6	>1.00	~603	#743	E	62.6	>1.00	~603	#743
Soldiers Field Rd WB thru | thru	B	12.2	0.58	171	227	B	12.7	0.61	185	245	B	12.7	0.61	185	245
Everett Street NB left/right	C	29.1	0.77	115	#251	D	39.1	0.87	146	#313	D	39.4	0.87	147	#314
Everett Street SB left/thru/right	C	26.5	0.43	73	131	C	27.4	0.47	79	140	C	27.7	0.48	81	144
Telford Street/Western Avenue	**A**	**5.9**	**-**	**-**	**-**	**A**	**6.0**	**-**	**-**	**-**	**A**	**6.1**	**-**	**-**	**-**
Western Ave EB left/thru/right	A	4.6	0.46	82	168	A	5.1	0.50	93	196	A	5.3	0.52	99	205
Western Ave WB left	A	0.5	0.09	0	m0	A	0.5	0.09	0	m0	A	0.5	0.10	0	m0
Western Ave WB thru/right	A	0.8	0.29	1	m1	A	0.7	0.31	1	m1	A	0.8	0.31	1	m1
Telford St NB left/thru	D	40.6	0.40	28	50	D	40.7	0.40	29	50	D	40.7	0.40	29	50
Telford St NB right	B	12.4	0.34	0	23	B	12.4	0.35	0	24	B	12.4	0.35	0	24
Telford St Ext. SB left/thru/right	C	25.3	0.18	19	256	C	25.2	0.18	9	19	C	25.2	0.18	9	19

Table 3-8 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)	
				50th	95th				50th	95th				50th	95th
N. Harvard Street/Western Avenue	**C**	**29.1**	-	-	-	**D**	**38.3**	-	-	-	**D**	**39.6**	-	-	-
Western Ave EB left	C	26.6	0.45	61	116	D	50.5	0.75	68	#164	E	60.2	0.82	71	#182
Western Ave EB thru/right	C	30.2	0.43	134	225	D	36.7	0.59	191	288	D	37.1	0.60	195	295
Western Ave WB left	C	20.7	0.19	32	63	C	23.8	0.27	37	66	C	23.9	0.27	37	66
Western Ave WB thru	C	32.2	0.53	175	260	D	46.7	0.80	285	#411	D	48.7	0.83	297	#431
Western Ave WB right	A	4.1	0.33	0	0	A	7.5	0.47	0	0	A	7.5	0.47	0	0
N. Harvard St NB left	C	32.9	0.44	71	123	D	36.6	0.51	72	125	D	39.9	0.59	85	143
N. Harvard NB thru/right	C	32.6	0.55	151	236	D	35.5	0.60	166	257	D	35.5	0.60	166	257
N. Harvard SB left/thru	D	51.2	0.64	92	157	E	65.6	0.80	120	#217	E	65.6	0.80	120	#217
N. Harvard SB right	A	6.5	0.28	0	45	A	6.4	0.28	0	45	A	6.3	0.32	0	48
Western Avenue/Arsenal Street/ Birmingham Parkway/Soldiers Field Off-Ramp	**C**	**26.6**	-	-	-	**C**	**27.9**	-	-	-	**C**	**27.8**	-	-	-
Arsenal St EB left	B	17.9	0.51	41	m60	C	28.6	0.34	51	72	C	27.5	0.33	51	71
Arsenal St EB thru | thru/right	D	37.1	0.77	443	404	D	37.1	0.72	217	258	D	35.8	0.72	236	272
Arsenal St EB right	-	-	-	-	-	A	4.8	0.65	5	14	A	4.3	0.64	4	13
Western Ave WB left	A	4.8	0.20	5	6	D	38.4	0.47	114	152	D	38	0.48	113	154
Western Ave WB thru | thru/right	C	22.6	0.18	74	104	C	30.6	0.26	78	96	C	30.1	0.26	78	98
Birmingham Pky NB left	E	65.9	0.77	227	#365	C	31.1	0.53	232	#443	C	31.8	0.54	236	#443
Birmingham Pky NB left/thru | thru	E	58.2	0.77	237	307	C	30.9	0.53	244	#458	C	31.6	0.54	249	#458
Birmingham Pky NB right	A	8.7	0.54	0	80	D	40.2	0.90	40	#203	D	40.5	0.90	40	#205
Soldiers Field SB Off-ramp left | left	E	58.9	0.53	91	134	E	56.8	0.65	106	145	E	56.8	0.65	106	145
Soldiers Field SB Off-ramp thru | thru/right	B	14.9	0.22	5	33	B	12.1	0.32	0	46	A	0	0.00	0	0
Soldiers Field Road/Western Avenue	**D**	**52.6**	-	-	-	**E**	**79.6**	-	-	-	**F**	**80.1**	-	-	-
Western Ave EB right | right	D	37.3	0.77	142	194	D	40.8	0.83	178	236	D	41.6	0.84	181	#244
Western Ave WB left	E	69.7	0.97	~384	#603	F	>80.0	>1.00	~440	#664	F	>80.0	>1.00	~454	#681
Western Ave WB left/thru | thru/right	E	58.7	0.98	~381	#518	F	>80.0	>1.00	~447	#585	F	>80.0	>1.00	~444	#581
Soldiers Field Rd NB left/thru | thru	C	33.5	0.38	82	111	C	34.0	0.47	114	148	C	34.2	0.48	116	151
Soldiers Field Rd SB thru | thru/right	D	51.6	0.92	277	#395	E	70.2	>1.00	~321	#460	E	70.2	>1.00	~321	#460

Table 3-8 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
Memorial Drive/Western Avenue	**D**	**41.4**	-	-	-	**D**	**46.3**	-	-	-	**D**	**46.6**	-	-	-
Western Ave WB left/thru | thru | thru/right	D	45.7	0.87	280	339	E	55.6	0.96	321	#421	E	56.1	0.96	323	#423
Memorial Drive NB left	D	53.2	0.83	187	#341	E	55.0	0.85	193	#351	E	55.5	0.85	195	#356
Memorial Drive NB thru	B	12.8	0.52	223	312	B	13.0	0.53	229	321	B	13	0.53	229	321
Memorial Drive SB thru | thru/right	D	48.3	0.95	443	#572	D	51.3	0.97	456	#589	D	51.3	0.97	456	#589
Soldiers Field Road/Cambridge Street	**D**	**50.3**	-	-	-	**F**	**84.8**	-	-	-	**F**	**86.1**	-	-	-
Cambridge St EB left/thru | thru | thru/right	D	42.6	0.71	408	450	F	>80.0	0.74	434	495	F	>80.0	0.74	434	495
Cambridge St EB right	A	3.9	0.44	1	62	A	4.9	0.44	13	86	A	4.9	0.44	13	86
Soldiers Field Rd NB left	F	83.0	0.88	275	#497	F	>80.0	>1.00	~442	#654	F	>80.0	>1.00	~450	#661
Soldiers Field Rd NB thru/right	F	84.4	0.91	240	#464	F	>80.0	>1.00	~418	#632	F	>80.0	>1.00	~430	#644
Soldiers Field Rd SB left	E	72.0	0.83	286	#374	E	75.3	0.87	303	#413	E	75.7	0.87	305	#415
Soldiers Field Rd SB left/thru | thru	E	57.7	0.75	260	300	E	60.6	0.80	288	328	E	61	0.81	291	331
Soldiers Field Rd SB right	A	3.0	0.16	0	6	A	3.2	0.17	0	7	A	3.2	0.17	0	7
Memorial Drive/Cambridge Street	**D**	**43.7**	-	-	-	**D**	**51.5**	-	-	-	**D**	**51.9**	-	-	-
Cambridge St EB left/thru | thru	D	40.6	0.88	~625	m#764	E	57.1	0.96	~731	m#848	E	57.6	0.97	~732	m#847
Cambridge St EB right	D	47.1	0.93	~263	m#818	E	57.8	0.95	~184	m#821	E	58.9	0.95	~185	m#819
Memorial Drive NB thru | thru/right	D	45.4	0.73	352	430	D	45.6	0.74	361	440	D	45.7	0.74	362	441
Memorial Drive SB left/thru | thru	D	43.3	0.89	362	434	D	45.3	0.91	371	#459	D	45.3	0.91	371	#460
Unsignalized Intersections															
Everett Street/McDonald Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
McDonald Ave WB left/right	B	11.5	0.04	-	3	B	12.0	0.04	-	3	B	12.6	0.08	-	6
Everett St NB thru/right	A	0.0	0.24	-	0	A	0.0	0.27	-	0	A	0.0	0.28	-	0
Everett ST SB left/thru	A	1.3	0.03	-	2	A	1.3	0.03	-	2	A	1.4	0.03	-	2
Speedway Avenue/Western Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western Ave EB left/thru/right	A	0.1	0.00	-	0	A	0.1	0.00	-	0	A	0.1	0.00	-	-
Western Ave WB left/thru/right	A	0.0	0.00	-	0	A	0.0	0.00	-	0	A	0.0	0.38	-	0
Driveway NB left/thru/right	B	12.0	0.01	-	1	B	12.9	0.01	-	1	-	-	-	-	-
Speedway Ave SB left/thru/right	C	16.4	0.04	-	3	C	18.1	0.04	-	3	C	18.9	0.04	-	3

Table 3-8 Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)		LOS	Delay (s)	V/C Ratio	Queues (ft)	
				50th	95th				50th	95th				50th	95th
Spurr Street/Western Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western Ave EB left/thru/right	A	0.6	0.02	-	2	A	0.7	0.03	-	2	A	0.7	0.03	-	2
Western Ave WB left/thru/right	A	0.5	0.02	-	1	A	0.5	0.02	-	1	A	0.5	0.02	-	1
N. Harvard Street/Spurr Street/Bertram Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spurr St EB left/thru/right	B	14.7	0.34	-	38	C	15.5	0.36	-	41	C	15.9	0.38	-	45
Bertram St WB left/right	C	17.7	0.04	-	3	C	18.8	0.04	-	3	C	19.8	0.05	-	4
N. Harvard St NB thru/right	A	0.0	0.23	-	0	A	0.0	0.24	-	0	A	0.0	0.26	-	0
N. Harvard St SB left/thru	A	0.4	0.01	-	1	A	0.4	0.01	-	1	A	0.4	0.01	-	1

Grey Shading indicates LOS E or F under the Existing Condition or a change from LOS D or better in a previous condition to LOS E or F..
Black Shading indicates an improvement from LOS E or F.
~ 50th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal

Table 3-9 Capacity Analysis Summary, Weekday p.m. Peak Hour

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
Signalized Intersections															
Everett Street/Western Avenue	**F**	**91.4**	-	-	-	**F**	**211.7**	-	-	-	**F**	**253.1**	-	-	-
Western Ave EB left/thru	F	>80.0	>1.00	~266	#449	F	>80.0	>1.00	~301	#548	F	>80.0	>1.00	~294	#544
Western Ave EB right	A	3.5	0.26	1	21	A	4.6	0.27	5	26	A	4.5	0.28	4	27
Western Ave WB left	F	>80.0	0.94	87	#211	F	>80.0	>1.00	~195	#339	F	>80.0	>1.00	~189	#331
Western Ave WB thru/right	E	62.1	0.94	317	#538	F	>80.0	>1.00	~401	#611	F	>80.0	>1.00	~398	#609
Everett St NB left	D	36.8	0.40	39	87	D	37.6	0.42	40	#91	D	46.3	0.59	58	#143
Everett St NB thru/right	D	39.4	0.73	204	#365	D	54.2	0.89	~305	#488	E	56.0	0.91	~314	#498
Everett St SB left/thru/right	F	>80.0	>1.00	~353	#536	F	>80.0	>1.00	~418	#603	F	>80.0	>1.00	~470	#590
Riverdale Avenue/Western Avenue	**A**	**6.4**	-	-	-	**A**	**7.6**	-	-	-	**A**	**4.2**	-	-	-
Western Ave EB thru/right	A	5.5	0.40	117	180	A	6.0	0.44	138	212	A	3.0	0.44	33	65
Western Ave WB left/thru	A	7.1	0.52	182	282	A	8.7	0.61	246	392	A	5.3	0.62	61	137
Riverdale Ave NB right	-	-	-	-	-	-	-	-	-	-	A	0.5	0.13	0	0
Everett Street/Soldiers Field Road	**D**	**47.5**	-	-	-	**E**	**58.4**	-	-	-	**E**	**59.7**	-	-	-
Soldiers Field Rd EB thru | thru/right	B	14.2	0.70	226	300	B	15.1	0.74	246	326	B	15.1	0.74	246	326
Soldiers Field Rd WB thru | thru	C	24.1	0.92	376	#571	C	27.7	0.95	402	#603	C	27.7	0.95	402	#603
Everett Street NB left/right	F	>80.0	>1.00	~252	#409	F	>80.0	>1.00	~303	#468	F	>80.0	>1.00	~309	#475
Everett Street SB left/thru/right	C	31.5	0.65	133	218	C	32.6	0.68	140	227	C	32.7	0.68	140	228
Telford Street/Western Avenue	**A**	**6.9**	-	-	-	**A**	**6.9**	-	-	-	**A**	**6.8**	-	-	-
Western Ave EB left/thru/right	A	5.2	0.43	97	197	A	5.8	0.48	112	230	A	5.8	0.48	113	230
Western Ave WB left	A	0.3	0.10	0	m0	A	0.1	0.11	0	m0	A	0.2	0.11	0	m0
Western Ave WB thru/right	A	0.7	0.40	1	m1	A	0.7	0.42	1	m1	A	0.7	0.44	1	m1
Telford St NB left/thru	D	47.3	0.55	51	89	D	47.2	0.55	52	89	D	47.2	0.55	52	89
Telford St NB right	B	12.2	0.21	0	26	B	12.1	0.21	0	26	B	12.1	0.21	0	26
Telford St Ext. SB left/thru/right	C	27.4	0.19	13	17	C	27.4	0.19	13	17	C	27.4	0.19	13	17

Table 3-9 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
N. Harvard Street/Western Avenue	**D**	**35.8**	**-**	**-**	**-**	**D**	**47.7**	**-**	**-**	**-**	**D**	**50.9**	**-**	**-**	**-**
Western Ave EB left	C	32.5	0.52	62	108	F	>80.0	0.92	69	#173	F	>80.0	>1.00	~102	#217
Western Ave EB thru/right	C	29.5	0.25	97	158	C	32.1	0.35	150	215	C	33.1	0.39	172	241
Western Ave WB left	C	23.8	0.25	62	109	C	26.0	0.32	74	119	C	26.4	0.34	74	119
Western Ave WB thru	D	39.3	0.67	326	471	D	53.5	0.88	496	#712	D	53.6	0.88	497	#712
Western Ave WB right	A	8.4	0.45	0	0	E	61.6	0.93	0	#114	E	61.6	0.93	0	#114
N. Harvard St NB left	D	51.4	0.66	88	135	E	57.0	0.72	90	#147	E	58.0	0.73	92	#150
N. Harvard NB thru/right	D	38.7	0.49	167	232	D	38.3	0.50	180	248	D	38.3	0.50	180	248
N. Harvard SB left/thru	E	65.0	0.79	194	289	E	69.4	0.85	236	#364	E	69.4	0.85	236	#364
N. Harvard SB right	A	6.1	0.38	0	60	A	8.2	0.38	15	78	A	8.3	0.39	15	79
Western Avenue/Arsenal Street/ Birmingham Parkway/Soldiers Field Off-Ramp	**C**	**28.7**	**-**	**-**	**-**	**C**	**31.7**	**-**	**-**	**-**	**C**	**31.9**	**-**	**-**	**-**
Arsenal St EB left	A	3.2	0.19	0	m1	C	29.3	0.15	24	45	C	29.1	0.15	24	45
Arsenal St EB thru | thru/right	D	51.4	0.95	614	357	D	44.3	0.69	231	288	D	44.2	0.70	231	289
Arsenal St EB right	-	-	-	-	-	A	8.5	0.68	14	49	A	8.4	0.68	13	46
Western Ave WB left	C	34.9	0.60	176	277	D	44.9	0.74	216	#350	D	45.8	0.75	221	#365
Western Ave WB thru | thru/right	C	23.9	0.27	115	154	C	27.6	0.35	110	153	C	27.9	0.37	117	161
Birmingham Pky NB left	E	75.7	0.87	268	#443	D	35.9	0.69	274	#446	D	35.9	0.69	274	#446
Birmingham Pky NB left/thru | thru	E	57.2	0.76	233	302	D	35.8	0.69	286	#461	D	35.8	0.69	286	#461
Birmingham Pky NB right	A	8.8	0.54	0	79	D	38.1	0.89	39	#201	D	38.5	0.90	39	#202
Soldiers Field SB Off-ramp left | left	E	60.4	0.59	108	153	D	46.6	0.56	105	140	D	46.6	0.56	105	140
Soldiers Field SB Off-ramp thru | thru/right	B	15.3	0.20	4	30	B	11.4	0.28	0	40	B	11.4	0.28	0	40
Soldiers Field Road/Western Avenue	**D**	**50.5**	**-**	**-**	**-**	**F**	**91.4**	**-**	**-**	**-**	**F**	**94.5**	**-**	**-**	**-**
Western Ave EB right | right	D	38.0	0.77	134	184	D	51.9	0.93	225	#349	E	55.3	0.95	238	#371
Western Ave WB left	E	59.3	0.97	448	#779	F	>80.0	>1.00	~592	#835	F	>80.0	>1.00	~592	#835
Western Ave WB left/thru | thru/right	D	46.0	0.97	415	#645	F	>80.0	>1.00	~558	#701	F	>80.0	>1.00	~558	#702
Soldiers Field Rd NB left/thru | thru	D	36.8	0.48	100	131	C	32.6	0.41	102	143	C	32.4	0.41	102	143
Soldiers Field Rd SB thru | thru/right	E	66.9	0.96	220	#336	F	>80.0	>1.00	~274	#393	F	>80.0	>1.00	~274	#393

Table 3-9 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
Memorial Drive/Western Avenue	**D**	**50.6**	**-**	**-**	**-**	**E**	**60.7**	**-**	**-**	**-**	**E**	**60.8**	**-**	**-**	**-**
Western Ave WB left/thru | thru | thru/right	E	67.8	1.02	~367	#475	F	>80.0	>1.00	~430	#528	F	>80.0	>1.00	~430	#528
Memorial Drive NB left	F	>80.0	>1.00	~258	#472	F	>80.0	>1.00	~291	#495	F	>80.0	>1.00	~293	#497
Memorial Drive NB thru	B	14.4	0.60	279	391	B	14.7	0.61	287	400	B	14.7	0.61	287	400
Memorial Drive SB thru | thru/right	D	39.7	0.88	371	#459	D	41.4	0.89	382	#487	D	41.4	0.89	382	#487
Soldiers Field Road/Cambridge Street	**D**	**45.5**	**-**	**-**	**-**	**E**	**67.7**	**-**	**-**	**-**	**E**	**67.8**	**-**	**-**	**-**
Cambridge St EB left/thru | thru | thru/right	D	43.9	0.72	434	506	F	>80.0	0.80	490	573	F	>80.0	0.80	490	573
Cambridge St EB right	A	4.4	0.51	0	77	A	4.8	0.55	2	86	A	4.8	0.55	2	86
Soldiers Field Rd NB left	F	>80.0	0.86	250	#398	F	>80.0	0.92	287	#472	F	>80.0	0.92	287	#472
Soldiers Field Rd NB thru/right	F	>80.0	0.92	231	#398	F	>80.0	0.96	266	#464	F	>80.0	0.96	266	#464
Soldiers Field Rd SB left	D	54.4	0.52	160	246	E	59.4	0.66	215	314	E	60.3	0.67	221	323
Soldiers Field Rd SB left/thru | thru	D	51.2	0.52	166	219	D	54.2	0.65	220	280	E	55.0	0.67	231	293
Soldiers Field Rd SB right	A	7.6	0.22	0	39	A	7.7	0.22	0	40	A	7.7	0.22	0	40
Memorial Drive/Cambridge Street	**C**	**34.0**	**-**	**-**	**-**	**D**	**42.0**	**-**	**-**	**-**	**D**	**42.5**	**-**	**-**	**-**
Cambridge St EB left/thru | thru	D	37.0	0.87	~623	#762	E	59.5	1.00	~772	m#890	E	60.8	>1.00	~777	m#894
Cambridge St EB right	B	13.7	0.67	282	m416	B	15.0	0.70	315	m#451	B	15.4	0.71	320	m#470
Memorial Drive NB thru | thru/right	D	42.2	0.72	368	445	D	42.1	0.73	377	455	D	42.1	0.73	377	455
Memorial Drive SB left/thru | thru	C	33.9	0.79	270	317	C	34.3	0.80	276	324	C	34.3	0.80	276	324
Unsignalized Intersections															
Everett Street/McDonald Avenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
McDonald Ave WB left/right	B	13.9	0.15	-	13	C	15.4	0.17	-	15	C	20.2	0.34	-	37
Everett St NB thru/right	A	0.0	0.32	-	0	A	0.0	0.38	-	0	A	0.0	0.38	-	0
Everett ST SB left/thru	A	0.3	0.01	-	1	A	0.3	0.01	-	1	A	0.3	0.01	-	1
Speedway Avenue/Western Avenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Western Ave EB left/thru/right	A	0.1	0.00	-	0	A	0.1	0.00	-	0	A	0.1	0.00	-	0
Western Ave WB left/thru/right	A	0.0	0.00	-	0	A	0.0	0.00	-	0	A	0.0	0.51	-	0
Driveway NB left/thru/right	A	0.0	0.00	-	0	A	0.0	0.00	-	0	-	-	-	-	-
Speedway Ave SB left/thru/right	C	20.0	0.17	-	15	C	25.0	0.21	-	19	C	22.0	0.19	-	17

Table 3-9 Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

Intersection/Movement	Existing (2018) Condition					No-Build (2025) Condition					Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
Spurr Street/Western Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western Ave EB left/thru/right	A	1.5	0.06	-	4	A	1.9	0.07	-	6	A	1.9	0.07	-	6
Western Ave WB left/thru/right	A	0.6	0.02	-	2	A	0.6	0.02	-	2	A	0.7	0.02	-	2
N. Harvard Street/Spurr Street/Bertram Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spurr St EB left/thru/right	C	19.7	0.51	-	70	C	22.7	0.56	-	84	D	25.3	0.63	-	105
Bertram St WB left/right	D	26.8	0.11	-	9	D	32.6	0.13	-	11	E	39.1	0.16	-	14
N. Harvard St NB thru/right	A	0.0	0.21	-	0	A	0.0	0.22	-	0	A	0.0	0.22	-	0
N. Harvard St SB left/thru	A	0.0	0.00	-	0	A	0.0	0.00	-	0	A	0.0	0.00	-	0

Grey Shading indicates LOS E or F under the Existing Condition or a change from LOS D or better in a previous condition to LOS E or F.
Black Shading indicates an improvement from LOS E or F.
~ 50th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal

3.5.4 Mitigation (2025) Condition

Under the No-Build Condition, without inclusion of the Project, the intersection of Everett Street/Western Avenue is forecast to operate at LOS F with 100 seconds of delay in the a.m. peak hour and 212 seconds of delay in the p.m. peak hour. Under the Build Condition, with net new trips from the Project, operations continue at LOS F with slightly higher delays. The study team evaluated modifications to improve operations that will ultimately benefit all users of this intersection, including Project traffic.

3.5.4.1 Pedestrian Phasing Modification

The existing signal provides for an exclusive pedestrian phase. As background, there are two primary options for pedestrian phasing: an exclusive phase or a concurrent phase. An exclusive pedestrian phase is an additional phase in the signal cycle that is provided only for pedestrian movements while all vehicle traffic is stopped. A concurrent pedestrian phase is when pedestrians are able to cross while parallel and conflicting vehicular traffic are also moving. Under most circumstances, concurrent pedestrian phasing provides the least amount of delay for pedestrians and motorists due to shorter cycle lengths, and, therefore, can reduce non-compliance (jaywalking) and increase safety. The City of Boston encourages the use of concurrent phasing within certain traffic volume thresholds.

Along with concurrent phasing, the use of a leading pedestrian interval (LPI) gives pedestrians a short "head start" of about 3 to 7 seconds prior to a green phase for vehicles travelling in the same direction as the pedestrian, allowing pedestrians to be more visible to turning vehicles. Implementing concurrent pedestrian phasing with an LPI would improve operations at the Everett Street/Western Avenue intersection.

Currently, left turning vehicles from westbound Western Avenue onto Everett Street have an exclusive left turn bay with about 90 feet of storage. The signal, however, does not provide an exclusive phase for this left turn. Adding an exclusive phase for these westbound left turns, in combination with the concurrent pedestrian phasing, would improve overall intersection operations.

Capacity analysis results for the mitigation option are shown in Table 3-10.

Table 3-10 Mitigation Condition Capacity Analysis Summary

Intersection/Movement	Build (2025) Condition					Mitigation Build (2025) Condition				
	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th	LOS	Delay (s)	V/C Ratio	Queues (ft) 50th	Queues (ft) 95th
a.m. peak hour										
Everett Street/Western Avenue	**F**	**123.4**	**-**	**-**	**-**	**D**	**40.5**	**-**	**-**	**-**
Western Ave EB left/thru	D	52.4	0.95	~408	#593	D	51.2	0.91	393	#619
Western Ave EB right	A	2.4	0.13	1	12	A	6.8	0.14	6	39
Western Ave WB left	F	219.0	1.33	~149	#266	D	38.5	0.65	65	102
Western Ave WB thru/right	C	29.7	0.67	241	#424	B	18.8	0.53	212	297
Everett St NB left	C	30.4	0.32	27	64	C	30.2	0.23	34	71
Everett St NB thru/right	F	114.2	1.13	~266	#448	D	50.8	0.86	297	#479
Everett St SB left/thru/right	F	507.7	2.02	~189	#317	E	56.8	0.82	150	#275
Everett St SB left	-	-	-	-	-	-	-	-	-	-
Everett St SB thru/right	-	-	-	-	-	-	-	-	-	-
p.m. peak hour										
Everett Street/Western Avenue	**F**	**253.1**	**-**	**-**	**-**	**E**	**66.1**	**-**	**-**	**-**
Western Ave EB left/thru	F	281.3	1.54	~294	#544	E	57.7	0.89	322	#533
Western Ave EB right	A	4.5	0.28	4	27	B	11.2	0.27	28	82
Western Ave WB left	F	329.8	1.61	~189	#331	D	48.8	0.75	105	#175
Western Ave WB thru/right	F	85.7	1.06	~398	#609	C	33.5	0.76	391	547
Everett St NB left	D	46.3	0.59	58	#143	C	30.7	0.39	60	112
Everett St NB thru/right	E	56.0	0.91	~314	#498	D	35.5	0.70	297	418
Everett St SB left/thru/right	F	764.7	2.63	~470	#590	F	188.7	1.31	~457	#667
Everett St SB left	-	-	-	-	-	-	-	-	-	-
Everett St SB thru/right	-	-	-	-	-	-	-	-	-	-

Grey Shading indicates LOS E or F.
Black Shading indicates an improvement from LOS E or F.
~ 50th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is the maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal

The mitigation option incorporates new concurrent pedestrian phasing and an additional exclusive phase for the Western Avenue westbound left turn lane. The cycle is lengthened from 80 seconds to 120 seconds. The overall LOS would be improved from LOS F to LOS D during the a.m. peak hour and from LOS F to LOS E during the p.m. peak hour.

The Proponent is committed to instituting the changes under the mitigation option at the Everett Street/Western Avenue intersection to improve pedestrian safety and reduce vehicle delay. With these changes, the intersection will operate at a better LOS than under Existing Conditions.

3.5.4.2 Pedestrian/Bicycle Environment Modifications

- The Proponent will set back the Project buildings along Western Avenue and Everett Street to create wider sidewalks and enhance the pedestrian environment with tree wells and planting zones.
- Adequate street width on Western Avenue will be maintained/created adjacent to the Project site to support 1) protected bicycle lanes along Western Avenue and 2) potential bus-only lanes, should the City implement such a service in the future. The Proponent will construct a protected bicycle lane along the southern side of Western Avenue between Riverdale Street and Everett Street and preserve the necessary right-of-way along the northern side of Western Avenue adjacent to the 305 Western Avenue building.

3.6 Travel Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project related traffic impacts.

In addition to the measures described below, the Proponent will continue to work with the City to create a complete street environment along the Western Avenue corridor that supports safe facilities for pedestrians, bicycles, transit buses, and vehicles. The Proponent will set back the Project buildings along Western Avenue and Everett Street to create wider sidewalks and enhance the pedestrian environment with tree wells and planting zones.

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

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

3.6.1 Alternative Mode Benefits and Tactics

The Proponent will work to encourage the use of alternative travel modes, such as transportation, bicycling, and walking and has committed to the following measures:

- Designating a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries;
- Joining the Allston-Brighton Transportation Management Association;
- Working with commercial tenants as they move in to raise awareness of public transportation, bicycling, and walking opportunities;

- Providing orientation packets to new tenants containing information on available transportation, including public transportation routes and schedules, nearby vehicle sharing and bicycle sharing locations, and walking opportunities;
- Providing an annual (or more frequent) newsletter or bulletin summarizing transit, ridesharing, bicycling, alternative work schedules, and other travel options; and
- Providing information on travel alternatives for employees and visitors via the Internet and in the building lobby.

3.6.2 Bicycle and Pedestrian Trips

Proposed promotions and incentives to encourage bicycle and pedestrian trips are as followed:

- Providing bicycle and pedestrian access information via the Project website;
- Providing covered, secure bicycle storage for building occupants (approximately 170 secure bicycle spaces for employees and 40 spaces for residents);
- Maintaining adequate street width on Western Avenue adjacent to the Project site to support 1) protected bicycle lanes along Western Avenue and 2) potential bus-only lanes, should the City implement such a service in the future. The Proponent will construct a protected bicycle lane along the southern side of Western Avenue between Riverdale Street and Everett Street and preserve the necessary right-of-way for a protected bicycle lane along the northern side of Western Avenue adjacent to the 305 Western Avenue building.
- Providing lockers and showers for employees who walk or bicycle to work;
- Providing on-site external bicycle racks for visitors;
- Installing, if desired, a BLUEbike bicycle sharing station in the Project site in conjunction with BTD's recommendation.
- Encouraging tenant employers to provide a "Guaranteed Ride Home" for those commuting on foot or by bicycle.

3.6.3 Public Transportation

The goal of the following promotion and incentive measures is to increase public transit use to and from the site:

- Providing real-time transit information in the lobbies of all Project buildings;
- Providing transit access information on the Project website, including information on bus and subway routes and schedules;

- Encouraging employers to subsidize on-site full-time employees' purchase of monthly transit passes;
- Promoting to commercial tenants that, as employers, they can save on payroll-related taxes and provide employee benefits when they offer transportation benefits such as subsidized public transportation;
- Encouraging employers to provide a "Guaranteed Ride Home" during hours in which public transit service is no longer available to employees; and
- Working with the City to create and/or preserve an adequate curb-to-curb width on Western Avenue, adjacent to the Project site, to support operation of a potential bus-only lane, should the City implement such a service in the future.

3.6.4 Electric Vehicles

The goal of the following incentive measures is to accommodate employees, visitors, and residents, traveling to the Project site in an electric vehicle:

- Providing electric vehicle charging stations to accommodate five percent of the total parking and sufficient infrastructure capacity for future accommodations of at least 15 percent of the total parking spaces; and
- Designating at least four percent of the parking spaces as preferred parking for low emission vehicles.

3.6.5 Ride Sharing

The goal of the following measures is to promote ridesharing among employees:

- Providing access to information on area carpool and vanpool participants through membership in the Allston-Brighton TMA;
- Providing on-line registration for the RideSource ride-matching program through membership in the Allston-Brighton TMA;
- Encouraging tenants to organize an internal ride-matching program for employees who may be more willing to participate in a ride-matching service with fellow employees than with participants in a large regional database; and
- Exploring the feasibility of providing spaces in the garage for a car sharing service such as Zipcar.

3.7 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. The Proponent is committed to instituting the signal phasing changes (as described in Section 3.5.4) at the Everett Street/Western Avenue intersection to improve pedestrian safety

and reduce vehicle delay. The Proponent will construct new sidewalks adjacent to the Project site in accordance with Boston Complete Streets guidelines and requirements of the Americans with Disabilities Act and Massachusetts Architectural Access Board (ADA/AAB) to the extent feasible. 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, where appropriate.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a 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.

3.8 Evaluation of Short-term Construction Impacts

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

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 the CMP to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

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

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

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

Chapter 4.0

Assessment of Development Review Components

4.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

This chapter provides detailed green building strategies, as well as discussions and qualitative analyses of other environmental impacts related to the Project.

4.1 Environmental Protection

4.1.1 Wind

The Project will have heights of ranging from approximately 72 to 130 feet. A qualitative wind analysis will be conducted, as required by the BPDA for buildings under 150 feet. Results of the wind analysis will be included in the Draft PIR.

4.1.2 Shadow

The building is being designed to minimize new shadows on open spaces, sitting areas or pathways. The Proponent will conduct a shadow study for the Project and report the results in the Draft PIR.

4.1.3 Daylight

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching public streets in the immediate vicinity of a project site. The daylight obstruction related to the Project is anticipated to be similar to daylight obstruction on streets in the surrounding area. The extent of daylight obstruction resulting from the Project and measures to mitigate adverse impacts will be included in the Draft PIR.

4.1.4 Solar Glare

It is not anticipated that the Project will include the use of reflective glass or other reflective materials on the building facades that would result in adverse impacts from reflected solar glare from the Project.

4.1.5 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. Depending upon the results of the transportation analysis, the potential air quality impacts will be modeled for both existing and future conditions in the Draft PIR to demonstrate conformance with the National Ambient Air Quality Standards (NAAQS).

Construction period air quality impacts and mitigation are discussed below in Section 4.1.10.1.

4.1.6 Flood Hazard Zones/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 25025C0057G indicates the FEMA Flood Zone Designations for the site area. The map shows that the Project is located in a Zone X "Areas determined to be outside the 0.2% annual chance floodplain."

The site does not contain wetlands.

4.1.7 Geotechnical/Groundwater

Soil borings to determine the generalized subsurface conditions at the Project site have not yet been conducted, but as the design of the Project proceeds, it is anticipated that they will be conducted prior to determining the appropriate foundation approach. It is also anticipated that the foundation design and construction will be conducted to limit potential adverse impacts.

The Project site is not located in the Groundwater Conservation Overlay District (GCOD) and is therefore not subject to Article 32 of the City of Boston Zoning Code.

4.1.8 Solid and Hazardous Wastes

4.1.8.1 Existing Hazardous Waste Conditions

Several Phase I Environmental Site Assessments were completed from 2016 to 2017 by Sanborn, Head, & Associates, Inc. for the Project site. The Phase I ESAs found no evidence of Recognized Environmental Conditions (RECs) on the site. The historical findings were typical for a site with previous industrial uses.

Prior to demolition activities any possible asbestos containing materials will be abated by a Commonwealth of Massachusetts licensed asbestos abatement contractor.

Any excess soils generated as a result of the planned construction will be managed in accordance with applicable regulations, including the Massachusetts Contingency Plan (MCP). A soil management plan will be developed and included in the Contract Documents defining requirements for execution of the work.

4.1.8.2 Operational Solid and Hazardous Wastes

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

The Project will include recycling areas for items such as paper, plastic, glass and cans.

The final tenant mix for the Property is not known at this time, but the Proponent anticipates that the laboratory/research and development/office uses of the Project will generate the types and quantities of waste common to most laboratory research facilities. All future tenants of the Property will be required to handle any and all hazardous materials in accordance with all applicable environmental laws, prudent environmental practice, and good scientific/medical practice. This includes obtaining a waste water permit, as necessary, from the MWRA for effluent discharged from a research laboratory. Certain effluent from research laboratories is required to be contained, monitored, and treated in a pH neutralization process per MWRA requirements prior to being discharged to the sewer system.

4.1.9 Noise

The Project site currently contains industrial and auto-related uses which generate constant noise-producing activity at the site. Eliminating these outdated uses will eliminate these noises.

The mechanical equipment for the Project will be similar to that used on similarly sized commercial and residential buildings. Rooftop equipment will be screened, and acoustic screening will be included if necessary to meet local noise standards. The Project team will ensure that the buildings' mechanical equipment will meet the City of Boston Noise Standards.

Construction period noise impacts and mitigation are discussed below in Section 4.1.10.2.

4.1.10 Construction Impacts

The proximity of city streets and abutting commercial properties to the site will require careful scheduling of material removal and delivery. Planning with the City and neighborhood will be essential to the successful development of the Project.

A Construction Management Plan (CMP) will be submitted to the BTD for review and approval prior to issuance of a building permit. The CMP will define truck routes which will help in minimizing the impact of trucks on local streets.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Techniques such as barricades, walkways, painted lines, and signage will be used as necessary. Construction management and scheduling including plans for construction worker commuting and parking, routing plans and scheduling for trucking and deliveries, protection of existing utilities, maintenance of fire access, and control of noise and dust will minimize impacts on the surrounding environment.

Throughout Project construction, a secure perimeter will be maintained to protect the public from construction activities.

4.1.10.1 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 site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts. These measures are expected to include:

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

4.1.10.2 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Periodic 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, including:

- Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- Replacing specific construction operations and techniques by less noisy ones where feasible;
- Selecting the quietest of alternative items of equipment where feasible;

- Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- Turning off idling equipment; and
- Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

4.1.10.3 Construction Waste Management

The Proponent will reuse or recycle demolition and construction materials to the greatest extent feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials. Materials that cannot be reused or recycled will be transported in covered trucks by a contract hauler to a licensed facility.

4.1.11 Rodent Control

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

4.1.12 Wildlife Habitat

The site is currently developed and within a fully developed urban area and, as such, 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.

4.2 Sustainable Design and Green Buildings

To measure the results of their sustainability initiatives and to comply with Article 37, the Proponent intends to use the framework of the Leadership in Energy and Environmental Design (LEED) rating system promulgated by the US Green Building Council (USGBC). The Project will use LEED v4 for Core and Shell as the rating system to demonstrate compliance with Article 37 for the laboratory/research and development/office buildings at 250 and 305 Western Avenue. For the residential building at 280 Western Avenue, LEED v4 for New Construction will be used. The LEED rating system tracks the sustainable features of a project by achieving points in the following categories: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Design Process, and Regional Priority Credits.

A LEED checklist for each building is included at the end of this section, and details the credits the Project anticipates achieving. This is a preliminary evaluation of the LEED checklists, and applicable credits may change as the building designs advance.

The following is a detailed analysis of the Project team's approach to achieving LEED certifiability at the Silver level for each building.

4.2.1 250 and 305 Western Avenue

Integrative Process

The Project team includes several LEED Accredited Professionals, who will lead the sustainability efforts and initiatives throughout the design and construction process. Sustainable design and energy efficiency goals were established early and strategies associated with the building envelope attributes, lighting design, thermal comfort ranges, plug and process loads, and operational parameters and their impact on the building energy performance will be explored and discussed throughout the design process. An early design energy model will be developed and used as an interactive and dynamic platform to evaluate systems synergies and the various pathways for achieving the targeted energy savings and required performance improvements in the most cost-effective manner.

Location and Transportation

Ten points within the Location and Transportation category will be achieved, and six feasible points have been identified which require further evaluation.

Both buildings will be located on previously developed land, and their locations allow several opportunities to implement environmental strategies. The buildings will be located in an area with an average density greater than 22,000 sf/acre and are within a ½ mile walking distance of at least eight basic services.

The Project location also provides access to quality transit and encourages alternative transportation. The building occupants will have access to several nearby transit lines, including bus routes 66, 70, 70A, and 86, which gives them the opportunity to travel through Allston, Cambridge, and Boston. These transit services provide more than 260 "weekday" and over 160 "weekend" trips. Bicycle storages and racks will be provided throughout the Project site; with a Bike Score of 95, the immediate neighborhood provides a direct connection between the Project site and a variety of basic services.

Sustainable Sites

Four points within the Sustainable Sites category will be achieved, and four feasible points have been identified which require further evaluation.

A management plan will enforce Erosion and Sedimentation measures to protect adjacent areas from pollution from wind and water-borne soil and sedimentation. The Project team will conduct a comprehensive site assessment and will study topography, hydrology, climate, vegetation, soils, human use, and human health effects specific to each building site. Parking spaces are located in the adjacent and underground parking garages, which helps with reducing the Heat Island Effect.

Water Efficiency

Six points within the Water Efficiency category will be achieved, including the Cooling Tower Water Use optimization, and two possible points have been identified which require further evaluation.

The Project team anticipates reducing the use of potable water inside each building by at least 35% by installing low-flow and low-flush plumbing fixtures in core restrooms. The buildings will be equipped with a main water meter and the Project team will install additional water meters for at least two of the following water subsystems: indoor plumbing fixture and fittings, irrigation, domestic hot water, boilers, reclaimed water, or other process water. Landscape plantings will be selected to be climate appropriate, native and adapted and the irrigation system, if installed, will be designed to target at least a 50% reduction in the potable water use.

Energy and Atmosphere

Ten points within the Energy and Atmosphere category will be achieved based on energy savings, implementing enhanced commissioning and refrigerant management beyond the prerequisite requirements, and nine points have been identified as possible, pending purchase of green power and further evaluation of other credits.

The Project will be designed to comply with the Massachusetts Building Energy Code and to exceed the energy performance requirements of the Massachusetts Stretch Energy Code. Building energy models will be developed and used to evaluate various pathways for achieving the targeted energy savings and required performance improvements. The current prediction for savings is at least 24% in energy use, compared to ASHRAE 90.1-2013 Baseline, and at least 13% in energy cost or source energy and GHG emissions, compared to ASHRAE 90.1-2010, for six possible points. An additional three points currently remain as possible, pending final energy simulation calculations.

Energy conservation measures will include: Low-E glazing, high-performance envelope system, reduced lighting power density in the core areas, high-efficiency HVAC systems, and low-flow hot water fixtures (lavatory, and shower) to reduce hot water demand.

The mechanical system for the buildings will be designed so that each floor and/or area has control over their energy consumption. The equipment installed will be high-performance, energy-efficient, and will not include any CFC (chlorofluorocarbon) refrigerants that deplete the ozone layer. The base building Core and Shell HVAC systems will be commissioned by a third-party commissioning agent to ensure correct operation. Commissioning activities include verification of system and equipment installation in accordance with the construction documents and manufacturer's instructions, and confirmation that equipment start, test and check also meet manufacturer's requirements.

Materials and Resources

Seven points within the Materials and Resources category will be achieved and three possible points have been identified which require further evaluation.

The materials selected for the buildings will be evaluated using a variety of criteria including a preference for materials extracted, processed and manufactured locally. This reduces the energy consumption and emissions associated with transportation and helps local economies.

The Project team, including the construction manager and their sub-contractors, will target the specification and use of at least 20 different permanently installed products and materials that have lower environmental impacts, and comply with Environmental Product Declaration (EDP), conforming to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930. The Project team is also targeting the Material Ingredients credit and will specify materials and products with known chemical make-up. Documentation for at least 20 different permanently installed products will be provided, confirming the applicable certification which may be the Health Product Declaration (HPD), Cradle-to-Cradle or Declare.

A central area in each building for sorting and collection of recyclables before removal from the site will be provided. Recyclable materials collected will include mixed paper, corrugated cardboard, glass, plastics, and metals, and the disposal of batteries and electronic waste. The waste generated by the construction and demolition process will be recycled, rather than land-filled with a target of more than 75% (by weight) of the construction waste, including five waste streams, to be recycled.

The Project team will conduct a whole-building life-cycle assessment of the buildings structure and enclosure. The Project team is targeting at least a 10% reduction in the global warming potential, acidification of land and water sources, and depletion of nonrenewable energy sources when compared with a baseline building.

Indoor Environmental Quality

Five points within the Indoor Environmental Quality category are being achieved, including the Quality Views credit, and one possible point has been identified which requires further evaluation.

The mechanical systems will be designed to comply with the ASHRAE 55-2010, the indoor temperature and humidity conditions standard, and to provide superior ventilation throughout the buildings, following the requirements of ASHRAE 62.1-2010 sections 4 through 7.

The buildings will have a no-smoking policy to comply with the Massachusetts Workplace Smoking law, and smoking will be prohibited outside within 25 feet of doors and outside air intakes. The base buildings will be constructed in accordance with the SMACNA Indoor Air Quality for Buildings under Construction Guideline. This guideline defines procedures for maintaining good indoor air quality inside the building during construction and also addresses construction practices to allow the best possible indoor environment after occupancy. These practices include cleaning during construction, interrupting paths of odor and dust travel within the building, segregating odor and dust producing activities from absorbent materials, and scheduling similar odor or duct producing activities to occur at the same time.

Adhesives, sealants, and paints used inside the buildings will be selected to be low-VOC (Volatile Organic Compound) products and specified wood products will have no added urea-formaldehyde. All spaces where hazardous gases or chemicals may be present or used, i.e. housekeeping closets, will be designed with full height walls, exhaust ventilation and door closer. Building entrances will be provided with walk-off mats to remove dirt and debris from the shoes of people entering the building and will be cleaned and maintained by house-keeping weekly while space is vacant. High-efficiency MERV 13 filters will be provided in the main outside air handling unit for superior air particulate filtration.

Innovation and Design

The Project team will evaluate and implement measures and strategies in the design and construction of each 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 Core and Shell rating system. The innovative strategies may include: development and implementation of OM Starter Kit, including green cleaning policies, establishing a purchasing policy for low-mercury lamps, and integrative analysis of building materials.

Regional Priority

Regional Priority credits are established by USGBC with a focus on environmental issues and priorities at a local level. There are six possible regional priority credits specific to the Project site, and the Project team has targeted two yes points related to the following strategies: at least an 18% savings in Optimize Energy Performance and Building Life-Cycle Impact Reduction.

4.2.2 280 Western Avenue

Integrative Process

As noted above for 250 and 305 Western Avenue, the Project team includes several LEED Accredited Professionals, who will lead the sustainability efforts and initiatives throughout the design and construction process. Sustainable design and energy efficiency goals were established early and strategies associated with the building envelope attributes, lighting design, thermal comfort ranges, plug and process loads, and operational parameters and their impact on the building energy performance will be explored and discussed throughout the design process. An early design energy model will be developed and used as an interactive and dynamic platform to evaluate systems synergies and the various pathways for achieving the targeted energy savings and required performance improvements in the most cost-effective manner.

Location and Transportation

Nine points within the Location and Transportation category will be achieved, and four feasible points have been identified which require further evaluation.

The 280 Western Avenue site is previously developed and its location allows several opportunities to implement environmental strategies. The building is located in an area with an average density greater than 22,000 sf/acre and is within a ½ mile walking distance of at least eight basic services.

The Project location also provides access to quality transit and encourages alternative transportation. The building occupants will have access to several nearby transit lines, including bus routes 66, 70, 70A, and 86, which gives them the opportunity to travel through Allston, Cambridge, and Boston. These transit services provide more than 260 "weekday" and over 160 "weekend" trips. Bicycle storage and racks will be provided throughout the Project and the development site; with a Bike Score of 95, the immediate neighborhood provides a direct connection between the Project site and a variety of basic services.

Sustainable Sites

Three points within the Sustainable Site category will be achieved, and four feasible points have been identified which require further evaluation.

A management plan will enforce Erosion and Sedimentation measures to protect adjacent areas from pollution from wind and water-borne soil and sedimentation. The Project team will conduct a comprehensive site assessment and will study topography, hydrology, climate, vegetation, soils, human use, and human health effects specific to the 280 Western Avenue site. Parking spaces are located in an enclosed parking garage which helps with reducing the Heat Island Effect.

Water Efficiency

Seven points within the Water Efficiency category will be achieved, including the Cooling Tower Water Use optimization, and two possible points have been identified which require further evaluation.

The Project team anticipates reducing the use of potable water inside the building by at least 40% by installing low-flow and low-flush plumbing fixtures. The building will be equipped with a main water meter and the Project team will install additional water meters for at least two of the following water subsystems: indoor plumbing fixture and fittings, irrigation, domestic hot water, boilers, reclaimed water, or other process water. Landscape plantings will be selected to be climate appropriate, native and adapted and the irrigation system, if installed, will be designed to target at least a 50% reduction in the potable water use.

Energy and Atmosphere

12 points within the Energy and Atmosphere category will be achieved based on energy savings, implementing enhanced commissioning and refrigerant management beyond the prerequisite requirements, and eight points have been identified as possible, pending purchase of green power and further evaluation of other credits.

The Project will be designed to comply with the Massachusetts Building Energy Code and to exceed the energy performance requirements of the Massachusetts Stretch Energy Code. Building energy models will be developed and used to evaluate various pathways for achieving the targeted energy savings and required performance improvements. The current prediction for savings is at least 20% in energy, compared to ASHRAE 90.1-2013 Baseline, and at least 18% in energy cost or source energy and GHG emissions, compared to ASHRAE 90.1-2010, for six possible points. Three additional points currently remain as possible, pending final energy simulation calculations.

Energy Conservation measures will include: Low-E glazing, high-performance envelope system, reduced lighting power density, High-efficiency HVAC systems, and low-flow hot water fixtures (lavatory, and shower) to reduce hot water demand.

The mechanical system for the building will be designed so that each residential unit has control over their energy consumption. The equipment installed will be high-performance, energy-efficient, and will not include any CFC (chlorofluorocarbon) refrigerants that deplete the ozone layer. The HVAC systems will be commissioned by a third-party commissioning agent to ensure correct operation. Commissioning activities include verification of system and equipment installation in accordance with the construction documents and manufacturer's instructions, and confirmation that equipment start, test and check also meet manufacturer's requirements.

Materials and Resources

Six points within the Materials and Resources category will be achieved and four possible points have been identified which require further evaluation.

The Project team, including the construction manager and their sub-contractors, will target the specification and use of at least 20 different permanently installed products and materials that have lower environmental impacts, and comply with Environmental Product Declaration (EDP), conforming to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930. The project team is also targeting the Material Ingredients credit and will specify materials and products with known chemical make-up. Documentation for at least 20 different permanently installed products will be provided, confirming the applicable certification which may be the Health Product Declaration (HPD), Cradle-to-Cradle or Declare.

A central area for sorting and collection of recyclables before removal from the site will be provided. Recyclable materials collected will include mixed paper, corrugated cardboard, glass, plastics, and metals, and the disposal of batteries and electronic waste. The waste generated by the construction and demolition process will be recycled, rather than land-filled, and the ultimate goal is for more than 75% (by weight) of the construction waste, including five waste streams, to be recycled.

The Project team will conduct a whole-building life-cycle assessment of the building structure and enclosure. The Project is targeting a 10% reduction in the global warming potential, acidification of land and water sources, and depletion of nonrenewable energy sources when compared with a baseline building.

Indoor Environmental Quality

Five points within the Indoor Environmental Quality category will be achieved, including the Quality Views credit, and five possible points have been identified which require further evaluation.

The mechanical systems will be designed to comply with the ASHRAE 55-2010, the indoor temperature, and humidity conditions standard, and to provide superior ventilation throughout the building, following the requirements of ASHRAE 62.1-2010 sections 4 through 7.

The building will have a no-smoking policy and smoking will be prohibited outside within 25 feet of doors, operable windows and outside air intakes. The building will be constructed in accordance with the SMACNA Indoor Air Quality for Buildings under Construction Guideline. This guideline defines procedures for maintaining good indoor air quality inside the building during construction and also addresses construction practices to allow the best possible indoor environment after occupancy. These practices include cleaning during construction, interrupting paths of odor and dust travel within the building, segregating odor and dust producing activities from absorbent materials, and scheduling similar odor or duct producing activities to occur at the same time.

Adhesives, sealants, and paints used inside the building will be selected to be low-VOC (Volatile Organic Compound) products and specified wood products will have no added urea-formaldehyde. All spaces where hazardous gases or chemicals may be present or used, i.e. housekeeping closets, will be designed with full height walls, exhaust ventilation and door closer. Building entrances will be provided with walk-off mats to remove dirt and debris from the shoes of people entering the building and will be cleaned and maintained by house-keeping weekly while space is vacant. High-efficiency MERV 13 filters will be provided in the main outside air handling unit for superior air particulate filtration.

Innovation and Design

The Project team will evaluate and implement measures and strategies in the design and construction of 280 Western Avenue 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 BD+C rating system. The innovative strategies may include: development and implementation of OM Starter Kit, including green cleaning policies, Walkable site, and integrative analysis of building materials.

Regional Priority

Regional Priority credits are established by USGBC with a focus on environmental issues and priorities at a local level. There are six possible regional priority credits specific to the Project site, and the Project team has targeted two yes points related to the following strategies: at least an 18% savings in Optimize Energy Performance and Indoor Water Use Reduction.

LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: 250 Western Ave, Allston, MA
Date: 10/15/2018
Project Type: Lab/ Office

Y	?	N			
1			Credit	Integrative Process	1

10	6	4	Location and Transportation	20
			Credit	LEED for Neighborhood Development Location	20
2			Credit	Sensitive Land Protection	2
	3		Credit	High Priority Site	3
4	2		Credit	Surrounding Density and Diverse Uses	6
3		3	Credit	Access to Quality Transit	6
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
		1	Credit	Green Vehicles	1

4	4	3	Sustainable Sites	11
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	1	1	Credit	Site Development - Protect or Restore Habitat	2
		1	Credit	Open Space	1
	2	1	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1
1			Credit	Tenant Design and Construction Guidelines	1

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

10	9	14	Energy and Atmosphere	33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
3	2	1	Credit	Enhanced Commissioning	6
6	3	9	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

7	3	4	Materials and Resources	14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
3		3	Credit	Building Life-Cycle Impact Reduction	6
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	1	1	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

5	1	4	Indoor Environmental Quality	10
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	Enhanced Indoor Air Quality Strategies	2
2		1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
		3	Credit	Daylight	3
1			Credit	Quality Views	1

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

1	3	0	Regional Priority	4
	1		Credit	Regional Priority: Optimize energy performance (8)/ Renewable energy	1
	1		Credit	Regional Priority: High priority site (2)/ Indoor water use reduction (4)	1
	1		Credit	Regional Priority: Rainwater Management (2)	1
1			Credit	Regional Priority: Building life-cycle impact reduction(2)	1

50	28	32	TOTALS	Possible Points:	110

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

LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: 305 Western Ave, Allston, MA
Date: 10/15/2018
Project Type: Lab/ Office

Y	?	N			
1			Credit	Integrative Process	1

10	6	4	Location and Transportation	20
			Credit	LEED for Neighborhood Development Location	20
2			Credit	Sensitive Land Protection	2
	3		Credit	High Priority Site	3
4	2		Credit	Surrounding Density and Diverse Uses	6
3		3	Credit	Access to Quality Transit	6
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
		1	Credit	Green Vehicles	1

4	4	3	Sustainable Sites	11
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	1	1	Credit	Site Development - Protect or Restore Habitat	2
		1	Credit	Open Space	1
	2	1	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1
1			Credit	Tenant Design and Construction Guidelines	1

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

10	9	14	Energy and Atmosphere	33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
3	2	1	Credit	Enhanced Commissioning	6
6	3	9	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

7	3	4	Materials and Resources	14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
3		3	Credit	Building Life-Cycle Impact Reduction	6
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	1	1	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

5	1	4	Indoor Environmental Quality	10
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	Enhanced Indoor Air Quality Strategies	2
2		1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
		3	Credit	Daylight	3
1			Credit	Quality Views	1

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

1	3	0	Regional Priority	4
	1		Credit	Regional Priority: Optimize energy performance (8)/ Renewable energy	1
	1		Credit	Regional Priority: High priority site (2)/ Indoor water use reduction (4)	1
	1		Credit	Regional Priority: Rainwater Management (2)	1
1			Credit	Regional Priority: Building life-cycle impact reduction(2)	1

50	28	32	TOTALS	Possible Points:	110

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

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

Project Checklist

Project Name: 280 Western Ave, Allston, MA
Date: 10/15/2018
Project Type: Residential

Y	?	N			
1			Credit	Integrative Process	1

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

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

7	2	2	Water Efficiency	11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1	1		Credit	Outdoor Water Use Reduction	2
4	1	1	Credit	Indoor Water Use Reduction	6
1		1	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

12	8	13	Energy and Atmosphere	33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning	6
6	3	9	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

6	4	3	Materials and Resources	13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
3		2	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	1	1	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	2		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

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

1	3	0	Regional Priority	4
	1		Credit	Regional Priority: Optimize energy performance (8)/ Renewable energy	1
	1		Credit	Regional Priority: High priority site (2)	1
1			Credit	Regional Priority: Indoor water use reduction (4)	1
	1		Credit	Regional Priority: Rainwater Management (2)	1

50	30	30	TOTALS	Possible Points:	110

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

4.3 Climate Change Adaptability

4.3.1 Introduction

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

A copy of the completed Climate Resiliency Checklist is included in Appendix D. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses.

4.3.2 Extreme Heat Events

The Intergovernmental Panel on Climate Change (IPCC) has predicted that in Massachusetts the number of days with temperatures greater than 90°F will increase from the current five-to-twenty days annually, to thirty-to-sixty days annually.[1] The Project design will include measures to adapt to these conditions, including planting street trees, using reflecting roof materials, constructing a high performance building envelope and including operable windows where possible.

4.3.3 Rain Events

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

4.3.4 Drought Conditions

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

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

4.4 Urban Design

As noted previously, the Project aims to further the North Allston-Brighton Community Wide Plan and Imagine Boston vision for a vibrant mixed-use urban corridor along Western Avenue. The locations and massing of the proposed buildings were informed by an analysis of potential pedestrian and bicycle connections through the Project site and consistency with the scale, number of stories and height of the buildings along Western Avenue. The buildings at 250 and 280 Western Avenue were positioned to create a visual connection between Westford Avenue/Everett Square north to Speedway Avenue. This connection, to be called Artists' Way, will be an active urban space with restaurant/retail space on either side and outdoor seating that will create an inviting public amenity (see Figure 4.4-1).

Each of the three buildings will have its own distinct design and character, with an emphasis on creating a dynamic streetscape and visually engaging upper levels.

The 250 Western Avenue building, on the eastern edge of the site, has varied building heights, with an approximately seven-story element near the center of the Project site, and an approximately six-story element that responds to the massing of Teele Hall to the east. The building is pulled back from the residential neighborhood with a landscaped buffer and a lowered building support circulation zone. The seven-story portion of the building is stepped down or narrowed as it transitions from fronting Western Avenue to facing the Westford Street neighborhood. The street side of 250 Western Avenue is curved to respond to the natural curvature of the road and accentuate an activated ground level of retail/restaurants (see Figure 4.4-2). The building will have a combination of materials that reinforce the breakdown of the massing envisioned in the building form.

To the west of 250 Western Avenue on the other side of Artists' Way will be 280 Western Avenue, an approximately six-story residential building with an above and below-grade parking garage. This building will continue the pattern of varied building heights along Western Avenue. The residential portion of the building will face Western Avenue so that the façade will be activated by the residential use. The shape of the façade responds to the curvature of the road, creating a defined street edge along the length of the building (see Figure 4.4-3). The parking garage and lower level parking entrance will be located along a service drive and will create a buffer between the residences to the south and the Project. Approximately 10,000 sf of landscape area will be provided along the southern edge of the site closes to the residential neighborhood in order to provide an additional buffer. The garage will be screened with a metal panel system to both break down the scale and provide opportunities for local artist engagement (see Figure 4.4-4).

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

DIMELLA SHAFFER

Figure 4.4-2
View Facing Southwest Toward 250 Western Avenue

Figure 4.4-3
View Facing Southeast Toward 280 Western Avenue

NEXUS at The Allston Innovation Corridor Boston, Massachusetts

DIMELLA SHAFFER

Figure 4.4-4
View from Everett Square Facing North

The 305 Western Avenue building located at the intersection of Western Avenue and Everett Street, will be approximately six stories, and will lower in height towards McDonald Avenue. This building will have the feel of a re-imagined early 20th century industrial building. Along Everett Street, the building façade will be pulled back three feet from where the existing Stadium Autobody is located to allow for a wider sidewalk and improved connection to Herter Park. This is further reinforced by bringing the first-floor wall inboard of the columns to create more street level walking surface. Along Western Avenue, the proposed massing is stepped to create street level outdoor space to encourage restaurant or retail activation of the street. The ground floor is also proposed to be pulled in to create a larger pedestrian milling space at the Western Avenue/Everett Street intersection (see Figure 4.4-5).

4.5 Historic and Archaeological Resources

4.5.1 Historic Resources in the Project Site

There are no historic resources in the Project site listed in the State and National Registers of Historic Places. The Project site includes one property; the 1953 Ted's Diner (MHC # BOS.8342) at 270 Western Avenue, and a portion of the Saint Anthony's Architectural Survey Area (MHC #BOS.JM). Both the diner and the survey area are included in the Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory):

Ted's Diner

The diner located at 270 Western Avenue is a standard Worcester diner (Worcester Lunch Car No 841) constructed in 1953. Originally known as Fahey's Diner, it has been operated under other names including Ted's Diner, Harry's Diner and most recently "The Breakfast Club." The diner was renovated in 2002 and a one-story accessible addition was constructed in 2011 on the west elevation of the diner.

Saint Anthony's Area

The portion of the Saint Anthony's Area which is located within the Project site is the northwest extent of the survey area and includes a portion of Riverdale Street. The 1996 MHC survey form indicates that while the single, two-family, and triple-deckers along Riverdale Street were mostly altered, the street was included in the survey area because the siting, form and elements of the buildings are compatible with the more intact housing stock of the Saint Anthony's area.

4.5.2 Historic Resources in the Project Vicinity

Historic resources in the vicinity of the Project site includes a portion of the Charles River Reservation Parkway including the Telford Street Bridge to the northwest and mile marker 7 at 240 North Harvard Street to the east. All of which are listed on the State and National Registers of Historic Places.

Figure 4.4-5
View Facing Northeast Toward 305 Western Avenue

Table 4.5-1 lists State and National Register-listed properties and historic districts located within a quarter mile radius of the Project site. Figure 4.5-1 depicts the locations of these properties and historic districts.

Table 4.5-1 State and National Register-Listed Properties and Historic Districts

No.	Historic Resource	Address	Designation*
A	Saint Anthony's Area	Roughly bounded by Western Avenue, Franklin Street, Adamson Street, and Everett Street	INV
B	1-75 Aldie Street	Aldie Street, 1-75	INV
C	4-71 Athol Street	Athol Street, 4-71	INV
D	51-168 Franklin Street	Franklin Street, 51-168	INV
E	7-60 Houlton Street and 205 Everett Street	Houlton Street and 205 Everett Street	INV
F	1-98 Raymond Street	Raymond Street, 1-98	INV
G	3-10 Westford Street	Westford Street, 3-10	INV
H	St. Anthony of Padua Roman Catholic Church Complex	43 Holton Street	INV
I	Charles River Reservation Parkways	Soldiers Field Road	NRDIS, NRMPS
1	Institute of Contemporary Art	1175 Soldiers Field Road	INV
2	David L. Barrett Elementary Schools	25 Travis Street	INV
3	Hill Memorial Baptist Church	279 North Harvard Street	INV
4	Ted's Diner	270 Western Avenue	INV
5	1767 Milestone	240 North Harvard Street	NRIND
6	Charles River Reservation – Telford Street Bridge	Telford Street	NRDIS, NRMPS
7	Skating Club of Boston Ice Skating Rink	1240 Soldiers Field Road	INV

NRIND Individually listed on the National Register of Historic Places
NRDIS National Register of Historic Places historic district
NRMPS National Register Multiple Property Submission
INV National Historic Landmark

4.5.3 Archaeological Resources Within the Project Site

A review of Massachusetts Historical Commission's online archaeological base maps was conducted on October 8, 2018. There are no known recorded archaeological sites located on the Project site or within the immediate vicinity. Previous ground disturbance activities and other improvements have likely impacted the potential for the site to yield significant archaeological resources.

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Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

LEGEND

- Project Site
- 1/4-Mile Radius
- National Register Property
- Inventoried Property
- National Register Area
- Inventoried Area

Scale 1:4,200
1 inch = 350 feet

0 175 350 Feet

CAMBRIDGE
BOSTON
Greenough Boulevard
Soldiers Field Road
Mcdonald Avenue
Callahan Place
Telford Street
North Harvard Street
Western Avenue
Hague Street
Spurr Street
Bertram Street
Travis Street
Kingsley Street
Rena Street
Westford Street
Westford Place
Riverdale Street
Holmes Street
Mead Street
Raymond Street
Franklin Street
Weitz Street
Appian Way
Athol Street
Everett Street
Brentwood Street
Holton Street
Duval Street
Abby Road
Waverly Street
South Waverly Street
Litchfield Street
Antwerp Street
Benson Street
Bagnal Street
Fern Street
Aldie Street
Myrick Street
Bayard Street
Easton Street
Coolidge Road
Haskell Street
Oxford Street
West Sorrento Street
Eatonia Street
Hopedale Street
Hooker Street
Seattle Street
Windom Street
Amboy Street
Almy Street
Cambridge Street

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NEXUS at The Allston Innovation Corridor **Boston, Massachusetts**

Epsilon ASSOCIATES INC.

Figure 4.5-1
Historic Resources

4.5.4 Consistency with Historic Reviews

4.5.4.1 Boston Landmarks Commission

The proposed Project will require review under Article 85 of the Boston Zoning Code as it proposes the demolition of eight buildings that are greater than 50 years old; specifically, the ca 1968 293-305 Western Avenue building; the ca 1945 280 Western Avenue building, the ca 1953 270 Western Avenue building, the ca 1960 260 Western Avenue building, the ca 1920 254R Western Avenue building, the ca 1930 256 Western Avenue building, the ca 1935 250-248 Western Avenue building, and the early twentieth century 17-23 Riverdale Street building. This process will be initiated through the filing of an Article 85 application with the Boston Landmarks Commission (BLC). If one or more of the properties are found to be significant, the Article 85 process will require a community meeting and public hearing as part of the review process.

4.5.4.2 Massachusetts Historical Commission

Since it is anticipated that the Project will require state permits or utilize state funding, the Project will be subject to review by the Massachusetts Historical Commission (MHC) under State Register Review (950 CMR 71.00). The MHC review process will be initiated through the filing of the ENF, and the consultation process is anticipated to be carried out through the Draft EIR/Final EIR documents. If any federal funding, licenses, permits and/or approvals are required, the Project will also be subject to review under Section 106 of the National Historic Preservation Act. At this time, no federal action is anticipated.

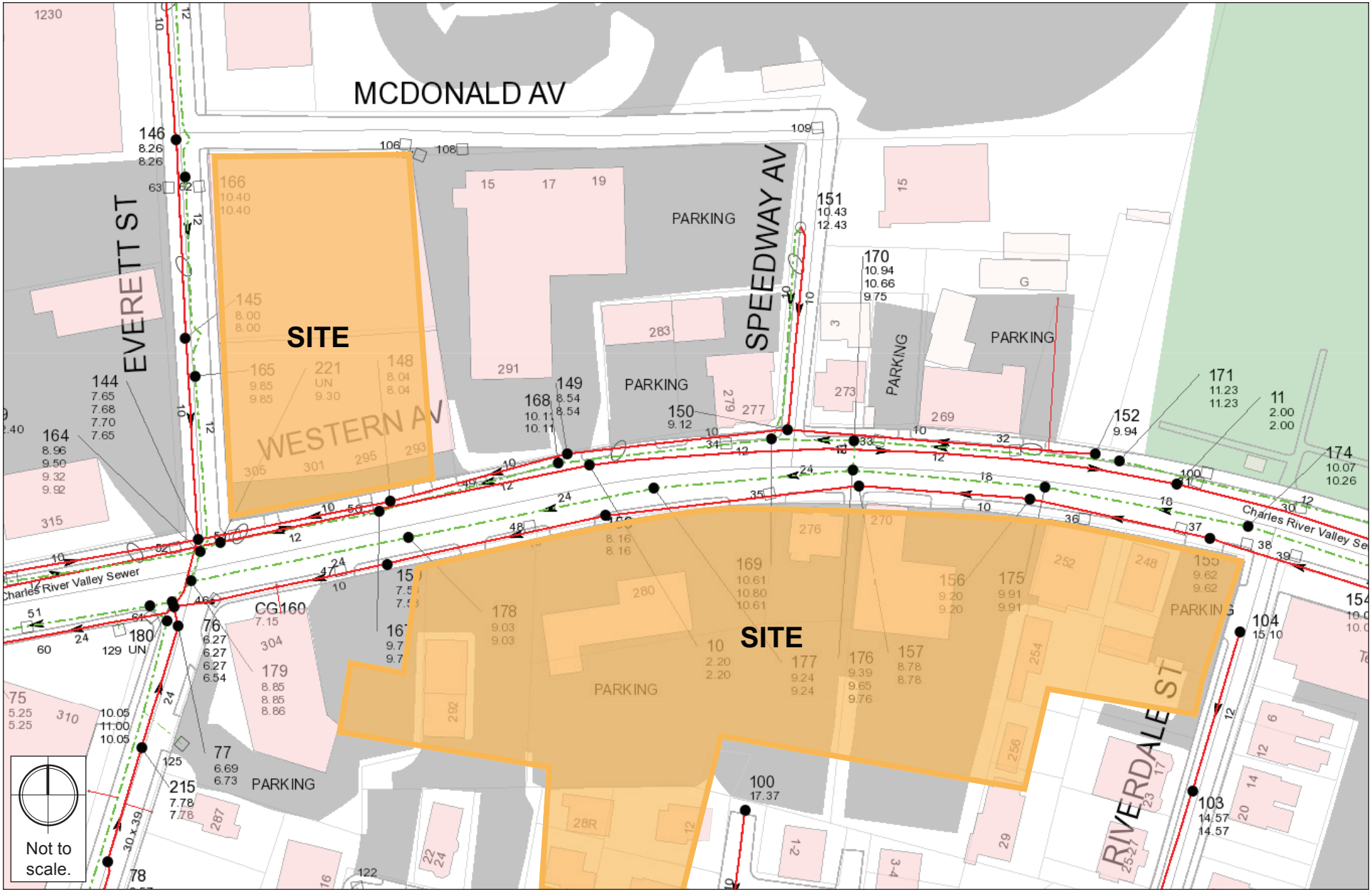
4.6 Infrastructure Systems

4.6.1 Sanitary Wastewater System

4.6.1.1 Existing Sanitary Wastewater System

The sanitary wastewater system in the vicinity of the Project site is owned, operated, and maintained by BWSC (see Figure 4.6-1). There are two existing sewer mains on the northerly side of Western Avenue, a 10-inch line and a 4'6"x5' Massachusetts Water Resource Authority (MWRA) owned line, and an existing 10-inch sewer on the southerly side of Western Avenue. There is an existing 10-inch sewer on Everett Street and 12-inch sewer on Riverdale Street.

The total sewer flow from all existing buildings on-site is estimated to be 17,952 gallons per day (gpd) based on the building uses and design sewer flows provided in 310 CMR 15.000, the State Environmental Code, Title 5: *Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-Site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage ("Title V").*



NEXUS at The Allston Innovation Corridor Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 4.6-1
Sanitary Wastewater System

250 Western Avenue Site

The sanitary wastewater services for the existing buildings are assumed to be connected to the 10-inch sewer pipe located on the southerly side of Western Avenue and 12-inch sewer pipe located on Riverdale Street. The locations of the existing sanitary services will be confirmed as the design process evolves.

The total sewer flow from the existing buildings based on the building uses and design sewer flows provided in Title V is estimated to be 12,280 gpd. The breakdown of these uses is summarized in Table 4.6-1.

Table 4.6-1 250- Western Avenue Site Existing Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Residential	32 bedrooms	110 gpd/bedroom	3,520
Lounge/Tavern	161 seats[1]	20 gpd/seat	3,220
Restaurant, Fast Food	277 seats[2]	20 gpd/seat	5,540
Total Estimated Existing Sewage Generation			**12,280**

1. Assumed 20 sf per seat for 3,233 sf of lounge/tavern space (3,233/20 = 161 seats)
2. Assumed 20 sf per seat for 5,556 sf of restaurant, fast food space (5,556/20 = 277 seats)

280 Western Avenue Site

The sanitary wastewater services for the existing buildings are assumed to be connected to the 10-inch sewer pipe located on the southerly side of Western Avenue. The locations of the existing sanitary services will be confirmed as the design process evolves.

The total sewer flow from the existing buildings is estimated to be 4,922 gpd based on the building uses and design sewer flows provided in Title V. The breakdown of these uses is summarized in Table 4.6-2.

Table 4.6-2 280 Western Avenue Site Existing Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Office	7,290 sf	75 gpd/1,000 sf	547
Restaurant	125 seats[1]	35 gpd/seat	4,375
Total Estimated Existing Sewage Generation			**4,922**

1. Assumed 20 sf per seat for 2,500 sf of restaurant space (2,500/20 = 125 seats)

305 Western Avenue Site

The sanitary wastewater service for the existing building is assumed to be connected to the 10-inch sewer pipe located on the northerly side of Western Avenue. The locations of the existing sanitary service will be confirmed as the design process evolves.

The total sewer flow from the existing buildings is estimated to be 750 gpd based on the building uses and design sewer flows provided in Title V. The breakdown of these uses is summarized in Table 4.6-3.

Table 4.6-3 305 Western Avenue Site Existing Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Service Station	5 service bays	150 gpd/service bay	750
Total Estimated Existing Sewage Generation			**750**

4.6.1.2 Project Sanitary Wastewater System

Sanitary wastewater from the Project will be directed to the 10-inch pipe on the northerly side of Western Avenue and the 10-inch pipe on the southerly side of Western Avenue.

The Project will generate an estimated 82,880 gpd based on the building uses and design sewer flows provided in Title V. This is a net increase of 64,928 gpd over the estimated sanitary flow of the existing buildings. The approximately 21,100 sf of ground floor restaurant/retail space is subject to refinement, and will be determined based on market conditions at the time of construction. In order to provide a conservative estimate of wastewater generated by the Project, the below calculations assumed all 21,100 sf would be restaurant space, as this is the highest generator of wastewater.

250 Western Avenue

Sanitary wastewater from 250 Western Avenue will be directed to the 10-inch pipe on the northerly side of Western Avenue.

The building will generate an estimated 34,425 gpd based on the building uses and design sewer flows provided in Title V. The breakdown of these uses is summarized in Table 4.6-4.

Table 4.6-4 250- Western Avenue Proposed Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Laboratory	319,000 sf	75 gpd/1,000 sf	23,925
Restaurant	300 seats[1]	35 gpd/seat	10,500
Total Estimated Proposed Sewage Generation			**34,425**

1. Assumed 20 sf per seat for 6,000 sf of restaurant space (6,000/20 = 300 seats)

280 Western Avenue

Sanitary wastewater from 280 Western Avenue will be directed to the 10-inch pipe on the northerly side of Western Avenue.

As the design progresses, the Project team will confirm that the floor drains within the covered parking areas are routed to an appropriately sized oil and grease separator, and are dye tested to confirm that they are routed to the sanitary sewer.

The building will generate an estimated 15,125 gpd based on the building uses and design sewer flows provided in Title V. The breakdown of these uses is summarized in Table 4.6-5.

Table 4.6-5 280 Western Avenue Proposed Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Restaurant	275 seats[1]	35 gpd/seat	9,625
Residential	50 bedrooms	110 gpd/bedroom	5,500
Total Estimated Proposed Sewage Generation			**15,125**

1. Assumed 20 sf per seat for 5,500 sf of restaurant space (5,500/20 = 275 seats)

305 Western Avenue

Sanitary wastewater from 305 Western Avenue will be directed to the 10-inch pipe on the southerly side of Western Avenue.

The building will generate an estimated 33,330 gpd based on the building uses and design sewer flows provided in Title V. The breakdown of these uses is summarized in Table 4.6-6.

Table 4.6-6 305 Western Avenue Proposed Wastewater Generation

Use	Number	Sewer Generation Rate	Total GPD
Laboratory	220,400 sf	75 gpd/1,000 sf	16,530
Restaurant	480 seats[1]	35 gpd/seat	16,800
Total Estimated Proposed Sewage Generation			**33,330**

1. Assumed 20 sf per seat for 9,600 sf of restaurant space (9,600/20 = 480 seats)

4.6.1.3 Sanitary Wastewater System Mitigation

The Project will reduce wastewater volumes by incorporating efficient fixtures into the design. Low-flow faucets, aerated shower-heads, and dual-flush toilets will be used to reduce water usage and sewer generation.

The Project will be designed, constructed and maintained so as to minimize all inflow and infiltration into the BWSC's sanitary sewer system and to meet the requirements of the Commission's ongoing Infiltration and Inflow reduction program.

The Project will require a Sewer Use Discharge Permit be filed with the Massachusetts Water Resources Authority for industrial waste discharge. Depending on the tenant mix, this permit will either be obtained by the Proponent or the individual building tenants.

4.6.2 Water Supply

4.6.2.1 Existing Water Service

The water distribution system in the vicinity of the Project site is owned and maintained by BWSC (see Figure 4.6-2). BWSC record drawings indicate there is a 16-inch pit cast iron (PCI) main in Western Avenue that was installed in 1900 and cement-lined in 1997, a 8-inch cast iron (CI) main in McDonald Avenue that was installed in 1933 and cement-lined in 2006, a 12-inch CI main in Everett Street that was installed in 1930 and cement-lined in 2006, and a 8-inch main in Riverdale Street that was installed in 1920 and lined in 2002. All mains are part of the Northern Low service network (see Figure 4.6-2). There is an existing 54-inch cement-mortar lined steel water main sliplined through a 60-inch riveted steel water main on the northerly side of Western Avenue.

250 Western Avenue Site

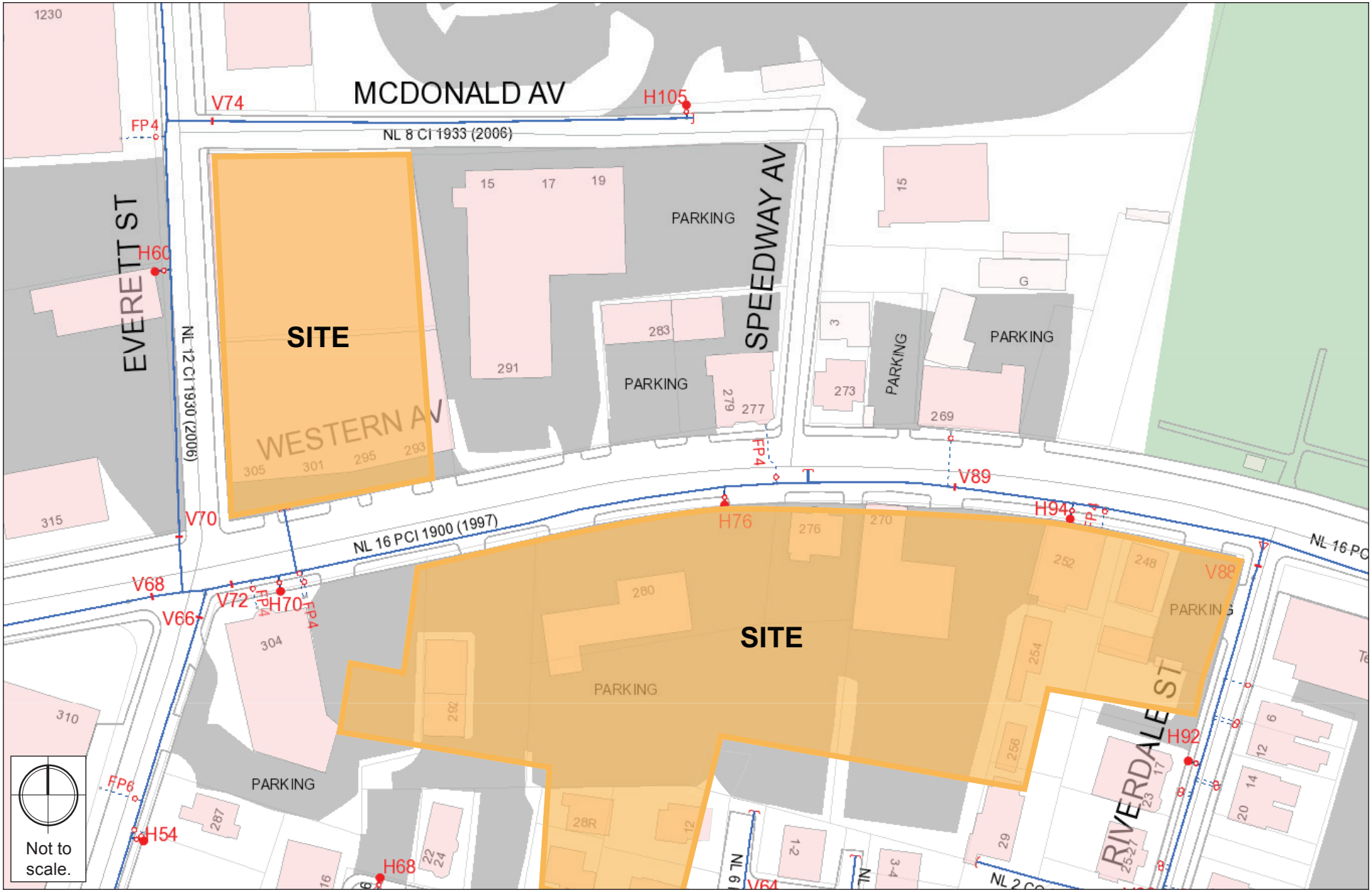
The water services for the existing buildings connect to the 16-inch (Northern Low) water main in Western Avenue. The locations of the existing water services will be confirmed as the Project design evolves. The services are not expected to be reused and will be cut and capped at the main.

280 Western Avenue Site

The water services for the existing buildings connect to the 16-inch (Northern Low) water main in Western Avenue. The locations of the existing water services will be confirmed as the Project design evolves. The services are not expected to be reused and will be cut and capped at the main.

305 Western Avenue Site

According to BWSC records, the existing building has a 2-inch water service. The service connects to the 16-inch (Northern Low) water main in Western Avenue and 10-inch (Northern Low) water main in Riverdale Street. The locations of the existing water services will be confirmed as the Project design evolves. The services are not expected to be reused and will be cut and capped at the main.



NEXUS at The Allston Innovation Corridor Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 4.6-2
Water Supply System

4.6.2.2 Proposed Water Service

It is anticipated that separate domestic water and fire protection services for the three buildings will be directly tapped from the 16-inch (Northern Low) service main in Western Avenue. The water supply systems servicing the Project will be gated so as to minimize public hazard or inconvenience in the event of a water main break.

Water service to the buildings will be metered in accordance with BWSC's requirements. The Proponent will provide a suitable location for the Meter Transmission Units (MCU's) as part of BWSC's Automatic Meter Reading System. Water meters over 3-inches will be provided with a bypass to allow BWSC testing without service interruptions. Backflow preventers will be installed on all fire protection services and will be coordinated with BWSC's Cross Connection Control Department.

4.6.2.3 Anticipated Water Consumption

The total water supply demand for the Project is estimated at approximately 91,168 gpd. The estimated water consumption is based on the Project's estimated sewage generation, plus a factor of 10% to account for consumption, system losses, and other usages to estimate an average water demand. The water for the Project will be supplied by BWSC. More detailed water use and meter sizing calculations will be submitted to BWSC as part of the Site Plan Review process.

4.6.2.4 Water Supply Conservation and Mitigation

To aid in the conservation of water used by the Project, the Proponent will investigate the use of water conservation devices such as low-flow toilets and urinals, flow-restricting faucets, and sensor operated sinks and toilets consistent with the Proponent's compliance at the LEED Silver threshold, and in compliance with all pertinent Code requirements.

4.6.3 Stormwater Management System

4.6.3.1 Existing Storm Drainage System

The storm drainage system in the vicinity of the Project site is owned and maintained by BWSC (see Figure 4.6-1). There is an existing 12-inch storm drain in Everett Street, a 12-inch storm drain on the northerly side of Western Avenue, and an 18-inch storm drain that transitions to a 24-inch storm drain on the southerly side of Western Avenue.

A majority of the existing Project site is comprised of impervious surfaces. There are little to no stormwater treatment devices on site and little opportunity for groundwater recharge. Very little water quality treatment is realized before the areas are drained to the municipal storm drain system.

250 Western Avenue Site

This portion of the Project site consists of a multi-family residential building at 17-23 Riverdale Street, a multi-family residential building at 248 Western Avenue, a small restaurant at 252 Western Avenue, a single-family residential building at 254 Western Avenue, a single-family residential building at 256 Western Avenue, and a restaurant at 270 Western Avenue. The buildings at 248, 252, 254 and 270 Western Avenue are surrounded by paved parking areas. Runoff from the parking areas appear to sheet flow to the adjacent catch basins in Western Avenue. Rooftop runoff from the restaurants are conveyed by building service pipes to the surrounding municipal storm drain system. The single-family residential building at 256 Western Avenue is surrounded by a landscaped area. The landscaped area provides minor opportunity for infiltration and water quality treatment before the runoff flows to the adjacent catch basins in Western Avenue.

The multi-family building on Riverdale Street is surrounded by cement walkways, landscaped areas and paved parking. Runoff appears to sheet flow to Riverdale Street and through the properties of 252 and 254 Western Avenue. There is no existing storm drainage system within Riverdale Street. All runoff sheet flows to the catch basins in Western Avenue. The stormwater runoff from the site discharges to the 18-inch storm drain in Western Avenue.

280 Western Avenue Site

This portion of the Project site consists of a small restaurant at 276 Western Avenue, a vacant automotive garage at 280 Western Avenue, and a commercial building at 292 Western Avenue. All buildings on site are surrounded by paved parking lots. Runoff from the parking areas appear to sheet flow to the adjacent catch basins in Western Avenue. Rooftop runoff from the existing buildings are conveyed by building service pipes to the surrounding municipal storm drain system. The stormwater runoff from the site discharges to the 24-inch storm drain in Western Avenue. The majority of the site is impervious and does not appear to contain any stormwater management or water quality infrastructure.

305 Western Avenue Site

This portion of the Project site consists of an autobody shop at 305 Western Avenue and cement concrete driveway. Runoff from the driveway appears to sheet flow to the adjacent catch basins in Western Avenue. Rooftop runoff from the existing building is conveyed by building service pipes to the surrounding municipal storm drain system. The stormwater runoff from the site discharges to the 12-inch storm drain in Western Avenue. Most of the site is impervious and does not appear to contain any stormwater management or water quality infrastructure.

4.6.3.2 Proposed Storm Drainage System

The Project will result in a decrease in impervious areas, which will decrease peak runoff flows off-site and provide additional stormwater infiltration opportunities. The Project will also construct stormwater best management practices (BMPs), including deep sump catch basins, water quality units, and subsurface infiltration systems, to further reduce peak flows and pollutants and provide additional groundwater recharge on-site.

4.6.3.3 MassDEP Stormwater Management Standards

The Project will comply with the MassDEP stormwater management standards, as outlined below.

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

The Project does not propose a new outfall. The Project will result in an improvement to the water quality of the stormwater reaching the existing outfall and will result in less stormwater reaching the outfall, reducing the potential for erosion caused by Project site runoff.

Standard 2: Post-development peak discharge rates do not exceed pre-development peak discharge rates.

The Project will reduce stormwater peak discharge rates leaving the site by reducing the imperviousness of the site and providing stormwater infiltration BMPs.

Standard 3: Loss of annual recharge to groundwater shall be eliminated or minimized.

The stormwater management system will increase the annual recharge to groundwater over existing conditions. This will be accomplished by reducing the impervious areas on the site, and by constructing stormwater infiltration systems that will infiltrate rooftop runoff and treated, driveway area drainage.

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

If feasible, rooftop runoff will to be directed to a subsurface infiltration system for treatment and for providing groundwater recharge. Runoff from pavement areas is anticipated to be captured by deep sump catch basins, routed through a proprietary separator and, in most cases, to a subsurface infiltration system prior to connecting to the existing storm drain system on-site. Full compliance is required for any component of the Project that is not a redevelopment, although the intent is to comply for the entire site.

Standard 5: Land uses with higher potential pollutant loads.

The Project will result in a land use with higher potential pollutant loads as it will generate more than 4,000 unadjusted vehicle trips per day. The Project stormwater management system will be designed to treat the first inch of stormwater runoff volume from the total impervious area of the site. Runoff from the site will have at least 44% TSS removal before discharging to an infiltration system. If infiltration is not feasible, it is anticipated that a proprietary media filter will be used to treat the stormwater runoff from the site.

Standard 6: Stormwater discharges to critical areas.

The Project will not result in any stormwater discharge to areas of critical environmental concern.

Standard 7: Redevelopment projects.

The Project site has been previously developed. The redevelopment will reduce the impervious area on-site and implement stormwater BMPs that will further improve existing conditions.

Standard 8: Control construction-related impacts.

A Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented during construction. The SWPPP will include, but not be limited to, erosion and sediment controls, good house-keeping measures, and potential pollutant source controls during construction.

Standard 9: Long-term operation and maintenance plan.

A long-term operation and maintenance plan will be developed and implemented for the stormwater management system. It will include schedules for system inspection and maintenance and will identify the responsible party for system maintenance.

Standard 10: No illicit discharges.

The Project will not result in illicit connections or discharges.

4.6.4 Electrical Service

Eversource owns and maintains the electrical transmission system in the vicinity of the Project site. The electrical power supply design and loads for the buildings will be coordinated with Eversource during the design phase. The Proponent is investigating energy conservation measures, including energy efficient lighting and heating and cooling systems for the Project.

4.6.5 Telephone and Cable Systems

Comcast provides cable and telephone services in the Project area. Services will be coordinated during the design phase.

4.6.6 Natural Gas Systems

National Grid provides natural gas in the Project area. The actual size and location of the building services will be coordinated with National Grid.

4.6.7 Utility Protection During Construction

The Project construction contractor will notify utility companies and register with "Dig Safe" prior to excavation. During construction, infrastructure will be protected using sheeting and shoring, temporary relocations, and construction staging as required. The Project construction contractor will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies.

The Project construction contractor will also be required to provide adequate notification to the utility owner prior to any work commencing on their utility. In addition, in the event a utility cannot be maintained in service during switch over to a temporary or permanent system, the Project construction contractor will be required to coordinate the shutdown with the utility owners and Project abutters to minimize impacts and inconveniences.

Chapter 5.0

Coordination with other Governmental Agencies

5.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

5.1 Architectural Access Board Requirements

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

5.2 Massachusetts Environmental Policy Act (MEPA)

A project is subject to the Massachusetts Environmental Policy Act (MEPA) review when the following two conditions are met: (1) a project is subject to MEPA jurisdiction, and (2) a MEPA review threshold is exceeded. It is anticipated that the Project will require an Access Permit from the Department of Conservation and Recreation (DCR), and will exceed a trip generation threshold. An Environmental Notification Form (ENF) will be filed with the MEPA Office of the Executive Office of Energy and Environmental Affairs to initiate MEPA review of the Project.

5.3 Massachusetts Historical Commission State Register Review

Since it is anticipated that the Project will require state permits or utilize state funding, the Project will be subject to review by the Massachusetts Historical Commission (MHC) under State Register Review (950 CMR 71.00). The MHC review process will be initiated through the filing of the ENF, and the consultation process is anticipated to be carried out through the Draft EIR/Final EIR documents. If any federal funding, licenses, permits and/or approvals are required, the Project will also be subject to review under Section 106 of the National Historic Preservation Act. At this time, no federal action is anticipated.

5.4 Boston Landmarks Commission Review

The proposed Project will require review under Article 85 of the Boston Zoning Code as it proposes the demolition of eight buildings that are greater than 50 years old. This process will be initiated through the filing of an Article 85 application with the Boston Landmarks Commission (BLC). If one or more of the properties are found to be significant, the Article 85 process will require a community meeting and public hearing as part of the review process.

Appendix A

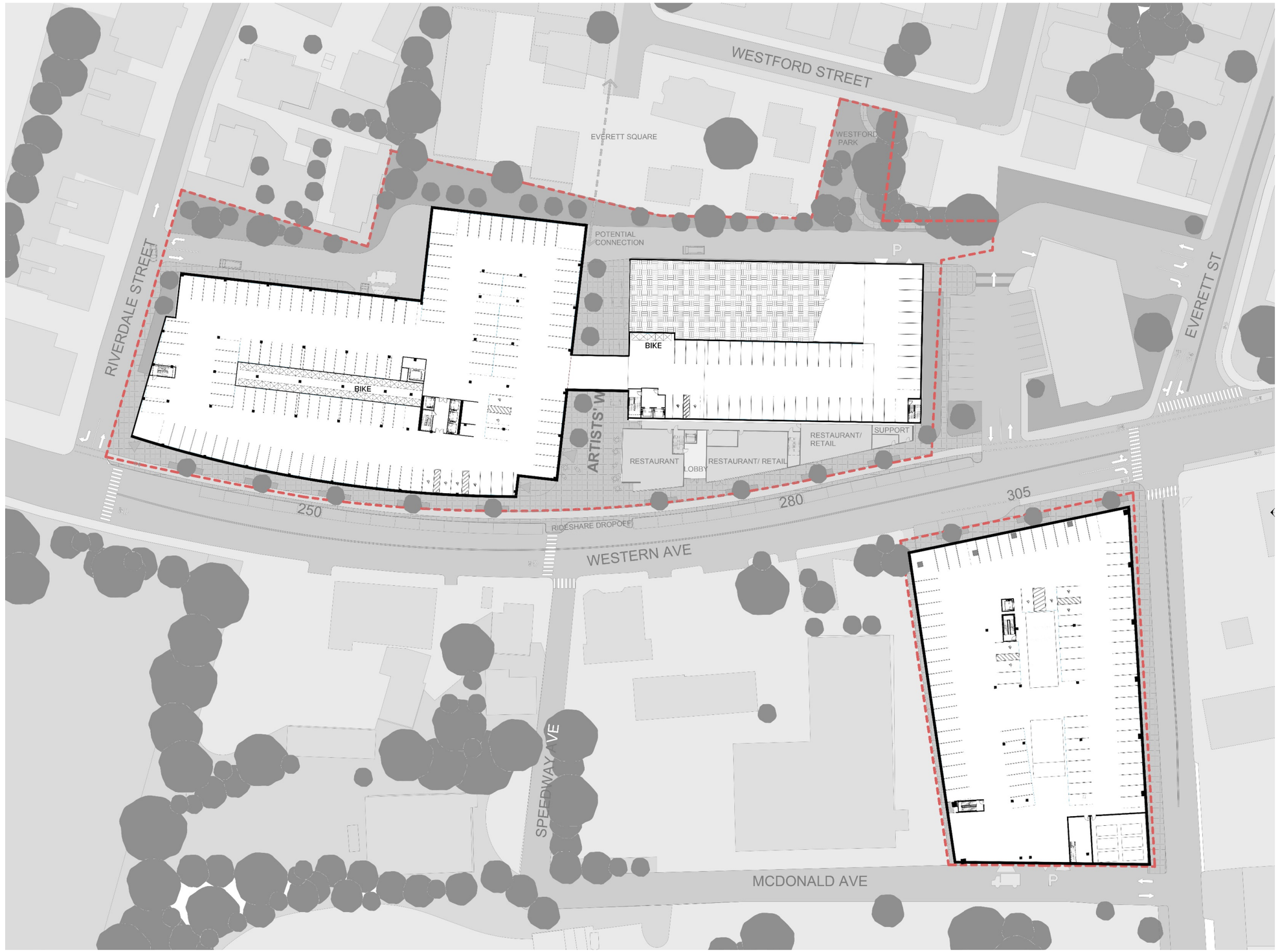
Floor Plans

NEXUS at The Allston Innovation Corridor **Boston, Massachusetts**

DIMELLA SHAFFER

Proposed Site Plan


WESTFORD STREET
EVERETT SQUARE
WESTFORD PARK
POTENTIAL CONNECTION
RIVERDALE STREET
LABORATORY
LABORATORY
ARTISTS' WAY
PARKING GARAGE
RESIDENTIAL
EVERETT ST
250
280
305
RIDESHARE DROPOFF
WESTERN AVE
SPEEDWAY AVE
LABORATORY
MCDONALD AVE



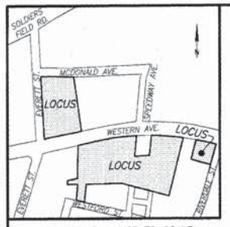
NEXUS at The Allston Innovation Corridor **Boston, Massachusetts**

DIMELLA SHAFFER

Garage Floor Plan

Appendix B

Site Surveys



LOCUS MAP – NOT TO SCALE

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 1983

ZONING CLASSIFICATION – "CC-1"

MINIMUM LOT SIZE	NONE
MINIMUM FRONTAGE	NONE
MINIMUM FRONT YARD	NONE*
MINIMUM SIDE YARD	NONE**
MINIMUM REAR YARD	20 FEET***
MAXIMUM FLOOR TO AREA RATIO	1.0
MAXIMUM BUILDING HEIGHT	35 FEET

* SEE SECTION 51-45.1, STREET WALL CONTINUITY. IN THE WESTERN AVENUE/SOLDIERS FIELD ROAD COMMUNITY COMMERCIAL SUBDISTRICT (CC-1), THE MINIMUM REQUIRED FRONT YARD SHALL BE SEVEN FEET.

** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, NO SIDE YARD IS REQUIRED EXCEPT IN THE CASE OF A LOT WITH A SIDE LOT LINE ABUTTING A RESIDENTIAL SUBDISTRICT, WHICH SHALL HAVE SIDE YARDS AS IF IT WERE IN SUCH ABUTTING DISTRICT. EVERY SIDE YARD SO REQUIRED THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THAT OF THE LOWEST WINDOW SILL OF THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

*** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, EVERY REAR YARD REQUIRED BY THIS CODE THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THE LEVEL OF THE LOWEST WINDOW SILL IN THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

LIST OF VISIBLE ENCROACHMENTS

RIVERDALE STREET
OVERHEAD WIRES CROSS PROPERTY LINE

NOW OR FORMERLY STEVEN HYNDS
CONC. FOUNDATION OVER 0.4'–0.7'
OVERHEAD WIRES CROSS PROPERTY LINE

NOW OR FORMERLY THE STOPPED BUS, LLC
CONCRETE WALL WITH 4' CHAIN LINK FENCE OVER 0.2'

WESTERN AVENUE
CONCRETE SIDEWALK OVER 2.9'

NOTES:

1) BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0057G, HAVING AN EFFECTIVE DATE OF MARCH 16, 2016

2) ZONING INFORMATION AS SHOWN HEREON WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (A OR B) OF TABLE "A" IN THE 2016 ALTA SURVEY REQUIREMENTS.

3) THE PROPERTIES SHOWN HEREON ARE THE SAME PROPERTIES DESCRIBED IN THE TITLE COMMITMENTS.

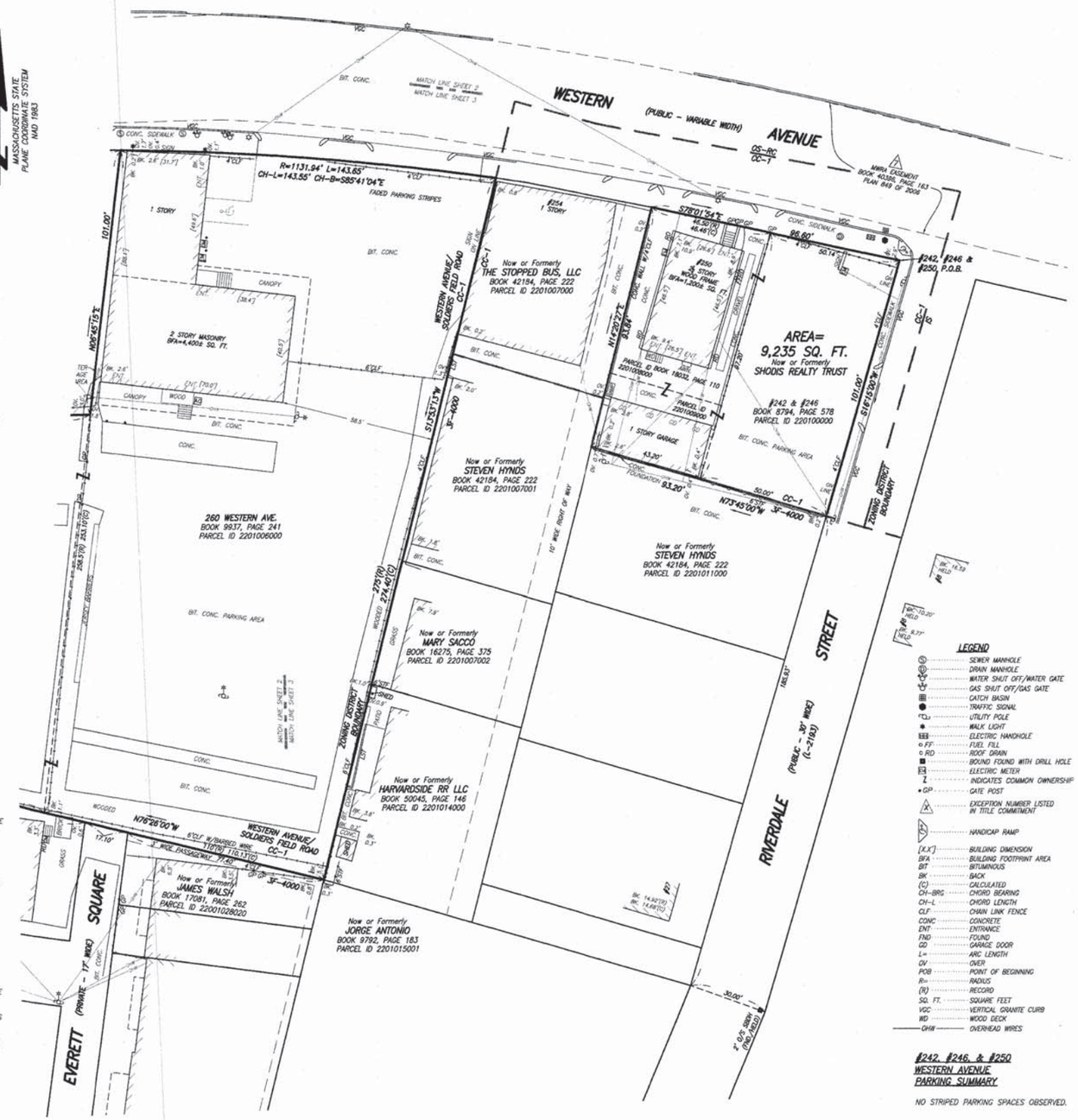
4) THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

5) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES.

6) PLEASE NOTE THAT UNDER SECTION 5.E.iv OF THE STANDARDS, LOCATION OF SURFACE EVIDENCE OF UTILITIES IS INCLUDED IN EVERY ALTA/NSPS LAND TITLE SURVEY, INDEPENDENT OF ITEM 11 IN TABLE A.

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

8) THERE ARE NO GAPS, GORES OR STRIPS BETWEEN THE PARCELS SHOWN HEREON.



LEGEND

- SEWER MANHOLE
- DRAIN MANHOLE
- WATER SHUT OFF/WATER GATE
- GAS SHUT OFF/GAS GATE
- CATCH BASIN
- TRAFFIC SIGNAL
- UTILITY POLE
- WALK LIGHT
- ELECTRIC HANDHOLE
- FUEL FILL
- ROOF DRAIN
- BOUND FOUND WITH DRILL HOLE
- ELECTRIC METER
- INDICATES COMMON OWNERSHIP
- GATE POST
- EXCEPTION NUMBER LISTED IN TITLE COMMITMENT
- HANDICAP RAMP
- [X.X'] BUILDING DIMENSION
- BFA BUILDING FOOTPRINT AREA
- BIT BITUMINOUS
- BK BACK
- (C) CALCULATED
- CH–BRG CHORD BEARING
- CH–L CHORD LENGTH
- CLF CHAIN LINK FENCE
- CONC CONCRETE
- ENT ENTRANCE
- FND FOUND
- GD GARAGE DOOR
- L= ARC LENGTH
- OV OVER
- POB POINT OF BEGINNING
- R= RADIUS
- (R) RECORD
- SQ. FT. SQUARE FEET
- VGC VERTICAL GRANITE CURB
- WD WOOD DECK
- OHW OVERHEAD WIRES

#242, #246, & #250 WESTERN AVENUE PARKING SUMMARY

NO STRIPED PARKING SPACES OBSERVED.

BOUNDARY DESCRIPTIONS PER COMMITMENT NO. 16-0243KC-FN (242,246,250) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2016.

242 AND 246 WESTERN AVENUE

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON NOW KNOWN AS AND NUMBERED 242 AND 246 WESTERN AVENUE SITUATED IN THAT PART OF BOSTON, FORMERLY BRIGHTON, BEING LOT 18 ON A PLAN MADE BY J. FRANK WAGLEIGH, SURVEYOR, DATED APRIL 9, 1886, AND RECORDED WITH SUFFOLK DEEDS, BOOK 1748, PAGE 317, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHEASTERLY	BY WESTERN AVENUE, FIFTY AND 14/100 (50.14) FEET;
SOUTHEASTERLY	BY RIVERDALE STREET, ONE HUNDRED ONE (101) FEET;
SOUTHWESTERLY	BY LOT 17 ON SAID PLAN, FIFTY (50) FEET;
NORTHWESTERLY	BY LOT 19 ON SAID PLAN, NINETY SEVEN AND 20/100 (97.20) FEET.

CONTAINING 4,955 SQUARE FEET OF LAND, ACCORDING TO SAID PLAN.

250 WESTERN AVENUE

THE LAND WITH THE BUILDINGS THEREON NOW NUMBERED 248 WESTERN AVENUE, SITUATED IN THAT PART OF BOSTON CALLED BRIGHTON, BEING SHOWN AS LOT 19 ON A PLAN BY J. FRANK WAGLEIGH, SURVEYOR, DATED APRIL 9, 1886, RECORDED WITH SUFFOLK DEEDS, BOOK 1748, PAGE 317, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHEASTERLY	BY SAID WESTERN AVENUE, FORTY-SIX AND 50/100 (46.50) FEET;
SOUTHEASTERLY	BY LOT 18 AS SHOWN ON SAID PLAN, NINETY-SEVEN AND 20/100 (97.20) FEET;
SOUTHWESTERLY	BY LOT 17 ON SAID PLAN, FORTY-THREE AND 20/100 (43.20) FEET; AND
NORTHWESTERLY	BY LAND NOW OR FORMERLY OF EMMA F. TEMPLE, NINETY THREE AND 84/100 (93.84) FEET.

CONTAINING 4,279 SQUARE FEET OF LAND ACCORDING TO SAID PLAN.

EXCEPTIONS FROM COVERAGE (SURVEY RELATED ONLY) SCHEDULE B II LISTED IN TITLE COMMITMENT NO. 16-0243KC-FN (242,246,250) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2016.

⚠ ORDER OF TAKING BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY FOR A PERMANENT RIGHT AND EASEMENT FOR WATER SUPPLY PURPOSES IN WESTERN AVENUE, RECORDED IN BOOK 40396, PAGE 163. SEE PLAN NO. 849 OF 2006. – (NOT LOCUS, WITHIN WESTERN AVENUE. AS SHOWN HEREON)

PERIMETER BOUNDARY DESCRIPTION (PER SURVEY)

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK IN THE COMMONWEALTH OF MASSACHUSETTS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT AT THE INTERSECTION OF THE SOUTHERLY SIDELINE OF WESTERN AVENUE AND THE NORTHWESTERLY SIDELINE OF RIVERDALE STREET. THENCE;

RUNNING S 16°15'00" W, BY SAID RIVERDALE STREET, A DISTANCE OF 101.00 FEET TO A POINT;

TURNING AND RUNNING N 73°45'00" W, BY LAND NOW OR FORMERLY OF STEVEN HYNDS, A DISTANCE OF 93.20 FEET TO A POINT;

TURNING AND RUNNING N 14°20'27" E, BY LAND NOW OR FORMERLY OF STEVEN HYNDS AND LAND NOW OR FORMERLY OF THE STOPPED BUS, LLC, A DISTANCE OF 93.84 FEET TO A POINT ON SAID WESTERN AVENUE;

TURNING AND RUNNING S 78°01'54" E, BY SAID WESTERN AVENUE, A DISTANCE OF 96.60 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 9,235 SQUARE FEET.

COMMONWEALTH OF MASSACHUSETTS – PAUL R. FOLEY No. 41355 – REGISTERED PROFESSIONAL LAND SURVEYOR

10/11/16

ALTA/NSPS LAND TITLE SURVEY
#242, #246 & #250 WESTERN AVENUE
#260, #280 & #292 WESTERN AVENUE
#293–#305 WESTERN AVENUE
BOSTON, MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118
SEPTEMBER 9, 2016
PHONE: (617)357-9740
www.feldmansurveyors.com

FELDMAN LAND SURVEYORS

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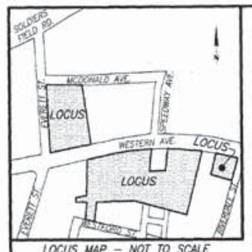
SCALE: 1"=20'

RESEARCH TRA	FIELD CHIEF FS/CD	PROJ MGR TRA	APPROVED PRF	SHEET NO. 3 OF 3
CALC TRA	CADD TRA	FIELD CHECKED	CRD FILE 15314	JOB NO. 15314

FILENAME: S:\PROJECTS\15300s\15314\DWG\15314-ALTA.dwg



BOUNDARY DESCRIPTION PER COMMITMENT NO. 16-0243KC-FN(260,280,292) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2013.

260 WESTERN AVENUE:

ALL OF THAT CERTAIN PARCEL OF LAND TOGETHER WITH THE BUILDINGS CONSISTING OF ABOUT 33,921 SQUARE FEET OF LAND SITUATED ON THE SOUTHERLY SIDE OF WESTERN AVENUE IN THAT PART OF BOSTON CALLED ALLSTON AND BEING NOW KNOWN AS AND NUMBERED 260 WESTERN AVENUE, MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHERLY	BY SAID WESTERN AVENUE AS SHOWN ON THE PLAN HEREINAFTER MENTIONED, SAID WESTERN AVENUE BEING REFERRED TO ON SAID PLAN AS RIVER STREET, ONE HUNDRED FORTY-THREE (143) FEET, SIX (6) INCHES;
EASTERLY	BY THE LANDS NOW OR FORMERLY OF CHILDS AND LANDS OF OWNERS UNKNOWN, THERE MEASURING TWO HUNDRED SEVENTY-FIVE (275) FEET;
SOUTHERLY	BY A PART OF THE LOT NUMBERED TWENTY-SIX (26) ON SAID PLAN THERE MEASURING ONE HUNDRED TEN (110) FEET; AND
WESTERLY	BY THE LOT NUMBERED THIRTY THREE (33) ON SAID PLAN THERE MEASURING TWO HUNDRED FIFTY-EIGHT (258) FEET, SIX (6) INCHES.

THE PLAN ABOVE REFERRED TO IS OF LAND IN AUBURN PLACE, BRIGHTON, BELONGING TO THE ESTATE OF JOSEPH EVERETT, DATED MAY 1, 1856, BY A.R. BINNEY, SURVEYOR, RECORDED WITH MIDDLESEX SOUTH DISTRICT DEEDS IN PLAN BOOK 7, PAGE 34.

280 WESTERN AVENUE:

TWO PARCELS OF LAND IN BRIGHTON SECTION OF BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, WITH BUILDINGS LOCATED ON PARCEL B NOW NUMBERED 280 WESTERN AVENUE, BRIGHTON, AS SHOWN ON PLAN ENTITLED "SUBDIVISION OF LAND BOSTON (BRIGHTON) MASS." DATED 3/11/72 BY RALPH A. DESIMONE REG. LAND SURVEYOR, AND RECORDED WITH SUFFOLK COUNTY REGISTRY OF DEEDS, IN BOOK 8517 END:

PARCEL A:

NORTHERLY	BY TWO LINES, MEASURING 182.10 FEET AND 70.00 FEET RESPECTIVELY;
EASTERLY	BY LAND OF OWNERS UNKNOWN, 157.15 FEET;
SOUTHERLY	BY TWO LINES RESPECTIVELY MEASURING 106.75 FEET AND 127.20 FEET; AND
WESTERLY	BY LAND OF OWNERS UNKNOWN, 94.00 FEET.

SAID PARCEL A CONTAINING IN ACCORDANCE WITH SAID PLAN, 29,097 SQUARE FEET OF LAND MORE OR LESS.

PARCEL B:

NORTHERLY	BY A CURVE IN WESTERN AVENUE, 193.23 FEET;
EASTERLY	BY LAND OF OWNERS UNKNOWN, 101.00 FEET;
SOUTHERLY	BY PARCEL A, 182.10 FEET, AND
WESTERLY	BY LAND OF OWNERS UNKNOWN, 105.00 FEET.

SAID PARCEL B CONTAINING IN ACCORDANCE WITH SAID PLAN, 19,331 SQUARE FEET OF LAND MORE OR LESS.

TOGETHER WITH A RIGHT OF WAY IN EVERETT SQUARE AS SHOWN ON A PLAN ENTITLED "PLAN OF LAND IN BOSTON, MASS. ALLSTON DISTRICT, OWNED BY LEON MALOOF", DATED 8/14/29 BY L.G. BRACKETT CO. ENGINEERS, RECORDED WITH SUFFOLK COUNTY REGISTRY OF DEEDS IN BOOK 5167, PAGE 601.

292 WESTERN AVENUE:

THE LAND IN THAT PART OF BOSTON CALLED BRIGHTON AND SITUATED ON THE SOUTHERLY SIDE OF WESTERN AVENUE, BEING PART OF LOT 31 ON A PLAN RECORDED IN MIDDLESEX SOUTH DISTRICT DEEDS IN BOOK 7, PAGE 34, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF WESTERN AVENUE AT LAND OF CARLEY, SAID POINT BEING DISTANT ONE HUNDRED AND SIXTY-FIVE (165) FEET FROM THE EASTERLY CORNER OF EVERETT STREET AND WESTERN AVENUE; THENCE RUNNING SOUTHERLY BY LAND OF SAID CARLEY, ONE HUNDRED (100) FEET TO A POINT; THENCE TURNING AND RUNNING WESTERLY BY SAID LAND OF CARLEY, FORTY (40) FEET TO LAND NOW OR LATE OF ARKERSON; THENCE TURNING AND RUNNING SOUTHERLY BY SAID LAND OF ARKERSON TWENTY-TWO AND 8/100 (22.08) FEET TO LAND RELEASED BY F. H. RINDGE TO CAMBRIDGE SAVINGS BANK, SEE MIDDLESEX SOUTH DISTRICT DEEDS, BOOK 1735, PAGE 502; THENCE TURNING AND RUNNING EASTERLY BY SAID LAST NAMED LAND, ONE HUNDRED AND TWENTY-FIVE (125) FEET TO LAND NOW OR LATE OF COLEMAN; THENCE TURNING AND RUNNING NORTHERLY BY SAID LAND OF COLEMAN, ONE HUNDRED NINETY-EIGHT AND 6/10 (198.6) FEET TO WESTERN AVENUE; THENCE TURNING AND RUNNING WESTERLY BY THE SOUTHERLY LINE OF WESTERN AVENUE, EIGHTY-FIVE (85) FEET TO THE POINT OF BEGINNING. ALL DIMENSIONS HEREIN GIVEN BEING MORE OR LESS.

WESTFORD STREET:

THE LAND IN BOSTON CONTAINING ABOUT FORTY-THREE HUNDRED SEVEN (4307) SQUARE FEET BOUNDED AND DESCRIBED AS FOLLOWS:

SOUTHERLY:	BY WESTFORD STREET;
WESTERLY:	BY AN ESTATE NOW OR FORMERLY OF EPHRAN CHEISJOUK AND ANOTHER (NUMBERED 22-24 WESTFORD STREET);
NORTHERLY:	BY AN ESTATE NOW OR FORMERLY OF JOHN MAGAZZI (NOT NUMBERED); AND
EASTERLY	BY AN ESTATE NOW OR FORMERLY OF MATILDA WAHLBERG (NUMBERED 26-28 WESTFORD STREET).

BEING SHOWN AS PARCEL 9 SHOWN ON A PLAN ENTITLED "PLAN OF PREMISES IN ALLSTON, BELONGING TO CAMBRIDGE SAVINGS BANK", DATED APRIL 18, 1885, BY W.A. MASON & SON, SURVEYORS, RECORDED IN BOOK 1674, PAGE END.

EXCEPTIONS FROM COVERAGE (SURVEY RELATED ONLY) SCHEDULE B II. LISTED IN TITLE COMMITMENT NO. 16-0243CD-FN(260,280,292) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2013.

7 ORDER OF TAKING BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY FOR A PERMANENT RIGHT AND EASEMENT FOR WATER SUPPLY PURPOSES IN WESTERN AVENUE, RECORDED IN BOOK 40396, PAGE 163. SEE PLAN NO. 849 OF 2006. – (NOT LOCUS, WITHIN WESTERN AVENUE, AS SHOWN HEREON)

8 RIGHT OF WAY FIFTEEN (15) FEET WIDE TO JOHN E. FAHEY, ET AL, RECORDED IN BOOK 7213, PAGE 149 AND SHOWN ON THE PLAN RECORDED THEREWITH. (AFFECTS 280 WESTERN AVENUE ONLY) – (AS SHOWN HEREON)

9 NOTICE OF LEASE BY AND BETWEEN HAROLD SHOHER AND FREDERICK DISTEFANO, TRUSTEES OF SHODIS REALTY TRUST, AS LANDLORD, AND D'ANGELO INC., AS TENANT, DATED JANUARY ___ 1991, RECORDED IN BOOK 16700, PAGE 39, AS AFFECTED BY AN ASSIGNMENT TO DELOPS INC., RECORDED IN BOOK 18809, PAGE 266. (AFFECTS 260 WESTERN AVENUE ONLY) – (NOT PLOTTABLE)

ITEMS 10 THROUGH 12 AFFECT WESTFORD STREET PARCEL:

10 EASEMENT TO THE CITY OF BOSTON FOR SEWER PURPOSES IN WESTFORD STREET RECORDED IN BOOK 2024, PAGE 375. – (AS SHOWN HEREON, WESTFORD STREET IS NOW A PUBLIC WAY)

11 EASEMENT TO THE CITY OF BOSTON FOR THE RIGHT TO EXTEND THE SEWER IN WESTFORD STREET RECORDED IN BOOK 2231, PAGE 11. – (AS SHOWN HEREON, WESTFORD STREET IS NOW A PUBLIC WAY)

12 ORDER FOR SIDEWALK CONSTRUCTION BY THE CITY OF BOSTON RECORDED IN BOOK 8377, PAGE 16. – (NOT PLOTTABLE)

NOTES:

1) BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0057G, HAVING AN EFFECTIVE DATE OF MARCH 16, 2016

2) ZONING INFORMATION AS SHOWN HEREON WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (A OR B) OF TABLE "A" IN THE 2016 ALTA SURVEY REQUIREMENTS.

3) THE PROPERTIES SHOWN HEREON ARE THE SAME PROPERTIES DESCRIBED IN THE TITLE COMMITMENTS.

4) THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

5) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES.

6) PLEASE NOTE THAT UNDER SECTION 5.E.iv OF THE STANDARDS, LOCATION OF SURFACE EVIDENCE OF UTILITIES IS INCLUDED IN EVERY ALTA/NSPS LAND TITLE SURVEY, INDEPENDENT OF ITEM 11 IN TABLE A.

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

8) THERE ARE NO GAPS, GORES OR STRIPS BETWEEN THE PARCELS SHOWN HEREON.

PERIMETER BOUNDARY DESCRIPTION (PER SURVEY)

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK, IN THE COMMONWEALTH OF MASSACHUSETTS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHEASTERLY SIDELINE OF WESTFORD STREET, SAID POINT BEING N 76°30'21" W, A DISTANCE OF 153.87 FEET FROM THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF EVERETT SQUARE, THENCE;

RUNNING N 76°30'21" W, BY SAID WESTFORD STREET, A DISTANCE OF 44.53 FEET TO A POINT;

THENCE TURNING AND RUNNING N 07°16'20" E, BY LAND NOW OR FORMERLY OF WILLIAM GOODWIN & ANNE LANE, A DISTANCE OF 83.18 FEET TO A POINT;

THENCE TURNING AND RUNNING N 89°00'35" W, BY LAND NOW OR FORMERLY OF WILLIAM GOODWIN & ANNE LANE AND LAND NOW OR FORMERLY OF WBTC ASSOCIATES, LLC, A DISTANCE OF 86.50 FEET TO A POINT;

THENCE TURNING AND RUNNING N 02°53'56" E, BY LAND NOW OR FORMERLY OF J.D. REALTY TRUST, A DISTANCE OF 22.08 FEET TO A POINT;

THENCE TURNING AND RUNNING N 78°50'52" E, BY LAND NOW OR FORMERLY OF J.D. REALTY TRUST, A DISTANCE OF 40.00 FEET TO A POINT;

THENCE TURNING AND RUNNING N 02°53'56" E, BY LAND NOW OR FORMERLY OF J.D. REALTY TRUST, A DISTANCE OF 150.00 FEET TO A POINT ON THE SOUTHERLY SIDELINE OF WESTERN AVENUE;

THENCE TURNING AND RUNNING N 78°37'58" E, BY SAID WESTERN AVENUE A DISTANCE OF 85.01 FEET TO A POINT OF NON-TANGENCY;

THENCE RUNNING BY SAID WESTERN AVENUE AND A CURVE TO THE RIGHT, HAVING A RADIUS OF 1134.94 FEET, AN ARC LENGTH OF 187.44 FEET, A CHORD BEARING OF N 82°23'33" E AND A CHORD DISTANCE OF 187.22 FEET TO A POINT;

THENCE RUNNING S 06°45'15" W, A DISTANCE OF 101.00 FEET TO A POINT;

THENCE TURNING AND RUNNING N 88°54'29" E, A DISTANCE OF 70.00 FEET TO A POINT;

THENCE TURNING AND RUNNING N 06°45'15" E, A DISTANCE OF 101.00 FEET TO A POINT OF NON-TANGENCY ON THE SOUTHERLY SIDELINE OF WESTERN AVENUE. THE PREVIOUS 3 COURSES BY LAND NOW OR FORMERLY OF GRAMMATO PAPADOPOULOS;

THENCE RUNNING BY SAID WESTERN AVENUE BY A CURVE TO THE RIGHT, HAVING A RADIUS OF 1134.94 FEET, AN ARC LENGTH OF 143.65 FEET, A CHORD BEARING OF S 85°41'04" E AND A CHORD DISTANCE OF 143.55 FEET TO A POINT;

THENCE RUNNING S 13°53'13" W, BY LAND NOW OR FORMERLY OF THE STOPPED BUSS, LLC, NOW OR FORMERLY OF STEVEN HYNDS, NOW OR FORMERLY OF MARY SACCO AND NOW OR FORMERLY OF HARVARDSIDE RR LLC, A DISTANCE OF 274.40 FEET TO A POINT;

THENCE TURNING AND RUNNING N 76°26'00" W, BY LAND NOW OR FORMERLY OF JAMES WALSH, THE NORTHERLY TERMINUS OF EVERETT SQUARE, NOW OR FORMERLY OF DAVID WALSH AND NOW OR FORMERLY OF JIAN JIANG FAMILY TRUST, A DISTANCE OF 214.38 FEET TO A POINT;

THENCE TURNING AND RUNNING N 89°00'35" W, BY LAND NOW OR FORMERLY JIAN JIANG FAMILY TRUST, NOW OR FORMERLY CHARLES, JOHN, JOSEPH & MARY CUMMINGS & CATHERINE BARTOLOMUCCI, A DISTANCE OF 114.44 FEET TO A POINT;

THENCE TURNING AND RUNNING S 13°29'39" W, BY LAND NOW OR FORMERLY CHARLES, JOHN, JOSEPH & MARY CUMMINGS & CATHERINE BARTOLOMUCCI AND NOW OR FORMERLY LILLIAN NOSEWORTHY, A DISTANCE OF 94.56 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 102,453 SQUARE FEET OR 2.352 ACRES.

ZONING CLASSIFICATION – "3F-4000"
(ANY OTHER DWELLING)

MINIMUM LOT SIZE	4,000 SQ. FT. FOR 1 OR 2 UNITS*
MINIMUM FRONTAGE	45 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM SIDE YARD	**/***
MINIMUM REAR YARD	40 FEET
MAXIMUM FLOOR TO AREA RATIO	0.8
MAXIMUM BUILDING HEIGHT	3 STORIES/35 FEET

* 2,000 SQ. FT. FOR EACH ADDITIONAL UNIT

** AT LEAST 5 FEET FROM A SIDE LOT LINE AND TEN FROM AN EXISTING STRUCTURE ON AN ABUTTING LOT, AND THE AGGREGATE SIDE YARD WIDTH SHALL BE NOT LESS THAN FIFTEEN FEET.

*** SEMI ATTACHED DWELLINGS, TOWN HOUSE BUILDINGS AND ROW HOUSE BUILDINGS ARE ONLY REQUIRED TO HAVE SIDE YARDS THAT ARE NOT ATTACHED TO ANOTHER DWELLING.

IN A 3F SUBDISTRICT, THE MAXIMUM NUMBER OF DWELLING UNITS ALLOWED IN A SINGLE STRUCTURE, A TOWN HOUSE BUILDING OR IN A ROW HOUSE BUILDING, SHALL BE THREE (3) AND THE MAXIMUM NUMBER OF TOWN HOUSE BUILDINGS OR ROW HOUSE BUILDINGS ATTACHED IN A ROW SHALL BE THREE (3).

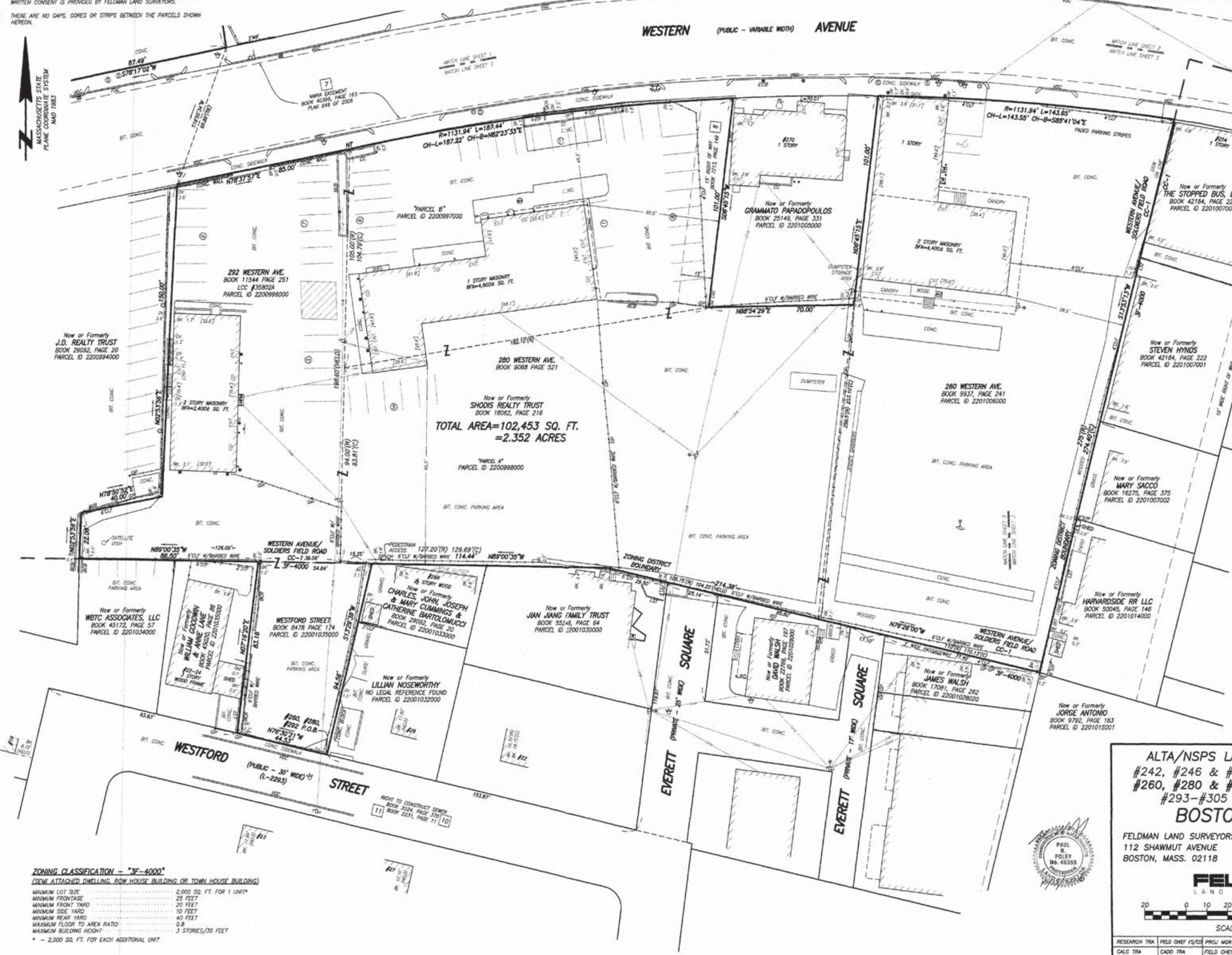
ZONING CLASSIFICATION – "CC-1"

MINIMUM LOT SIZE	NONE
MINIMUM FRONTAGE	NONE
MINIMUM FRONT YARD	NONE*
MINIMUM SIDE YARD	NONE**
MINIMUM REAR YARD	20 FEET***
MAXIMUM FLOOR TO AREA RATIO	1.0
MAXIMUM BUILDING HEIGHT	35 FEET

* SEE SECTION 51-45.1, STREET WALL CONTINUITY. IN THE WESTERN AVENUE/SOLDIERS FIELD ROAD COMMUNITY COMMERCIAL SUBDISTRICT (CC-1), THE MINIMUM REQUIRED FRONT YARD SHALL BE SEVEN FEET.

** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, NO SIDE YARD IS REQUIRED EXCEPT IN THE CASE OF A LOT WITH A SIDE LOT LINE ABUTTING A RESIDENTIAL SUBDISTRICT, WHICH SHALL HAVE SIDE YARDS AS IF IT WERE IN SUCH ABUTTING DISTRICT. EVERY SIDE YARD SO REQUIRED THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THAT OF THE LOWEST WINDOW SILL OF THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

*** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, EVERY REAR YARD REQUIRED BY THIS CODE THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THE LEVEL OF THE LOWEST WINDOW SILL IN THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.



ZONING CLASSIFICATION – "3F-4000"
(SEMI ATTACHED DWELLING, ROW HOUSE BUILDING OR TOWN HOUSE BUILDING)

MINIMUM LOT SIZE	2,000 SQ. FT. FOR 1 UNIT*
MINIMUM FRONTAGE	25 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM SIDE YARD	10 FEET
MINIMUM REAR YARD	40 FEET
MAXIMUM FLOOR TO AREA RATIO	0.8
MAXIMUM BUILDING HEIGHT	3 STORIES/35 FEET

* – 2,000 SQ. FT. FOR EACH ADDITIONAL UNIT

LIST OF VISIBLE ENCROACHMENTS

NOW OR FORMERLY J.D. REALTY TRUST
CONCRETE LANDING OVER 1.3'
METAL STAIRS OVER 1.3'
(4) A/C UNITS OVER 1.3'
BIT. CONC. PARKING AREA OVER 3.5'

WESTERN AVENUE
CONCRETE CURB OVER 1.1'-1.8'
SIGN OVER 3.5'
4' CHAIN LINK FENCE OVER 1.1'
WALL LIGHT OVER 1.7'
SIGN OVER 0.4'
WALL LIGHT OVER 1.1'

NOW OR FORMERLY GRAMMATO PAPADOPOULOS
OVERHEAD WIRES CROSS PROPERTY LINE
4' CHAIN LINK FENCE RUNS ACROSS EASEMENT
6' CHAIN LINK FENCE OVER 1.8'-3.0'
DUMPSTER STORAGE AREA OBSERVED AT TIME OF SURVEY

NOW OR FORMERLY STEVEN HYNDS
LANDSCAPING TIMBER OVER 1.3'

NOW OR FORMERLY HARVARDSIDE RR LLC
SHED OVER 0.9'
PATIO OVER 0.9'

NOW OR FORMERLY DAVID WALSH
BRICK PATIO OVER 0.6'

NOW OR FORMERLY CHARLES, JOHN, JOSEPH & MARY CUMMINS & CATHERINE BARTOLOMUCCI
OVERHEAD WIRES CROSS PROPERTY LINE
BIT. CONC. OVER 1.5'

LEGEND

Ⓢ	SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
	WATER SHUT OFF/WATER GATE
	GAS SHUT OFF/GAS GATE
	BOSTON WATER VALVE
	CATCH BASIN
	UTILITY POLE
	LIGHT POLE
	WALK LIGHT
	ELECTRIC HANDHOLE
	BOLLARD
	SIGN
FP	FLAG POLE
ECB	EMERGENCY CALL BOX
RD	ROOF DRAIN
	SECURITY CAMERA
	STAND PIPE/SIAMESE CONNECTION
	GAS METER
	AIR CONDITIONING UNIT
	HANDICAP PARKING SPACE
GP	GATE POST
Z	INDICATES COMMON OWNERSHIP
(X)	NUMBER OF PARKING SPACES
[X]	EXCEPTION NUMBER LISTED IN TITLE COMMITMENT
BCB	BIT. CONC. BERM
BD	BUILDING DIMENSION
BFA	BUILDING FOOTPRINT AREA
BH	BUILDING HEIGHT
BIT	BITUMINOUS
BK	BACK
CALC	CALCULATED
CC	CONCRETE CURB
CH-BRG	CHORD BEARING
CH-L	CHORD LENGTH
CLF	CHAIN LINK FENCE
CONC	CONCRETE
ENT	ENTRANCE
FGC	FLUSH GRANITE CURB
GD	GARAGE DOOR
LCC	LAND COURT CASE
LST	LANDSCAPE TIMBER
M&S	MULCH & SHRUBS
OV	OVER
POB	POINT OF BEGINNING
(R)	RECORD
SQ. FT.	SQUARE FEET
STF	STOCKADE FENCE
—OHW—	OVERHEAD WIRES

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SEPTEMBER 9, 2016
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FELDMAN LAND SURVEYORS

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SCALE: 1"=20'

RESEARCH TRA	FIELD CHIEF FS/CD	PROJ MGR TRA	APPROVED PRF	SHEET NO. 2 OF 3
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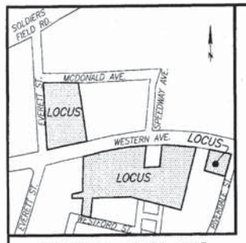


LOCUS MAP – NOT TO SCALE

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 1983

ZONING CLASSIFICATION – "CC–1"

MINIMUM LOT SIZE	NONE
MINIMUM FRONTAGE	NONE
MINIMUM FRONT YARD	NONE*
MINIMUM SIDE YARD	NONE**
MINIMUM REAR YARD	20 FEET***
MAXIMUM FLOOR TO AREA RATIO	1.0
MAXIMUM BUILDING HEIGHT	35 FEET

* SEE SECTION 51–45.1, STREET WALL CONTINUITY, IN THE WESTERN AVENUE/SOLDIERS FIELD ROAD COMMUNITY COMMERCIAL SUBDISTRICT (CC–1). THE MINIMUM REQUIRED FRONT YARD SHALL BE SEVEN FEET.

** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, NO SIDE YARD IS REQUIRED EXCEPT IN THE CASE OF A LOT WITH A SIDE LOT LINE ABUTTING A RESIDENTIAL SUBDISTRICT, WHICH SHALL HAVE SIDE YARDS AS IF IT WERE IN SUCH ABUTTING DISTRICT. EVERY SIDE YARD SO REQUIRED THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THAT OF THE LOWEST WINDOW SILL OF THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

*** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, EVERY REAR YARD REQUIRED BY THIS CODE THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THE LEVEL OF THE LOWEST WINDOW SILL IN THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

BOUNDARY DESCRIPTION PER COMMITMENT NO. 16–0243KC–FN(293–305) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2013.

THE LAND TOGETHER WITH THE BUILDINGS THEREON, SITUATED ON WESTERN AVE., EVERETT STREET AND MCDONALD AVE., BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, BEING SHOWN AS LOTS 1, 2, 3, B AND C ON A PLAN OF LAND ENTITLED "PLAN OF LAND IN BOSTON (BRIGHTON) MASS." DATED MARCH 25, 1974, MADE BY RALPH DESIMONE REGISTERED LAND SURVEYOR, RECORDED WITH THE SUFFOLK COUNTY REGISTRY OF DEEDS IN BOOK 8707, PAGE 421, BEING TOGETHER BOUNDED AND DESCRIBED IN ACCORDANCE WITH SAID PLAN AS FOLLOWS:

SOUTHERLY BY WESTERN AVE. BY FOUR LINES AN AGGREGATE OF 182.48 FEET;

WESTERLY BY EVERETT STREET, 288 FEET;

NORTHERLY BY MCDONALD AVE. BY TWO LINES AN AGGREGATE OF 158.43 FEET; AND

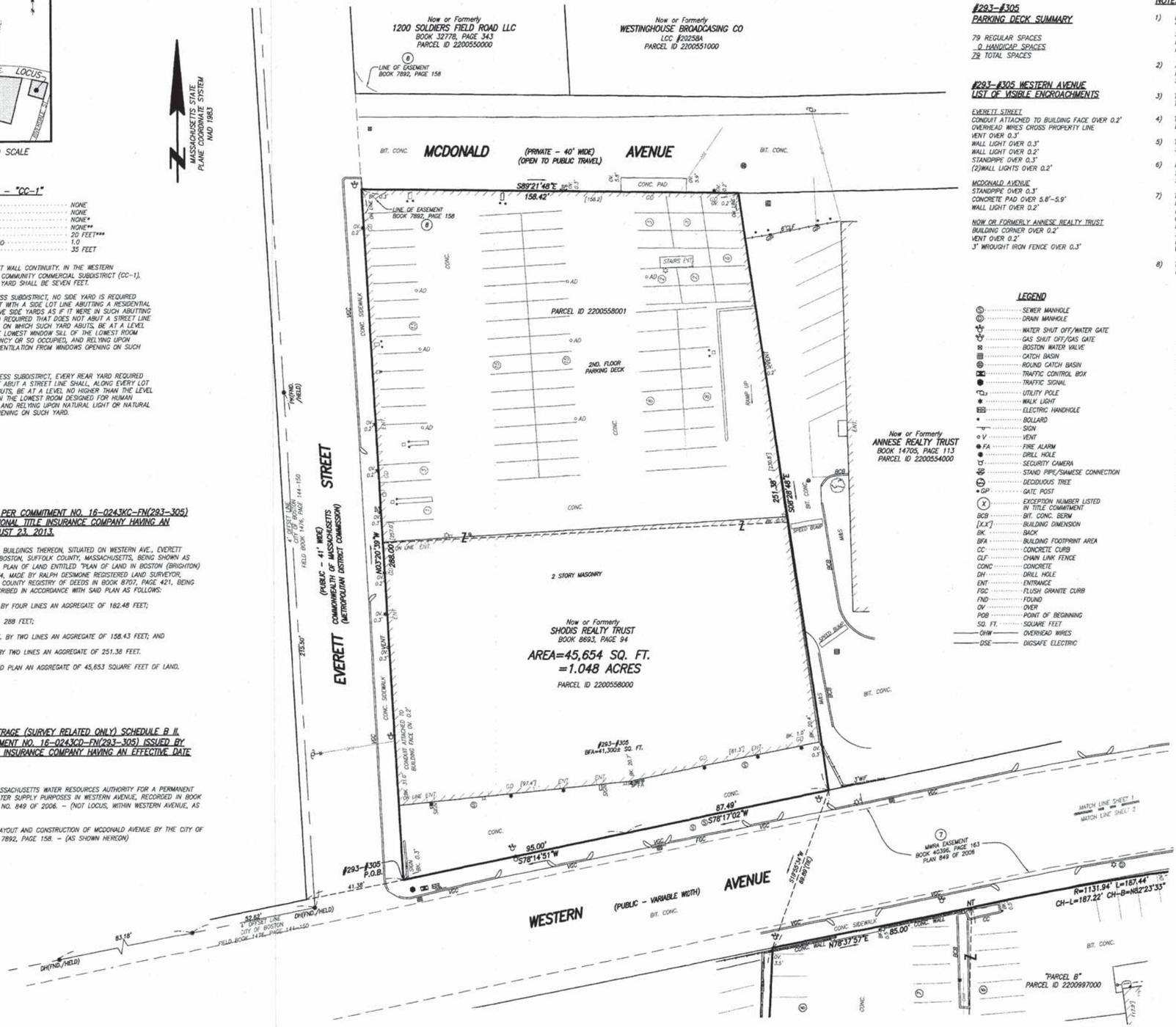
EASTERLY BY LOTS A AND C BY TWO LINES AN AGGREGATE OF 251.38 FEET.

CONTAINING ACCORDING TO SAID PLAN AN AGGREGATE OF 45,653 SQUARE FEET OF LAND.

EXCEPTIONS FROM COVERAGE (SURVEY RELATED ONLY) SCHEDULE B II. LISTED IN TITLE COMMITMENT NO. 16–0243CD–FN(293–305) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF AUGUST 23, 2013.

(7) ORDER OF TAKING BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY FOR A PERMANENT RIGHT AND EASEMENT FOR WATER SUPPLY PURPOSES IN WESTERN AVENUE, RECORDED IN BOOK 40396, PAGE 163. SEE PLAN NO. 849 OF 2006. – (NOT LOCUS, WITHIN WESTERN AVENUE, AS SHOWN HEREON)

(8) ORDER OF TAKING FOR THE LAYOUT AND CONSTRUCTION OF MCDONALD AVENUE BY THE CITY OF BOSTON, RECORDED IN BOOK 7892, PAGE 158. – (AS SHOWN HEREON)



#293–#305 PARKING DECK SUMMARY

79 REGULAR SPACES
0 HANDICAP SPACES
79 TOTAL SPACES

#293–#305 WESTERN AVENUE LIST OF VISIBLE ENCROACHMENTS

EVERETT STREET
CONDUIT ATTACHED TO BUILDING FACE OVER 0.2'
OVERHEAD WIRES CROSS PROPERTY LINE
VENT OVER 0.3'
WALL LIGHT OVER 0.3'
WALL LIGHT OVER 0.2'
STANDPIPE OVER 0.3'
(2)WALL LIGHTS OVER 0.2'

MCDONALD AVENUE
STANDPIPE OVER 0.3'
CONCRETE PAD OVER 5.8'–5.9'
WALL LIGHT OVER 0.2'

NOW OR FORMERLY ANNESE REALTY TRUST
BUILDING CORNER OVER 0.2'
VENT OVER 0.2'
3' WROUGHT IRON FENCE OVER 0.3'

LEGEND

S	SEWER MANHOLE
D	DRAIN MANHOLE
WV	WATER SHUT OFF/WATER GATE
GV	GAS SHUT OFF/GAS GATE
BW	BOSTON WATER VALVE
CB	CATCH BASIN
RCB	ROUND CATCH BASIN
TCB	TRAFFIC CONTROL BOX
TS	TRAFFIC SIGNAL
UP	UTILITY POLE
WL	WALK LIGHT
EH	ELECTRIC HANDHOLE
B	BOLLARD
S	SIGN
V	VENT
FA	FIRE ALARM
DH	DRILL HOLE
SC	SECURITY CAMERA
SP	STAND PIPE/SIAMESE CONNECTION
DT	DECIDUOUS TREE
GP	GATE POST
(X)	EXCEPTION NUMBER LISTED IN TITLE COMMITMENT
BCB	BIT. CONC. BERM
[XX']	BUILDING DIMENSION
BK	BACK
BFA	BUILDING FOOTPRINT AREA
CC	CONCRETE CURB
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DH	DRILL HOLE
ENT	ENTRANCE
FGC	FLUSH GRANITE CURB
FND	FOUND
OV	OVER
POB	POINT OF BEGINNING
SQ. FT.	SQUARE FEET
OHW	OVERHEAD WIRES
DSE	DIGSAFE ELECTRIC

NOTES:

1) BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0057G, HAVING AN EFFECTIVE DATE OF MARCH 16, 2016

2) ZONING INFORMATION AS SHOWN HEREON WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (A OR B) OF TABLE "A" IN THE 2016 ALTA SURVEY REQUIREMENTS.

3) THE PROPERTIES SHOWN HEREON ARE THE SAME PROPERTIES DESCRIBED IN THE TITLE COMMITMENTS.

4) THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

5) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES.

6) PLEASE NOTE THAT UNDER SECTION 5.E.iv OF THE STANDARDS, LOCATION OF SURFACE EVIDENCE OF UTILITIES IS INCLUDED IN EVERY ALTA/NSPS LAND TITLE SURVEY, INDEPENDENT OF ITEM 11 IN TABLE A.

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

8) THERE ARE NO GAPS, GORES OR STRIPS BETWEEN THE PARCELS SHOWN HEREON.

PERIMETER BOUNDARY DESCRIPTION (PER SURVEY)

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK IN THE COMMONWEALTH OF MASSACHUSETTS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT AT THE INTERSECTION OF THE NORTHERLY SIDELINE OF WESTERN AVENUE AND THE EASTERLY SIDELINE OF EVERETT STREET, THENCE;

RUNNING N 03°20'39" W, BY SAID EVERETT STREET, A DISTANCE OF 288.00 FEET TO A POINT ON AT THE INTERSECTION OF SAID EVERETT STREET AND THE SOUTHERLY SIDELINE OF MCDONALD AVENUE;

THENCE TURNING AND RUNNING S 89°21'48" E, BY SAID MCDONALD AVENUE, A DISTANCE OF 158.42 FEET TO A POINT;

THENCE TURNING AND RUNNING S 08°28'48" E, BY LAND NOW OR FOMERLY ANNESE REALTY TRUST, A DISTANCE OF 251.38 FEET TO A POINT ON SAID WESTERN AVENUE;

THENCE TURNING AND RUNNING S 78°17'02" W, BY SAID WESTERN AVENUE, A DISTANCE OF 87.49 FEET TO A POINT;

THENCE TURNING AND RUNNING S 78°14'51" W, BY SAID WESTERN AVENUE, A DISTANCE OF 95.00 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 45,654 SQUARE FEET, OR 1.048 ACRES.

TO: FIDELITY NATIONAL TITLE INSURANCE COMPANY AND WESTERN AVENUE JOINT VENTURE LLC AND IT'S SUBSIDARIES:

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

FELDMAN LAND SURVEYORS

PAUL R. FOLEY, PLS (MA# 48355)
PRF@FELDMANSURVEYORS.COM

10/13/2016
DATE

COMMONWEALTH OF MASSACHUSETTS PAUL R. FOLEY No. 48355 PROFESSIONAL LAND SURVEYOR

ALTA/NSPS LAND TITLE SURVEY
#242, #246 & #250 WESTERN AVENUE
#260, #280 & #292 WESTERN AVENUE
#293–#305 WESTERN AVENUE
BOSTON, MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118

SEPTEMBER 9, 2016
PHONE: (617)357–9740
www.feldmansurveyors.com

FELDMAN LAND SURVEYORS

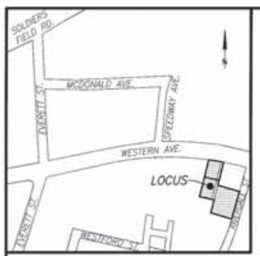
20 0 10 20 40 80

SCALE: 1"=20'

RESEARCH TRA	FIELD CHIEF FS/CD	PROJ MGR TRA	APPROVED PRF	SHEET NO. 1 OF 3
CALC TRA	CADD TRA	FIELD CHECKED	CRD FILE 15314	JOB NO. 15314

FILENAME: S:\PROJECTS\15300s\15314\DWG\15314-ALTA.dwg

LOCUS MAP – NOT TO SCALE



BOUNDARY DESCRIPTION PER COMMITMENT NO. 16-0243KC-FN/STOPPED BUS ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF APRIL 11, 2018

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON IN THAT PART OF BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, FORMERLY BRIGHTON, BEING NUMBERED 252 WESTERN AVENUE, IN THE PRESENT NUMBERING SHOWN AS LOT A ON A PLAN ENTITLED "PLAN OF LAND, BOSTON, MASS. (BRIGHTON DISTRICT)" DATED SEPTEMBER 24, 1955, H.M. FLETCHER, SURVEYOR, RECORDED WITH SUFFOLK DEEDS, BOOK 7156, PAGE 510, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHERLY: BY WESTERN AVENUE, 60 FEET;

EASTERLY: BY LAND OF OWNERS UNKNOWN, 73 FEET;

SOUTHERLY: BY LOT B AS SHOWN ON SAID PLAN, 60 FEET; AND

WESTERLY: BY LAND OF OWNERS UNKNOWN, 71 FEET.

EXCEPTIONS FROM COVERAGE (SURVEY RELATED ONLY) SCHEDULE B, PART II, LISTED IN TITLE COMMITMENT NO. 16-0243KC-FN(MA)/STOPPED BUS ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF APRIL 11, 2018

7. ORDER OF TAKING BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY IN WESTERN AVENUE, DATED SEPTEMBER 13, 2006, RECORDED WITH SAID DEEDS, BOOK 40396, PAGE 163. – (NOT LOCUS – WITHIN WESTERN AVENUE. AS SHOWN HEREON)

#252-#254 WESTERN AVENUE LIST OF VISIBLE ENCROACHMENTS

NOW OR FORMERLY WESTERN AVENUE JOINT VENTURE LLC
CONCRETE WALL WITH 4' CLF OVER 0.2'
OVERHEAD WIRES CROSS PROPERTY LINE

NOW OR FORMERLY STEVEN HYNDS
OVERHEAD WIRES CROSS PROPERTY LINE

PARKING SUMMARY
#252-#254 WESTERN AVENUE

NO STRIPED SURFACE PARKING SPACES OBSERVED

#252-#254 WESTERN AVENUE PERIMETER BOUNDARY DESCRIPTION (PER SURVEY)

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK IN THE COMMONWEALTH OF MASSACHUSETTS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWESTERLY SIDELINE OF WESTERN AVENUE, SAID POINT BEING N 78°51'13" W, A DISTANCE OF 96.60 FEET FROM THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF RIVERDALE STREET. THENCE;

RUNNING S 14°20'27" W, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 73.00 FEET TO A POINT;

THENCE TURNING AND RUNNING N 77°32'58" W, BY LAND NOW OR FORMERLY OF STEVEN HYNDS, A DISTANCE OF 60.13 FEET TO A POINT;

TURNING AND RUNNING N 13°53'13" E, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 71.00 FEET TO A POINT ON SAID WESTERN AVENUE;

THENCE RUNNING BY SAID WESTERN AVENUE, BY A CURVE TO THE RIGHT, HAVING A RADIUS OF 1131.94 FEET, A CHORD BEARING OF S 81°44'56" E, A CHORD DISTANCE OF 11.87, A DELTA ANGLE OF 0°36'02" AND AN ARC LENGTH OF 11.87 FEET TO A POINT OF NON-TANGENCY;

TURNING AND RUNNING S 78°51'13" E, BY SAID WESTERN AVENUE, A DISTANCE OF 48.94 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 4,363 SQUARE FEET.

LEGEND

○	UTILITY POLE
○ RD	ROOF DRAIN
⌐	INDICATES COMMON OWNERSHIP
• GP	GATE POST
(X)	EXCEPTION NUMBER LISTED IN TITLE COMMITMENT
△X	EXCEPTION NUMBER LISTED IN TITLE COMMITMENT
	HANDICAP RAMP
[X,X']	BUILDING DIMENSION
BFA	BUILDING FOOTPRINT AREA
BIT	BITUMINOUS
BK	BACK
(C)	CALCULATED
CHB	CHORD BEARING
CHD	CHORD DISTANCE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
ENT	ENTRANCE
L=	ARC LENGTH
NT	NON-TANGENT
OV	OVER
POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
R=	RADIUS
(R)	RECORD
STF	STOCKADE FENCE
SQ. FT.	SQUARE FEET
VGC	VERTICAL GRANITE CURB
—OHW—	OVERHEAD WIRES

NOTES:

1) BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0057G, HAVING AN EFFECTIVE DATE OF MARCH 16, 2016

2) ZONING INFORMATION AS SHOWN HEREON WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (A OR B) OF TABLE "A" IN THE 2016 ALTA SURVEY REQUIREMENTS.

3) THE PROPERTIES SHOWN HEREON ARE THE SAME PROPERTIES DESCRIBED IN THE TITLE COMMITMENTS.

4) THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

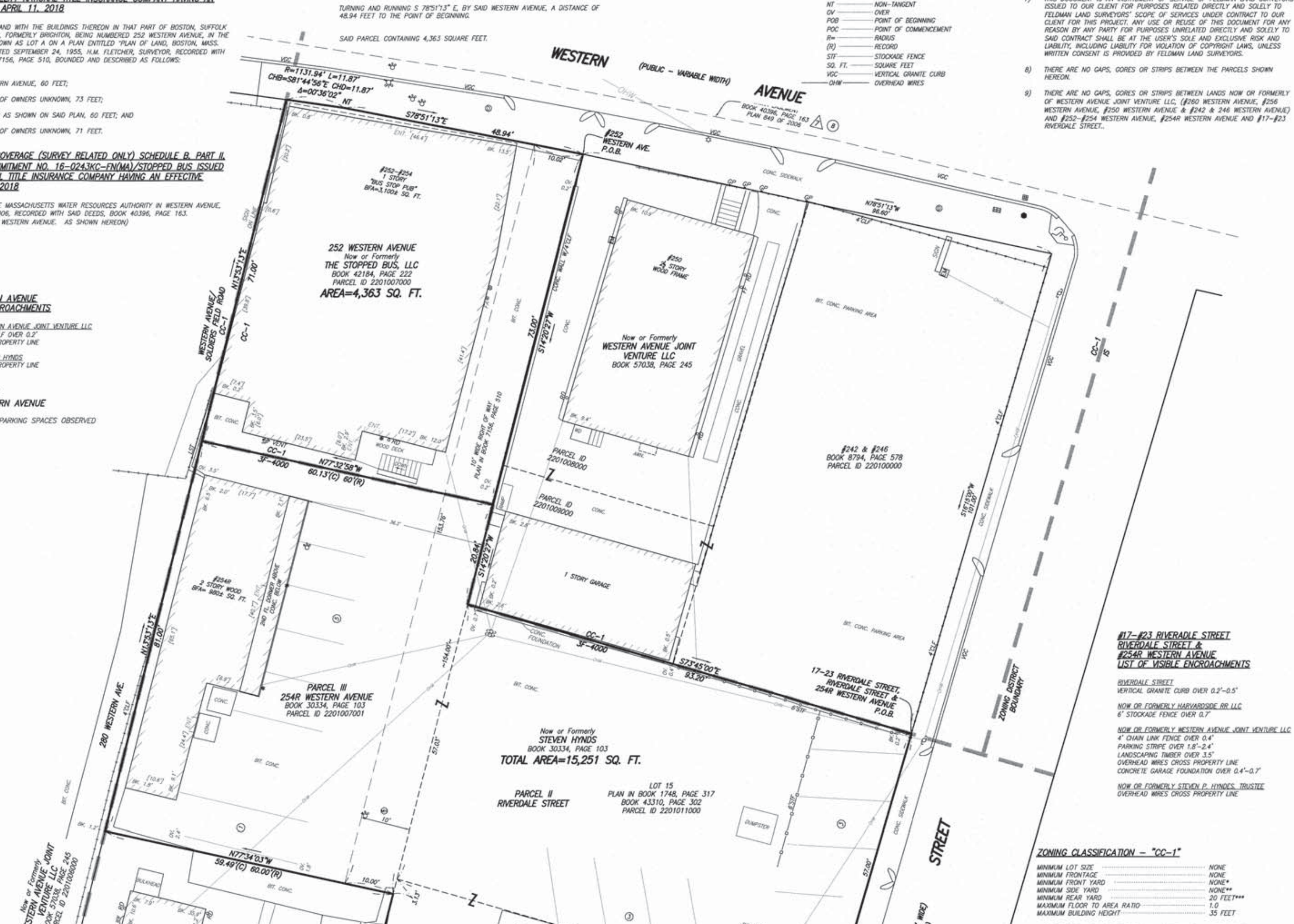
5) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES.

6) UNDER SECTION 5.E.iv OF THE STANDARDS, LOCATION OF SURFACE EVIDENCE OF UTILITIES IS INCLUDED IN EVERY ALTA/NSPS LAND TITLE SURVEY, INDEPENDENT OF ITEM 11 IN TABLE A.

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

8) THERE ARE NO GAPS, GORES OR STRIPS BETWEEN THE PARCELS SHOWN HEREON.

9) THERE ARE NO GAPS, GORES OR STRIPS BETWEEN LANDS NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, (#260 WESTERN AVENUE, #256 WESTERN AVENUE, #250 WESTERN AVENUE & #242 & 246 WESTERN AVENUE) AND #252-#254 WESTERN AVENUE, #254R WESTERN AVENUE AND #17-#23 RIVERDALE STREET.



#17-#23 RIVERADLE STREET RIVERDALE STREET & #254R WESTERN AVENUE LIST OF VISIBLE ENCROACHMENTS

RIVERDALE STREET
VERTICAL GRANITE CURB OVER 0.2'-0.5'

NOW OR FORMERLY HARVARDSIDE RR LLC
6' STOCKADE FENCE OVER 0.7'

NOW OR FORMERLY WESTERN AVENUE JOINT VENTURE LLC
4' CHAIN LINK FENCE OVER 0.4'
PARKING STRIPE OVER 1.8'-2.4'
LANDSCAPING TIMBER OVER 3.5'
OVERHEAD WIRES CROSS PROPERTY LINE
CONCRETE GARAGE FOUNDATION OVER 0.4'-0.7'

NOW OR FORMERLY STEVEN P. HYNDES, TRUSTEE
OVERHEAD WIRES CROSS PROPERTY LINE

ZONING CLASSIFICATION – "CC-1"

MINIMUM LOT SIZE	NONE
MINIMUM FRONTAGE	NONE
MINIMUM FRONT YARD	NONE*
MINIMUM SIDE YARD	NONE**
MINIMUM REAR YARD	20 FEET***
MAXIMUM FLOOR TO AREA RATIO	1.0
MAXIMUM BUILDING HEIGHT	35 FEET

* SEE SECTION 51-45.1, STREET WALL CONTINUITY. IN THE WESTERN AVENUE/SOLDIERS FIELD ROAD COMMUNITY COMMERCIAL SUBDISTRICT (CC-1), THE MINIMUM REQUIRED FRONT YARD SHALL BE SEVEN FEET.

** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, NO SIDE YARD IS REQUIRED EXCEPT IN THE CASE OF A LOT WITH A SIDE LOT LINE ABUTTING A RESIDENTIAL SUBDISTRICT, WHICH SHALL HAVE SIDE YARDS AS IF IT WERE IN SUCH ABUTTING DISTRICT. EVERY SIDE YARD SO REQUIRED THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THAT OF THE LOWEST WINDOW SILL OF THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

*** IN A NEIGHBORHOOD BUSINESS SUBDISTRICT, EVERY REAR YARD REQUIRED BY THIS CODE THAT DOES NOT ABUT A STREET LINE SHALL, ALONG EVERY LOT LINE ON WHICH SUCH YARD ABUTS, BE AT A LEVEL NO HIGHER THAN THE LEVEL OF THE LOWEST WINDOW SILL IN THE LOWEST ROOM DESIGNED FOR HUMAN OCCUPANCY OR SO OCCUPIED, AND RELYING UPON NATURAL LIGHT OR NATURAL VENTILATION FROM WINDOWS OPENING ON SUCH YARD.

ZONING CLASSIFICATION – "3F-4000"

SEMI-ATTACHED DWELLING, ROW HOUSE BUILDING, OR TOWN HOUSE BUILDING

MINIMUM LOT SIZE PER DWELLING UNIT	2,000 SQ. FT. (1 UNIT)
ADDITIONAL LOT AREA FOR EACH UNIT	2,000 SQ. FT.
MINIMUM FRONTAGE	25 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM SIDE YARD	10 FEET
MINIMUM REAR YARD	40 FEET
MAXIMUM FLOOR TO AREA RATIO	0.8
MAXIMUM BUILDING HEIGHT	3 STORIES/35 FEET

ANY OTHER DWELLING

MINIMUM LOT SIZE PER DWELLING UNIT	4,000 SQ. FT. (1 OR 2 UNITS)
ADDITIONAL LOT AREA FOR EACH UNIT	2,000 SQ. FT.
MINIMUM FRONTAGE	45 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM SIDE YARD	NONE**
MINIMUM REAR YARD	30 FEET
MAXIMUM FLOOR TO AREA RATIO	0.8
MAXIMUM BUILDING HEIGHT	3 STORIES/35 FEET

* AT LEAST FIVE (5) FEET FROM A SIDE LOT LINE AND TEN (10) FEET FROM AN EXISTING STRUCTURE ON AN ABUTTING LOT, AND THE AGGREGATE SIDE YARD WIDTH SHALL BE NOT LESS THAN FIFTEEN (15) FEET.

* SEMI-ATTACHED DWELLINGS, TOWN HOUSE BUILDINGS, AND ROW HOUSE BUILDINGS ARE ONLY REQUIRED TO HAVE SIDE YARDS ON SIDES THAT ARE NOT ATTACHED TO ANOTHER DWELLING.

BOUNDARY DESCRIPTION PER COMMITMENT NO. 16-0243KC-FN/HYNDS ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF APRIL 11, 2018

PARCEL I – 17-23 RIVERDALE STREET

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED ON RIVERDALE STREET IN THAT PART OF SAID BOSTON, FORMERLY CALLED BRIGHTON, AND BOUNDED AND DESCRIBED AS FOLLOWS:

SOUTHEASTERLY: BY SAID RIVERDALE STREET ABOUT FIFTY-SEVEN (57) FEET;

NORTHEASTERLY: BY LOT #17 ON THE PLAN HEREINAFTER MENTIONED EIGHTY-EIGHT AND 30/100 (88.30) FEET;

NORTHWESTERLY: BY LANDS NOW OR LATE OF ONE TEMPLE AND ONE COFFEE FIFTY-SEVEN 03/100 (57.03) FEET; AND

SOUTHWESTERLY: BY LOT #15 ON SAID PLAN EIGHTY-SIX AND 40/100 (86.40) FEET.

CONTAINING 5,010 SQUARE FEET MORE OR LESS AND BEING LOT #16 ON A PLAN MADE BY J. FRANK WADLEIGH DATED APRIL 9, 1886, AND RECORDED WITH SUFFOLK DEEDS BOOK 1748, PAGE 317, EXCEPT A STRIP OF LAND THREE FEET WIDE TAKEN TO WIDEN RIVERDALE STREET.

PARCEL II – RIVERDALE STREET

ABOUT FIFTY-TWO HUNDRED FIFTY-FIVE (5255) SQUARE FEET OF LAND ON THE NORTHWESTERLY SIDE OF RIVERDALE STREET, BRIGHTON, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHEASTERLY: BY AN ESTATE NOW OR FORMERLY OF M.J. HAVERTY NUMBERED 242-246 WESTERN AVENUE;

NORTHWESTERLY: BY AN ESTATE NOW OR FORMERLY OF JOHANNA CONNORS, NUMBERED 254 WESTERN AVENUE;

SOUTHWESTERLY: BY AN ESTATE NOW OR FORMERLY OF LUIGI VACCA AND ANOTHER NUMBERED 17-23 RIVERDALE STREET; AND

SOUTHEASTERLY: BY RIVERDALE STREET.

BEING PARCEL #2201011000 ACCORDING TO THE ASSESSORS RECORDS OF THE CITY OF BOSTON.

PARCEL III – 254R WESTERN AVENUE

A PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED IN THAT PART OF BOSTON CALLED BRIGHTON, AND SHOWN AS LOT B ON A "PLAN OF LAND, BOSTON, MASSACHUSETTS, BRIGHTON DISTRICT", DATED SEPTEMBER 24, 1955, BY H.M. FLETCHER, SURVEYOR, RECORDED IN SUFFOLK DEEDS IN BOOK 7156, PAGE 510 AND BEING BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHERLY: BY LOT A AS SHOWN ON SAID PLAN, SIXTY (60) FEET;

EASTERLY: BY LAND OF OWNERS UNKNOWN, EIGHTY-ONE (81) FEET;

SOUTHERLY: BY LOT C AS SHOWN ON SAID PLAN, SIXTY (60) FEET; AND

WESTERLY: BY LAND OF OWNERS UNKNOWN, EIGHTY-ONE (81) FEET.

RIVERDALE STREET, #17-#23 RIVERDALE STREET & 254R WESTERN AVENUE PERIMETER BOUNDARY DESCRIPTION (PER SURVEY)

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK IN THE COMMONWEALTH OF MASSACHUSETTS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHWESTERLY SIDELINE OF RIVERDALE STREET, SAID POINT BEING S 16°15'00" W, A DISTANCE OF 101.00 FEET FROM THE INTERSECTION OF THE SOUTHWESTERLY SIDELINE OF WESTERN AVENUE. THENCE;

CONTINUING ALONG SAID RIVERDALE STREET, S 16°15'00" W, A DISTANCE OF 114.00 FEET TO A POINT;

THENCE TURNING AND RUNNING N 73°45'00" W, BY LAND NOW OR FORMERLY OF BELLAVITA REALTY TRUST, A DISTANCE OF 89.40 FEET TO A POINT;

THENCE TURNING AND RUNNING N 14°20'27" E, BY LAND NOW OR FORMERLY OF HARVARDSIDE RR LLC AND LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 53.90 FEET TO A POINT;

THENCE TURNING AND RUNNING N 77°34'03" W, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 59.49 FEET TO A POINT;

THENCE TURNING AND RUNNING N 13°53'13" E, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 81.00 FEET TO A POINT;

THENCE TURNING AND RUNNING S 77°32'58" E, BY LAND NOW OR FORMERLY OF STEVEN P. HYNDES, TRUSTEE, A DISTANCE OF 60.13 FEET TO A POINT;

THENCE TURNING AND RUNNING S 14°20'27" W, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 20.84 FEET TO A POINT;

THENCE TURNING AND RUNNING S 73°45'00" E, BY LAND NOW OR FORMERLY OF WESTERN AVENUE JOINT VENTURE LLC, A DISTANCE OF 93.20 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 15,251 SQUARE FEET

EXCEPTIONS FROM COVERAGE (SURVEY RELATED ONLY) SCHEDULE B, PART II LISTED IN TITLE COMMITMENT NO. 18-0046KC-FN(MA) ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY HAVING AN EFFECTIVE DATE OF FEBRUARY 26, 2018.

(8) ORDER OF TAKING BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY IN WESTERN AVENUE, RECORDED WITH SAID DEEDS, BOOK 40396, PAGE 163 AND SHOWN ON PLAN 849 OF 2006 (AFFECTS 254R WESTERN AVENUE). – (NOT LOCUS – WITHIN WESTERN AVENUE. AS SHOWN HEREON)

#17-#23 RIVERADLE STREET RIVERDALE STREET & #254R WESTERN AVENUE PARKING SUMMARY

12 REGULAR SPACES
0 HANDICAPPED SPACES
12 TOTAL SPACES

TO: FIDELITY NATIONAL TITLE INSURANCE COMPANY, WESTERN AVENUE JOINT VENTURE LLC & CITIZENS BANK, NATIONAL ASSOCIATION:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 7(A), 7(B)(1), 8, 9, 13, 14, 16, 17, 19, AND 20 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 14, 2018.

FELDMAN LAND SURVEYORS

TIMOTHY R. AGURKIS, PLS (MA# 52782) — 6/5/18 DATE
TRA@FELDMANSURVEYORS.COM

COMMONWEALTH OF MASSACHUSETTS — TIMOTHY R. AGURKIS NO. 52782 — REGISTERED PROFESSIONAL LAND SURVEYOR

ALTA/NSPS LAND TITLE SURVEY
#252-#254 WESTERN AVENUE,
#254R WESTERN AVENUE &
#17-#23 RIVERDALE STREET
BOSTON, MASS.

FELDMAN LAND SURVEYORS
152 HAMPDEN STREET
BOSTON, MASS. 02119

APRIL 14, 2018
PHONE: (617)357-9740
www.feldmansurveyors.com

FELDMAN LAND SURVEYORS

SCALE: 1"=10'

RESEARCH TRA	FIELD CHIEF DS	PROJ MGR TRA	APPROVED PRF	SHEET NO. 1 OF 1
CALC TRA	CADD TRA	FIELD CHECKED	CRD FILE 15314	JOB NO. 15314C

FILENAME: S:\PROJECTS\15300s\15314\DWG\15314C-RIVERDALE.dwg

Appendix C

Transportation

-Vehicle, Pedestrian, and Bicycle Counts
-Seasonal Adjustment Factors
-Trip Generation
-Synchro Intersection Level of Service Reports
- Existing (2018) Condition
- No-Build (2025) Condition
- Build (2025) Condition
- Build (2025) Condition with Mitigation

Appendix C – Transportation

Vehicle, Pedestrian, and Bicycle Counts
Seasonal Adjustment Factors
Trip Generation
Synchro Intersection Level of Service Reports

- Existing (2018) Condition
- No-Build (2025) Condition
- Build (2025) Condition
- Build (2025) Condition with Mitigation

Vehicle, Pedestrian, and Bicycle Counts

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260010
Site Code : 17260010
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Soldiers Field Rd From North				Western Ave From East			Soldiers Field Rd From South				Western Ave From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
07:00 AM	0	131	7	0	199	61	31	29	31	0	0	0	0	73	562
07:15 AM	0	157	4	0	242	76	37	27	62	0	0	0	0	96	701
07:30 AM	0	168	9	0	243	82	38	17	43	0	1	0	0	114	715
07:45 AM	0	199	10	0	225	85	40	23	31	0	1	0	0	91	705
Total	0	655	30	0	909	304	146	96	167	0	2	0	0	374	2683
08:00 AM	0	187	7	1	238	89	52	14	29	0	0	0	0	116	733
08:15 AM	0	205	10	0	224	90	42	20	26	0	0	0	0	132	749
08:30 AM	0	192	5	0	211	91	65	18	21	0	0	0	0	101	704
08:45 AM	0	216	5	0	186	80	41	24	38	0	0	0	0	105	695
Total	0	800	27	1	859	350	200	76	114	0	0	0	0	454	2881
Grand Total	0	1455	57	1	1768	654	346	172	281	0	2	0	0	828	5564
Apprch %	0	96.2	3.8	0.1	63.9	23.6	12.5	37.8	61.8	0	0.4	0	0	100	
Total %	0	26.2	1	0	31.8	11.8	6.2	3.1	5.1	0	0	0	0	14.9	
Cars	0	1455	57	1	1740	619	346	153	281	0	2	0	0	769	5423
% Cars	0	100	100	100	98.4	94.6	100	89	100	0	100	0	0	92.9	97.5
Trucks	0	0	0	0	28	35	0	19	0	0	0	0	0	59	141
% Trucks	0	0	0	0	1.6	5.4	0	11	0	0	0	0	0	7.1	2.5

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260010
Site Code : 17260010
Start Date : 4/11/2018

	Soldiers Field Rd From North					Western Ave From East				Soldiers Field Rd From South					Western Ave From West				
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	0	168	9	0	177	**243**	82	38	363	17	**43**	0	**1**	**61**	0	0	114	114	715
07:45 AM	0	199	**10**	0	209	225	85	40	350	**23**	31	0	1	55	0	0	91	91	705
08:00 AM	0	187	7	**1**	195	238	89	**52**	**379**	14	29	0	0	43	0	0	116	116	733
08:15 AM	0	**205**	10	0	**215**	224	**90**	42	356	20	26	0	0	46	0	0	**132**	**132**	**749**
Total Volume	0	759	36	1	796	930	346	172	1448	74	129	0	2	205	0	0	453	453	2902
% App. Total	0	95.4	4.5	0.1		64.2	23.9	11.9		36.1	62.9	0	1		0	0	100		
PHF	.000	.926	.900	.250	.926	.957	.961	.827	.955	.804	.750	.000	.500	.840	.000	.000	.858	.858	.969

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260010
Site Code : 17260010
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Soldiers Field Rd From North				Western Ave From East				Soldiers Field Rd From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	10	0	8	0	2	0	7	0	5	1	1	0	2	0	1	17	20	37
07:15 AM	0	11	0	5	1	2	0	7	0	2	0	1	0	0	1	3	16	17	33
07:30 AM	0	14	0	6	0	7	0	11	0	0	0	0	0	9	0	2	19	30	49
07:45 AM	0	10	0	12	0	7	0	9	0	1	0	0	0	10	1	0	21	29	50
Total	0	45	0	31	1	18	0	34	0	8	1	2	0	21	2	6	73	96	169
08:00 AM	0	21	0	17	0	9	0	20	0	4	0	1	0	8	1	3	41	43	84
08:15 AM	0	13	0	27	0	10	0	6	1	2	0	1	0	3	0	8	42	29	71
08:30 AM	1	15	1	15	0	10	1	13	1	3	0	4	0	9	0	5	37	41	78
08:45 AM	0	15	0	29	1	8	0	7	0	3	0	0	0	6	0	3	39	33	72
Total	1	64	1	88	1	37	1	46	2	12	0	6	0	26	1	19	159	146	305
Grand Total	1	109	1	119	2	55	1	80	2	20	1	8	0	47	3	25	232	242	474
Apprch %	0.9	98.2	0.9		3.4	94.8	1.7		8.7	87	4.3		0	94	6				
Total %	0.4	45	0.4		0.8	22.7	0.4		0.8	8.3	0.4		0	19.4	1.2		48.9	51.1	

Accurate Counts

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File Name : 17260010
Site Code : 17260010
Start Date : 4/11/2018
Page No : 2

	Soldiers Field Rd From North				Western Ave From East				Soldiers Field Rd From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**21**	0	**21**	0	9	0	9	0	**4**	0	**4**	0	8	**1**	**9**	**43**
08:15 AM	0	13	0	13	0	**10**	0	10	**1**	2	0	3	0	3	0	3	29
08:30 AM	**1**	15	**1**	17	0	10	**1**	**11**	1	3	0	4	0	**9**	0	9	41
08:45 AM	0	15	0	15	**1**	8	0	9	0	3	0	3	0	6	0	6	33
Total Volume	1	64	1	66	1	37	1	39	2	12	0	14	0	26	1	27	146
% App. Total	1.5	97	1.5		2.6	94.9	2.6		14.3	85.7	0		0	96.3	3.7		
PHF	.250	.762	.250	.786	.250	.925	.250	.886	.500	.750	.000	.875	.000	.722	.250	.750	.849

Accurate Counts

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File Name : 17260010
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Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Soldiers Field Rd From North				Western Ave From East			Soldiers Field Rd From South				Western Ave From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
04:00 PM	0	142	3	0	290	60	89	8	61	0	2	0	0	114	769
04:15 PM	0	151	9	0	311	72	71	19	59	0	2	0	0	102	796
04:30 PM	0	132	6	0	265	70	92	11	39	0	0	0	0	101	716
04:45 PM	0	162	0	0	291	80	91	8	64	0	1	0	0	87	784
Total	0	587	18	0	1157	282	343	46	223	0	5	0	0	404	3065
05:00 PM	0	159	5	0	232	85	95	9	62	0	1	0	0	115	763
05:15 PM	0	158	5	0	284	88	116	15	55	0	0	0	0	123	844
05:30 PM	0	148	7	0	284	85	110	10	74	0	0	0	0	116	834
05:45 PM	0	150	8	0	257	106	90	8	56	0	0	0	0	102	777
Total	0	615	25	0	1057	364	411	42	247	0	1	0	0	456	3218
Grand Total	0	1202	43	0	2214	646	754	88	470	0	6	0	0	860	6283
Apprch %	0	96.5	3.5	0	61.3	17.9	20.9	15.6	83.3	0	1.1	0	0	100	
Total %	0	19.1	0.7	0	35.2	10.3	12	1.4	7.5	0	0.1	0	0	13.7	
Cars	0	1202	43	0	2200	621	754	85	470	0	6	0	0	842	6223
% Cars	0	100	100	0	99.4	96.1	100	96.6	100	0	100	0	0	97.9	99
Trucks	0	0	0	0	14	25	0	3	0	0	0	0	0	18	60
% Trucks	0	0	0	0	0.6	3.9	0	3.4	0	0	0	0	0	2.1	1

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Start Date : 4/11/2018

	Soldiers Field Rd From North					Western Ave From East				Soldiers Field Rd From South					Western Ave From West				
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	0	**162**	0	0	162	**291**	80	91	462	8	64	0	**1**	73	0	0	87	87	784
05:00 PM	0	159	5	0	**164**	232	85	95	412	9	62	0	1	72	0	0	115	115	763
05:15 PM	0	158	5	0	163	284	**88**	**116**	**488**	**15**	55	0	0	70	0	0	**123**	**123**	**844**
05:30 PM	0	148	**7**	0	155	284	85	110	479	10	**74**	0	0	**84**	0	0	116	116	834
Total Volume	0	627	17	0	644	1091	338	412	1841	42	255	0	2	299	0	0	441	441	3225
% App. Total	0	97.4	2.6	0		59.3	18.4	22.4		14	85.3	0	0.7		0	0	100		
PHF	.000	.968	.607	.000	.982	.937	.960	.888	.943	.700	.861	.000	.500	.890	.000	.000	.896	.896	.955

Accurate Counts

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Groups Printed- Bikes Peds

	Soldiers Field Rd From North				Western Ave From East				Soldiers Field Rd From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	14	0	0	0	5	0	2	0	0	0	1	0	2	21	4	25
04:15 PM	0	5	0	9	0	4	0	8	2	4	0	3	1	2	0	0	20	18	38
04:30 PM	0	0	0	11	3	3	1	14	3	12	0	2	0	2	0	3	30	24	54
04:45 PM	0	1	0	10	0	5	0	10	4	8	0	1	0	5	0	2	23	23	46
Total	0	7	0	44	3	12	1	37	9	26	0	6	1	10	0	7	94	69	163
05:00 PM	0	6	0	22	0	6	1	11	3	15	0	3	0	4	0	0	36	35	71
05:15 PM	0	4	1	15	0	14	1	11	4	23	0	0	0	1	0	0	26	48	74
05:30 PM	1	6	0	19	0	6	1	23	3	14	1	2	0	6	0	17	61	38	99
05:45 PM	0	4	0	27	1	6	0	9	7	31	1	0	0	5	0	0	36	55	91
Total	1	20	1	83	1	32	3	54	17	83	2	5	0	16	0	17	159	176	335
Grand Total	1	27	1	127	4	44	4	91	26	109	2	11	1	26	0	24	253	245	498
Apprch %	3.4	93.1	3.4		7.7	84.6	7.7		19	79.6	1.5		3.7	96.3	0				
Total %	0.4	11	0.4		1.6	18	1.6		10.6	44.5	0.8		0.4	10.6	0		50.8	49.2	

Accurate Counts

978-664-2565

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	Soldiers Field Rd From North				Western Ave From East				Soldiers Field Rd From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**6**	0	6	0	6	**1**	7	3	15	0	18	0	4	0	4	35
05:15 PM	0	4	**1**	5	0	**14**	1	**15**	4	23	0	27	0	1	0	1	48
05:30 PM	**1**	6	0	**7**	0	6	1	7	3	14	**1**	18	0	**6**	0	**6**	38
05:45 PM	0	4	0	4	**1**	6	0	7	**7**	**31**	1	**39**	0	5	0	5	**55**
Total Volume	1	20	1	22	1	32	3	36	17	83	2	102	0	16	0	16	176
% App. Total	4.5	90.9	4.5		2.8	88.9	8.3		16.7	81.4	2		0	100	0		
PHF	.250	.833	.250	.786	.250	.571	.750	.600	.607	.669	.500	.654	.000	.667	.000	.667	.800

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Memorial Dr From North			Western Ave From East			Memorial Dr From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	177	66	24	180	25	46	127	0	0	0	0	645
07:15 AM	0	190	57	17	218	26	72	112	0	0	0	0	692
07:30 AM	0	240	78	22	207	26	74	150	0	0	0	0	797
07:45 AM	0	216	68	29	221	28	74	138	0	0	0	0	774
Total	0	823	269	92	826	105	266	527	0	0	0	0	2908
08:00 AM	0	228	52	28	221	25	96	151	0	0	0	0	801
08:15 AM	0	198	45	25	241	24	80	136	0	0	0	0	749
08:30 AM	0	208	56	29	236	30	75	115	0	0	0	0	749
08:45 AM	0	251	53	25	177	25	64	116	0	0	0	0	711
Total	0	885	206	107	875	104	315	518	0	0	0	0	3010
Grand Total	0	1708	475	199	1701	209	581	1045	0	0	0	0	5918
Apprch %	0	78.2	21.8	9.4	80.7	9.9	35.7	64.3	0	0	0	0	
Total %	0	28.9	8	3.4	28.7	3.5	9.8	17.7	0	0	0	0	
Cars	0	1707	466	197	1656	209	581	1041	0	0	0	0	5857
% Cars	0	99.9	98.1	99	97.4	100	100	99.6	0	0	0	0	99
Trucks	0	1	9	2	45	0	0	4	0	0	0	0	61
% Trucks	0	0.1	1.9	1	2.6	0	0	0.4	0	0	0	0	1

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**240**	**78**	**318**	22	207	26	255	74	150	0	224	0	0	0	0	797
07:45 AM	0	216	68	284	**29**	221	**28**	278	74	138	0	212	0	0	0	0	774
08:00 AM	0	228	52	280	28	221	25	274	**96**	**151**	0	**247**	0	0	0	0	**801**
08:15 AM	0	198	45	243	25	**241**	24	**290**	80	136	0	216	0	0	0	0	749
Total Volume	0	882	243	1125	104	890	103	1097	324	575	0	899	0	0	0	0	3121
% App. Total	0	78.4	21.6		9.5	81.1	9.4		36	64	0		0	0	0		
PHF	.000	.919	.779	.884	.897	.923	.920	.946	.844	.952	.000	.910	.000	.000	.000	.000	.974
Cars	0	881	240	1121	103	859	103	1065	324	573	0	897	0	0	0	0	3083
% Cars	0	99.9	98.8	99.6	99.0	96.5	100	97.1	100	99.7	0	99.8	0	0	0	0	98.8
Trucks	0	1	3	4	1	31	0	32	0	2	0	2	0	0	0	0	38
% Trucks	0	0.1	1.2	0.4	1.0	3.5	0	2.9	0	0.3	0	0.2	0	0	0	0	1.2

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	5	0	12	0	4	0	1	0	3	0	1	0	0	0	19	33	12	45
07:15 AM	0	6	0	9	0	3	0	3	0	3	0	0	0	0	0	16	28	12	40
07:30 AM	0	9	0	9	1	3	0	5	0	4	0	2	0	1	0	18	34	18	52
07:45 AM	0	11	0	20	0	5	0	1	0	2	0	1	0	0	0	23	45	18	63
Total	0	31	0	50	1	15	0	10	0	12	0	4	0	1	0	76	140	60	200
08:00 AM	0	14	0	19	0	9	0	7	0	7	1	2	0	1	0	11	39	32	71
08:15 AM	0	14	0	21	0	8	0	11	0	4	0	0	0	1	0	13	45	27	72
08:30 AM	0	24	0	19	0	9	0	6	1	7	0	0	0	0	0	20	45	41	86
08:45 AM	0	17	0	27	0	9	0	8	0	10	0	1	0	1	0	13	49	37	86
Total	0	69	0	86	0	35	0	32	1	28	1	3	0	3	0	57	178	137	315
Grand Total	0	100	0	136	1	50	0	42	1	40	1	7	0	4	0	133	318	197	515
Apprch %	0	100	0		2	98	0		2.4	95.2	2.4		0	100	0				
Total %	0	50.8	0		0.5	25.4	0		0.5	20.3	0.5		0	2	0		61.7	38.3	

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018
Page No : 14

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	14	0	14	0	**9**	0	**9**	0	7	**1**	8	0	**1**	0	**1**	32
08:15 AM	0	14	0	14	0	8	0	8	0	4	0	4	0	1	0	1	27
08:30 AM	0	**24**	0	**24**	0	9	0	9	**1**	7	0	8	0	0	0	0	**41**
08:45 AM	0	17	0	17	0	9	0	9	0	**10**	0	**10**	0	1	0	1	37
Total Volume	0	69	0	69	0	35	0	35	1	28	1	30	0	3	0	3	137
% App. Total	0	100	0		0	100	0		3.3	93.3	3.3		0	100	0		
PHF	.000	.719	.000	.719	.000	.972	.000	.972	.250	.700	.250	.750	.000	.750	.000	.750	.835

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Memorial Dr From North			Western Ave From East			Memorial Dr From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	135	90	17	243	26	111	158	0	0	0	0	780
04:15 PM	0	152	83	21	286	31	97	183	0	0	0	0	853
04:30 PM	0	142	63	28	265	25	124	171	0	0	0	0	818
04:45 PM	0	179	88	23	237	38	116	173	0	0	0	0	854
Total	0	608	324	89	1031	120	448	685	0	0	0	0	3305
05:00 PM	0	197	78	18	255	27	92	155	0	0	0	0	822
05:15 PM	0	166	106	26	250	20	111	167	0	0	0	0	846
05:30 PM	0	113	105	23	296	35	102	143	0	0	0	0	817
05:45 PM	0	173	93	23	243	24	105	141	0	0	0	0	802
Total	0	649	382	90	1044	106	410	606	0	0	0	0	3287
Grand Total	0	1257	706	179	2075	226	858	1291	0	0	0	0	6592
Apprch %	0	64	36	7.2	83.7	9.1	39.9	60.1	0	0	0	0	
Total %	0	19.1	10.7	2.7	31.5	3.4	13	19.6	0	0	0	0	
Cars	0	1256	696	179	2048	226	858	1291	0	0	0	0	6554
% Cars	0	99.9	98.6	100	98.7	100	100	100	0	0	0	0	99.4
Trucks	0	1	10	0	27	0	0	0	0	0	0	0	38
% Trucks	0	0.1	1.4	0	1.3	0	0	0	0	0	0	0	0.6

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018
Page No : 2

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	152	83	235	21	**286**	31	**338**	97	**183**	0	280	0	0	0	0	853
04:30 PM	0	142	63	205	**28**	265	25	318	**124**	171	0	**295**	0	0	0	0	818
04:45 PM	0	179	**88**	267	23	237	**38**	298	116	173	0	289	0	0	0	0	**854**
05:00 PM	0	**197**	78	**275**	18	255	27	300	92	155	0	247	0	0	0	0	822
Total Volume	0	670	312	982	90	1043	121	1254	429	682	0	1111	0	0	0	0	3347
% App. Total	0	68.2	31.8		7.2	83.2	9.6		38.6	61.4	0		0	0	0		
PHF	.000	.850	.886	.893	.804	.912	.796	.928	.865	.932	.000	.942	.000	.000	.000	.000	.980
Cars	0	669	307	976	90	1028	121	1239	429	682	0	1111	0	0	0	0	3326
% Cars	0	99.9	98.4	99.4	100	98.6	100	98.8	100	100	0	100	0	0	0	0	99.4
Trucks	0	1	5	6	0	15	0	15	0	0	0	0	0	0	0	0	21
% Trucks	0	0.1	1.6	0.6	0	1.4	0	1.2	0	0	0	0	0	0	0	0	0.6

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	6	0	17	0	2	0	6	0	0	0	1	0	0	0	9	33	8	41
04:15 PM	0	4	2	14	0	1	0	1	0	1	0	0	0	2	0	14	29	10	39
04:30 PM	0	9	0	9	0	0	0	7	0	6	0	0	0	0	0	13	29	15	44
04:45 PM	0	0	0	11	0	2	0	6	0	7	0	0	0	1	0	15	32	10	42
Total	0	19	2	51	0	5	0	20	0	14	0	1	0	3	0	51	123	43	166
05:00 PM	0	4	0	19	0	5	0	6	0	8	0	2	0	2	0	27	54	19	73
05:15 PM	0	4	0	15	0	10	0	8	0	20	0	1	0	2	0	18	42	36	78
05:30 PM	0	8	0	11	0	6	0	12	1	14	0	2	0	2	0	47	72	31	103
05:45 PM	0	5	0	25	0	2	0	10	0	12	0	3	0	1	0	39	77	20	97
Total	0	21	0	70	0	23	0	36	1	54	0	8	0	7	0	131	245	106	351
Grand Total	0	40	2	121	0	28	0	56	1	68	0	9	0	10	0	182	368	149	517
Apprch %	0	95.2	4.8		0	100	0		1.4	98.6	0		0	100	0				
Total %	0	26.8	1.3		0	18.8	0		0.7	45.6	0		0	6.7	0		71.2	28.8	

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: Western Avenue
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260011
Site Code : 17260011
Start Date : 4/11/2018

	Memorial Dr From North				Western Ave From East				Memorial Dr From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	4	0	4	0	5	0	5	0	8	0	8	0	**2**	0	**2**	19
05:15 PM	0	4	0	4	0	**10**	0	**10**	0	**20**	0	**20**	0	2	0	2	**36**
05:30 PM	0	**8**	0	**8**	0	6	0	6	**1**	14	0	15	0	2	0	2	31
05:45 PM	0	5	0	5	0	2	0	2	0	12	0	12	0	1	0	1	20
Total Volume	0	21	0	21	0	23	0	23	1	54	0	55	0	7	0	7	106
% App. Total	0	100	0		0	100	0		1.8	98.2	0		0	100	0		
PHF	.000	.656	.000	.656	.000	.575	.000	.575	.250	.675	.000	.688	.000	.875	.000	.875	.736

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Soldiers Field Rd From North				Cambridge St From East			Soldiers Field Rd From South				Cambridge St From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
07:00 AM	68	46	12	0	0	0	0	61	17	20	5	46	289	95	659
07:15 AM	72	41	14	1	0	0	0	77	22	24	3	64	285	84	687
07:30 AM	146	65	13	0	0	0	0	87	13	33	4	44	263	93	761
07:45 AM	116	43	16	0	0	0	0	74	15	30	2	43	320	81	740
Total	402	195	55	1	0	0	0	299	67	107	14	197	1157	353	2847
08:00 AM	153	64	11	1	0	0	0	77	15	38	5	33	270	78	745
08:15 AM	149	58	16	0	0	0	0	50	17	39	1	36	251	62	679
08:30 AM	130	64	13	1	0	0	0	68	12	54	0	24	248	48	662
08:45 AM	137	74	14	0	0	0	0	54	16	38	1	39	192	61	626
Total	569	260	54	2	0	0	0	249	60	169	7	132	961	249	2712
Grand Total	971	455	109	3	0	0	0	548	127	276	21	329	2118	602	5559
Apprch %	63.1	29.6	7.1	0.2	0	0	0	56.4	13.1	28.4	2.2	10.8	69.5	19.7	
Total %	17.5	8.2	2	0.1	0	0	0	9.9	2.3	5	0.4	5.9	38.1	10.8	
Cars	953	452	99	3	0	0	0	548	127	276	21	313	2068	600	5460
% Cars	98.1	99.3	90.8	100	0	0	0	100	100	100	100	95.1	97.6	99.7	98.2
Trucks	18	3	10	0	0	0	0	0	0	0	0	16	50	2	99
% Trucks	1.9	0.7	9.2	0	0	0	0	0	0	0	0	4.9	2.4	0.3	1.8

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018

	Soldiers Field Rd From North					Cambridge St From East				Soldiers Field Rd From South					Cambridge St From West				
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15 AM																			
07:15 AM	72	41	14	**1**	128	0	0	0	0	77	**22**	24	3	126	**64**	285	84	433	687
07:30 AM	146	**65**	13	0	224	0	0	0	0	**87**	13	33	4	**137**	44	263	**93**	400	**761**
07:45 AM	116	43	**16**	0	175	0	0	0	0	74	15	30	2	121	43	**320**	81	**444**	740
08:00 AM	**153**	64	11	1	**229**	0	0	0	0	77	15	**38**	**5**	135	33	270	78	381	745
Total Volume	487	213	54	2	756	0	0	0	0	315	65	125	14	519	184	1138	336	1658	2933
% App. Total	64.4	28.2	7.1	0.3		0	0	0		60.7	12.5	24.1	2.7		11.1	68.6	20.3		
PHF	.796	.819	.844	.500	.825	.000	.000	.000	.000	.905	.739	.822	.700	.947	.719	.889	.903	.934	.964
Cars	477	213	47	2	739	0	0	0	0	315	65	125	14	519	177	1112	335	1624	2882
% Cars	97.9	100	87.0	100	97.8	0	0	0	0	100	100	100	100	100	96.2	97.7	99.7	97.9	98.3
Trucks	10	0	7	0	17	0	0	0	0	0	0	0	0	0	7	26	1	34	51
% Trucks	2.1	0	13.0	0	2.2	0	0	0	0	0	0	0	0	0	3.8	2.3	0.3	2.1	1.7

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Soldiers Field Rd From North				Cambridge St From East				Soldiers Field Rd From South				Cambridge St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	7	0	2	1	0	0	24	2	0	1	5	0	1	1	4	35	13	48
07:15 AM	1	14	0	1	0	0	0	2	0	1	1	3	0	6	0	3	9	23	32
07:30 AM	3	17	0	2	0	0	0	8	0	0	0	2	0	3	0	4	16	23	39
07:45 AM	2	19	0	1	2	0	0	5	0	1	0	6	1	5	1	0	12	31	43
Total	6	57	0	6	3	0	0	39	2	2	2	16	1	15	2	11	72	90	162
08:00 AM	1	28	0	2	0	0	0	7	0	2	0	5	0	2	0	5	19	33	52
08:15 AM	0	20	0	2	0	0	0	4	0	4	0	4	0	7	0	11	21	31	52
08:30 AM	1	20	0	1	0	0	0	5	0	4	0	2	1	6	0	4	12	32	44
08:45 AM	0	21	0	1	1	1	0	7	1	4	0	7	0	1	0	14	29	29	58
Total	2	89	0	6	1	1	0	23	1	14	0	18	1	16	0	34	81	125	206
Grand Total	8	146	0	12	4	1	0	62	3	16	2	34	2	31	2	45	153	215	368
Apprch %	5.2	94.8	0		80	20	0		14.3	76.2	9.5		5.7	88.6	5.7				
Total %	3.7	67.9	0		1.9	0.5	0		1.4	7.4	0.9		0.9	14.4	0.9		41.6	58.4	

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018
Page No : 2

	Soldiers Field Rd From North				Cambridge St From East				Soldiers Field Rd From South				Cambridge St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**2**	19	0	21	**2**	0	0	**2**	0	1	0	1	**1**	5	**1**	**7**	31
08:00 AM	1	**28**	0	**29**	0	0	0	0	0	2	0	2	0	2	0	2	**33**
08:15 AM	0	20	0	20	0	0	0	0	0	**4**	0	**4**	0	**7**	0	7	31
08:30 AM	1	20	0	21	0	0	0	0	0	4	0	4	1	6	0	7	32
Total Volume	4	87	0	91	2	0	0	2	0	11	0	11	2	20	1	23	127
% App. Total	4.4	95.6	0		100	0	0		0	100	0		8.7	87	4.3		
PHF	.500	.777	.000	.784	.250	.000	.000	.250	.000	.688	.000	.688	.500	.714	.250	.821	.962

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Soldiers Field Rd From North				Cambridge St From East			Soldiers Field Rd From South				Cambridge St From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
04:00 PM	64	53	20	2	0	0	0	96	10	18	6	57	280	151	757
04:15 PM	65	55	21	1	0	0	0	91	11	19	2	61	293	132	751
04:30 PM	75	58	27	1	0	0	0	98	8	21	3	50	253	110	704
04:45 PM	77	53	16	1	0	0	0	78	8	29	1	61	272	133	729
Total	281	219	84	5	0	0	0	363	37	87	12	229	1098	526	2941
05:00 PM	88	51	17	0	0	0	0	75	8	32	2	58	244	86	661
05:15 PM	66	64	20	0	0	0	0	59	13	29	5	64	259	112	691
05:30 PM	66	69	27	0	0	0	0	78	7	23	4	70	258	96	698
05:45 PM	120	56	22	3	0	0	0	60	2	21	2	72	176	62	596
Total	340	240	86	3	0	0	0	272	30	105	13	264	937	356	2646
Grand Total	621	459	170	8	0	0	0	635	67	192	25	493	2035	882	5587
Apprch %	49.4	36.5	13.5	0.6	0	0	0	69.1	7.3	20.9	2.7	14.5	59.7	25.9	
Total %	11.1	8.2	3	0.1	0	0	0	11.4	1.2	3.4	0.4	8.8	36.4	15.8	
Cars	608	455	165	8	0	0	0	635	67	192	25	492	2007	880	5534
% Cars	97.9	99.1	97.1	100	0	0	0	100	100	100	100	99.8	98.6	99.8	99.1
Trucks	13	4	5	0	0	0	0	0	0	0	0	1	28	2	53
% Trucks	2.1	0.9	2.9	0	0	0	0	0	0	0	0	0.2	1.4	0.2	0.9

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018
Page No : 2

	Soldiers Field Rd From North					Cambridge St From East				Soldiers Field Rd From South					Cambridge St From West				
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:00 PM																			
04:00 PM	64	53	20	**2**	139	0	0	0	0	96	10	18	**6**	**130**	57	280	**151**	**488**	**757**
04:15 PM	65	55	21	1	142	0	0	0	0	91	**11**	19	2	123	**61**	**293**	132	486	751
04:30 PM	75	**58**	**27**	1	**161**	0	0	0	0	**98**	8	21	3	130	50	253	110	413	704
04:45 PM	**77**	53	16	1	147	0	0	0	0	78	8	**29**	1	116	61	272	133	466	729
Total Volume	281	219	84	5	589	0	0	0	0	363	37	87	12	499	229	1098	526	1853	2941
% App. Total	47.7	37.2	14.3	0.8		0	0	0		72.7	7.4	17.4	2.4		12.4	59.3	28.4		
PHF	.912	.944	.778	.625	.915	.000	.000	.000	.000	.926	.841	.750	.500	.960	.939	.937	.871	.949	.971
Cars	275	217	82	5	579	0	0	0	0	363	37	87	12	499	229	1083	525	1837	2915
% Cars	97.9	99.1	97.6	100	98.3	0	0	0	0	100	100	100	100	100	100	98.6	99.8	99.1	99.1
Trucks	6	2	2	0	10	0	0	0	0	0	0	0	0	0	0	15	1	16	26
% Trucks	2.1	0.9	2.4	0	1.7	0	0	0	0	0	0	0	0	0	0	1.4	0.2	0.9	0.9

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Soldiers Field Rd From North				Cambridge St From East				Soldiers Field Rd From South				Cambridge St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	0	4	0	3	0	9	0	4	0	7	0	2	0	1	21	11	32
04:15 PM	0	2	0	6	0	2	0	8	1	9	0	2	0	1	0	6	22	15	37
04:30 PM	0	5	0	1	1	2	0	13	1	10	1	0	0	2	0	3	17	22	39
04:45 PM	0	3	0	0	0	0	0	3	0	7	0	5	0	3	0	1	9	13	22
Total	0	12	0	11	1	7	0	33	2	30	1	14	0	8	0	11	69	61	130
05:00 PM	0	6	0	2	1	0	0	11	2	8	1	3	0	0	0	0	16	18	34
05:15 PM	0	3	0	5	0	1	0	11	0	29	0	9	0	1	0	2	27	34	61
05:30 PM	2	5	0	5	0	0	0	19	1	19	0	13	0	0	0	4	41	27	68
05:45 PM	0	0	0	12	0	0	0	9	0	33	0	14	0	4	0	21	56	37	93
Total	2	14	0	24	1	1	0	50	3	89	1	39	0	5	0	27	140	116	256
Grand Total	2	26	0	35	2	8	0	83	5	119	2	53	0	13	0	38	209	177	386
Apprch %	7.1	92.9	0		20	80	0		4	94.4	1.6		0	100	0				
Total %	1.1	14.7	0		1.1	4.5	0		2.8	67.2	1.1		0	7.3	0		54.1	45.9	

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road
E/W Street: Cambridge Street
City/State : Allston, MA
Weather : Cloudy

File Name : 17260012
Site Code : 17260012
Start Date : 4/11/2018
Page No : 2

	Soldiers Field Rd From North				Cambridge St From East				Soldiers Field Rd From South				Cambridge St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**6**	0	6	**1**	0	0	**1**	**2**	8	**1**	11	0	0	0	0	18
05:15 PM	0	3	0	3	0	**1**	0	1	0	29	0	29	0	1	0	1	34
05:30 PM	**2**	5	0	**7**	0	0	0	0	1	19	0	20	0	0	0	0	27
05:45 PM	0	0	0	0	0	0	0	0	0	**33**	0	**33**	0	**4**	0	**4**	**37**
Total Volume	2	14	0	16	1	1	0	2	3	89	1	93	0	5	0	5	116
% App. Total	12.5	87.5	0		50	50	0		3.2	95.7	1.1		0	100	0		
PHF	.250	.583	.000	.571	.250	.250	.000	.500	.375	.674	.250	.705	.000	.313	.000	.313	.784

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Memorial Dr From North			River St From East			Memorial Dr From South			River St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	21	195	0	0	0	0	0	137	12	42	182	158	747
07:15 AM	10	183	0	0	0	0	0	176	12	28	190	155	754
07:30 AM	14	234	0	0	0	0	0	165	15	42	233	163	866
07:45 AM	23	222	0	0	0	0	0	183	16	50	233	173	900
Total	68	834	0	0	0	0	0	661	55	162	838	649	3267
08:00 AM	19	199	0	0	0	0	0	176	14	53	222	191	874
08:15 AM	15	224	0	0	0	0	0	186	25	38	190	194	872
08:30 AM	18	202	0	0	0	0	0	140	24	44	185	203	816
08:45 AM	24	240	0	0	0	0	0	151	27	38	163	141	784
Total	76	865	0	0	0	0	0	653	90	173	760	729	3346
Grand Total	144	1699	0	0	0	0	0	1314	145	335	1598	1378	6613
Apprch %	7.8	92.2	0	0	0	0	0	90.1	9.9	10.1	48.3	41.6	
Total %	2.2	25.7	0	0	0	0	0	19.9	2.2	5.1	24.2	20.8	
Cars	144	1696	0	0	0	0	0	1314	145	332	1552	1378	6561
% Cars	100	99.8	0	0	0	0	0	100	100	99.1	97.1	100	99.2
Trucks	0	3	0	0	0	0	0	0	0	3	46	0	52
% Trucks	0	0.2	0	0	0	0	0	0	0	0.9	2.9	0	0.8

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	**234**	0	**248**	0	0	0	0	0	165	15	180	42	**233**	163	438	866
07:45 AM	**23**	222	0	245	0	0	0	0	0	183	16	199	50	233	173	456	**900**
08:00 AM	19	199	0	218	0	0	0	0	0	176	14	190	**53**	222	191	**466**	874
08:15 AM	15	224	0	239	0	0	0	0	0	**186**	**25**	**211**	38	190	**194**	422	872
Total Volume	71	879	0	950	0	0	0	0	0	710	70	780	183	878	721	1782	3512
% App. Total	7.5	92.5	0		0	0	0		0	91	9		10.3	49.3	40.5		
PHF	.772	.939	.000	.958	.000	.000	.000	.000	.000	.954	.700	.924	.863	.942	.929	.956	.976
Cars	71	877	0	948	0	0	0	0	0	710	70	780	182	853	721	1756	3484
% Cars	100	99.8	0	99.8	0	0	0	0	0	100	100	100	99.5	97.2	100	98.5	99.2
Trucks	0	2	0	2	0	0	0	0	0	0	0	0	1	25	0	26	28
% Trucks	0	0.2	0	0.2	0	0	0	0	0	0	0	0	0.5	2.8	0	1.5	0.8

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	6	0	1	0	0	0	0	0	2	0	2	0	0	0	23	26	8	34
07:15 AM	0	5	0	2	0	0	0	1	0	3	0	3	0	5	0	15	21	13	34
07:30 AM	0	8	0	1	0	2	0	1	0	4	0	7	0	4	0	21	30	18	48
07:45 AM	1	11	0	1	0	0	0	0	0	1	0	6	0	2	0	12	19	15	34
Total	1	30	0	5	0	2	0	2	0	10	0	18	0	11	0	71	96	54	150
08:00 AM	0	16	0	2	0	1	0	2	0	6	0	3	1	2	0	28	35	26	61
08:15 AM	0	13	0	2	0	0	0	2	0	5	0	1	0	7	0	14	19	25	44
08:30 AM	0	12	0	3	0	0	0	4	0	2	0	6	2	6	0	22	35	22	57
08:45 AM	0	10	0	4	0	1	0	0	0	0	0	11	0	3	0	16	31	14	45
Total	0	51	0	11	0	2	0	8	0	13	0	21	3	18	0	80	120	87	207
Grand Total	1	81	0	16	0	4	0	10	0	23	0	39	3	29	0	151	216	141	357
Apprch %	1.2	98.8	0		0	100	0		0	100	0		9.4	90.6	0				
Total %	0.7	57.4	0		0	2.8	0		0	16.3	0		2.1	20.6	0		60.5	39.5	

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018
Page No : 14

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**1**	11	0	12	0	0	0	0	0	1	0	1	0	2	0	2	15
08:00 AM	0	**16**	0	**16**	0	**1**	0	**1**	0	**6**	0	**6**	1	2	0	3	**26**
08:15 AM	0	13	0	13	0	0	0	0	0	5	0	5	0	**7**	0	7	25
08:30 AM	0	12	0	12	0	0	0	0	0	2	0	2	**2**	6	0	**8**	22
Total Volume	1	52	0	53	0	1	0	1	0	14	0	14	3	17	0	20	88
% App. Total	1.9	98.1	0		0	100	0		0	100	0		15	85	0		
PHF	.250	.813	.000	.828	.000	.250	.000	.250	.000	.583	.000	.583	.375	.607	.000	.625	.846

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Memorial Dr From North			River St From East			Memorial Dr From South			River St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	11	137	0	0	0	0	0	217	18	59	164	119	725
04:15 PM	14	133	0	0	0	0	0	213	7	72	184	141	764
04:30 PM	21	170	0	0	0	0	0	226	6	75	144	111	753
04:45 PM	19	166	0	0	0	0	0	221	10	54	200	126	796
Total	65	606	0	0	0	0	0	877	41	260	692	497	3038
05:00 PM	20	189	0	0	0	0	0	196	10	56	199	111	781
05:15 PM	19	160	0	0	0	0	0	210	8	63	172	100	732
05:30 PM	15	113	0	0	0	0	0	169	12	70	183	116	678
05:45 PM	15	173	1	0	0	0	0	197	12	35	139	121	693
Total	69	635	1	0	0	0	0	772	42	224	693	448	2884
Grand Total	134	1241	1	0	0	0	0	1649	83	484	1385	945	5922
Apprch %	9.7	90.2	0.1	0	0	0	0	95.2	4.8	17.2	49.2	33.6	
Total %	2.3	21	0	0	0	0	0	27.8	1.4	8.2	23.4	16	
Cars	134	1240	1	0	0	0	0	1649	83	484	1358	943	5892
% Cars	100	99.9	100	0	0	0	0	100	100	100	98.1	99.8	99.5
Trucks	0	1	0	0	0	0	0	0	0	0	27	2	30
% Trucks	0	0.1	0	0	0	0	0	0	0	0	1.9	0.2	0.5

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018
Page No : 2

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	14	133	0	147	0	0	0	0	0	213	7	220	72	184	**141**	**397**	764
04:30 PM	**21**	170	0	191	0	0	0	0	0	**226**	6	**232**	**75**	144	111	330	753
04:45 PM	19	166	0	185	0	0	0	0	0	221	**10**	231	54	**200**	126	380	**796**
05:00 PM	20	**189**	0	**209**	0	0	0	0	0	196	10	206	56	199	111	366	781
Total Volume	74	658	0	732	0	0	0	0	0	856	33	889	257	727	489	1473	3094
% App. Total	10.1	89.9	0		0	0	0		0	96.3	3.7		17.4	49.4	33.2		
PHF	.881	.870	.000	.876	.000	.000	.000	.000	.000	.947	.825	.958	.857	.909	.867	.928	.972
Cars	74	657	0	731	0	0	0	0	0	856	33	889	257	713	489	1459	3079
% Cars	100	99.8	0	99.9	0	0	0	0	0	100	100	100	100	98.1	100	99.0	99.5
Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	14	0	14	15
% Trucks	0	0.2	0	0.1	0	0	0	0	0	0	0	0	0	1.9	0	1.0	0.5

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	4	0	2	0	0	0	2	0	1	0	8	0	3	0	12	24	8	32
04:15 PM	0	4	0	4	0	0	0	3	0	1	0	3	0	1	0	13	23	6	29
04:30 PM	0	5	0	0	0	2	0	0	0	7	0	3	0	5	0	19	22	19	41
04:45 PM	0	0	0	4	0	0	1	3	0	4	0	2	0	2	0	24	33	7	40
Total	0	13	0	10	0	2	1	8	0	13	0	16	0	11	0	68	102	40	142
05:00 PM	0	2	0	2	0	1	0	0	0	4	0	11	0	2	0	27	40	9	49
05:15 PM	0	2	0	5	0	0	0	0	0	6	0	12	0	0	0	28	45	8	53
05:30 PM	0	4	0	4	0	0	0	2	0	6	0	10	0	4	0	50	66	14	80
05:45 PM	0	3	0	9	0	0	0	8	0	4	0	10	0	6	0	57	84	13	97
Total	0	11	0	20	0	1	0	10	0	20	0	43	0	12	0	162	235	44	279
Grand Total	0	24	0	30	0	3	1	18	0	33	0	59	0	23	0	230	337	84	421
Apprch %	0	100	0		0	75	25		0	100	0		0	100	0				
Total %	0	28.6	0		0	3.6	1.2		0	39.3	0		0	27.4	0		80	20	

Accurate Counts

978-664-2565

N/S Street : Memorial Drive
E/W Street: River Street
City/State : Cambridge, MA
Weather : Cloudy

File Name : 17260013
Site Code : 17260013
Start Date : 4/11/2018
Page No : 14

	Memorial Dr From North				River St From East				Memorial Dr From South				River St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	2	0	2	0	**1**	0	**1**	0	4	0	4	0	2	0	2	9
05:15 PM	0	2	0	2	0	0	0	0	0	**6**	0	**6**	0	0	0	0	8
05:30 PM	0	**4**	0	**4**	0	0	0	0	0	6	0	6	0	4	0	4	**14**
05:45 PM	0	3	0	3	0	0	0	0	0	4	0	4	0	**6**	0	**6**	13
Total Volume	0	11	0	11	0	1	0	1	0	20	0	20	0	12	0	12	44
% App. Total	0	100	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.688	.000	.688	.000	.250	.000	.250	.000	.833	.000	.833	.000	.500	.000	.500	.786

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	N. Harvard St From North			Bertram St From East			N. Harvard St From South			Spurr St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	2	34	0	2	0	1	0	69	6	3	2	26	145
07:15 AM	0	41	0	1	0	5	0	67	3	11	3	32	163
07:30 AM	4	46	0	3	0	1	0	96	6	6	2	35	199
07:45 AM	0	36	0	1	0	0	0	85	1	8	3	39	173
Total	6	157	0	7	0	7	0	317	16	28	10	132	680
08:00 AM	1	34	0	1	0	2	0	88	6	8	3	35	178
08:15 AM	1	47	0	1	0	1	0	83	4	11	2	30	180
08:30 AM	1	52	0	2	0	0	0	94	4	8	3	37	201
08:45 AM	4	43	0	0	0	2	0	87	6	7	1	24	174
Total	7	176	0	4	0	5	0	352	20	34	9	126	733
Grand Total	13	333	0	11	0	12	0	669	36	62	19	258	1413
Apprch %	3.8	96.2	0	47.8	0	52.2	0	94.9	5.1	18.3	5.6	76.1	
Total %	0.9	23.6	0	0.8	0	0.8	0	47.3	2.5	4.4	1.3	18.3	
Cars	13	311	0	10	0	11	0	615	35	61	19	237	1312
% Cars	100	93.4	0	90.9	0	91.7	0	91.9	97.2	98.4	100	91.9	92.9
Trucks	0	22	0	1	0	1	0	54	1	1	0	21	101
% Trucks	0	6.6	0	9.1	0	8.3	0	8.1	2.8	1.6	0	8.1	7.1

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	34	0	35	1	0	**2**	**3**	0	88	**6**	94	8	**3**	35	46	178
08:15 AM	1	47	0	48	1	0	1	2	0	83	4	87	**11**	2	30	43	180
08:30 AM	1	**52**	0	**53**	**2**	0	0	2	0	**94**	4	**98**	8	3	**37**	**48**	**201**
08:45 AM	**4**	43	0	47	0	0	2	2	0	87	6	93	7	1	24	32	174
Total Volume	7	176	0	183	4	0	5	9	0	352	20	372	34	9	126	169	733
% App. Total	3.8	96.2	0		44.4	0	55.6		0	94.6	5.4		20.1	5.3	74.6		
PHF	.438	.846	.000	.863	.500	.000	.625	.750	.000	.936	.833	.949	.773	.750	.851	.880	.912
Cars	7	165	0	172	3	0	5	8	0	329	20	349	34	9	114	157	686
% Cars	100	93.8	0	94.0	75.0	0	100	88.9	0	93.5	100	93.8	100	100	90.5	92.9	93.6
Trucks	0	11	0	11	1	0	0	1	0	23	0	23	0	0	12	12	47
% Trucks	0	6.3	0	6.0	25.0	0	0	11.1	0	6.5	0	6.2	0	0	9.5	7.1	6.4

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	6	0	2	0	0	0	8	0	5	0	4	0	0	0	12	26	11	37
07:15 AM	0	4	0	3	0	0	0	6	0	2	0	1	0	0	0	6	16	6	22
07:30 AM	0	8	0	0	0	0	0	18	0	9	0	5	0	0	0	10	33	17	50
07:45 AM	0	6	0	1	0	0	0	12	0	18	0	7	0	0	0	12	32	24	56
Total	0	24	0	6	0	0	0	44	0	34	0	17	0	0	0	40	107	58	165
08:00 AM	0	2	0	0	0	0	0	14	0	7	0	7	0	0	0	14	35	9	44
08:15 AM	0	1	0	0	0	0	0	19	0	12	0	2	0	0	0	11	32	13	45
08:30 AM	0	5	0	2	0	0	0	12	0	11	1	4	0	0	0	11	29	17	46
08:45 AM	0	5	0	1	0	0	0	17	0	17	0	11	0	0	0	13	42	22	64
Total	0	13	0	3	0	0	0	62	0	47	1	24	0	0	0	49	138	61	199
Grand Total	0	37	0	9	0	0	0	106	0	81	1	41	0	0	0	89	245	119	364
Apprch %	0	100	0		0	0	0		0	98.8	1.2		0	0	0				
Total %	0	31.1	0		0	0	0		0	68.1	0.8		0	0	0		67.3	32.7	

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**8**	0	**8**	0	0	0	0	0	9	0	9	0	0	0	0	17
07:45 AM	0	6	0	6	0	0	0	0	0	**18**	0	**18**	0	0	0	0	**24**
08:00 AM	0	2	0	2	0	0	0	0	0	7	0	7	0	0	0	0	9
08:15 AM	0	1	0	1	0	0	0	0	0	12	0	12	0	0	0	0	13
Total Volume	0	17	0	17	0	0	0	0	0	46	0	46	0	0	0	0	63
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.531	.000	.531	.000	.000	.000	.000	.000	.639	.000	.639	.000	.000	.000	.000	.656

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	N. Harvard St From North			Bertram St From East			N. Harvard St From South			Spurr St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	1	68	0	1	0	2	0	62	1	2	1	57	195
04:15 PM	1	65	0	2	0	5	0	57	1	6	1	61	199
04:30 PM	0	79	0	2	0	3	0	76	0	10	0	57	227
04:45 PM	2	63	0	3	0	8	0	74	6	3	0	46	205
Total	4	275	0	8	0	18	0	269	8	21	2	221	826
05:00 PM	0	79	0	1	0	4	0	71	2	5	1	51	214
05:15 PM	0	81	0	3	0	2	0	71	2	3	1	55	218
05:30 PM	1	82	0	2	0	1	0	83	1	3	1	58	232
05:45 PM	0	108	0	0	0	1	0	86	1	2	1	42	241
Total	1	350	0	6	0	8	0	311	6	13	4	206	905
Grand Total	5	625	0	14	0	26	0	580	14	34	6	427	1731
Apprch %	0.8	99.2	0	35	0	65	0	97.6	2.4	7.3	1.3	91.4	
Total %	0.3	36.1	0	0.8	0	1.5	0	33.5	0.8	2	0.3	24.7	
Cars	5	600	0	14	0	26	0	553	14	34	6	421	1673
% Cars	100	96	0	100	0	100	0	95.3	100	100	100	98.6	96.6
Trucks	0	25	0	0	0	0	0	27	0	0	0	6	58
% Trucks	0	4	0	0	0	0	0	4.7	0	0	0	1.4	3.4

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018
Page No : 2

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	79	0	79	1	0	**4**	**5**	0	71	**2**	73	**5**	**1**	51	57	214
05:15 PM	0	81	0	81	**3**	0	2	5	0	71	2	73	3	1	55	59	218
05:30 PM	**1**	82	0	83	2	0	1	3	0	83	1	84	3	1	**58**	**62**	232
05:45 PM	0	**108**	0	**108**	0	0	1	1	0	**86**	1	**87**	2	1	42	45	**241**
Total Volume	1	350	0	351	6	0	8	14	0	311	6	317	13	4	206	223	905
% App. Total	0.3	99.7	0		42.9	0	57.1		0	98.1	1.9		5.8	1.8	92.4		
PHF	.250	.810	.000	.813	.500	.000	.500	.700	.000	.904	.750	.911	.650	1.00	.888	.899	.939
Cars	1	336	0	337	6	0	8	14	0	300	6	306	13	4	206	223	880
% Cars	100	96.0	0	96.0	100	0	100	100	0	96.5	100	96.5	100	100	100	100	97.2
Trucks	0	14	0	14	0	0	0	0	0	11	0	11	0	0	0	0	25
% Trucks	0	4.0	0	4.0	0	0	0	0	0	3.5	0	3.5	0	0	0	0	2.8

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	9	0	0	0	0	0	6	0	4	0	2	0	0	0	9	17	13	30
04:15 PM	0	2	0	0	0	0	0	5	0	6	0	2	0	0	0	14	21	8	29
04:30 PM	0	5	0	0	0	0	0	10	0	4	0	2	0	0	0	24	36	9	45
04:45 PM	0	13	0	0	0	0	0	15	0	5	0	4	0	0	0	23	42	18	60
Total	0	29	0	0	0	0	0	36	0	19	0	10	0	0	0	70	116	48	164
05:00 PM	0	9	0	1	0	0	1	8	0	4	0	1	0	0	0	22	32	14	46
05:15 PM	0	12	0	0	0	0	1	5	0	6	0	2	0	1	0	25	32	20	52
05:30 PM	0	10	0	0	0	0	0	9	0	8	0	2	0	0	0	17	28	18	46
05:45 PM	0	9	0	1	0	0	0	9	0	6	0	0	0	0	0	29	39	15	54
Total	0	40	0	2	0	0	2	31	0	24	0	5	0	1	0	93	131	67	198
Grand Total	0	69	0	2	0	0	2	67	0	43	0	15	0	1	0	163	247	115	362
Apprch %	0	100	0		0	0	100		0	100	0		0	100	0				
Total %	0	60	0		0	0	1.7		0	37.4	0		0	0.9	0		68.2	31.8	

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Bertram St / Spurr St
City/State : Allston, MA
Weather : Cloudy

File Name : 17260014
Site Code : 17260014
Start Date : 4/11/2018
Page No : 14

	N. Harvard St From North				Bertram St From East				N. Harvard St From South				Spurr St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**13**	0	**13**	0	0	0	0	0	5	0	5	0	0	0	0	18
05:00 PM	0	9	0	9	0	0	**1**	**1**	0	4	0	4	0	0	0	0	14
05:15 PM	0	12	0	12	0	0	1	1	0	6	0	6	0	**1**	0	**1**	**20**
05:30 PM	0	10	0	10	0	0	0	0	0	**8**	0	**8**	0	0	0	0	18
Total Volume	0	44	0	44	0	0	2	2	0	23	0	23	0	1	0	1	70
% App. Total	0	100	0		0	0	100		0	100	0		0	100	0		
PHF	.000	.846	.000	.846	.000	.000	.500	.500	.000	.719	.000	.719	.000	.250	.000	.250	.875

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Everett St From North			Western Avenue From East			Everett St From South			Western Avenue From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	9	26	3	13	62	7	7	52	9	4	72	14	278
07:15 AM	3	31	4	17	57	2	9	85	14	3	93	15	333
07:30 AM	12	35	6	29	90	19	13	68	20	8	129	19	448
07:45 AM	6	34	7	20	77	8	16	71	21	12	121	18	411
Total	30	126	20	79	286	36	45	276	64	27	415	66	1470
08:00 AM	7	30	7	22	85	11	12	70	27	5	120	17	413
08:15 AM	8	21	12	29	88	10	14	63	26	7	103	23	404
08:30 AM	8	28	7	24	80	6	11	87	25	11	101	18	406
08:45 AM	12	28	4	18	80	12	8	74	36	4	95	21	392
Total	35	107	30	93	333	39	45	294	114	27	419	79	1615
Grand Total	65	233	50	172	619	75	90	570	178	54	834	145	3085
Apprch %	18.7	67	14.4	19.9	71.5	8.7	10.7	68	21.2	5.2	80.7	14	
Total %	2.1	7.6	1.6	5.6	20.1	2.4	2.9	18.5	5.8	1.8	27	4.7	
Cars	65	233	50	170	583	75	90	568	176	54	793	145	3002
% Cars	100	100	100	98.8	94.2	100	100	99.6	98.9	100	95.1	100	97.3
Trucks	0	0	0	2	36	0	0	2	2	0	41	0	83
% Trucks	0	0	0	1.2	5.8	0	0	0.4	1.1	0	4.9	0	2.7

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018
Page No : 2

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**12**	**35**	6	**53**	**29**	**90**	**19**	**138**	13	68	20	101	8	**129**	19	**156**	**448**
07:45 AM	6	34	7	47	20	77	8	105	**16**	**71**	21	108	**12**	121	18	151	411
08:00 AM	7	30	7	44	22	85	11	118	12	70	**27**	**109**	5	120	17	142	413
08:15 AM	8	21	**12**	41	29	88	10	127	14	63	26	103	7	103	**23**	133	404
Total Volume	33	120	32	185	100	340	48	488	55	272	94	421	32	473	77	582	1676
% App. Total	17.8	64.9	17.3		20.5	69.7	9.8		13.1	64.6	22.3		5.5	81.3	13.2		
PHF	.688	.857	.667	.873	.862	.944	.632	.884	.859	.958	.870	.966	.667	.917	.837	.933	.935
Cars	33	120	32	185	99	324	48	471	55	270	92	417	32	450	77	559	1632
% Cars	100	100	100	100	99.0	95.3	100	96.5	100	99.3	97.9	99.0	100	95.1	100	96.0	97.4
Trucks	0	0	0	0	1	16	0	17	0	2	2	4	0	23	0	23	44
% Trucks	0	0	0	0	1.0	4.7	0	3.5	0	0.7	2.1	1.0	0	4.9	0	4.0	2.6

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	4	1	1	0	4	0	0	0	1	0	1	0	1	10	3	13
07:15 AM	0	1	0	2	0	1	0	0	0	0	0	1	0	2	0	2	5	4	9
07:30 AM	1	2	0	1	0	0	0	2	1	1	0	0	0	2	1	8	11	8	19
07:45 AM	4	0	0	9	0	2	0	4	1	0	1	5	0	5	0	3	21	13	34
Total	5	3	0	16	1	4	0	10	2	1	1	7	0	10	1	14	47	28	75
08:00 AM	1	0	0	2	1	2	0	4	0	1	0	4	0	7	0	5	15	12	27
08:15 AM	0	0	0	4	0	1	0	4	0	0	1	4	0	4	0	3	15	6	21
08:30 AM	0	1	0	1	0	0	0	2	1	0	0	3	0	9	0	2	8	11	19
08:45 AM	0	0	0	1	0	1	0	3	0	0	0	2	0	5	0	2	8	6	14
Total	1	1	0	8	1	4	0	13	1	1	1	13	0	25	0	12	46	35	81
Grand Total	6	4	0	24	2	8	0	23	3	2	2	20	0	35	1	26	93	63	156
Apprch %	60	40	0		20	80	0		42.9	28.6	28.6		0	97.2	2.8				
Total %	9.5	6.3	0		3.2	12.7	0		4.8	3.2	3.2		0	55.6	1.6		59.6	40.4	

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**4**	0	0	**4**	0	**2**	0	2	**1**	0	**1**	**2**	0	5	0	5	**13**
08:00 AM	1	0	0	1	**1**	2	0	**3**	0	**1**	0	1	0	7	0	7	12
08:15 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	4	0	4	6
08:30 AM	0	**1**	0	1	0	0	0	0	1	0	0	1	0	**9**	0	**9**	11
Total Volume	5	1	0	6	1	5	0	6	2	1	2	5	0	25	0	25	42
% App. Total	83.3	16.7	0		16.7	83.3	0		40	20	40		0	100	0		
PHF	.313	.250	.000	.375	.250	.625	.000	.500	.500	.250	.500	.625	.000	.694	.000	.694	.808

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Everett St From North			Western Avenue From East			Everett St From South			Western Avenue From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	11	50	9	29	78	21	22	39	23	2	104	42	430
04:15 PM	15	41	9	31	87	20	16	43	22	5	94	30	413
04:30 PM	14	47	7	42	91	20	13	40	28	7	89	34	432
04:45 PM	14	59	13	34	121	22	17	43	20	4	85	30	462
Total	54	197	38	136	377	83	68	165	93	18	372	136	1737
05:00 PM	12	51	14	33	121	17	13	50	21	3	99	40	474
05:15 PM	16	63	9	50	106	24	25	50	26	1	93	35	498
05:30 PM	9	73	9	37	100	18	17	52	16	3	86	40	460
05:45 PM	7	67	9	29	135	10	16	43	29	6	85	33	469
Total	44	254	41	149	462	69	71	195	92	13	363	148	1901
Grand Total	98	451	79	285	839	152	139	360	185	31	735	284	3638
Apprch %	15.6	71.8	12.6	22.3	65.8	11.9	20.3	52.6	27	3	70	27	
Total %	2.7	12.4	2.2	7.8	23.1	4.2	3.8	9.9	5.1	0.9	20.2	7.8	
Cars	98	451	79	285	817	151	139	359	185	31	709	284	3588
% Cars	100	100	100	100	97.4	99.3	100	99.7	100	100	96.5	100	98.6
Trucks	0	0	0	0	22	1	0	1	0	0	26	0	50
% Trucks	0	0	0	0	2.6	0.7	0	0.3	0	0	3.5	0	1.4

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018
Page No : 2

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	12	51	**14**	77	33	121	17	171	13	50	21	84	3	**99**	**40**	**142**	474
05:15 PM	**16**	63	9	88	**50**	106	**24**	**180**	**25**	50	26	**101**	1	93	35	129	**498**
05:30 PM	9	**73**	9	**91**	37	100	18	155	17	**52**	16	85	3	86	40	129	460
05:45 PM	7	67	9	83	29	**135**	10	174	16	43	**29**	88	**6**	85	33	124	469
Total Volume	44	254	41	339	149	462	69	680	71	195	92	358	13	363	148	524	1901
% App. Total	13	74.9	12.1		21.9	67.9	10.1		19.8	54.5	25.7		2.5	69.3	28.2		
PHF	.688	.870	.732	.931	.745	.856	.719	.944	.710	.938	.793	.886	.542	.917	.925	.923	.954
Cars	44	254	41	339	149	452	69	670	71	195	92	358	13	354	148	515	1882
% Cars	100	100	100	100	100	97.8	100	98.5	100	100	100	100	100	97.5	100	98.3	99.0
Trucks	0	0	0	0	0	10	0	10	0	0	0	0	0	9	0	9	19
% Trucks	0	0	0	0	0	2.2	0	1.5	0	0	0	0	0	2.5	0	1.7	1.0

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	3	0	0	0	3	0	1	0	6	0	1	1	2	14	3	17
04:15 PM	0	0	0	3	0	2	0	1	0	0	0	4	0	2	0	4	12	4	16
04:30 PM	0	0	0	3	1	5	0	2	0	1	0	3	0	0	0	4	12	7	19
04:45 PM	0	0	0	2	1	7	0	2	1	0	0	4	0	0	1	2	10	10	20
Total	0	0	0	11	2	14	0	8	1	2	0	17	0	3	2	12	48	24	72
05:00 PM	0	1	0	1	0	4	0	1	0	0	1	1	0	5	0	4	7	11	18
05:15 PM	0	0	0	4	0	9	0	5	1	2	0	8	0	3	1	7	24	16	40
05:30 PM	0	1	0	5	2	7	0	2	0	0	0	8	0	1	1	8	23	12	35
05:45 PM	0	2	0	8	1	6	0	5	0	0	0	4	0	0	0	11	28	9	37
Total	0	4	0	18	3	26	0	13	1	2	1	21	0	9	2	30	82	48	130
Grand Total	0	4	0	29	5	40	0	21	2	4	1	38	0	12	4	42	130	72	202
Apprch %	0	100	0		11.1	88.9	0		28.6	57.1	14.3		0	75	25				
Total %	0	5.6	0		6.9	55.6	0		2.8	5.6	1.4		0	16.7	5.6		64.4	35.6	

Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260001
Site Code : 17260001
Start Date : 4/11/2018
Page No : 14

	Everett St From North				Western Avenue From East				Everett St From South				Western Avenue From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	1	7	0	8	**1**	0	0	1	0	0	**1**	1	10
05:00 PM	0	**1**	0	**1**	0	4	0	4	0	0	**1**	1	0	**5**	0	**5**	11
05:15 PM	0	0	0	0	0	**9**	0	**9**	1	**2**	0	**3**	0	3	1	4	**16**
05:30 PM	0	1	0	1	**2**	7	0	9	0	0	0	0	0	1	1	2	12
Total Volume	0	2	0	2	3	27	0	30	2	2	1	5	0	9	3	12	49
% App. Total	0	100	0		10	90	0		40	40	20		0	75	25		
PHF	.000	.500	.000	.500	.375	.750	.000	.833	.500	.250	.250	.417	.000	.450	.750	.600	.766

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	McDonald Ave From North			Western Ave From East			Driveway From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	2	0	1	0	82	1	0	0	0	1	84	0	171
07:15 AM	2	0	1	0	87	1	0	0	0	0	103	0	194
07:30 AM	0	0	1	0	127	1	0	0	0	1	159	0	289
07:45 AM	2	0	0	0	106	1	0	0	0	1	127	0	237
Total	6	0	3	0	402	4	0	0	0	3	473	0	891
08:00 AM	0	0	1	0	114	1	0	0	1	0	149	2	268
08:15 AM	2	0	1	1	128	0	0	0	0	0	134	1	267
08:30 AM	0	0	0	1	103	3	0	0	0	0	138	3	248
08:45 AM	2	0	1	0	112	1	1	0	1	0	132	3	253
Total	4	0	3	2	457	5	1	0	2	0	553	9	1036
Grand Total	10	0	6	2	859	9	1	0	2	3	1026	9	1927
Apprch %	62.5	0	37.5	0.2	98.7	1	33.3	0	66.7	0.3	98.8	0.9	
Total %	0.5	0	0.3	0.1	44.6	0.5	0.1	0	0.1	0.2	53.2	0.5	
Cars	10	0	6	2	817	9	1	0	2	3	983	9	1842
% Cars	100	0	100	100	95.1	100	100	0	100	100	95.8	100	95.6
Trucks	0	0	0	0	42	0	0	0	0	0	43	0	85
% Trucks	0	0	0	0	4.9	0	0	0	0	0	4.2	0	4.4

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018
Page No : 2

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	**1**	1	0	127	**1**	128	0	0	0	0	**1**	**159**	0	**160**	**289**
07:45 AM	**2**	0	0	2	0	106	1	107	0	0	0	0	1	127	0	128	237
08:00 AM	0	0	1	1	0	114	1	115	0	0	**1**	**1**	0	149	**2**	151	268
08:15 AM	2	0	1	**3**	**1**	**128**	0	**129**	0	0	0	0	0	134	1	135	267
Total Volume	4	0	3	7	1	475	3	479	0	0	1	1	2	569	3	574	1061
% App. Total	57.1	0	42.9		0.2	99.2	0.6		0	0	100		0.3	99.1	0.5		
PHF	.500	.000	.750	.583	.250	.928	.750	.928	.000	.000	.250	.250	.500	.895	.375	.897	.918
Cars	4	0	3	7	1	456	3	460	0	0	1	1	2	546	3	551	1019
% Cars	100	0	100	100	100	96.0	100	96.0	0	0	100	100	100	96.0	100	96.0	96.0
Trucks	0	0	0	0	0	19	0	19	0	0	0	0	0	23	0	23	42
% Trucks	0	0	0	0	0	4.0	0	4.0	0	0	0	0	0	4.0	0	4.0	4.0

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	2	0	0	0	0	0	2	0	0	4	4	8
07:15 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	2	0	0	2	3	5
07:30 AM	0	0	0	4	0	2	1	2	0	0	0	0	0	4	0	1	7	7	14
07:45 AM	0	0	0	3	0	5	0	2	0	0	0	0	0	9	0	0	5	14	19
Total	0	0	0	11	0	10	1	6	0	0	0	0	0	17	0	1	18	28	46
08:00 AM	1	0	0	8	0	4	0	0	0	0	0	0	0	5	0	0	8	10	18
08:15 AM	0	0	0	6	0	1	0	0	0	0	0	7	0	8	0	0	13	9	22
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	7	0	0	2	7	9
08:45 AM	0	0	0	2	0	1	0	2	0	0	0	2	0	5	0	0	6	6	12
Total	1	0	0	16	0	6	0	2	0	0	0	11	0	25	0	0	29	32	61
Grand Total	1	0	0	27	0	16	1	8	0	0	0	11	0	42	0	1	47	60	107
Apprch %	100	0	0		0	94.1	5.9		0	0	0		0	100	0				
Total %	1.7	0	0		0	26.7	1.7		0	0	0		0	70	0		43.9	56.1	

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	2	**1**	3	0	0	0	0	0	4	0	4	7
07:45 AM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	**9**	0	**9**	**14**
08:00 AM	**1**	0	0	**1**	0	4	0	4	0	0	0	0	0	5	0	5	10
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	8	0	8	9
Total Volume	1	0	0	1	0	12	1	13	0	0	0	0	0	26	0	26	40
% App. Total	100	0	0		0	92.3	7.7		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.600	.250	.650	.000	.000	.000	.000	.000	.722	.000	.722	.714

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	McDonald Ave From North			Western Ave From East			Driveway From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	4	0	0	0	120	1	0	0	0	0	136	0	261
04:15 PM	1	0	1	0	135	0	0	0	0	0	134	0	271
04:30 PM	2	0	2	0	151	1	0	0	0	1	138	0	295
04:45 PM	0	0	1	0	162	1	0	0	0	0	111	0	275
Total	7	0	4	0	568	3	0	0	0	1	519	0	1102
05:00 PM	2	0	0	0	177	5	0	0	0	2	142	0	328
05:15 PM	3	0	0	0	175	1	0	0	0	0	134	0	313
05:30 PM	1	0	0	0	150	1	0	0	0	0	113	0	265
05:45 PM	2	0	0	0	169	2	0	0	0	1	114	0	288
Total	8	0	0	0	671	9	0	0	0	3	503	0	1194
Grand Total	15	0	4	0	1239	12	0	0	0	4	1022	0	2296
Apprch %	78.9	0	21.1	0	99	1	0	0	0	0.4	99.6	0	
Total %	0.7	0	0.2	0	54	0.5	0	0	0	0.2	44.5	0	
Cars	15	0	4	0	1216	12	0	0	0	4	997	0	2248
% Cars	100	0	100	0	98.1	100	0	0	0	100	97.6	0	97.9
Trucks	0	0	0	0	23	0	0	0	0	0	25	0	48
% Trucks	0	0	0	0	1.9	0	0	0	0	0	2.4	0	2.1

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	**2**	**4**	0	151	1	152	0	0	0	0	1	138	0	139	295
04:45 PM	0	0	1	1	0	162	1	163	0	0	0	0	0	111	0	111	275
05:00 PM	2	0	0	2	0	**177**	**5**	**182**	0	0	0	0	**2**	**142**	0	**144**	**328**
05:15 PM	**3**	0	0	3	0	175	1	176	0	0	0	0	0	134	0	134	313
Total Volume	7	0	3	10	0	665	8	673	0	0	0	0	3	525	0	528	1211
% App. Total	70	0	30		0	98.8	1.2		0	0	0		0.6	99.4	0		
PHF	.583	.000	.375	.625	.000	.939	.400	.924	.000	.000	.000	.000	.375	.924	.000	.917	.923
Cars	7	0	3	10	0	655	8	663	0	0	0	0	3	512	0	515	1188
% Cars	100	0	100	100	0	98.5	100	98.5	0	0	0	0	100	97.5	0	97.5	98.1
Trucks	0	0	0	0	0	10	0	10	0	0	0	0	0	13	0	13	23
% Trucks	0	0	0	0	0	1.5	0	1.5	0	0	0	0	0	2.5	0	2.5	1.9

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	3	0	3	0	1	0	0	0	5	0	2	0	1	10	5	15
04:15 PM	0	0	0	3	0	3	0	0	0	0	0	6	0	2	0	0	9	5	14
04:30 PM	0	0	0	5	0	10	0	2	0	0	0	4	0	0	0	0	11	10	21
04:45 PM	0	0	0	4	0	6	0	2	0	0	0	7	0	2	0	0	13	8	21
Total	0	0	0	15	0	22	0	5	0	0	0	22	0	6	0	1	43	28	71
05:00 PM	0	0	0	2	0	7	0	0	0	0	0	8	0	5	0	0	10	12	22
05:15 PM	0	0	0	2	0	11	0	1	0	0	0	2	0	3	0	1	6	14	20
05:30 PM	0	0	0	3	0	13	0	1	0	0	0	3	0	3	0	0	7	16	23
05:45 PM	0	0	0	4	0	10	0	1	0	0	0	2	0	1	0	0	7	11	18
Total	0	0	0	11	0	41	0	3	0	0	0	15	0	12	0	1	30	53	83
Grand Total	0	0	0	26	0	63	0	8	0	0	0	37	0	18	0	2	73	81	154
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0				
Total %	0	0	0		0	77.8	0		0	0	0		0	22.2	0		47.4	52.6	

Accurate Counts

978-664-2565

N/S Street : McDonald Ave / Private Dwy
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260002
Site Code : 17260002
Start Date : 4/11/2018

	McDonald Ave From North				Western Ave From East				Driveway From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	**5**	0	**5**	12
05:15 PM	0	0	0	0	0	11	0	11	0	0	0	0	0	3	0	3	14
05:30 PM	0	0	0	0	0	**13**	0	**13**	0	0	0	0	0	3	0	3	**16**
05:45 PM	0	0	0	0	0	10	0	10	0	0	0	0	0	1	0	1	11
Total Volume	0	0	0	0	0	41	0	41	0	0	0	0	0	12	0	12	53
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.788	.000	.788	.000	.000	.000	.000	.000	.600	.000	.600	.828

Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Western Ave From East		Riverdale St From South		Western Ave From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	1	80	0	0	93	1	175
07:15 AM	1	90	0	0	101	3	195
07:30 AM	1	127	0	0	153	1	282
07:45 AM	2	117	0	0	126	1	246
Total	5	414	0	0	473	6	898
08:00 AM	2	119	0	0	146	4	271
08:15 AM	0	126	0	0	130	1	257
08:30 AM	2	117	0	0	139	1	259
08:45 AM	2	110	0	0	141	2	255
Total	6	472	0	0	556	8	1042
Grand Total	11	886	0	0	1029	14	1940
Apprch %	1.2	98.8	0	0	98.7	1.3	
Total %	0.6	45.7	0	0	53	0.7	
Cars	11	848	0	0	991	14	1864
% Cars	100	95.7	0	0	96.3	100	96.1
Trucks	0	38	0	0	38	0	76
% Trucks	0	4.3	0	0	3.7	0	3.9

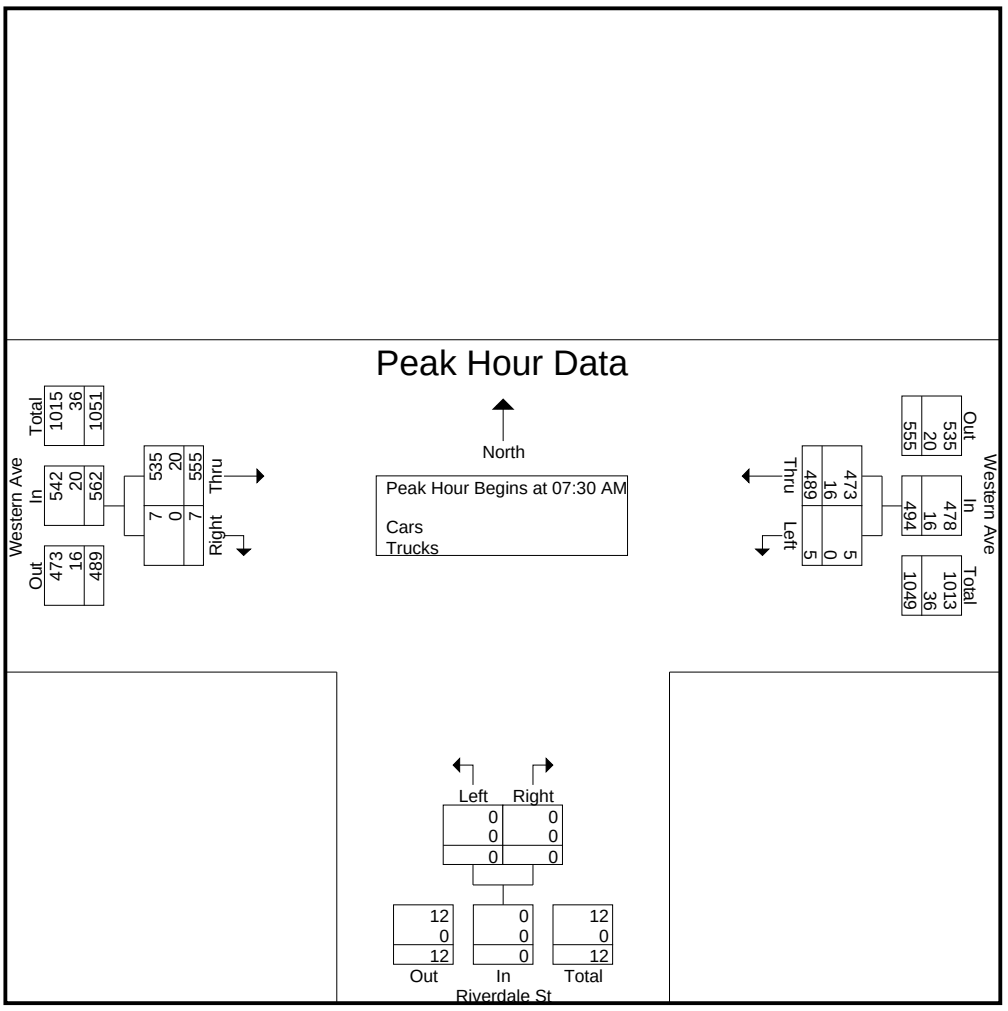
Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 2

	Western Ave From East			Riverdale St From South			Western Ave From West			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	1	**127**	**128**	0	0	0	**153**	1	**154**	**282**
07:45 AM	**2**	117	119	0	0	0	126	1	127	246
08:00 AM	2	119	121	0	0	0	146	**4**	150	271
08:15 AM	0	126	126	0	0	0	130	1	131	257
Total Volume	5	489	494	0	0	0	555	7	562	1056
% App. Total	1	99		0	0		98.8	1.2		
PHF	.625	.963	.965	.000	.000	.000	.907	.438	.912	.936
Cars	5	473	478	0	0	0	535	7	542	1020
% Cars	100	96.7	96.8	0	0	0	96.4	100	96.4	96.6
Trucks	0	16	16	0	0	0	20	0	20	36
% Trucks	0	3.3	3.2	0	0	0	3.6	0	3.6	3.4



Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Western Ave From East			Riverdale St From South			Western Ave From West					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	1	0	0	3	2	0	3	7	2	9
07:15 AM	1	1	1	0	0	2	2	0	1	4	4	8
07:30 AM	1	2	3	0	0	1	3	0	3	7	6	13
07:45 AM	0	3	8	0	0	7	10	1	2	17	14	31
Total	2	6	13	0	0	13	17	1	9	35	26	61
08:00 AM	1	4	7	0	0	2	5	1	3	12	11	23
08:15 AM	0	1	5	0	0	2	8	0	2	9	9	18
08:30 AM	0	0	7	0	0	2	8	0	1	10	8	18
08:45 AM	0	2	11	0	0	2	5	0	3	16	7	23
Total	1	7	30	0	0	8	26	1	9	47	35	82
Grand Total	3	13	43	0	0	21	43	2	18	82	61	143
Apprch %	18.8	81.2		0	0		95.6	4.4				
Total %	4.9	21.3		0	0		70.5	3.3		57.3	42.7	

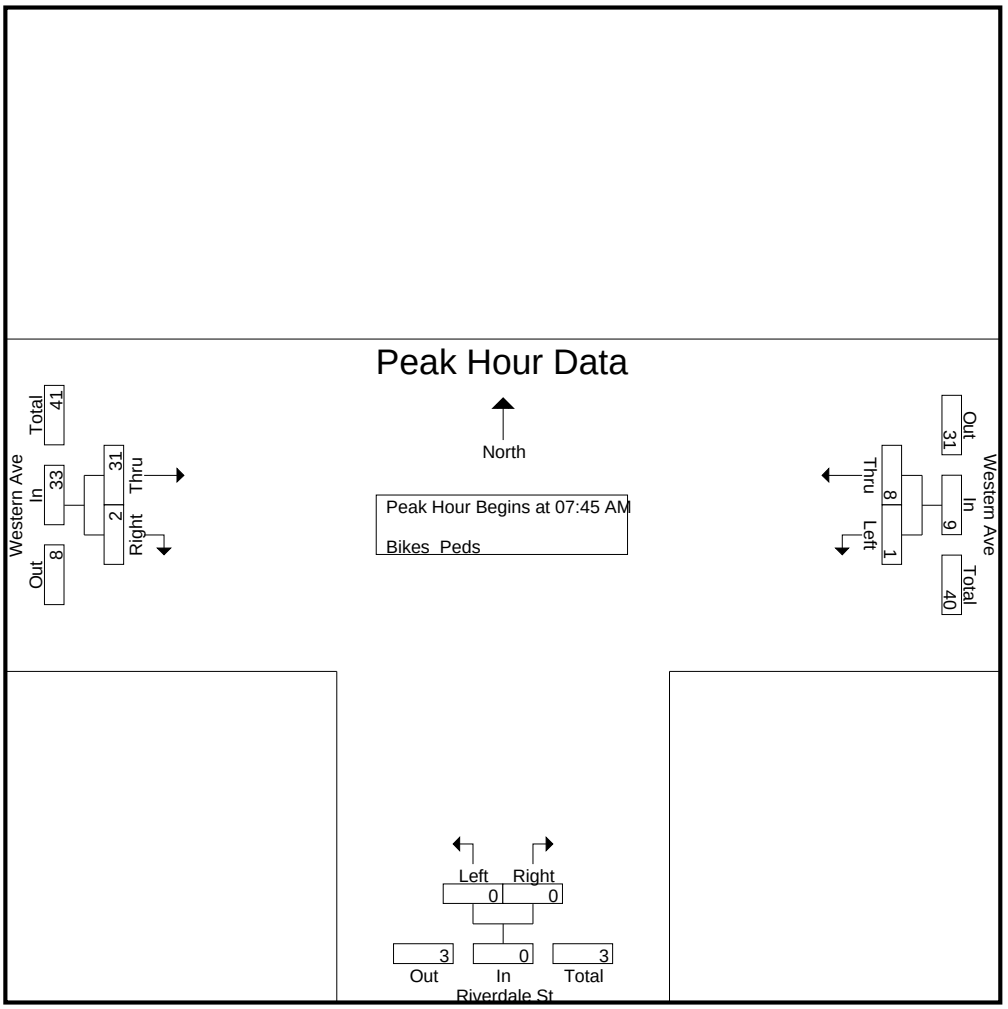
Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 11

	Western Ave From East			Riverdale St From South			Western Ave From West			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	3	3	0	0	0	**10**	**1**	**11**	**14**
08:00 AM	**1**	**4**	**5**	0	0	0	5	1	6	11
08:15 AM	0	1	1	0	0	0	8	0	8	9
08:30 AM	0	0	0	0	0	0	8	0	8	8
Total Volume	1	8	9	0	0	0	31	2	33	42
% App. Total	11.1	88.9		0	0		93.9	6.1		
PHF	.250	.500	.450	.000	.000	.000	.775	.500	.750	.750



Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Western Ave From East		Riverdale St From South		Western Ave From West		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	2	115	0	0	141	1	259
04:15 PM	3	137	0	0	122	2	264
04:30 PM	3	150	0	0	128	7	288
04:45 PM	3	170	0	1	114	4	292
Total	11	572	0	1	505	14	1103
05:00 PM	3	183	0	0	135	2	323
05:15 PM	3	171	0	0	134	6	314
05:30 PM	4	157	0	0	111	3	275
05:45 PM	4	169	0	0	110	3	286
Total	14	680	0	0	490	14	1198
Grand Total	25	1252	0	1	995	28	2301
Apprch %	2	98	0	100	97.3	2.7	
Total %	1.1	54.4	0	0	43.2	1.2	
Cars	25	1229	0	1	970	28	2253
% Cars	100	98.2	0	100	97.5	100	97.9
Trucks	0	23	0	0	25	0	48
% Trucks	0	1.8	0	0	2.5	0	2.1

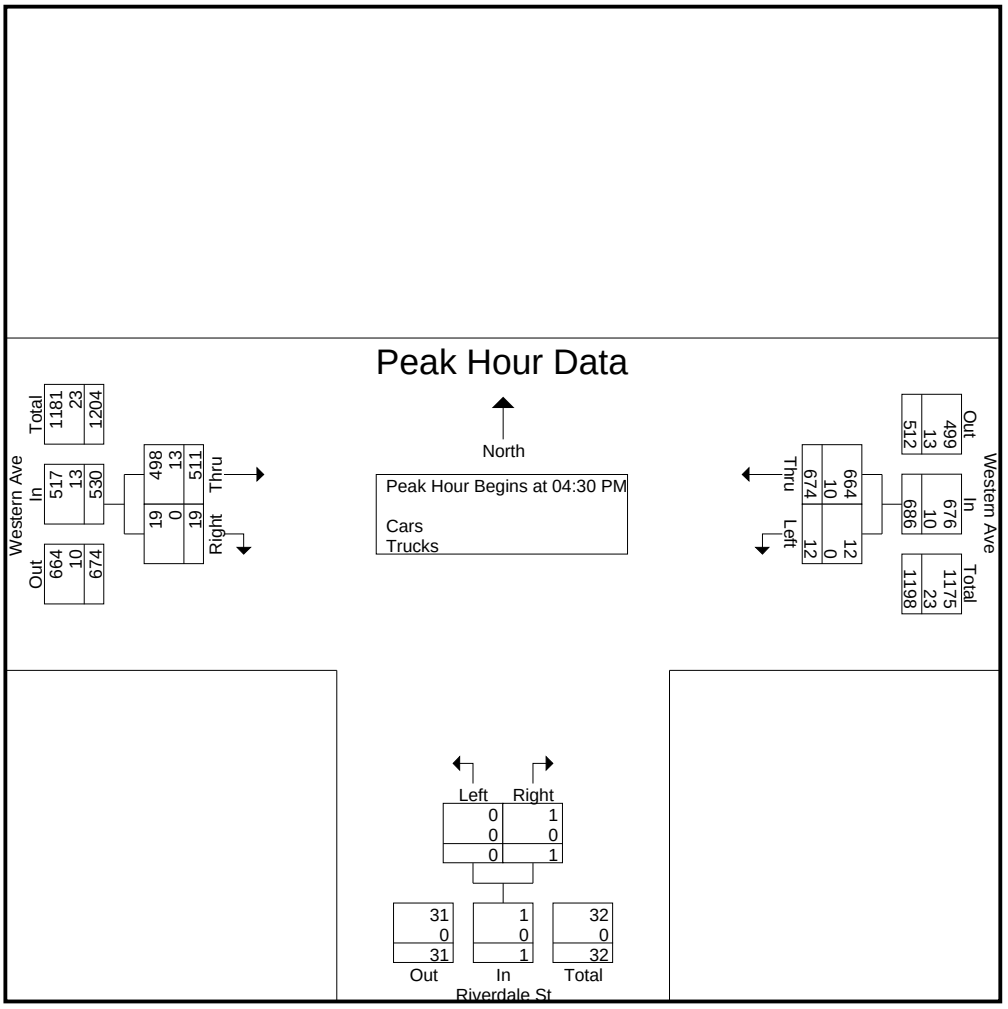
Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 2

	Western Ave From East			Riverdale St From South			Western Ave From West			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**3**	150	153	0	0	0	128	**7**	135	288
04:45 PM	3	170	173	0	**1**	**1**	114	4	118	292
05:00 PM	3	**183**	**186**	0	0	0	**135**	2	137	**323**
05:15 PM	3	171	174	0	0	0	134	6	**140**	314
Total Volume	12	674	686	0	1	1	511	19	530	1217
% App. Total	1.7	98.3		0	100		96.4	3.6		
PHF	1.00	.921	.922	.000	.250	.250	.946	.679	.946	.942
Cars	12	664	676	0	1	1	498	19	517	1194
% Cars	100	98.5	98.5	0	100	100	97.5	100	97.5	98.1
Trucks	0	10	10	0	0	0	13	0	13	23
% Trucks	0	1.5	1.5	0	0	0	2.5	0	2.5	1.9



Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Western Ave From East			Riverdale St From South			Western Ave From West					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	4	0	0	13	3	0	4	21	4	25
04:15 PM	1	2	2	0	0	8	2	0	4	14	5	19
04:30 PM	0	7	1	0	0	5	1	0	1	7	8	15
04:45 PM	0	9	10	0	0	12	2	0	1	23	11	34
Total	1	19	17	0	0	38	8	0	10	65	28	93
05:00 PM	0	6	6	0	0	7	4	0	2	15	10	25
05:15 PM	0	13	8	0	0	9	2	0	6	23	15	38
05:30 PM	0	11	14	0	1	4	3	0	8	26	15	41
05:45 PM	0	11	7	1	4	1	1	1	4	12	18	30
Total	0	41	35	1	5	21	10	1	20	76	58	134
Grand Total	1	60	52	1	5	59	18	1	30	141	86	227
Apprch %	1.6	98.4		16.7	83.3		94.7	5.3				
Total %	1.2	69.8		1.2	5.8		20.9	1.2		62.1	37.9	

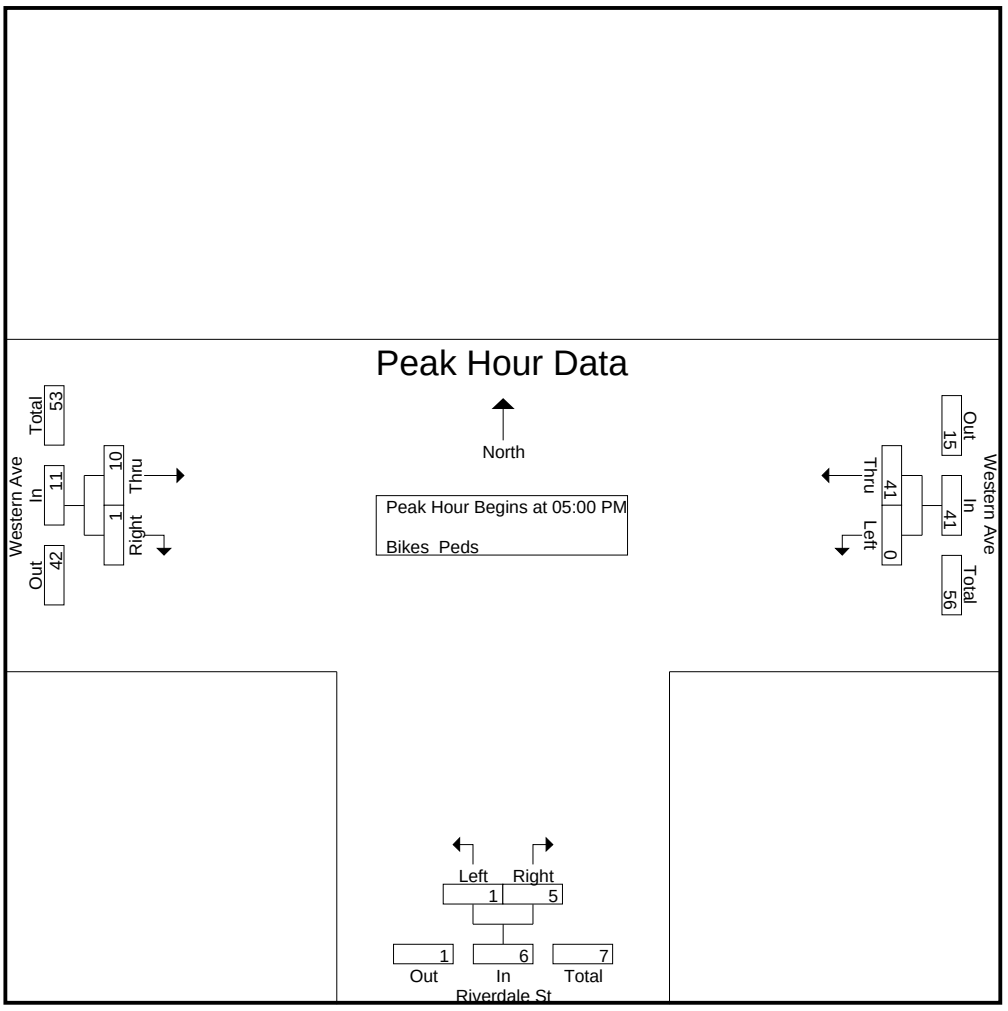
Accurate Counts

978-664-2565

N/S Street : Riverdale Street
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260003
Site Code : 17260003
Start Date : 4/11/2018
Page No : 11

	Western Ave From East			Riverdale St From South			Western Ave From West			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	6	6	0	0	0	**4**	0	**4**	10
05:15 PM	0	**13**	**13**	0	0	0	2	0	2	15
05:30 PM	0	11	11	0	1	1	3	0	3	15
05:45 PM	0	11	11	**1**	**4**	**5**	1	**1**	2	**18**
Total Volume	0	41	41	1	5	6	10	1	11	58
% App. Total	0	100		16.7	83.3		90.9	9.1		
PHF	.000	.788	.788	.250	.313	.300	.625	.250	.688	.806



Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Everett St From North		McDonald Ave From East		Everett St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
07:00 AM	2	38	0	0	63	0	103
07:15 AM	6	35	2	2	84	3	132
07:30 AM	1	54	0	2	87	1	145
07:45 AM	1	48	1	2	88	3	143
Total	10	175	3	6	322	7	523
08:00 AM	5	40	0	1	85	2	133
08:15 AM	9	41	0	0	75	3	128
08:30 AM	3	41	1	0	98	3	146
08:45 AM	11	45	2	1	90	3	152
Total	28	167	3	2	348	11	559
Grand Total	38	342	6	8	670	18	1082
Apprch %	10	90	42.9	57.1	97.4	2.6	
Total %	3.5	31.6	0.6	0.7	61.9	1.7	
Cars	38	342	6	8	669	18	1081
% Cars	100	100	100	100	99.9	100	99.9
Trucks	0	0	0	0	1	0	1
% Trucks	0	0	0	0	0.1	0	0.1

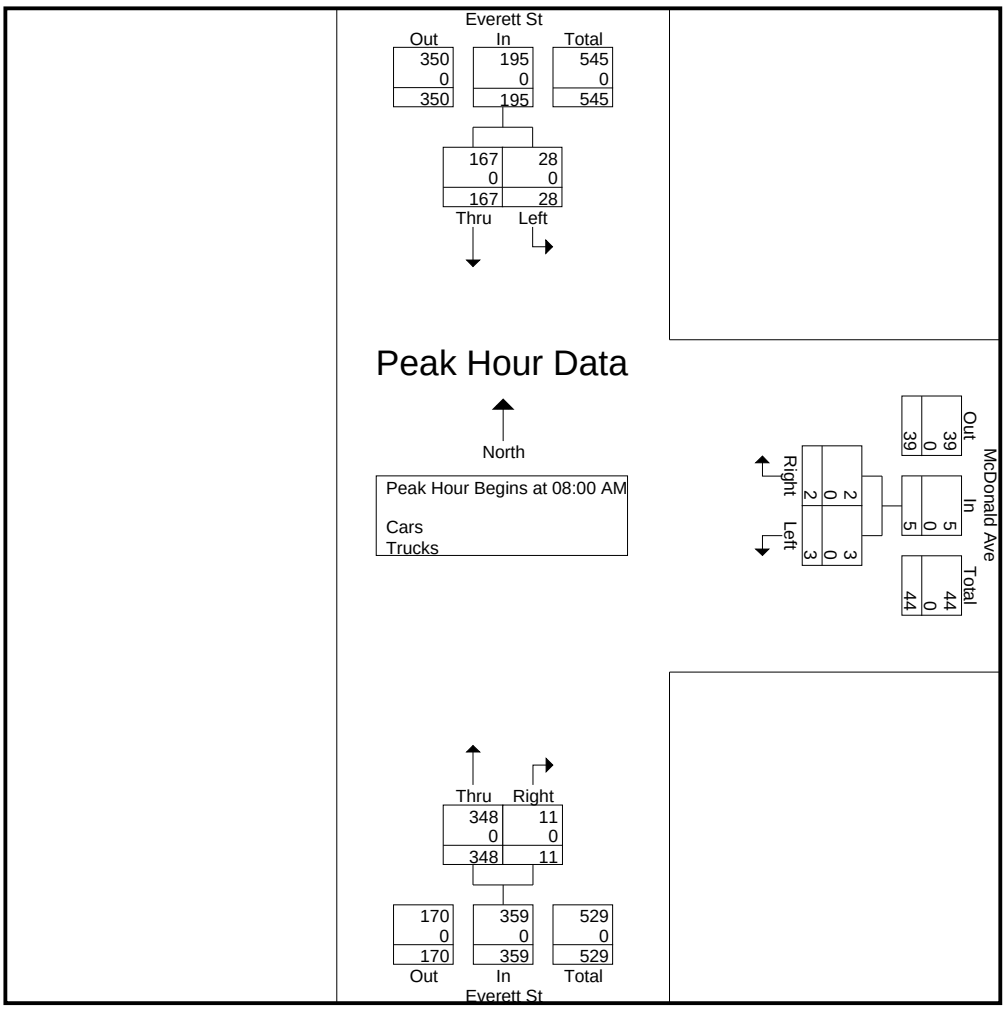
Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018
Page No : 2

	Everett St From North			McDonald Ave From East			Everett St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	5	40	45	0	**1**	1	85	2	87	133
08:15 AM	9	41	50	0	0	0	75	**3**	78	128
08:30 AM	3	41	44	1	0	1	**98**	3	**101**	146
08:45 AM	**11**	**45**	**56**	**2**	1	**3**	90	3	93	**152**
Total Volume	28	167	195	3	2	5	348	11	359	559
% App. Total	14.4	85.6		60	40		96.9	3.1		
PHF	.636	.928	.871	.375	.500	.417	.888	.917	.889	.919
Cars	28	167	195	3	2	5	348	11	359	559
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Everett St From North			McDonald Ave From East			Everett St From South					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	1
07:15 AM	0	0	1	0	0	2	0	0	0	3	0	3
07:30 AM	0	3	0	0	0	0	1	0	0	0	4	4
07:45 AM	0	3	1	0	0	0	0	0	1	2	3	5
Total	0	6	2	0	0	3	1	0	1	6	7	13
08:00 AM	1	2	0	0	0	0	0	0	0	0	3	3
08:15 AM	0	1	0	0	0	2	0	0	1	3	1	4
08:30 AM	0	1	0	0	0	1	0	0	0	1	1	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	4	0	0	0	3	0	0	1	4	5	9
Grand Total	1	10	2	0	0	6	1	0	2	10	12	22
Apprch %	9.1	90.9		0	0		100	0				
Total %	8.3	83.3		0	0		8.3	0		45.5	54.5	

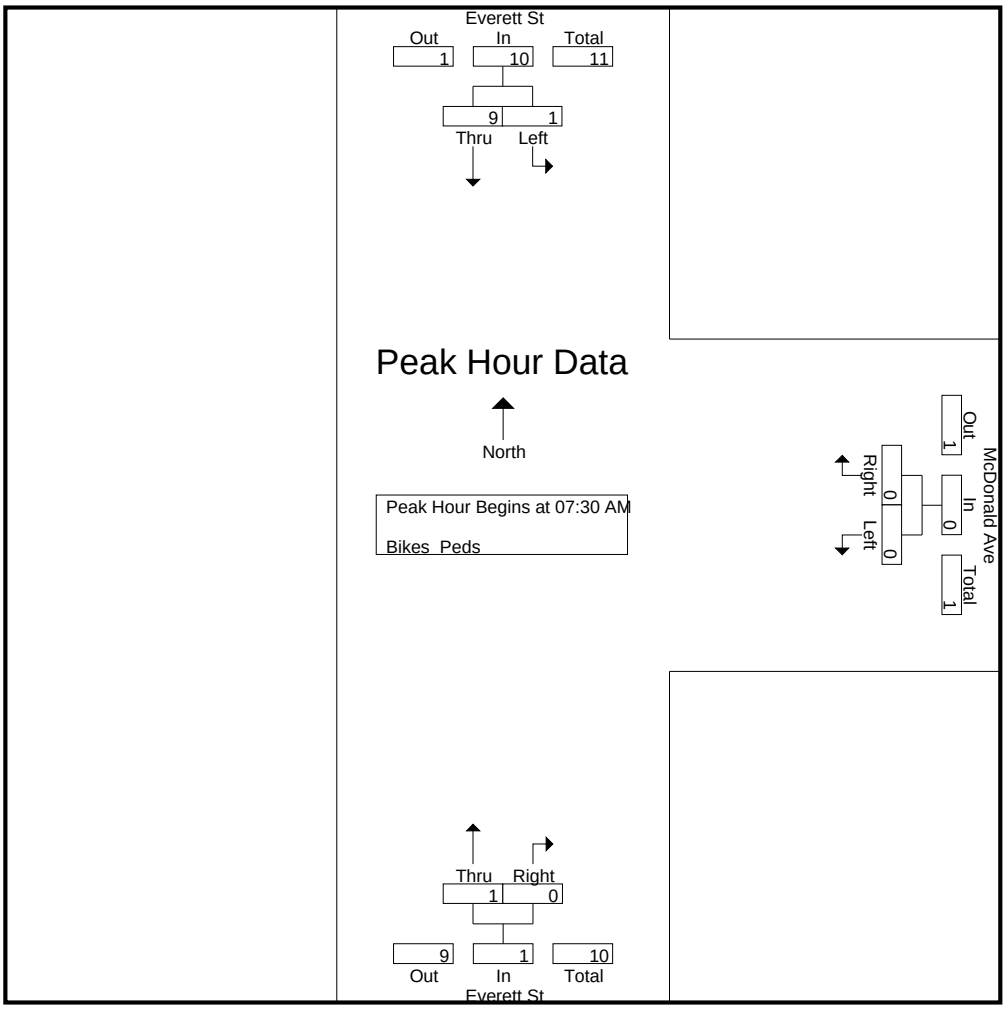
Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018

	Everett St From North			McDonald Ave From East			Everett St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	**3**	**3**	0	0	0	**1**	0	**1**	**4**
07:45 AM	0	3	3	0	0	0	0	0	0	3
08:00 AM	**1**	2	3	0	0	0	0	0	0	3
08:15 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	1	9	10	0	0	0	1	0	1	11
% App. Total	10	90		0	0		100	0		
PHF	.250	.750	.833	.000	.000	.000	.250	.000	.250	.688



Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Everett St From North		McDonald Ave From East		Everett St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	0	59	4	2	62	1	128
04:15 PM	1	64	0	0	65	1	131
04:30 PM	4	148	2	6	133	3	296
04:45 PM	1	78	5	13	69	0	166
Total	6	349	11	21	329	5	721
05:00 PM	1	84	6	9	74	4	178
05:15 PM	0	16	4	0	15	0	35
05:30 PM	1	62	3	4	49	3	122
05:45 PM	1	81	4	4	60	1	151
Total	3	243	17	17	198	8	486
Grand Total	9	592	28	38	527	13	1207
Apprch %	1.5	98.5	42.4	57.6	97.6	2.4	
Total %	0.7	49	2.3	3.1	43.7	1.1	
Cars	9	592	28	38	525	13	1205
% Cars	100	100	100	100	99.6	100	99.8
Trucks	0	0	0	0	2	0	2
% Trucks	0	0	0	0	0.4	0	0.2

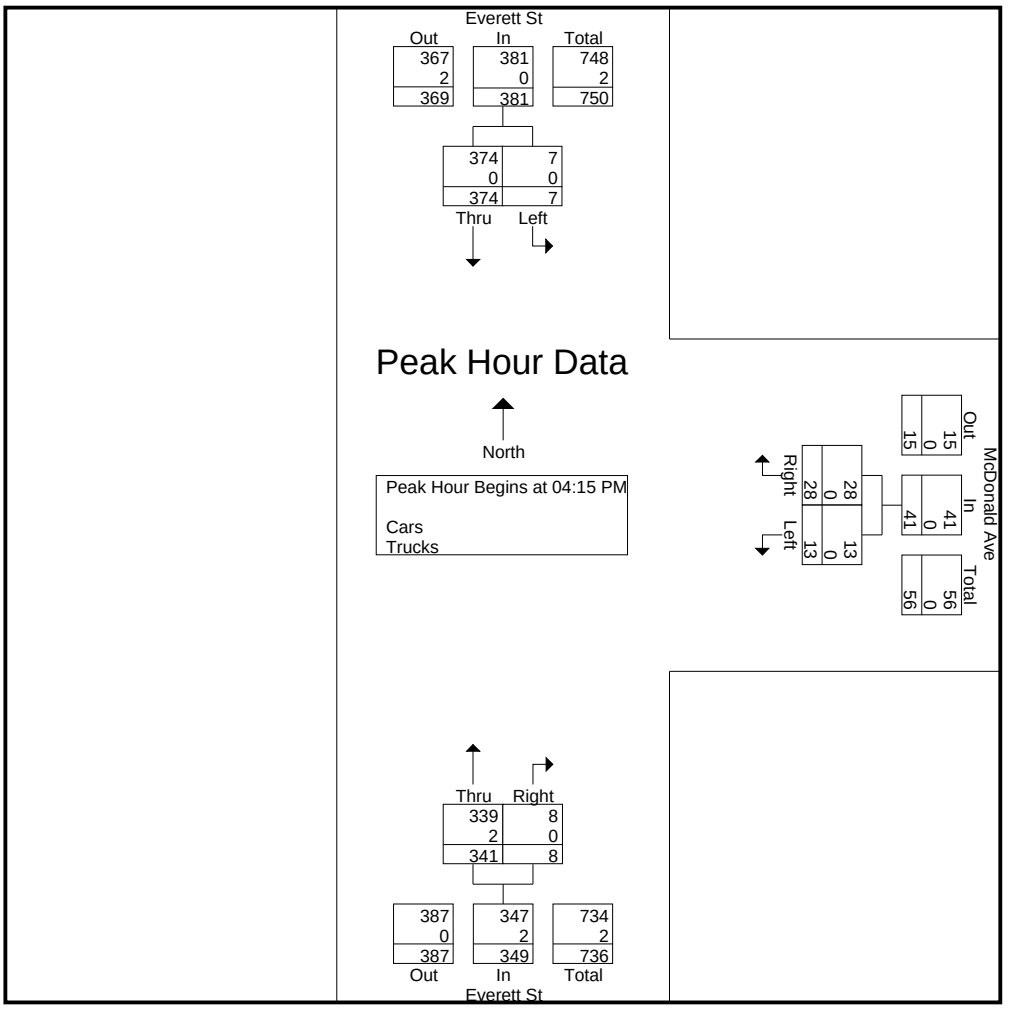
Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018
Page No : 2

	Everett St From North			McDonald Ave From East			Everett St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	1	64	65	0	0	0	65	1	66	131
04:30 PM	**4**	**148**	**152**	2	6	8	**133**	3	**136**	**296**
04:45 PM	1	78	79	5	**13**	**18**	69	0	69	166
05:00 PM	1	84	85	**6**	9	15	74	**4**	78	178
Total Volume	7	374	381	13	28	41	341	8	349	771
% App. Total	1.8	98.2		31.7	68.3		97.7	2.3		
PHF	.438	.632	.627	.542	.538	.569	.641	.500	.642	.651
Cars	7	374	381	13	28	41	339	8	347	769
% Cars	100	100	100	100	100	100	99.4	100	99.4	99.7
Trucks	0	0	0	0	0	0	2	0	2	2
% Trucks	0	0	0	0	0	0	0.6	0	0.6	0.3



Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Everett St From North			McDonald Ave From East			Everett St From South					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	3	4	0	0	3	4	7
04:45 PM	0	1	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	0	3	5	0	0	3	6	9
05:00 PM	0	0	0	0	0	0	4	0	0	0	4	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	1	0	0	0	1	1	2
05:45 PM	1	3	0	0	0	0	1	0	1	1	5	6
Total	1	4	0	0	0	1	5	0	1	2	10	12
Grand Total	1	5	0	0	0	4	10	0	1	5	16	21
Apprch %	16.7	83.3		0	0		100	0				
Total %	6.2	31.2		0	0		62.5	0		23.8	76.2	

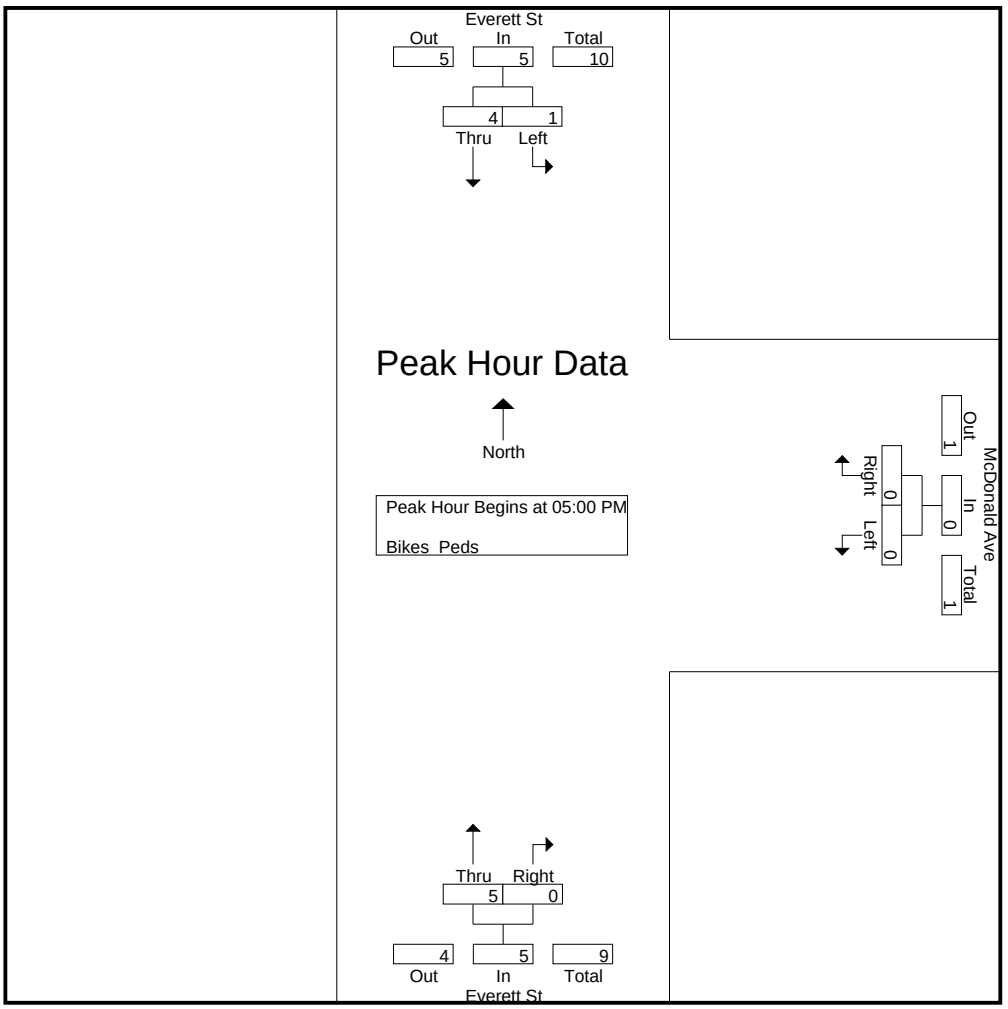
Accurate Counts

978-664-2565

N/S Street : Everett Street
E/W Street : McDonald Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260004
Site Code : 17260004
Start Date : 4/11/2018
Page No : 11

	Everett St From North			McDonald Ave From East			Everett St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	**4**	0	**4**	4
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	**1**	**3**	**4**	0	0	0	1	0	1	**5**
Total Volume	1	4	5	0	0	0	5	0	5	10
% App. Total	20	80		0	0		100	0		
PHF	.250	.333	.313	.000	.000	.000	.313	.000	.313	.500



Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Park Exit From North			Soldiers Field Rd From East			Everett St From South			Soldiers Field Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	3	28	0	2	176	0	11	0	48	0	333	12	613
07:15 AM	2	29	2	0	197	0	12	0	78	0	495	11	826
07:30 AM	7	39	1	0	218	0	18	0	77	0	518	15	893
07:45 AM	4	40	0	0	275	0	8	0	88	0	515	10	940
Total	16	136	3	2	866	0	49	0	291	0	1861	48	3272
08:00 AM	9	34	0	0	263	0	14	0	74	0	505	11	910
08:15 AM	6	33	1	1	294	0	6	0	66	0	502	17	926
08:30 AM	6	39	0	0	271	0	10	0	88	0	523	6	943
08:45 AM	4	42	3	0	298	0	19	0	74	0	476	17	933
Total	25	148	4	1	1126	0	49	0	302	0	2006	51	3712
Grand Total	41	284	7	3	1992	0	98	0	593	0	3867	99	6984
Apprch %	12.3	85.5	2.1	0.2	99.8	0	14.2	0	85.8	0	97.5	2.5	
Total %	0.6	4.1	0.1	0	28.5	0	1.4	0	8.5	0	55.4	1.4	
Cars	30	284	7	3	1991	0	98	0	591	0	3867	99	6970
% Cars	73.2	100	100	100	99.9	0	100	0	99.7	0	100	100	99.8
Trucks	11	0	0	0	1	0	0	0	2	0	0	0	14
% Trucks	26.8	0	0	0	0.1	0	0	0	0.3	0	0	0	0.2

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	4	**40**	0	44	0	275	0	275	8	0	**88**	96	0	515	10	525	940
08:00 AM	**9**	34	0	43	0	263	0	263	**14**	0	74	88	0	505	11	516	910
08:15 AM	6	33	**1**	40	**1**	**294**	0	**295**	6	0	66	72	0	502	**17**	519	926
08:30 AM	6	39	0	**45**	0	271	0	271	10	0	88	**98**	0	**523**	6	**529**	**943**
Total Volume	25	146	1	172	1	1103	0	1104	38	0	316	354	0	2045	44	2089	3719
% App. Total	14.5	84.9	0.6		0.1	99.9	0		10.7	0	89.3		0	97.9	2.1		
PHF	.694	.913	.250	.956	.250	.938	.000	.936	.679	.000	.898	.903	.000	.978	.647	.987	.986
Cars	19	146	1	166	1	1103	0	1104	38	0	315	353	0	2045	44	2089	3712
% Cars	76.0	100	100	96.5	100	100	0	100	100	0	99.7	99.7	0	100	100	100	99.8
Trucks	6	0	0	6	0	0	0	0	0	0	1	1	0	0	0	0	7
% Trucks	24.0	0	0	3.5	0	0	0	0	0	0	0.3	0.3	0	0	0	0	0.2

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3	0	3
07:15 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1	4	7	1	8
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	2	3
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	1	2	3
Total	0	0	0	5	0	0	0	0	0	1	0	1	0	0	4	6	12	5	17
08:00 AM	0	2	0	1	0	0	0	0	0	0	1	0	0	1	0	1	2	4	6
08:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	3	1	4
08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
Total	0	3	0	1	0	1	0	0	0	0	1	0	0	1	0	5	6	6	12
Grand Total	0	3	0	6	0	1	0	0	0	1	1	1	0	1	4	11	18	11	29
Apprch %	0	100	0		0	100	0		0	50	50		0	20	80				
Total %	0	27.3	0		0	9.1	0		0	9.1	9.1		0	9.1	36.4		62.1	37.9	

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	1	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**	2
08:00 AM	0	**2**	0	**2**	0	0	0	0	0	0	**1**	1	0	**1**	0	1	**4**
Total Volume	0	2	0	2	0	0	0	0	0	1	1	2	0	1	4	5	9
% App. Total	0	100	0		0	0	0		0	50	50		0	20	80		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.250	.500	.000	.250	.500	.625	.563

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	Park Exit From North			Soldiers Field Rd From East			Everett St From South			Soldiers Field Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	4	52	0	0	390	0	24	0	43	0	285	7	805
04:15 PM	3	44	1	0	425	0	23	0	42	0	312	24	874
04:30 PM	10	57	3	0	472	0	24	0	44	0	296	14	920
04:45 PM	2	64	0	0	403	0	24	0	49	0	281	14	837
Total	19	217	4	0	1690	0	95	0	178	0	1174	59	3436
05:00 PM	5	59	2	0	411	0	41	0	45	0	300	20	883
05:15 PM	2	57	0	0	462	0	30	0	52	0	313	24	940
05:30 PM	4	66	1	0	411	0	27	0	47	0	336	11	903
05:45 PM	1	59	1	1	459	0	16	0	43	0	305	18	903
Total	12	241	4	1	1743	0	114	0	187	0	1254	73	3629
Grand Total	31	458	8	1	3433	0	209	0	365	0	2428	132	7065
Apprch %	6.2	92.2	1.6	0	100	0	36.4	0	63.6	0	94.8	5.2	
Total %	0.4	6.5	0.1	0	48.6	0	3	0	5.2	0	34.4	1.9	
Cars	31	458	8	1	3433	0	208	0	364	0	2428	132	7063
% Cars	100	100	100	100	100	0	99.5	0	99.7	0	100	100	100
Trucks	0	0	0	0	0	0	1	0	1	0	0	0	2
% Trucks	0	0	0	0	0	0	0.5	0	0.3	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**5**	59	**2**	66	0	411	0	411	**41**	0	45	**86**	0	300	20	320	883
05:15 PM	2	57	0	59	0	**462**	0	**462**	30	0	**52**	82	0	313	**24**	337	**940**
05:30 PM	4	**66**	1	**71**	0	411	0	411	27	0	47	74	0	**336**	11	**347**	903
05:45 PM	1	59	1	61	**1**	459	0	460	16	0	43	59	0	305	18	323	903
Total Volume	12	241	4	257	1	1743	0	1744	114	0	187	301	0	1254	73	1327	3629
% App. Total	4.7	93.8	1.6		0.1	99.9	0		37.9	0	62.1		0	94.5	5.5		
PHF	.600	.913	.500	.905	.250	.943	.000	.944	.695	.000	.899	.875	.000	.933	.760	.956	.965
Cars	12	241	4	257	1	1743	0	1744	114	0	187	301	0	1254	73	1327	3629
% Cars	100	100	100	100	100	100	0	100	100	0	100	100	0	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	5	1	6
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
04:30 PM	0	0	0	0	0	0	0	0	3	1	0	0	0	1	0	0	0	5	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	3
Total	0	0	0	0	0	0	0	0	3	2	0	0	0	1	0	10	10	6	16
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3	1	4
05:15 PM	0	0	0	1	0	0	0	1	4	0	1	0	0	0	0	2	4	5	9
05:30 PM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	2	3	2	5
05:45 PM	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	2	2	4	6
Total	0	5	0	2	0	0	0	2	5	0	1	0	0	1	0	8	12	12	24
Grand Total	0	5	0	2	0	0	0	2	8	2	1	0	0	2	0	18	22	18	40
Apprch %	0	100	0		0	0	0		72.7	18.2	9.1		0	100	0				
Total %	0	27.8	0		0	0	0		44.4	11.1	5.6		0	11.1	0		55	45	

Accurate Counts

978-664-2565

N/S Street : Everett St / Driveway
E/W Street : Soldiers Field Road
City/State : Allston, MA
Weather : Clear

File Name : 17260005
Site Code : 17260005
Start Date : 4/11/2018

	Park Exit From North				Soldiers Field Rd From East				Everett St From South				Soldiers Field Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	**4**	0	**1**	**5**	0	0	0	0	**5**
05:30 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	**1**	0	**1**	4
Total Volume	0	5	0	5	0	0	0	0	5	0	1	6	0	1	0	1	12
% App. Total	0	100	0		0	0	0		83.3	0	16.7		0	100	0		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.313	.000	.250	.300	.000	.250	.000	.250	.600

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Telford St From North			Western Ave From East			Telford St Ext From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	2	1	0	6	69	2	8	1	2	1	74	21	187
07:15 AM	3	1	1	12	57	1	6	2	3	4	93	17	200
07:30 AM	0	1	0	15	93	0	9	0	21	3	121	27	290
07:45 AM	2	1	3	11	85	0	9	4	13	4	108	13	253
Total	7	4	4	44	304	3	32	7	39	12	396	78	930
08:00 AM	2	1	1	11	99	0	8	3	6	6	120	10	267
08:15 AM	2	3	3	15	97	1	11	0	5	4	113	14	268
08:30 AM	5	1	1	11	86	0	17	3	2	5	107	16	254
08:45 AM	1	2	1	10	77	1	8	1	4	4	109	15	233
Total	10	7	6	47	359	2	44	7	17	19	449	55	1022
Grand Total	17	11	10	91	663	5	76	14	56	31	845	133	1952
Apprch %	44.7	28.9	26.3	12	87.4	0.7	52.1	9.6	38.4	3.1	83.7	13.2	
Total %	0.9	0.6	0.5	4.7	34	0.3	3.9	0.7	2.9	1.6	43.3	6.8	
Cars	16	11	10	90	626	5	76	14	56	31	808	133	1876
% Cars	94.1	100	100	98.9	94.4	100	100	100	100	100	95.6	100	96.1
Trucks	1	0	0	1	37	0	0	0	0	0	37	0	76
% Trucks	5.9	0	0	1.1	5.6	0	0	0	0	0	4.4	0	3.9

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	1	0	1	**15**	93	0	108	9	0	**21**	**30**	3	**121**	**27**	**151**	**290**
07:45 AM	**2**	1	**3**	6	11	85	0	96	9	**4**	13	26	4	108	13	125	253
08:00 AM	2	1	1	4	11	**99**	0	110	8	3	6	17	**6**	120	10	136	267
08:15 AM	2	**3**	3	**8**	15	97	**1**	**113**	**11**	0	5	16	4	113	14	131	268
Total Volume	6	6	7	19	52	374	1	427	37	7	45	89	17	462	64	543	1078
% App. Total	31.6	31.6	36.8		12.2	87.6	0.2		41.6	7.9	50.6		3.1	85.1	11.8		
PHF	.750	.500	.583	.594	.867	.944	.250	.945	.841	.438	.536	.742	.708	.955	.593	.899	.929
Cars	6	6	7	19	51	358	1	410	37	7	45	89	17	440	64	521	1039
% Cars	100	100	100	100	98.1	95.7	100	96.0	100	100	100	100	100	95.2	100	95.9	96.4
Trucks	0	0	0	0	1	16	0	17	0	0	0	0	0	22	0	22	39
% Trucks	0	0	0	0	1.9	4.3	0	4.0	0	0	0	0	0	4.8	0	4.1	3.6

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	3	0	1	0	2	0	0	0	3	0	2	0	3	11	3	14
07:15 AM	0	0	0	2	0	0	0	2	0	0	0	1	0	2	0	2	7	2	9
07:30 AM	0	0	0	2	0	0	0	4	0	1	0	10	0	4	0	0	16	5	21
07:45 AM	0	0	0	3	0	4	0	5	0	0	0	9	0	5	0	6	23	9	32
Total	0	0	0	10	0	5	0	13	0	1	0	23	0	13	0	11	57	19	76
08:00 AM	1	0	0	1	0	2	0	2	1	1	1	0	0	6	0	3	6	12	18
08:15 AM	0	0	0	5	0	1	0	2	0	0	1	9	0	2	0	3	19	4	23
08:30 AM	0	0	0	1	0	1	0	1	1	0	0	2	0	9	1	3	7	12	19
08:45 AM	1	0	0	2	0	1	0	0	0	1	0	7	0	4	0	2	11	7	18
Total	2	0	0	9	0	5	0	5	2	2	2	18	0	21	1	11	43	35	78
Grand Total	2	0	0	19	0	10	0	18	2	3	2	41	0	34	1	22	100	54	154
Apprch %	100	0	0		0	100	0		28.6	42.9	28.6		0	97.1	2.9				
Total %	3.7	0	0		0	18.5	0		3.7	5.6	3.7		0	63	1.9		64.9	35.1	

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	**4**	0	**4**	0	0	0	0	0	5	0	5	9
08:00 AM	**1**	0	0	**1**	0	2	0	2	**1**	**1**	**1**	**3**	0	6	0	6	**12**
08:15 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
08:30 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	**9**	**1**	**10**	12
Total Volume	1	0	0	1	0	8	0	8	2	1	2	5	0	22	1	23	37
% App. Total	100	0	0		0	100	0		40	20	40		0	95.7	4.3		
PHF	.250	.000	.000	.250	.000	.500	.000	.500	.500	.250	.500	.417	.000	.611	.250	.575	.771

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Telford St From North			Western Ave From East			Telford St Ext From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	4	0	0	12	92	2	9	4	6	2	126	16	273
04:15 PM	0	4	0	21	102	1	11	2	8	2	110	17	278
04:30 PM	2	0	0	8	106	2	13	2	6	1	110	18	268
04:45 PM	1	1	0	9	131	3	16	2	4	1	100	29	297
Total	7	5	0	50	431	8	49	10	24	6	446	80	1116
05:00 PM	1	0	1	12	137	0	20	2	12	3	121	25	334
05:15 PM	0	2	0	13	131	2	13	3	6	2	109	21	302
05:30 PM	6	1	2	13	109	0	24	1	8	4	114	31	313
05:45 PM	2	0	2	14	135	1	16	2	8	2	111	29	322
Total	9	3	5	52	512	3	73	8	34	11	455	106	1271
Grand Total	16	8	5	102	943	11	122	18	58	17	901	186	2387
Apprch %	55.2	27.6	17.2	9.7	89.3	1	61.6	9.1	29.3	1.5	81.6	16.8	
Total %	0.7	0.3	0.2	4.3	39.5	0.5	5.1	0.8	2.4	0.7	37.7	7.8	
Cars	16	8	5	102	920	11	122	18	57	17	878	186	2340
% Cars	100	100	100	100	97.6	100	100	100	98.3	100	97.4	100	98
Trucks	0	0	0	0	23	0	0	0	1	0	23	0	47
% Trucks	0	0	0	0	2.4	0	0	0	1.7	0	2.6	0	2

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018
Page No : 2

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	0	1	2	12	**137**	0	149	20	2	**12**	**34**	3	**121**	25	**149**	**334**
05:15 PM	0	**2**	0	2	13	131	**2**	146	13	**3**	6	22	2	109	21	132	302
05:30 PM	**6**	1	**2**	**9**	13	109	0	122	**24**	1	8	33	**4**	114	**31**	149	313
05:45 PM	2	0	2	4	**14**	135	1	**150**	16	2	8	26	2	111	29	142	322
Total Volume	9	3	5	17	52	512	3	567	73	8	34	115	11	455	106	572	1271
% App. Total	52.9	17.6	29.4		9.2	90.3	0.5		63.5	7	29.6		1.9	79.5	18.5		
PHF	.375	.375	.625	.472	.929	.934	.375	.945	.760	.667	.708	.846	.688	.940	.855	.960	.951
Cars	9	3	5	17	52	502	3	557	73	8	34	115	11	446	106	563	1252
% Cars	100	100	100	100	100	98.0	100	98.2	100	100	100	100	100	98.0	100	98.4	98.5
Trucks	0	0	0	0	0	10	0	10	0	0	0	0	0	9	0	9	19
% Trucks	0	0	0	0	0	2.0	0	1.8	0	0	0	0	0	2.0	0	1.6	1.5

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	1	0	1	0	2	0	0	0	3	0	2	0	1	7	3	10
04:15 PM	0	0	0	1	1	4	0	3	0	1	0	2	0	3	0	2	8	9	17
04:30 PM	0	0	0	1	0	5	0	12	0	0	0	3	0	1	1	3	19	7	26
04:45 PM	0	0	0	5	0	6	1	5	1	2	0	2	0	3	0	2	14	13	27
Total	0	0	0	8	1	16	1	22	1	3	0	10	0	9	1	8	48	32	80
05:00 PM	0	0	0	0	1	4	0	6	1	0	0	0	0	5	0	2	8	11	19
05:15 PM	0	1	0	1	1	9	0	16	0	0	0	2	0	4	0	2	21	15	36
05:30 PM	0	1	0	0	0	9	0	4	0	0	0	0	0	3	0	2	6	13	19
05:45 PM	0	0	0	5	1	7	0	5	0	2	0	6	0	0	0	2	18	10	28
Total	0	2	0	6	3	29	0	31	1	2	0	8	0	12	0	8	53	49	102
Grand Total	0	2	0	14	4	45	1	53	2	5	0	18	0	21	1	16	101	81	182
Apprch %	0	100	0		8	90	2		28.6	71.4	0		0	95.5	4.5				
Total %	0	2.5	0		4.9	55.6	1.2		2.5	6.2	0		0	25.9	1.2		55.5	44.5	

Accurate Counts

978-664-2565

N/S Street : Telford St /Telford St Ext
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260006
Site Code : 17260006
Start Date : 4/11/2018
Page No : 14

	Telford St From North				Western Ave From East				Telford St Ext From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	6	**1**	7	**1**	**2**	0	**3**	0	3	0	3	13
05:00 PM	0	0	0	0	**1**	4	0	5	1	0	0	1	0	**5**	0	**5**	11
05:15 PM	0	**1**	0	**1**	1	**9**	0	**10**	0	0	0	0	0	4	0	4	**15**
05:30 PM	0	1	0	1	0	9	0	9	0	0	0	0	0	3	0	3	13
Total Volume	0	2	0	2	2	28	1	31	2	2	0	4	0	15	0	15	52
% App. Total	0	100	0		6.5	90.3	3.2		50	50	0		0	100	0		
PHF	.000	.500	.000	.500	.500	.778	.250	.775	.500	.250	.000	.333	.000	.750	.000	.750	.867

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Trader Joes Drwy From North			Western Ave From East			Spurr St From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	2	84	2	0	0	0	2	55	29	174
07:15 AM	0	0	0	4	96	7	0	0	0	2	61	36	206
07:30 AM	0	0	0	0	124	3	0	0	0	2	104	43	276
07:45 AM	0	0	0	0	112	2	1	0	0	3	74	43	235
Total	0	0	0	6	416	14	1	0	0	9	294	151	891
08:00 AM	0	0	0	5	118	7	0	0	0	3	95	48	276
08:15 AM	0	0	0	4	127	2	0	0	0	4	83	42	262
08:30 AM	0	0	0	3	122	3	0	0	0	3	83	47	261
08:45 AM	0	0	0	4	123	8	0	0	0	1	97	31	264
Total	0	0	0	16	490	20	0	0	0	11	358	168	1063
Grand Total	0	0	0	22	906	34	1	0	0	20	652	319	1954
Apprch %	0	0	0	2.3	94.2	3.5	100	0	0	2	65.8	32.2	
Total %	0	0	0	1.1	46.4	1.7	0.1	0	0	1	33.4	16.3	
Cars	0	0	0	21	851	33	1	0	0	20	611	297	1834
% Cars	0	0	0	95.5	93.9	97.1	100	0	0	100	93.7	93.1	93.9
Trucks	0	0	0	1	55	1	0	0	0	0	41	22	120
% Trucks	0	0	0	4.5	6.1	2.9	0	0	0	0	6.3	6.9	6.1

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 2

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	**5**	118	7	130	0	0	0	0	3	95	**48**	**146**	**276**
08:15 AM	0	0	0	0	4	**127**	2	133	0	0	0	0	**4**	83	42	129	262
08:30 AM	0	0	0	0	3	122	3	128	0	0	0	0	3	83	47	133	261
08:45 AM	0	0	0	0	4	123	**8**	**135**	0	0	0	0	1	**97**	31	129	264
Total Volume	0	0	0	0	16	490	20	526	0	0	0	0	11	358	168	537	1063
% App. Total	0	0	0		3	93.2	3.8		0	0	0		2	66.7	31.3		
PHF	.000	.000	.000	.000	.800	.965	.625	.974	.000	.000	.000	.000	.688	.923	.875	.920	.963
Cars	0	0	0	0	15	461	19	495	0	0	0	0	11	333	155	499	994
% Cars	0	0	0	0	93.8	94.1	95.0	94.1	0	0	0	0	100	93.0	92.3	92.9	93.5
Trucks	0	0	0	0	1	29	1	31	0	0	0	0	0	25	13	38	69
% Trucks	0	0	0	0	6.3	5.9	5.0	5.9	0	0	0	0	0	7.0	7.7	7.1	6.5

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	3	0	1	1	1	0	0	0	0	0	2	0	0	4	4	8
07:15 AM	0	0	0	6	0	2	0	0	0	0	0	0	0	2	0	1	7	4	11
07:30 AM	0	0	0	5	0	4	0	0	0	0	0	0	0	4	0	0	5	8	13
07:45 AM	0	0	0	13	0	3	0	3	0	0	0	4	0	9	0	1	21	12	33
Total	0	0	0	27	0	10	1	4	0	0	0	4	0	17	0	2	37	28	65
08:00 AM	0	0	0	8	0	3	0	2	0	0	0	0	1	6	1	0	10	11	21
08:15 AM	0	0	0	9	0	4	0	0	0	0	0	4	1	7	0	1	14	12	26
08:30 AM	0	0	0	12	0	1	0	0	0	0	0	4	0	9	0	1	17	10	27
08:45 AM	0	0	0	11	0	2	0	1	0	0	0	1	0	5	0	0	13	7	20
Total	0	0	0	40	0	10	0	3	0	0	0	9	2	27	1	2	54	40	94
Grand Total	0	0	0	67	0	20	1	7	0	0	0	13	2	44	1	4	91	68	159
Apprch %	0	0	0		0	95.2	4.8		0	0	0		4.3	93.6	2.1				
Total %	0	0	0		0	29.4	1.5		0	0	0		2.9	64.7	1.5		57.2	42.8	

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 14

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	**9**	0	**9**	**12**
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	**1**	6	**1**	8	11
08:15 AM	0	0	0	0	0	**4**	0	**4**	0	0	0	0	1	7	0	8	12
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	9	0	9	10
Total Volume	0	0	0	0	0	11	0	11	0	0	0	0	2	31	1	34	45
% App. Total	0	0	0		0	100	0		0	0	0		5.9	91.2	2.9		
PHF	.000	.000	.000	.000	.000	.688	.000	.688	.000	.000	.000	.000	.500	.861	.250	.944	.938

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	Trader Joes Drwy From North			Western Ave From East			Spurr St From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	0	1	2	117	6	1	0	0	9	74	68	278
04:15 PM	0	0	0	1	136	5	0	0	0	4	63	62	271
04:30 PM	0	0	0	6	152	6	0	0	0	9	57	58	288
04:45 PM	0	0	0	6	158	12	0	0	0	9	56	54	295
Total	0	0	1	15	563	29	1	0	0	31	250	242	1132
05:00 PM	0	0	0	3	164	14	0	0	0	12	81	46	320
05:15 PM	0	0	0	5	160	7	0	0	0	6	78	62	318
05:30 PM	0	0	1	1	160	8	0	0	0	7	53	56	286
05:45 PM	0	0	0	2	165	8	0	0	0	8	60	46	289
Total	0	0	1	11	649	37	0	0	0	33	272	210	1213
Grand Total	0	0	2	26	1212	66	1	0	0	64	522	452	2345
Apprch %	0	0	100	2	92.9	5.1	100	0	0	6.2	50.3	43.5	
Total %	0	0	0.1	1.1	51.7	2.8	0	0	0	2.7	22.3	19.3	
Cars	0	0	2	26	1183	66	1	0	0	64	499	445	2286
% Cars	0	0	100	100	97.6	100	100	0	0	100	95.6	98.5	97.5
Trucks	0	0	0	0	29	0	0	0	0	0	23	7	59
% Trucks	0	0	0	0	2.4	0	0	0	0	0	4.4	1.5	2.5

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 2

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	**6**	152	6	164	0	0	0	0	9	57	58	124	288
04:45 PM	0	0	0	0	6	158	12	176	0	0	0	0	9	56	54	119	295
05:00 PM	0	0	0	0	3	**164**	**14**	**181**	0	0	0	0	**12**	**81**	46	139	**320**
05:15 PM	0	0	0	0	5	160	7	172	0	0	0	0	6	78	**62**	**146**	318
Total Volume	0	0	0	0	20	634	39	693	0	0	0	0	36	272	220	528	1221
% App. Total	0	0	0		2.9	91.5	5.6		0	0	0		6.8	51.5	41.7		
PHF	.000	.000	.000	.000	.833	.966	.696	.957	.000	.000	.000	.000	.750	.840	.887	.904	.954
Cars	0	0	0	0	20	622	39	681	0	0	0	0	36	260	218	514	1195
% Cars	0	0	0	0	100	98.1	100	98.3	0	0	0	0	100	95.6	99.1	97.3	97.9
Trucks	0	0	0	0	0	12	0	12	0	0	0	0	0	12	2	14	26
% Trucks	0	0	0	0	0	1.9	0	1.7	0	0	0	0	0	4.4	0.9	2.7	2.1

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	11	0	3	0	1	0	0	0	0	1	2	0	4	16	6	22
04:15 PM	0	0	1	11	0	3	0	4	0	0	0	5	0	2	2	0	20	8	28
04:30 PM	0	0	0	8	0	10	0	5	0	0	0	12	0	1	0	1	26	11	37
04:45 PM	0	0	1	9	0	7	1	8	0	0	0	6	1	2	0	2	25	12	37
Total	0	0	2	39	0	23	1	18	0	0	0	23	2	7	2	7	87	37	124
05:00 PM	0	0	0	8	0	5	0	1	0	0	0	5	0	3	0	1	15	8	23
05:15 PM	0	0	0	13	0	14	0	3	0	0	0	4	0	3	1	2	22	18	40
05:30 PM	0	0	0	13	1	14	0	1	0	0	0	3	0	2	0	0	17	17	34
05:45 PM	0	0	0	15	0	11	1	0	0	0	0	5	0	1	0	0	20	13	33
Total	0	0	0	49	1	44	1	5	0	0	0	17	0	9	1	3	74	56	130
Grand Total	0	0	2	88	1	67	2	23	0	0	0	40	2	16	3	10	161	93	254
Apprch %	0	0	100		1.4	95.7	2.9		0	0	0		9.5	76.2	14.3				
Total %	0	0	2.2		1.1	72	2.2		0	0	0		2.2	17.2	3.2		63.4	36.6	

Accurate Counts

978-664-2565

N/S Street : Trader Joes Dr / Spurr St
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260007
Site Code : 17260007
Start Date : 4/11/2018
Page No : 14

	Trader Joes Drwy From North				Western Ave From East				Spurr St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	**3**	0	3	8
05:15 PM	0	0	0	0	0	**14**	0	14	0	0	0	0	0	3	**1**	**4**	**18**
05:30 PM	0	0	0	0	**1**	14	0	**15**	0	0	0	0	0	2	0	2	17
05:45 PM	0	0	0	0	0	11	**1**	12	0	0	0	0	0	1	0	1	13
Total Volume	0	0	0	0	1	44	1	46	0	0	0	0	0	9	1	10	56
% App. Total	0	0	0		2.2	95.7	2.2		0	0	0		0	90	10		
PHF	.000	.000	.000	.000	.250	.786	.250	.767	.000	.000	.000	.000	.000	.750	.250	.625	.778

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	SFR EB On Ramp From North			Western Ave From East			Birmingham Pkwy From South				Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	26	49	0	59	30	55	0	14	50	85	368
07:15 AM	0	0	0	29	40	2	87	45	56	0	24	74	96	453
07:30 AM	0	0	0	40	63	1	119	45	64	0	27	84	95	538
07:45 AM	0	0	0	23	61	0	128	66	66	0	27	81	90	542
Total	0	0	0	118	213	3	393	186	241	0	92	289	366	1901
08:00 AM	0	0	0	24	70	3	117	72	72	0	28	85	93	564
08:15 AM	0	0	0	27	67	3	107	72	77	2	33	79	109	576
08:30 AM	0	0	0	31	58	3	118	76	75	2	25	86	101	575
08:45 AM	0	0	0	26	54	3	100	54	73	1	16	93	106	526
Total	0	0	0	108	249	12	442	274	297	5	102	343	409	2241
Grand Total	0	0	0	226	462	15	835	460	538	5	194	632	775	4142
Apprch %	0	0	0	32.1	65.7	2.1	45.4	25	29.3	0.3	12.1	39.5	48.4	
Total %	0	0	0	5.5	11.2	0.4	20.2	11.1	13	0.1	4.7	15.3	18.7	
Cars	0	0	0	215	438	15	820	458	521	5	194	611	772	4049
% Cars	0	0	0	95.1	94.8	100	98.2	99.6	96.8	100	100	96.7	99.6	97.8
Trucks	0	0	0	11	24	0	15	2	17	0	0	21	3	93
% Trucks	0	0	0	4.9	5.2	0	1.8	0.4	3.2	0	0	3.3	0.4	2.2

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South					Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	0	0	0	0	23	61	0	84	**128**	66	66	0	260	27	81	90	198	542
08:00 AM	0	0	0	0	24	**70**	**3**	**97**	117	72	72	0	261	28	85	93	206	564
08:15 AM	0	0	0	0	27	67	3	97	107	72	**77**	**2**	258	**33**	79	**109**	**221**	**576**
08:30 AM	0	0	0	0	**31**	58	3	92	118	**76**	75	2	**271**	25	**86**	101	212	575
Total Volume	0	0	0	0	105	256	9	370	470	286	290	4	1050	113	331	393	837	2257
% App. Total	0	0	0		28.4	69.2	2.4		44.8	27.2	27.6	0.4		13.5	39.5	47		
PHF	.000	.000	.000	.000	.847	.914	.750	.954	.918	.941	.942	.500	.969	.856	.962	.901	.947	.980
Cars	0	0	0	0	102	246	9	357	462	284	284	4	1034	113	316	391	820	2211
% Cars	0	0	0	0	97.1	96.1	100	96.5	98.3	99.3	97.9	100	98.5	100	95.5	99.5	98.0	98.0
Trucks	0	0	0	0	3	10	0	13	8	2	6	0	16	0	15	2	17	46
% Trucks	0	0	0	0	2.9	3.9	0	3.5	1.7	0.7	2.1	0	1.5	0	4.5	0.5	2.0	2.0

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018
Page No : 1

Groups Printed- Bikes Peds

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	2	0	0	0	2	0	0	1	0	0	1	0	0	4	2	6
07:15 AM	0	0	0	2	0	0	0	2	0	0	0	0	0	2	0	0	4	2	6
07:30 AM	0	0	0	0	0	1	0	1	1	0	3	2	0	3	0	0	3	8	11
07:45 AM	0	0	0	3	0	4	0	4	0	2	0	0	0	5	0	1	8	11	19
Total	0	0	0	7	0	5	0	9	1	2	4	2	0	11	0	1	19	23	42
08:00 AM	0	0	0	2	0	1	0	0	1	0	0	2	0	2	0	0	4	4	8
08:15 AM	0	0	0	5	0	0	0	2	0	0	0	0	0	3	1	0	7	4	11
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	5	1	0	1	6	7
08:45 AM	0	0	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	5	5
Total	0	0	0	8	0	3	0	2	1	1	0	2	0	12	2	0	12	19	31
Grand Total	0	0	0	15	0	8	0	11	2	3	4	4	0	23	2	1	31	42	73
Apprch %	0	0	0		0	100	0		22.2	33.3	44.4		0	92	8				
Total %	0	0	0		0	19	0		4.8	7.1	9.5		0	54.8	4.8		42.5	57.5	

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	1	0	1	**1**	0	**3**	**4**	0	3	0	3	8
07:45 AM	0	0	0	0	0	**4**	0	**4**	0	**2**	0	2	0	**5**	0	**5**	**11**
08:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	**1**	4	4
Total Volume	0	0	0	0	0	6	0	6	2	2	3	7	0	13	1	14	27
% App. Total	0	0	0		0	100	0		28.6	28.6	42.9		0	92.9	7.1		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.500	.250	.250	.438	.000	.650	.250	.700	.614

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	SFR EB On Ramp From North			Western Ave From East			Birmingham Pkwy From South				Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-TR	Left	Thru	Right	Int. Total
04:00 PM	0	0	0	41	62	1	145	51	83	0	9	79	85	556
04:15 PM	0	0	0	41	73	2	111	41	77	3	13	91	102	554
04:30 PM	0	0	0	31	76	0	155	47	59	1	14	59	107	549
04:45 PM	0	0	0	61	91	0	135	47	69	1	13	78	116	611
Total	0	0	0	174	302	3	546	186	288	5	49	307	410	2270
05:00 PM	0	0	0	57	100	2	156	54	67	0	5	71	107	619
05:15 PM	0	0	0	68	103	0	134	59	63	1	14	89	111	642
05:30 PM	0	0	0	62	77	3	110	51	70	1	12	66	100	552
05:45 PM	0	0	0	55	99	5	122	49	66	1	13	78	108	596
Total	0	0	0	242	379	10	522	213	266	3	44	304	426	2409
Grand Total	0	0	0	416	681	13	1068	399	554	8	93	611	836	4679
Apprch %	0	0	0	37.5	61.4	1.2	52.6	19.7	27.3	0.4	6	39.7	54.3	
Total %	0	0	0	8.9	14.6	0.3	22.8	8.5	11.8	0.2	2	13.1	17.9	
Cars	0	0	0	409	667	13	1062	399	545	8	93	597	833	4626
% Cars	0	0	0	98.3	97.9	100	99.4	100	98.4	100	100	97.7	99.6	98.9
Trucks	0	0	0	7	14	0	6	0	9	0	0	14	3	53
% Trucks	0	0	0	1.7	2.1	0	0.6	0	1.6	0	0	2.3	0.4	1.1

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018
Page No : 2

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South					Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	0	0	0	0	61	91	0	152	135	47	69	**1**	252	13	78	**116**	207	611
05:00 PM	0	0	0	0	57	100	2	159	**156**	54	67	0	**277**	5	71	107	183	619
05:15 PM	0	0	0	0	**68**	**103**	0	**171**	134	**59**	63	1	257	**14**	**89**	111	**214**	**642**
05:30 PM	0	0	0	0	62	77	**3**	142	110	51	**70**	1	232	12	66	100	178	552
Total Volume	0	0	0	0	248	371	5	624	535	211	269	3	1018	44	304	434	782	2424
% App. Total	0	0	0		39.7	59.5	0.8		52.6	20.7	26.4	0.3		5.6	38.9	55.5		
PHF	.000	.000	.000	.000	.912	.900	.417	.912	.857	.894	.961	.750	.919	.786	.854	.935	.914	.944
Cars	0	0	0	0	245	364	5	614	533	211	265	3	1012	44	298	433	775	2401
% Cars	0	0	0	0	98.8	98.1	100	98.4	99.6	100	98.5	100	99.4	100	98.0	99.8	99.1	99.1
Trucks	0	0	0	0	3	7	0	10	2	0	4	0	6	0	6	1	7	23
% Trucks	0	0	0	0	1.2	1.9	0	1.6	0.4	0	1.5	0	0.6	0	2.0	0.2	0.9	0.9

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	0	4	4
04:15 PM	0	0	0	1	0	1	0	0	0	0	1	2	0	1	0	0	3	3	6
04:30 PM	0	0	0	2	0	5	0	5	0	0	0	1	0	2	1	0	8	8	16
04:45 PM	0	0	0	0	1	3	0	0	0	0	2	0	0	1	0	0	0	7	7
Total	0	0	0	3	2	9	0	5	1	0	3	3	0	5	2	0	11	22	33
05:00 PM	0	0	0	0	1	1	0	1	0	0	0	1	0	0	1	0	2	3	5
05:15 PM	0	0	0	0	0	2	0	1	1	0	0	2	0	3	0	0	3	6	9
05:30 PM	0	0	0	5	0	3	0	5	0	0	1	0	0	2	0	0	10	6	16
05:45 PM	0	0	0	2	0	4	0	0	0	0	0	0	0	0	0	0	2	4	6
Total	0	0	0	7	1	10	0	7	1	0	1	3	0	5	1	0	17	19	36
Grand Total	0	0	0	10	3	19	0	12	2	0	4	6	0	10	3	0	28	41	69
Apprch %	0	0	0		13.6	86.4	0		33.3	0	66.7		0	76.9	23.1				
Total %	0	0	0		7.3	46.3	0		4.9	0	9.8		0	24.4	7.3		40.6	59.4	

Accurate Counts

978-664-2565

N/S Street : Leo Birmingham Parkway
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 17260008
Site Code : 17260008
Start Date : 4/11/2018
Page No : 2

	SFR EB On Ramp From North				Western Ave From East				Birmingham Pkwy From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	2	**1**	**3**	**8**
04:45 PM	0	0	0	0	**1**	3	0	4	0	0	**2**	**2**	0	1	0	1	7
05:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	1	3
05:15 PM	0	0	0	0	0	2	0	2	**1**	0	0	1	0	**3**	0	3	6
Total Volume	0	0	0	0	2	11	0	13	1	0	2	3	0	6	2	8	24
% App. Total	0	0	0		15.4	84.6	0		33.3	0	66.7		0	75	25		
PHF	.000	.000	.000	.000	.500	.550	.000	.650	.250	.000	.250	.375	.000	.500	.500	.667	.750

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	SFR WB Off Ramp From North				Western Ave From East				Pkwy Ramp From Southeast				SFR WB On Ramp From South				Western Ave From West				
Start Time	Left	BrLt	Thru	Right	HdLt	Left	Thru	Right	HdLt	BrLt	BrRt	HdRt	Left	Thru	Right	HdRt	Left	Thru	BrRt	Right	Int. Total
07:00 AM	3	26	1	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	6	56
07:15 AM	2	32	0	19	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	7	65
07:30 AM	1	32	2	22	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	10	80
07:45 AM	2	43	0	16	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	70
Total	8	133	3	67	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	28	271
08:00 AM	4	34	2	24	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	11	94
08:15 AM	9	44	2	16	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	8	90
08:30 AM	2	54	5	16	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	91
08:45 AM	4	47	4	25	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	7	92
Total	19	179	13	81	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	33	367
Grand Total	27	312	16	148	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	61	638
Apprch %	5.4	62	3.2	29.4	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	
Total %	4.2	48.9	2.5	23.2	0	11.6	0	0	0	0	0	0	0	0	0	0	0	0	0	9.6	
Cars	26	311	16	148	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	61	636
% Cars	96.3	99.7	100	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	99.7
Trucks	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Trucks	3.7	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West					
Start Time	Left	BrLt	Thru	Right	App. Total	HdLt	Left	Thru	Right	App. Total	HdLt	BrLt	BrRt	HdRt	App. Total	Left	Thru	Right	HdRt	App. Total	Left	Thru	BrRt	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 08:00 AM																										
08:00 AM	4	34	2	24	64	0	**19**	0	0	**19**	0	0	0	0	0	0	0	0	0	0	0	0	0	**11**	**11**	**94**
08:15 AM	**9**	44	2	16	71	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	90
08:30 AM	2	**54**	**5**	16	77	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	91
08:45 AM	4	47	4	**25**	**80**	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	92
Total Volume	19	179	13	81	292	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	367
% App. Total	6.5	61.3	4.5	27.7		0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.528	.829	.650	.810	.913	.000	.553	.000	.000	.553	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.750	.976
Cars	18	179	13	81	291	0	42	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	366
% Cars	94.7	100	100	100	99.7	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	99.7
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	5.3	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018
Page No : 13

Groups Printed- Bikes Peds

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West							
Start Time	Left	BrLt	Thru	Right	Peds	HdLt	Left	Thru	Right	Peds	HdLt	BrLt	BrRt	HdRt	Peds	Left	Thru	Right	HdRt	Peds	Left	Thru	BrRt	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	3	0	2	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	3	7	10
07:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	2	0	1	0	2	10	12
07:30 AM	0	2	0	0	2	0	1	1	0	0	0	0	0	0	0	0	4	0	0	2	1	4	0	0	3	7	13	20
07:45 AM	0	2	0	0	1	0	3	3	1	0	0	0	0	0	0	0	8	0	0	1	0	6	0	0	4	6	23	29
Total	0	6	0	0	8	0	6	5	1	0	0	0	0	0	0	0	19	0	0	3	2	13	0	1	7	18	53	71
08:00 AM	1	4	0	0	2	0	0	2	0	0	0	0	0	0	0	0	13	0	0	1	0	3	0	0	0	3	23	26
08:15 AM	1	6	0	1	5	0	0	2	0	0	0	0	0	0	0	0	9	0	0	0	0	4	0	0	0	5	23	28
08:30 AM	0	2	0	2	6	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	5	0	0	2	8	16	24
08:45 AM	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4	0	0	1	0	1	0	1	0	1	13	14
Total	2	16	0	3	13	0	0	7	0	0	0	0	0	0	0	0	33	0	0	2	0	13	0	1	2	17	75	92
Grand Total	2	22	0	3	21	0	6	12	1	0	0	0	0	0	0	0	52	0	0	5	2	26	0	2	9	35	128	163
Apprch %	7.4	81.5	0	11.1		0	31.6	63.2	5.3		0	0	0	0		0	100	0	0		6.7	86.7	0	6.7				
Total %	1.6	17.2	0	2.3		0	4.7	9.4	0.8		0	0	0	0		0	40.6	0	0		1.6	20.3	0	1.6		21.5	78.5	

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West					
Start Time	Left	BrLt	Thru	Right	App. Total	HdLt	Left	Thru	Right	App. Total	HdLt	BrLt	BrRt	HdRt	App. Total	Left	Thru	Right	HdRt	App. Total	Left	Thru	BrRt	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:45 AM																										
07:45 AM	0	2	0	0	2	0	**3**	**3**	**1**	**7**	0	0	0	0	0	0	8	0	0	8	0	**6**	0	0	**6**	**23**
08:00 AM	**1**	4	0	0	5	0	0	2	0	2	0	0	0	0	0	0	**13**	0	0	**13**	0	3	0	0	3	23
08:15 AM	1	**6**	0	1	**8**	0	0	2	0	2	0	0	0	0	0	0	9	0	0	9	0	4	0	0	4	23
08:30 AM	0	2	0	**2**	4	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	5	0	0	5	16
Total Volume	2	14	0	3	19	0	3	7	1	11	0	0	0	0	0	0	37	0	0	37	0	18	0	0	18	85
% App. Total	10.5	73.7	0	15.8		0	27.3	63.6	9.1		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.500	.583	.000	.375	.594	.000	.250	.583	.250	.393	.000	.000	.000	.000	.000	.000	.712	.000	.000	.712	.000	.750	.000	.000	.750	.924

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Cars - Trucks

	SFR WB Off Ramp From North				Western Ave From East				Pkwy Ramp From Southeast				SFR WB On Ramp From South				Western Ave From West				
Start Time	Left	BrLt	Thru	Right	HdLt	Left	Thru	Right	HdLt	BrLt	BrRt	HdRt	Left	Thru	Right	HdRt	Left	Thru	BrRt	Right	Int. Total
04:00 PM	3	46	1	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	15	85
04:15 PM	1	40	1	25	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	11	90
04:30 PM	3	44	3	23	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	8	93
04:45 PM	1	47	1	22	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	11	98
Total	8	177	6	80	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	45	366
05:00 PM	1	56	4	18	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	5	104
05:15 PM	2	49	1	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	6	94
05:30 PM	3	63	3	18	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	7	109
05:45 PM	5	50	3	15	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14	101
Total	11	218	11	69	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	32	408
Grand Total	19	395	17	149	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	77	774
Apprch %	3.3	68.1	2.9	25.7	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	
Total %	2.5	51	2.2	19.3	0	15.1	0	0	0	0	0	0	0	0	0	0	0	0	0	9.9	
Cars	19	395	17	149	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	77	774
% Cars	100	100	100	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018
Page No : 2

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West					
Start Time	Left	BrLt	Thru	Right	App. Total	HdLt	Left	Thru	Right	App. Total	HdLt	BrLt	BrRt	HdRt	App. Total	Left	Thru	Right	HdRt	App. Total	Left	Thru	BrRt	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 05:00 PM																										
05:00 PM	1	56	**4**	**18**	79	0	**20**	0	0	**20**	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	104
05:15 PM	2	49	1	18	70	0	18	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	94
05:30 PM	3	**63**	3	18	**87**	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	**109**
05:45 PM	**5**	50	3	15	73	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	**14**	**14**	101
Total Volume	11	218	11	69	309	0	67	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32	408
% App. Total	3.6	70.6	3.6	22.3		0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.550	.865	.688	.958	.888	.000	.838	.000	.000	.838	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.571	.571	.936
Cars	11	218	11	69	309	0	67	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32	408
% Cars	100	100	100	100	100	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West							
Start Time	Left	BrLt	Thru	Right	Peds	HdLt	Left	Thru	Right	Peds	HdLt	BrLt	BrRt	HdRt	Peds	Left	Thru	Right	HdRt	Peds	Left	Thru	BrRt	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	0	1	2	0	0	4	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	5	9	14
04:15 PM	1	3	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	8	7	15
04:30 PM	0	0	0	1	9	0	1	6	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	1	1	15	12	27
04:45 PM	0	1	0	0	2	0	1	6	0	0	0	0	0	0	0	0	1	0	0	3	0	1	0	0	4	9	10	19
Total	1	6	0	2	19	0	3	16	0	1	0	0	0	0	0	0	1	1	0	10	0	7	0	1	7	37	38	75
05:00 PM	0	3	0	1	3	0	1	1	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0	3	3	8	11	19
05:15 PM	0	10	0	1	10	0	0	6	1	0	0	0	0	0	0	0	0	0	0	3	0	2	0	1	1	14	21	35
05:30 PM	0	6	0	1	5	0	4	7	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	2	8	23	31
05:45 PM	1	7	0	1	2	0	1	6	0	0	0	0	0	0	0	0	2	0	0	1	0	2	0	0	2	5	20	25
Total	1	26	0	4	20	0	6	20	1	0	0	0	0	0	0	0	4	0	0	7	0	7	0	6	8	35	75	110
Grand Total	2	32	0	6	39	0	9	36	1	1	0	0	0	0	0	0	5	1	0	17	0	14	0	7	15	72	113	185
Apprch %	5	80	0	15		0	19.6	78.3	2.2		0	0	0	0		0	83.3	16.7	0		0	66.7	0	33.3				
Total %	1.8	28.3	0	5.3		0	8	31.9	0.9		0	0	0	0		0	4.4	0.9	0		0	12.4	0	6.2		38.9	61.1	

Accurate Counts

978-664-2565

N/S Street : Soldiers Field Road Ramps
E/W Street : Western Avenue
City/State : Allston, MA
Weather : Clear

File Name : 172600B8
Site Code : 17260008
Start Date : 4/11/2018
Page No : 14

	SFR WB Off Ramp From North					Western Ave From East					Pkwy Ramp From Southeast					SFR WB On Ramp From South					Western Ave From West					
Start Time	Left	BrLt	Thru	Right	App. Total	HdLt	Left	Thru	Right	App. Total	HdLt	BrLt	BrRt	HdRt	App. Total	Left	Thru	Right	HdRt	App. Total	Left	Thru	BrRt	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 05:00 PM																										
05:00 PM	0	3	0	**1**	4	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	1	0	**3**	**4**	11
05:15 PM	0	**10**	0	1	**11**	0	0	6	**1**	7	0	0	0	0	0	0	0	0	0	0	0	**2**	0	1	3	21
05:30 PM	0	6	0	1	7	0	**4**	**7**	0	**11**	0	0	0	0	0	0	1	0	0	1	0	2	0	2	4	**23**
05:45 PM	**1**	7	0	1	9	0	1	6	0	7	0	0	0	0	0	0	**2**	0	0	**2**	0	2	0	0	2	20
Total Volume	1	26	0	4	31	0	6	20	1	27	0	0	0	0	0	0	4	0	0	4	0	7	0	6	13	75
% App. Total	3.2	83.9	0	12.9		0	22.2	74.1	3.7		0	0	0	0		0	100	0	0		0	53.8	0	46.2		
PHF	.250	.650	.000	1.00	.705	.000	.375	.714	.250	.614	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.875	.000	.500	.813	.815

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	N. Harvard St From North			Western Ave From East			N. Harvard St From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	4	22	18	12	41	16	25	36	14	21	37	0	246
07:15 AM	3	27	33	17	45	19	26	41	17	19	42	0	289
07:30 AM	9	33	36	13	57	18	34	51	12	51	44	2	360
07:45 AM	5	22	27	12	48	18	42	53	9	34	41	0	311
Total	21	104	114	54	191	71	127	181	52	125	164	2	1206
08:00 AM	4	16	44	15	54	18	30	55	4	28	64	3	335
08:15 AM	3	39	31	11	72	14	35	53	14	24	51	0	347
08:30 AM	5	23	24	25	78	14	29	50	15	44	40	0	347
08:45 AM	10	32	32	17	65	11	34	58	12	38	51	2	362
Total	22	110	131	68	269	57	128	216	45	134	206	5	1391
Grand Total	43	214	245	122	460	128	255	397	97	259	370	7	2597
Apprch %	8.6	42.6	48.8	17.2	64.8	18	34	53	13	40.7	58.2	1.1	
Total %	1.7	8.2	9.4	4.7	17.7	4.9	9.8	15.3	3.7	10	14.2	0.3	
Cars	40	193	228	116	438	112	238	367	84	236	352	7	2411
% Cars	93	90.2	93.1	95.1	95.2	87.5	93.3	92.4	86.6	91.1	95.1	100	92.8
Trucks	3	21	17	6	22	16	17	30	13	23	18	0	186
% Trucks	7	9.8	6.9	4.9	4.8	12.5	6.7	7.6	13.4	8.9	4.9	0	7.2

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 2

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	4	16	**44**	64	15	54	**18**	87	30	55	4	89	28	**64**	**3**	**95**	335
08:15 AM	3	**39**	31	73	11	72	14	97	**35**	53	14	102	24	51	0	75	347
08:30 AM	5	23	24	52	**25**	**78**	14	**117**	29	50	**15**	94	**44**	40	0	84	347
08:45 AM	**10**	32	32	**74**	17	65	11	93	34	**58**	12	**104**	38	51	2	91	**362**
Total Volume	22	110	131	263	68	269	57	394	128	216	45	389	134	206	5	345	1391
% App. Total	8.4	41.8	49.8		17.3	68.3	14.5		32.9	55.5	11.6		38.8	59.7	1.4		
PHF	.550	.705	.744	.889	.680	.862	.792	.842	.914	.931	.750	.935	.761	.805	.417	.908	.961
Cars	20	97	121	238	66	257	52	375	122	202	40	364	120	194	5	319	1296
% Cars	90.9	88.2	92.4	90.5	97.1	95.5	91.2	95.2	95.3	93.5	88.9	93.6	89.6	94.2	100	92.5	93.2
Trucks	2	13	10	25	2	12	5	19	6	14	5	25	14	12	0	26	95
% Trucks	9.1	11.8	7.6	9.5	2.9	4.5	8.8	4.8	4.7	6.5	11.1	6.4	10.4	5.8	0	7.5	6.8

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	8	2	0	0	14	0	5	1	3	0	2	0	7	32	12	44
07:15 AM	0	3	2	5	0	2	0	7	0	2	0	1	0	2	0	5	18	11	29
07:30 AM	0	4	1	5	1	1	1	15	0	8	0	2	1	4	0	6	28	21	49
07:45 AM	0	3	0	6	1	2	0	10	0	10	5	5	2	6	0	14	35	29	64
Total	0	12	3	24	4	5	1	46	0	25	6	11	3	14	0	32	113	73	186
08:00 AM	0	1	0	4	0	4	0	13	0	6	0	1	0	7	0	12	30	18	48
08:15 AM	0	2	2	11	1	1	0	21	1	13	1	5	3	3	0	8	45	27	72
08:30 AM	0	4	1	4	2	0	0	10	0	7	3	1	1	6	0	10	25	24	49
08:45 AM	0	4	0	15	2	1	0	14	0	15	0	2	4	4	0	15	46	30	76
Total	0	11	3	34	5	6	0	58	1	41	4	9	8	20	0	45	146	99	245
Grand Total	0	23	6	58	9	11	1	104	1	66	10	20	11	34	0	77	259	172	431
Apprch %	0	79.3	20.7		42.9	52.4	4.8		1.3	85.7	13		24.4	75.6	0				
Total %	0	13.4	3.5		5.2	6.4	0.6		0.6	38.4	5.8		6.4	19.8	0		60.1	39.9	

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 14

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	**4**	0	**4**	0	6	0	6	0	**7**	0	7	18
08:15 AM	0	2	**2**	4	1	1	0	2	**1**	13	1	**15**	3	3	0	6	27
08:30 AM	0	**4**	1	**5**	**2**	0	0	2	0	7	**3**	10	1	6	0	7	24
08:45 AM	0	4	0	4	2	1	0	3	0	**15**	0	15	**4**	4	0	**8**	**30**
Total Volume	0	11	3	14	5	6	0	11	1	41	4	46	8	20	0	28	99
% App. Total	0	78.6	21.4		45.5	54.5	0		2.2	89.1	8.7		28.6	71.4	0		
PHF	.000	.688	.375	.700	.625	.375	.000	.688	.250	.683	.333	.767	.500	.714	.000	.875	.825

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 1

Groups Printed- Cars - Trucks

	N. Harvard St From North			Western Ave From East			N. Harvard St From South			Western Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	5	51	38	27	69	12	20	41	6	27	46	0	342
04:15 PM	4	44	38	18	72	11	29	41	6	20	38	2	323
04:30 PM	4	45	42	29	90	10	35	37	7	23	31	2	355
04:45 PM	5	48	59	14	83	9	34	48	6	28	26	3	363
Total	18	188	177	88	314	42	118	167	25	98	141	7	1383
05:00 PM	4	53	51	25	104	11	31	41	5	37	34	3	399
05:15 PM	5	40	49	21	87	22	33	38	6	33	39	4	377
05:30 PM	1	60	48	27	94	17	27	61	10	16	32	1	394
05:45 PM	6	58	49	42	104	16	25	49	7	26	36	0	418
Total	16	211	197	115	389	66	116	189	28	112	141	8	1588
Grand Total	34	399	374	203	703	108	234	356	53	210	282	15	2971
Apprch %	4.2	49.4	46.3	20	69.3	10.7	36.4	55.4	8.2	41.4	55.6	3	
Total %	1.1	13.4	12.6	6.8	23.7	3.6	7.9	12	1.8	7.1	9.5	0.5	
Cars	33	378	367	200	687	98	227	338	51	198	268	15	2860
% Cars	97.1	94.7	98.1	98.5	97.7	90.7	97	94.9	96.2	94.3	95	100	96.3
Trucks	1	21	7	3	16	10	7	18	2	12	14	0	111
% Trucks	2.9	5.3	1.9	1.5	2.3	9.3	3	5.1	3.8	5.7	5	0	3.7

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 2

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	4	53	**51**	108	25	**104**	11	140	31	41	5	77	**37**	34	3	74	399
05:15 PM	5	40	49	94	21	87	**22**	130	**33**	38	6	77	33	**39**	**4**	**76**	377
05:30 PM	1	**60**	48	109	27	94	17	138	27	**61**	**10**	**98**	16	32	1	49	394
05:45 PM	**6**	58	49	**113**	**42**	104	16	**162**	25	49	7	81	26	36	0	62	**418**
Total Volume	16	211	197	424	115	389	66	570	116	189	28	333	112	141	8	261	1588
% App. Total	3.8	49.8	46.5		20.2	68.2	11.6		34.8	56.8	8.4		42.9	54	3.1		
PHF	.667	.879	.966	.938	.685	.935	.750	.880	.879	.775	.700	.849	.757	.904	.500	.859	.950
Cars	16	201	193	410	112	382	62	556	114	181	27	322	107	135	8	250	1538
% Cars	100	95.3	98.0	96.7	97.4	98.2	93.9	97.5	98.3	95.8	96.4	96.7	95.5	95.7	100	95.8	96.9
Trucks	0	10	4	14	3	7	4	14	2	8	1	11	5	6	0	11	50
% Trucks	0	4.7	2.0	3.3	2.6	1.8	6.1	2.5	1.7	4.2	3.6	3.3	4.5	4.3	0	4.2	3.1

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018

Groups Printed- Bikes Peds

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	9	2	10	1	2	0	8	1	3	1	2	0	2	1	7	27	22	49
04:15 PM	0	3	0	9	0	4	0	5	1	5	0	2	2	0	0	16	32	15	47
04:30 PM	0	6	1	7	1	5	0	8	0	2	0	1	0	2	0	20	36	17	53
04:45 PM	0	11	1	9	1	4	0	8	1	5	1	9	0	1	0	21	47	25	72
Total	0	29	4	35	3	15	0	29	3	15	2	14	2	5	1	64	142	79	221
05:00 PM	1	8	0	15	3	3	1	10	0	4	2	6	6	0	0	23	54	28	82
05:15 PM	0	6	4	16	4	7	0	7	0	6	0	9	3	1	0	26	58	31	89
05:30 PM	1	9	3	11	2	9	0	8	1	9	1	2	0	2	0	22	43	37	80
05:45 PM	0	6	2	14	3	11	0	18	0	4	0	4	0	1	0	36	72	27	99
Total	2	29	9	56	12	30	1	43	1	23	3	21	9	4	0	107	227	123	350
Grand Total	2	58	13	91	15	45	1	72	4	38	5	35	11	9	1	171	369	202	571
Apprch %	2.7	79.5	17.8		24.6	73.8	1.6		8.5	80.9	10.6		52.4	42.9	4.8				
Total %	1	28.7	6.4		7.4	22.3	0.5		2	18.8	2.5		5.4	4.5	0.5		64.6	35.4	

Accurate Counts

978-664-2565

N/S Street : North Harvard Street
E/W Street: Western Avenue
City/State : Allston, MA
Weather : Cloudy

File Name : 17260009
Site Code : 17260009
Start Date : 4/11/2018
Page No : 14

	N. Harvard St From North				Western Ave From East				N. Harvard St From South				Western Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**1**	8	0	9	3	3	**1**	7	0	4	**2**	6	**6**	0	0	**6**	28
05:15 PM	0	6	**4**	10	**4**	7	0	11	0	6	0	6	3	1	0	4	31
05:30 PM	1	**9**	3	**13**	2	9	0	11	**1**	**9**	1	**11**	0	**2**	0	2	**37**
05:45 PM	0	6	2	8	3	**11**	0	**14**	0	4	0	4	0	1	0	1	27
Total Volume	2	29	9	40	12	30	1	43	1	23	3	27	9	4	0	13	123
% App. Total	5	72.5	22.5		27.9	69.8	2.3		3.7	85.2	11.1		69.2	30.8	0		
PHF	.500	.806	.563	.769	.750	.682	.250	.768	.250	.639	.375	.614	.375	.500	.000	.542	.831

Seasonal Adjustment Factors

MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

2011 WEEKDAY SEASONAL FACTORS *

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

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

RECREATIONAL: (ALL YEARS)

**GROUP 3A:

1. CAPE COD (ALL TOWNS)

2.PLYMOUTH(SOUTH OF RTE.3A)

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

3.MARTHA'S VINEYARD

4.NANTUCKET

***GROUP 3B:

5.PERMANENTS 2 & 189

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

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

1105,1106,1107,1108,1113,1114,1116,2196,2197,2198

2011 AXLE CORRECTION FACTORS

ROAD INVENTORY FUNCTIONAL CLASSIFICATION	AXLE CORRECTION FACTOR
RURAL	
1	0.95
2	0.97
3	0.98
0,5,6	0.98
URBAN	
1	0.96
2,3	0.98
5	0.98
0,6	0.99
I-84	0.90

ROUND OFF

0 - 999.....10

> 1,000.....100

Apply I-84 factor to stations:

3290, 3921, 3929

Trip Generation - Existing

NEXUS at The Allston Innovation Campus
Existing Trip Generation

HOWARD STEIN HUDSON
27-Jun-2018

xx HARD CODED TO BALANCE (Manually change formatting)

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Unadjusted Person-Trips	Primary Person Trips	Transit Share[3]	Transit Person-Trips	Walk/Bike/ Other Share[3]	Walk/ Bike/ Other Trips	Auto Share[3]	Auto Person-Trips	% Taxi[4]	Private Auto Person-Trips	Taxi Person-Trips	Assumed Local Auto Occupancy Rate[5]	Assumed Local Auto Occupancy Rate for Taxis[6]	Total Adjusted Private Auto Trips	Total Adjusted Taxi Trips	Total Adjusted Auto (Private + Taxi) Trips
Daily Peak Hour																						
Multifamily Housing (Low Rise)[7]	10	Total		7.320	74	1.13	**84**	**84**	22%	**18**	31%	**26**	47%	**40**	5%	38	2	1.13	1.13	**34**	**4**	**38**
	units	In	50%	3.660	37	1.13	**42**	**42**	22%	**9**	31%	**13**	47%	**20**	5%	19	1	1.13	1.13	**17**	**2**	**19**
		Out	50%	3.660	37	1.13	**42**	**42**	22%	**9**	31%	**13**	47%	**20**	5%	19	1	1.13	1.13	**17**	**2**	**19**
Office Building[8]	4.6	Total		9.740	44	1.13	**50**	**50**	12%	**6**	19%	**10**	69%	**34**	2%	34	0	1.13	1.13	**30**	**0**	**30**
	KSF	In	50%	4.870	22	1.13	**25**	**25**	12%	**3**	19%	**5**	69%	**17**	2%	17	0	1.13	1.13	**15**	**0**	**15**
		Out	50%	4.870	22	1.13	**25**	**25**	12%	**3**	19%	**5**	69%	**17**	2%	17	0	1.13	1.13	**15**	**0**	**15**
Small Office Building[9]	2.7	Total		16.190	44	1.78	**78**	**78**	12%	**10**	19%	**14**	69%	**54**	2%	52	2	1.78	1.20	**30**	**4**	**34**
	KSF	In	50%	8.095	22	1.78	**39**	**39**	12%	**5**	19%	**7**	69%	**27**	2%	26	1	1.78	1.20	**15**	**2**	**17**
		Out	50%	8.095	22	1.78	**39**	**39**	12%	**5**	19%	**7**	69%	**27**	2%	26	1	1.78	1.20	**15**	**2**	**17**
Drinking Place[10]	3.2	Total		122.105	394	1.78	**702**	**702**	8%	**56**	40%	**280**	52%	**366**	2%	358	8	1.78	1.20	**202**	**12**	**214**
	KSF	In	50%	61.053	197	1.78	**351**	**351**	8%	**28**	40%	**140**	52%	**183**	2%	179	4	1.78	1.20	**101**	**6**	**107**
		Out	50%	61.053	197	1.78	**351**	**351**	8%	**28**	40%	**140**	52%	**183**	2%	179	4	1.78	1.20	**101**	**6**	**107**
Fast Casual Restaurant[11]	5.6	Total		315.170	1,752	2.20	**3,854**	**3,854**	8%	**308**	40%	**1,542**	52%	**2,004**	2%	1,964	40	2.20	2.20	**892**	**36**	**928**
	KSF	In	50%	157.585	876	2.20	**1,927**	**1,927**	8%	**154**	40%	**771**	52%	**1,002**	2%	982	20	2.20	2.20	**446**	**18**	**464**
		Out	50%	157.585	876	2.20	**1,927**	**1,927**	8%	**154**	40%	**771**	52%	**1002**	2%	982	20	2.20	2.20	**446**	**18**	**464**
Sit-Down Restaurant[12]	2.5	Total		112.180	280	2.20	**616**	**616**	8%	**50**	40%	**246**	52%	**320**	2%	314	6	2.20	2.20	**142**	**4**	**146**
	KSF	In	50%	56.090	140	2.20	**308**	**308**	8%	**25**	40%	**123**	52%	**160**	2%	157	3	2.20	2.20	**71**	**2**	**73**
		Out	50%	56.090	140	2.20	**308**	**308**	8%	**25**	40%	**123**	52%	**160**	2%	157	3	2.20	2.20	**71**	**2**	**73**
Tow Facility[13]		Total			112			**112**								0	0			**112**		**222**
		In			56			**56**								0	0			**56**		**111**
		Out			56			**56**								0	0			**56**		**111**
Total		Total			**2,700**		**5,384**	**5,496**		**448**		**2,118**		**2,818**		**2,760**	**58**			**1,442**	**60**	**1,612**
		In			**1,350**		**2,692**	**2,748**		**224**		**1,059**		**1,409**		**1,380**	**29**			**721**	**30**	**806**
		Out			**1,350**		**2,692**	**2,748**		**224**		**1,059**		**1,409**		**1,380**	**29**			**721**	**30**	**806**
AM Peak Hour																						
Multifamily Housing (Low Rise)[7]	10	Total		0.460	5	1.13	**6**	**6**		**1**		**2**		**3**	5%	3	0	1.13	1.13	**3**	**0**	**3**
	units	In	23%	0.106	1	1.13	**1**	**1**	30%	**0**	33%	**0**	37%	**1**	5%	1	0	1.13	1.13	**1**	**0**	**1**
		Out	77%	0.354	4	1.13	**5**	**5**	21%	**1**	36%	**2**	43%	**2**	5%	2	0	1.13	1.13	**2**	**0**	**2**
Office Building[8]	4.6	Total		1.16	6	1.13	**7**	**7**		**1**		**1**		**5**	2%	5	0	1.13	1.13	**5**	**0**	**5**
	KSF	In	86%	0.998	5	1.13	**6**	**6**	18%	**1**	23%	**1**	59%	**4**	2%	4	0	1.13	1.13	**4**	**0**	**4**
		Out	14%	0.162	1	1.13	**1**	**1**	12%	**0**	23%	**0**	65%	**1**	2%	1	0	1.13	1.13	**1**	**0**	**1**
Small Office Building[9]	2.7	Total		1.92	5	1.78	**9**	**9**		**1**		**2**		**6**	2%	6	0	1.78	1.20	**3**	**0**	**3**
	KSF	In	83%	1.594	4	1.78	**7**	**7**	18%	**1**	23%	**2**	59%	**4**	2%	4	0	1.78	1.20	**2**	**0**	**2**
		Out	17%	0.326	1	1.78	**2**	**2**	12%	**0**	23%	**0**	65%	**2**	2%	2	0	1.78	1.20	**1**	**0**	**1**
Drinking Place[10]	3.2	Total		0.00	0	1.78	**0**	**0**		**0**		**0**		**0**	2%	0	0	1.78	1.20	**0**	**0**	**0**
	KSF	In	0%	0.000	0	1.78	**0**	**0**	11%	**0**	46%	**0**	43%	**0**	2%	0	0	1.78	1.20	**0**	**0**	**0**
		Out	0%	0.000	0	1.78	**0**	**0**	7%	**0**	46%	**0**	47%	**0**	2%	0	0	1.78	1.20	**0**	**0**	**0**
Fast Casual Restaurant[11]	5.6	Total		2.07	12	2.20	**27**	**27**		**3**		**12**		**12**	2%	12	0	2.20	2.20	**6**	**0**	**6**
	KSF	In	67%	1.387	8	2.20	**18**	**18**	11%	**2**	46%	**8**	43%	**8**	2%	8	0	2.20	2.20	**4**	**0**	**4**
		Out	33%	0.683	4	2.20	**9**	**9**	7%	**1**	46%	**4**	47%	**4**	2%	4	0	2.20	2.20	**2**	**0**	**2**
Sit-Down Restaurant[12]	2.5	Total		9.94	25	2.20	**55**	**55**		**5**		**25**		**25**	2%	25	0	2.20	2.20	**11**	**0**	**11**
	KSF	In	55%	5.467	14	2.20	**31**	**31**	11%	**3**	46%	**14**	43%	**14**	2%	14	0	2.20	2.20	**6**	**0**	**6**
		Out	45%	4.473	11	2.20	**24**	**24**	7%	**2**	46%	**11**	47%	**11**	2%	11	0	2.20	2.20	**5**	**0**	**5**
Tow Facility[13]		Total			4			**4**		0%						0	0			**4**		**8**
		In			2			**2**								0	0			**2**		**4**
		Out			2			**2**								0	0			**2**		**4**
Total		Total			**57**		**104**	**108**		**11**		**42**		**51**		**51**	**0**			**32**	**0**	**36**
		In			**34**		**63**	**65**		**7**		**25**		**31**		**31**	**0**			**19**	**0**	**21**
		Out			**23**		**41**	**43**		**4**		**17**		**20**		**20**	**0**			**13**	**0**	**15**
PM Peak Hour																						
Multifamily Housing (Low Rise)[7]	10	Total		0.560	6	1.13	**7**	**7**		**2**		**3**		**2**	5%	2	0	1.13	1.13	**2**	**0**	**2**
	units	In	63%	0.353	4	1.13	**5**	**5**	21%	**1**	36%	**2**	43%	**2**	5%	2	0	1.13	1.13	**2**	**0**	**2**
		Out	37%	0.207	2	1.13	**2**	**2**	30%	**1**	33%	**1**	37%	**0**	5%	0	0	1.13	1.13	**0**	**0**	**0**
Office Building[8]	4.6	Total		1.15	5	1.13	**6**	**6**		**1**		**1**		**4**	2%	4	0	1.13	1.13	**4**	**0**	**4**
	KSF	In	16%	0.184	1	1.13	**1**	**1**	12%	**0**	23%	**0**	65%	**1**	2%	1	0	1.13	1.13	**1**	**0**	**1**
		Out	84%	0.966	4	1.13	**5**	**5**	18%	**1**	23%	**1**	59%	**3**	2%	3	0	1.13	1.13	**3**	**0**	**3**
Small Office Building[9]	2.7	Total		2.45	6	1.78	**11**	**11**		**1**		**3**		**7**	2%	7	0	1.78	1.20	**4**	**0**	**4**
	KSF	In	32%	0.784	2	1.78	**4**	**4**	12%	**0**	23%	**1**	65%	**3**	2%	3	0	1.78	1.20	**2**	**0**	**2**
		Out	68%	1.666	4	1.78	**7**	**7**	18%	**1**	23%	**2**	59%	**4**	2%	4	0	1.78	1.20	**2**	**0**	**2**
Drinking Place[10]	3.2	Total		11.36	36	1.78	**64**	**64**		**5**		**30**		**29**	2%	29	0	1.78	1.20	**16**	**0**	**16**
	KSF	In	66%	7.498	24	1.78	**43**	**43**	7%	**3**	46%	**20**	47%	**20**	2%	20	0	1.78	1.20	**11**	**0**	**11**
		Out	34%	3.862	12	1.78	**21**	**21**	11%	**2**	46%	**10**	43%	**9**	2%	9	0	1.78	1.20	**5**	**0**	**5**
Fast Casual Restaurant[11]	5.6	Total		14.13	78	2.20	**172**	**172**		**15**		**79**		**78**	2%	76	2	2.20	2.20	**35**	**0**	**35**
	KSF	In	55%	7.772	43	2.20	**95**	**95**	7%	**7**	46%	**44**	47%	**44**	2%	43	1	2.20	2.20	**20**	**0**	**20**
		Out	45%	6.359	35	2.20	**77**	**77**	11%	**8**	46%	**35**	43%	**34**	2%	33	1	2.20	2.20	**15**	**0**	**15**
Sit-Down Restaurant[12]	2.5	Total		9.77	24	2.20	**53**	**53**		**4**		**24**		**25**	2%	25	0	2.20	2.20	**11**	**0**	**11**
	KSF	In	62%	6.057	15	2.20	**33**	**33**	7%	**2**	46%	**15**	47%	**16**	2%	16	0	2.20	2.20	**7**	**0**	**7**
		Out	38%	3.713	9	2.20	**20**	**20**	11%	**2**	46%	**9**	43%	**9**	2%	9	0	2.20	2.20	**4**	**0**	**4**
Tow Facility[13]		Total			4			**4**		0%		0%		0%		0	0			**4**		**8**
		In			2			**2**								0	0			**2**		**4**
		Out			2			**2**								0	0			**2**		**4**
Total		Total			**159**		**313**	**317**		**28**		**140**		**145**		**143**	**2**			**76**	**0**	**80**
		In			**91**		**181**	**183**		**13**		**82**		**86**		**85**	**1**			**45**	**0**	**47**
		Out			**68**		**132**	**134**		**15**		**58**		**59**		**58**	**1**			**31**	**0**	**33**

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares based on peak-hour BTD Data for Area 17
4. 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 2009 National vehicle occupancy rates
6. For taxi cabs, 1.2 passengers per cab. (2.2 minus 1 driver equals 1.2)
7. ITE Trip Generation Manual, 10th Edition, LUC 220 (Multifamily Housing Low-Rise (1-2 floors), average rate
8. ITE Trip Generation Manual, 10th Edition, LUC 710 (General Office Building), average rate
9. ITE Trip Generation Manual, 10th Edition, LUC 712 (Small Office Building), average rate
10. ITE Trip Generation Manual, 10th Edition, LUC 925 (Drinking Place), average rate
11. ITE Trip Generation Manual, 10th Edition, LUC 930 (Fast Casual Restaurant), average rate
12. ITE Trip Generation Manual, 10th Edition, LUC 932 (High-Turnover (Sit-Down) Restaurant), average rate
13. Tow Facility data provided by owner.

Trip Generation - Proposed Program

NEXUS at The Allston Innovation Campus
Proposed Trip Generation Assessment

HOWARD STEIN HUDSON
rev. October 3, 2018

xx HARD CODED TO BALANCE (Manually change formatting)

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Unadjusted Person-Trips	Primary Person Trips	Transit Share[3]	Transit Person-Trips	Walk/Bike/ Other Share[3]	Walk/ Bike/ Other Trips	Auto Share[3]	Auto Person-Trips	% Taxi[4]	Private Auto Person-Trips	Taxi Person-Trips	Assumed Local Auto Occupancy Rate[5]	Assumed Local Auto Occupancy Rate for Taxis[6]	Total Adjusted Private Auto Trips	Total Adjusted Taxi Trips	Total Adjusted Auto (Private + Taxi) Trips
Daily Peak Hour																						
Multifamily Housing (Mid Rise)[7]	40	Total		5.440	218	1.18	**258**	**258**	22%	**56**	31%	**80**	47%	**122**	5%	116	6	1.18	1.18	**98**	**12**	**110**
	units	In	50%	2.720	109	1.18	**129**	**129**	22%	**28**	31%	**40**	47%	**61**	5%	58	3	1.18	1.18	**49**	**6**	**55**
		Out	50%	2.720	109	1.18	**129**	**129**	22%	**28**	31%	**40**	47%	**61**	5%	58	3	1.18	1.18	**49**	**6**	**55**
Research & Development Center[8]	539.4	Total		11.260	6,074	1.18	**7,168**	**7,168**	12%	**860**	19%	**1,362**	69%	**4,946**	2%	4,848	98	1.18	1.18	**4,108**	**168**	**4,276**
	KSF	In	50%	5.630	3,037	1.18	**3,584**	**3,584**	12%	**430**	19%	**681**	69%	**2,473**	2%	2,424	49	1.18	1.18	**2,054**	**84**	**2,138**
		Out	50%	5.630	3,037	1.18	**3,584**	**3,584**	12%	**430**	19%	**681**	69%	**2473**	2%	2,424	49	1.18	1.18	**2,054**	**84**	**2,138**
Shopping Center[9]	21.1	Total		37.750	796	1.82	**1,448**	**1,448**	8%	**116**	40%	**580**	52%	**752**	2%	736	16	1.82	1.82	**404**	**16**	**420**
	KSF	In	50%	18.875	398	1.82	**724**	**724**	8%	**58**	40%	**290**	52%	**376**	2%	368	8	1.82	1.82	**202**	**8**	**210**
		Out	50%	18.875	398	1.82	**724**	**724**	8%	**58**	40%	**290**	52%	**376**	2%	368	8	1.82	1.82	**202**	**8**	**210**
Total		Total			**7,088**		**8,874**	**8,874**		**1,032**		**2,022**		**5,820**		**5,700**	**120**			**4,610**	**196**	**4,806**
		In			**3,544**		**4,437**	**4,437**		**516**		**1,011**		**2,910**		**2,850**	**60**			**2,305**	**98**	**2,403**
		Out			**3,544**		**4,437**	**4,437**		**516**		**1,011**		**2,910**		**2,850**	**60**			**2,305**	**98**	**2,403**
AM Peak Hour																						
Multifamily Housing (Mid Rise)[7]	40	Total		0.360	15	1.18	**18**	**18**		**5**		**7**		**6**	5%	6	0	1.18	1.18	**5**	**0**	**5**
	units	In	26%	0.094	4	1.18	**5**	**5**	30%	**2**	33%	**2**	37%	**1**	5%	1	0	1.18	1.18	**1**	**0**	**1**
		Out	74%	0.266	11	1.18	**13**	**13**	21%	**3**	36%	**5**	43%	**5**	5%	5	0	1.18	1.18	**4**	**0**	**4**
Research & Development Center[8]	539.4	Total		0.420	227	1.18	**268**	**268**		**44**		**61**		**163**	2%	160	3	1.18	1.18	**135**	**8**	**143**
	KSF	In	75%	0.315	170	1.18	**201**	**201**	18%	**36**	23%	**46**	59%	**119**	2%	117	2	1.18	1.18	**99**	**4**	**103**
		Out	25%	0.105	57	1.18	**67**	**67**	12%	**8**	23%	**15**	65%	**44**	2%	43	1	1.18	1.18	**36**	**4**	**40**
Shopping Center[9]	21.1	Total		0.94	20	1.82	**37**	**37**		**3**		**17**		**17**	2%	17	0	1.82	1.82	**9**	**0**	**9**
	KSF	In	62%	0.583	12	1.82	**22**	**22**	11%	**2**	46%	**10**	43%	**10**	2%	10	0	1.82	1.82	**5**	**0**	**5**
		Out	38%	0.357	8	1.82	**15**	**15**	7%	**1**	46%	**7**	47%	**7**	2%	7	0	1.82	1.82	**4**	**0**	**4**
Total		Total			**262**		**323**	**323**		**52**		**85**		**186**		**183**	**3**			**149**	**8**	**157**
		In			**186**		**228**	**228**		**40**		**58**		**130**		**128**	**2**			**105**	**4**	**109**
		Out			**76**		**95**	**95**		**12**		**27**		**56**		**55**	**1**			**44**	**4**	**48**
PM Peak Hour																						
Multifamily Housing (Mid Rise)[7]	40	Total		0.440	18	1.18	**21**	**21**		**5**		**8**		**8**	5%	8	0	1.18	1.18	**7**	**0**	**7**
	units	In	61%	0.268	11	1.18	**13**	**13**	21%	**3**	36%	**5**	43%	**5**	5%	5	0	1.18	1.18	**4**	**0**	**4**
		Out	39%	0.172	7	1.18	**8**	**8**	30%	**2**	33%	**3**	37%	**3**	5%	3	0	1.18	1.18	**3**	**0**	**3**
Research & Development Center[8]	539.4	Total		0.490	265	1.18	**313**	**313**		**54**		**72**		**187**	2%	183	4	1.18	1.18	**156**	**12**	**168**
	KSF	In	15%	0.074	40	1.18	**47**	**47**	12%	**6**	23%	**11**	65%	**30**	2%	29	1	1.18	1.18	**25**	**6**	**31**
		Out	85%	0.417	225	1.18	**266**	**266**	18%	**48**	23%	**61**	59%	**157**	2%	154	3	1.18	1.18	**131**	**6**	**137**
Shopping Center[9]	21.1	Total		3.81	81	1.82	**147**	**147**		**13**		**68**		**66**	2%	64	2	1.82	1.82	**36**	**4**	**40**
	KSF	In	48%	1.829	39	1.82	**71**	**71**	7%	**5**	46%	**33**	47%	**33**	2%	32	1	1.82	1.82	**18**	**2**	**20**
		Out	52%	1.981	42	1.82	**76**	**76**	11%	**8**	46%	**35**	43%	**33**	2%	32	1	1.82	1.82	**18**	**2**	**20**
Total		Total			**364**		**481**	**481**		**72**		**148**		**261**		**255**	**6**			**199**	**16**	**215**
		In			**90**		**131**	**131**		**14**		**49**		**68**		**66**	**2**			**47**	**8**	**55**
		Out			**274**		**350**	**350**		**58**		**99**		**193**		**189**	**4**			**152**	**8**	**160**

1. 2017 National vehicle occupancy rates - 1.18:home to work; 1.82: family/personal business; 1.82: shopping; 2.1:social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares based on peak-hour BTD Data for Area 17
4. 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, use same as private auto occupancy
7. ITE Trip Generation Manual, 10th Edition, LUC 221 (Multifamily Housing Mid-Rise (3-10 floors)), average rate
8 . ITE Trip Generation Manual, 10th Edition, LUC 760 (Research & Development Center), average rate
9. ITE Trip Generation Manual, 10th Edition, LUC 820 (Shopping Center), average rate

Synchro Intersection Level of Service Reports

- Existing (2018) Condition

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	32	473	77	100	340	48	55	279	94	33	120	32	
Future Volume (vph)	32	473	77	100	340	48	55	279	94	33	120	32	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								0.99					
Frt			0.850		0.981			0.962			0.977		
Flt Protected		0.997		0.950			0.950				0.991		
Satd. Flow (prot)	0	1749	1561	1668	1726	0	1685	1675	0	0	1717	0	
Flt Permitted		0.932		0.222			0.531				0.562		
Satd. Flow (perm)	0	1635	1561	390	1726	0	942	1675	0	0	974	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			109		9			20			12		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			469			363			332		
Travel Time (s)		13.0			10.7			8.3			7.5		
Confl. Bikes (#/hr)									2				
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.97	0.97	0.97	0.87	0.87	0.87	
Heavy Vehicles (%)	0%	5%	0%	1%	5%	0%	0%	1%	2%	0%	0%	0%	
Adj. Flow (vph)	34	509	83	114	386	55	57	288	97	38	138	37	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	543	83	114	441	0	57	385	0	0	213	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	28.0	28.0	28.0	28.0	28.0		24.0	24.0		24.0	24.0		28.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		30.0%	30.0%		30.0%	30.0%		35%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		19.0	19.0		19.0	19.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													17.0
Pedestrian Calls (#/hr)													46
Act Effct Green (s)		33.5	33.5	33.5	33.5		19.7	19.7			19.7		
Actuated g/C Ratio		0.42	0.42	0.42	0.42		0.25	0.25			0.25		
v/c Ratio		0.79	0.12	0.70	0.61		0.25	0.90			0.86		
Control Delay		34.9	1.7	54.5	27.5		27.9	54.9			60.4		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		34.9	1.7	54.5	27.5		27.9	54.9			60.4		
LOS		C	A	D	C		C	D			E		
Approach Delay		30.5			33.0			51.4			60.4		
Approach LOS		C			C			D			E		
Queue Length 50th (ft)		~328	1	~58	205		23	180			98		
Queue Length 95th (ft)		#522	9	#156	#359		56	#349			#214		
Internal Link Dist (ft)		494			389			283			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		684	717	163	727		234	432			251		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.79	0.12	0.70	0.61		0.24	0.89			0.85		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 94.6% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø2
Lane Configurations							
Traffic Volume (vph)	555	19	5	489	0	0	
Future Volume (vph)	555	19	5	489	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.996						
Flt Protected							
Satd. Flow (prot)	1760	0	0	1784	0	0	
Flt Permitted				0.996			
Satd. Flow (perm)	1760	0	0	1777	0	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	5						
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	375		
Travel Time (s)	8.6			5.5	8.5		
Confl. Peds. (#/hr)		8	8				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.91	0.91	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	4%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	610	21	5	504	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	631	0	0	509	0	0	
Turn Type	NA		Perm	NA			
Protected Phases	1			1			2
Permitted Phases			1				
Detector Phase	1		1	1			
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0			1.0
Minimum Split (s)	19.0		19.0	19.0			22.0
Total Split (s)	45.0		45.0	45.0			22.0
Total Split (%)	67.2%		67.2%	67.2%			33%
Maximum Green (s)	41.0		41.0	41.0			16.0
Yellow Time (s)	3.0		3.0	3.0			2.0
All-Red Time (s)	1.0		1.0	1.0			4.0
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.0			4.0			
Lead/Lag	Lead		Lead	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	2.0		2.0	2.0			0.2
Recall Mode	None		None	None			None
Walk Time (s)							8.0
Flash Dont Walk (s)							8.0
Pedestrian Calls (#/hr)							47
Act Effct Green (s)	31.0			31.0			
Actuated g/C Ratio	0.83			0.83			
v/c Ratio	0.43			0.35			
Control Delay	6.3			5.4			
Queue Delay	0.0			0.0			
Total Delay	6.3			5.4			
LOS	A			A			
Approach Delay	6.3			5.4			
Approach LOS	A			A			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	223			162			
Internal Link Dist (ft)	300			162	295		
Turn Bay Length (ft)							
Base Capacity (vph)	1536			1550			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.41			0.33			

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 37.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 5.9 Intersection LOS: A
Intersection Capacity Utilization 33.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Riverdale Avenue & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	2045	48	0	1103	0	38	0	315	25	156	1	
Future Volume (vph)	0	2045	48	0	1103	0	38	0	315	25	156	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.997						0.879			0.999		
Flt Protected								0.995			0.993		
Satd. Flow (prot)	0	3597	0	0	3610	0	0	1643	0	0	1825	0	
Flt Permitted								0.959			0.900		
Satd. Flow (perm)	0	3597	0	0	3610	0	0	1583	0	0	1654	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5						122					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		332			385			263			112		
Travel Time (s)		7.5			8.8			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	
Adj. Flow (vph)	0	2066	48	0	1173	0	42	0	350	26	163	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	2114	0	0	1173	0	0	392	0	0	190	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		1.05			0.58			0.77			0.43		
Control Delay		52.8			12.2			29.1			26.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		52.8			12.2			29.1			26.5		
LOS		D			B			C			C		
Approach Delay		52.8			12.2			29.1			26.5		
Approach LOS		D			B			C			C		
Queue Length 50th (ft)		~575			171			115			73		
Queue Length 95th (ft)		#713			227			#251			131		
Internal Link Dist (ft)		252			305			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2016			2021			511			441		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.05			0.58			0.77			0.43		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			

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

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

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	502	64	52	374	1	37	7	60	6	6	7
Future Volume (vph)	17	502	64	52	374	1	37	7	60	6	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	10	10	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	1.00			0.98	0.96		0.98	
Frt		0.985							0.850		0.949	
Flt Protected		0.999		0.950				0.959			0.985	
Satd. Flow (prot)	0	1779	0	1652	1705	0	0	1761	1507	0	1633	0
Flt Permitted		0.986		0.434				0.736			0.878	
Satd. Flow (perm)	0	1755	0	743	1705	0	0	1330	1453	0	1450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17							81		12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	9		18	18		9	8		5	5		8
Confl. Bikes (#/hr)			1						2			
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.74	0.74	0.74	0.59	0.59	0.59
Heavy Vehicles (%)	0%	5%	0%	2%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	19	558	71	55	394	1	50	9	81	10	10	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	648	0	55	395	0	0	59	81	0	32	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (%)	73.8%	73.8%		73.8%	73.8%		26.3%	26.3%	26.3%	26.3%	26.3%	
Maximum Green (s)	54.0	54.0		54.0	54.0		16.0	16.0	16.0	16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		64.6		64.6	64.6			9.0	9.0		9.0	
Actuated g/C Ratio		0.81		0.81	0.81			0.11	0.11		0.11	
v/c Ratio		0.46		0.09	0.29			0.40	0.34		0.18	
Control Delay		4.6		0.5	0.8			40.6	12.4		25.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		4.6		0.5	0.8			40.6	12.4		25.3	
LOS		A		A	A			D	B		C	
Approach Delay		4.6			0.7			24.3			25.3	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		82		0	1			28	0		9	
Queue Length 95th (ft)		168		m0	m1			50	23		19	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1420		599	1376			266	355		299	
Starvation Cap Reductn		0		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.46		0.09	0.29			0.22	0.23		0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 68 (85%), Referenced to phase 1:EBWB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

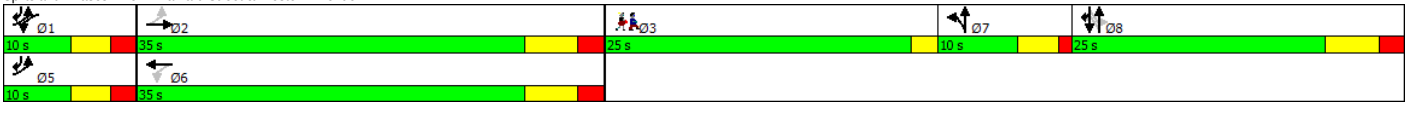
Splits and Phases: 4: Telford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	134	228	5	68	269	57	130	216	45	22	110	131		
Future Volume (vph)	134	228	5	68	269	57	130	216	45	22	110	131		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.997				0.850		0.974				0.850		
Flt Protected	0.950			0.950			0.950				0.992			
Satd. Flow (prot)	1532	1789	0	1752	1810	1679	1719	1711	0	0	1690	1495		
Flt Permitted	0.433			0.520			0.619				0.888			
Satd. Flow (perm)	698	1789	0	959	1810	1679	1120	1711	0	0	1513	1495		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				208		10				147		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			484			224			308			
Travel Time (s)		10.5			11.0			5.1			7.0			
Confl. Bikes (#/hr)									4			3		
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	10%	6%	0%	3%	5%	9%	5%	7%	11%	9%	12%	8%		
Adj. Flow (vph)	147	251	5	81	320	68	138	230	48	25	124	147		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	147	256	0	81	320	68	138	278	0	0	149	147		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		16.0		10.0	16.0		9.0			14.0	14.0		25.0	10.0
Total Split (s)		35.0		10.0	35.0		10.0			25.0	25.0		25.0	10.0
Total Split (%)		33.3%		9.5%	33.3%		9.5%			23.8%	23.8%		24%	10%
Maximum Green (s)		29.0		5.0	29.0		6.0			19.0	19.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	36.2	30.0		36.2	30.0	0.0	22.2	26.3			13.9	25.3		
Actuated g/C Ratio	0.40	0.33		0.40	0.33	0.00	0.25	0.29			0.15	0.28		
v/c Ratio	0.45	0.43		0.19	0.53	0.33	0.44	0.55			0.64	0.28		
Control Delay	26.6	30.2		20.7	32.3	4.1	32.9	32.6			51.2	6.5		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	26.6	30.2		20.7	32.3	4.1	32.9	32.6			51.2	6.5		
LOS	C	C		C	C	A	C	C			D	A		
Approach Delay		28.9			26.2			32.7			29.0			
Approach LOS		C			C			C			C			
Queue Length 50th (ft)	61	134		32	175	0	71	151			92	0		
Queue Length 95th (ft)	116	225		63	260	0	123	236			157	45		
Internal Link Dist (ft)		382			404			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	328	596		430	602	208	316	615			330	517		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.45	0.43		0.19	0.53	0.33	0.44	0.45			0.45	0.28		

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 90.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 29.1 Intersection LOS: C
Intersection Capacity Utilization 60.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: N Harvard Street & Western Avenue



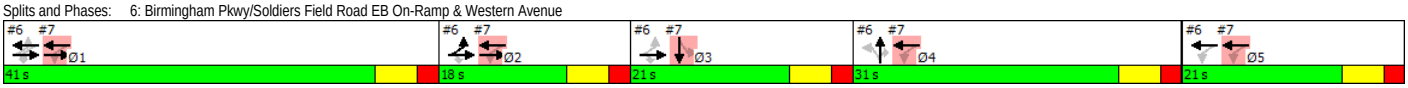
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1	Ø3	Ø5
Lane Configurations															
Traffic Volume (vph)	113	331	393	105	256	9	474	286	290	0	0	0			
Future Volume (vph)	113	331	393	105	256	9	474	286	290	0	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	75		75	0		0	0		0			
Storage Lanes	1		1	0		2	1		1	0		0			
Taper Length (ft)	25			25			25			25					
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00			
Ped Bike Factor	1.00		0.98	1.00	1.00				0.97						
Frt			0.850		0.995				0.850						
Flt Protected	0.950			0.950			0.950	0.978							
Satd. Flow (prot)	1805	3438	1599	1752	3456	0	1610	3334	1583	0	0	0			
Flt Permitted	0.075			0.543			0.950	0.978							
Satd. Flow (perm)	142	3438	1563	1000	3456	0	1610	3334	1536	0	0	0			
Right Turn on Red			Yes			Yes			Yes			Yes			
Satd. Flow (RTOR)			414		3				299						
Link Speed (mph)		30			30			30			30				
Link Distance (ft)		198			2326			603			340				
Travel Time (s)		4.5			52.9			13.7			7.7				
Confl. Peds. (#/hr)	8		2	2		8			2						
Confl. Bikes (#/hr)			1						3						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92			
Heavy Vehicles (%)	0%	5%	1%	3%	4%	0%	2%	1%	2%	2%	2%	2%			
Adj. Flow (vph)	119	348	414	111	269	9	489	295	299	0	0	0			
Shared Lane Traffic (%)							48%								
Lane Group Flow (vph)	119	348	414	111	278	0	254	530	299	0	0	0			
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm						
Protected Phases	2	1 2 3			1 5			4					1	3	5
Permitted Phases	1 2 3		1 2 3	1 5			4		4						
Detector Phase	2	1 2 3	1 2 3	1 5	1 5		4	4	4						
Switch Phase															
Minimum Initial (s)	8.0						8.0	8.0	8.0				25.0	8.0	8.0
Minimum Split (s)	14.0						14.0	14.0	14.0				31.0	14.0	14.0
Total Split (s)	18.0						31.0	31.0	31.0				41.0	21.0	21.0
Total Split (%)	13.6%						23.5%	23.5%	23.5%				31%	16%	16%
Maximum Green (s)	12.0						25.0	25.0	25.0				35.0	15.0	15.0
Yellow Time (s)	4.0						4.0	4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	2.0						2.0	2.0	2.0				2.0	2.0	2.0
Lost Time Adjust (s)	-2.0						-2.0	-2.0	-2.0						
Total Lost Time (s)	4.0						4.0	4.0	4.0						
Lead/Lag	Lag						Lag	Lag	Lag				Lead	Lead	
Lead-Lag Optimize?	Yes						Yes	Yes	Yes				Yes	Yes	
Vehicle Extension (s)	3.0						3.0	3.0	3.0				3.0	3.0	3.0
Recall Mode	None						None	None	None				None	None	None
Act Effct Green (s)	67.4	75.4	75.4	58.0	58.0		27.0	27.0	27.0						
Actuated g/C Ratio	0.51	0.57	0.57	0.44	0.44		0.21	0.21	0.21						
v/c Ratio	0.48	0.18	0.39	0.25	0.18		0.77	0.77	0.54						
Control Delay	17.9	0.5	0.7	25.2	22.6		65.8	58.2	8.7						
Queue Delay	0.0	0.8	1.2	0.0	0.0		0.1	0.0	0.0						
Total Delay	17.9	1.3	1.9	25.2	22.6		65.9	58.2	8.7						
LOS	B	A	A	C	C		E	E	A						
Approach Delay		3.8			23.3			46.3							
Approach LOS		A			C			D							
Queue Length 50th (ft)	41	1	0	59	74		227	237	0						
Queue Length 95th (ft)	m60	m1	0	105	104		#365	307	80						
Internal Link Dist (ft)		118			2246			523			260				
Turn Bay Length (ft)				75											
Base Capacity (vph)	250	1989	1078	441	1527		331	684	553						
Starvation Cap Reductn	0	1316	434	0	0		0	0	0						
Spillback Cap Reductn	0	0	0	0	0		1	2	0						
Storage Cap Reductn	0	0	0	0	0		0	0	0						
Reduced v/c Ratio	0.48	0.52	0.64	0.25	0.18		0.77	0.78	0.54						

Intersection Summary

Area Type: Other
Cycle Length: 132
Actuated Cycle Length: 131.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 26.6 Intersection LOS: C
Intersection Capacity Utilization 66.1% ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

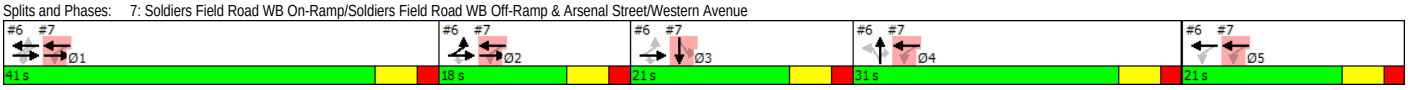
Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1	Ø2	Ø4	Ø5
Lane Configurations																
Traffic Volume (vph)	0	837	33	42	688	0	0	0	0	198	13	81				
Future Volume (vph)	0	837	33	42	688	0	0	0	0	198	13	81				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	0		25	0		0	0		0	100		0				
Storage Lanes	0		0	1		0	0		0	2		0				
Taper Length (ft)	25			25			25			25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95				
Ped Bike Factor		1.00		1.00						1.00	0.98					
Frt		0.994									0.870					
Flt Protected				0.950						0.950						
Satd. Flow (prot)	0	3587	0	1805	3610	0	0	0	0	3335	3082	0				
Flt Permitted				0.244						0.950						
Satd. Flow (perm)	0	3587	0	464	3610	0	0	0	0	3319	3082	0				
Right Turn on Red			Yes			Yes			Yes			Yes				
Satd. Flow (RTOR)		4									89					
Link Speed (mph)		30			30			30			30					
Link Distance (ft)		327			198			332			339					
Travel Time (s)		7.4			4.5			7.5			7.7					
Confl. Peds. (#/hr)			2	2						2		2				
Confl. Bikes (#/hr)						1						3				
Peak Hour Factor	0.75	0.75	0.75	0.55	0.55	0.55	0.92	0.92	0.92	0.91	0.91	0.91				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%				
Adj. Flow (vph)	0	1116	44	76	1251	0	0	0	0	218	14	89				
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	1160	0	76	1251	0	0	0	0	218	103	0				
Turn Type		NA		Perm	NA					Perm	NA					
Protected Phases		1 2			1 2 4 5						3		1	2	4	5
Permitted Phases				1 2 4 5						3						
Detector Phase		1 2		1 2 4 5	1 2 4 5					3	3					
Switch Phase																
Minimum Initial (s)										8.0	8.0		25.0	8.0	8.0	8.0
Minimum Split (s)										14.0	14.0		31.0	14.0	14.0	14.0
Total Split (s)										21.0	21.0		41.0	18.0	31.0	21.0
Total Split (%)										15.9%	15.9%		31%	14%	23%	16%
Maximum Green (s)										15.0	15.0		35.0	12.0	25.0	15.0
Yellow Time (s)										4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)										2.0	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)										-2.0	-2.0					
Total Lost Time (s)										4.0	4.0					
Lead/Lag										Lead	Lead		Lead	Lag	Lag	
Lead-Lag Optimize?										Yes	Yes		Yes	Yes	Yes	
Vehicle Extension (s)										3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode										None	None		None	None	None	None
Act Effct Green (s)		55.0		105.0	107.0					16.4	16.4					
Actuated g/C Ratio		0.42		0.80	0.81					0.12	0.12					
v/c Ratio		0.77		0.20	0.43					0.53	0.22					
Control Delay		37.1		2.5	1.7					58.9	14.9					
Queue Delay		0.0		2.3	0.9					0.0	0.0					
Total Delay		37.1		4.8	2.6					58.9	14.9					
LOS		D		A	A					E	B					
Approach Delay		37.1			2.7						44.8					
Approach LOS		D			A						D					
Queue Length 50th (ft)		443		5	44					91	5					
Queue Length 95th (ft)		404		6	28					134	33					
Internal Link Dist (ft)		247			118			252			259					
Turn Bay Length (ft)										100						
Base Capacity (vph)		1503		371	2940					429	476					
Starvation Cap Reductn		0		203	1301					0	0					
Spillback Cap Reductn		7		0	0					0	0					
Storage Cap Reductn		0		0	0					0	0					
Reduced v/c Ratio		0.78		0.45	0.76					0.51	0.22					

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 131.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Soldiers Field Road WB On-Ramp/Soldiers Field Road WB Off-Ramp & Arsenal Street/Western Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	453	930	346	178	76	175	0	0	760	36
Future Volume (vph)	0	0	453	930	346	178	76	175	0	0	760	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				0.99	0.98			1.00			1.00	
Frt			0.850		0.973						0.993	
Flt Protected				0.950	0.977			0.985				
Satd. Flow (prot)	0	0	2656	1610	3143	0	0	3442	0	0	3579	0
Flt Permitted				0.950	0.977			0.985				
Satd. Flow (perm)	0	0	2656	1601	3134	0	0	3435	0	0	3579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		26						5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			6	6		88	19		57	57		19
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.84	0.84	0.84	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	7%	2%	5%	0%	11%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	527	969	360	185	90	208	0	0	817	39
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	0	527	504	1010	0	0	298	0	0	856	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (%)			32.0%	36.0%	36.0%		32.0%	32.0%			32.0%	
Maximum Green (s)			25.0	30.0	30.0		25.0	25.0			26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			None	C-Max	C-Max		None	None			Max	
Walk Time (s)			7.0	7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)			18.0	23.0	23.0		18.0	18.0			19.0	
Pedestrian Calls (#/hr)			62	88	88		62	62			25	
Act Effct Green (s)			22.8	32.2	32.2			22.8			26.0	
Actuated g/C Ratio			0.23	0.32	0.32			0.23			0.26	
v/c Ratio			0.77	0.97	0.98			0.38			0.92	
Control Delay			37.3	69.7	58.7			33.5			51.6	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			37.3	69.7	58.7			33.5			51.6	
LOS			D	E	E			C			D	
Approach Delay		37.3			62.4			33.5			51.6	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)			142	~384	~381			82			277	
Queue Length 95th (ft)			194	#603	#518			111			#395	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			737	518	1028			860			934	
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			0.72	0.97	0.98			0.35			0.92	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 52.6 Intersection LOS: D
Intersection Capacity Utilization 90.4% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

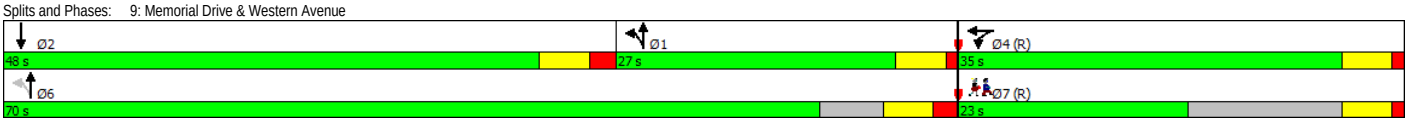
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	104	890	103	324	573	0	0	881	240		
Future Volume (vph)	0	0	0	104	890	103	324	573	0	0	881	240		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.98						0.99			
Frt					0.986						0.968			
Flt Protected					0.995		0.950							
Satd. Flow (prot)	0	0	0	0	4844	0	1805	1900	0	0	3445	0		
Flt Permitted					0.995		0.083							
Satd. Flow (perm)	0	0	0	0	4842	0	158	1900	0	0	3445	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					15						36			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				3		86						57		
Confl. Bikes (#/hr)									1					
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88		
Heavy Vehicles (%)	2%	2%	2%	1%	4%	0%	0%	0%	0%	0%	0%	1%		
Adj. Flow (vph)	0	0	0	109	937	108	356	630	0	0	1001	273		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1154	0	356	630	0	0	1274	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		70.0	15.0
Total Split (s)				35.0	35.0		27.0				48.0		70.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		64%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		64.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		59.0	5.0
Pedestrian Calls (#/hr)							0				89		0	89
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					0.87		0.83	0.52			0.95			
Control Delay					45.7		53.2	12.8			48.3			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					45.7		53.2	12.8			48.3			
LOS					D		D	B			D			
Approach Delay					45.7			27.4			48.3			
Approach LOS					D			C			D			
Queue Length 50th (ft)					280		187	223			443			
Queue Length 95th (ft)					339		#341	312			#572			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1332		429	1209			1337			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					0.87		0.83	0.52			0.95			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 85 (77%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 41.4 Intersection LOS: D
Intersection Capacity Utilization 88.4% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Memorial Drive & Western Avenue

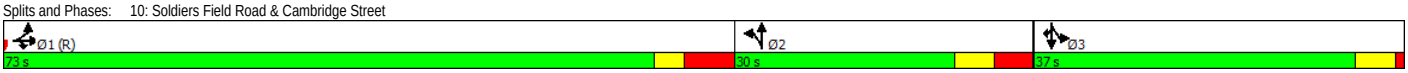


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	1145	336	0	0	0	329	65	140	499	213	54
Future Volume (vph)	184	1145	336	0	0	0	329	65	140	499	213	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		1.00					0.96	0.89		0.87	0.93	
Frt		0.996	0.850					0.920				0.850
Flt Protected		0.993					0.950	0.989		0.950	0.974	
Satd. Flow (prot)	0	4737	1389	0	0	0	1715	1471	0	1610	3332	1429
Flt Permitted		0.993					0.950	0.989		0.950	0.974	
Satd. Flow (perm)	0	4728	1389	0	0	0	1652	1459	0	1405	3103	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3	323					28				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	6		18				34		80	80		34
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.25	0.25	0.25	0.95	0.95	0.95	0.83	0.83	0.83
Heavy Vehicles (%)	4%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	13%
Adj. Flow (vph)	198	1231	361	0	0	0	346	68	147	601	257	65
Shared Lane Traffic (%)			10%				17%			50%		
Lane Group Flow (vph)	0	1465	325	0	0	0	287	274	0	300	558	65
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	73.0	73.0	73.0				30.0	30.0		37.0	37.0	37.0
Total Split (%)	52.1%	52.1%	52.1%				21.4%	21.4%		26.4%	26.4%	26.4%
Maximum Green (s)	65.0	65.0	65.0				22.0	22.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		61.1	61.1				26.5	26.5		31.3	31.3	31.3
Actuated g/C Ratio		0.44	0.44				0.19	0.19		0.22	0.22	0.22
v/c Ratio		0.71	0.41				0.88	0.91		0.83	0.75	0.16
Control Delay		34.0	3.9				83.0	83.3		72.0	57.7	3.0
Queue Delay		8.6	0.0				0.0	1.1		0.0	0.0	0.0
Total Delay		42.6	3.9				83.0	84.4		72.0	57.7	3.0
LOS		D	A				F	F		E	E	A
Approach Delay		35.6						83.7			58.5	
Approach LOS		D						F			E	
Queue Length 50th (ft)		408	1				275	240		286	260	0
Queue Length 95th (ft)		450	62				#497	#464		#374	300	6
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2200	817				325	301		368	761	404
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		707	0				0	3		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		0.98	0.40				0.88	0.92		0.82	0.73	0.16

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 50.3 Intersection LOS: D
Intersection Capacity Utilization 105.0% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



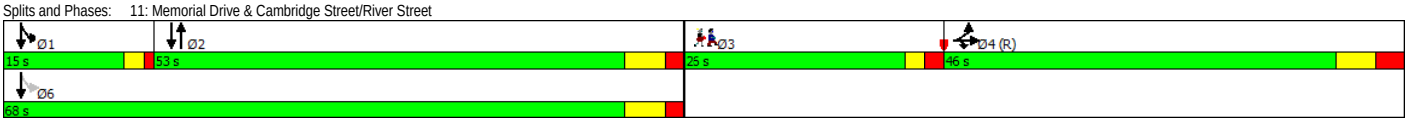
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	183	878	721	0	0	0	0	714	70	76	909	0		
Future Volume (vph)	183	878	721	0	0	0	0	714	70	76	909	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		1.00						1.00						
Frt			0.850					0.987						
Flt Protected		0.991									0.996			
Satd. Flow (prot)	0	3485	1615	0	0	0	0	3552	0	0	3596	0		
Flt Permitted		0.991									0.631			
Satd. Flow (perm)	0	3478	1615	0	0	0	0	3552	0	0	2278	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			354					8						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	11		21						8	8				
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96		
Heavy Vehicles (%)	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	191	915	751	0	0	0	0	776	76	79	947	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1106	751	0	0	0	0	852	0	0	1026	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		12.0			1.0	25.0
Minimum Split (s)	46.0	46.0	46.0					25.0		15.0			26.0	31.0
Total Split (s)	46.0	46.0	46.0					53.0		15.0			26.0	68.0
Total Split (%)	32.9%	32.9%	32.9%					37.9%		10.7%			19%	49%
Maximum Green (s)	39.0	39.0	39.0					47.0		12.0			22.0	62.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	32.0	32.0	32.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		50.6	50.6					45.8			63.8			
Actuated g/C Ratio		0.36	0.36					0.33			0.46			
v/c Ratio		0.88	0.93					0.73			0.89			
Control Delay		38.3	34.0					45.4			43.3			
Queue Delay		2.3	13.0					0.0			0.0			
Total Delay		40.6	47.1					45.4			43.3			
LOS		D	D					D			D			
Approach Delay		43.2						45.4			43.3			
Approach LOS		D						D			D			
Queue Length 50th (ft)		~625	~263					352			362			
Queue Length 95th (ft)		m#764	m#818					430			434			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1260	810					1197			1170			
Starvation Cap Reductn		71	65					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		0.93	1.01					0.71			0.88			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 43.7 Intersection LOS: D
Intersection Capacity Utilization 96.0% ICU Level of Service F
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.

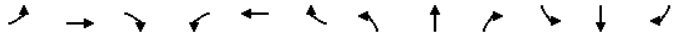
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	2	348	11	28	177
Future Volume (Veh/h)	8	2	348	11	28	177
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.42	0.42	0.89	0.89	0.87	0.87
Hourly flow rate (vph)	19	5	391	12	32	203
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.85	0.82			0.82	
vC, conflicting volume	668	400			406	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	341	154			162	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			97	
cM capacity (veh/h)	544	731			1165	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	403	235
Volume Left	19	0	32
Volume Right	5	12	0
cSH	574	1700	1165
Volume to Capacity	0.04	0.24	0.03
Queue Length 95th (ft)	3	0	2
Control Delay (s)	11.5	0.0	1.3
Lane LOS	B		A
Approach Delay (s)	11.5	0.0	1.3
Approach LOS	B		

Intersection Summary				
Average Delay		0.9		
Intersection Capacity Utilization		43.0%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	569	3	1	485	3	0	0	1	4	0	3
Future Volume (Veh/h)	2	569	3	1	485	3	0	0	1	4	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.25	0.25	0.25	0.58	0.58	0.58
Hourly flow rate (vph)	2	632	3	1	522	3	0	0	4	7	0	5
Pedestrians					2			11			16	
Lane Width (ft)					11.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		469			380							
pX, platoon unblocked	0.87			0.73			0.80	0.80	0.73	0.80	0.80	0.87
vC, conflicting volume	541			646			1179	1192	646	1185	1192	540
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	401			332			736	751	333	743	751	399
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	97	100	99
cM capacity (veh/h)	1004			896			257	264	515	253	264	563

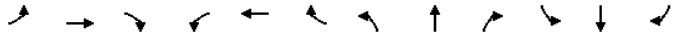
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	637	526	4	12
Volume Left	2	1	0	7
Volume Right	3	3	4	5
cSH	1004	896	515	328
Volume to Capacity	0.00	0.00	0.01	0.04
Queue Length 95th (ft)	0	0	1	3
Control Delay (s)	0.1	0.0	12.0	16.4
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	0.0	12.0	16.4
Approach LOS			B	C

Intersection Summary					
Average Delay	0.3				
Intersection Capacity Utilization	42.3%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	21	367	169	16	494	20	0	0	0	0
Future Volume (Veh/h)	21	367	169	16	494	20	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	399	184	16	509	21	0	0	0	0
Pedestrians							40		9	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.81			0.80			0.90	0.81	0.90	0.90
vC, conflicting volume	570			592			1230	560	1098	1148
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	347			371			716	334	570	626
tC, single (s)	4.1			4.2			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.3			4.0	3.3	3.5	4.0
p0 queue free %	98			98			100	100	100	100
cM capacity (veh/h)	987			938			308	571	378	347

Direction, Lane #	EB 1	WB 1
Volume Total	606	546
Volume Left	23	16
Volume Right	184	21
cSH	987	938
Volume to Capacity	0.02	0.02
Queue Length 95th (ft)	2	1
Control Delay (s)	0.6	0.5
Lane LOS	A	A
Approach Delay (s)	0.6	0.5
Approach LOS		

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	9	126	4	0	5	0	352	20	7	176	0
Future Volume (Veh/h)	34	9	126	4	0	5	0	352	20	7	176	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.75	0.75	0.75	0.95	0.95	0.95	0.86	0.86	0.86
Hourly flow rate (vph)	39	10	143	5	0	7	0	371	21	8	205	0
Pedestrians		49			62			24			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		5			6			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	662	724	278	836	714	446	254			454		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	584	652	165	775	641	446	139			454		
tC, single (s)	7.1	6.5	6.3	7.3	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.7	4.0	3.3	2.2			2.2		
p0 queue free %	88	97	80	97	100	99	100			99		
cM capacity (veh/h)	336	318	733	175	322	578	1272			1051		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	192	12	392	213
Volume Left	39	5	0	8
Volume Right	143	7	21	0
cSH	560	295	1700	1051
Volume to Capacity	0.34	0.04	0.23	0.01
Queue Length 95th (ft)	38	3	0	1
Control Delay (s)	14.7	17.7	0.0	0.4
Lane LOS	B	C		A
Approach Delay (s)	14.7	17.7	0.0	0.4
Approach LOS	B	C		

Intersection Summary					
Average Delay			3.9		
Intersection Capacity Utilization			39.6%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	13	363	148	149	462	84	71	252	92	73	273	41	
Future Volume (vph)	13	363	148	149	462	84	71	252	92	73	273	41	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor			0.98					0.99					
Frt			0.850		0.977			0.960			0.986		
Flt Protected		0.998		0.950			0.950				0.991		
Satd. Flow (prot)	0	1798	1561	1685	1765	0	1685	1693	0	0	1733	0	
Flt Permitted		0.623		0.287			0.366				0.560		
Satd. Flow (perm)	0	1123	1525	509	1765	0	649	1693	0	0	979	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			153		11			19			6		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			469			363			332		
Travel Time (s)		13.0			10.7			8.3			7.5		
Confl. Bikes (#/hr)			3						1				
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	14	395	161	159	491	89	80	283	103	78	294	44	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	409	161	159	580	0	80	386	0	0	416	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0		27.0	27.0		27.0	27.0		28.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		30.0%	30.0%		30.0%	30.0%		31%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		22.0	22.0		22.0	22.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													82
Act Effct Green (s)		30.0	30.0	30.0	30.0		27.6	27.6			27.6		
Actuated g/C Ratio		0.33	0.33	0.33	0.33		0.31	0.31			0.31		
v/c Ratio		1.09	0.26	0.94	0.97		0.40	0.73			1.37		
Control Delay		101.3	3.5	88.5	62.1		36.8	39.4			216.6		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		101.3	3.5	88.5	62.1		36.8	39.4			216.6		
LOS		F	A	F	E		D	D			F		
Approach Delay		73.6			67.8			38.9			216.6		
Approach LOS		E			E			D			F		
Queue Length 50th (ft)		~266	1	87	317		39	204			~353		
Queue Length 95th (ft)		#449	21	#211	#538		87	#365			#536		
Internal Link Dist (ft)		494			389			283			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		374	610	169	595		198	532			304		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		1.09	0.26	0.94	0.97		0.40	0.73			1.37		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.37
Intersection Signal Delay: 91.4 Intersection LOS: F
Intersection Capacity Utilization 105.7% 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.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø2
Lane Configurations							
Traffic Volume (vph)	528	19	12	683	0	0	
Future Volume (vph)	528	19	12	683	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.995						
Flt Protected				0.999			
Satd. Flow (prot)	1791	0	0	1799	0	0	
Flt Permitted				0.990			
Satd. Flow (perm)	1791	0	0	1783	0	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	5						
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	375		
Travel Time (s)	8.6			5.5	8.5		
Confl. Peds. (#/hr)		21	21				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.95	0.95	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%	
Adj. Flow (vph)	556	20	13	742	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	576	0	0	755	0	0	
Turn Type	NA		Perm	NA			
Protected Phases	1			1			2
Permitted Phases			1				
Detector Phase	1		1	1			
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0			1.0
Minimum Split (s)	19.0		19.0	19.0			22.0
Total Split (s)	45.0		45.0	45.0			22.0
Total Split (%)	67.2%		67.2%	67.2%			33%
Maximum Green (s)	41.0		41.0	41.0			16.0
Yellow Time (s)	3.0		3.0	3.0			2.0
All-Red Time (s)	1.0		1.0	1.0			4.0
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.0			4.0			
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0		2.0	2.0			0.2
Recall Mode	Max		Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							8.0
Pedestrian Calls (#/hr)							76
Act Effct Green (s)	59.3			59.3			
Actuated g/C Ratio	0.81			0.81			
v/c Ratio	0.40			0.52			
Control Delay	5.5			7.1			
Queue Delay	0.0			0.0			
Total Delay	5.5			7.1			
LOS	A			A			
Approach Delay	5.5			7.1			
Approach LOS	A			A			
Queue Length 50th (ft)	117			182			
Queue Length 95th (ft)	180			282			
Internal Link Dist (ft)	300			162	295		
Turn Bay Length (ft)							
Base Capacity (vph)	1451			1443			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.40			0.52			

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 73.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.4 Intersection LOS: A
Intersection Capacity Utilization 48.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Riverdale Avenue & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	1254	100	0	1743	0	169	0	200	12	280	4	
Future Volume (vph)	0	1254	100	0	1743	0	169	0	200	12	280	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.989						0.927			0.998		
Flt Protected								0.978			0.998		
Satd. Flow (prot)	0	3564	0	0	3610	0	0	1711	0	0	1892	0	
Flt Permitted								0.470			0.984		
Satd. Flow (perm)	0	3564	0	0	3610	0	0	822	0	0	1866	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		18						77			1		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		173			295			263			112		
Travel Time (s)		3.9			6.7			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	0	1306	104	0	1854	0	192	0	227	13	308	4	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	1410	0	0	1854	0	0	419	0	0	325	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		0.70			0.92			1.52			0.65		
Control Delay		14.2			24.1			275.7			31.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		14.2			24.1			275.7			31.5		
LOS		B			C			F			C		
Approach Delay		14.2			24.1			275.7			31.5		
Approach LOS		B			C			F			C		
Queue Length 50th (ft)		226			376			~252			133		
Queue Length 95th (ft)		300			#571			#409			218		
Internal Link Dist (ft)		93			215			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2003			2021			275			498		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.70			0.92			1.52			0.65		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.52			
Intersection Signal Delay: 47.5		Intersection LOS: D	
Intersection Capacity Utilization 96.5%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	475	106	59	512	3	73	8	40	9	3	5
Future Volume (vph)	11	475	106	59	512	3	73	8	40	9	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	10	10	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.97	0.90		0.95	
Frt		0.976			0.999				0.850		0.959	
Flt Protected		0.999		0.950				0.957			0.974	
Satd. Flow (prot)	0	1809	0	1685	1737	0	0	1758	1507	0	1632	0
Flt Permitted		0.990		0.440				0.720			0.808	
Satd. Flow (perm)	0	1793	0	774	1737	0	0	1289	1356	0	1302	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			1				47		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	6		8	8		6	11		31	31		11
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.85	0.85	0.85	0.47	0.47	0.47
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	495	110	63	545	3	86	9	47	19	6	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	616	0	63	548	0	0	95	47	0	36	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	67.0	67.0		67.0	67.0		23.0	23.0	23.0	23.0	23.0	
Total Split (%)	74.4%	74.4%		74.4%	74.4%		25.6%	25.6%	25.6%	25.6%	25.6%	
Maximum Green (s)	62.0	62.0		62.0	62.0		18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		71.4		71.4	71.4			12.2	12.2		12.2	
Actuated g/C Ratio		0.79		0.79	0.79			0.14	0.14		0.14	
v/c Ratio		0.43		0.10	0.40			0.55	0.21		0.19	
Control Delay		5.2		0.3	0.4			47.3	12.2		27.4	
Queue Delay		0.0		0.0	0.2			0.0	0.0		0.0	
Total Delay		5.2		0.3	0.7			47.3	12.2		27.4	
LOS		A		A	A			D	B		C	
Approach Delay		5.2			0.6			35.7			27.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)		97		0	1			51	0		13	
Queue Length 95th (ft)		197		m0	m1			89	26		17	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1428		614	1378			257	308		269	
Starvation Cap Reductn		0		0	282			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.43		0.10	0.50			0.37	0.15		0.13	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 82 (91%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 6.9 Intersection LOS: A
Intersection Capacity Utilization 65.2% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

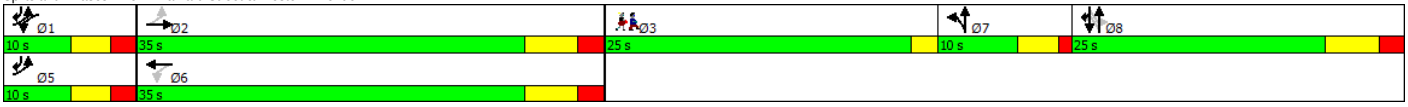
Splits and Phases: 4: Terlford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	136	289	5	72	372	82	132	228	55	37	129	133		
Future Volume (vph)	136	289	5	72	372	82	132	228	55	37	129	133		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.998				0.850		0.971				0.850		
Flt Protected	0.950			0.950			0.950				0.989			
Satd. Flow (prot)	1532	1790	0	1752	1810	1679	1719	1703	0	0	1688	1495		
Flt Permitted	0.233			0.398			0.503				0.837			
Satd. Flow (perm)	376	1790	0	734	1810	1679	910	1703	0	0	1429	1495		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				208		12				149		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			414			224			308			
Travel Time (s)		10.5			9.4			5.1			7.0			
Confl. Bikes (#/hr)									4			3		
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	10%	6%	0%	3%	5%	9%	5%	7%	11%	9%	12%	8%		
Adj. Flow (vph)	149	318	5	86	443	98	140	243	59	42	145	149		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	149	323	0	86	443	98	140	302	0	0	187	149		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		16.0		10.0	16.0		9.0			14.0	14.0		25.0	10.0
Total Split (s)		35.0		10.0	35.0		10.0			25.0	25.0		25.0	10.0
Total Split (%)		33.3%		9.5%	33.3%		9.5%			23.8%	23.8%		24%	10%
Maximum Green (s)		29.0		5.0	29.0		6.0			19.0	19.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	35.9	29.7		35.9	29.7	0.0	24.2	28.3			16.0	27.2		
Actuated g/C Ratio	0.37	0.31		0.37	0.31	0.00	0.25	0.29			0.16	0.28		
v/c Ratio	0.75	0.59		0.27	0.80	0.47	0.51	0.60			0.80	0.28		
Control Delay	50.5	36.7		23.8	46.7	7.5	36.6	35.5			65.6	6.4		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	50.5	36.7		23.8	46.7	7.5	36.6	35.5			65.6	6.4		
LOS	D	D		C	D	A	D	D			E	A		
Approach Delay		41.1			37.4			35.8			39.3			
Approach LOS		D			D			D			D			
Queue Length 50th (ft)	68	191		37	285	0	72	166			120	0		
Queue Length 95th (ft)	#164	288		66	#411	0	125	257			#217	45		
Internal Link Dist (ft)		382			334			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	199	548		324	553	208	277	565			286	523		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.75	0.59		0.27	0.80	0.47	0.51	0.53			0.65	0.28		

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 97.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 38.3 Intersection LOS: D
Intersection Capacity Utilization 68.8% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: N Harvard Street & Western Avenue



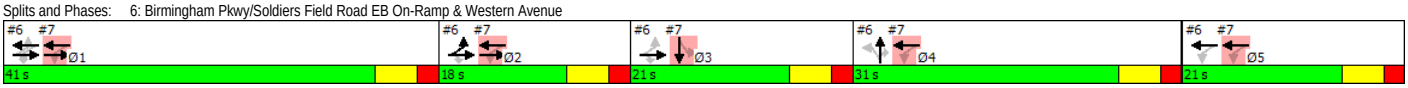
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1	Ø3	Ø5
Lane Configurations															
Traffic Volume (vph)	44	304	434	248	371	5	538	211	269	0	0	0			
Future Volume (vph)	44	304	434	248	371	5	538	211	269	0	0	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	75		75	0		0	0		0			
Storage Lanes	1		1	0		2	1		1	0		0			
Taper Length (ft)	25			25			25			25					
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00			
Ped Bike Factor	1.00		0.98	1.00	1.00				0.96						
Frt			0.850		0.998				0.850						
Flt Protected	0.950			0.950			0.950	0.973							
Satd. Flow (prot)	1805	3539	1615	1787	3532	0	1643	3365	1583	0	0	0			
Flt Permitted	0.075			0.550			0.950	0.973							
Satd. Flow (perm)	142	3539	1577	1032	3532	0	1643	3365	1519	0	0	0			
Right Turn on Red			Yes			Yes			Yes			Yes			
Satd. Flow (RTOR)			477		1				292						
Link Speed (mph)		30			30			30			30				
Link Distance (ft)		198			2326			603			340				
Travel Time (s)		4.5			52.9			13.7			7.7				
Confl. Peds. (#/hr)	7		3	3		7			7						
Confl. Bikes (#/hr)			2						2						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92			
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	0%	0%	0%			
Adj. Flow (vph)	48	334	477	273	408	5	585	229	292	0	0	0			
Shared Lane Traffic (%)							50%								
Lane Group Flow (vph)	48	334	477	273	413	0	292	522	292	0	0	0			
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm						
Protected Phases	2	1 2 3			1 5			4					1	3	5
Permitted Phases	1 2 3		1 2 3	1 5			4		4						
Detector Phase	2	1 2 3	1 2 3	1 5	1 5		4	4	4						
Switch Phase															
Minimum Initial (s)	8.0						8.0	8.0	8.0				25.0	8.0	8.0
Minimum Split (s)	14.0						14.0	14.0	14.0				31.0	14.0	14.0
Total Split (s)	18.0						31.0	31.0	31.0				41.0	21.0	21.0
Total Split (%)	13.6%						23.5%	23.5%	23.5%				31%	16%	16%
Maximum Green (s)	12.0						25.0	25.0	25.0				35.0	15.0	15.0
Yellow Time (s)	4.0						4.0	4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	2.0						2.0	2.0	2.0				2.0	2.0	2.0
Lost Time Adjust (s)	-2.0						-2.0	-2.0	-2.0						
Total Lost Time (s)	4.0						4.0	4.0	4.0						
Lead/Lag	Lag						Lag	Lag	Lag				Lead	Lead	
Lead-Lag Optimize?	Yes						Yes	Yes	Yes				Yes	Yes	
Vehicle Extension (s)	3.0						3.0	3.0	3.0				3.0	3.0	3.0
Recall Mode	None						None	None	None				None	None	None
Act Effct Green (s)	67.6	75.6	75.6	58.0	58.0		27.0	27.0	27.0						
Actuated g/C Ratio	0.51	0.57	0.57	0.44	0.44		0.21	0.21	0.21						
v/c Ratio	0.19	0.16	0.43	0.60	0.27		0.87	0.76	0.54						
Control Delay	3.2	0.6	0.5	34.9	23.9		75.7	57.2	8.8						
Queue Delay	0.0	1.2	2.5	0.0	0.0		0.0	0.0	0.0						
Total Delay	3.2	1.8	3.0	34.9	23.9		75.7	57.2	8.8						
LOS	A	A	A	C	C		E	E	A						
Approach Delay		2.5			28.3			49.3							
Approach LOS		A			C			D							
Queue Length 50th (ft)	0	1	0	176	115		268	233	0						
Queue Length 95th (ft)	m1	m3	m0	277	154		#443	302	79						
Internal Link Dist (ft)		118			2246			523			260				
Turn Bay Length (ft)				75											
Base Capacity (vph)	249	2044	1112	454	1557		337	690	543						
Starvation Cap Reductn	0	1465	492	0	0		0	0	0						
Spillback Cap Reductn	0	0	0	0	0		0	0	0						
Storage Cap Reductn	0	0	0	0	0		0	0	0						
Reduced v/c Ratio	0.19	0.58	0.77	0.60	0.27		0.87	0.76	0.54						

Intersection Summary

Area Type: Other
Cycle Length: 132
Actuated Cycle Length: 131.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 66.6% ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue

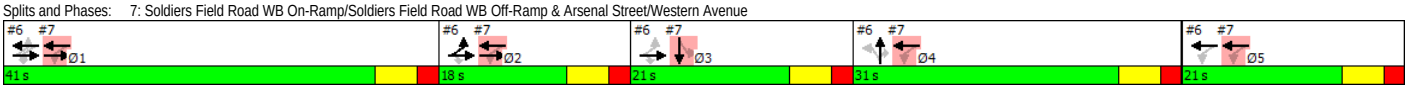


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1	Ø2	Ø4	Ø5
Lane Configurations																
Traffic Volume (vph)	0	782	32	67	842	0	0	0	0	229	11	69				
Future Volume (vph)	0	782	32	67	842	0	0	0	0	229	11	69				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Storage Length (ft)	0		25	0		0	0		0	100		0				
Storage Lanes	0		0	1		0	0		0	2		0				
Taper Length (ft)	25			25			25			25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95				
Ped Bike Factor		1.00		1.00						0.98	0.97					
Frt		0.994									0.870					
Flt Protected				0.950						0.950						
Satd. Flow (prot)	0	3586	0	1805	3610	0	0	0	0	3502	3040	0				
Flt Permitted				0.187						0.950						
Satd. Flow (perm)	0	3586	0	355	3610	0	0	0	0	3445	3040	0				
Right Turn on Red			Yes			Yes			Yes			Yes				
Satd. Flow (RTOR)		4									78					
Link Speed (mph)		30			30			30			30					
Link Distance (ft)		327			198			332			339					
Travel Time (s)		7.4			4.5			7.5			7.7					
Confl. Peds. (#/hr)			7	7						7		8				
Confl. Bikes (#/hr)						1						4				
Peak Hour Factor	0.57	0.57	0.57	0.84	0.84	0.84	0.92	0.92	0.92	0.89	0.89	0.89				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				
Adj. Flow (vph)	0	1372	56	80	1002	0	0	0	0	257	12	78				
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	1428	0	80	1002	0	0	0	0	257	90	0				
Turn Type		NA		Perm	NA					Perm	NA					
Protected Phases		1 2			1 2 4 5						3		1	2	4	5
Permitted Phases				1 2 4 5						3						
Detector Phase		1 2		1 2 4 5	1 2 4 5					3	3					
Switch Phase																
Minimum Initial (s)										8.0	8.0		25.0	8.0	8.0	8.0
Minimum Split (s)										14.0	14.0		31.0	14.0	14.0	14.0
Total Split (s)										21.0	21.0		41.0	18.0	31.0	21.0
Total Split (%)										15.9%	15.9%		31%	14%	23%	16%
Maximum Green (s)										15.0	15.0		35.0	12.0	25.0	15.0
Yellow Time (s)										4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)										2.0	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)										-2.0	-2.0					
Total Lost Time (s)										4.0	4.0					
Lead/Lag										Lead	Lead		Lead	Lag	Lag	
Lead-Lag Optimize?										Yes	Yes		Yes	Yes	Yes	
Vehicle Extension (s)										3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode										None	None		None	None	None	None
Act Effct Green (s)		55.0		105.0	107.0					16.6	16.6					
Actuated g/C Ratio		0.42		0.80	0.81					0.13	0.13					
v/c Ratio		0.95		0.28	0.34					0.59	0.20					
Control Delay		51.4		2.6	0.5					60.4	15.3					
Queue Delay		0.0		1.8	0.5					0.0	0.0					
Total Delay		51.4		4.4	1.0					60.4	15.3					
LOS		D		A	A					E	B					
Approach Delay		51.4			1.3						48.7					
Approach LOS		D			A						D					
Queue Length 50th (ft)		614		1	5					108	4					
Queue Length 95th (ft)		357		m1	6					153	30					
Internal Link Dist (ft)		247			118			252			259					
Turn Bay Length (ft)										100						
Base Capacity (vph)		1501		283	2935					444	460					
Starvation Cap Reductn		0		108	1344					0	0					
Spillback Cap Reductn		0		0	0					0	0					
Storage Cap Reductn		0		0	0					0	0					
Reduced v/c Ratio		0.95		0.46	0.63					0.58	0.20					

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 131.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 7: Soldiers Field Road WB On-Ramp/Soldiers Field Road WB Off-Ramp & Arsenal Street/Western Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	441	1091	338	412	44	255	0	0	627	17
Future Volume (vph)	0	0	441	1091	338	412	44	255	0	0	627	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				1.00	0.97			1.00			1.00	
Frt			0.850		0.949						0.996	
Flt Protected				0.950	0.981			0.993				
Satd. Flow (prot)	0	0	2787	1626	3077	0	0	3495	0	0	3592	0
Flt Permitted				0.950	0.981			0.993				
Satd. Flow (perm)	0	0	2787	1619	3071	0	0	3489	0	0	3592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		90						2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			5	5		83	17		131	131		17
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.89	0.89	0.89	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	2%	1%	4%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	490	1161	360	438	49	287	0	0	640	17
Shared Lane Traffic (%)				43%								
Lane Group Flow (vph)	0	0	490	662	1297	0	0	336	0	0	657	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			25.0	38.0	38.0		25.0	25.0			23.0	
Total Split (s)			33.0	42.0	42.0		33.0	33.0			25.0	
Total Split (%)			33.0%	42.0%	42.0%		33.0%	33.0%			25.0%	
Maximum Green (s)			26.0	36.0	36.0		26.0	26.0			19.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			None	C-Max	C-Max		None	None			Max	
Walk Time (s)			6.0	20.0	20.0		6.0	6.0			5.0	
Flash Dont Walk (s)			12.0	12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)			70	83	83		70	70			22	
Act Effct Green (s)			20.1	41.9	41.9			20.1			19.0	
Actuated g/C Ratio			0.20	0.42	0.42			0.20			0.19	
v/c Ratio			0.77	0.97	0.97			0.48			0.96	
Control Delay			38.0	59.3	46.0			36.8			66.9	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			38.0	59.3	46.0			36.8			66.9	
LOS			D	E	D			D			E	
Approach Delay		38.0			50.5			36.8			66.9	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)			134	448	415			100			220	
Queue Length 95th (ft)			184	#779	#645			131			#336	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			797	681	1342			908			684	
Starvation Cap Reductn			0	0	0			0			0	
Spillback Cap Reductn			0	0	0			0			0	
Storage Cap Reductn			0	0	0			0			0	
Reduced v/c Ratio			0.61	0.97	0.97			0.37			0.96	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 50.5		Intersection LOS: D	
Intersection Capacity Utilization 90.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

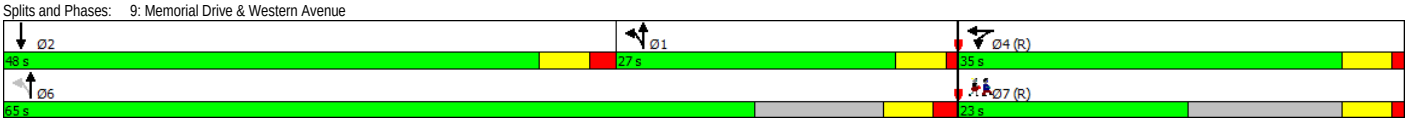
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	90	1083	121	429	684	0	0	670	329		
Future Volume (vph)	0	0	0	90	1083	121	429	684	0	0	670	329		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.99						0.96			
Frt					0.986						0.951			
Flt Protected					0.997		0.950							
Satd. Flow (prot)	0	0	0	0	4988	0	1805	1900	0	0	3284	0		
Flt Permitted					0.997		0.110							
Satd. Flow (perm)	0	0	0	0	4985	0	209	1900	0	0	3284	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					15						41			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				8		70						131		
Peak Hour Factor	0.25	0.25	0.25	0.93	0.93	0.93	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%		
Adj. Flow (vph)	0	0	0	97	1165	130	456	728	0	0	753	370		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1392	0	456	728	0	0	1123	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				21.0	21.0		27.0				48.0		65.0	23.0
Total Split (s)				35.0	35.0		27.0				48.0		65.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		59%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		59.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?														
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							6.0				37.0		54.0	11.0
Pedestrian Calls (#/hr)							0				100		0	78
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					1.02		1.01	0.60			0.88			
Control Delay					67.8		82.2	14.4			39.7			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					67.8		82.2	14.4			39.7			
LOS					E		F	B			D			
Approach Delay					67.8			40.5			39.7			
Approach LOS					E			D			D			
Queue Length 50th (ft)					~367		~258	279			371			
Queue Length 95th (ft)					#475		#472	391			#459			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1371		452	1209			1279			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					1.02		1.01	0.60			0.88			

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50 (45%), Referenced to phase 4:WBTL and 7:Ped, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 50.6		Intersection LOS: D	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 9: Memorial Drive & Western Avenue

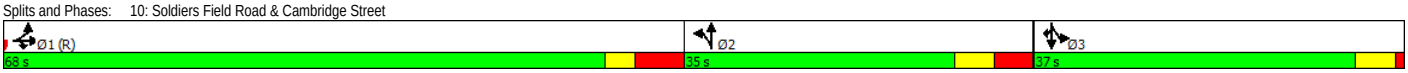


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	1098	526	0	0	0	375	45	90	290	219	84
Future Volume (vph)	249	1098	526	0	0	0	375	45	90	290	219	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		0.98					0.98	0.88		0.78	0.92	
Frt		0.989	0.850					0.946				0.850
Flt Protected		0.992					0.950	0.977		0.950	0.982	
Satd. Flow (prot)	0	4744	1389	0	0	0	1715	1476	0	1610	3350	1583
Flt Permitted		0.992					0.950	0.977		0.950	0.982	
Satd. Flow (perm)	0	4700	1389	0	0	0	1675	1460	0	1257	3084	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10	443					18				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	24		34				27		162	162		27
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%	2%
Adj. Flow (vph)	262	1156	554	0	0	0	391	47	94	315	238	91
Shared Lane Traffic (%)			20%				31%			43%		
Lane Group Flow (vph)	0	1529	443	0	0	0	270	262	0	180	373	91
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	68.0	68.0	68.0				35.0	35.0		37.0	37.0	37.0
Total Split (%)	48.6%	48.6%	48.6%				25.0%	25.0%		26.4%	26.4%	26.4%
Maximum Green (s)	60.0	60.0	60.0				27.0	27.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	8.0	8.0	8.0				8.0	8.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				10.0	10.0		22.0	22.0	22.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		63.0	63.0				25.7	25.7		30.3	30.3	30.3
Actuated g/C Ratio		0.45	0.45				0.18	0.18		0.22	0.22	0.22
v/c Ratio		0.72	0.51				0.86	0.92		0.52	0.52	0.22
Control Delay		33.7	4.4				80.1	87.5		54.4	51.2	7.6
Queue Delay		10.2	0.0				0.0	0.5		0.0	0.0	0.0
Total Delay		43.9	4.4				80.1	88.0		54.4	51.2	7.6
LOS		D	A				F	F		D	D	A
Approach Delay		35.0						84.0			45.9	
Approach LOS		D						F			D	
Queue Length 50th (ft)		434	0				250	231		160	166	0
Queue Length 95th (ft)		506	77				#398	#398		246	219	39
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2138	868				330	299		368	765	439
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		597	0				0	2		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		0.99	0.51				0.82	0.88		0.49	0.49	0.21

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 45.5 Intersection LOS: D
Intersection Capacity Utilization 105.0% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



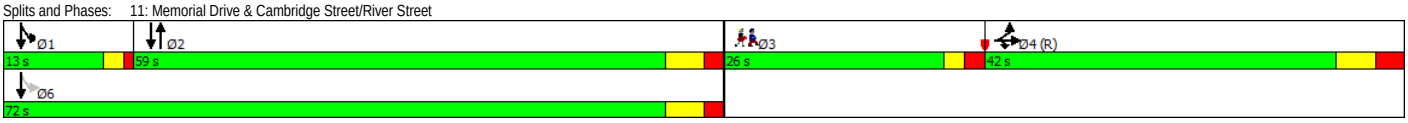
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	257	727	489	0	0	0	0	856	33	82	678	0		
Future Volume (vph)	257	727	489	0	0	0	0	856	33	82	678	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		0.99						1.00						
Frt			0.850					0.994						
Flt Protected		0.987									0.995			
Satd. Flow (prot)	0	3511	1615	0	0	0	0	3583	0	0	3592	0		
Flt Permitted		0.987									0.583			
Satd. Flow (perm)	0	3463	1615	0	0	0	0	3583	0	0	2105	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			356					3						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	20		43						10	10				
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88		
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	276	782	526	0	0	0	0	892	34	93	770	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1058	526	0	0	0	0	926	0	0	863	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		10.0			1.0	25.0
Minimum Split (s)	29.0	29.0	29.0					25.0		13.0			26.0	31.0
Total Split (s)	42.0	42.0	42.0					59.0		13.0			26.0	72.0
Total Split (%)	30.0%	30.0%	30.0%					42.1%		9.3%			19%	51%
Maximum Green (s)	35.0	35.0	35.0					53.0		10.0			22.0	66.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	9.0	9.0	9.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		48.3	48.3					50.1			66.1			
Actuated g/C Ratio		0.34	0.34					0.36			0.47			
v/c Ratio		0.87	0.67					0.72			0.79			
Control Delay		36.2	12.8					42.2			33.9			
Queue Delay		0.8	0.9					0.0			0.0			
Total Delay		37.0	13.7					42.2			33.9			
LOS		D	B					D			C			
Approach Delay		29.3						42.2			33.9			
Approach LOS		C						D			C			
Queue Length 50th (ft)		~623	282					368			270			
Queue Length 95th (ft)		#762	m416					445			317			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1211	790					1358			1143			
Starvation Cap Reductn		32	90					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		0.90	0.75					0.68			0.76			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 34.0 Intersection LOS: C
Intersection Capacity Utilization 87.6% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

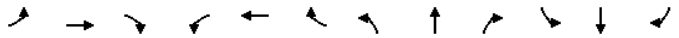
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	28	341	8	7	374
Future Volume (Veh/h)	13	28	341	8	7	374
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.57	0.57	0.64	0.64	0.63	0.63
Hourly flow rate (vph)	23	49	533	13	11	594
Pedestrians	1		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.91	0.83			0.83	
vC, conflicting volume	1158	540			547	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751	350			358	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	92			99	
cM capacity (veh/h)	342	582			1010	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	72	546	605
Volume Left	23	0	11
Volume Right	49	13	0
cSH	475	1700	1010
Volume to Capacity	0.15	0.32	0.01
Queue Length 95th (ft)	13	0	1
Control Delay (s)	13.9	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	13.9	0.0	0.3
Approach LOS	B		

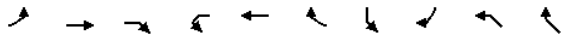
Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	35.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	525	0	0	675	8	0	0	0	22	0	8
Future Volume (Veh/h)	3	525	0	0	675	8	0	0	0	22	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.25	0.62	0.62	0.62
Hourly flow rate (vph)	3	571	0	0	734	9	0	0	0	35	0	13
Pedestrians		1			3			15			11	
Lane Width (ft)		11.0			11.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		469			380							
pX, platoon unblocked	0.80			0.80			0.90	0.90	0.80	0.90	0.90	0.80
vC, conflicting volume	754			586			1344	1346	589	1330	1342	750
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570			362			835	837	365	818	832	566
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	86	100	97
cM capacity (veh/h)	804			956			243	267	540	258	269	419

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	574	743	0	48
Volume Left	3	0	0	35
Volume Right	0	9	0	13
cSH	804	956	1700	288
Volume to Capacity	0.00	0.00	0.00	0.17
Queue Length 95th (ft)	0	0	0	15
Control Delay (s)	0.1	0.0	0.0	20.0
Lane LOS	A		A	C
Approach Delay (s)	0.1	0.0	0.0	20.0
Approach LOS			A	C

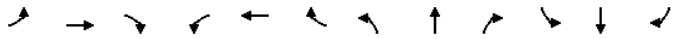
Intersection Summary					
Average Delay	0.7				
Intersection Capacity Utilization	47.0%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	36	272	220	20	695	39	0	0	0	0
Future Volume (Veh/h)	36	272	220	20	695	39	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.57	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	302	244	21	724	68	0	0	0	0
Pedestrians							49		17	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.68			0.88			0.74	0.68	0.74	0.74
vC, conflicting volume	841			563			1492	807	1321	1404
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	537			437			1131	488	901	1012
tC, single (s)	4.1			4.1			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.2			4.0	3.3	3.5	4.0
p0 queue free %	94			98			100	100	100	100
cM capacity (veh/h)	713			999			141	400	183	166

Direction, Lane #	EB 1	WB 1
Volume Total	586	813
Volume Left	40	21
Volume Right	244	68
cSH	713	999
Volume to Capacity	0.06	0.02
Queue Length 95th (ft)	4	2
Control Delay (s)	1.5	0.6
Lane LOS	A	A
Approach Delay (s)	1.5	0.6
Approach LOS		

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	49.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	4	206	6	0	8	0	316	6	1	350	0
Future Volume (Veh/h)	13	4	206	6	0	8	0	316	6	1	350	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.70	0.70	0.70	0.91	0.91	0.91	0.81	0.81	0.81
Hourly flow rate (vph)	14	4	229	9	0	11	0	347	7	1	432	0
Pedestrians		93			31			5			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		9			3			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.83	0.83	0.83	0.83	0.83		0.83					
vC, conflicting volume	890	912	530	1052	908	384	525			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	762	788	326	957	784	384	320			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	98	58	91	100	98	100			100		
cM capacity (veh/h)	218	238	539	99	239	647	942			1150		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	247	20	354	433
Volume Left	14	9	0	1
Volume Right	229	11	7	0
cSH	489	185	1700	1150
Volume to Capacity	0.51	0.11	0.21	0.00
Queue Length 95th (ft)	70	9	0	0
Control Delay (s)	19.7	26.8	0.0	0.0
Lane LOS	C	D		A
Approach Delay (s)	19.7	26.8	0.0	0.0
Approach LOS	C	D		

Intersection Summary					
Average Delay	5.1				
Intersection Capacity Utilization	40.2%	ICU Level of Service		A	
Analysis Period (min)	15				

- No-Build (2025) Condition

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	33	508	78	168	378	49	56	325	125	34	131	33	
Future Volume (vph)	33	508	78	168	378	49	56	325	125	34	131	33	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								0.99					
Frt			0.850		0.983			0.958			0.977		
Flt Protected		0.997		0.950			0.950				0.992		
Satd. Flow (prot)	0	1749	1561	1728	1729	0	1685	1667	0	0	1719	0	
Flt Permitted		0.877		0.194			0.500				0.315		
Satd. Flow (perm)	0	1538	1561	353	1729	0	887	1667	0	0	546	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			109		8			23			12		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			469			363			332		
Travel Time (s)		13.0			10.7			8.3			7.5		
Confl. Bikes (#/hr)									2				
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.97	0.97	0.97	0.87	0.87	0.87	
Heavy Vehicles (%)	0%	5%	0%	1%	5%	0%	0%	1%	2%	0%	0%	0%	
Adj. Flow (vph)	35	546	84	191	430	56	58	335	129	39	151	38	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	581	84	191	486	0	58	464	0	0	228	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	28.0	28.0	28.0	28.0	28.0		24.0	24.0		24.0	24.0		28.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		30.0%	30.0%		30.0%	30.0%		35%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		19.0	19.0		19.0	19.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													17.0
Pedestrian Calls (#/hr)													46
Act Effct Green (s)		34.2	34.2	34.2	34.2		19.0	19.0			19.0		
Actuated g/C Ratio		0.43	0.43	0.43	0.43		0.24	0.24			0.24		
v/c Ratio		0.88	0.12	1.26	0.65		0.28	1.12			1.65		
Control Delay		42.7	1.7	192.9	29.2		29.1	112.4			348.5		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		42.7	1.7	192.9	29.2		29.1	112.4			348.5		
LOS		D	A	F	C		C	F			F		
Approach Delay		37.5			75.4			103.2			348.5		
Approach LOS		D			E			F			F		
Queue Length 50th (ft)		~385	1	~148	235		24	~263			~165		
Queue Length 95th (ft)		#573	9	#266	#413		57	#445			#291		
Internal Link Dist (ft)		494			389			283			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		657	729	151	743		210	413			138		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.88	0.12	1.26	0.65		0.28	1.12			1.65		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.65
Intersection Signal Delay: 100.1 Intersection LOS: F
Intersection Capacity Utilization 102.6% 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.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø2
Lane Configurations							
Traffic Volume (vph)	622	19	5	596	0	0	
Future Volume (vph)	622	19	5	596	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.996						
Flt Protected							
Satd. Flow (prot)	1760	0	0	1784	0	0	
Flt Permitted				0.996			
Satd. Flow (perm)	1760	0	0	1776	0	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	4						
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	375		
Travel Time (s)	8.6			5.5	8.5		
Confl. Peds. (#/hr)		8	8				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.91	0.91	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	4%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	684	21	5	614	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	705	0	0	619	0	0	
Turn Type	NA		Perm	NA			
Protected Phases	1			1			2
Permitted Phases			1				
Detector Phase	1		1	1			
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0			1.0
Minimum Split (s)	19.0		19.0	19.0			22.0
Total Split (s)	45.0		45.0	45.0			22.0
Total Split (%)	67.2%		67.2%	67.2%			33%
Maximum Green (s)	41.0		41.0	41.0			16.0
Yellow Time (s)	3.0		3.0	3.0			2.0
All-Red Time (s)	1.0		1.0	1.0			4.0
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.0			4.0			
Lead/Lag	Lead		Lead	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	2.0		2.0	2.0			0.2
Recall Mode	None		None	None			None
Walk Time (s)							8.0
Flash Dont Walk (s)							8.0
Pedestrian Calls (#/hr)							47
Act Effct Green (s)	33.3			33.3			
Actuated g/C Ratio	0.84			0.84			
v/c Ratio	0.48			0.42			
Control Delay	6.6			5.8			
Queue Delay	0.0			0.0			
Total Delay	6.6			5.8			
LOS	A			A			
Approach Delay	6.6			5.8			
Approach LOS	A			A			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	269			215			
Internal Link Dist (ft)	300			162	295		
Turn Bay Length (ft)							
Base Capacity (vph)	1506			1520			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.41			

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 39.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 6.2 — Intersection LOS: A
Intersection Capacity Utilization 38.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Riverdale Avenue & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	2098	49	0	1162	0	39	0	362	25	168	1	
Future Volume (vph)	0	2098	49	0	1162	0	39	0	362	25	168	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.997						0.878			0.999		
Flt Protected								0.995			0.994		
Satd. Flow (prot)	0	3597	0	0	3610	0	0	1641	0	0	1830	0	
Flt Permitted								0.962			0.874		
Satd. Flow (perm)	0	3597	0	0	3610	0	0	1586	0	0	1609	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5						121					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		332			385			263			112		
Travel Time (s)		7.5			8.8			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	
Adj. Flow (vph)	0	2119	49	0	1236	0	43	0	402	26	175	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	2168	0	0	1236	0	0	445	0	0	202	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		1.08			0.61			0.87			0.47		
Control Delay		62.6			12.7			39.1			27.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		62.6			12.7			39.1			27.4		
LOS		E			B			D			C		
Approach Delay		62.6			12.7			39.1			27.4		
Approach LOS		E			B			D			C		
Queue Length 50th (ft)		~603			185			146			79		
Queue Length 95th (ft)		#743			245			#313			140		
Internal Link Dist (ft)		252			305			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2016			2021			511			429		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.08			0.61			0.87			0.47		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.0		Intersection LOS: D	
Intersection Capacity Utilization 96.7%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	538	65	53	413	1	38	7	61	6	6	7
Future Volume (vph)	17	538	65	53	413	1	38	7	61	6	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.99	0.96		0.99	
Frt		0.986							0.850		0.949	
Flt Protected		0.999		0.950				0.959			0.985	
Satd. Flow (prot)	0	1722	0	1711	1766	0	0	1761	1507	0	1643	0
Flt Permitted		0.985		0.417				0.735			0.878	
Satd. Flow (perm)	0	1697	0	740	1766	0	0	1337	1453	0	1459	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							82		12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	9		18	18		9	8		5	5		8
Confl. Bikes (#/hr)			1						2			
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.74	0.74	0.74	0.59	0.59	0.59
Heavy Vehicles (%)	0%	5%	0%	2%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	19	598	72	56	435	1	51	9	82	10	10	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	689	0	56	436	0	0	60	82	0	32	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (%)	73.8%	73.8%		73.8%	73.8%		26.3%	26.3%	26.3%	26.3%	26.3%	
Maximum Green (s)	54.0	54.0		54.0	54.0		16.0	16.0	16.0	16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		64.6		64.6	64.6			9.0	9.0		9.0	
Actuated g/C Ratio		0.81		0.81	0.81			0.11	0.11		0.11	
v/c Ratio		0.50		0.09	0.31			0.40	0.35		0.18	
Control Delay		5.1		0.5	0.7			40.7	12.4		25.2	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		5.1		0.5	0.7			40.7	12.4		25.2	
LOS		A		A	A			D	B		C	
Approach Delay		5.1			0.7			24.3			25.2	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		93		0	1			29	0		9	
Queue Length 95th (ft)		196		m0	m1			50	24		19	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1373		597	1425			267	356		301	
Starvation Cap Reductn		0		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.50		0.09	0.31			0.22	0.23		0.11	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 68 (85%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 6.0 Intersection LOS: A
Intersection Capacity Utilization 62.9% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

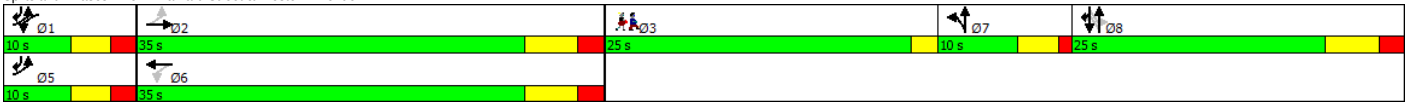
Splits and Phases: 4: Telford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	136	289	5	72	372	82	132	228	55	37	129	133		
Future Volume (vph)	136	289	5	72	372	82	132	228	55	37	129	133		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.998				0.850		0.971				0.850		
Flt Protected	0.950			0.950			0.950				0.989			
Satd. Flow (prot)	1532	1790	0	1752	1810	1679	1719	1703	0	0	1688	1495		
Flt Permitted	0.233			0.398			0.503				0.837			
Satd. Flow (perm)	376	1790	0	734	1810	1679	910	1703	0	0	1429	1495		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				208		12				149		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			414			224			308			
Travel Time (s)		10.5			9.4			5.1			7.0			
Confl. Bikes (#/hr)									4			3		
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	10%	6%	0%	3%	5%	9%	5%	7%	11%	9%	12%	8%		
Adj. Flow (vph)	149	318	5	86	443	98	140	243	59	42	145	149		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	149	323	0	86	443	98	140	302	0	0	187	149		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		16.0		10.0	16.0		9.0			14.0	14.0		25.0	10.0
Total Split (s)		35.0		10.0	35.0		10.0			25.0	25.0		25.0	10.0
Total Split (%)		33.3%		9.5%	33.3%		9.5%			23.8%	23.8%		24%	10%
Maximum Green (s)		29.0		5.0	29.0		6.0			19.0	19.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	35.9	29.7		35.9	29.7	0.0	24.2	28.3			16.0	27.2		
Actuated g/C Ratio	0.37	0.31		0.37	0.31	0.00	0.25	0.29			0.16	0.28		
v/c Ratio	0.75	0.59		0.27	0.80	0.47	0.51	0.60			0.80	0.28		
Control Delay	50.5	36.7		23.8	46.7	7.5	36.6	35.5			65.6	6.4		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	50.5	36.7		23.8	46.7	7.5	36.6	35.5			65.6	6.4		
LOS	D	D		C	D	A	D	D			E	A		
Approach Delay		41.1			37.4			35.8			39.3			
Approach LOS		D			D			D			D			
Queue Length 50th (ft)	68	191		37	285	0	72	166			120	0		
Queue Length 95th (ft)	#164	288		66	#411	0	125	257			#217	45		
Internal Link Dist (ft)		382			334			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	199	548		324	553	208	277	565			286	523		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.75	0.59		0.27	0.80	0.47	0.51	0.53			0.65	0.28		

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 97.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 38.3 Intersection LOS: D
Intersection Capacity Utilization 68.8% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: N Harvard Street & Western Avenue

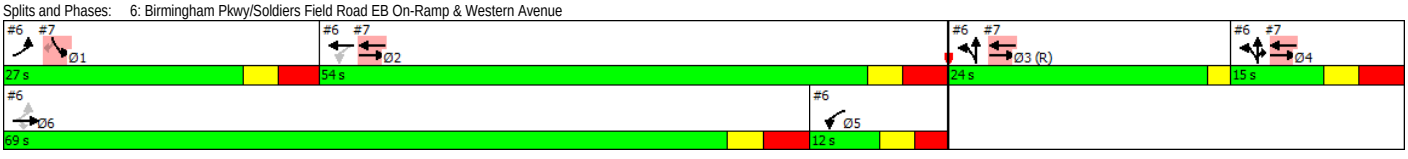


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	115	360	519	178	230	14	491	314	302	0	0	0	
Future Volume (vph)	115	360	519	178	230	14	491	314	302	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	100		0	75		75	0		0	0		0	
Storage Lanes	1		1	1		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98		0.98	1.00	1.00								
Frt			0.850		0.991				0.850				
Flt Protected	0.950			0.950			0.950	0.988					
Satd. Flow (prot)	1805	1810	1599	1752	3438	0	1681	1762	1583	0	0	0	
Flt Permitted	0.396			0.537			0.950	0.988					
Satd. Flow (perm)	740	1810	1563	986	3438	0	1681	1762	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			546		6				259				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		198			2326			603			340		
Travel Time (s)		4.5			52.9			13.7			7.7		
Confl. Peds. (#/hr)	8		2	2		8			2				
Confl. Bikes (#/hr)			1						3				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	5%	1%	3%	4%	0%	2%	1%	2%	2%	2%	2%	
Adj. Flow (vph)	121	379	546	187	242	15	506	324	311	0	0	0	
Shared Lane Traffic (%)							20%						
Lane Group Flow (vph)	121	379	546	187	257	0	405	425	311	0	0	0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	custom				
Protected Phases	1	6		5	2		3 4	3 4	4				3
Permitted Phases	6		6	2									
Detector Phase	1	6	6	5	2		3 4	3 4	4				
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	6.0	8.0				8.0				8.0
Minimum Split (s)	27.0	17.0	17.0	12.0	27.0				15.0				24.0
Total Split (s)	27.0	69.0	69.0	12.0	54.0				15.0				24.0
Total Split (%)	22.5%	57.5%	57.5%	10.0%	45.0%				12.5%				20%
Maximum Green (s)	20.5	62.0	62.0	6.0	47.0				8.0				22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0				3.0				2.0
All-Red Time (s)	3.5	4.0	4.0	3.0	4.0				4.0				0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				0.0				
Total Lost Time (s)	6.5	7.0	7.0	6.0	7.0				7.0				
Lead/Lag	Lead	Lead	Lead	Lag	Lag				Lag				Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0				3.0				3.0
Recall Mode	None	None	None	None	None				None				C-Max
Walk Time (s)	7.0				7.0								7.0
Flash Dont Walk (s)	13.5				9.0								15.0
Pedestrian Calls (#/hr)	5				5								5
Act Effct Green (s)	35.5	35.0	35.0	35.9	34.9		54.2	54.2	8.0				
Actuated g/C Ratio	0.30	0.29	0.29	0.30	0.29		0.45	0.45	0.07				
v/c Ratio	0.34	0.72	0.65	0.47	0.26		0.53	0.53	0.90				
Control Delay	25.0	36.5	4.5	38.4	30.6		31.1	30.9	40.2				
Queue Delay	3.6	0.7	0.3	0.0	0.0		0.0	0.0	0.0				
Total Delay	28.6	37.1	4.8	38.4	30.6		31.1	30.9	40.2				
LOS	C	D	A	D	C		C	C	D				
Approach Delay		19.3			33.9			33.5					
Approach LOS		B			C			C					
Queue Length 50th (ft)	51	217	5	114	78		232	244	40				
Queue Length 95th (ft)	72	258	14	152	96		#443	#458	#203				
Internal Link Dist (ft)		118			2246			523			260		
Turn Bay Length (ft)	100			75									
Base Capacity (vph)	400	935	1071	395	1350		759	795	347				
Starvation Cap Reductn	202	266	139	0	0		0	0	0				
Spillback Cap Reductn	0	0	0	0	9		0	0	0				
Storage Cap Reductn	0	0	0	0	0		0	0	0				
Reduced v/c Ratio	0.61	0.57	0.59	0.47	0.19		0.53	0.53	0.90				

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 64.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue

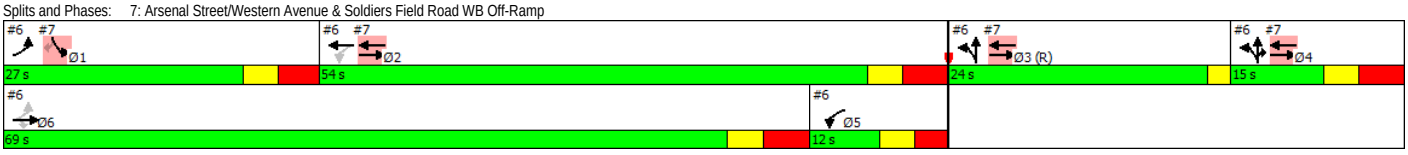


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3	Ø4	Ø5	Ø6
Lane Configurations											
Traffic Volume (vph)	0	738	722	0	255	82					
Future Volume (vph)	0	738	722	0	255	82					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)	0			0	100	0					
Storage Lanes	0			0	1	1					
Taper Length (ft)	25				25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00					
Ped Bike Factor					0.99	0.98					
Frt						0.850					
Flt Protected					0.950						
Satd. Flow (prot)	0	3539	3539	0	3335	1615					
Flt Permitted					0.950						
Satd. Flow (perm)	0	3539	3539	0	3315	1584					
Right Turn on Red				Yes		Yes					
Satd. Flow (RTOR)						89					
Link Speed (mph)		30	30		30						
Link Distance (ft)		327	198		339						
Travel Time (s)		7.4	4.5		7.7						
Confl. Peds. (#/hr)					2	2					
Confl. Bikes (#/hr)				1		3					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Heavy Vehicles (%)	2%	2%	2%	2%	5%	0%					
Adj. Flow (vph)	0	802	785	0	277	89					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	802	785	0	277	89					
Turn Type		NA	NA		Prot	Perm					
Protected Phases		2 3 4	2 3 4		1		2	3	4	5	6
Permitted Phases						1					
Detector Phase		2 3 4	2 3 4		1	1					
Switch Phase											
Minimum Initial (s)					8.0	8.0	8.0	8.0	8.0	6.0	8.0
Minimum Split (s)					27.0	27.0	27.0	24.0	15.0	12.0	17.0
Total Split (s)					27.0	27.0	54.0	24.0	15.0	12.0	69.0
Total Split (%)					22.5%	22.5%	45%	20%	13%	10%	58%
Maximum Green (s)					20.5	20.5	47.0	22.0	8.0	6.0	62.0
Yellow Time (s)					3.0	3.0	3.0	2.0	3.0	3.0	3.0
All-Red Time (s)					3.5	3.5	4.0	0.0	4.0	3.0	4.0
Lost Time Adjust (s)					0.0	0.0					
Total Lost Time (s)					6.5	6.5					
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Max	None	None	None
Walk Time (s)					7.0	7.0	7.0	7.0			
Flash Dont Walk (s)					13.5	13.5	9.0	15.0			
Pedestrian Calls (#/hr)					5	5	5	5			
Act Effct Green (s)		91.1	91.1		15.4	15.4					
Actuated g/C Ratio		0.76	0.76		0.13	0.13					
v/c Ratio		0.30	0.29		0.65	0.32					
Control Delay		5.1	2.8		56.5	12.1					
Queue Delay		0.1	0.4		0.3	0.0					
Total Delay		5.2	3.2		56.8	12.1					
LOS		A	A		E	B					
Approach Delay		5.2	3.2		45.9						
Approach LOS		A	A		D						
Queue Length 50th (ft)		85	21		106	0					
Queue Length 95th (ft)		133	73		145	46					
Internal Link Dist (ft)		247	118		259						
Turn Bay Length (ft)					100						
Base Capacity (vph)		2652	2652		569	344					
Starvation Cap Reductn		0	1283		0	0					
Spillback Cap Reductn		471	0		47	0					
Storage Cap Reductn		0	0		0	0					
Reduced v/c Ratio		0.37	0.57		0.53	0.26					

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 39.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Arsenal Street/Western Avenue & Soldiers Field Road WB Off-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	526	946	446	181	122	215	0	0	783	93
Future Volume (vph)	0	0	526	946	446	181	122	215	0	0	783	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				0.99	0.98			1.00			1.00	
Frt			0.850		0.974						0.984	
Flt Protected				0.950	0.980			0.982				
Satd. Flow (prot)	0	0	2656	1610	3152	0	0	3409	0	0	3539	0
Flt Permitted				0.950	0.980			0.982				
Satd. Flow (perm)	0	0	2656	1601	3145	0	0	3402	0	0	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		23						12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			6	6		88	19		57	57		19
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.84	0.84	0.84	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	7%	2%	5%	0%	11%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	612	985	465	189	145	256	0	0	842	100
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	612	542	1097	0	0	401	0	0	942	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (%)			32.0%	36.0%	36.0%		32.0%	32.0%			32.0%	
Maximum Green (s)			25.0	30.0	30.0		25.0	25.0			26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			Max	C-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)			18.0	23.0	23.0		18.0	18.0			19.0	
Pedestrian Calls (#/hr)			62	88	88		62	62			25	
Act Effct Green (s)			25.0	30.0	30.0			25.0			26.0	
Actuated g/C Ratio			0.25	0.30	0.30			0.25			0.26	
v/c Ratio			0.83	1.12	1.14			0.47			1.01	
Control Delay			40.8	113.1	109.2			34.0			70.2	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			40.8	113.1	109.2			34.0			70.2	
LOS			D	F	F			C			E	
Approach Delay		40.8			110.5			34.0			70.2	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)			178	~440	~447			114			~321	
Queue Length 95th (ft)			236	#664	#585			148			#460	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			737	483	961			852			929	
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			0.83	1.12	1.14			0.47			1.01	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 79.6 Intersection LOS: E
Intersection Capacity Utilization 97.0% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

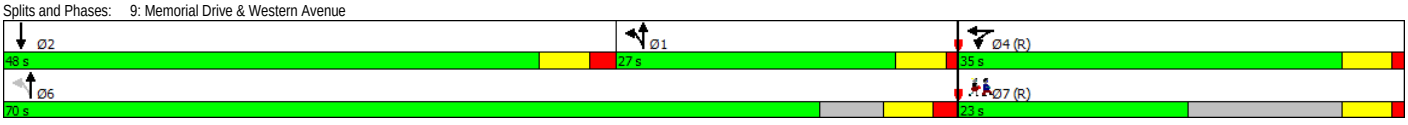
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	106	1000	105	330	583	0	0	897	244		
Future Volume (vph)	0	0	0	106	1000	105	330	583	0	0	897	244		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.98						0.99			
Frt					0.987						0.968			
Flt Protected					0.996		0.950							
Satd. Flow (prot)	0	0	0	0	4857	0	1805	1900	0	0	3445	0		
Flt Permitted					0.996		0.083							
Satd. Flow (perm)	0	0	0	0	4856	0	158	1900	0	0	3445	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					14						36			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				3		86						57		
Confl. Bikes (#/hr)									1					
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88		
Heavy Vehicles (%)	2%	2%	2%	1%	4%	0%	0%	0%	0%	0%	0%	1%		
Adj. Flow (vph)	0	0	0	112	1053	111	363	641	0	0	1019	277		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1276	0	363	641	0	0	1296	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		70.0	15.0
Total Split (s)				35.0	35.0		27.0				48.0		70.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		64%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		64.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		59.0	5.0
Pedestrian Calls (#/hr)							0				89		0	89
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					0.96		0.85	0.53			0.97			
Control Delay					55.6		55.0	13.0			51.3			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					55.6		55.0	13.0			51.3			
LOS					E		E	B			D			
Approach Delay					55.6			28.2			51.3			
Approach LOS					E			C			D			
Queue Length 50th (ft)					321		193	229			456			
Queue Length 95th (ft)					#421		#351	321			#589			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1334		429	1209			1337			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					0.96		0.85	0.53			0.97			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 85 (77%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 46.3 Intersection LOS: D
Intersection Capacity Utilization 90.9% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Memorial Drive & Western Avenue

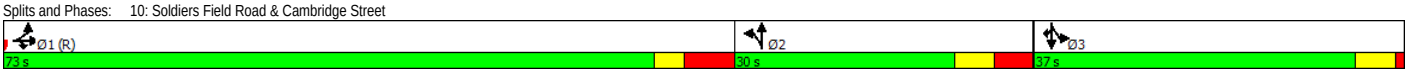


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1235	367	0	0	0	381	148	142	521	242	55
Future Volume (vph)	187	1235	367	0	0	0	381	148	142	521	242	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		1.00					0.97	0.91		0.89	0.94	
Frt		0.996	0.850					0.936				0.850
Flt Protected		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (prot)	0	4742	1389	0	0	0	1715	1540	0	1610	3337	1429
Flt Permitted		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (perm)	0	4733	1389	0	0	0	1656	1533	0	1425	3138	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3	330					22				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	6		18				34		80	80		34
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.25	0.25	0.25	0.95	0.95	0.95	0.83	0.83	0.83
Heavy Vehicles (%)	4%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	13%
Adj. Flow (vph)	201	1328	395	0	0	0	401	156	149	628	292	66
Shared Lane Traffic (%)			10%				11%			50%		
Lane Group Flow (vph)	0	1569	355	0	0	0	357	349	0	314	606	66
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	73.0	73.0	73.0				30.0	30.0		37.0	37.0	37.0
Total Split (%)	52.1%	52.1%	52.1%				21.4%	21.4%		26.4%	26.4%	26.4%
Maximum Green (s)	65.0	65.0	65.0				22.0	22.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		62.7	62.7				24.7	24.7		31.6	31.6	31.6
Actuated g/C Ratio		0.45	0.45				0.18	0.18		0.23	0.23	0.23
v/c Ratio		0.74	0.44				1.18	1.21		0.87	0.80	0.17
Control Delay		34.1	4.9				159.8	166.3		75.3	60.6	3.2
Queue Delay		48.2	0.0				0.0	0.1		0.0	0.0	0.0
Total Delay		82.3	4.9				159.8	166.5		75.3	60.6	3.2
LOS		F	A				F	F		E	E	A
Approach Delay		68.0						163.1			61.4	
Approach LOS		E						F			E	
Queue Length 50th (ft)		434	13				~442	~418		303	288	0
Queue Length 95th (ft)		495	86				#654	#632		#413	328	7
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2203	821				302	289		368	762	404
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		781	0				0	3		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		1.10	0.43				1.18	1.22		0.85	0.80	0.16

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.21
Intersection Signal Delay: 84.8 Intersection LOS: F
Intersection Capacity Utilization 108.2% 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.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



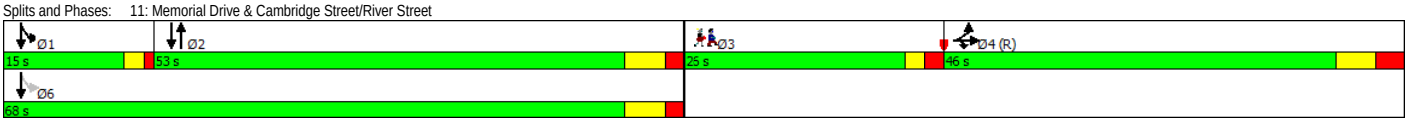
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	186	976	734	0	0	0	0	727	71	77	925	0		
Future Volume (vph)	186	976	734	0	0	0	0	727	71	77	925	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		1.00						1.00						
Frt			0.850					0.987						
Flt Protected		0.992									0.996			
Satd. Flow (prot)	0	3488	1615	0	0	0	0	3552	0	0	3596	0		
Flt Permitted		0.992									0.625			
Satd. Flow (perm)	0	3481	1615	0	0	0	0	3552	0	0	2256	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			352					8						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	11		21						8	8				
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96		
Heavy Vehicles (%)	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	194	1017	765	0	0	0	0	790	77	80	964	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1211	765	0	0	0	0	867	0	0	1044	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		12.0			1.0	25.0
Minimum Split (s)	46.0	46.0	46.0					25.0		15.0			26.0	31.0
Total Split (s)	46.0	46.0	46.0					53.0		15.0			26.0	68.0
Total Split (%)	32.9%	32.9%	32.9%					37.9%		10.7%			19%	49%
Maximum Green (s)	39.0	39.0	39.0					47.0		12.0			22.0	62.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	32.0	32.0	32.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		50.4	50.4					46.0			64.0			
Actuated g/C Ratio		0.36	0.36					0.33			0.46			
v/c Ratio		0.96	0.95					0.74			0.91			
Control Delay		45.8	34.9					45.6			45.3			
Queue Delay		11.3	22.9					0.0			0.0			
Total Delay		57.1	57.8					45.6			45.3			
LOS		E	E					D			D			
Approach Delay		57.3						45.6			45.3			
Approach LOS		E						D			D			
Queue Length 50th (ft)		~731	~184					361			371			
Queue Length 95th (ft)		m#848	m#821					440			#459			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1255	806					1197			1162			
Starvation Cap Reductn		66	75					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		1.02	1.05					0.72			0.90			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 51.5 Intersection LOS: D
Intersection Capacity Utilization 96.9% ICU Level of Service F
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.

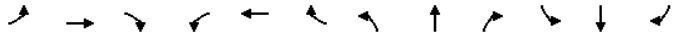
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	2	395	11	28	189
Future Volume (Veh/h)	8	2	395	11	28	189
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.42	0.42	0.89	0.89	0.87	0.87
Hourly flow rate (vph)	19	5	444	12	32	217
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.83	0.79			0.79	
vC, conflicting volume	735	453			459	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371	177			185	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			97	
cM capacity (veh/h)	508	687			1107	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	456	249
Volume Left	19	0	32
Volume Right	5	12	0
cSH	537	1700	1107
Volume to Capacity	0.04	0.27	0.03
Queue Length 95th (ft)	3	0	2
Control Delay (s)	12.0	0.0	1.3
Lane LOS	B		A
Approach Delay (s)	12.0	0.0	1.3
Approach LOS	B		

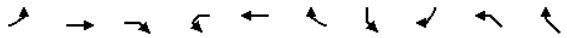
Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		43.6%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	636	3	1	592	3	0	0	1	4	0	3
Future Volume (Veh/h)	2	636	3	1	592	3	0	0	1	4	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.25	0.25	0.25	0.58	0.58	0.58
Hourly flow rate (vph)	2	707	3	1	637	3	0	0	4	7	0	5
Pedestrians					2			11			16	
Lane Width (ft)					11.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		469			380							
pX, platoon unblocked	0.82			0.70			0.79	0.79	0.70	0.79	0.79	0.82
vC, conflicting volume	656			721			1369	1382	722	1375	1382	654
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			392			819	835	393	827	835	466
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	97	100	99
cM capacity (veh/h)	889			819			226	236	459	222	236	484

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	712	641	4	12
Volume Left	2	1	0	7
Volume Right	3	3	4	5
cSH	889	819	459	287
Volume to Capacity	0.00	0.00	0.01	0.04
Queue Length 95th (ft)	0	0	1	3
Control Delay (s)	0.1	0.0	12.9	18.1
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	0.0	12.9	18.1
Approach LOS			B	C

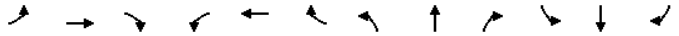
Intersection Summary					
Average Delay	0.2				
Intersection Capacity Utilization	45.8%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	21	430	172	16	601	20	0	0	0	0
Future Volume (Veh/h)	21	430	172	16	601	20	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	467	187	16	620	21	0	0	0	0
Pedestrians							40		9	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.69			0.77			0.80	0.69	0.80	0.80
vC, conflicting volume	681			663			1412	670	1278	1328
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	311			415			750	295	583	646
tC, single (s)	4.1			4.2			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.3			4.0	3.3	3.5	4.0
p0 queue free %	97			98			100	100	100	100
cM capacity (veh/h)	869			866			261	512	329	299

Direction, Lane #	EB 1	WB 1
Volume Total	677	657
Volume Left	23	16
Volume Right	187	21
cSH	869	866
Volume to Capacity	0.03	0.02
Queue Length 95th (ft)	2	1
Control Delay (s)	0.7	0.5
Lane LOS	A	A
Approach Delay (s)	0.7	0.5
Approach LOS		

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	46.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	9	128	4	0	5	0	375	20	7	199	0
Future Volume (Veh/h)	35	9	128	4	0	5	0	375	20	7	199	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.75	0.75	0.75	0.95	0.95	0.95	0.86	0.86	0.86
Hourly flow rate (vph)	40	10	145	5	0	7	0	395	21	8	231	0
Pedestrians		49			62			24			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		5			6			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	712	774	304	888	764	470	280			478		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	615	685	158	814	673	470	131			478		
tC, single (s)	7.1	6.5	6.3	7.3	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.7	4.0	3.3	2.2			2.2		
p0 queue free %	87	97	80	97	100	99	100			99		
cM capacity (veh/h)	311	296	720	159	301	560	1246			1030		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	195	12	416	239
Volume Left	40	5	0	8
Volume Right	145	7	21	0
cSH	536	273	1700	1030
Volume to Capacity	0.36	0.04	0.24	0.01
Queue Length 95th (ft)	41	3	0	1
Control Delay (s)	15.5	18.8	0.0	0.4
Lane LOS	C	C		A
Approach Delay (s)	15.5	18.8	0.0	0.4
Approach LOS	C	C		

Intersection Summary					
Average Delay			3.9		
Intersection Capacity Utilization			40.9%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	13	403	151	220	513	85	72	309	115	74	284	42	
Future Volume (vph)	13	403	151	220	513	85	72	309	115	74	284	42	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor			0.98					0.99					
Frt			0.850		0.979			0.959			0.986		
Flt Protected		0.998		0.950			0.950				0.991		
Satd. Flow (prot)	0	1798	1561	1745	1768	0	1685	1691	0	0	1733	0	
Flt Permitted		0.480		0.231			0.356				0.382		
Satd. Flow (perm)	0	865	1525	424	1768	0	631	1691	0	0	668	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			141		10			20			6		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			469			363			332		
Travel Time (s)		13.0			10.7			8.3			7.5		
Confl. Bikes (#/hr)			3						1				
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	14	438	164	234	546	90	81	347	129	80	305	45	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	452	164	234	636	0	81	476	0	0	430	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0		27.0	27.0		27.0	27.0		28.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		30.0%	30.0%		30.0%	30.0%		31%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		22.0	22.0		22.0	22.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													82
Act Effct Green (s)		30.0	30.0	30.0	30.0		27.6	27.6			27.6		
Actuated g/C Ratio		0.33	0.33	0.33	0.33		0.31	0.31			0.31		
v/c Ratio		1.57	0.27	1.66	1.07		0.42	0.89			2.07		
Control Delay		295.9	4.6	351.6	86.7		37.6	54.2			517.8		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		295.9	4.6	351.6	86.7		37.6	54.2			517.8		
LOS		F	A	F	F		D	D			F		
Approach Delay		218.3			158.0			51.8			517.8		
Approach LOS		F			F			D			F		
Queue Length 50th (ft)		~301	5	~195	~401		40	~305			~418		
Queue Length 95th (ft)		#548	26	#339	#611		#91	#488			#603		
Internal Link Dist (ft)		494			389			283			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		288	602	141	596		193	532			208		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		1.57	0.27	1.66	1.07		0.42	0.89			2.07		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.07
Intersection Signal Delay: 211.7 Intersection LOS: F
Intersection Capacity Utilization 115.6% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø2
Lane Configurations							
Traffic Volume (vph)	592	19	12	805	0	0	
Future Volume (vph)	592	19	12	805	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.996						
Flt Protected				0.999			
Satd. Flow (prot)	1792	0	0	1799	0	0	
Flt Permitted				0.991			
Satd. Flow (perm)	1792	0	0	1785	0	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	4						
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	375		
Travel Time (s)	8.6			5.5	8.5		
Confl. Peds. (#/hr)		21	21				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.95	0.95	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%	
Adj. Flow (vph)	623	20	13	875	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	643	0	0	888	0	0	
Turn Type	NA		Perm	NA			
Protected Phases	1			1			2
Permitted Phases			1				
Detector Phase	1		1	1			
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0			1.0
Minimum Split (s)	19.0		19.0	19.0			22.0
Total Split (s)	45.0		45.0	45.0			22.0
Total Split (%)	67.2%		67.2%	67.2%			33%
Maximum Green (s)	41.0		41.0	41.0			16.0
Yellow Time (s)	3.0		3.0	3.0			2.0
All-Red Time (s)	1.0		1.0	1.0			4.0
Lost Time Adjust (s)	0.0			0.0			
Total Lost Time (s)	4.0			4.0			
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0		2.0	2.0			0.2
Recall Mode	Max		Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							8.0
Pedestrian Calls (#/hr)							76
Act Effct Green (s)	59.3			59.3			
Actuated g/C Ratio	0.81			0.81			
v/c Ratio	0.44			0.61			
Control Delay	6.0			8.7			
Queue Delay	0.0			0.0			
Total Delay	6.0			8.7			
LOS	A			A			
Approach Delay	6.0			8.7			
Approach LOS	A			A			
Queue Length 50th (ft)	138			246			
Queue Length 95th (ft)	212			392			
Internal Link Dist (ft)	300			162	295		
Turn Bay Length (ft)							
Base Capacity (vph)	1452			1445			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.44			0.61			

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 73.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 7.6 — Intersection LOS: A
Intersection Capacity Utilization 55.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Riverdale Avenue & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	1319	102	0	1800	0	172	0	257	12	291	4	
Future Volume (vph)	0	1319	102	0	1800	0	172	0	257	12	291	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.989						0.919			0.998		
Flt Protected								0.980			0.998		
Satd. Flow (prot)	0	3564	0	0	3610	0	0	1698	0	0	1892	0	
Flt Permitted								0.483			0.981		
Satd. Flow (perm)	0	3564	0	0	3610	0	0	837	0	0	1860	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		17						98			1		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		173			295			263			112		
Travel Time (s)		3.9			6.7			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	0	1374	106	0	1915	0	195	0	292	13	320	4	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	1480	0	0	1915	0	0	487	0	0	337	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		0.74			0.95			1.65			0.68		
Control Delay		15.1			27.7			328.7			32.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		15.1			27.7			328.7			32.6		
LOS		B			C			F			C		
Approach Delay		15.1			27.7			328.7			32.6		
Approach LOS		B			C			F			C		
Queue Length 50th (ft)		246			402			~303			140		
Queue Length 95th (ft)		326			#603			#468			227		
Internal Link Dist (ft)		93			215			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2003			2021			295			496		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.74			0.95			1.65			0.68		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.65			
Intersection Signal Delay: 58.4		Intersection LOS: E	
Intersection Capacity Utilization 101.7%		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.

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	517	108	60	564	3	74	8	41	9	3	5
Future Volume (vph)	11	517	108	60	564	3	74	8	41	9	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.98	0.90		0.95	
Frt		0.977			0.999				0.850		0.959	
Flt Protected		0.999		0.950				0.957			0.974	
Satd. Flow (prot)	0	1751	0	1745	1799	0	0	1758	1507	0	1642	0
Flt Permitted		0.990		0.419				0.720			0.808	
Satd. Flow (perm)	0	1735	0	764	1799	0	0	1302	1356	0	1310	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			1				48		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	6		8	8		6	11		31	31		11
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.85	0.85	0.85	0.47	0.47	0.47
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	539	113	64	600	3	87	9	48	19	6	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	663	0	64	603	0	0	96	48	0	36	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	67.0	67.0		67.0	67.0		23.0	23.0	23.0	23.0	23.0	
Total Split (%)	74.4%	74.4%		74.4%	74.4%		25.6%	25.6%	25.6%	25.6%	25.6%	
Maximum Green (s)	62.0	62.0		62.0	62.0		18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		71.4		71.4	71.4			12.2	12.2		12.2	
Actuated g/C Ratio		0.79		0.79	0.79			0.14	0.14		0.14	
v/c Ratio		0.48		0.11	0.42			0.55	0.21		0.19	
Control Delay		5.8		0.1	0.4			47.2	12.1		27.4	
Queue Delay		0.0		0.0	0.3			0.0	0.0		0.0	
Total Delay		5.8		0.1	0.7			47.2	12.1		27.4	
LOS		A		A	A			D	B		C	
Approach Delay		5.8			0.7			35.5			27.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)		112		0	1			52	0		13	
Queue Length 95th (ft)		230		m0	m1			89	26		17	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1382		606	1427			260	309		270	
Starvation Cap Reductn		0		0	302			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.48		0.11	0.54			0.37	0.16		0.13	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 82 (91%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 6.9 Intersection LOS: A
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

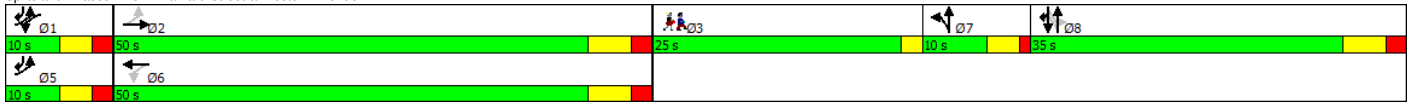
Splits and Phases: 4: Terlford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	114	198	8	126	534	138	122	200	31	22	257	221		
Future Volume (vph)	114	198	8	126	534	138	122	200	31	22	257	221		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.994				0.850		0.980				0.850		
Flt Protected	0.950			0.950			0.950				0.996			
Satd. Flow (prot)	1620	1819	0	1752	1863	1727	1770	1785	0	0	1809	1583		
Flt Permitted	0.119			0.534			0.271				0.954			
Satd. Flow (perm)	203	1819	0	985	1863	1727	505	1785	0	0	1733	1583		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		2				168		6				210		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			451			224			308			
Travel Time (s)		10.5			10.3			5.1			7.0			
Confl. Bikes (#/hr)						1			3			9		
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.85	0.85	0.85	0.94	0.94	0.94		
Heavy Vehicles (%)	4%	4%	0%	3%	2%	6%	2%	4%	4%	0%	5%	2%		
Adj. Flow (vph)	133	230	9	143	607	157	144	235	36	23	273	235		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	133	239	0	143	607	157	144	271	0	0	296	235		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		24.0		10.0	24.0		9.0			24.0	24.0		25.0	10.0
Total Split (s)		50.0		10.0	50.0		10.0			35.0	35.0		25.0	10.0
Total Split (%)		38.5%		7.7%	38.5%		7.7%			26.9%	26.9%		19%	8%
Maximum Green (s)		44.0		5.0	44.0		6.0			29.0	29.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	51.0	44.9		51.0	44.9	0.0	32.5	36.6			24.4	35.6		
Actuated g/C Ratio	0.42	0.37		0.42	0.37	0.00	0.27	0.30			0.20	0.29		
v/c Ratio	0.92	0.35		0.32	0.88	0.93	0.72	0.50			0.85	0.38		
Control Delay	86.3	32.1		26.0	53.5	61.6	57.0	38.3			69.4	8.2		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	86.3	32.1		26.0	53.5	61.6	57.0	38.3			69.4	8.2		
LOS	F	C		C	D	E	E	D			E	A		
Approach Delay		51.5			50.6			44.8			42.3			
Approach LOS		D			D			D			D			
Queue Length 50th (ft)	69	150		74	496	0	90	180			236	15		
Queue Length 95th (ft)	#173	215		119	#712	#114	#147	248			#364	78		
Internal Link Dist (ft)		382			371			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	145	677		448	692	168	200	622			424	620		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.92	0.35		0.32	0.88	0.93	0.72	0.44			0.70	0.38		

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 120.7
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 47.7 Intersection LOS: D
Intersection Capacity Utilization 79.1% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: N Harvard Street & Western Avenue

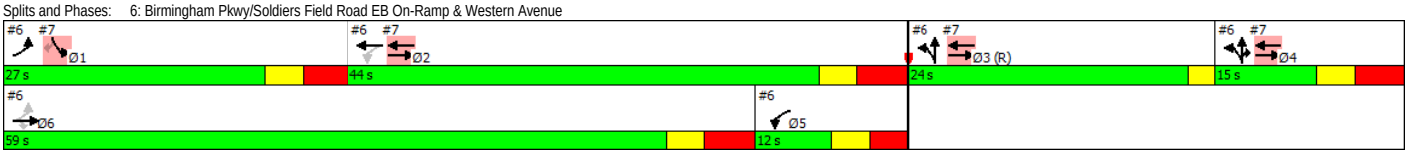


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	45	328	532	339	333	41	584	261	304	0	0	0	
Future Volume (vph)	45	328	532	339	333	41	584	261	304	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	198		0	75		75	0		0	0		0	
Storage Lanes	1		1	1		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.99		0.98	0.99	1.00								
Frt			0.850		0.984				0.850				
Flt Protected	0.950			0.950			0.950	0.981					
Satd. Flow (prot)	1805	1863	1615	1787	3473	0	1715	1771	1583	0	0	0	
Flt Permitted	0.261			0.546			0.950	0.981					
Satd. Flow (perm)	491	1863	1575	1021	3473	0	1715	1771	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			585		13				274				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		198			2326			603			340		
Travel Time (s)		4.5			52.9			13.7			7.7		
Confl. Peds. (#/hr)	7		3	3		7			7				
Confl. Bikes (#/hr)			2						2				
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	0%	0%	0%	
Adj. Flow (vph)	49	360	585	373	366	45	635	284	330	0	0	0	
Shared Lane Traffic (%)							29%						
Lane Group Flow (vph)	49	360	585	373	411	0	451	468	330	0	0	0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	custom				
Protected Phases	1	6		5	2		3 4	3 4	4				3
Permitted Phases	6		6	2									
Detector Phase	1	6	6	5	2		3 4	3 4	4				
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	6.0	8.0				8.0				8.0
Minimum Split (s)	27.0	27.0	27.0	12.0	27.0				15.0				24.0
Total Split (s)	27.0	59.0	59.0	12.0	44.0				15.0				24.0
Total Split (%)	24.5%	53.6%	53.6%	10.9%	40.0%				13.6%				22%
Maximum Green (s)	20.5	52.0	52.0	6.0	37.0				8.0				22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0				3.0				2.0
All-Red Time (s)	3.5	4.0	4.0	3.0	4.0				4.0				0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				0.0				
Total Lost Time (s)	6.5	7.0	7.0	6.0	7.0				7.0				
Lead/Lag	Lead	Lead	Lead	Lag	Lag				Lag				Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0				3.0				3.0
Recall Mode	None	None	None	None	None				None				C-Max
Walk Time (s)	7.0				7.0								7.0
Flash Dont Walk (s)	13.5				9.0								15.0
Pedestrian Calls (#/hr)	5				5								5
Act Effct Green (s)	31.1	30.6	30.6	38.0	37.0		42.2	42.2	8.0				
Actuated g/C Ratio	0.28	0.28	0.28	0.35	0.34		0.38	0.38	0.07				
v/c Ratio	0.15	0.69	0.68	0.74	0.35		0.69	0.69	0.89				
Control Delay	28.5	43.4	8.2	44.9	27.6		35.9	35.8	38.1				
Queue Delay	0.8	0.9	0.3	0.0	0.0		0.0	0.0	0.0				
Total Delay	29.3	44.3	8.5	44.9	27.6		35.9	35.8	38.1				
LOS	C	D	A	D	C		D	D	D				
Approach Delay		22.5			35.8			36.4					
Approach LOS		C			D			D					
Queue Length 50th (ft)	24	231	14	216	110		274	286	39				
Queue Length 95th (ft)	45	288	49	#350	153		#446	#461	#201				
Internal Link Dist (ft)		118			2246			523			260		
Turn Bay Length (ft)	198			75									
Base Capacity (vph)	384	880	1053	507	1176		657	679	369				
Starvation Cap Reductn	198	283	116	0	0		0	0	0				
Spillback Cap Reductn	0	0	0	0	11		0	0	0				
Storage Cap Reductn	0	0	0	0	0		0	0	0				
Reduced v/c Ratio	0.26	0.60	0.62	0.74	0.35		0.69	0.69	0.89				

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 3:NBTL, Start of Green, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 31.7 Intersection LOS: C
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue

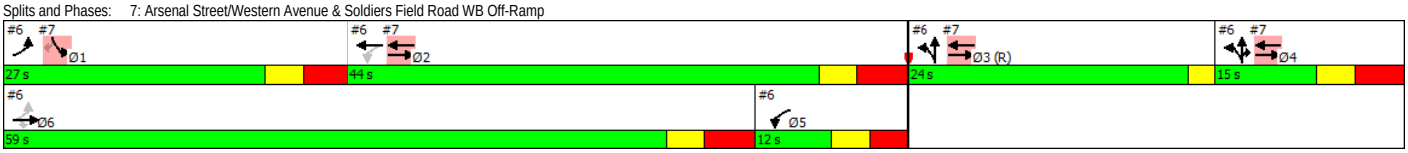


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3	Ø4	Ø5	Ø6
Lane Configurations											
Traffic Volume (vph)	0	629	918	0	276	70					
Future Volume (vph)	0	629	918	0	276	70					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)	0			0	100	0					
Storage Lanes	0			0	1	1					
Taper Length (ft)	25				25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00					
Ped Bike Factor					0.98	0.97					
Frt						0.850					
Flt Protected					0.950						
Satd. Flow (prot)	0	3610	3610	0	3502	1615					
Flt Permitted					0.950						
Satd. Flow (perm)	0	3610	3610	0	3436	1568					
Right Turn on Red				Yes		Yes					
Satd. Flow (RTOR)						79					
Link Speed (mph)		30	30		30						
Link Distance (ft)		327	198		339						
Travel Time (s)		7.4	4.5		7.7						
Confl. Peds. (#/hr)					7	8					
Confl. Bikes (#/hr)				1		4					
Peak Hour Factor	0.57	0.57	0.84	0.84	0.89	0.89					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%					
Adj. Flow (vph)	0	1104	1093	0	310	79					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1104	1093	0	310	79					
Turn Type		NA	NA		Prot	Perm					
Protected Phases		2 3 4	2 3 4		1		2	3	4	5	6
Permitted Phases						1					
Detector Phase		2 3 4	2 3 4		1	1					
Switch Phase											
Minimum Initial (s)					8.0	8.0	8.0	8.0	8.0	6.0	8.0
Minimum Split (s)					27.0	27.0	27.0	24.0	15.0	12.0	27.0
Total Split (s)					27.0	27.0	44.0	24.0	15.0	12.0	59.0
Total Split (%)					24.5%	24.5%	40%	22%	14%	11%	54%
Maximum Green (s)					20.5	20.5	37.0	22.0	8.0	6.0	52.0
Yellow Time (s)					3.0	3.0	3.0	2.0	3.0	3.0	3.0
All-Red Time (s)					3.5	3.5	4.0	0.0	4.0	3.0	4.0
Lost Time Adjust (s)					-2.0	0.0					
Total Lost Time (s)					4.5	6.5					
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Max	None	None	None
Walk Time (s)					7.0	7.0	7.0	7.0			
Flash Dont Walk (s)					13.5	13.5	9.0	15.0			
Pedestrian Calls (#/hr)					5	5	5	5			
Act Effct Green (s)		83.2	83.2		17.3	15.3					
Actuated g/C Ratio		0.76	0.76		0.16	0.14					
v/c Ratio		0.40	0.40		0.56	0.28					
Control Delay		5.5	2.4		46.5	11.4					
Queue Delay		0.2	0.4		0.1	0.0					
Total Delay		5.7	2.8		46.6	11.4					
LOS		A	A		D	B					
Approach Delay		5.7	2.8		39.5						
Approach LOS		A	A		D						
Queue Length 50th (ft)		119	25		105	0					
Queue Length 95th (ft)		98	68		140	40					
Internal Link Dist (ft)		247	118		259						
Turn Bay Length (ft)					100						
Base Capacity (vph)		2730	2730		716	356					
Starvation Cap Reductn		0	1005		0	0					
Spillback Cap Reductn		725	0		50	0					
Storage Cap Reductn		0	0		0	0					
Reduced v/c Ratio		0.55	0.63		0.47	0.22					

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 3:NBTL, Start of Green, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 9.6 Intersection LOS: A
Intersection Capacity Utilization 44.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Arsenal Street/Western Avenue & Soldiers Field Road WB Off-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	655	1110	411	419	45	281	0	0	680	38
Future Volume (vph)	0	0	655	1110	411	419	45	281	0	0	680	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				1.00	0.97			1.00			1.00	
Frt			0.850		0.951						0.992	
Flt Protected				0.950	0.983			0.993				
Satd. Flow (prot)	0	0	2787	1626	3089	0	0	3494	0	0	3573	0
Flt Permitted				0.950	0.983			0.993				
Satd. Flow (perm)	0	0	2787	1619	3083	0	0	3489	0	0	3573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		82						5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			5	5		83	17		131	131		17
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.89	0.89	0.89	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	2%	1%	4%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	728	1181	437	446	51	316	0	0	694	39
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	0	0	728	697	1367	0	0	367	0	0	733	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			25.0	38.0	38.0		25.0	25.0			23.0	
Total Split (s)			33.0	42.0	42.0		33.0	33.0			25.0	
Total Split (%)			33.0%	42.0%	42.0%		33.0%	33.0%			25.0%	
Maximum Green (s)			26.0	36.0	36.0		26.0	26.0			19.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?			Yes	Yes	Yes		Yes	Yes				
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			None	C-Max	C-Max		None	None			Max	
Walk Time (s)			6.0	20.0	20.0		6.0	6.0			5.0	
Flash Dont Walk (s)			12.0	12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)			70	83	83		70	70			22	
Act Effct Green (s)			25.3	36.7	36.7			25.3			19.0	
Actuated g/C Ratio			0.25	0.37	0.37			0.25			0.19	
v/c Ratio			0.93	1.17	1.15			0.41			1.07	
Control Delay			51.9	124.6	108.9			32.6			95.6	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			51.9	124.6	108.9			32.6			95.6	
LOS			D	F	F			C			F	
Approach Delay		51.9			114.2			32.6			95.6	
Approach LOS		D			F			C			F	
Queue Length 50th (ft)			225	~592	~558			102			~274	
Queue Length 95th (ft)			#349	#835	#701			143			#393	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			797	596	1184			908			682	
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			0.91	1.17	1.15			0.40			1.07	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 91.4 Intersection LOS: F
Intersection Capacity Utilization 98.6% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Soldiers Field Road & Western Avenue

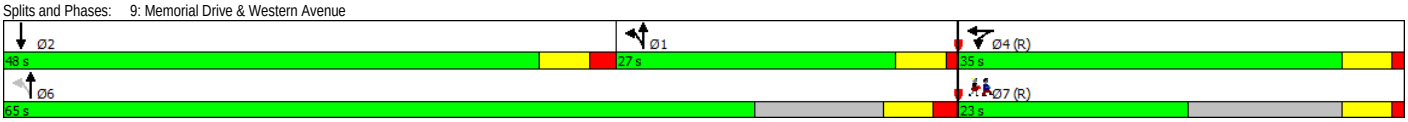
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	92	1169	123	437	696	0	0	682	335		
Future Volume (vph)	0	0	0	92	1169	123	437	696	0	0	682	335		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.99						0.96			
Frt					0.987						0.951			
Flt Protected					0.997		0.950							
Satd. Flow (prot)	0	0	0	0	4996	0	1805	1900	0	0	3284	0		
Flt Permitted					0.997		0.103							
Satd. Flow (perm)	0	0	0	0	4993	0	196	1900	0	0	3284	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					14						37			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				8		70						131		
Peak Hour Factor	0.25	0.25	0.25	0.93	0.93	0.93	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%		
Adj. Flow (vph)	0	0	0	99	1257	132	465	740	0	0	766	376		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1488	0	465	740	0	0	1142	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		65.0	21.0
Total Split (s)				35.0	35.0		27.0				48.0		65.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		59%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		59.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		54.0	11.0
Pedestrian Calls (#/hr)							0				100		0	78
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					1.08		1.04	0.61			0.89			
Control Delay					88.8		91.5	14.7			41.4			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					88.8		91.5	14.7			41.4			
LOS					F		F	B			D			
Approach Delay					88.8			44.3			41.4			
Approach LOS					F			D			D			
Queue Length 50th (ft)					~430		~291	287			382			
Queue Length 95th (ft)					#528		#495	400			#487			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1372		446	1209			1276			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					1.08		1.04	0.61			0.89			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 75 (68%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 60.7 Intersection LOS: E
Intersection Capacity Utilization 100.2% 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.

Splits and Phases: 9: Memorial Drive & Western Avenue

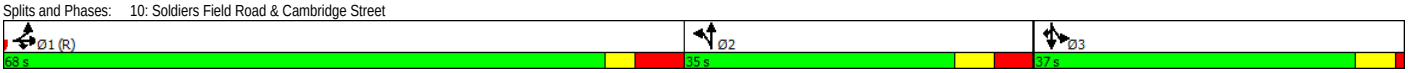


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	1186	596	0	0	0	410	68	92	344	309	85
Future Volume (vph)	253	1186	596	0	0	0	410	68	92	344	309	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		0.98					0.98	0.89		0.79	0.94	
Frt		0.987	0.850					0.951				0.850
Flt Protected		0.992					0.950	0.979		0.950	0.985	
Satd. Flow (prot)	0	4728	1389	0	0	0	1715	1502	0	1610	3363	1583
Flt Permitted		0.992					0.950	0.979		0.950	0.985	
Satd. Flow (perm)	0	4688	1389	0	0	0	1680	1489	0	1271	3152	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13	479					16				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	24		34				27		162	162		27
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%	2%
Adj. Flow (vph)	266	1248	627	0	0	0	427	71	96	374	336	92
Shared Lane Traffic (%)			23%				29%			38%		
Lane Group Flow (vph)	0	1658	483	0	0	0	303	291	0	232	478	92
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	68.0	68.0	68.0				35.0	35.0		37.0	37.0	37.0
Total Split (%)	48.6%	48.6%	48.6%				25.0%	25.0%		26.4%	26.4%	26.4%
Maximum Green (s)	60.0	60.0	60.0				27.0	27.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	8.0	8.0	8.0				8.0	8.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				10.0	10.0		22.0	22.0	22.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		61.2	61.2				27.0	27.0		30.8	30.8	30.8
Actuated g/C Ratio		0.44	0.44				0.19	0.19		0.22	0.22	0.22
v/c Ratio		0.80	0.55				0.92	0.96		0.66	0.65	0.22
Control Delay		37.6	4.8				88.0	96.1		59.4	54.2	7.7
Queue Delay		47.9	0.0				0.0	1.3		0.0	0.0	0.0
Total Delay		85.5	4.8				88.0	97.3		59.4	54.2	7.7
LOS		F	A				F	F		E	D	A
Approach Delay		67.3						92.5			50.4	
Approach LOS		E						F			D	
Queue Length 50th (ft)		490	2				287	266		215	220	0
Queue Length 95th (ft)		573	86				#472	#464		314	280	40
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2074	877				330	302		368	768	439
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		682	0				0	2		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		1.19	0.55				0.92	0.97		0.63	0.62	0.21

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 67.7 Intersection LOS: E
Intersection Capacity Utilization 105.5% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



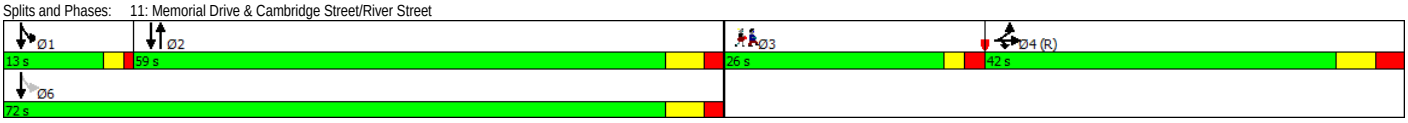
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	262	858	498	0	0	0	0	871	34	83	690	0		
Future Volume (vph)	262	858	498	0	0	0	0	871	34	83	690	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		0.99						1.00						
Frt			0.850					0.994						
Flt Protected		0.988									0.995			
Satd. Flow (prot)	0	3513	1615	0	0	0	0	3583	0	0	3592	0		
Flt Permitted		0.988									0.579			
Satd. Flow (perm)	0	3470	1615	0	0	0	0	3583	0	0	2090	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			318					3						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	20		43						10	10				
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88		
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	282	923	535	0	0	0	0	907	35	94	784	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1205	535	0	0	0	0	942	0	0	878	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		10.0			1.0	25.0
Minimum Split (s)	29.0	29.0	29.0					25.0		13.0			26.0	31.0
Total Split (s)	42.0	42.0	42.0					59.0		13.0			26.0	72.0
Total Split (%)	30.0%	30.0%	30.0%					42.1%		9.3%			19%	51%
Maximum Green (s)	35.0	35.0	35.0					53.0		10.0			22.0	66.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	9.0	9.0	9.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		47.8	47.8					50.6			66.6			
Actuated g/C Ratio		0.34	0.34					0.36			0.48			
v/c Ratio		1.00	0.70					0.73			0.80			
Control Delay		51.9	13.9					42.1			34.3			
Queue Delay		7.6	1.2					0.0			0.0			
Total Delay		59.5	15.0					42.1			34.3			
LOS		E	B					D			C			
Approach Delay		45.8						42.1			34.3			
Approach LOS		D						D			C			
Queue Length 50th (ft)		~772	315					377			276			
Queue Length 95th (ft)		m#890	m#451					455			324			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1200	761					1358			1137			
Starvation Cap Reductn		30	81					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		1.03	0.79					0.69			0.77			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 42.0 Intersection LOS: D
Intersection Capacity Utilization 92.2% ICU Level of Service F
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.

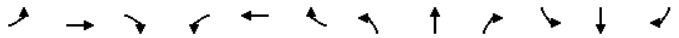
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	28	400	8	7	387
Future Volume (Veh/h)	13	28	400	8	7	387
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.57	0.57	0.64	0.64	0.63	0.63
Hourly flow rate (vph)	23	49	625	13	11	614
Pedestrians	1		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.85	0.77			0.77	
vC, conflicting volume	1270	632			639	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	809	370			379	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	91			99	
cM capacity (veh/h)	294	522			914	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	72	638	625
Volume Left	23	0	11
Volume Right	49	13	0
cSH	419	1700	914
Volume to Capacity	0.17	0.38	0.01
Queue Length 95th (ft)	15	0	1
Control Delay (s)	15.4	0.0	0.3
Lane LOS	C		A
Approach Delay (s)	15.4	0.0	0.3
Approach LOS	C		

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization		36.0%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	589	0	0	797	8	0	0	0	22	0	8
Future Volume (Veh/h)	3	589	0	0	797	8	0	0	0	22	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.25	0.62	0.62	0.62
Hourly flow rate (vph)	3	640	0	0	866	9	0	0	0	35	0	13
Pedestrians		1			3			15			11	
Lane Width (ft)		11.0			11.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		469			380							
pX, platoon unblocked	0.72			0.77			0.83	0.83	0.77	0.83	0.83	0.72
vC, conflicting volume	886			655			1546	1547	658	1530	1542	882
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	644			407			940	942	411	922	936	639
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	83	100	96
cM capacity (veh/h)	675			886			189	214	490	203	215	340

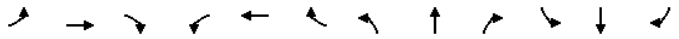
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	643	875	0	48
Volume Left	3	0	0	35
Volume Right	0	9	0	13
cSH	675	886	1700	228
Volume to Capacity	0.00	0.00	0.00	0.21
Queue Length 95th (ft)	0	0	0	19
Control Delay (s)	0.1	0.0	0.0	25.0
Lane LOS	A		A	C
Approach Delay (s)	0.1	0.0	0.0	25.0
Approach LOS			A	C

Intersection Summary					
Average Delay	0.8				
Intersection Capacity Utilization	53.4%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	37	332	224	20	817	40	0	0	0	0
Future Volume (Veh/h)	37	332	224	20	817	40	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.57	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	41	369	249	21	851	70	0	0	0	0
Pedestrians							49		17	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.59			0.86			0.66	0.59	0.66	0.66
vC, conflicting volume	970			635			1694	935	1520	1604
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	596			491			1306	536	1042	1170
tC, single (s)	4.1			4.1			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.2			4.0	3.3	3.5	4.0
p0 queue free %	93			98			100	100	100	100
cM capacity (veh/h)	581			928			96	322	128	116

Direction, Lane #	EB 1	WB 1
Volume Total	659	942
Volume Left	41	21
Volume Right	249	70
cSH	581	928
Volume to Capacity	0.07	0.02
Queue Length 95th (ft)	6	2
Control Delay (s)	1.9	0.6
Lane LOS	A	A
Approach Delay (s)	1.9	0.6
Approach LOS		

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	54.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	4	210	6	0	8	0	333	6	1	397	0
Future Volume (Veh/h)	13	4	210	6	0	8	0	333	6	1	397	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.70	0.70	0.70	0.91	0.91	0.91	0.81	0.81	0.81
Hourly flow rate (vph)	14	4	233	9	0	11	0	366	7	1	490	0
Pedestrians		93			31			5			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		9			3			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.80	0.80	0.80	0.80	0.80		0.80					
vC, conflicting volume	968	989	588	1132	986	402	583			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	831	858	354	1038	854	402	348			404		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	98	54	88	100	98	100			100		
cM capacity (veh/h)	189	209	501	78	210	632	887			1131		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	251	20	373	491
Volume Left	14	9	0	1
Volume Right	233	11	7	0
cSH	450	150	1700	1131
Volume to Capacity	0.56	0.13	0.22	0.00
Queue Length 95th (ft)	84	11	0	0
Control Delay (s)	22.7	32.6	0.0	0.0
Lane LOS	C	D		A
Approach Delay (s)	22.7	32.6	0.0	0.0
Approach LOS	C	D		

Intersection Summary					
Average Delay			5.6		
Intersection Capacity Utilization			42.9%	ICU Level of Service	A
Analysis Period (min)			15		

- Build (2025) Condition

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Future Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								0.99					
Frt			0.850		0.979			0.959			0.978		
Flt Protected		0.997		0.950			0.950				0.991		
Satd. Flow (prot)	0	1749	1561	1728	1724	0	1685	1669	0	0	1719	0	
Flt Permitted		0.834		0.183			0.487				0.270		
Satd. Flow (perm)	0	1463	1561	333	1724	0	864	1669	0	0	468	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			109		10			22			11		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			163			152			332		
Travel Time (s)		13.0			3.7			3.5			7.5		
Confl. Bikes (#/hr)									2				
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.97	0.97	0.97	0.87	0.87	0.87	
Heavy Vehicles (%)	0%	5%	0%	1%	5%	0%	0%	1%	2%	0%	0%	0%	
Adj. Flow (vph)	39	553	94	189	427	69	66	339	127	46	155	39	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	592	94	189	496	0	66	466	0	0	240	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	28.0	28.0	28.0	28.0	28.0		24.0	24.0		24.0	24.0		28.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		30.0%	30.0%		30.0%	30.0%		35%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		19.0	19.0		19.0	19.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													17.0
Pedestrian Calls (#/hr)													46
Act Effct Green (s)		34.2	34.2	34.2	34.2		19.0	19.0			19.0		
Actuated g/C Ratio		0.43	0.43	0.43	0.43		0.24	0.24			0.24		
v/c Ratio		0.95	0.13	1.33	0.67		0.32	1.13			2.02		
Control Delay		52.4	2.4	219.0	29.7		30.4	114.2			507.7		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		52.4	2.4	219.0	29.7		30.4	114.2			507.7		
LOS		D	A	F	C		C	F			F		
Approach Delay		45.6			81.9			103.8			507.7		
Approach LOS		D			F			F			F		
Queue Length 50th (ft)		~408	1	~149	241		27	~266			~189		
Queue Length 95th (ft)		#593	12	#266	#424		64	#448			#317		
Internal Link Dist (ft)		494			83			72			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		625	729	142	742		205	413			119		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.95	0.13	1.33	0.67		0.32	1.13			2.02		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.02
Intersection Signal Delay: 123.4 Intersection LOS: F
Intersection Capacity Utilization 105.4% 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.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Future Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								0.99					
Frt			0.850		0.979			0.959			0.978		
Flt Protected		0.997		0.950			0.950				0.991		
Satd. Flow (prot)	0	1749	1561	1728	1724	0	1685	1669	0	0	1719	0	
Flt Permitted		0.834		0.183			0.487				0.270		
Satd. Flow (perm)	0	1463	1561	333	1724	0	864	1669	0	0	468	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			109		10			22			11		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			163			152			332		
Travel Time (s)		13.0			3.7			3.5			7.5		
Confl. Bikes (#/hr)									2				
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.97	0.97	0.97	0.87	0.87	0.87	
Heavy Vehicles (%)	0%	5%	0%	1%	5%	0%	0%	1%	2%	0%	0%	0%	
Adj. Flow (vph)	39	553	94	189	427	69	66	339	127	46	155	39	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	592	94	189	496	0	66	466	0	0	240	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	28.0	28.0	28.0	28.0	28.0		24.0	24.0		24.0	24.0		28.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		30.0%	30.0%		30.0%	30.0%		35%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		19.0	19.0		19.0	19.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													17.0
Pedestrian Calls (#/hr)													46
Act Effct Green (s)		34.2	34.2	34.2	34.2		19.0	19.0			19.0		
Actuated g/C Ratio		0.43	0.43	0.43	0.43		0.24	0.24			0.24		
v/c Ratio		0.95	0.13	1.33	0.67		0.32	1.13			2.02		
Control Delay		52.4	2.4	219.0	29.7		30.4	114.2			507.7		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		52.4	2.4	219.0	29.7		30.4	114.2			507.7		
LOS		D	A	F	C		C	F			F		
Approach Delay		45.6			81.9			103.8			507.7		
Approach LOS		D			F			F			F		
Queue Length 50th (ft)		~408	1	~149	241		27	~266			~189		
Queue Length 95th (ft)		#593	12	#266	#424		64	#448			#317		
Internal Link Dist (ft)		494			83			72			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		625	729	142	742		205	413			119		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.95	0.13	1.33	0.67		0.32	1.13			2.02		

Intersection Summary

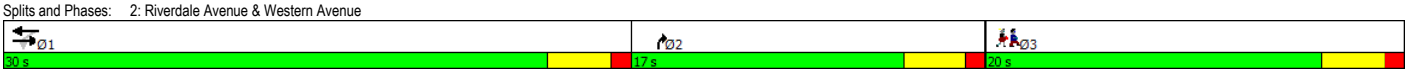
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.02
Intersection Signal Delay: 123.4 Intersection LOS: F
Intersection Capacity Utilization 105.4% ICU Level 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.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3
Lane Configurations							
Traffic Volume (vph)	620	24	53	600	0	21	
Future Volume (vph)	620	24	53	600	0	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.995					0.865	
Flt Protected				0.996			
Satd. Flow (prot)	1758	0	0	1780	0	1644	
Flt Permitted				0.923			
Satd. Flow (perm)	1758	0	0	1649	0	1644	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	3					478	
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	177		
Travel Time (s)	8.6			5.5	4.0		
Confl. Peds. (#/hr)		8	8				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.91	0.91	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	4%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	681	26	55	619	0	23	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	707	0	0	674	0	23	
Turn Type	NA		Perm	NA		Prot	
Protected Phases	1			1		2	3
Permitted Phases			1				
Detector Phase	1		1	1		2	
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0		5.0	5.0
Minimum Split (s)	19.0		19.0	19.0		9.0	20.0
Total Split (s)	30.0		30.0	30.0		17.0	20.0
Total Split (%)	44.8%		44.8%	44.8%		25.4%	30%
Maximum Green (s)	26.0		26.0	26.0		13.0	16.0
Yellow Time (s)	3.0		3.0	3.0		3.0	3.0
All-Red Time (s)	1.0		1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0			0.0		0.0	
Total Lost Time (s)	4.0			4.0		4.0	
Lead/Lag	Lead		Lead	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	Yes		Yes	
Vehicle Extension (s)	2.0		2.0	2.0		3.0	3.0
Recall Mode	None		None	None		None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							9.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)	29.7			29.7		5.6	
Actuated g/C Ratio	0.93			0.93		0.18	
v/c Ratio	0.43			0.44		0.03	
Control Delay	2.4			2.6		0.1	
Queue Delay	0.0			0.0		0.0	
Total Delay	2.4			2.6		0.1	
LOS	A			A		A	
Approach Delay	2.4			2.6	0.1		
Approach LOS	A			A	A		
Queue Length 50th (ft)	0			0		0	
Queue Length 95th (ft)	124			124		0	
Internal Link Dist (ft)	300			162	97		
Turn Bay Length (ft)							
Base Capacity (vph)	1638			1536		959	
Starvation Cap Reductn	0			0		0	
Spillback Cap Reductn	0			0		0	
Storage Cap Reductn	0			0		0	
Reduced v/c Ratio	0.43			0.44		0.02	

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 31.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Riverdale Avenue & Western Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	2098	49	0	1162	0	39	0	363	25	174	1	
Future Volume (vph)	0	2098	49	0	1162	0	39	0	363	25	174	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.997						0.878			0.999		
Flt Protected								0.995			0.994		
Satd. Flow (prot)	0	3597	0	0	3610	0	0	1641	0	0	1832	0	
Flt Permitted								0.961			0.877		
Satd. Flow (perm)	0	3597	0	0	3610	0	0	1585	0	0	1616	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5						121					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		332			385			263			112		
Travel Time (s)		7.5			8.8			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	
Adj. Flow (vph)	0	2119	49	0	1236	0	43	0	403	26	181	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	2168	0	0	1236	0	0	446	0	0	208	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		1.08			0.61			0.87			0.48		
Control Delay		62.6			12.7			39.4			27.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		62.6			12.7			39.4			27.7		
LOS		E			B			D			C		
Approach Delay		62.6			12.7			39.4			27.7		
Approach LOS		E			B			D			C		
Queue Length 50th (ft)		~603			185			147			81		
Queue Length 95th (ft)		#743			245			#314			144		
Internal Link Dist (ft)		252			305			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2016			2021			511			430		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.08			0.61			0.87			0.48		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.0		Intersection LOS: D	
Intersection Capacity Utilization 96.9%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	556	65	53	420	1	38	7	61	6	6	7
Future Volume (vph)	17	556	65	53	420	1	38	7	61	6	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.99	0.96		0.99	
Frt		0.986							0.850		0.949	
Flt Protected		0.999		0.950				0.959			0.985	
Satd. Flow (prot)	0	1722	0	1711	1766	0	0	1761	1507	0	1643	0
Flt Permitted		0.986		0.409				0.735			0.878	
Satd. Flow (perm)	0	1699	0	726	1766	0	0	1337	1453	0	1459	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							82		12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	9		18	18		9	8		5	5		8
Confl. Bikes (#/hr)			1						2			
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.74	0.74	0.74	0.59	0.59	0.59
Heavy Vehicles (%)	0%	5%	0%	2%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	19	618	72	56	442	1	51	9	82	10	10	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	709	0	56	443	0	0	60	82	0	32	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (%)	73.8%	73.8%		73.8%	73.8%		26.3%	26.3%	26.3%	26.3%	26.3%	
Maximum Green (s)	54.0	54.0		54.0	54.0		16.0	16.0	16.0	16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		64.6		64.6	64.6			9.0	9.0		9.0	
Actuated g/C Ratio		0.81		0.81	0.81			0.11	0.11		0.11	
v/c Ratio		0.52		0.10	0.31			0.40	0.35		0.18	
Control Delay		5.3		0.5	0.8			40.7	12.4		25.2	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		5.3		0.5	0.8			40.7	12.4		25.2	
LOS		A		A	A			D	B		C	
Approach Delay		5.3			0.7			24.3			25.2	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		99		0	1			29	0		9	
Queue Length 95th (ft)		205		m0	m1			50	24		19	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1374		586	1425			267	356		301	
Starvation Cap Reductn		0		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.52		0.10	0.31			0.22	0.23		0.11	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 68 (85%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.1 Intersection LOS: A
Intersection Capacity Utilization 63.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

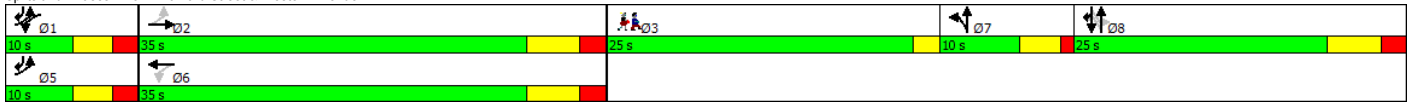
Splits and Phases: 4: Telford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	141	295	5	72	384	82	153	228	55	37	129	152		
Future Volume (vph)	141	295	5	72	384	82	153	228	55	37	129	152		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.998				0.850		0.971				0.850		
Flt Protected	0.950			0.950			0.950				0.989			
Satd. Flow (prot)	1532	1790	0	1752	1810	1679	1719	1703	0	0	1688	1495		
Flt Permitted	0.214			0.390			0.503				0.837			
Satd. Flow (perm)	345	1790	0	719	1810	1679	910	1703	0	0	1429	1495		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				208		12				171		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			414			224			308			
Travel Time (s)		10.5			9.4			5.1			7.0			
Confl. Bikes (#/hr)									4			3		
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	10%	6%	0%	3%	5%	9%	5%	7%	11%	9%	12%	8%		
Adj. Flow (vph)	155	324	5	86	457	98	163	243	59	42	145	171		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	155	329	0	86	457	98	163	302	0	0	187	171		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		16.0		10.0	16.0		9.0			14.0	14.0		25.0	10.0
Total Split (s)		35.0		10.0	35.0		10.0			25.0	25.0		25.0	10.0
Total Split (%)		33.3%		9.5%	33.3%		9.5%			23.8%	23.8%		24%	10%
Maximum Green (s)		29.0		5.0	29.0		6.0			19.0	19.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	35.9	29.7		35.9	29.7	0.0	24.2	28.3			16.0	27.2		
Actuated g/C Ratio	0.37	0.31		0.37	0.31	0.00	0.25	0.29			0.16	0.28		
v/c Ratio	0.82	0.60		0.27	0.83	0.47	0.59	0.60			0.80	0.32		
Control Delay	60.2	37.1		23.9	48.7	7.5	39.9	35.5			65.6	6.3		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	60.2	37.1		23.9	48.7	7.5	39.9	35.5			65.6	6.3		
LOS	E	D		C	D	A	D	D			E	A		
Approach Delay		44.5			39.1			37.0			37.2			
Approach LOS		D			D			D			D			
Queue Length 50th (ft)	71	195		37	297	0	85	166			120	0		
Queue Length 95th (ft)	#182	295		66	#431	0	143	257			#217	48		
Internal Link Dist (ft)		382			334			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	190	548		319	553	208	277	565			286	539		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.82	0.60		0.27	0.83	0.47	0.59	0.53			0.65	0.32		

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 97.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 39.6 Intersection LOS: D
Intersection Capacity Utilization 69.7% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: N Harvard Street & Western Avenue

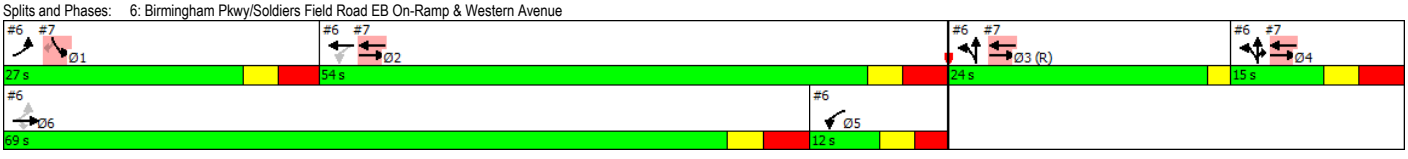


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	115	373	519	180	235	14	491	314	307	0	0	0	
Future Volume (vph)	115	373	519	180	235	14	491	314	307	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	100		0	75		75	0		0	0		0	
Storage Lanes	1		1	1		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98		0.98	1.00	1.00								
Frt			0.850		0.991				0.850				
Flt Protected	0.950			0.950			0.950	0.988					
Satd. Flow (prot)	1805	1810	1599	1752	3438	0	1681	1762	1583	0	0	0	
Flt Permitted	0.406			0.530			0.950	0.988					
Satd. Flow (perm)	759	1810	1563	973	3438	0	1681	1762	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			546		6				263				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		198			2326			603			340		
Travel Time (s)		4.5			52.9			13.7			7.7		
Confl. Peds. (#/hr)	8		2	2		8			2				
Confl. Bikes (#/hr)			1						3				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	5%	1%	3%	4%	0%	2%	1%	2%	2%	2%	2%	
Adj. Flow (vph)	121	393	546	189	247	15	506	324	316	0	0	0	
Shared Lane Traffic (%)							20%						
Lane Group Flow (vph)	121	393	546	189	262	0	405	425	316	0	0	0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	custom				
Protected Phases	1	6		5	2		3 4	3 4	4				3
Permitted Phases	6		6	2									
Detector Phase	1	6	6	5	2		3 4	3 4	4				
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	6.0	8.0				8.0				8.0
Minimum Split (s)	27.0	17.0	17.0	12.0	27.0				15.0				24.0
Total Split (s)	27.0	69.0	69.0	12.0	54.0				15.0				24.0
Total Split (%)	22.5%	57.5%	57.5%	10.0%	45.0%				12.5%				20%
Maximum Green (s)	20.5	62.0	62.0	6.0	47.0				8.0				22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0				3.0				2.0
All-Red Time (s)	3.5	4.0	4.0	3.0	4.0				4.0				0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				0.0				
Total Lost Time (s)	6.5	7.0	7.0	6.0	7.0				7.0				
Lead/Lag	Lead	Lead	Lead	Lag	Lag				Lag				Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0				3.0				3.0
Recall Mode	None	None	None	None	None				None				C-Max
Walk Time (s)	7.0				7.0								7.0
Flash Dont Walk (s)	13.5				9.0								15.0
Pedestrian Calls (#/hr)	5				5								5
Act Effct Green (s)	36.7	36.2	36.2	36.7	35.7		53.4	53.4	8.0				
Actuated g/C Ratio	0.31	0.30	0.30	0.31	0.30		0.44	0.44	0.07				
v/c Ratio	0.33	0.72	0.64	0.48	0.26		0.54	0.54	0.90				
Control Delay	23.9	35.0	4.0	38.0	30.1		31.8	31.6	40.5				
Queue Delay	3.6	0.8	0.3	0.0	0.0		0.0	0.0	0.0				
Total Delay	27.5	35.8	4.3	38.0	30.1		31.8	31.6	40.5				
LOS	C	D	A	D	C		C	C	D				
Approach Delay		18.6			33.4			34.1					
Approach LOS		B			C			C					
Queue Length 50th (ft)	51	236	4	113	78		236	249	40				
Queue Length 95th (ft)	71	272	13	154	98		#443	#458	#205				
Internal Link Dist (ft)		118			2246			523			260		
Turn Bay Length (ft)	100			75									
Base Capacity (vph)	410	935	1071	397	1350		748	784	351				
Starvation Cap Reductn	211	271	143	0	0		0	0	0				
Spillback Cap Reductn	0	0	0	0	8		0	0	0				
Storage Cap Reductn	0	0	0	0	0		0	0	0				
Reduced v/c Ratio	0.61	0.59	0.59	0.48	0.20		0.54	0.54	0.90				

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

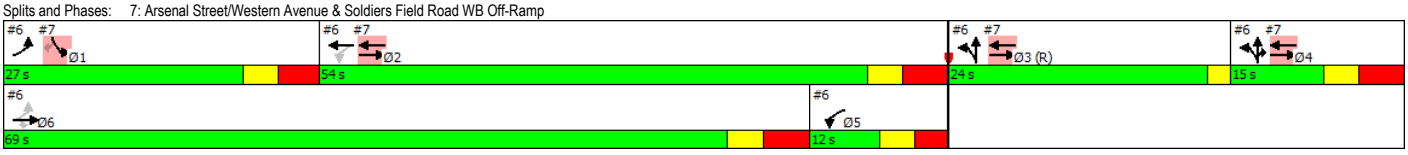
Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3	Ø4	Ø5	Ø6
Lane Configurations											
Traffic Volume (vph)	0	756	722	0	255	82					
Future Volume (vph)	0	756	722	0	255	82					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)	0			0	100	0					
Storage Lanes	0			0	1	1					
Taper Length (ft)	25				25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00					
Ped Bike Factor					0.99	0.98					
Frt						0.850					
Flt Protected					0.950						
Satd. Flow (prot)	0	3539	3539	0	3335	1615					
Flt Permitted					0.950						
Satd. Flow (perm)	0	3539	3539	0	3315	1584					
Right Turn on Red				Yes		Yes					
Satd. Flow (RTOR)						89					
Link Speed (mph)		30	30		30						
Link Distance (ft)		327	198		339						
Travel Time (s)		7.4	4.5		7.7						
Confl. Peds. (#/hr)					2	2					
Confl. Bikes (#/hr)				1		3					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Heavy Vehicles (%)	2%	2%	2%	2%	5%	0%					
Adj. Flow (vph)	0	822	785	0	277	89					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	822	785	0	277	89					
Turn Type		NA	NA		Prot	Perm					
Protected Phases		2 3 4	2 3 4		1		2	3	4	5	6
Permitted Phases						1					
Detector Phase		2 3 4	2 3 4		1	1					
Switch Phase											
Minimum Initial (s)					8.0	8.0	8.0	8.0	8.0	6.0	8.0
Minimum Split (s)					27.0	27.0	27.0	24.0	15.0	12.0	17.0
Total Split (s)					27.0	27.0	54.0	24.0	15.0	12.0	69.0
Total Split (%)					22.5%	22.5%	45%	20%	13%	10%	58%
Maximum Green (s)					20.5	20.5	47.0	22.0	8.0	6.0	62.0
Yellow Time (s)					3.0	3.0	3.0	2.0	3.0	3.0	3.0
All-Red Time (s)					3.5	3.5	4.0	0.0	4.0	3.0	4.0
Lost Time Adjust (s)					0.0	0.0					
Total Lost Time (s)					6.5	6.5					
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Max	None	None	None
Walk Time (s)					7.0	7.0	7.0	7.0			
Flash Dont Walk (s)					13.5	13.5	9.0	15.0			
Pedestrian Calls (#/hr)					5	5	5	5			
Act Effct Green (s)		91.1	91.1		15.4	15.4					
Actuated g/C Ratio		0.76	0.76		0.13	0.13					
v/c Ratio		0.31	0.29		0.65	0.32					
Control Delay		5.2	2.8		56.5	12.1					
Queue Delay		0.1	0.5		0.3	0.0					
Total Delay		5.2	3.2		56.8	12.1					
LOS		A	A		E	B					
Approach Delay		5.2	3.2		45.9						
Approach LOS		A	A		D						
Queue Length 50th (ft)		88	21		106	0					
Queue Length 95th (ft)		136	72		145	46					
Internal Link Dist (ft)		247	118		259						
Turn Bay Length (ft)					100						
Base Capacity (vph)		2644	2644		569	344					
Starvation Cap Reductn		0	1290		0	0					
Spillback Cap Reductn		484	0		47	0					
Storage Cap Reductn		0	0		0	0					
Reduced v/c Ratio		0.38	0.58		0.53	0.26					

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Arsenal Street/Western Avenue & Soldiers Field Road WB Off-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	532	946	453	181	127	215	0	0	783	93
Future Volume (vph)	0	0	532	946	453	181	127	215	0	0	783	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				0.99	0.98			1.00			1.00	
Frt			0.850		0.974						0.984	
Flt Protected				0.950	0.981			0.982				
Satd. Flow (prot)	0	0	2656	1610	3155	0	0	3406	0	0	3539	0
Flt Permitted				0.950	0.981			0.982				
Satd. Flow (perm)	0	0	2656	1601	3147	0	0	3399	0	0	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		24						12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			6	6		88	19		57	57		19
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.84	0.84	0.84	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	7%	2%	5%	0%	11%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	619	985	472	189	151	256	0	0	842	100
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	0	619	552	1094	0	0	407	0	0	942	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (%)			32.0%	36.0%	36.0%		32.0%	32.0%			32.0%	
Maximum Green (s)			25.0	30.0	30.0		25.0	25.0			26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			Max	C-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)			18.0	23.0	23.0		18.0	18.0			19.0	
Pedestrian Calls (#/hr)			62	88	88		62	62			25	
Act Effct Green (s)			25.0	30.0	30.0			25.0			26.0	
Actuated g/C Ratio			0.25	0.30	0.30			0.25			0.26	
v/c Ratio			0.84	1.14	1.14			0.48			1.01	
Control Delay			41.6	120.3	107.1			34.2			70.2	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			41.6	120.3	107.1			34.2			70.2	
LOS			D	F	F			C			E	
Approach Delay		41.6			111.5			34.2			70.2	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)			181	~454	~444			116			~321	
Queue Length 95th (ft)			#244	#681	#581			151			#460	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			737	483	963			851			929	
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			0.84	1.14	1.14			0.48			1.01	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 80.1 Intersection LOS: F
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

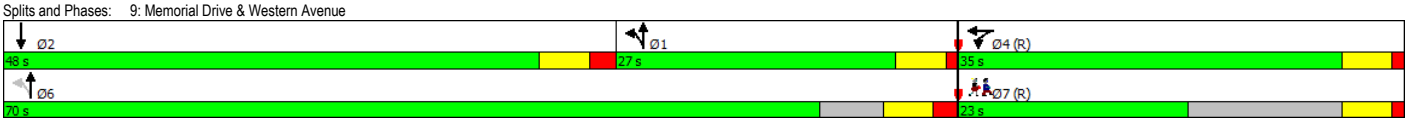
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	106	1004	105	332	583	0	0	897	244		
Future Volume (vph)	0	0	0	106	1004	105	332	583	0	0	897	244		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.98						0.99			
Frt					0.987						0.968			
Flt Protected					0.996		0.950							
Satd. Flow (prot)	0	0	0	0	4857	0	1805	1900	0	0	3445	0		
Flt Permitted					0.996		0.083							
Satd. Flow (perm)	0	0	0	0	4856	0	158	1900	0	0	3445	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					14						36			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				3		86						57		
Confl. Bikes (#/hr)									1					
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88		
Heavy Vehicles (%)	2%	2%	2%	1%	4%	0%	0%	0%	0%	0%	0%	1%		
Adj. Flow (vph)	0	0	0	112	1057	111	365	641	0	0	1019	277		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1280	0	365	641	0	0	1296	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		70.0	15.0
Total Split (s)				35.0	35.0		27.0				48.0		70.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		64%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		64.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		59.0	5.0
Pedestrian Calls (#/hr)							0				89		0	89
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					0.96		0.85	0.53			0.97			
Control Delay					56.1		55.5	13.0			51.3			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					56.1		55.5	13.0			51.3			
LOS					E		E	B			D			
Approach Delay					56.1			28.4			51.3			
Approach LOS					E			C			D			
Queue Length 50th (ft)					323		195	229			456			
Queue Length 95th (ft)					#423		#356	321			#589			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1334		429	1209			1337			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					0.96		0.85	0.53			0.97			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 85 (77%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 46.6 Intersection LOS: D
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Memorial Drive & Western Avenue

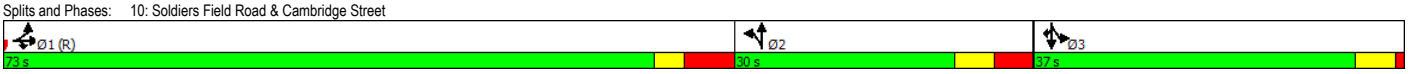


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1235	367	0	0	0	381	158	142	523	246	55
Future Volume (vph)	187	1235	367	0	0	0	381	158	142	523	246	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		1.00					0.97	0.91		0.89	0.94	
Frt		0.996	0.850					0.937				0.850
Flt Protected		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (prot)	0	4742	1389	0	0	0	1715	1544	0	1610	3337	1429
Flt Permitted		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (perm)	0	4733	1389	0	0	0	1657	1538	0	1427	3141	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3	330					22				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	6		18				34		80	80		34
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.25	0.25	0.25	0.95	0.95	0.95	0.83	0.83	0.83
Heavy Vehicles (%)	4%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	13%
Adj. Flow (vph)	201	1328	395	0	0	0	401	166	149	630	296	66
Shared Lane Traffic (%)			10%				10%			50%		
Lane Group Flow (vph)	0	1569	355	0	0	0	361	355	0	315	611	66
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	73.0	73.0	73.0				30.0	30.0		37.0	37.0	37.0
Total Split (%)	52.1%	52.1%	52.1%				21.4%	21.4%		26.4%	26.4%	26.4%
Maximum Green (s)	65.0	65.0	65.0				22.0	22.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		62.7	62.7				24.7	24.7		31.6	31.6	31.6
Actuated g/C Ratio		0.45	0.45				0.18	0.18		0.23	0.23	0.23
v/c Ratio		0.74	0.44				1.20	1.22		0.87	0.81	0.17
Control Delay		34.1	4.9				164.3	172.1		75.7	61.0	3.2
Queue Delay		48.2	0.0				0.0	0.1		0.0	0.0	0.0
Total Delay		82.3	4.9				164.3	172.2		75.7	61.0	3.2
LOS		F	A				F	F		E	E	A
Approach Delay		68.0						168.3			61.8	
Approach LOS		E						F			E	
Queue Length 50th (ft)		434	13				~450	~430		305	291	0
Queue Length 95th (ft)		495	86				#661	#644		#415	331	7
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2203	821				302	290		368	762	404
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		783	0				0	3		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		1.10	0.43				1.20	1.24		0.86	0.80	0.16

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 86.1 Intersection LOS: F
Intersection Capacity Utilization 108.5% 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.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



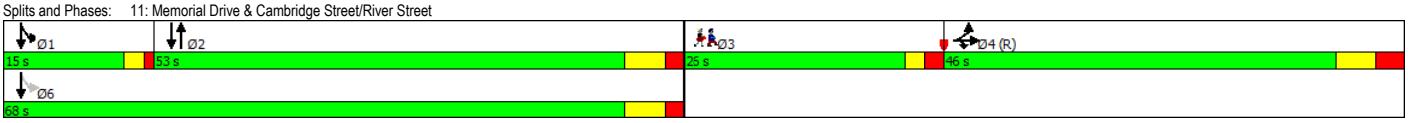
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	186	977	735	0	0	0	0	729	71	77	925	0		
Future Volume (vph)	186	977	735	0	0	0	0	729	71	77	925	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		1.00						1.00						
Frt			0.850					0.987						
Flt Protected		0.992									0.996			
Satd. Flow (prot)	0	3488	1615	0	0	0	0	3552	0	0	3596	0		
Flt Permitted		0.992									0.624			
Satd. Flow (perm)	0	3481	1615	0	0	0	0	3552	0	0	2253	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			352					8						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	11		21						8	8				
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96		
Heavy Vehicles (%)	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	194	1018	766	0	0	0	0	792	77	80	964	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1212	766	0	0	0	0	869	0	0	1044	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		12.0			1.0	25.0
Minimum Split (s)	46.0	46.0	46.0					25.0		15.0			26.0	31.0
Total Split (s)	46.0	46.0	46.0					53.0		15.0			26.0	68.0
Total Split (%)	32.9%	32.9%	32.9%					37.9%		10.7%			19%	49%
Maximum Green (s)	39.0	39.0	39.0					47.0		12.0			22.0	62.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	32.0	32.0	32.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		50.4	50.4					46.0			64.0			
Actuated g/C Ratio		0.36	0.36					0.33			0.46			
v/c Ratio		0.97	0.95					0.74			0.91			
Control Delay		46.0	35.2					45.7			45.3			
Queue Delay		11.6	23.7					0.0			0.0			
Total Delay		57.6	58.9					45.7			45.3			
LOS		E	E					D			D			
Approach Delay		58.1						45.7			45.3			
Approach LOS		E						D			D			
Queue Length 50th (ft)		~732	~185					362			371			
Queue Length 95th (ft)		m#847	m#819					441			#460			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1254	806					1197			1161			
Starvation Cap Reductn		66	76					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		1.02	1.05					0.73			0.90			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 51.9 Intersection LOS: D
Intersection Capacity Utilization 97.0% ICU Level of Service F
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: 11: Memorial Drive & Cambridge Street/River Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	2098	49	0	1162	0	39	0	363	25	174	1	
Future Volume (vph)	0	2098	49	0	1162	0	39	0	363	25	174	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.997						0.878			0.999		
Flt Protected								0.995			0.994		
Satd. Flow (prot)	0	3597	0	0	3610	0	0	1641	0	0	1832	0	
Flt Permitted								0.961			0.877		
Satd. Flow (perm)	0	3597	0	0	3610	0	0	1585	0	0	1616	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5						121					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		332			385			263			112		
Travel Time (s)		7.5			8.8			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.96	0.96	0.96	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	
Adj. Flow (vph)	0	2119	49	0	1236	0	43	0	403	26	181	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	2168	0	0	1236	0	0	446	0	0	208	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		1.08			0.61			0.87			0.48		
Control Delay		62.6			12.7			39.4			27.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		62.6			12.7			39.4			27.7		
LOS		E			B			D			C		
Approach Delay		62.6			12.7			39.4			27.7		
Approach LOS		E			B			D			C		
Queue Length 50th (ft)		~603			185			147			81		
Queue Length 95th (ft)		#743			245			#314			144		
Internal Link Dist (ft)		252			305			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2016			2021			511			430		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.08			0.61			0.87			0.48		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.0		Intersection LOS: D	
Intersection Capacity Utilization 96.9%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	556	65	53	420	1	38	7	61	6	6	7
Future Volume (vph)	17	556	65	53	420	1	38	7	61	6	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.99	0.96		0.99	
Frt		0.986							0.850		0.949	
Flt Protected		0.999		0.950				0.959			0.985	
Satd. Flow (prot)	0	1722	0	1711	1766	0	0	1761	1507	0	1643	0
Flt Permitted		0.986		0.409				0.735			0.878	
Satd. Flow (perm)	0	1699	0	726	1766	0	0	1337	1453	0	1459	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							82		12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	9		18	18		9	8		5	5		8
Confl. Bikes (#/hr)			1						2			
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.74	0.74	0.74	0.59	0.59	0.59
Heavy Vehicles (%)	0%	5%	0%	2%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	19	618	72	56	442	1	51	9	82	10	10	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	709	0	56	443	0	0	60	82	0	32	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	59.0	59.0		59.0	59.0		21.0	21.0	21.0	21.0	21.0	
Total Split (%)	73.8%	73.8%		73.8%	73.8%		26.3%	26.3%	26.3%	26.3%	26.3%	
Maximum Green (s)	54.0	54.0		54.0	54.0		16.0	16.0	16.0	16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		64.6		64.6	64.6			9.0	9.0		9.0	
Actuated g/C Ratio		0.81		0.81	0.81			0.11	0.11		0.11	
v/c Ratio		0.52		0.10	0.31			0.40	0.35		0.18	
Control Delay		5.3		0.5	0.8			40.7	12.4		25.2	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		5.3		0.5	0.8			40.7	12.4		25.2	
LOS		A		A	A			D	B		C	
Approach Delay		5.3			0.7			24.3			25.2	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		99		0	1			29	0		9	
Queue Length 95th (ft)		205		m0	m1			50	24		19	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1374		586	1425			267	356		301	
Starvation Cap Reductn		0		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.52		0.10	0.31			0.22	0.23		0.11	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 68 (85%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.1 Intersection LOS: A
Intersection Capacity Utilization 63.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

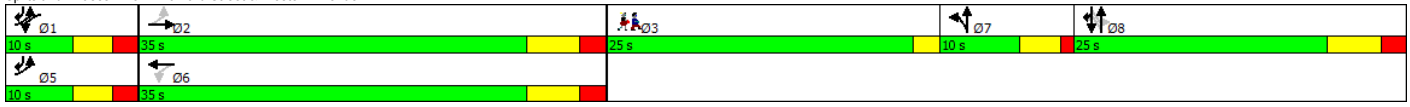
Splits and Phases: 4: Telford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	141	295	5	72	384	82	153	228	55	37	129	152		
Future Volume (vph)	141	295	5	72	384	82	153	228	55	37	129	152		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.998				0.850		0.971				0.850		
Flt Protected	0.950			0.950			0.950				0.989			
Satd. Flow (prot)	1532	1790	0	1752	1810	1679	1719	1703	0	0	1688	1495		
Flt Permitted	0.214			0.390			0.503				0.837			
Satd. Flow (perm)	345	1790	0	719	1810	1679	910	1703	0	0	1429	1495		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				208		12				171		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			414			224			308			
Travel Time (s)		10.5			9.4			5.1			7.0			
Confl. Bikes (#/hr)									4			3		
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	10%	6%	0%	3%	5%	9%	5%	7%	11%	9%	12%	8%		
Adj. Flow (vph)	155	324	5	86	457	98	163	243	59	42	145	171		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	155	329	0	86	457	98	163	302	0	0	187	171		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		16.0		10.0	16.0		9.0			14.0	14.0		25.0	10.0
Total Split (s)		35.0		10.0	35.0		10.0			25.0	25.0		25.0	10.0
Total Split (%)		33.3%		9.5%	33.3%		9.5%			23.8%	23.8%		24%	10%
Maximum Green (s)		29.0		5.0	29.0		6.0			19.0	19.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	35.9	29.7		35.9	29.7	0.0	24.2	28.3			16.0	27.2		
Actuated g/C Ratio	0.37	0.31		0.37	0.31	0.00	0.25	0.29			0.16	0.28		
v/c Ratio	0.82	0.60		0.27	0.83	0.47	0.59	0.60			0.80	0.32		
Control Delay	60.2	37.1		23.9	48.7	7.5	39.9	35.5			65.6	6.3		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	60.2	37.1		23.9	48.7	7.5	39.9	35.5			65.6	6.3		
LOS	E	D		C	D	A	D	D			E	A		
Approach Delay		44.5			39.1			37.0			37.2			
Approach LOS		D			D			D			D			
Queue Length 50th (ft)	71	195		37	297	0	85	166			120	0		
Queue Length 95th (ft)	#182	295		66	#431	0	143	257			#217	48		
Internal Link Dist (ft)		382			334			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	190	548		319	553	208	277	565			286	539		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	0.82	0.60		0.27	0.83	0.47	0.59	0.53			0.65	0.32		

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 97.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 39.6 Intersection LOS: D
Intersection Capacity Utilization 69.7% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: N Harvard Street & Western Avenue

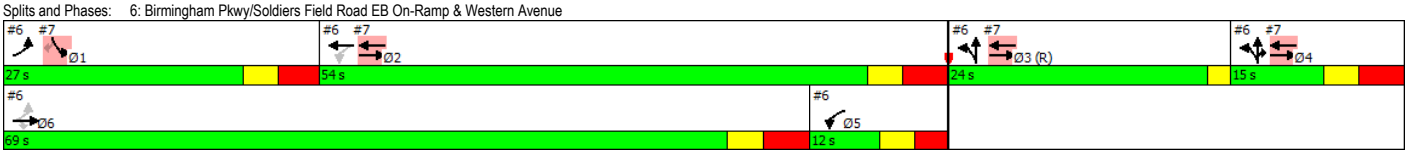


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	115	373	519	180	235	14	491	314	307	0	0	0	
Future Volume (vph)	115	373	519	180	235	14	491	314	307	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	100		0	75		75	0		0	0		0	
Storage Lanes	1		1	1		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98		0.98	1.00	1.00								
Frt			0.850		0.991				0.850				
Flt Protected	0.950			0.950			0.950	0.988					
Satd. Flow (prot)	1805	1810	1599	1752	3438	0	1681	1762	1583	0	0	0	
Flt Permitted	0.406			0.530			0.950	0.988					
Satd. Flow (perm)	759	1810	1563	973	3438	0	1681	1762	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			546		6				263				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		198			2326			603			340		
Travel Time (s)		4.5			52.9			13.7			7.7		
Confl. Peds. (#/hr)	8		2	2		8			2				
Confl. Bikes (#/hr)			1						3				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	5%	1%	3%	4%	0%	2%	1%	2%	2%	2%	2%	
Adj. Flow (vph)	121	393	546	189	247	15	506	324	316	0	0	0	
Shared Lane Traffic (%)							20%						
Lane Group Flow (vph)	121	393	546	189	262	0	405	425	316	0	0	0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	custom				
Protected Phases	1	6		5	2		3 4	3 4	4				3
Permitted Phases	6		6	2									
Detector Phase	1	6	6	5	2		3 4	3 4	4				
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	6.0	8.0				8.0				8.0
Minimum Split (s)	27.0	17.0	17.0	12.0	27.0				15.0				24.0
Total Split (s)	27.0	69.0	69.0	12.0	54.0				15.0				24.0
Total Split (%)	22.5%	57.5%	57.5%	10.0%	45.0%				12.5%				20%
Maximum Green (s)	20.5	62.0	62.0	6.0	47.0				8.0				22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0				3.0				2.0
All-Red Time (s)	3.5	4.0	4.0	3.0	4.0				4.0				0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				0.0				
Total Lost Time (s)	6.5	7.0	7.0	6.0	7.0				7.0				
Lead/Lag	Lead	Lead	Lead	Lag	Lag				Lag				Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0				3.0				3.0
Recall Mode	None	None	None	None	None				None				C-Max
Walk Time (s)	7.0				7.0								7.0
Flash Dont Walk (s)	13.5				9.0								15.0
Pedestrian Calls (#/hr)	5				5								5
Act Effct Green (s)	36.7	36.2	36.2	36.7	35.7		53.4	53.4	8.0				
Actuated g/C Ratio	0.31	0.30	0.30	0.31	0.30		0.44	0.44	0.07				
v/c Ratio	0.33	0.72	0.64	0.48	0.26		0.54	0.54	0.90				
Control Delay	23.9	35.0	4.0	38.0	30.1		31.8	31.6	40.5				
Queue Delay	3.6	0.8	0.3	0.0	0.0		0.0	0.0	0.0				
Total Delay	27.5	35.8	4.3	38.0	30.1		31.8	31.6	40.5				
LOS	C	D	A	D	C		C	C	D				
Approach Delay		18.6			33.4			34.1					
Approach LOS		B			C			C					
Queue Length 50th (ft)	51	236	4	113	78		236	249	40				
Queue Length 95th (ft)	71	272	13	154	98		#443	#458	#205				
Internal Link Dist (ft)		118			2246			523			260		
Turn Bay Length (ft)	100			75									
Base Capacity (vph)	410	935	1071	397	1350		748	784	351				
Starvation Cap Reductn	211	271	143	0	0		0	0	0				
Spillback Cap Reductn	0	0	0	0	8		0	0	0				
Storage Cap Reductn	0	0	0	0	0		0	0	0				
Reduced v/c Ratio	0.61	0.59	0.59	0.48	0.20		0.54	0.54	0.90				

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

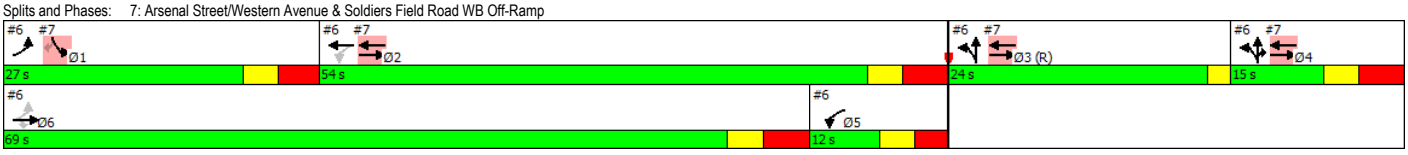
Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3	Ø4	Ø5	Ø6
Lane Configurations											
Traffic Volume (vph)	0	756	722	0	255	82					
Future Volume (vph)	0	756	722	0	255	82					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)	0			0	100	0					
Storage Lanes	0			0	1	1					
Taper Length (ft)	25				25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00					
Ped Bike Factor					0.99	0.98					
Frt						0.850					
Flt Protected					0.950						
Satd. Flow (prot)	0	3539	3539	0	3335	1615					
Flt Permitted					0.950						
Satd. Flow (perm)	0	3539	3539	0	3315	1584					
Right Turn on Red				Yes		Yes					
Satd. Flow (RTOR)						89					
Link Speed (mph)		30	30		30						
Link Distance (ft)		327	198		339						
Travel Time (s)		7.4	4.5		7.7						
Confl. Peds. (#/hr)					2	2					
Confl. Bikes (#/hr)				1		3					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Heavy Vehicles (%)	2%	2%	2%	2%	5%	0%					
Adj. Flow (vph)	0	822	785	0	277	89					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	822	785	0	277	89					
Turn Type		NA	NA		Prot	Perm					
Protected Phases		2 3 4	2 3 4		1		2	3	4	5	6
Permitted Phases						1					
Detector Phase		2 3 4	2 3 4		1	1					
Switch Phase											
Minimum Initial (s)					8.0	8.0	8.0	8.0	8.0	6.0	8.0
Minimum Split (s)					27.0	27.0	27.0	24.0	15.0	12.0	17.0
Total Split (s)					27.0	27.0	54.0	24.0	15.0	12.0	69.0
Total Split (%)					22.5%	22.5%	45%	20%	13%	10%	58%
Maximum Green (s)					20.5	20.5	47.0	22.0	8.0	6.0	62.0
Yellow Time (s)					3.0	3.0	3.0	2.0	3.0	3.0	3.0
All-Red Time (s)					3.5	3.5	4.0	0.0	4.0	3.0	4.0
Lost Time Adjust (s)					0.0	0.0					
Total Lost Time (s)					6.5	6.5					
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Max	None	None	None
Walk Time (s)					7.0	7.0	7.0	7.0			
Flash Dont Walk (s)					13.5	13.5	9.0	15.0			
Pedestrian Calls (#/hr)					5	5	5	5			
Act Effct Green (s)		91.1	91.1		15.4	15.4					
Actuated g/C Ratio		0.76	0.76		0.13	0.13					
v/c Ratio		0.31	0.29		0.65	0.32					
Control Delay		5.2	2.8		56.5	12.1					
Queue Delay		0.1	0.5		0.3	0.0					
Total Delay		5.2	3.2		56.8	12.1					
LOS		A	A		E	B					
Approach Delay		5.2	3.2		45.9						
Approach LOS		A	A		D						
Queue Length 50th (ft)		88	21		106	0					
Queue Length 95th (ft)		136	72		145	46					
Internal Link Dist (ft)		247	118		259						
Turn Bay Length (ft)					100						
Base Capacity (vph)		2644	2644		569	344					
Starvation Cap Reductn		0	1290		0	0					
Spillback Cap Reductn		484	0		47	0					
Storage Cap Reductn		0	0		0	0					
Reduced v/c Ratio		0.38	0.58		0.53	0.26					

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 33 (28%), Referenced to phase 3:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Arsenal Street/Western Avenue & Soldiers Field Road WB Off-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	532	946	453	181	127	215	0	0	783	93
Future Volume (vph)	0	0	532	946	453	181	127	215	0	0	783	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				0.99	0.98			1.00			1.00	
Frt			0.850		0.974						0.984	
Flt Protected				0.950	0.981			0.982				
Satd. Flow (prot)	0	0	2656	1610	3155	0	0	3406	0	0	3539	0
Flt Permitted				0.950	0.981			0.982				
Satd. Flow (perm)	0	0	2656	1601	3147	0	0	3399	0	0	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		24						12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			6	6		88	19		57	57		19
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.84	0.84	0.84	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	7%	2%	5%	0%	11%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	619	985	472	189	151	256	0	0	842	100
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	0	619	552	1094	0	0	407	0	0	942	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (s)			32.0	36.0	36.0		32.0	32.0			32.0	
Total Split (%)			32.0%	36.0%	36.0%		32.0%	32.0%			32.0%	
Maximum Green (s)			25.0	30.0	30.0		25.0	25.0			26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?												
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			Max	C-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)			18.0	23.0	23.0		18.0	18.0			19.0	
Pedestrian Calls (#/hr)			62	88	88		62	62			25	
Act Effct Green (s)			25.0	30.0	30.0			25.0			26.0	
Actuated g/C Ratio			0.25	0.30	0.30			0.25			0.26	
v/c Ratio			0.84	1.14	1.14			0.48			1.01	
Control Delay			41.6	120.3	107.1			34.2			70.2	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			41.6	120.3	107.1			34.2			70.2	
LOS			D	F	F			C			E	
Approach Delay		41.6			111.5			34.2			70.2	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)			181	~454	~444			116			~321	
Queue Length 95th (ft)			#244	#681	#581			151			#460	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			737	483	963			851			929	
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			0.84	1.14	1.14			0.48			1.01	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 80.1 Intersection LOS: F
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

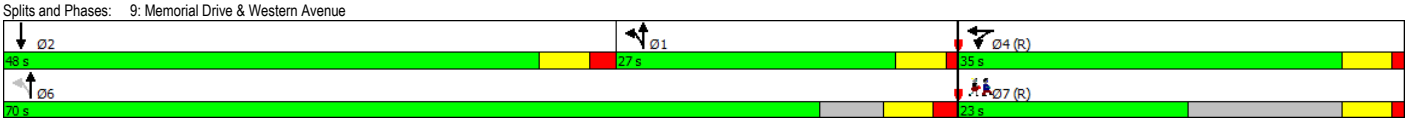
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	106	1004	105	332	583	0	0	897	244		
Future Volume (vph)	0	0	0	106	1004	105	332	583	0	0	897	244		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.98						0.99			
Frt					0.987						0.968			
Flt Protected					0.996		0.950							
Satd. Flow (prot)	0	0	0	0	4857	0	1805	1900	0	0	3445	0		
Flt Permitted					0.996		0.083							
Satd. Flow (perm)	0	0	0	0	4856	0	158	1900	0	0	3445	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					14						36			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				3		86						57		
Confl. Bikes (#/hr)									1					
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88		
Heavy Vehicles (%)	2%	2%	2%	1%	4%	0%	0%	0%	0%	0%	0%	1%		
Adj. Flow (vph)	0	0	0	112	1057	111	365	641	0	0	1019	277		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1280	0	365	641	0	0	1296	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		70.0	15.0
Total Split (s)				35.0	35.0		27.0				48.0		70.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		64%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		64.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		59.0	5.0
Pedestrian Calls (#/hr)							0				89		0	89
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					0.96		0.85	0.53			0.97			
Control Delay					56.1		55.5	13.0			51.3			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					56.1		55.5	13.0			51.3			
LOS					E		E	B			D			
Approach Delay					56.1			28.4			51.3			
Approach LOS					E			C			D			
Queue Length 50th (ft)					323		195	229			456			
Queue Length 95th (ft)					#423		#356	321			#589			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1334		429	1209			1337			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					0.96		0.85	0.53			0.97			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 85 (77%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 46.6 Intersection LOS: D
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Memorial Drive & Western Avenue

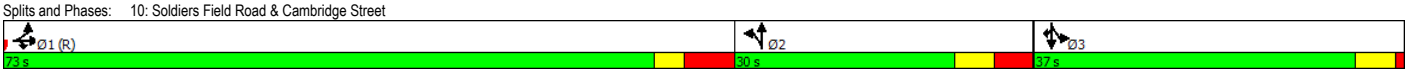


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1235	367	0	0	0	381	158	142	523	246	55
Future Volume (vph)	187	1235	367	0	0	0	381	158	142	523	246	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		1.00					0.97	0.91		0.89	0.94	
Frt		0.996	0.850					0.937				0.850
Flt Protected		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (prot)	0	4742	1389	0	0	0	1715	1544	0	1610	3337	1429
Flt Permitted		0.994					0.950	0.994		0.950	0.975	
Satd. Flow (perm)	0	4733	1389	0	0	0	1657	1538	0	1427	3141	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3	330					22				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	6		18				34		80	80		34
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.25	0.25	0.25	0.95	0.95	0.95	0.83	0.83	0.83
Heavy Vehicles (%)	4%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	13%
Adj. Flow (vph)	201	1328	395	0	0	0	401	166	149	630	296	66
Shared Lane Traffic (%)			10%				10%			50%		
Lane Group Flow (vph)	0	1569	355	0	0	0	361	355	0	315	611	66
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	73.0	73.0	73.0				30.0	30.0		37.0	37.0	37.0
Total Split (%)	52.1%	52.1%	52.1%				21.4%	21.4%		26.4%	26.4%	26.4%
Maximum Green (s)	65.0	65.0	65.0				22.0	22.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		62.7	62.7				24.7	24.7		31.6	31.6	31.6
Actuated g/C Ratio		0.45	0.45				0.18	0.18		0.23	0.23	0.23
v/c Ratio		0.74	0.44				1.20	1.22		0.87	0.81	0.17
Control Delay		34.1	4.9				164.3	172.1		75.7	61.0	3.2
Queue Delay		48.2	0.0				0.0	0.1		0.0	0.0	0.0
Total Delay		82.3	4.9				164.3	172.2		75.7	61.0	3.2
LOS		F	A				F	F		E	E	A
Approach Delay		68.0						168.3			61.8	
Approach LOS		E						F			E	
Queue Length 50th (ft)		434	13				~450	~430		305	291	0
Queue Length 95th (ft)		495	86				#661	#644		#415	331	7
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2203	821				302	290		368	762	404
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		783	0				0	3		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		1.10	0.43				1.20	1.24		0.86	0.80	0.16

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 86.1 Intersection LOS: F
Intersection Capacity Utilization 108.5% 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.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



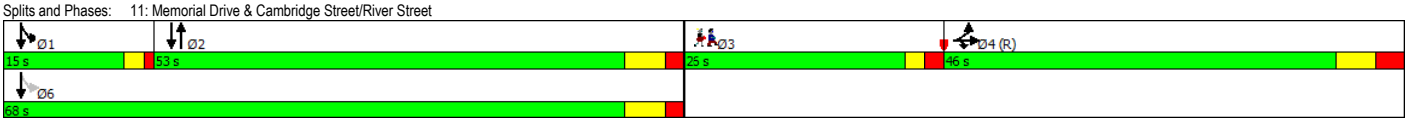
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	186	977	735	0	0	0	0	729	71	77	925	0		
Future Volume (vph)	186	977	735	0	0	0	0	729	71	77	925	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		1.00						1.00						
Frt			0.850					0.987						
Flt Protected		0.992									0.996			
Satd. Flow (prot)	0	3488	1615	0	0	0	0	3552	0	0	3596	0		
Flt Permitted		0.992									0.624			
Satd. Flow (perm)	0	3481	1615	0	0	0	0	3552	0	0	2253	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			352					8						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	11		21						8	8				
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96		
Heavy Vehicles (%)	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	194	1018	766	0	0	0	0	792	77	80	964	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1212	766	0	0	0	0	869	0	0	1044	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		12.0			1.0	25.0
Minimum Split (s)	46.0	46.0	46.0					25.0		15.0			26.0	31.0
Total Split (s)	46.0	46.0	46.0					53.0		15.0			26.0	68.0
Total Split (%)	32.9%	32.9%	32.9%					37.9%		10.7%			19%	49%
Maximum Green (s)	39.0	39.0	39.0					47.0		12.0			22.0	62.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	32.0	32.0	32.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		50.4	50.4					46.0			64.0			
Actuated g/C Ratio		0.36	0.36					0.33			0.46			
v/c Ratio		0.97	0.95					0.74			0.91			
Control Delay		46.0	35.2					45.7			45.3			
Queue Delay		11.6	23.7					0.0			0.0			
Total Delay		57.6	58.9					45.7			45.3			
LOS		E	E					D			D			
Approach Delay		58.1						45.7			45.3			
Approach LOS		E						D			D			
Queue Length 50th (ft)		~732	~185					362			371			
Queue Length 95th (ft)		m#847	m#819					441			#460			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1254	806					1197			1161			
Starvation Cap Reductn		66	76					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		1.02	1.05					0.73			0.90			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 51.9 Intersection LOS: D
Intersection Capacity Utilization 97.0% ICU Level of Service F
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.

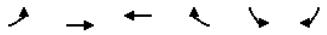
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	2	396	29	30	193
Future Volume (Veh/h)	15	2	396	29	30	193
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.42	0.42	0.89	0.89	0.87	0.87
Hourly flow rate (vph)	36	5	445	33	34	222
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.83	0.79			0.79	
vC, conflicting volume	756	464			481	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	387	190			211	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	99			97	
cM capacity (veh/h)	497	676			1081	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	41	478	256
Volume Left	36	0	34
Volume Right	5	33	0
cSH	513	1700	1081
Volume to Capacity	0.08	0.28	0.03
Queue Length 95th (ft)	6	0	2
Control Delay (s)	12.6	0.0	1.4
Lane LOS	B		A
Approach Delay (s)	12.6	0.0	1.4
Approach LOS	B		

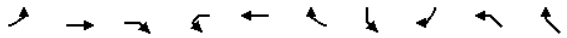
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	45.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	643	603	3	4	3
Future Volume (Veh/h)	2	643	603	3	4	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.93	0.93	0.58	0.58
Hourly flow rate (vph)	2	714	648	3	7	5
Pedestrians			2		16	
Lane Width (ft)			11.0		12.0	
Walking Speed (ft/s)			3.5		3.5	
Percent Blockage			0		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		469	380			
pX, platoon unblocked	0.88				0.76	0.88
vC, conflicting volume	667				1386	666
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	548				983	547
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				97	99
cM capacity (veh/h)	889				208	466

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	716	651	12
Volume Left	2	0	7
Volume Right	0	3	5
cSH	889	1700	271
Volume to Capacity	0.00	0.38	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.1	0.0	18.9
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	18.9
Approach LOS			C

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		45.4%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	21	441	180	16	653	20	0	0	0	0
Future Volume (Veh/h)	21	441	180	16	653	20	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	479	196	16	673	21	0	0	0	0
Pedestrians							40		9	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.71			0.84			0.79	0.71	0.79	0.79
vC, conflicting volume	734			684			1486	724	1348	1398
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	421			526			1019	406	845	908
tC, single (s)	4.1			4.2			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.3			4.0	3.3	3.5	4.0
p0 queue free %	97			98			100	100	100	100
cM capacity (veh/h)	816			855			179	458	216	207

Direction, Lane #	EB 1	WB 1
Volume Total	698	710
Volume Left	23	16
Volume Right	196	21
cSH	816	855
Volume to Capacity	0.03	0.02
Queue Length 95th (ft)	2	1
Control Delay (s)	0.7	0.5
Lane LOS	A	A
Approach Delay (s)	0.7	0.5
Approach LOS		

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	9	136	4	0	5	0	396	20	7	199	0
Future Volume (Veh/h)	35	9	136	4	0	5	0	396	20	7	199	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.75	0.75	0.75	0.95	0.95	0.95	0.86	0.86	0.86
Hourly flow rate (vph)	40	10	155	5	0	7	0	417	21	8	231	0
Pedestrians		49			62			24			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		5			6			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	734	796	304	920	786	492	280			500		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	640	710	158	850	698	492	131			500		
tC, single (s)	7.1	6.5	6.3	7.3	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.7	4.0	3.3	2.2			2.2		
p0 queue free %	87	97	78	97	100	99	100			99		
cM capacity (veh/h)	299	286	720	147	291	545	1246			1011		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	205	12	438	239
Volume Left	40	5	0	8
Volume Right	155	7	21	0
cSH	534	256	1700	1011
Volume to Capacity	0.38	0.05	0.26	0.01
Queue Length 95th (ft)	45	4	0	1
Control Delay (s)	15.9	19.8	0.0	0.4
Lane LOS	C	C		A
Approach Delay (s)	15.9	19.8	0.0	0.4
Approach LOS	C	C		

Intersection Summary					
Average Delay			4.0		
Intersection Capacity Utilization			42.2%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	13	401	155	216	508	87	98	318	112	90	290	47	
Future Volume (vph)	13	401	155	216	508	87	98	318	112	90	290	47	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	228		0	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor			0.98					0.99					
Frt			0.850		0.978			0.961			0.985		
Flt Protected		0.998		0.950			0.950				0.990		
Satd. Flow (prot)	0	1798	1561	1745	1766	0	1685	1695	0	0	1729	0	
Flt Permitted		0.488		0.234			0.347				0.320		
Satd. Flow (perm)	0	879	1525	430	1766	0	615	1695	0	0	559	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			145		10			19			7		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			148			154			332		
Travel Time (s)		13.0			3.4			3.5			7.5		
Confl. Bikes (#/hr)			3						1				
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	14	436	168	230	540	93	110	357	126	97	312	51	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	450	168	230	633	0	110	483	0	0	460	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			5			5		2
Permitted Phases	1		1	1			5			5			
Detector Phase	1	1	1	1	1		5	5		5	5		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0		13.0	13.0		13.0	13.0		28.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0		27.0	27.0		27.0	27.0		28.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		30.0%	30.0%		30.0%	30.0%		31%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		22.0	22.0		22.0	22.0		22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0		4.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0		
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		2.0	2.0		2.0	2.0		0.2
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													82
Act Effct Green (s)		30.0	30.0	30.0	30.0		27.6	27.6			27.6		
Actuated g/C Ratio		0.33	0.33	0.33	0.33		0.31	0.31			0.31		
v/c Ratio		1.54	0.28	1.61	1.06		0.59	0.91			2.63		
Control Delay		281.3	4.5	329.8	85.7		46.3	56.0			764.7		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		281.3	4.5	329.8	85.7		46.3	56.0			764.7		
LOS		F	A	F	F		D	E			F		
Approach Delay		206.1			150.8			54.2			764.7		
Approach LOS		F			F			D			F		
Queue Length 50th (ft)		~294	4	~189	~398		58	~314			~470		
Queue Length 95th (ft)		#544	27	#331	#609		#143	#498			#590		
Internal Link Dist (ft)		494			68			74			252		
Turn Bay Length (ft)			137	130			228						
Base Capacity (vph)		293	605	143	595		188	532			175		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		1.54	0.28	1.61	1.06		0.59	0.91			2.63		

Intersection Summary

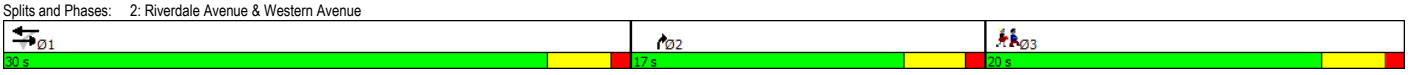
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.63
Intersection Signal Delay: 253.1 Intersection LOS: F
Intersection Capacity Utilization 117.2% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Everett Street & Western Avenue

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3
Lane Configurations							
Traffic Volume (vph)	595	22	36	786	0	70	
Future Volume (vph)	595	22	36	786	0	70	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			1.00			
Frt	0.995					0.865	
Flt Protected				0.998			
Satd. Flow (prot)	1790	0	0	1799	0	1644	
Flt Permitted				0.964			
Satd. Flow (perm)	1790	0	0	1737	0	1644	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	3					485	
Link Speed (mph)	30			30	30		
Link Distance (ft)	380			242	179		
Travel Time (s)	8.6			5.5	4.1		
Confl. Peds. (#/hr)		21	21				
Confl. Bikes (#/hr)		2					
Peak Hour Factor	0.95	0.95	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%	
Adj. Flow (vph)	626	23	39	854	0	76	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	649	0	0	893	0	76	
Turn Type	NA		Perm	NA		Prot	
Protected Phases	1			1		2	3
Permitted Phases			1			2	
Detector Phase	1		1	1		2	
Switch Phase							
Minimum Initial (s)	15.0		15.0	15.0		1.0	5.0
Minimum Split (s)	19.0		19.0	19.0		5.0	20.0
Total Split (s)	30.0		30.0	30.0		17.0	20.0
Total Split (%)	44.8%		44.8%	44.8%		25.4%	30%
Maximum Green (s)	26.0		26.0	26.0		13.0	16.0
Yellow Time (s)	3.0		3.0	3.0		3.0	3.0
All-Red Time (s)	1.0		1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0			0.0		0.0	
Total Lost Time (s)	4.0			4.0		4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0		2.0	2.0		0.2	3.0
Recall Mode	Max		Max	Max		None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							9.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)	33.5			33.5		2.7	
Actuated g/C Ratio	0.83			0.83		0.07	
v/c Ratio	0.44			0.62		0.13	
Control Delay	3.0			5.3		0.5	
Queue Delay	0.0			0.0		0.0	
Total Delay	3.0			5.3		0.5	
LOS	A			A		A	
Approach Delay	3.0			5.3	0.5		
Approach LOS	A			A	A		
Queue Length 50th (ft)	33			61		0	
Queue Length 95th (ft)	65			137		0	
Internal Link Dist (ft)	300			162	99		
Turn Bay Length (ft)							
Base Capacity (vph)	1483			1438		860	
Starvation Cap Reductn	0			0		0	
Spillback Cap Reductn	0			0		0	
Storage Cap Reductn	0			0		0	
Reduced v/c Ratio	0.44			0.62		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 40.4			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 4.2		Intersection LOS: A	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Riverdale Avenue & Western Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2
Lane Configurations													
Traffic Volume (vph)	0	1319	102	0	1800	0	172	0	265	12	292	4	
Future Volume (vph)	0	1319	102	0	1800	0	172	0	265	12	292	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00						0.99					
Frt		0.989						0.918			0.998		
Flt Protected								0.981			0.998		
Satd. Flow (prot)	0	3564	0	0	3610	0	0	1698	0	0	1892	0	
Flt Permitted								0.486			0.980		
Satd. Flow (perm)	0	3564	0	0	3610	0	0	841	0	0	1858	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		17						101			1		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		173			295			263			112		
Travel Time (s)		3.9			6.7			6.0			2.5		
Confl. Bikes (#/hr)			4						1				
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	0	1374	106	0	1915	0	195	0	301	13	321	4	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	1480	0	0	1915	0	0	496	0	0	338	0	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			3			3		2
Permitted Phases							3			3			
Detector Phase		1			1		3	3		3	3		
Switch Phase													
Minimum Initial (s)		40.0			40.0		20.0	20.0		20.0	20.0		5.0
Minimum Split (s)		43.0			43.0		23.0	23.0		23.0	23.0		7.0
Total Split (s)		45.0			45.0		23.0	23.0		23.0	23.0		7.0
Total Split (%)		60.0%			60.0%		30.7%	30.7%		30.7%	30.7%		9%
Maximum Green (s)		42.0			42.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		2.0			2.0		2.0	2.0		2.0	2.0		2.0
All-Red Time (s)		1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		3.0			3.0			3.0			3.0		
Lead/Lag		Lead			Lead								Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max			Max		Max	Max		Max	Max		Max
Act Effct Green (s)		42.0			42.0			20.0			20.0		
Actuated g/C Ratio		0.56			0.56			0.27			0.27		
v/c Ratio		0.74			0.95			1.66			0.68		
Control Delay		15.1			27.7			334.4			32.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		15.1			27.7			334.4			32.7		
LOS		B			C			F			C		
Approach Delay		15.1			27.7			334.4			32.7		
Approach LOS		B			C			F			C		
Queue Length 50th (ft)		246			402			~309			140		
Queue Length 95th (ft)		326			#603			#475			228		
Internal Link Dist (ft)		93			215			183			32		
Turn Bay Length (ft)													
Base Capacity (vph)		2003			2021			298			496		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.74			0.95			1.66			0.68		

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.66			
Intersection Signal Delay: 59.7		Intersection LOS: E	
Intersection Capacity Utilization 102.2%		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.

Splits and Phases: 3: Everett Street/Driveway & Soldiers Field Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	519	108	60	590	3	74	8	41	9	3	5
Future Volume (vph)	11	519	108	60	590	3	74	8	41	9	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	10	10	10	10
Storage Length (ft)	0		0	180		0	0		67	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.98	0.90		0.95	
Frt		0.977			0.999				0.850		0.959	
Flt Protected		0.999		0.950				0.957			0.974	
Satd. Flow (prot)	0	1751	0	1745	1799	0	0	1758	1507	0	1642	0
Flt Permitted		0.990		0.419				0.720			0.808	
Satd. Flow (perm)	0	1735	0	764	1799	0	0	1302	1356	0	1310	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			1				48		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2326			574			194			336	
Travel Time (s)		52.9			13.0			4.4			7.6	
Confl. Peds. (#/hr)	6		8	8		6	11		31	31		11
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.85	0.85	0.85	0.47	0.47	0.47
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	541	113	64	628	3	87	9	48	19	6	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	665	0	64	631	0	0	96	48	0	36	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			5			5	
Permitted Phases	1			1			5		5	5		
Detector Phase	1	1		1	1		5	5	5	5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	59.0	59.0		59.0	59.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	67.0	67.0		67.0	67.0		23.0	23.0	23.0	23.0	23.0	
Total Split (%)	74.4%	74.4%		74.4%	74.4%		25.6%	25.6%	25.6%	25.6%	25.6%	
Maximum Green (s)	62.0	62.0		62.0	62.0		18.0	18.0	18.0	18.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		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	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		71.4		71.4	71.4			12.2	12.2		12.2	
Actuated g/C Ratio		0.79		0.79	0.79			0.14	0.14		0.14	
v/c Ratio		0.48		0.11	0.44			0.55	0.21		0.19	
Control Delay		5.8		0.2	0.4			47.2	12.1		27.4	
Queue Delay		0.0		0.0	0.3			0.0	0.0		0.0	
Total Delay		5.8		0.2	0.7			47.2	12.1		27.4	
LOS		A		A	A			D	B		C	
Approach Delay		5.8			0.7			35.5			27.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)		113		0	1			52	0		13	
Queue Length 95th (ft)		230		m0	m1			89	26		17	
Internal Link Dist (ft)		2246			494			114			256	
Turn Bay Length (ft)				180					67			
Base Capacity (vph)		1382		606	1427			260	309		270	
Starvation Cap Reductn		0		0	303			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.48		0.11	0.56			0.37	0.16		0.13	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 82 (91%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 67.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Terlford Street Ext/Telford Street & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø5
Lane Configurations														
Traffic Volume (vph)	133	222	8	126	535	138	124	200	31	22	257	223		
Future Volume (vph)	133	222	8	126	535	138	124	200	31	22	257	223		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	10	12	12	12	12	16	12	12	12	12	12	12		
Storage Length (ft)	0		0	0		40	0		0	0		140		
Storage Lanes	1		0	1		1	1		0	0		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor								1.00						
Frt		0.995				0.850		0.980				0.850		
Flt Protected	0.950			0.950			0.950				0.996			
Satd. Flow (prot)	1620	1820	0	1752	1863	1727	1770	1785	0	0	1809	1583		
Flt Permitted	0.118			0.499			0.271				0.954			
Satd. Flow (perm)	201	1820	0	920	1863	1727	505	1785	0	0	1733	1583		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)		1				168		6				211		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		462			451			224			308			
Travel Time (s)		10.5			10.3			5.1			7.0			
Confl. Bikes (#/hr)						1			3			9		
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.85	0.85	0.85	0.94	0.94	0.94		
Heavy Vehicles (%)	4%	4%	0%	3%	2%	6%	2%	4%	4%	0%	5%	2%		
Adj. Flow (vph)	155	258	9	143	608	157	146	235	36	23	273	237		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	155	267	0	143	608	157	146	271	0	0	296	237		
Turn Type	pm+pt	NA		pm+pt	NA	NA	D.P+P	NA		Perm	NA	pt+ov		
Protected Phases	1 5	2		1	6		7	7 8			8	1 5 8	3	5
Permitted Phases	2			6			8			8				
Detector Phase	1 5	2		1	6		7	7 8		8	8	1 5 8		
Switch Phase														
Minimum Initial (s)		10.0		5.0	10.0		5.0			8.0	8.0		1.0	5.0
Minimum Split (s)		24.0		10.0	24.0		9.0			24.0	24.0		25.0	10.0
Total Split (s)		50.0		10.0	50.0		10.0			35.0	35.0		25.0	10.0
Total Split (%)		38.5%		7.7%	38.5%		7.7%			26.9%	26.9%		19%	8%
Maximum Green (s)		44.0		5.0	44.0		6.0			29.0	29.0		23.0	5.0
Yellow Time (s)		4.0		3.0	4.0		3.0			4.0	4.0		2.0	3.0
All-Red Time (s)		2.0		2.0	2.0		1.0			2.0	2.0		0.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0				0.0			
Total Lost Time (s)		6.0		5.0	6.0		4.0				6.0			
Lead/Lag							Lag						Lead	
Lead-Lag Optimize?							Yes						Yes	
Vehicle Extension (s)		2.0		2.0	2.0		2.0			2.0	2.0		0.2	2.0
Recall Mode		Max		None	Max		None			None	None		None	None
Walk Time (s)													5.0	
Flash Dont Walk (s)													18.0	
Pedestrian Calls (#/hr)													50	
Act Effct Green (s)	51.0	44.9		51.0	44.9	0.0	32.5	36.6			24.4	35.6		
Actuated g/C Ratio	0.42	0.37		0.42	0.37	0.00	0.27	0.30			0.20	0.29		
v/c Ratio	1.08	0.39		0.34	0.88	0.93	0.73	0.50			0.85	0.39		
Control Delay	127.6	33.1		26.4	53.6	61.6	58.0	38.3			69.4	8.3		
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay	127.6	33.1		26.4	53.6	61.6	58.0	38.3			69.4	8.3		
LOS	F	C		C	D	E	E	D			E	A		
Approach Delay		67.8			50.7			45.2			42.2			
Approach LOS		E			D			D			D			
Queue Length 50th (ft)	~102	172		74	497	0	92	180			236	15		
Queue Length 95th (ft)	#217	241		119	#712	#114	#150	248			#364	79		
Internal Link Dist (ft)		382			371			144			228			
Turn Bay Length (ft)						40						140		
Base Capacity (vph)	144	677		423	692	168	200	622			424	621		
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0		
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0		
Storage Cap Reductn	0	0		0	0	0	0	0			0	0		
Reduced v/c Ratio	1.08	0.39		0.34	0.88	0.93	0.73	0.44			0.70	0.38		

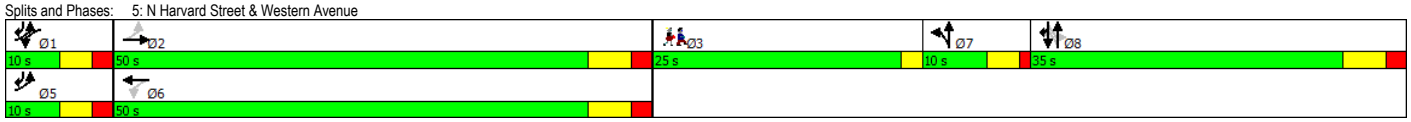
Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 120.7
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 50.9 Intersection LOS: D
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15

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

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

Splits and Phases: 5: N Harvard Street & Western Avenue

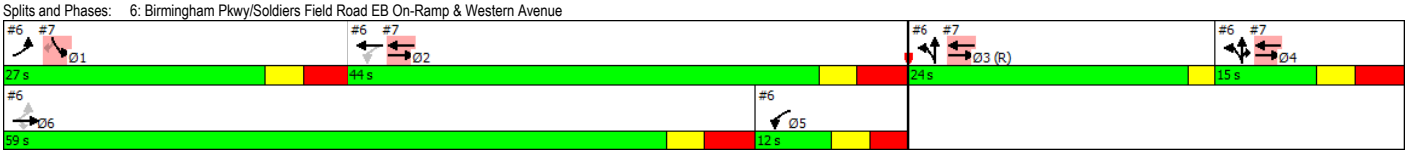


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	45	329	532	346	352	41	584	261	305	0	0	0	
Future Volume (vph)	45	329	532	346	352	41	584	261	305	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	198		0	75		75	0		0	0		0	
Storage Lanes	1		1	1		0	1		1	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.99		0.98	0.99	1.00								
Frt			0.850		0.984				0.850				
Flt Protected	0.950			0.950			0.950	0.981					
Satd. Flow (prot)	1805	1863	1615	1787	3474	0	1715	1771	1583	0	0	0	
Flt Permitted	0.260			0.545			0.950	0.981					
Satd. Flow (perm)	490	1863	1575	1019	3474	0	1715	1771	1583	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			585		12				275				
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		198			2326			603			340		
Travel Time (s)		4.5			52.9			13.7			7.7		
Confl. Peds. (#/hr)	7		3	3		7			7				
Confl. Bikes (#/hr)			2						2				
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	2%	0%	1%	2%	0%	0%	0%	2%	0%	0%	0%	
Adj. Flow (vph)	49	362	585	380	387	45	635	284	332	0	0	0	
Shared Lane Traffic (%)							29%						
Lane Group Flow (vph)	49	362	585	380	432	0	451	468	332	0	0	0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	custom				
Protected Phases	1	6		5	2		3 4	3 4	4				3
Permitted Phases	6		6	2									
Detector Phase	1	6	6	5	2		3 4	3 4	4				
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	6.0	8.0				8.0				8.0
Minimum Split (s)	27.0	27.0	27.0	12.0	27.0				15.0				24.0
Total Split (s)	27.0	59.0	59.0	12.0	44.0				15.0				24.0
Total Split (%)	24.5%	53.6%	53.6%	10.9%	40.0%				13.6%				22%
Maximum Green (s)	20.5	52.0	52.0	6.0	37.0				8.0				22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0				3.0				2.0
All-Red Time (s)	3.5	4.0	4.0	3.0	4.0				4.0				0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				0.0				
Total Lost Time (s)	6.5	7.0	7.0	6.0	7.0				7.0				
Lead/Lag	Lead	Lead	Lead	Lag	Lag				Lag				Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0				3.0				3.0
Recall Mode	None	None	None	None	None				None				C-Max
Walk Time (s)	7.0				7.0								7.0
Flash Dont Walk (s)	13.5				9.0								15.0
Pedestrian Calls (#/hr)	5				5								5
Act Effct Green (s)	31.2	30.7	30.7	38.0	37.0		42.2	42.2	8.0				
Actuated g/C Ratio	0.28	0.28	0.28	0.35	0.34		0.38	0.38	0.07				
v/c Ratio	0.15	0.70	0.68	0.75	0.37		0.69	0.69	0.90				
Control Delay	28.3	43.2	8.1	45.8	27.9		35.9	35.8	38.5				
Queue Delay	0.8	1.0	0.3	0.0	0.0		0.0	0.0	0.0				
Total Delay	29.1	44.2	8.4	45.8	27.9		35.9	35.8	38.5				
LOS	C	D	A	D	C		D	D	D				
Approach Delay		22.4			36.3			36.5					
Approach LOS		C			D			D					
Queue Length 50th (ft)	24	231	13	221	117		274	286	39				
Queue Length 95th (ft)	45	289	46	#365	161		#446	#461	#202				
Internal Link Dist (ft)		118			2246			523			260		
Turn Bay Length (ft)	198			75									
Base Capacity (vph)	384	880	1053	506	1176		657	679	370				
Starvation Cap Reductn	198	284	116	0	0		0	0	0				
Spillback Cap Reductn	0	0	0	0	8		0	0	0				
Storage Cap Reductn	0	0	0	0	0		0	0	0				
Reduced v/c Ratio	0.26	0.61	0.62	0.75	0.37		0.69	0.69	0.90				

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 3:NBTL, Start of Green, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 31.9 Intersection LOS: C
Intersection Capacity Utilization 73.7% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Birmingham Pkwy/Soldiers Field Road EB On-Ramp & Western Avenue

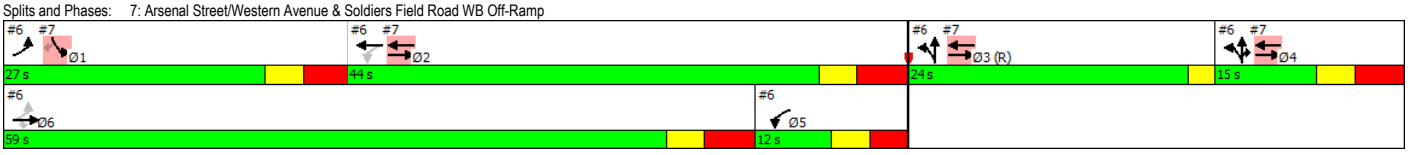


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3	Ø4	Ø5	Ø6
Lane Configurations											
Traffic Volume (vph)	0	629	918	0	276	70					
Future Volume (vph)	0	629	918	0	276	70					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Storage Length (ft)	0			0	100	0					
Storage Lanes	0			0	1	1					
Taper Length (ft)	25				25						
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00					
Ped Bike Factor					0.98	0.97					
Frt						0.850					
Flt Protected					0.950						
Satd. Flow (prot)	0	3610	3610	0	3502	1615					
Flt Permitted					0.950						
Satd. Flow (perm)	0	3610	3610	0	3436	1568					
Right Turn on Red				Yes		Yes					
Satd. Flow (RTOR)						79					
Link Speed (mph)		30	30		30						
Link Distance (ft)		327	198		339						
Travel Time (s)		7.4	4.5		7.7						
Confl. Peds. (#/hr)					7	8					
Confl. Bikes (#/hr)				1		4					
Peak Hour Factor	0.57	0.57	0.84	0.84	0.89	0.89					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%					
Adj. Flow (vph)	0	1104	1093	0	310	79					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1104	1093	0	310	79					
Turn Type		NA	NA		Prot	Perm					
Protected Phases		2 3 4	2 3 4		1		2	3	4	5	6
Permitted Phases						1					
Detector Phase		2 3 4	2 3 4		1	1					
Switch Phase											
Minimum Initial (s)					8.0	8.0	8.0	8.0	8.0	6.0	8.0
Minimum Split (s)					27.0	27.0	27.0	24.0	15.0	12.0	27.0
Total Split (s)					27.0	27.0	44.0	24.0	15.0	12.0	59.0
Total Split (%)					24.5%	24.5%	40%	22%	14%	11%	54%
Maximum Green (s)					20.5	20.5	37.0	22.0	8.0	6.0	52.0
Yellow Time (s)					3.0	3.0	3.0	2.0	3.0	3.0	3.0
All-Red Time (s)					3.5	3.5	4.0	0.0	4.0	3.0	4.0
Lost Time Adjust (s)					-2.0	0.0					
Total Lost Time (s)					4.5	6.5					
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode					None	None	None	C-Max	None	None	None
Walk Time (s)					7.0	7.0	7.0	7.0			
Flash Dont Walk (s)					13.5	13.5	9.0	15.0			
Pedestrian Calls (#/hr)					5	5	5	5			
Act Effct Green (s)		83.2	83.2		17.3	15.3					
Actuated g/C Ratio		0.76	0.76		0.16	0.14					
v/c Ratio		0.40	0.40		0.56	0.28					
Control Delay		5.5	2.3		46.5	11.4					
Queue Delay		0.2	0.4		0.1	0.0					
Total Delay		5.7	2.7		46.6	11.4					
LOS		A	A		D	B					
Approach Delay		5.7	2.7		39.5						
Approach LOS		A	A		D						
Queue Length 50th (ft)		119	24		105	0					
Queue Length 95th (ft)		98	65		140	40					
Internal Link Dist (ft)		247	118		259						
Turn Bay Length (ft)					100						
Base Capacity (vph)		2730	2730		716	356					
Starvation Cap Reductn		0	982		0	0					
Spillback Cap Reductn		724	0		50	0					
Storage Cap Reductn		0	0		0	0					
Reduced v/c Ratio		0.55	0.63		0.47	0.22					

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 3:NBTL, Start of Green, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 44.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Arsenal Street/Western Avenue & Soldiers Field Road WB Off-Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	679	1110	412	419	45	281	0	0	680	38
Future Volume (vph)	0	0	679	1110	412	419	45	281	0	0	680	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	0.91	0.91	0.95	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor				1.00	0.97			1.00			1.00	
Frt			0.850		0.951						0.992	
Flt Protected				0.950	0.983			0.993				
Satd. Flow (prot)	0	0	2787	1626	3089	0	0	3494	0	0	3573	0
Flt Permitted				0.950	0.983			0.993				
Satd. Flow (perm)	0	0	2787	1619	3083	0	0	3489	0	0	3573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		82						5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		517			533			1165			351	
Travel Time (s)		11.8			12.1			26.5			8.0	
Confl. Peds. (#/hr)			5	5		83	17		131	131		17
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.89	0.89	0.89	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	2%	1%	4%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	754	1181	438	446	51	316	0	0	694	39
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	0	0	754	697	1368	0	0	367	0	0	733	0
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			2	1	1		2	2			3	
Permitted Phases												
Detector Phase			2	1	1		2	2			3	
Switch Phase												
Minimum Initial (s)			10.0	8.0	8.0		10.0	10.0			4.0	
Minimum Split (s)			25.0	38.0	38.0		25.0	25.0			23.0	
Total Split (s)			33.0	42.0	42.0		33.0	33.0			25.0	
Total Split (%)			33.0%	42.0%	42.0%		33.0%	33.0%			25.0%	
Maximum Green (s)			26.0	36.0	36.0		26.0	26.0			19.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)			3.0	2.0	2.0		3.0	3.0			2.0	
Lost Time Adjust (s)			0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)			7.0	6.0	6.0			7.0			6.0	
Lead/Lag			Lag	Lead	Lead		Lag	Lag				
Lead-Lag Optimize?			Yes	Yes	Yes		Yes	Yes				
Vehicle Extension (s)			2.0	2.0	2.0		2.0	2.0			2.0	
Recall Mode			None	C-Max	C-Max		None	None			Max	
Walk Time (s)			6.0	20.0	20.0		6.0	6.0			5.0	
Flash Dont Walk (s)			12.0	12.0	12.0		12.0	12.0			12.0	
Pedestrian Calls (#/hr)			70	83	83		70	70			22	
Act Effct Green (s)			25.7	36.3	36.3			25.7			19.0	
Actuated g/C Ratio			0.26	0.36	0.36			0.26			0.19	
v/c Ratio			0.95	1.18	1.17			0.41			1.07	
Control Delay			55.3	129.8	114.1			32.4			95.6	
Queue Delay			0.0	0.0	0.0			0.0			0.0	
Total Delay			55.3	129.8	114.1			32.4			95.6	
LOS			E	F	F			C			F	
Approach Delay		55.3			119.4			32.4			95.6	
Approach LOS		E			F			C			F	
Queue Length 50th (ft)			238	~592	~558			102			~274	
Queue Length 95th (ft)			#371	#835	#702			143			#393	
Internal Link Dist (ft)		437			453			1085			271	
Turn Bay Length (ft)												
Base Capacity (vph)			797	589	1172			908			682	
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			0.95	1.18	1.17			0.40			1.07	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 94.5 Intersection LOS: F
Intersection Capacity Utilization 99.4% ICU Level of Service F
Analysis Period (min) 15

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

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

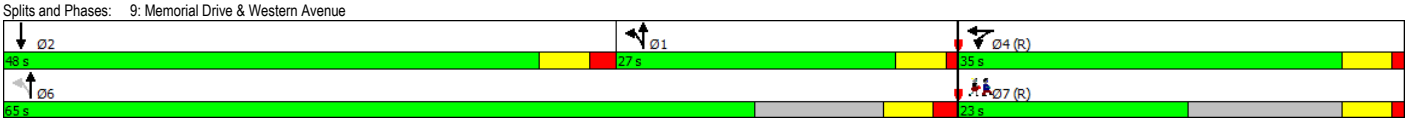
Splits and Phases: 8: Soldiers Field Road & Western Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø6	Ø7
Lane Configurations														
Traffic Volume (vph)	0	0	0	92	1169	123	438	696	0	0	682	335		
Future Volume (vph)	0	0	0	92	1169	123	438	696	0	0	682	335		
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	0.91	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor					0.99						0.96			
Frt					0.987						0.951			
Flt Protected					0.997		0.950							
Satd. Flow (prot)	0	0	0	0	4996	0	1805	1900	0	0	3284	0		
Flt Permitted					0.997		0.103							
Satd. Flow (perm)	0	0	0	0	4993	0	196	1900	0	0	3284	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)					14						37			
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		533			505			1011			288			
Travel Time (s)		12.1			11.5			23.0			6.5			
Confl. Peds. (#/hr)				8		70						131		
Peak Hour Factor	0.25	0.25	0.25	0.93	0.93	0.93	0.94	0.94	0.94	0.89	0.89	0.89		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%		
Adj. Flow (vph)	0	0	0	99	1257	132	466	740	0	0	766	376		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	1488	0	466	740	0	0	1142	0		
Turn Type				Split	NA		custom	NA			NA			
Protected Phases				4	4		1	1 6			2		6	7
Permitted Phases							6							
Detector Phase				4	4		1	1 6			2			
Switch Phase														
Minimum Initial (s)				4.0	4.0		10.0				10.0		10.0	4.0
Minimum Split (s)				9.0	9.0		27.0				48.0		65.0	21.0
Total Split (s)				35.0	35.0		27.0				48.0		65.0	23.0
Total Split (%)				31.8%	31.8%		24.5%				43.6%		59%	21%
Maximum Green (s)				30.0	30.0		22.0				42.0		59.0	18.0
Yellow Time (s)				4.0	4.0		4.0				4.0		4.0	4.0
All-Red Time (s)				1.0	1.0		1.0				2.0		2.0	1.0
Lost Time Adjust (s)					0.0		0.0				0.0			
Total Lost Time (s)					5.0		5.0				6.0			
Lead/Lag							Lag				Lead			
Lead-Lag Optimize?							Yes				Yes			
Vehicle Extension (s)				2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode				C-Max	C-Max		Max				Max		Max	C-Max
Walk Time (s)							8.0				5.0		5.0	5.0
Flash Dont Walk (s)							14.0				37.0		54.0	11.0
Pedestrian Calls (#/hr)							0				100		0	78
Act Effct Green (s)					30.0		70.0	70.0			42.0			
Actuated g/C Ratio					0.27		0.64	0.64			0.38			
v/c Ratio					1.08		1.04	0.61			0.89			
Control Delay					88.8		92.1	14.7			41.4			
Queue Delay					0.0		0.0	0.0			0.0			
Total Delay					88.8		92.1	14.7			41.4			
LOS					F		F	B			D			
Approach Delay					88.8			44.6			41.4			
Approach LOS					F			D			D			
Queue Length 50th (ft)					~430		~293	287			382			
Queue Length 95th (ft)					#528		#497	400			#487			
Internal Link Dist (ft)		453			425			931			208			
Turn Bay Length (ft)														
Base Capacity (vph)					1372		446	1209			1276			
Starvation Cap Reductn					0		0	0			0			
Spillback Cap Reductn					0		0	0			0			
Storage Cap Reductn					0		0	0			0			
Reduced v/c Ratio					1.08		1.04	0.61			0.89			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 75 (68%), Referenced to phase 4:WBTL and 7:Ped, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 60.8 Intersection LOS: E
Intersection Capacity Utilization 100.2% 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.

Splits and Phases: 9: Memorial Drive & Western Avenue

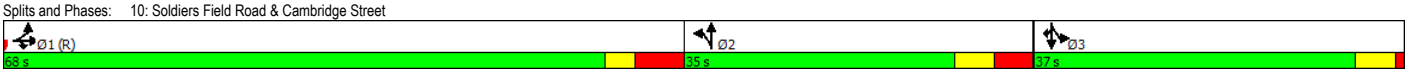


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	1186	596	0	0	0	410	68	92	353	324	85
Future Volume (vph)	253	1186	596	0	0	0	410	68	92	353	324	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.86	0.86	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91	1.00
Ped Bike Factor		0.98					0.98	0.89		0.79	0.94	
Frt		0.987	0.850					0.951				0.850
Flt Protected		0.992					0.950	0.979		0.950	0.986	
Satd. Flow (prot)	0	4728	1389	0	0	0	1715	1502	0	1610	3366	1583
Flt Permitted		0.992					0.950	0.979		0.950	0.986	
Satd. Flow (perm)	0	4688	1389	0	0	0	1681	1489	0	1271	3158	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13	479					16				101
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		176			475			224			1165	
Travel Time (s)		4.0			10.8			5.1			26.5	
Confl. Peds. (#/hr)	24		34				27		162	162		27
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%	2%
Adj. Flow (vph)	266	1248	627	0	0	0	427	71	96	384	352	92
Shared Lane Traffic (%)			23%				29%			38%		
Lane Group Flow (vph)	0	1658	483	0	0	0	303	291	0	238	498	92
Turn Type	Split	NA	Prot				Split	NA		Split	NA	Prot
Protected Phases	1	1	1				2	2		3	3	3
Permitted Phases												
Detector Phase	1	1	1				2	2		3	3	3
Switch Phase												
Minimum Initial (s)	55.0	55.0	55.0				20.0	20.0		30.0	30.0	30.0
Minimum Split (s)	63.0	63.0	63.0				28.0	28.0		35.0	35.0	35.0
Total Split (s)	68.0	68.0	68.0				35.0	35.0		37.0	37.0	37.0
Total Split (%)	48.6%	48.6%	48.6%				25.0%	25.0%		26.4%	26.4%	26.4%
Maximum Green (s)	60.0	60.0	60.0				27.0	27.0		32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0				4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	5.0	5.0	5.0				4.0	4.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		8.0	8.0				8.0	8.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead				Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Min	C-Min	C-Min				Ped	Ped		Ped	Ped	Ped
Walk Time (s)	8.0	8.0	8.0				8.0	8.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0				10.0	10.0		22.0	22.0	22.0
Pedestrian Calls (#/hr)	0	0	0				0	0		0	0	0
Act Effct Green (s)		61.2	61.2				27.0	27.0		30.8	30.8	30.8
Actuated g/C Ratio		0.44	0.44				0.19	0.19		0.22	0.22	0.22
v/c Ratio		0.80	0.55				0.92	0.96		0.67	0.67	0.22
Control Delay		37.6	4.8				88.0	96.1		60.3	55.0	7.7
Queue Delay		47.9	0.0				0.0	1.3		0.0	0.0	0.0
Total Delay		85.5	4.8				88.0	97.3		60.3	55.0	7.7
LOS		F	A				F	F		E	E	A
Approach Delay		67.3						92.5			51.3	
Approach LOS		E						F			D	
Queue Length 50th (ft)		490	2				287	266		221	231	0
Queue Length 95th (ft)		573	86				#472	#464		323	293	40
Internal Link Dist (ft)		96			395			144			1085	
Turn Bay Length (ft)												
Base Capacity (vph)		2074	877				330	302		368	769	439
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		689	0				0	2		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		1.20	0.55				0.92	0.97		0.65	0.65	0.21

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 67.8 Intersection LOS: E
Intersection Capacity Utilization 105.5% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Soldiers Field Road & Cambridge Street



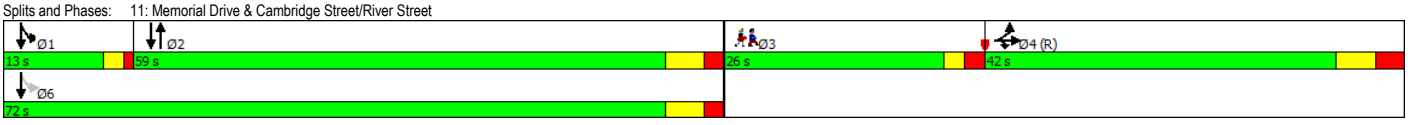
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3	Ø6
Lane Configurations														
Traffic Volume (vph)	262	863	502	0	0	0	0	872	34	83	690	0		
Future Volume (vph)	262	863	502	0	0	0	0	872	34	83	690	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00		
Ped Bike Factor		0.99						1.00						
Frt			0.850					0.994						
Flt Protected		0.988									0.995			
Satd. Flow (prot)	0	3513	1615	0	0	0	0	3583	0	0	3592	0		
Flt Permitted		0.988									0.579			
Satd. Flow (perm)	0	3470	1615	0	0	0	0	3583	0	0	2090	0		
Right Turn on Red			Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)			320					3						
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		475			393			289			1011			
Travel Time (s)		10.8			8.9			6.6			23.0			
Confl. Peds. (#/hr)	20		43						10	10				
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88		
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Adj. Flow (vph)	282	928	540	0	0	0	0	908	35	94	784	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	1210	540	0	0	0	0	943	0	0	878	0		
Turn Type	Split	NA	Prot					NA		custom	NA			
Protected Phases	4	4	4					2		1	1 2 6		3	6
Permitted Phases										6				
Detector Phase	4	4	4					2		1	1 2 6			
Switch Phase														
Minimum Initial (s)	22.0	22.0	22.0					19.0		10.0			1.0	25.0
Minimum Split (s)	29.0	29.0	29.0					25.0		13.0			26.0	31.0
Total Split (s)	42.0	42.0	42.0					59.0		13.0			26.0	72.0
Total Split (%)	30.0%	30.0%	30.0%					42.1%		9.3%			19%	51%
Maximum Green (s)	35.0	35.0	35.0					53.0		10.0			22.0	66.0
Yellow Time (s)	4.0	4.0	4.0					4.0		2.0			2.0	4.0
All-Red Time (s)	3.0	3.0	3.0					2.0		1.0			2.0	2.0
Lost Time Adjust (s)		0.0	0.0					0.0						
Total Lost Time (s)		7.0	7.0					6.0						
Lead/Lag	Lag	Lag	Lag					Lag		Lead			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes					Yes		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	2.0					3.0		3.0			0.2	3.0
Recall Mode	C-Max	C-Max	C-Max					Ped		Min			None	Ped
Walk Time (s)	7.0	7.0	7.0					7.0					5.0	7.0
Flash Dont Walk (s)	9.0	9.0	9.0					7.0					17.0	12.0
Pedestrian Calls (#/hr)	0	0	0					0					25	0
Act Effct Green (s)		47.8	47.8					50.6			66.6			
Actuated g/C Ratio		0.34	0.34					0.36			0.48			
v/c Ratio		1.01	0.71					0.73			0.80			
Control Delay		52.8	14.2					42.1			34.3			
Queue Delay		8.0	1.3					0.0			0.0			
Total Delay		60.8	15.4					42.1			34.3			
LOS		E	B					D			C			
Approach Delay		46.8						42.1			34.3			
Approach LOS		D						D			C			
Queue Length 50th (ft)		~777	320					377			276			
Queue Length 95th (ft)		m#894	m#470					455			324			
Internal Link Dist (ft)		395			313			209			931			
Turn Bay Length (ft)														
Base Capacity (vph)		1200	762					1358			1137			
Starvation Cap Reductn		30	82					0			0			
Spillback Cap Reductn		0	0					0			0			
Storage Cap Reductn		0	0					0			0			
Reduced v/c Ratio		1.03	0.79					0.69			0.77			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 30 (21%), Referenced to phase 4:EBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 42.5 Intersection LOS: D
Intersection Capacity Utilization 92.3% ICU Level of Service F
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.

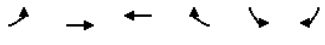
Splits and Phases: 11: Memorial Drive & Cambridge Street/River Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	39	30	406	12	7	388
Future Volume (Veh/h)	39	30	406	12	7	388
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.57	0.57	0.64	0.64	0.63	0.63
Hourly flow rate (vph)	68	53	634	19	11	616
Pedestrians	1		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			332			263
pX, platoon unblocked	0.84	0.76			0.76	
vC, conflicting volume	1284	644			654	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	818	375			388	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	90			99	
cM capacity (veh/h)	288	513			898	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	121	653	627
Volume Left	68	0	11
Volume Right	53	19	0
cSH	357	1700	898
Volume to Capacity	0.34	0.38	0.01
Queue Length 95th (ft)	37	0	1
Control Delay (s)	20.2	0.0	0.3
Lane LOS	C		A
Approach Delay (s)	20.2	0.0	0.3
Approach LOS	C		

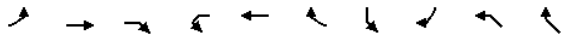
Intersection Summary				
Average Delay		1.9		
Intersection Capacity Utilization		36.7%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	604	793	8	22	8
Future Volume (Veh/h)	3	604	793	8	22	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.62	0.62
Hourly flow rate (vph)	3	657	862	9	35	13
Pedestrians		1	3		11	
Lane Width (ft)		11.0	11.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		469	380			
pX, platoon unblocked	0.71				0.82	0.71
vC, conflicting volume	882				1544	878
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				943	626
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				85	96
cM capacity (veh/h)	676				237	343

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	660	871	48
Volume Left	3	0	35
Volume Right	0	9	13
cSH	676	1700	259
Volume to Capacity	0.00	0.51	0.19
Queue Length 95th (ft)	0	0	17
Control Delay (s)	0.1	0.0	22.0
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	22.0
Approach LOS			C

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		52.6%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Volume (veh/h)	37	375	254	20	822	40	0	0	0	0
Future Volume (Veh/h)	37	375	254	20	822	40	0	0	0	0
Sign Control		Free			Free		Stop		Stop	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.57	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	41	417	282	21	856	70	0	0	0	0
Pedestrians							49		17	
Lane Width (ft)							0.0		0.0	
Walking Speed (ft/s)							3.5		3.5	
Percent Blockage							0		0	
Right turn flare (veh)										
Median type		None			None					
Median storage veh)										
Upstream signal (ft)		242			462					
pX, platoon unblocked	0.63			0.86			0.70	0.63	0.70	0.70
vC, conflicting volume	975			716			1780	940	1590	1674
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	665			590			1456	609	1183	1304
tC, single (s)	4.1			4.1			6.5	6.2	7.1	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.2			4.0	3.3	3.5	4.0
p0 queue free %	93			98			100	100	100	100
cM capacity (veh/h)	587			858			83	313	109	103

Direction, Lane #	EB 1	WB 1
Volume Total	740	947
Volume Left	41	21
Volume Right	282	70
cSH	587	858
Volume to Capacity	0.07	0.02
Queue Length 95th (ft)	6	2
Control Delay (s)	1.9	0.7
Lane LOS	A	A
Approach Delay (s)	1.9	0.7
Approach LOS		

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	58.6%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	4	240	6	0	8	0	335	6	1	397	0
Future Volume (Veh/h)	13	4	240	6	0	8	0	335	6	1	397	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.70	0.70	0.70	0.91	0.91	0.91	0.81	0.81	0.81
Hourly flow rate (vph)	14	4	267	9	0	11	0	368	7	1	490	0
Pedestrians		93			31			5			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		9			3			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											224	
pX, platoon unblocked	0.80	0.80	0.80	0.80	0.80		0.80					
vC, conflicting volume	970	991	588	1168	988	404	583			406		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	834	861	354	1084	856	404	348			406		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	98	47	86	100	98	100			100		
cM capacity (veh/h)	188	208	501	63	209	630	887			1129		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	285	20	375	491
Volume Left	14	9	0	1
Volume Right	267	11	7	0
cSH	455	125	1700	1129
Volume to Capacity	0.63	0.16	0.22	0.00
Queue Length 95th (ft)	105	14	0	0
Control Delay (s)	25.3	39.1	0.0	0.0
Lane LOS	D	E		A
Approach Delay (s)	25.3	39.1	0.0	0.0
Approach LOS	D	E		

Intersection Summary					
Average Delay			6.8		
Intersection Capacity Utilization			44.8%	ICU Level of Service	A
Analysis Period (min)			15		

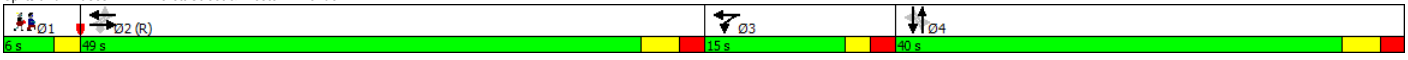
- Build (2025) Condition with Mitigation

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1
Lane Configurations													
Traffic Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Future Volume (vph)	36	514	87	166	376	61	64	329	123	40	135	34	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	0		220	0		50	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								0.99					
Frt			0.850		0.979			0.959			0.978		
Flt Protected		0.997		0.950			0.950				0.991		
Satd. Flow (prot)	0	1749	1561	1728	1724	0	1685	1669	0	0	1719	0	
Flt Permitted		0.908		0.180			0.519				0.521		
Satd. Flow (perm)	0	1593	1561	327	1724	0	920	1669	0	0	904	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			79		11			18			9		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			163			152			332		
Travel Time (s)		13.0			3.7			3.5			7.5		
Confl. Bikes (#/hr)									2				
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.97	0.97	0.97	0.87	0.87	0.87	
Heavy Vehicles (%)	0%	5%	0%	1%	5%	0%	0%	1%	2%	0%	0%	0%	
Adj. Flow (vph)	39	553	94	189	427	69	66	339	127	46	155	39	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	592	94	189	496	0	66	466	0	0	240	0	
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA		
Protected Phases		2		3	2 3			4			4		1
Permitted Phases	2		2	2			4			4			
Detector Phase	2	2	2	3	2 3		4	4		4	4		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0			8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	23.0	23.0	23.0	12.0			23.0	23.0		23.0	23.0		6.0
Total Split (s)	49.0	49.0	49.0	15.0			40.0	40.0		40.0	40.0		6.0
Total Split (%)	44.5%	44.5%	44.5%	13.6%			36.4%	36.4%		36.4%	36.4%		5%
Maximum Green (s)	44.0	44.0	44.0	11.0			35.0	35.0		35.0	35.0		4.0
Yellow Time (s)	3.0	3.0	3.0	2.0			3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0			2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0	0.0	0.0			0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	4.0			5.0	5.0			5.0		
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	0.2	0.2	0.2	3.0			2.0	2.0		2.0	2.0		3.0
Recall Mode	C-Max	C-Max	C-Max	Min			Max	Max		Max	Max		Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0		4.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0		0.0
Pedestrian Calls (#/hr)	21	21	21				25	25		25	25		0
Act Effct Green (s)		45.2	45.2	56.0	59.0		35.0	35.0			35.0		
Actuated g/C Ratio		0.41	0.41	0.51	0.54		0.32	0.32			0.32		
v/c Ratio		0.91	0.14	0.65	0.53		0.23	0.86			0.82		
Control Delay		50.2	6.8	38.5	18.8		30.2	50.8			56.8		
Queue Delay		0.9	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		51.2	6.8	38.5	18.8		30.2	50.8			56.8		
LOS		D	A	D	B		C	D			E		
Approach Delay		45.1			24.2			48.2			56.8		
Approach LOS		D			C			D			E		
Queue Length 50th (ft)		393	6	65	212		34	297			150		
Queue Length 95th (ft)		#619	39	102	297		71	#479			#275		
Internal Link Dist (ft)		494			83			72			252		
Turn Bay Length (ft)			137	130									
Base Capacity (vph)		654	687	310	947		292	543			293		
Starvation Cap Reductn		9	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.92	0.14	0.61	0.52		0.23	0.86			0.82		

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 40.5 Intersection LOS: D
Intersection Capacity Utilization 105.4% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Everett Street & Western Avenue

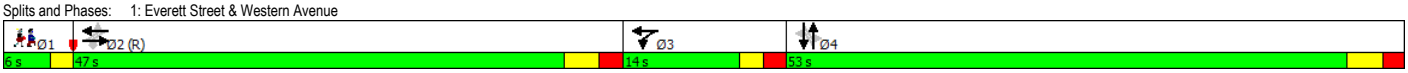


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø1
Lane Configurations													
Traffic Volume (vph)	13	401	155	216	508	87	98	318	112	90	290	47	
Future Volume (vph)	13	401	155	216	508	87	98	318	112	90	290	47	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Storage Length (ft)	0		137	130		0	0		220	0		0	
Storage Lanes	0		1	1		0	1		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor			0.98					0.99					
Frt			0.850		0.978			0.961			0.985		
Flt Protected		0.998		0.950			0.950				0.990		
Satd. Flow (prot)	0	1798	1561	1745	1766	0	1685	1695	0	0	1729	0	
Flt Permitted		0.781		0.263			0.401				0.499		
Satd. Flow (perm)	0	1407	1525	483	1766	0	711	1695	0	0	872	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			112		10			18			6		
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		574			148			154			332		
Travel Time (s)		13.0			3.4			3.5			7.5		
Confl. Bikes (#/hr)			3						1				
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	14	436	168	230	540	93	110	357	126	97	312	51	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	450	168	230	633	0	110	483	0	0	460	0	
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA		
Protected Phases		2		3	2 3			4			4		1
Permitted Phases	2		2	2			4			4			
Detector Phase	2	2	2	3	2 3		4	4		4	4		
Switch Phase													
Minimum Initial (s)	8.0	8.0	8.0	8.0			8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	23.0	23.0	23.0	12.0			23.0	23.0		23.0	23.0		6.0
Total Split (s)	47.0	47.0	47.0	14.0			53.0	53.0		53.0	53.0		6.0
Total Split (%)	39.2%	39.2%	39.2%	11.7%			44.2%	44.2%		44.2%	44.2%		5%
Maximum Green (s)	42.0	42.0	42.0	10.0			48.0	48.0		48.0	48.0		4.0
Yellow Time (s)	3.0	3.0	3.0	2.0			3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0	2.0	2.0			2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0	0.0	0.0			0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0	4.0			5.0	5.0			5.0		
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	0.2	0.2	0.2	0.2			2.0	2.0		2.0	2.0		3.0
Recall Mode	C-Max	C-Max	C-Max	Min			Max	Max		Max	Max		Ped
Walk Time (s)	7.0	7.0	7.0				7.0	7.0		7.0	7.0		4.0
Flash Dont Walk (s)	11.0	11.0	11.0				11.0	11.0		11.0	11.0		0.0
Pedestrian Calls (#/hr)	40	40	40				40	40		40	40		0
Act Effct Green (s)		43.2	43.2	53.0	56.0		48.0	48.0			48.0		
Actuated g/C Ratio		0.36	0.36	0.44	0.47		0.40	0.40			0.40		
v/c Ratio		0.89	0.27	0.75	0.76		0.39	0.70			1.31		
Control Delay		57.7	11.2	48.8	33.5		30.7	35.5			188.7		
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0		
Total Delay		57.7	11.2	48.8	33.5		30.7	35.5			188.7		
LOS		E	B	D	C		C	D			F		
Approach Delay		45.1			37.5			34.6			188.7		
Approach LOS		D			D			C			F		
Queue Length 50th (ft)		322	28	105	391		60	297			~457		
Queue Length 95th (ft)		#533	82	#172	547		112	418			#667		
Internal Link Dist (ft)		494			68			74			252		
Turn Bay Length (ft)			137	130									
Base Capacity (vph)		506	620	323	846		284	688			352		
Starvation Cap Reductn		0	0	0	0		0	0			0		
Spillback Cap Reductn		0	0	0	0		0	0			0		
Storage Cap Reductn		0	0	0	0		0	0			0		
Reduced v/c Ratio		0.89	0.27	0.71	0.75		0.39	0.70			1.31		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 66.1 Intersection LOS: E
Intersection Capacity Utilization 117.2% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Everett Street & Western Avenue



Appendix D

Climate Change Preparedness Checklist

Boston Planning & Development Agency
Climate Resiliency Report Summary

Submitted: 11/05/2018 10:02:15

A.1 - Project Information

Project Name:	NEXUS at The Allston Innovation Corridor			
Project Address:	250, 280, and 305 Western Avenue			
Filing Type:	Initial (PNF, EPNF, NPC or other substantial filing)			
Filing Contact:	Talya Moked	Epsilon Associates, Inc	tmoked@epsilonassociates.com	9784616223
Is MEPA approval required?	Yes	MEPA date:		

A.2 - Project Team

Owner / Developer:	King Street Properties
Architect:	DiMella Shaffer
Engineer:	
Sustainability / LEED:	enviENERGY Studio
Permitting:	Epsilon Associates, Inc.
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	250 and 305 Western Avenue - laboratory/research and development/office, retail/restaurant 280 Western Avenue - residential, retail/restaurant, parking
List the First Floor Uses:	Laboratory/research and development/office, retail/restaurant, building support space
List any Critical Site Infrastructure and or Building Uses:	

Site and Building:

Site Area (SF):	187308	Building Area (SF):	607900
Building Height (Ft):	130	Building Height (Stories):	6
Existing Site Elevation – Low (Ft BCB):	14	Existing Site Elevation – High (Ft BCB):	18
Proposed Site Elevation – Low (Ft BCB):	14	Proposed Site Elevation – High (Ft BCB):	18
Proposed First Floor Elevation (Ft BCB):		Below grade spaces/levels (#):	1

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Article 37 Green Building:

LEED Version - Rating System:	LEED v4 BD+C and LEED v4 Core and Shell	LEED Certification:	
Proposed LEED rating:	Silver	Proposed LEED point score (Pts.):	50

Building Envelope:

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

Roof:		Exposed Floor :	
Foundation Wall:		Slab Edge (at or below grade):	

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

Area of Opaque Curtain Wall & Spandrel Assembly:		Wall & Spandrel Assembly Value:	
Area of Framed & Insulated / Standard Wall:		Wall Value:	
Area of Vision Window:		Window Glazing Assembly Value:	
		Window Glazing SHGC:	
Area of Doors:		Door Assembly Value :	

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	This information will be provided with the DPIR submission		
Annual Electric (kWh):		Peak Electric (kW):	
Annual Heating (MMbtu/hr):		Peak Heating (MMbtu):	
Annual Cooling (Tons/hr):		Peak Cooling (Tons):	
Energy Use - Below ASHRAE 90.1 - 2013 (%):		Have the local utilities reviewed the building energy performance?:	
Energy Use - Below Mass. Code (%):		Energy Use Intensity (kBtu/SF):	

Back-up / Emergency Power System

Electrical Generation Output (kW):		Number of Power Units:	
System Type (kW):		Fuel Source:	

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

Electric (kW):		Heating (MMbtu/hr):	

Cooling (Tons/hr):

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):

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

Sustainable design and energy efficiency goals were established early and strategies associated with the building envelope attributes, lighting design, thermal comfort ranges, plug and process loads, and operational parameters and their impact on the building energy performance will be explored and discussed throughout the design process. An early design energy model will be developed and used as an interactive and dynamic platform to evaluate systems synergies and the various pathways for achieving the targeted energy savings and required performance improvements in the most cost-effective manner.

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

Passive energy efficiency measures will include low-E glazing, and high-performance building envelop.

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

Active energy efficiency measures will include reduced lighting power density in the core areas and high-efficiency HVAC systems.

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

Reduced lighting power density in the core areas.

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

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

As design progresses, the Project team will reach out to the utility companies to discuss available energy efficiency incentives.

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):

Laboratory/Research buildings require a much greater volume of air changes compared to a standard Office building and therefore have a need for gas fired boilers to condition that volume of air. The Proponent is committed to reducing the carbon footprint of the Project through energy efficiency measures including 95% efficient boilers, energy recovery methods, and an automated building controls system.

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.):	8	Temperature Range - High (Deg.):	91
Annual Heating Degree Days:		Annual Cooling Degree Days	

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

Days - Above 90° (#):	60	Days - Above 100° (#):	30
Number of Heatwaves / Year (#):	6	Average Duration of Heatwave (Days):	5

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

The Project will install high-reflective roof materials, and will include new street trees and landscaped areas surrounding the site.

C.2 - Extreme Heat – Adaptation Strategies

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

The mechanical systems will be high-performance and energy efficient, and the Project will include a high-performance building envelop and low-E glazing to reduce energy use.

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

The Project will include generator power for life-safety systems in the residential building. It is anticipated that during an extended interruption of utility services, the laboratory/research and development/office buildings will be closed.

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:

There will be a stormwater management system on site to infiltrate the first inch of runoff from impervious areas. The Project will reduce the amount of impervious area on the site compared to existing conditions.

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):

The Project will result in a decrease in impervious areas, which will decrease peak runoff flows off-site and provide additional stormwater infiltration opportunities. The Project will also construct stormwater best management practices (BMPs), including deep sump catch basins, water quality units, and subsurface infiltration systems, to further reduce peak flows and pollutants and provide additional groundwater recharge on-site.

E – Sea Level Rise and Storms

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

Is any portion of the site in a FEMA Special Flood Hazard Area?	No	What Zone:	

Boston Planning & Development Agency
Climate Resiliency Report Summary

boston planning & development agency

What is the current FEMA SFHA Zone Base Flood Elevation for the site (Ft BCB)?	
Is any portion of the site in the BPDA Sea Level Rise Flood Hazard Area (see SLR-FHA online map)?	No

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

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

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented 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)?			
What is the Sea Level Rise - Design Flood Elevation for the site (Ft BCB)?		First Floor Elevation (Ft BCB):	
What are the Site Elevations at Building (Ft BCB)?		What is the Accessible Route Elevation (Ft BCB)?	

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.:

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.:

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:

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

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.:

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

Thank you for completing the Boston Climate Change Checklist!

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

Appendix E

Accessibility Checklist

Article 80 – Accessibility Checklist

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

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

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

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

Accessibility Analysis Information Sources:

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

Glossary of Terms:

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

1. Project Information:

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

Project Name:	**NEXUS at The Allston Innovation Corridor**
Primary Project Address:	**250 Western Avenue** **280 Western Avenue** **305 Western Avenue**
Total Number of Phases/Buildings:	**Two or more phases consisting of three buildings**
Primary Contact (Name / Title / Company / Email / Phone):	**Michael DiMinico/ Executive Director/ King Street Properties/ mdiminico@ks-prop.com/ 6179105503**
Owner / Developer:	**King Street Properties; Mugar Enterprises, Inc.**
Architect:	**DiMella Shaffer**
Civil Engineer:	**Howard Stein Hudson**
Landscape Architect:	**TBD**
Permitting:	**Epsilon Associates, Inc.**
Construction Management:	**The Richmond Group**

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

	☑PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:

Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	No

2. Building Classification and Description:

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

What are the dimensions of the project?

Site Area:	*4.3 acres*	Building Area:	*607,900 GSF*
Building Height:	*72-130 FT.*	Number of Stories:	*6-7 Flrs.*
First Floor Elevation:	14- 18 FT	Is there below grade space:	*Yes*

What is the Construction Type? (Select most appropriate type)

	Wood Frame	Masonry	☑Steel Frame	Concrete

What are the principal building uses? (IBC definitions are below – select all appropriate that apply)

	Residential – One - Three Unit	☑Residential - Multi-unit, Four +	Institutional	Educational
	☑Business	☑Mercantile	Factory	Hospitality
	☑Laboratory / Medical	☑Storage, Utility and Other		
List street-level uses of the building:	*Laboratory, Business, Mercantile*			

3. Assessment of Existing Infrastructure for Accessibility:

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

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	The Project site consists of two parcels with a combined site area of approximately 4.3 acres. One parcel is located at 305 Western Avenue at the northeasterly corner of Western Avenue and Everett Street and consists of approximately 1.05 acres. The second parcel is located at 250-280 Western Avenue and extends along Western Avenue from Riverdale Street west to the Century Bank building at 300 Western Avenue and south to abutters and Westford Street. This parcel consists of approximately 3.24 acres. The Project site currently contains a variety of uses, including Stadium Autobody, Enterprise Rental, residential use, restaurant uses and surface parking areas used by various construction and industrial operators for diesel truck and supply storage. The Project site is close to the Harvard Campus, Barry's Corner and near Smith field. The existing site topography is generally flat east to west and evenly slopes from elevation 14 feet to 26 feet north to south.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	Accessible Buses 70, 70a and 86 from Western Avenue at Riverdale Street to Waltham, Chestnut Hill Mall and Cambridge (0.1 mile) Boston Landing Station (Framingham – Worcester Commuter Rail)(0.5 mile)
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	Mount Auburn Hospital, Franciscan Children's, St Elizabeth's Medical Center, HRI Hospital, Charles View Apartments, Continuum, McNamara House , Granada House, Gardner Pilot Academy Elementary School, German International School, Harvard Business School
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	Honan- Allston Branch of the Boston Public Library; Brighton Resource Center, Josephine A. Fiorentino Community Center, Zone 3, Smith field, The Grove.

4. Surrounding Site Conditions – Existing:

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

Is the development site within a historic district? ***If yes,*** identify which district:	The Project site is not in a Historic District
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	Yes, sidewalk and pedestrian ramp material is cement concrete in fair to good condition.
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	The existing sidewalks and pedestrian ramps adjacent to the Project will be reconstructed as a part of the construction process. All proposed sidewalks and pedestrian ramps will be built in compliance with City of Boston, ADA and MAAB standards.
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	Yes, the proposed sidewalks will be constructed to be consistent with the Boston Complete Street Standards Western Avenue – Downtown Commercial Everett Street – Neighborhood Connector Riverdale Street – Neighborhood Residential McDonald Avenue - Industrial
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	Sidewalks will be wider than existing sidewalks and will provide more than the 5' minimum required by the BCS. Riverdale Street – Neighborhood Residential – Pedestrian Zone (5' min. - 14'), Greenspace Zone (8'-0") Everett Street – Neighborhood Connector – Pedestrian Zone (10' – 0") Western Avenue – Downtown Commercial: Buildings 250 and 280 Sidewalk. 7'-10', furnishings and plantings 4.5', bike lane 5.5', 3' buffer. Building 305: Frontage is approximately 28' including space under the building.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the	Materials have not been selected at this time and will mainly be in the property line with only a small portion adjacent to the street parking which is on the right of way.

proposed materials be on the City of Boston pedestrian right-of-way?	
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	Sidewalk cafés will be inside the property line, out of the pedestrian right of way.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	A sidewalk easement will be sought if and to the extent required.
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	The Project may require approval of a specific repair plan and grant of a sidewalk easement with the PIC.
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	The total number of parking spaces that will be provided is 884 for all three buildings. 473 spaces above ground in a garage building and 411 below grade as part of a garage under building 305 and under buildings 250 and 280.
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	There will be 18 accessible spaces with three van accessible spaces. One van accessible space in building 305 and two accessible spaces in building 280.
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	On-Street accessible spaces are not anticipated at this time.
Where is the accessible visitor parking located?	Accessible visitor parking is located within the proposed parking garage.
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Accessible visitor parking/ drop off area is anticipated to be located on Western Avenue in front of buildings 250 and 280.

7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors*.	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	Main lobby entries will be flush with the sidewalk entrances.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no****,* what is the reason?	Yes, accessible entrances and standard entrances will be integrated.
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	Wayfinding will be provided but has not yet been designed.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	40 units
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?	Not yet determined if units are for sale or for rent.
If a residential development, how many accessible Group 2 units are being proposed?	To be determined based on final unit mix.
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	Not yet determined
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	

Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes***, provide reason.	No
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes***, describe:	Yes, interior elevators and ramps will provide access to separate floors. All ramps and elevators will be designed to meet ADA and MAAB Standards.
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community*.	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	- New sidewalks on Western Ave and Everett St. - New bike lane on Western Ave - New publically accessible park near the neighborhood – Westford Park - New recreational open space for the community with gallery exhibits – Artist way - Approximately 1,900 sf of civic space, which may be artist space. - Pedestrian connections to the neighborhood
What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	All spaces will be accessible.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	Yes, single stall bathrooms for public use will be located at building 280 near the civic space at Artists' Way.
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff?	The plan has not yet been designed for that level of detail.

If yes, did they approve? ***If no,*** what were their comments?	
Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	The plan has not yet been designed for that level of detail.

10. Attachments

Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.

Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances.
See attached.

Provide a diagram of the accessible route connections through the site, including distances.
See attached.

Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)

Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.

Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.

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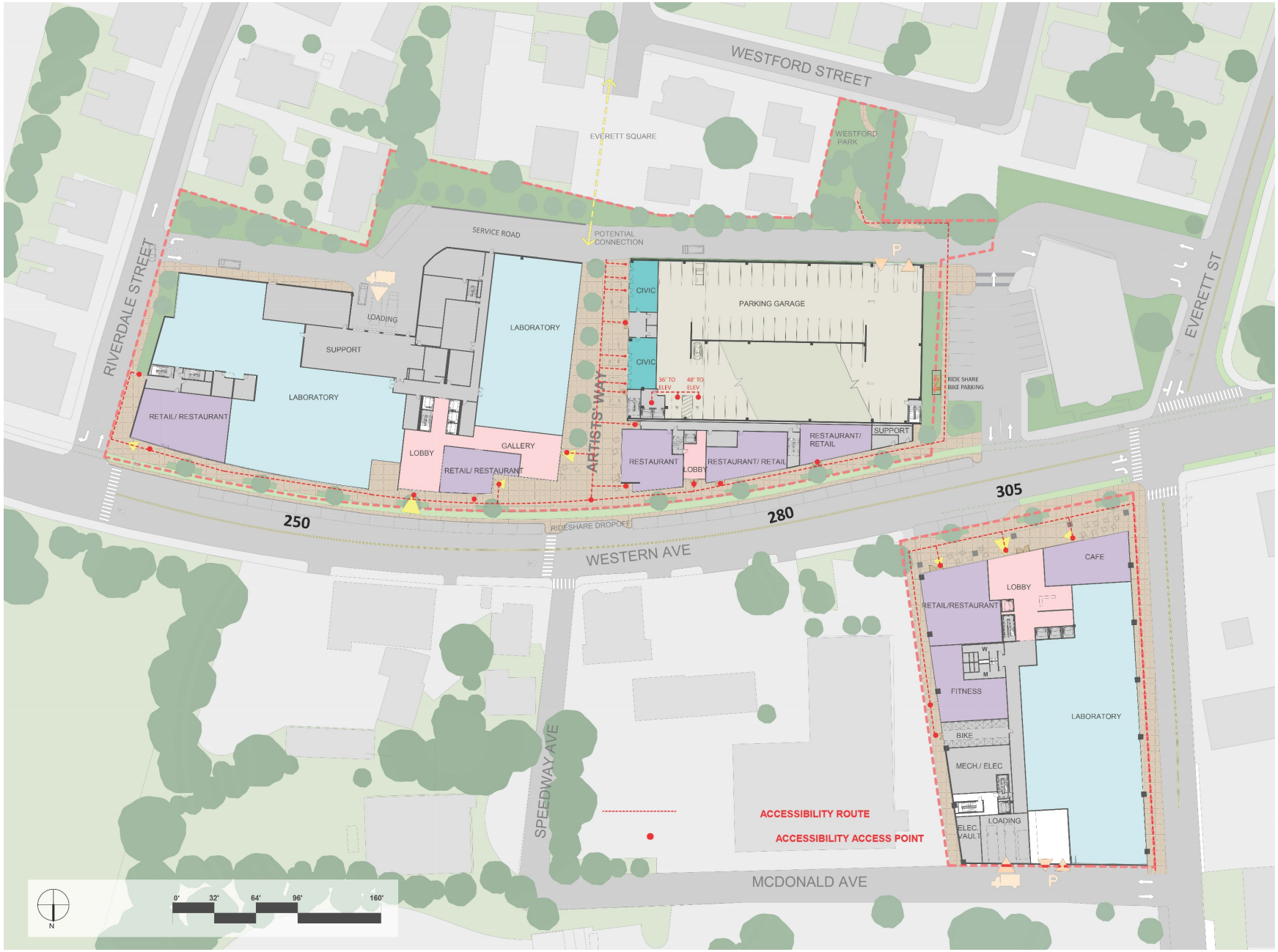
This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open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

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

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

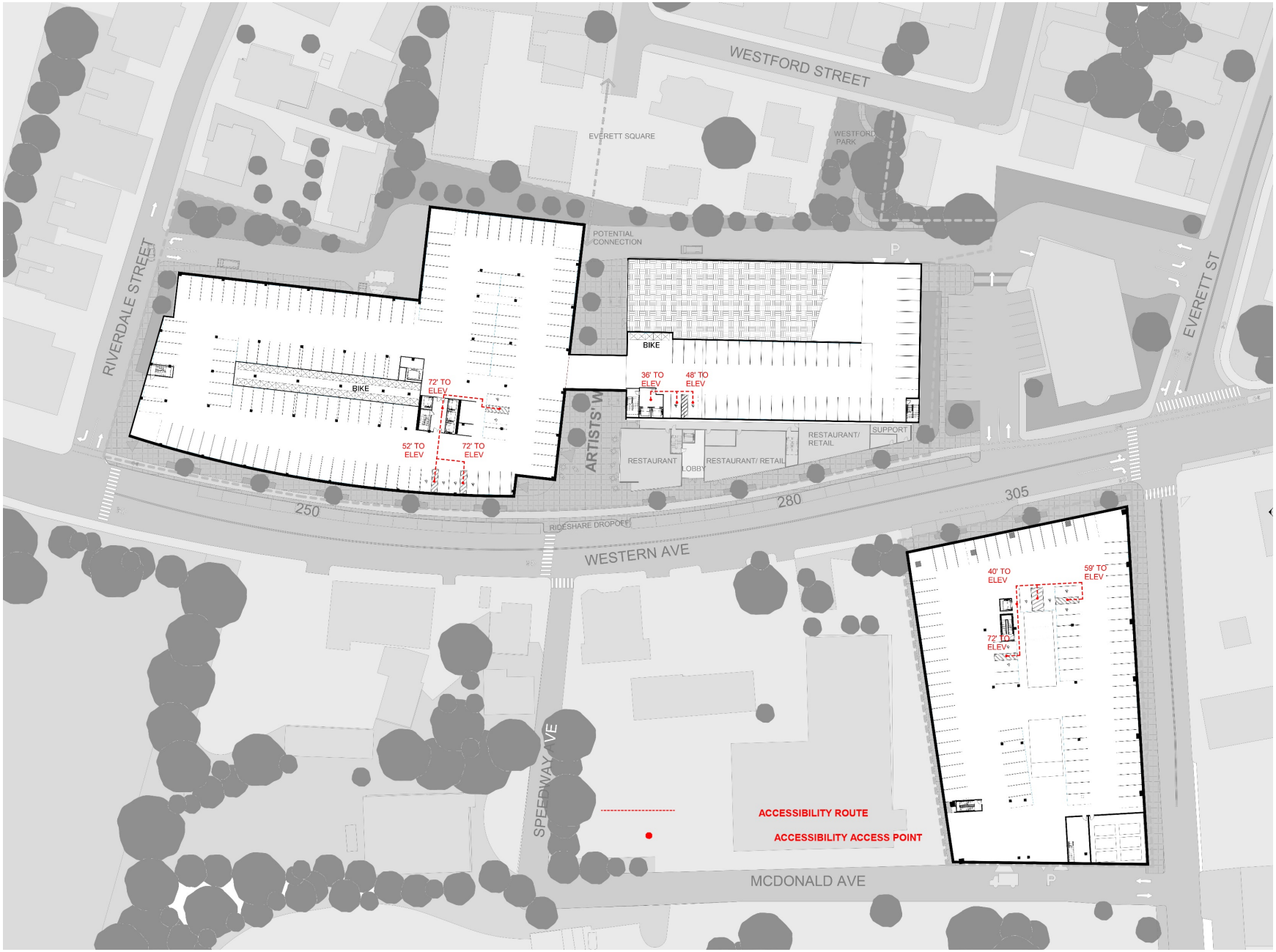
Architectural Access staff can be reached at:

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



Nexus at Allston Innovation Corridor Boston, Massachusetts

Ground Floor Accessibility Plan



Nexus at Allston Innovation Corridor Boston, Massachusetts

Garage Accessibility Plan

Nexus at Allston Innovation Corridor Boston, Massachusetts

Second Floor Accessibility Plan