HUNTINGTON AVENUE/ SOUTH HUNTINGTON AVENUE E-BRANCH ACCESSIBILITY PROJECT

Current Constraints and Conditions Report

CONTENTS

1 About Huntington Avenue/ South Huntington Avenue Corridor

I. Project Summary

The Huntington Avenue/South Huntington Avenue Corridor ("the Corridor") plays an important role in the City's transit network, generating high ridership along the Massachusetts Transportation Bay Authority (MBTA) system with five stations along the Green Line E branch and several stops along the 39 and 66 bus routes. It is also a Transit Priority Corridor and connects residents from across Greater Boston to Longwood Medical Area, Mission Hill, Jamaica Plain, and Forest Hills.

Riders alighting the Green Line at Mission Park. Photo credit: Nelson\Nygaard

The Boston Transportation Department's (BTD's) Huntington Avenue/South Huntington Avenue E-Branch Accessibility Project, along with the MBTA, will begin a redesign process to address safety and accessibility issues between Brigham Circle and Heath Street Stations. The project will focus on creating fully accessible stations and stops for the Green Line E-Branch and bus routes. One goal of this study is to add transit priority along the Corridor while creating more reliable trips for Green Line E Branch riders and bus riders, while improving multimodal safety and connectivity. The study also seeks to improve the pedestrian and cyclist experience through repairing sidewalks, upgrading

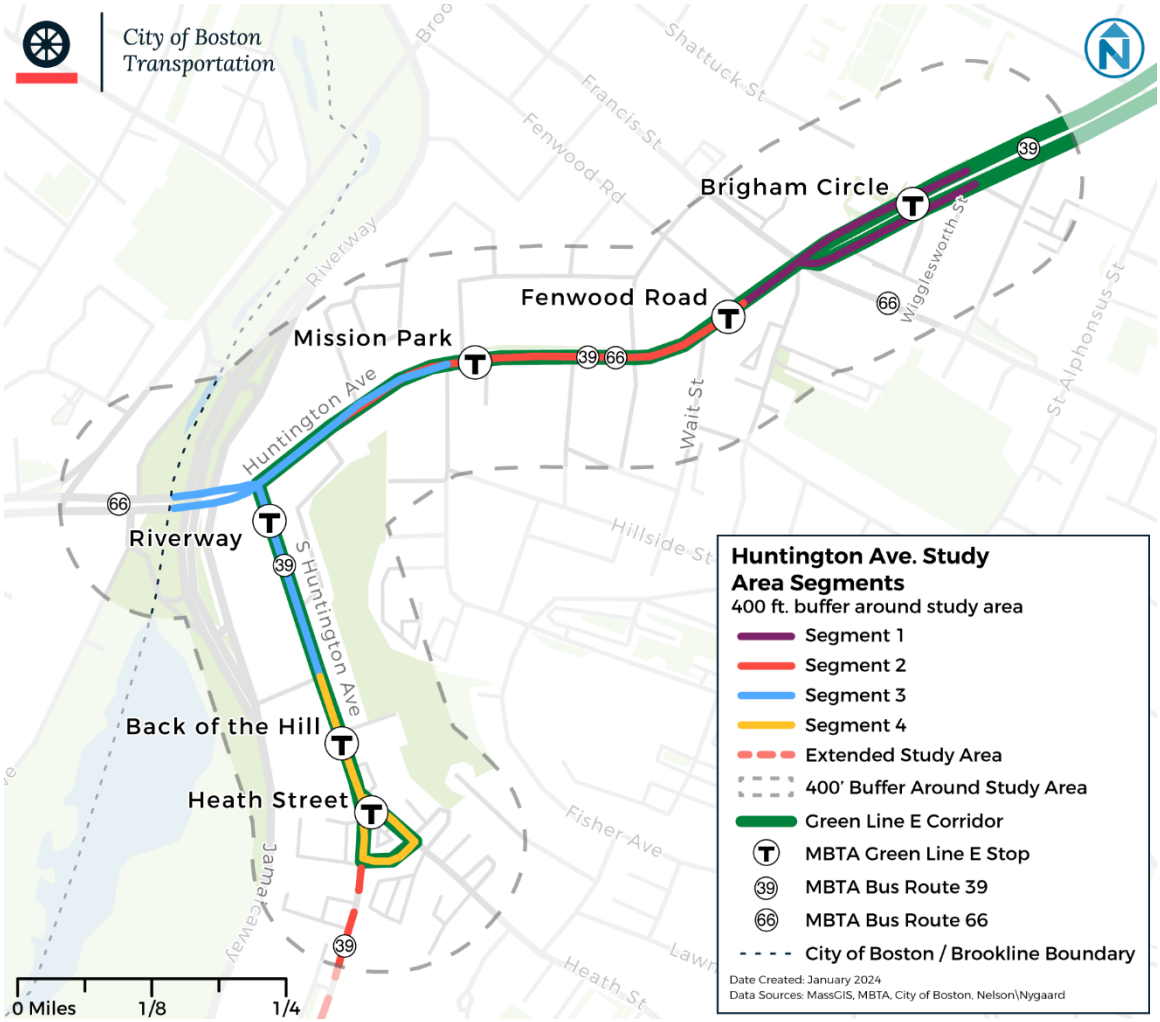
curb ramps, and reconfiguring design parameters for a multimodal experience. BTD will be in close collaboration with MBTA's Green Line Transformation throughout this work.

The study area for this project includes the Corridor, which is 0.85 miles in length, and a 400-foot buffer of surrounding streets and areas. The Corridor was divided into four segments:

- **Segment 1, Brigham's Circle** (Wigglesworth Street to Fenwood Road)
- **Segment 2, Fenwood Road to Mission Park** (Fenwood Road to Parker Hill Avenue)
- **Segment 3, Riverway (**Huntington Avenue and South Huntington Intersection)
- **Segment 4, Back of the Hill to Heath Street** (South Huntington Avenue and Heath Street, with future consideration to extend the Green Line)

These segments will be assessed in the Multimodal Needs and Opportunities Report to improve accessibility, reliability, safety, time savings and operations.

Figure 1: HSHMS Corridor and Segments



II. Project Background

There are past reports, plans, and studies that assess the need for transportation improvements along the Corridor. Below are descriptions of these plans as provided by the City of Boston, the MBTA, and the Boston Planning and Development Agency (BPDA). The need for a more reliable transit experience, accessible stations, and a safer street has been identified in nearly ten separate planning studies and community processes completed over the last decade.

Figure 2: Key Documents

Plan	Author	Year
MBTA Accessibility Initiatives Report[1]	Massachusetts Department of Transportation	2023
Route 39 Speed, Reliability, and Access Needs Report [2]	City of Boston Transportation Department	2023
South Huntington Avenue Better Bike Lane[3]	City of Boston Transportation Department	2022
Better Bus Project[4] **and Bus Network Redesign**[5]	Massachusetts Bay Transit Authority	2018, 2022
Focus40[6]	Massachusetts Bay Transit Authority	2019
Green Line Transformation Program[7]	Massachusetts Bay Transit Authority	2018

[1] MassDOT. November 2023. MBTA Accessibility Initiatives Report. https://cdn.mbta.com/sites/default/files/2023-11/2023-11-27-accessibility-initiatives_0.pdf.

[2] City of Boston Transportation Department. 2023. Route 39 Speed Reliability and Access Needs Report. https://www.boston.gov/sites/default/files/file/2023/10/NN_Rt39_TPI_speed_reliability_access_needs_report_20230816.pdf.

[3] City of Boston. August 2023. South Huntington Avenue Better Bike Lane. https://www.boston.gov/departments/transportation/south-huntington-avenue-better-bike-lane.

[4] Massachusetts Bay Transit Authority. 2018. Better Bus Project. https://www.mbta.com/projects/better-bus-project.

[5] Massachusetts Bay Transit Authority. May 2022. Bus Network Redesign Proposal. https://www.mbta.com/projects/bus-network-redesign/update/bus-network-redesign-proposal.

[6] Massachusetts Bay Transit Authority. March 2019. Focus40. https://www.mbtafocus40.com/s/F40-Final-Book-Layout_V9-2019_03_13-508compliant.pdf

[7] Massachusetts Bay Transit Authority. May 2018. Green Line Transformation Program: Program Overview. https://cdn.mbta.com/sites/default/files/fmcb-meeting-docs/2018/may/2018-05-07-fmcb-green-line-transformation-overview.pdf.

Plan	Author	Year
GoBoston 2030[8]	City of Boston Transportation Department	2017
South Huntington Ave Corridor Study[9]	Boston Planning and Development Agency	2013

MBTA Accessibility Initiatives Report (2023)

The MBTA's Department of System-Wide Accessibility (SWA) released a semi-annual report that shares updates on completed and ongoing accessibility projects. The report was created in collaboration with individuals and organizations in the disability community who help the MBTA meet and advance access goals across the transportation system. These initiatives include, but are not limited to, updates on 26 inaccessible stations that are under design and/or construction for full accessibility upgrades, an expansion of the Transit Ambassador program which includes increasing the number of Ambassadors across subway stations for more rider assistance and the inclusion of an accessibility module for training, and the completion of pilot projects for new securement systems for riders who utilize wheeled mobility devices.

Route 39 Transit Priority Corridor Speed, Reliability, and Access Needs Report (2023)

This study was part of the City's Transit Priority Corridor Program designed to improve speed, reliability, and access to transit on Route 39, which is the fourth-highest ridership bus route in the MBTA system. The study identified key challenges including high crash volumes, complicated transit operations, lack of rider infrastructure, and urgently dangerous pedestrian conflicts with other modes.

The report found opportunities for transit signal priority, safer and more efficient station configurations, parking reform, and clearer right-of-way guidelines for MBTA

[8] City of Boston Transportation Department. March 2017. GoBoston 2030. https://www.boston.gov/sites/default/files/file/document_files/2019/06/go_boston_2030_-_full_report.pdf.

[9] Boston Redevelopment Association. May 2013. SOUTH HUNTINGTON AVENUE Framework for Future Development Review. https://www.bostonplans.org/getattachment/ab568032-681d-49e4-9c25-c68d6078a1b1.

operators. It includes recommendations for discrete improvements along the Route 39, to be implemented by a suite of capital projects.

South Huntington Avenue Better Bike Lane (2022)

This plan implemented separated bike lanes on South Huntington Avenue from the intersection of Heath Street to Boylston Street. The plan identifies the section from Heath Street to Huntington Avenue, as a high-crash area for cyclists and highlights the corridor's importance for commuters in the Longwood Medical Area and Mission Hill.

These proposed bike lanes are part of the City of Boston's Everyone Deserves Safe Streets[10] initiative, which focuses on making biking safer and more convenient across the city. The plan also addresses gaps in the surrounding study area's bike network, including a new connection between the proposed South Huntington Avenue bike lanes and the Emerald Necklace Path via Huntington Avenue.

Better Bus Project (2018) and Bus Network Redesign (2022)

The Better Bus Project is the MBTA's systemwide initiative to improve the speed, reliability, and convenience of buses.[11] The initiative houses several programs, many of which will have a direct impact on the study area.

As one of the most ambitious programs under the Better Bus Project, the Bus Network Redesign (BNR), re-draws the MBTA's bus network to reflect shifts in Greater Boston's demographics, employment districts, traffic congestion, and travel patterns.[12] While the routing and service levels of Route 39 and the Green Line through the study area will be largely unchanged, BNR proposes re-routing Route 66.

Currently, Route 66 travels along the study corridor on Huntington Avenue between the intersections of Tremont Street and South Huntington Avenue in both directions.[13]

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[10] City of Boston. September 2022. Everyone Deserves Safe Streets. https://storymaps.arcgis.com/stories/a90bff933db94496b6c4214caf17c706.

[11] Massachusetts Bay Transit Authority. Better Bus Project. https://www.mbta.com/projects/better-bus-project

[12] Massachusetts Bay Transit Authority. Bus Network Redesign. https://www.mbta.com/projects/bus-network-redesign

[13] Massachusetts Bay Transit Authority. Route 66 Schedule. https://www.mbta.com/schedules/66/line?schedule_direction%5Bdirection_id%5D=1&schedule_direction%5Bvariant%5D=66-6-1

Under BNR, Route 66 would no longer travel along any part of the study corridor.[14] Instead, Route 66 would operate on Brookline Avenue in both directions, crossing Huntington Avenue at the intersection of Francis Street and Tremont Street.

While this will reduce the volume of bus traffic on Huntington Avenue, BNR Route 66 stops will be 0.3 miles or less from existing stops. Though the surrounding study area will not experience a significant decrease in service from this route, connections will not be as simple for riders transferring transit modes.

Focus40 (2019)

Focus40 is the MBTA's systemwide 25-year capital improvement plan through 2040. The plan identifies the Longwood Medical Area, which overlaps with this project's study area, as a "Priority Employment Area" with growing business districts, long transit commutes that require transfers, and overloaded roads and MBTA services.

The plan also discusses a dedicated right-of-way for the Green Line, Route 39, and Route 66 on Huntington Ave between Brigham Circle and South Huntington Ave. Other Green Line improvements in the study area include upgraded power distribution and reconfiguring the Heath Street Station. These improvements would enable an extension of the E-branch to Hyde Square in Jamaica Plain.

Green Line Transformation (GLT) Program (2018)

The MBTA proposes to implement the Green Line Transformation Program (GLT), a suite of core capacity improvements on the Green Line light rail system which contains four branches, approximately 23 route miles, and approximately 66 stations. As part of the Capital Transformation Program, the GLT is a comprehensive and holistic effort with over 65 individual components that will create a fully accessible and inclusive transit line with enhanced capacity, and lead to more predictable operations and maintenance costs going forward.

The Green Line includes both shared and dedicated right-of-way surface sections as well as underground sections. The proposed project includes improvements to infrastructure, track, power, and signals, as well as new vehicles required to significantly increase capacity on the entire line by 2032. GLT Phase III highlights the necessity of infrastructure improvements in the study area to deploy the new vehicles and increase capacity.

[14] Massachusetts Bay Transit Authority. May 2022. MBTA Bus Network Redesign - Revised Network Map Fall 2022. https://platform.remix.com/project/4e7bbb9c?latlng=42.24531,-71.10969,12.087

GoBoston 2030 (2017)

GoBoston 2030 envisions the City of Boston's transportation priorities through 2030. The study area is identified as the target for street and sidewalk investments to make walking and biking more attractive. Neighborhood Mobility microHUBS are also envisioned to provide a wide selection of multi-modal transportation options complementing existing rapid transit.

The plan also describes new high quality crosstown bus connections to a Longwood Transit Hub from West Station, Mattapan, and JFK/UMass.

South Huntington Ave Corridor Study (2013)

This plan developed a new set of guidelines for development in the study area to guide future growth with intentional considerations of transportation needs. Recommended improvements include fully protected bike lanes, better pedestrian infrastructure, traffic signal optimization, increased transit capacity, and Green Line infrastructure improvements. The plan also advocates for a corridor-wide transportation study to further investigate challenges and opportunities.

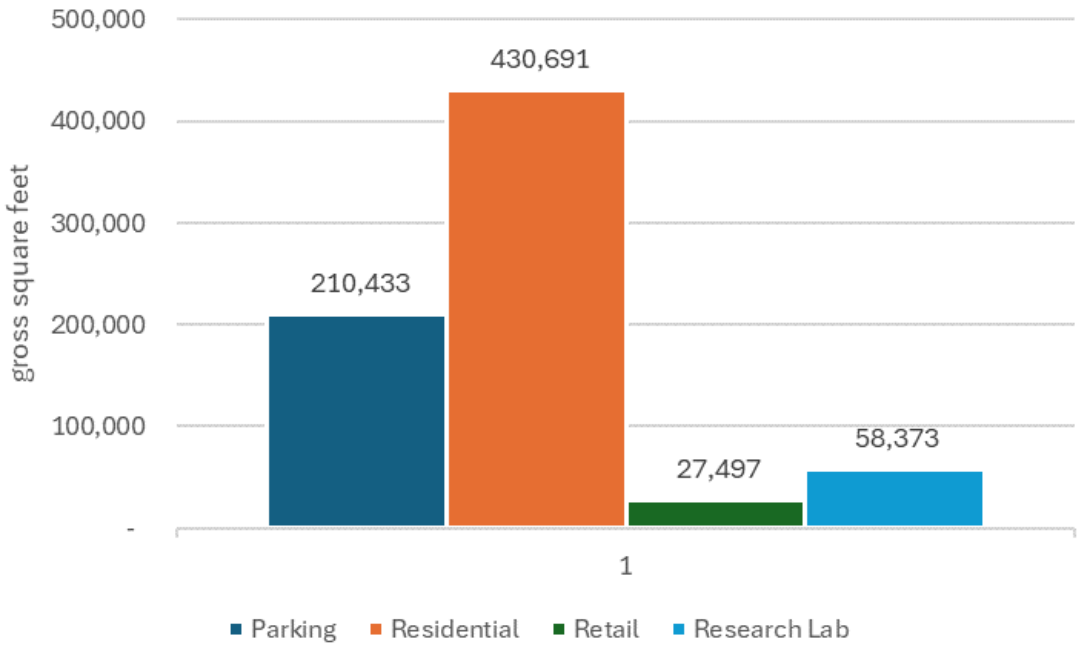
Recent Development

There are currently 925 new residential units approved by the Boston Planning and Development Agency (BPDA) or under construction in Mission Hill. In addition to residential units, recently approved projects also include roughly 27,000 square feet of retail space, 60,000 square feet of lab space, and around 14,000 square feet of educational space. The vast majority of this approved development is concentrated toward the southeastern edge of Mission Hill, with limited development proposed directly near the study area.

Many of these pending developments are mixed use, with retail, academic/lab, and other commercial uses contained within the same buildings. While eight out of twelve approved projects including vehicle parking, 56% of existing households in Mission Hill do not have a car,[15] further underscoring the need for robust and reliable transit access in the study area.

[15] Source: U.S. Census Bureau, 2018 - 2022 American Community Survey (ACS) Note: Neighborhood boundaries are approximated by census tracts.

Figure 3: Approved and In-Construction Development Projects by Use Square Footage



Surrounding Environment

The study area includes the Mission Hill neighborhood, as well as edges of Jamaica Plain and the Longwood Medical Area (LMA).[16] There is a mix of residential and commercial uses alongside large institutions including New England Baptist Hospital, Brigham and Women's Hospital, Boston Children's Hospital, and Jamaica Plain Veteran's Medical Center. Furthermore, other large institutions including Northeastern University, Wentworth Institute of Technology, Isabella Stewart Gardner Museum, and the Museum of Fine Arts are all located within a half-mile of the study area.

Most of the buildings are three stories with no separation between buildings and little to no setback from the sidewalk. There is a mix of apartments, three- to six-family residential buildings, condominiums, and mixed-use developments[17]. There is also a complex of high-rise apartment buildings near the Mission Park Station and some recently constructed mid-rise apartments near Riverway and Back of the Hill. Four

[16] Boston Redevelopment Authority. 2011. Boston Streets & Neighborhoods. https://www.bostonplans.org/getattachment/64c37bd1-21ac-4ec1-9e3b-5fdbcc135823/.

[17] Boston Planning and Development Agency. November 2016. Neighborhoods of Fenway, LMA & Mission Hill. https://www.bostonplans.org/getattachment/50316da1-4275-4e12-9bf2-c7ef92f6825b/.

properties in the study area along the corridor receive federal low-income housing tax credits[18].

Brigham Circle is the most commercial station area in the study area, with several restaurants, an outdoor events plaza, Stop & Shop grocery store, and Walgreens pharmacy. The Riverway station is a secondary commercial area, with a gas station, restaurants, and beauty and wellness stores.

The study area has extensive access to outdoor recreation space. The Emerald Necklace is directly reachable via Riverway Park and Olmstead Park, while several playgrounds and urban parks are within a half-mile of the study area.

Demographic Analysis of Mission Hill

Mission Hill is a racially diverse neighborhood with one of the city's largest student populations alongside a significant number of older adults. Household incomes tend to be lower than in other neighborhoods and the number of in-person commuters who do not use a personal vehicle is high. The bulleted statistics below underscore the community's need for both high-quality transit and active transportation options. The statistics are from the Boston and Planning and Development Agency's summary of the 2018-2022 American Community Survey Census data[19].

- **Racial Diversity:** Mission Hill is one of Boston's most diverse neighborhoods, with almost 75% of residents identifying as people of color.
- **Student Population:** There is a heavy student population, as almost half of the neighborhood's residents are between 20 and 34, while nearly 25% are actively enrolled in some post-secondary degree.
- **Older Adults Population:** Residents over 60 years old make up 15.4% of the neighborhood.
- **Commute Transportation Mode:** Of Mission Hill residents, 76.2% of in-person commuters do not use a personal vehicle, with 33.4% using transit (10.5% bus/streetcar, 19.9% light/heavy rail), 35.9% walking, and 0.9% biking. Less than 10% of neighborhood workers work remotely.
- **Vehicle Ownership:** 55.9% of households do not own a single car, while 37.3% have just one car.

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[18] United States Department of Housing and Urban Development. December 2023. Low-Income Housing Tax Credit (LIHTC) Database. https://www.arcgis.com/home/item.html?id=810ccb34dd464ec4ad4697d35fff21a5.

[19] Boston Planning & Development Agency. January 2024. Boston in Context: Neighborhoods. https://www.bostonplans.org/getattachment/528be767-2cb3-4685-9a66-206cede8773b.

- **Household Income:** 48.4% of households earn less than $50,000 per year, with 38.1% below the federal poverty line.

2 Existing Infrastructure and Service

III. Accessibility Assessment

City of Boston Accessibility Mandate

The City of Boston is dedicated to being within full compliance of the Americans with Disabilities Act (ADA). The City's Disabilities Commission works toward compliance with the ADA to increase opportunities for people with disabilities by facilitating full and equal participation in all aspects of life within the City of Boston.[20]

MBTA Accessibility Statement

Since the passing of the Americans with Disabilities Act in 1990, the MBTA has been improving the accessibility of its infrastructure. The MBTA's goal of expanding access systemwide is constrained by the MBTA's backlog of critical maintenance projects and funding limitations. In recognition of these constraints, the MBTA's Department of System-Wide Accessibility (SWA) is developing a Plan for Accessible Transit Infrastructure (PATI), a long-term strategic barrier-removal plan that will prioritize accessibility improvements in the context of limited resources. Through this initiative, the MBTA will catalogue barriers to access at each rapid transit, bus rapid transit, and commuter rail station or stop, and at every bus stop.[21]

Corridor Accessibility Assessment

The Corridor is utilized by people traveling via a diversity of modes, including pedestrians, cyclists, and transit riders. While the corridor provides many connections to nearby residential, employment, and educational centers, significant barriers exist for corridor users accessing these opportunities.

The Green Line is the oldest part of the MBTA's rapid transit system, and one of the most challenging parts of the system to make fully accessible.[22] The pedestrian path of travel along the Corridor also has numerous barriers to access, including deficient curb

[20] City of Boston. ADA Title II Compliance. https://www.boston.gov/departments/disabilities-commission#ada-title-ii-compliance.
[21] Karl H. Quackenbush CTPS Executive Director. March 2016. Work Program for: Plan for Accessible Transportation Infrastructure: Technical Support. https://www.ctps.org/data/calendar/htmls/2016/MPO_0303_PATI_Work_Program.html.
[22] MBTA. Accessibility Improvements. https://www.mbta.com/projects/accessibility-improvements.

ramps and sidewalks with significant inclines and cross-slopes. Some crosswalks have pavement with large cracks and vertical changes, while many curb ramps do not have detectable warning panels. For pedestrians who are walking and rolling, as well as cyclists, raised structures in the roadway including E branch tracks present barriers to safe crossing.

Bus riders can board and alight at designated curbside stops while riding Routes 39 and 66. However, E branch riders west of Brigham Circle must board and alight in the street. Additionally, several existing stops and waiting areas do not have shelters or benches. These on-street stops without level boarding platforms or amenities prevent wheelchair users and other transit riders with disabilities from fully accessing the transit system along the Corridor.

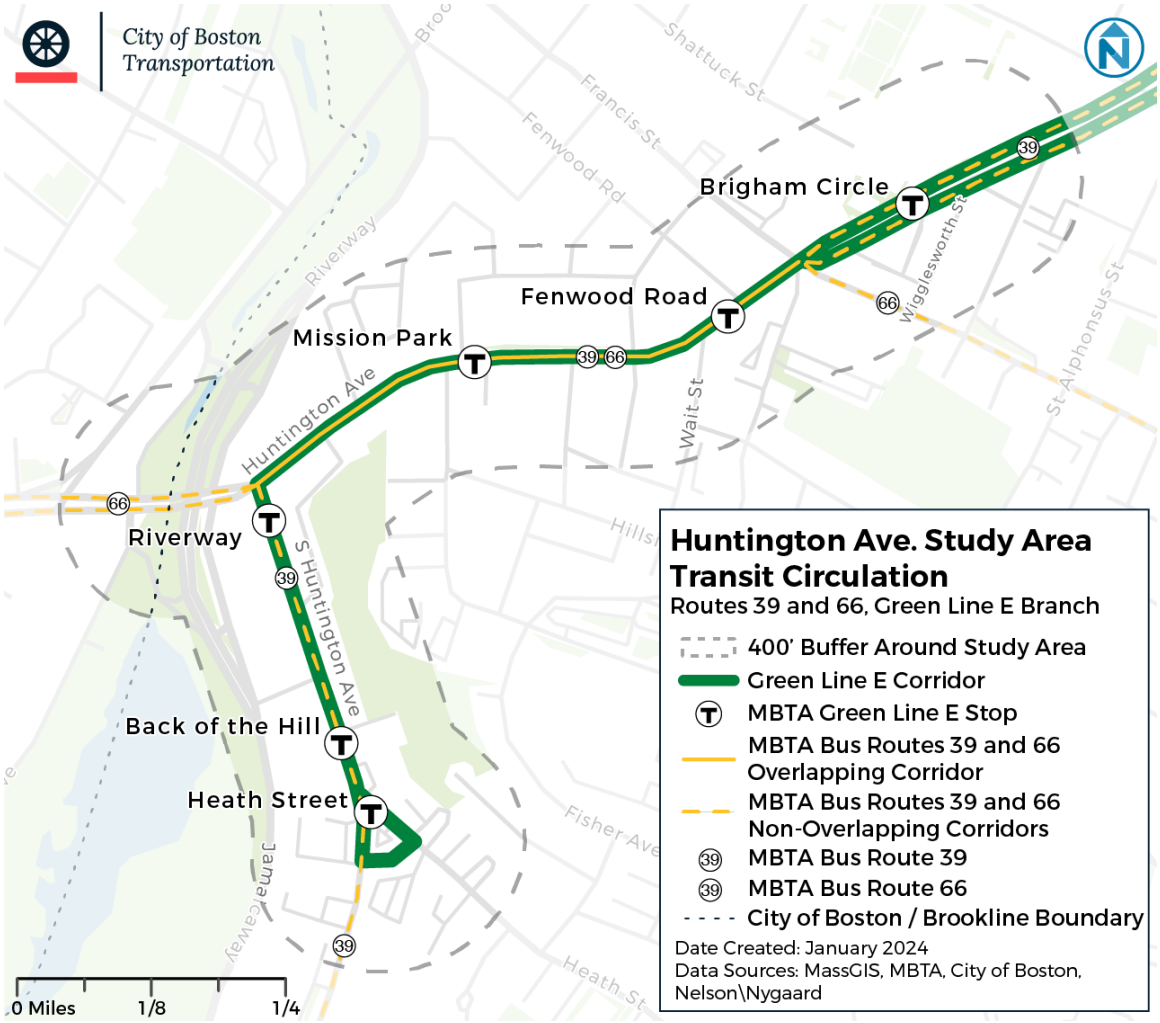
Figure 4: Stops and Stations Lacking Passenger Amenities

Stop/Station	Amenities Present	Routes Served
Fenwood Road - Inbound	None	Green Line, Route 39, Route 66
Mission Park – Inbound	Bench only	Green Line, Route 39, Route 66
Riverway - Inbound	Bench only	Green Line, Route 39
Riverway – Outbound	Bench only	Green Line, Route 39

IV. Transit Infrastructure

The study area corridor through Huntington Avenue and South Huntington Avenue has three main transit services: Route 39, Route 66, and the Green Line E branch. For each of these services, the Huntington Avenue/South Huntington Avenue intersection is a point of high delay, slow speeds, and low reliability. For Routes 39 and 66, this intersection is a high-volume non-transit station transfer point that many riders rely on for their journeys between Jamaica Plain and Brookline, Allston, and Cambridge, yet transferring is difficult due to the stops being separated by the intersection at Huntington Avenue & South Huntington Avenue.

Figure 5: Bus Routes and Green Line E Branch Service



Green Line E Branch

The Green Line E branch offers a combination of over- and underground service from Medford to Brookline, through downtown at the Park Street Station. The E branch separates from the other Green Line branches west of Copley Station, from which it travels underground until Northeastern Station, then continues overground for the remainder of the branch to Heath Street Station. The Green Line E branch runs parallel to Route 39 for nearly its entire duration, starting once the branch is directly underneath Huntington Avenue after departing west from Prudential Station.

The Green Line E branch has peak headways of 6–8 minutes and off-peak headways of 7–12 minutes.

Figure 6: Green Line Ridership by Stop

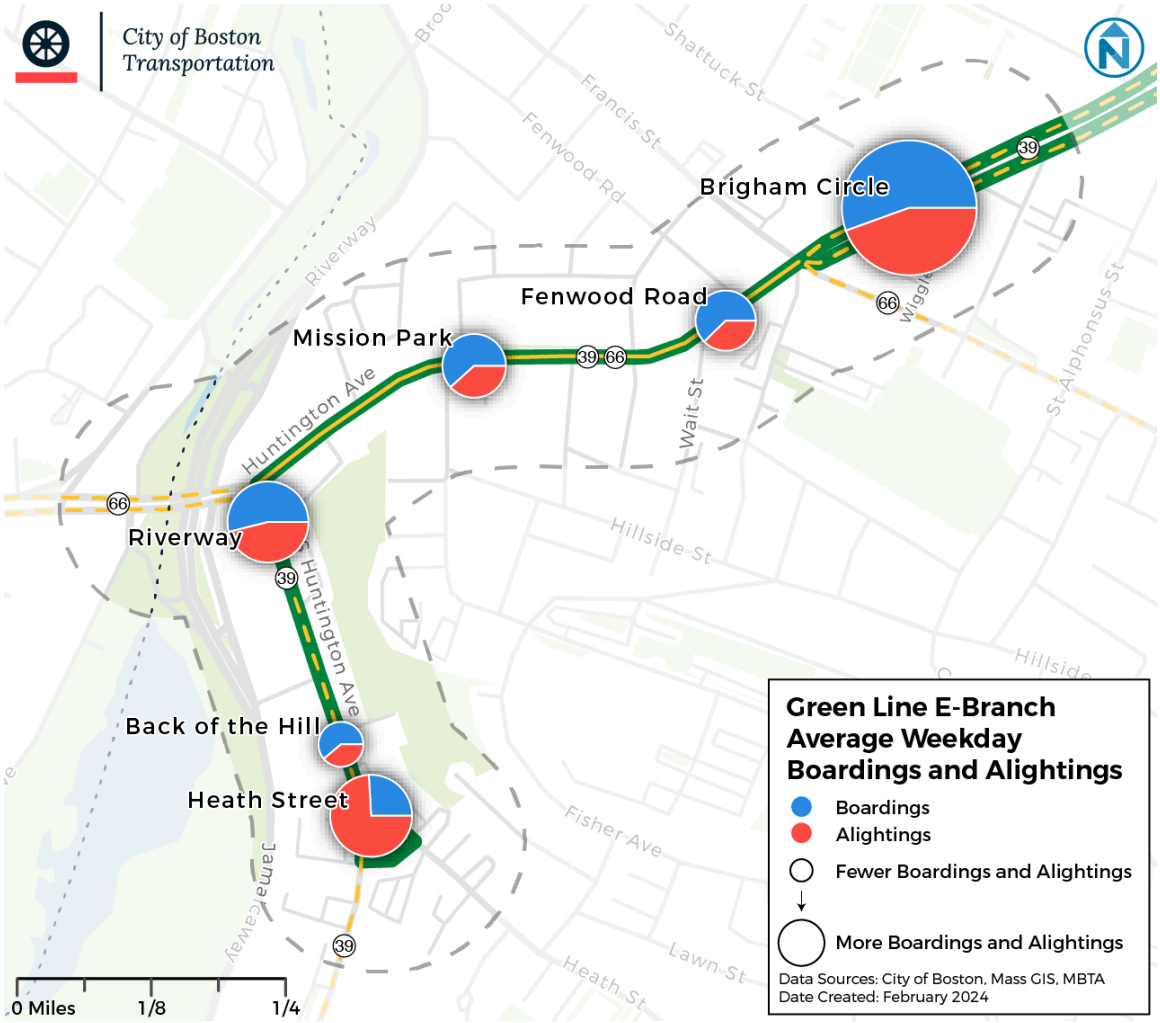


Figure 7: Green Line E Branch Station Weekday Boardings and Alightings by Time of Day

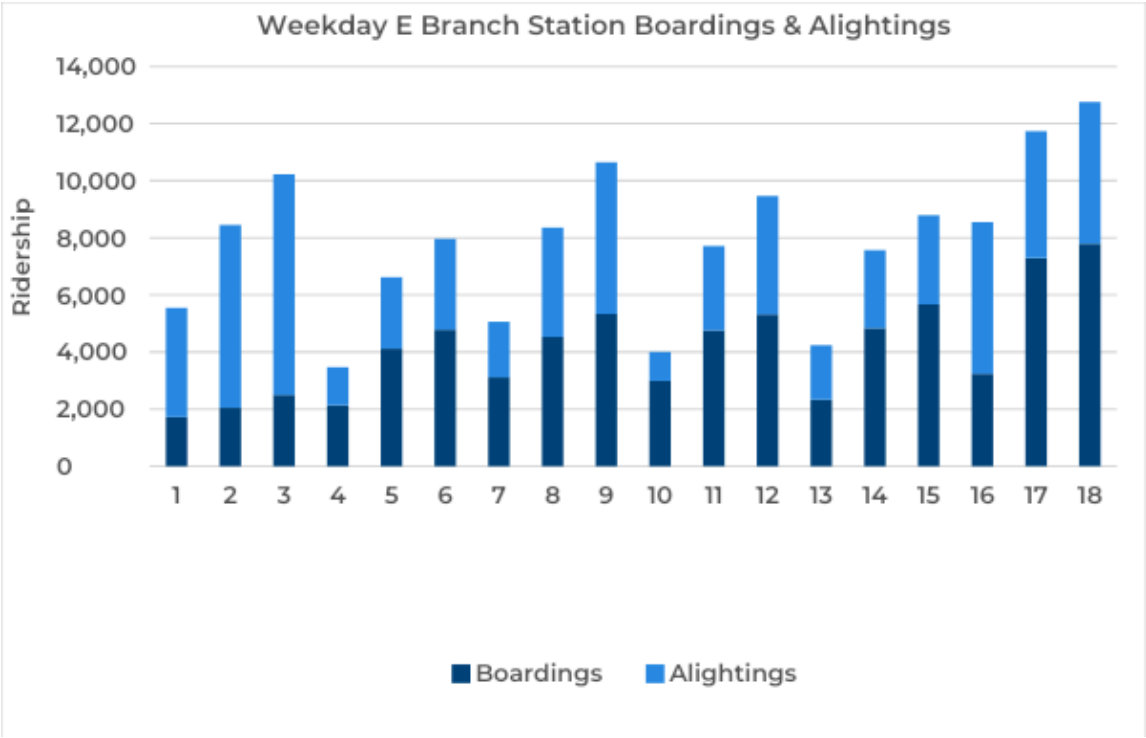


Figure 8: Green Line E Branch Station Saturday Boardings and Alightings

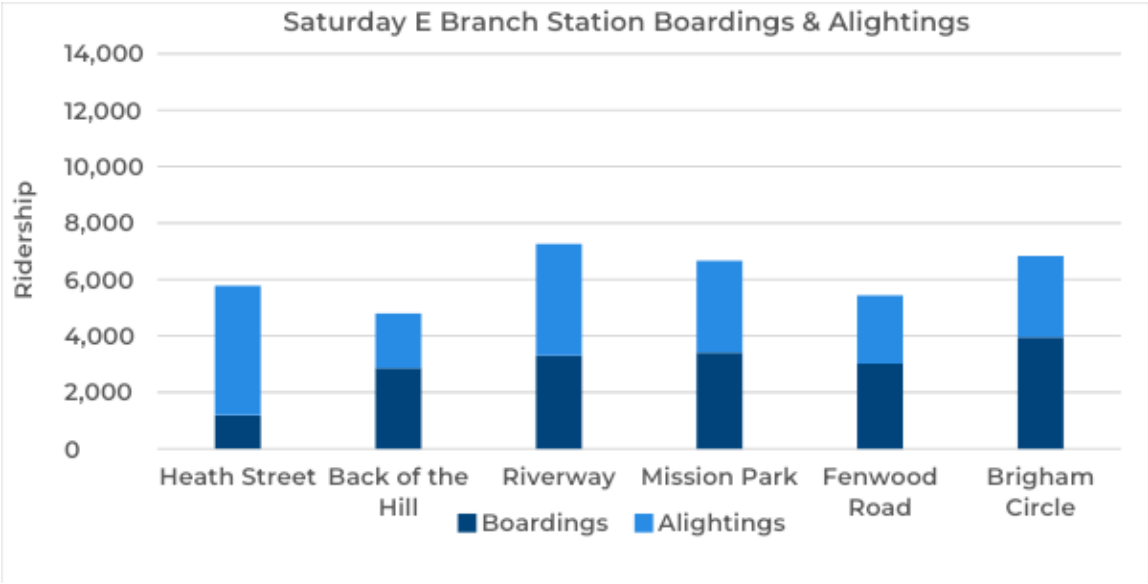
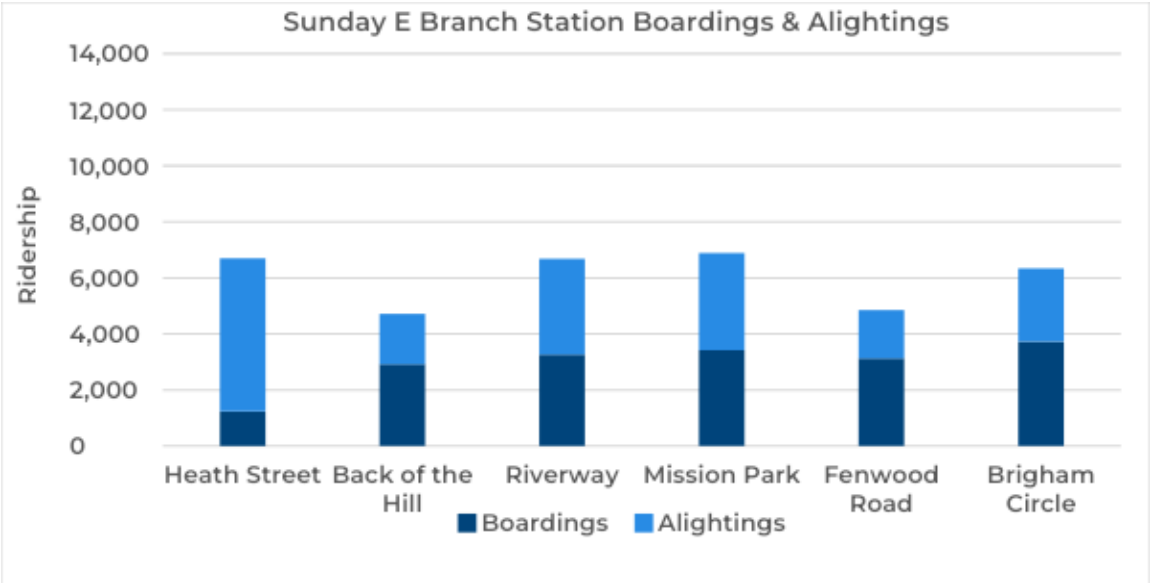


Figure 9: Green Line E Branch Station Sunday Boardings and Alightings



MBTA Bus Service

Two key bus routes serve the Corridor: Route 39 and Route 66. Route 39 offers service between Back Bay Station and Forest Hills Station, running along Huntington Avenue and South Huntington Avenue in the study area. Route 66 offers service between Nubian Square and Harvard Square, running along Huntington Avenue through most of the study area.

In addition to Routes 39 and 66, three routes also interact with the study area. Route 14 (Roslindale Square-Heath Street) terminates at Heath Street, which is the southernmost stop within the study area. Route 60 (Chestnut Hill-Kenmore Station) and Route 65 (Brighton Center-Kenmore Station) both operate along Brookline Avenue and serve the inbound and outbound stops at Brookline Avenue at Pearl Street, at the western edge of the study area.

Some additional bus routes also operate select trips that serve the Corridor on school days only. These typically follow Route 39's alignment through the Corridor and include one trip in each direction in the morning and one trip in each direction in the afternoon on each route.

Route 39 utilizes transit priority treatments, including dedicated bus lanes along Huntington Avenue and in Back Bay to provide faster service in areas that have been prone to delay. Route 39 is also in the process of undergoing additional improvements,

such as curb extensions and transit signal priority along its alignment to help further reduce delay and improve the reliability of the route.

Together, Route 39 and Route 66 provide space for 37,920 potential riders each day, including 8,400 in the peak hours. Route 39 and Route 66 are two of the MBTA's 15 designated Key Bus Routes, which means that they have high ridership and therefore operate higher service frequencies than other routes in the system. . Approximately 474 buses run each weekday along the Corridor, with 126 trips during peak hours. Both routes run throughout the day seven days a week, running from before 5:00 a.m. until 1:00 a.m. on weekdays and Saturdays, and from before 6:00 a.m. until 1:00 a.m. on Sundays. On both routes, scheduled frequencies are typically 15 minutes or better during weekdays, and every eight to nine minutes during peak periods, while scheduled service on weekends is typically every 12 to 16 minutes or better.

These two bus routes, and Route 39 in particular, are important in light of the Corridor's poor pedestrian access and the inaccessibility of the Green Line E branch through this Corridor. Green Line E branch riders must walk into the roadway to board trolleys, leaving those with a physical disability potentially unable to board. Today, Route 39 buses often provide an accessible alternative to the Green Line along the corridor, since buses must pull up to the curb to serve designated bus stops and vehicles are wheelchair accessible. However, this is not always true, as parked cars along the Corridor can block many bus stops from the curb, making them inaccessible, which is discussed later in the report.

Figure 10: Route 39 and Route 66 bus stop locations in the Study Area

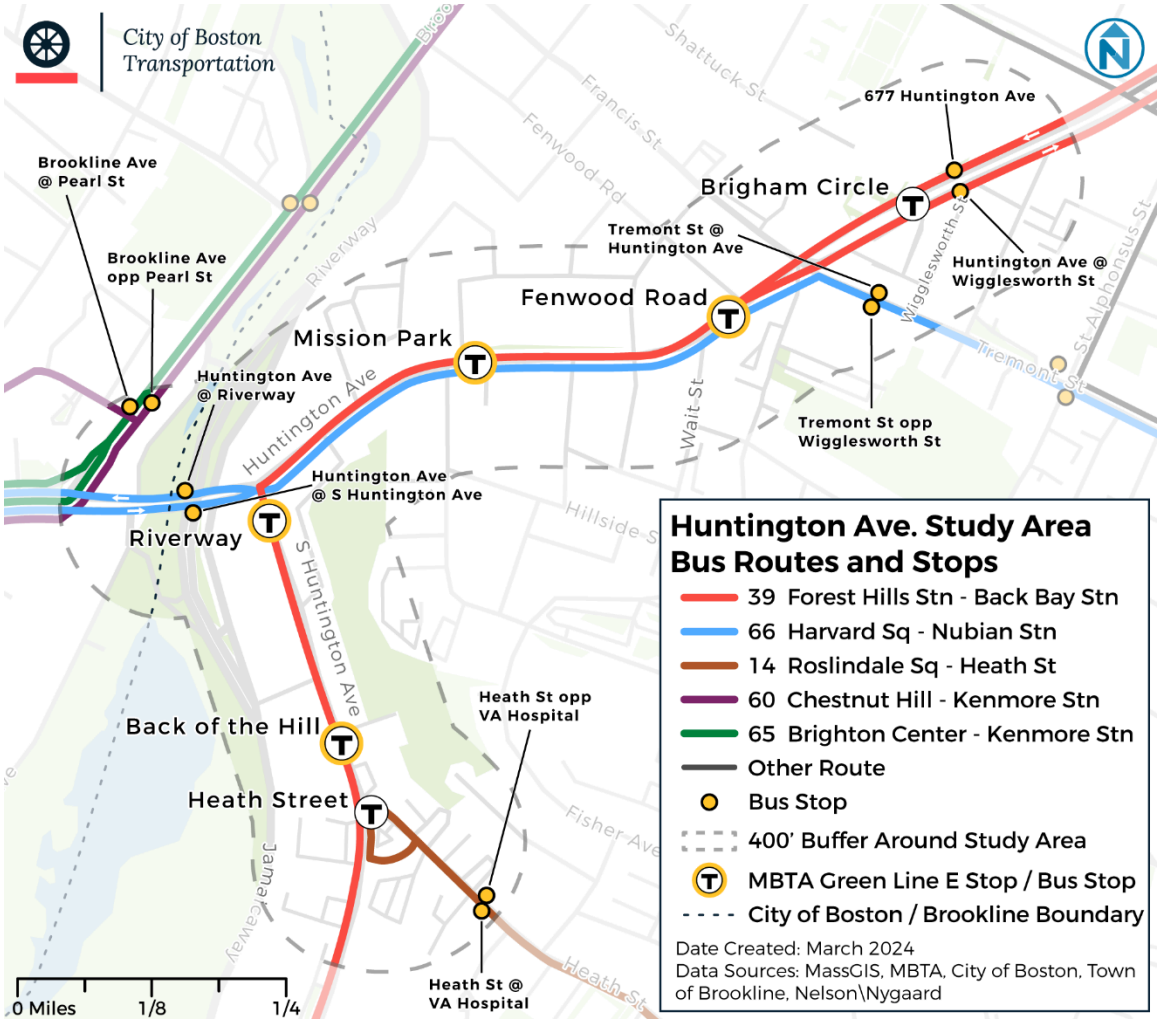


Figure 11: Route 39 and Route 66 Bus Service Levels

Bus Route	Service Day	Span	Peak Frequency (min)	Off-Peak Frequency (min)
39	Weekday	4:45 AM – 1:00 AM	8 – 9	9 – 14
	Saturday	4:39 AM – 1:01 AM	15	15
	Sunday	5:44 AM – 12:55 AM	15	15

Bus Route	Service Day	Span	Peak Frequency (min)	Off-Peak Frequency (min)
66	Weekday	4:45 AM – 1:00 AM	8 – 9	10 – 15
	Saturday	4:40 AM – 1:00 AM	12	12
	Sunday	5:51 AM – 1:00 AM	16	16

Ridership

Routes 39 and 66 are both among the 10 highest-ridership routes in the system, and serve multiple stops in the Corridor with high ridership volumes. Ridership is higher along Huntington Avenue and at the intersection of Huntington Avenue & South Huntington Avenue than along South Huntington Avenue.

Figure 12: Route 39 and 66 Study Area Ridership by Stop

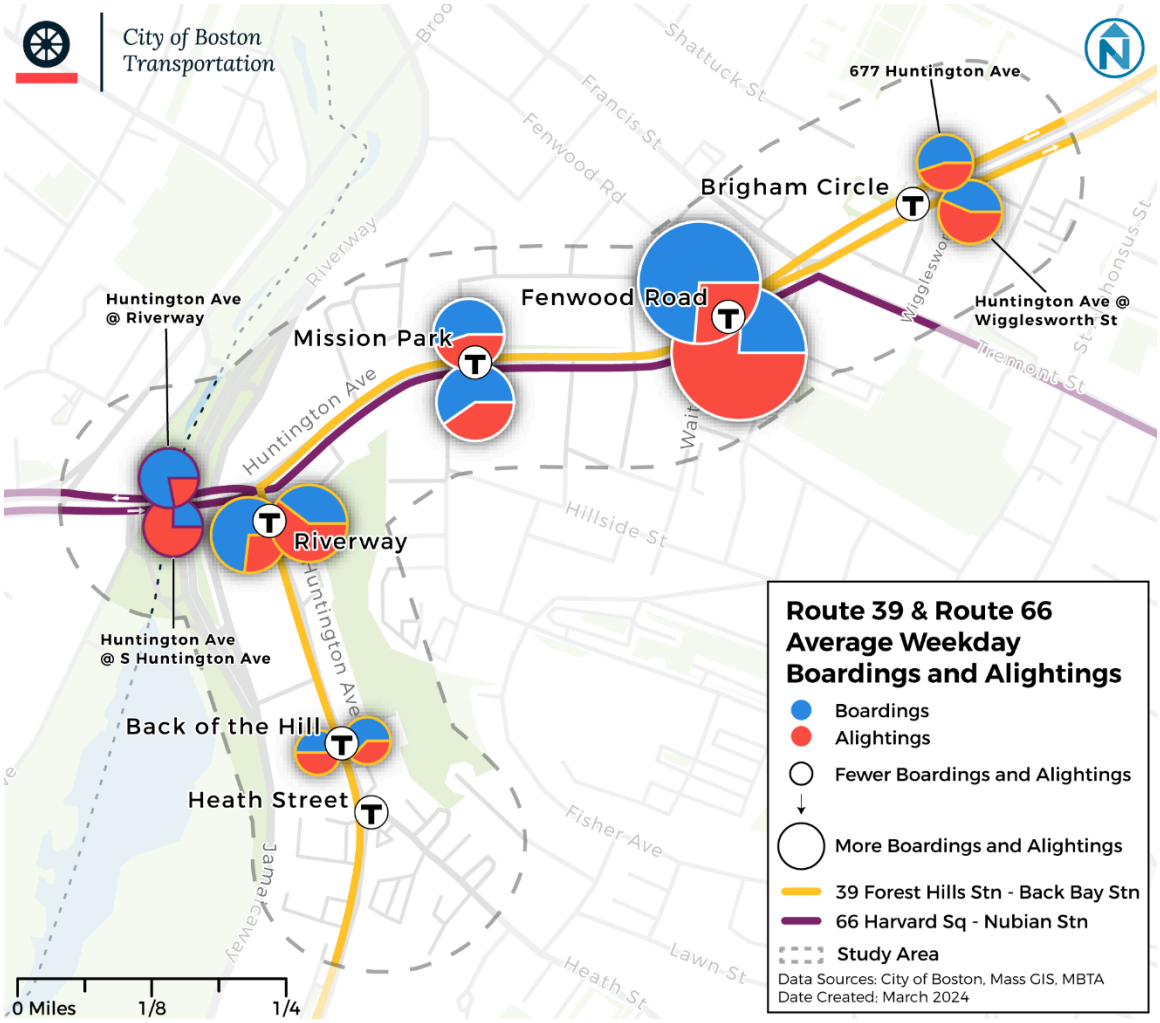
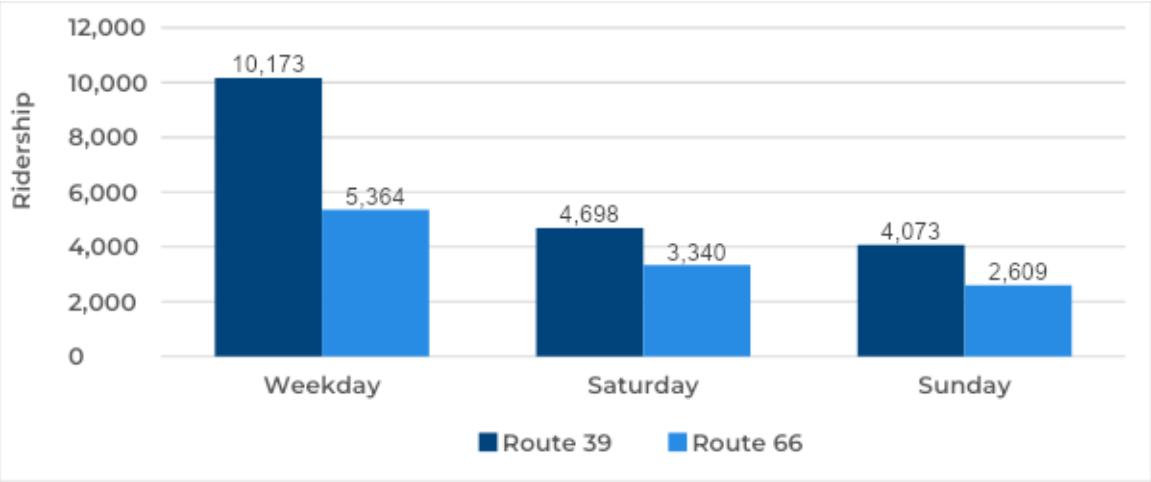


Figure 13: Route 39 and Route 66 Corridor Ridership Along the Corridor by Day (Combined Boardings and Alightings)



V. Pedestrian Infrastructure

The Corridor has narrow sidewalks, limited crossings, high traffic volumes, and high collision rates. Green Line E Branch boarding and alighting occurs in the roadway, with transferring riders and pedestrians within the street alongside moving traffic, which is unsafe and inaccessible for all passengers.

The study area also has high transfer activity between bus routes and the Green Line E Branch. To complete some of these transfers, such as between Routes 39 and 66, riders must cross two or three crosswalks to reach the transfer location. Unpaved and bumpy crosswalks can make this difficult and unsafe. Additionally, crossing the large intersection at Huntington Avenue & South Huntington Avenue can be time-consuming. In field observations noted pedestrians crossing against traffic signals at Huntington Avenue and Parker Hill Avenue as well as Huntington Avenue and Mission Street/St. Albans road. At Huntington and South Huntington Avenue, a pedestrian can wait up to 90 seconds for a WALK signal, potentially resulting in missed transfers.

Current Pedestrian Infrastructure (facing North). Photo credit: Nelson\Nygaard

Current Pedestrian Infrastructure (facing East). Photo credit: Nelson\Nygaard

VI. Bicycle Infrastructure

Huntington and South Huntington Avenue are heavily used multimodal corridors, carrying over 20,000 vehicles per day and approximately 200 bicycles per day. Most of the corridor has no bike lanes, but instead features shared lane markings in the form of sharrows (or shared bus/bike lanes east of Francis St). A short section of the Corridor south of Back of the Hill station features standard bike lanes on the street. The Emerald Necklace is a shared use path along the Riverway that is also available to cyclists, though it is not connected to the rest of the bicycle network in Boston. The lack of standard or protected bike lanes along nearly the entire length of the Corridor results in bicycles sharing space with trolleys, buses, and automobiles. Cyclists experience elevated levels of bike crashes.

West of the Riverway in Brookline, cycle tracks are present in both directions on Washington St/Route 9. Leverett Pond Path is a shared use path along the Riverway which connects to the Emerald Necklace Trail and provides access to the corridor at Washington St.

The entirety of the study area has been quantitatively identified as a high-crash corridor for people biking by the City of Boston. Both Huntington Avenue and South Huntington Avenue are in the top 3% of high-crash corridors for people biking citywide[23].

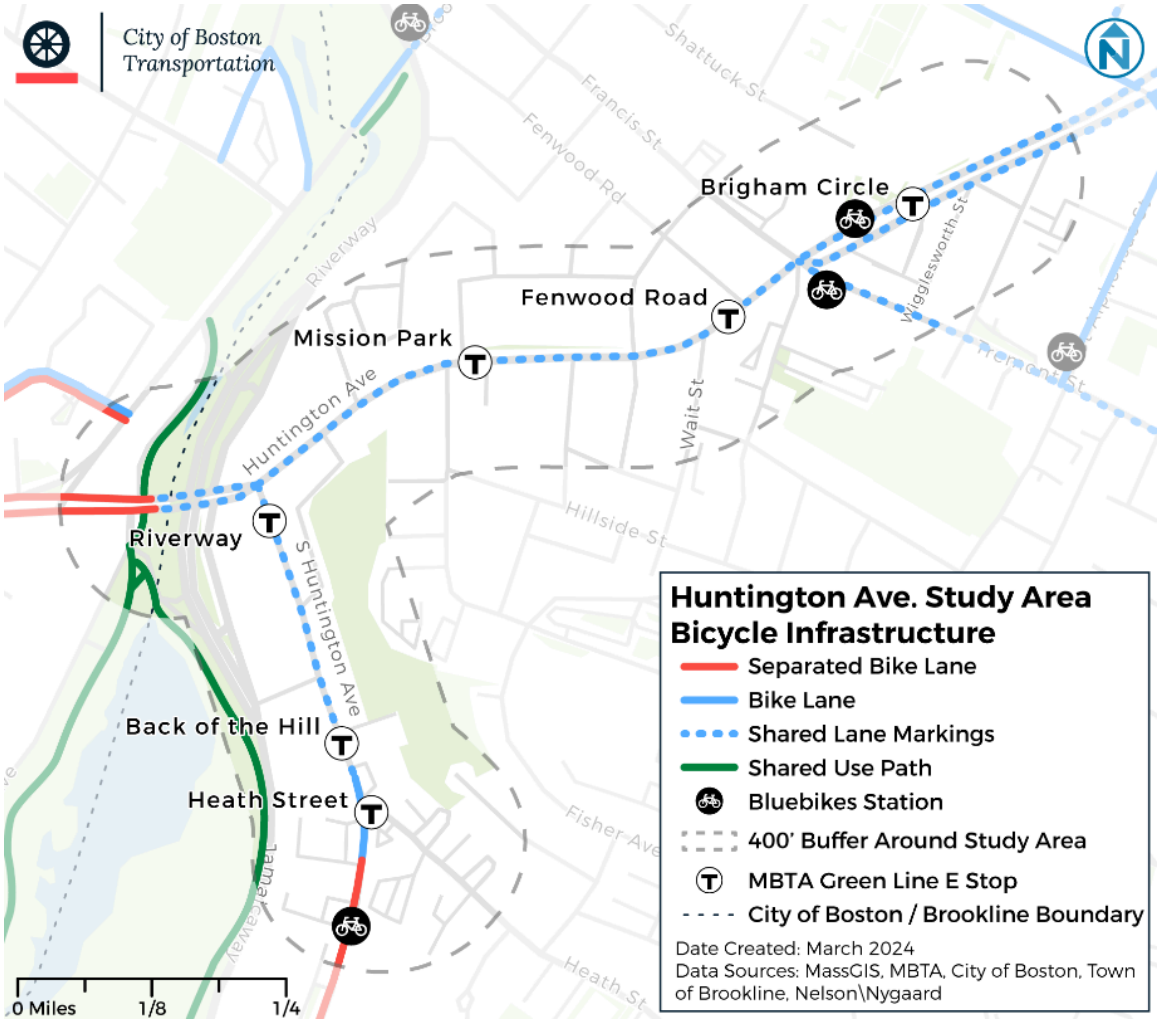
There are three bike share stations within the study area, with an additional two located just outside of the study area boundary. Blue Bike data pulled from March 2024 showed a combination of 1,913 dockings and 1,777 undockings across three bike share stations within the study area at Brigham Circle - Francis St at Huntington Ave, One Brigham Circle, and South Huntington Ave at Heath St.

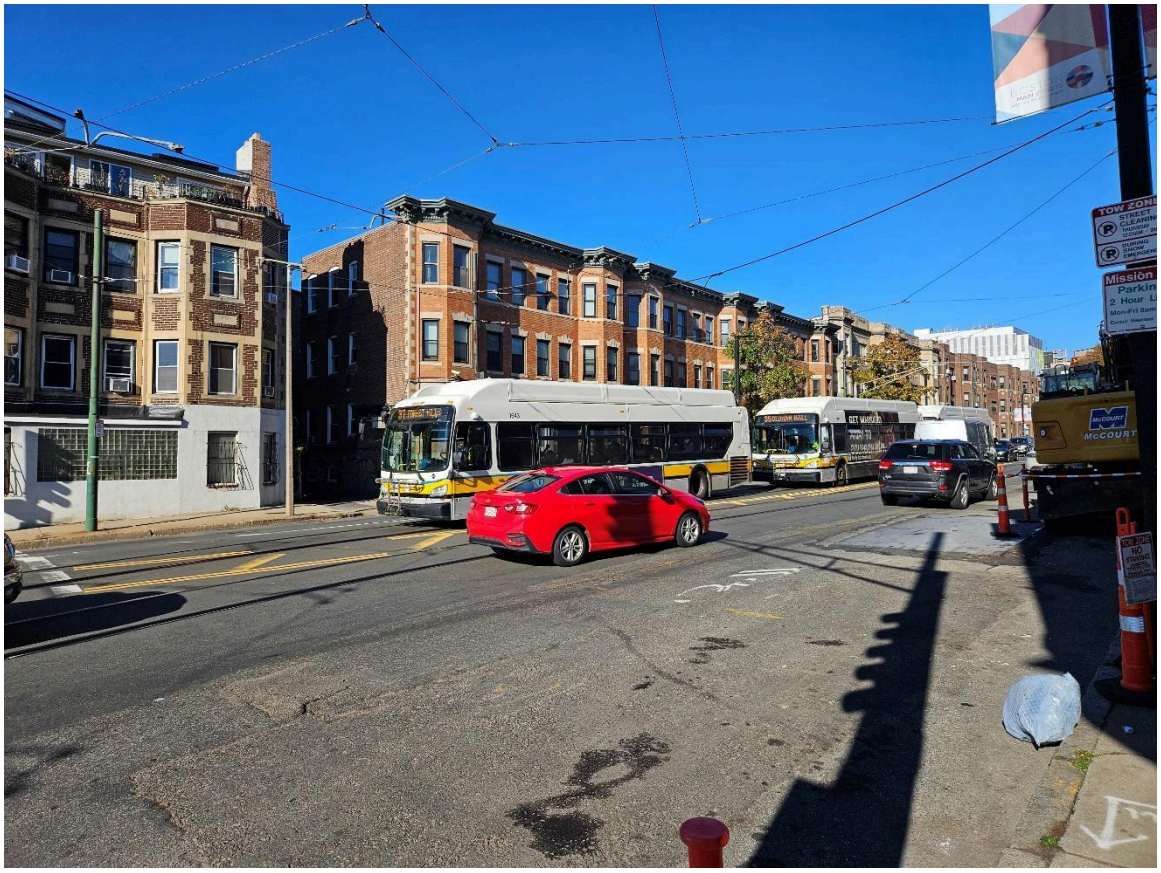
Figure 14: Current Pedestrian Infrastructure (facing East)

	Blue Bike Station	Dock	Undock
Study Area	Francis St at Huntington Ave	932	934
	One Brigham Circle	725	623
	South Huntington Ave at Heath St	256	220
Outside Study Area	St. Alphonsus St at Tremont St	871	764
	Riverway at Brookline Ave	678	631

[23] City of Boston. High Crash Network. https://www.arcgis.com/apps/webappviewer/index.html?id=57724c984c284cee856a977d155d1d70.

Figure 15: Bicycle Infrastructure in the Study Area





Faded Bicycle Pavement Markings on Huntington Avenue. Photo credit: Nelson\Nygaard

3 Circulation and Traffic Flow Management

As a critical conduit within Boston and the greater metropolitan region, the Corridor facilitates the flow of transit, pedestrians, cyclists, and vehicular traffic. Loading and deliveries for businesses also occur on portions of the street.

Green Line E Branch Trolley in Mixed Traffic along Huntington Avenue. Photo credit: Nelson\Nygaard

VII. Circulation and Level of Service

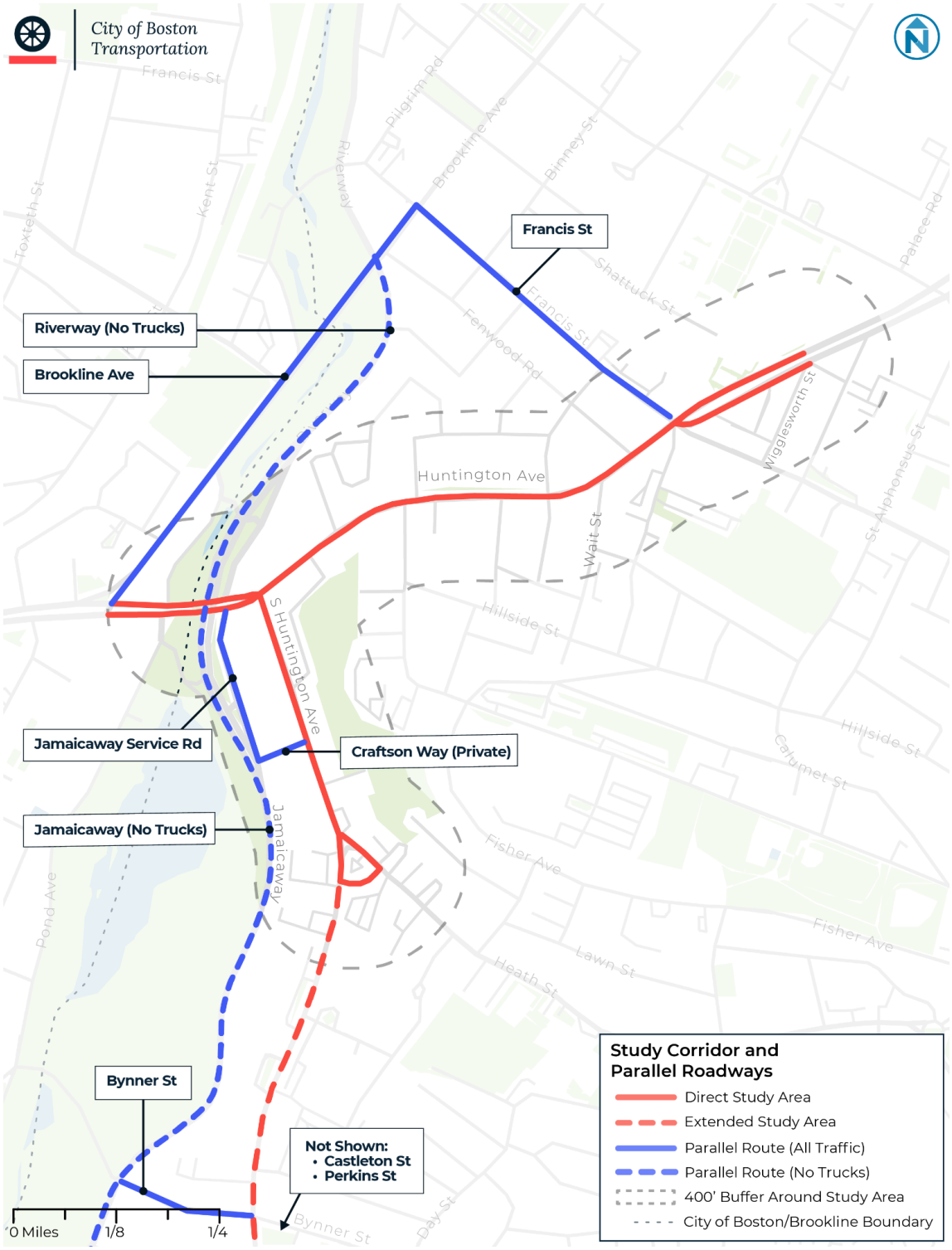
Huntington Avenue and South Huntington Avenue are heavily used multimodal corridors, carrying over 20,000 vehicles per day and approximately 200 bicycles per day. The Corridor is also a major pedestrian route. East of Brigham Circle, the curb-to-curb width of Huntington Avenue is approximately 90 feet. The center 30 feet of the roadway

width is dedicated to the Green Line E branch, and the remaining 60 feet consist of one bus/bike lane and one travel lane in each direction. West of Brigham Circle, the roadway width narrows to approximately 60 feet, with two travel lanes and one parking lane in each direction. South Huntington Avenue is approximately 50 feet wide and consists of two travel lanes and a parking lane in each direction. Along these constrained segments of Huntington Avenue and South Huntington Avenue, general traffic shares the left travel lane with Green Line trolleys and the right travel lane with buses, resulting in competition for space as vehicles attempt to pass slow or stopped trolleys, transit riders attempt to board or alight trolleys from the center travel lanes, and cyclists navigate the corridor with no dedicated space.

Traffic flow through the Corridor is limited by double parking and by vehicles competing for space with Green Line trolleys at street level. Vehicular conflicts with the Green Line are especially evident at the Huntington Avenue & South Huntington Avenue intersection, where inbound trolleys are constrained to the left travel lane on the northbound South Huntington Avenue approach and must wait for left-turning vehicles to turn in order to proceed. As a result, any delay that turning vehicles experience is also experienced by Green Line passengers. Outbound Green Line trolleys also experience conflicts while turning left onto South Huntington Avenue concurrently with articulated MBTA buses.

Francis Street, Brookline Avenue, and Riverway to the north and Jamaicaway to the west are potential alternate vehicle routes for traveling through the Corridor; however, Riverway and Jamaicaway are both under Department of Conservation and Recreation (DCR) jurisdiction and do not allow pass-through commercial vehicles. Trucks may travel down South Huntington Avenue/Huntington Avenue and Brookline Avenue instead, increasing the number of heavy vehicles on these roadways. The location of these parallel roadways relative to the Huntington Avenue & South Huntington Avenue study corridor is shown in Figure 16.

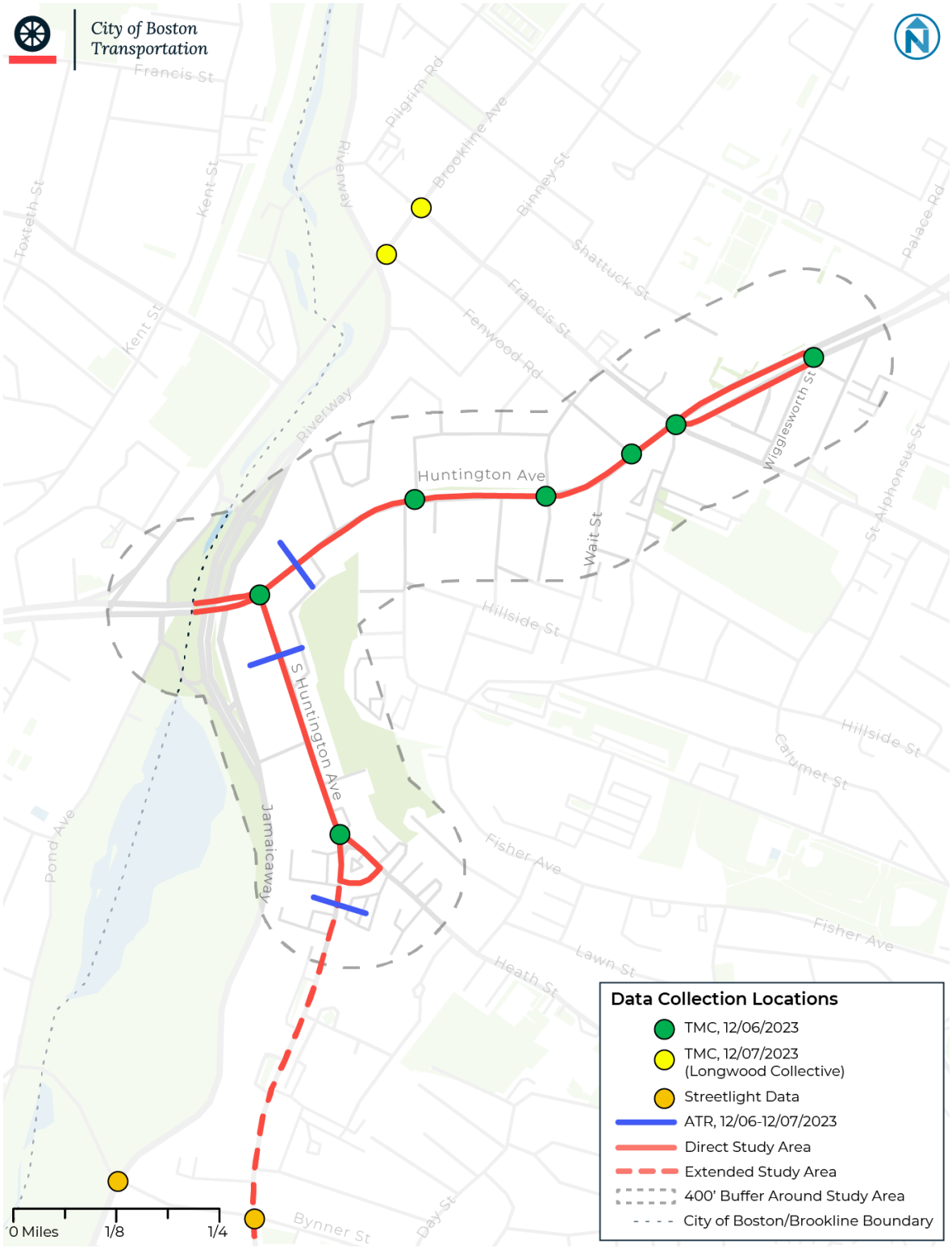
Figure 16: Study Corridor and Parallel Roadways



Data Collection

Traffic counts including turning movement counts (TMCs), automatic traffic recorders (ATRs), and StreetLight Data, which were collected throughout the study area. Traffic count locations are depicted in Figure 17 and discussed in detail below.

Figure 17: Data Collection Locations



TMCs were collected on December 6, 2023, at the following locations:

- Huntington Avenue at Wigglesworth Street (Signalized)
- Huntington Avenue at Tremont Street/Francis Street/Calumet Street (Signalized)

Huntington Avenue at Fenwood Road (Signalized)

- Huntington Avenue at Mission Street/St. Albans Road (Signalized)
- Huntington Avenue at Parker Hill Avenue/Mission Park Drive (Signalized)
- Huntington Avenue at South Huntington Avenue (Signalized)
- South Huntington Avenue at Heath Street (Unsignalized)

In addition, The Longwood Collective provided TMCs that were collected December 7, 2023, at the following locations:

- Brookline Avenue at Francis Street (Signalized)
- Brookline Avenue at Riverway (Signalized)

StreetLight Data was used to estimate peak hour turning movement volumes at additional locations along South Huntington Avenue and Jamaicaway. StreetLight Data uses anonymized data from mobile device sources and provides mobility analytics including traffic volumes, travel times, and origin-destination pairs based on their data samples. TMCs were obtained via StreetLight at the following locations:

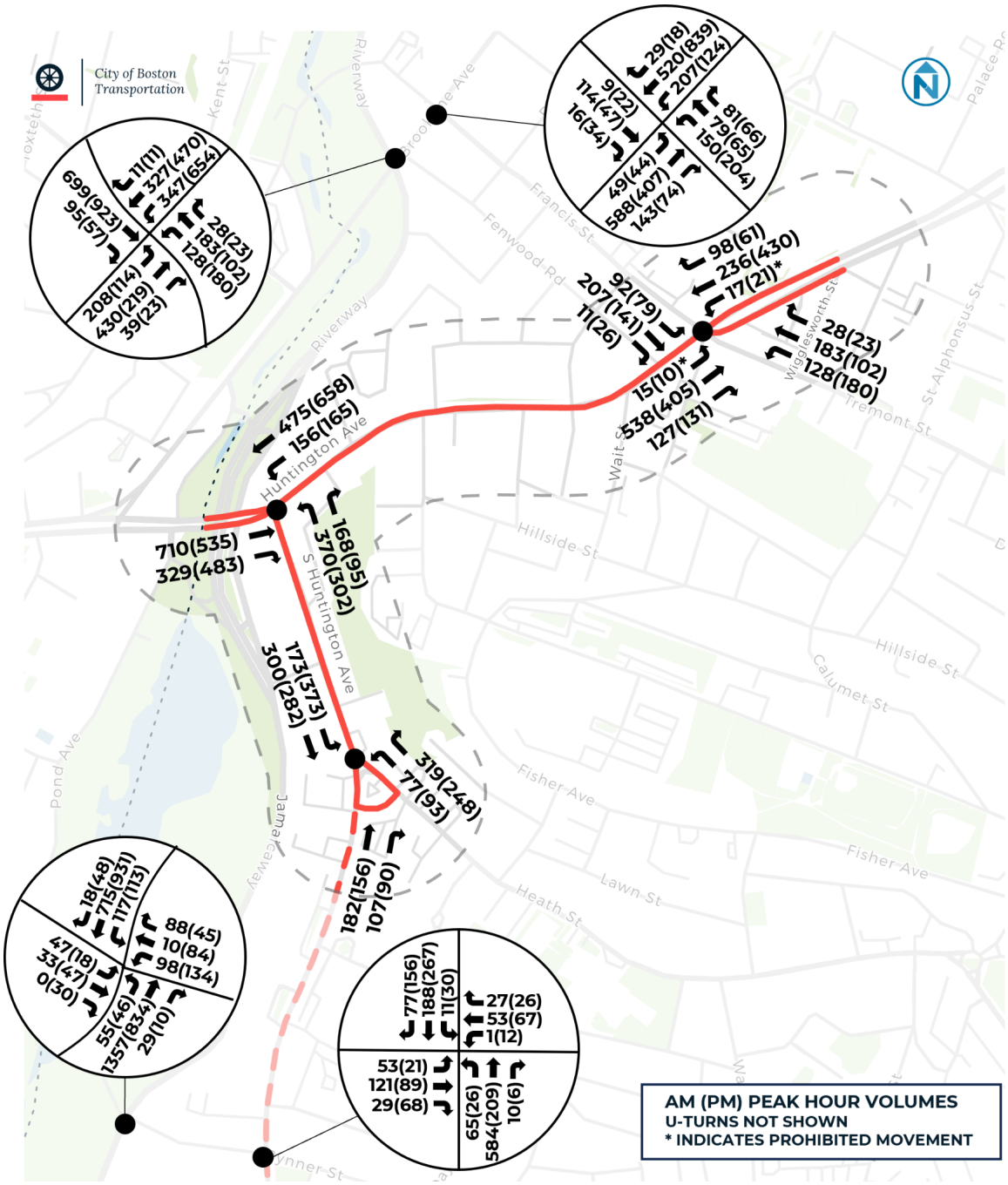
- South Huntington Avenue at Bynner Street (Signalized)
- South Huntington Avenue at Castleton Street (Unsignalized)
- South Huntington Avenue at Perkins Street (Signalized)
- Jamaicaway at Bynner Street/Willow Pond Road (Signalized)
- Jamaicaway at Castleton Street (Unsignalized)
- Jamaicaway at Perkins Street (Signalized)

ATRs including vehicle speed and classification were collected on December 6 and December 7, 2023, at the following locations:

- Huntington Avenue east of South Huntington Avenue
- South Huntington Avenue south of Huntington Avenue
- South Huntington Avenue south of Heath Street

The weekday a.m. and p.m. peak hours were found to occur from 7:15 a.m. to 8:15 a.m. and 5:00 p.m. to 6:00 p.m., respectively. Figure 18 shows the peak hour traffic volumes at key intersections throughout the corridor.

Figure 18: Peak Hour Traffic Volumes



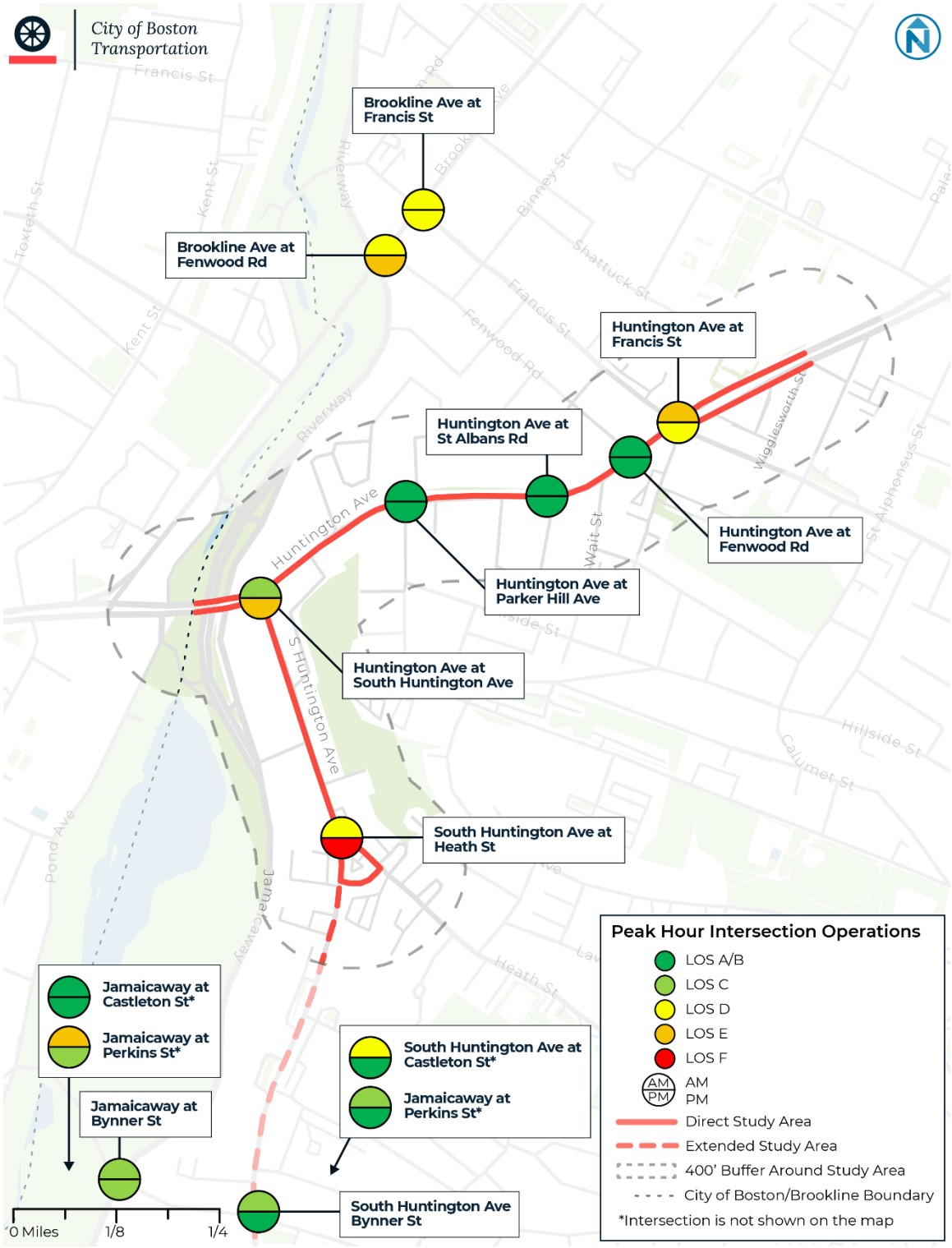
From the ATR counts, both Huntington and South Huntington Avenue carry 2% heavy vehicles. Emergency vehicles were sampled via traffic count video at Huntington Avenue and Parker Hill Avenue from 7-9AM, 12-2PM, and 4-6PM. The observations are as follows:

- AM:
    - 2 ambulances eastbound thru (lights on)
- MD:
    - 1 ambulance westbound thru (lights on)
    - 1 ambulance westbound left (lights on)
    - 1 ambulance westbound left (lights off)
    - 2 ambulances eastbound thru (lights on)
    - 3 fire trucks westbound left (lights on)
    - 1 police westbound thru (lights on)
- PM:
    - 1 ambulance westbound thru (lights on)
    - 3 ambulances westbound thru (lights off)
    - 3 ambulances eastbound thru (lights off)
    - 1 ambulance northbound left (lights off)
    - 1 fire truck westbound thru (lights on)
    - 1 fire truck eastbound thru (lights off)
    - 2 police westbound thru (lights on)
    - 1 police westbound thru (lights off)
    - 2 police eastbound thru (lights off)

Traffic Operations

Traffic analysis of the existing conditions was completed at the study area intersections using the traffic data collected. Figure 19 below shows the overall intersection operations for key study area intersections, ranging from Level of Service (LOS) A to LOS F where LOS A represents minimal vehicle delay and excess capacity and LOS F represents excessive delay and volumes exceeding capacity. This analysis reflects delays attributable to traffic control and lane configuration, independent of additional corridor delay due to double parking and Green Line operations. For example. at Huntington and South Huntington Avenue many vehicular eastbound right turns on red were responsible for causing near-misses, as well as conflicts with uncontrolled Citgo gas station driveways. Related to double parking and Green Line operations, at Huntington and South Huntington Avenue over ten westbound vehicles queued behind the Green Line trolley waiting to turn left.

Figure 19: Peak Hour Intersection Operations



As shown in Figure 19, the signalized intersection of Huntington Avenue at Tremont Street, Francis Street, and Calumet Street operates at LOS E during the weekday a.m. peak hour, while the signalized intersections of Huntington Avenue at South Huntington Avenue and Brookline Avenue at Fenwood Road each operate at LOS E during the weekday p.m. peak hour. Additionally, the Stop-sign controlled Heath Street approach to South Huntington Avenue operates at LOS F during the weekday p.m. peak hour. The intermediate signals along Huntington Avenue at Mission Street/St. Albans Road and at Parker Hill Avenue/Mission Park Drive each operate with minimal traffic control delay during the peak hours, and congestion at these locations is generally attributable to other friction along the corridor.

Origin-Destination Analysis Huntington Avenue

Huntington Avenue/South Huntington Avenue Corridors

To better understand how vehicles access and pass through the study area, StreetLight origin and destination data were reviewed for locations on Huntington Avenue west of Brigham Circle and South Huntington Avenue north of Heath Street. The StreetLight data are displayed in Figure 20 and Figure 21 for Huntington Avenue and South Huntington Avenue, respectively, and described in more detail below.

Figure 20: Huntington Avenue Origins and Destinations

	AM		PM	
	Origin	Destination	Origin	Destination
North	4%	7%	7%	3%
South	2%	4%	2%	3%
East	26%	51%	33%	35%
West	60%	25%	40%	40%

Figure 21: South Huntington Avenue Origins and Destinations

	AM		PM	
	Origin	Destination	Origin	Destination
North	7%	8%	10%	9%

South	56%	29%	36%	44%
East	30%	30%	6%	6%
West	20%	29%	33%	23%

During the weekday morning peak hour, approximately 60 percent of trips to Huntington Avenue west of Brigham Circle originate to the west, and approximately 20 percent of those trips come from South Huntington Avenue. Almost a quarter of trips arrive to Brigham Circle from the east via Tremont Street and Huntington Avenue, and the remaining trips filter in from locations to the north and south. Over half of trips arriving to South Huntington Avenue during the weekday morning peak hour arrive from the south, including 25 percent from Heath Street and 20 percent from Centre Street. Another 20 percent of trips arrive to South Huntington Avenue from the west.

During the weekday morning peak hour, over 50 percent of trips departing from Brigham Circle head east toward Huntington Avenue, Tremont Street, and Longwood Avenue, and another 25 percent head to destinations to the west. Approximately 30 percent of trips from South Huntington Avenue during the weekday morning peak hour head south, approximately 30 percent of trips head west, and another 30 percent of trips head east.

During the weekday afternoon peak hour, 40 percent of trips to Huntington Avenue west of Brigham Circle come from the west, and over 30 percent of trips come from the east. Over 30 percent of trips to South Huntington Avenue arrive from the west, and over 35 percent of trips come from the south. Another 10 percent of trips to South Huntington Avenue arrive from the north during the weekday afternoon peak hour.

Approximately 40 percent of trips from Huntington Avenue west of Brigham Circle head west during the weekday afternoon peak hour, and 35 percent of trips head east. Nearly 45 percent of trips from South Huntington Avenue continue to destinations to the south during the weekday afternoon peak hour, and over 20 percent of trips head to destinations to the west. Approximately 10 percent of trips from South Huntington Avenue continue north during the weekday afternoon peak hour.

Based on the StreetLight origin and destination data reviewed, Huntington Avenue and South Huntington Avenue are primarily used by through traffic during the weekday morning and weekday afternoon peak hours, and the majority of trips to the study area do not stop within the study area. Given the nature of the corridor, there is an opportunity for a mode shift away from passenger cars, especially with the improved Green Line service that would be offered with dedicated Green Line right-of-way along Huntington Avenue and South Huntington Avenue.

As shown in the origin and destination data reviewed, the primary desire line along Huntington Avenue is in the east-west direction. If Huntington Avenue was reduced to a one-way street to accommodate the Green Line improvements, vehicles would likely divert to Riverway and Brookline Avenue. Converting Huntington Avenue to one-way westbound would likely add additional eastbound left turns at the intersection of Washington Street and Brookline Avenue and at the intersection of Francis Street and Huntington Avenue. Converting Huntington Avenue to one-way eastbound would likely add additional northbound left turns at the intersection of Francis Street and Brookline Avenue. Some trips may also divert to Columbus Avenue instead of utilizing Huntington Avenue. The primary desire line along South Huntington Avenue is to the south and to the west. If South Huntington Avenue was converted to a one-way roadway, vehicles would be anticipated to primarily divert to Jamaicaway.

Columbus Avenue/Tremont Street Corridor

The MBTA Better Bus Project includes the extension of the existing center-running bus lanes along Columbus Avenue, completed in the fall of 2021, from the existing terminus at Jackson Square north along Columbus Avenue and Tremont Street to Ruggles. These bus lanes would convert one travel lane in each direction to a separated center running bus lane pair, reducing the capacity of Columbus Avenue. To understand how the reduced capacity of Columbus Avenue and diverted trips to other routes may impact Huntington Avenue, StreetLight origin and destination data for the Columbus Avenue/Tremont Street corridor were reviewed.

During the weekday morning peak hour, approximately half of northbound trips to Columbus Avenue arrive via Blue Hill Avenue and Washington Street. With the reduced capacity on Columbus Avenue from the separated bus lanes, those vehicles would be expected to continue north on Washington Street and Blue Hill Avenue and would not be anticipated to divert to Huntington Avenue. During the weekday afternoon peak hour, approximately 40 percent of southbound trips from Columbus Avenue end up on Washington Street and Blue Hill Avenue. Many of those trips would be anticipated to use Washington Street and Warren Street/Blue Hill Avenue to reach their destinations instead of using Columbus Avenue when capacity on Columbus Avenue is reduced.

Based on the StreetLight data available, the Columbus Avenue bus lanes are not expected to have a significant impact on the Huntington Avenue and South Huntington Avenue corridors.

4 Current Curbside Management

IX. Vehicular Parking

Within the study limits, on-street parking is generally permitted on both sides of Huntington Avenue between Tremont Street and South Huntington Avenue, and along South Huntington Avenue between Huntington Avenue and the signalized crosswalk at the Back of the Hill station. A total of 200 on-street parking spaces are provided within the study area, distributed as follows:

- Huntington Avenue, Tremont Street to Mission Street: 37 spaces (15 metered, 10 restricted to commercial loading between 8:00 a.m. and 12:00 p.m.)
- Huntington Avenue, Mission Street to Parker Hill Avenue: 38 spaces
- Huntington Avenue, Parker Hill Avenue to South Huntington Avenue: 63 spaces (1 accessible)
- South Huntington Avenue, Huntington Avenue to Back of the Hill: 62 spaces (2 15-minute pick-up/drop-off)

Figure 22 and Figure 23 below illustrate average occupancy and duration observed along Huntington Avenue and South Huntington Avenue, respectively.

Figure 22: Parking Occupancy, Huntington Avenue

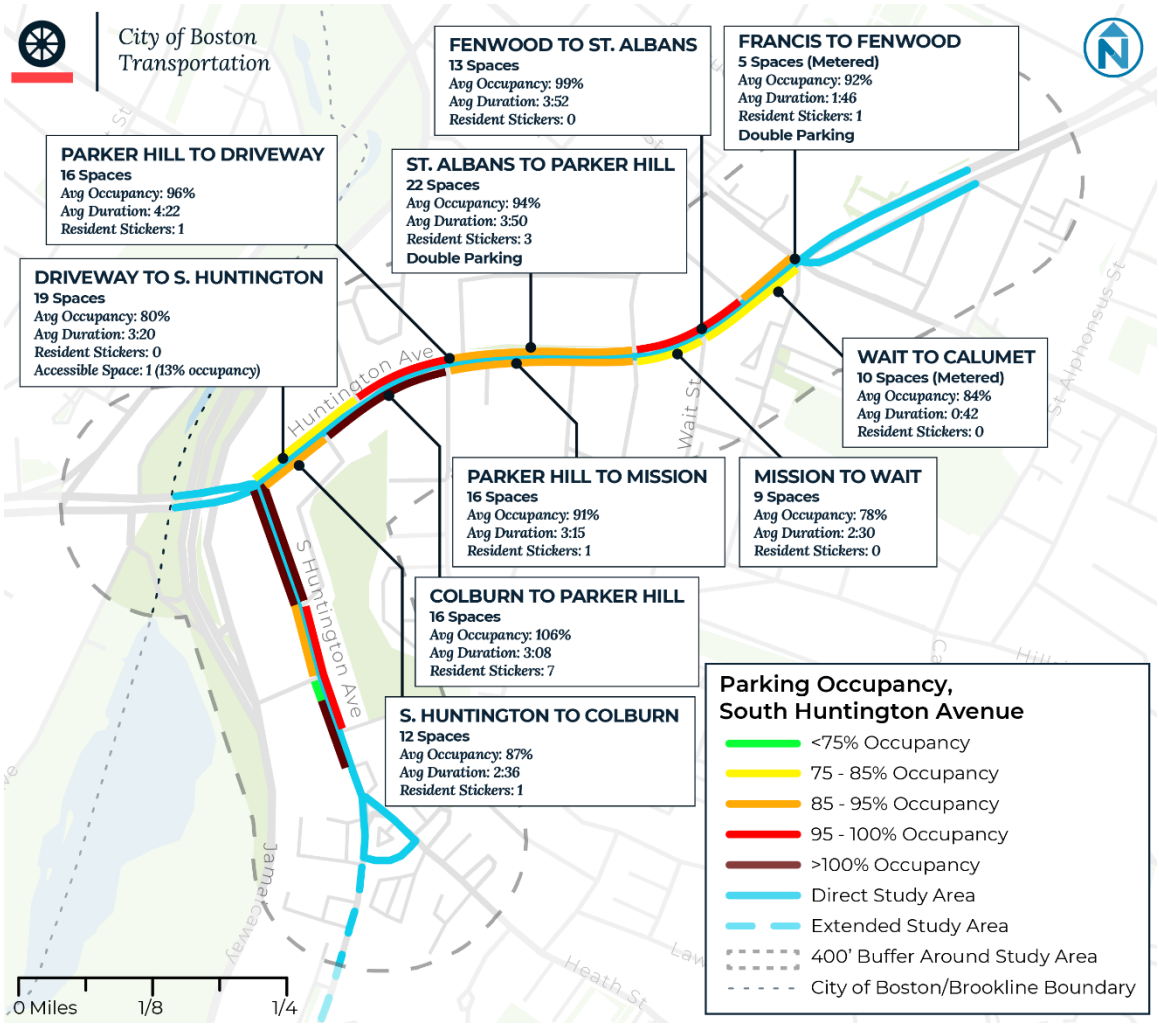
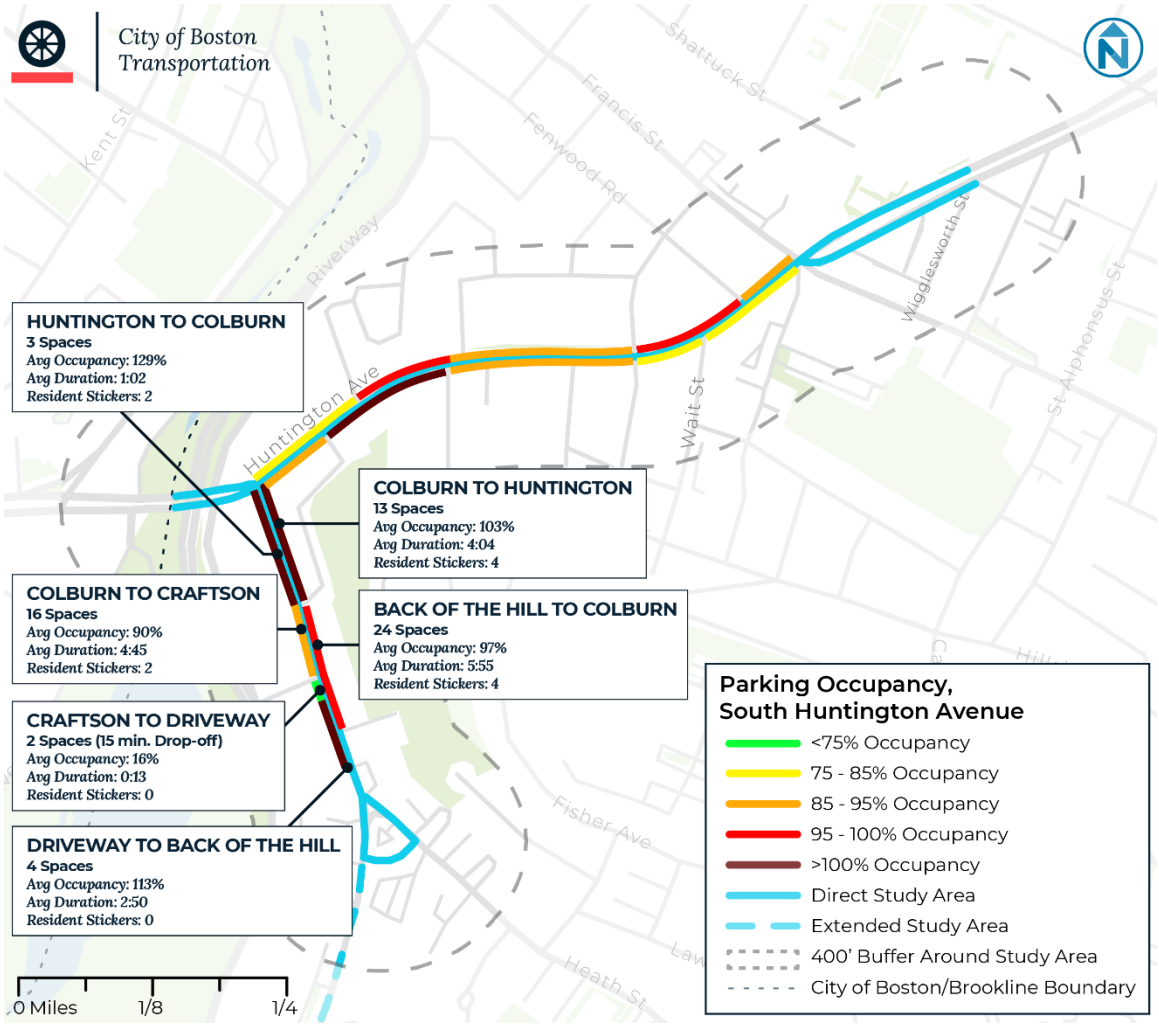


Figure 23: Parking Occupancy, South Huntington Avenue



Generally, aside from the regulations indicated above, parking is limited to two hours along Huntington Avenue on weekdays from 8:00 a.m. to 6:00 p.m. for vehicles without a Mission Hill resident sticker. There are no posted parking regulations along South Huntington Avenue aside from two 15-minute pick-up/drop-off spaces for the enVision Hotel.

X. Loading and Delivery

Designated loading spaces are currently only provided on the south side of Huntington Avenue between Wait Street and Tremont Street between 8:00 a.m. and 12:00 p.m. Short-term parking for commercial loading, food delivery services, and USPS mail

delivery was observed along the corridor within bus stops, at hydrants, and blocking crosswalks at intersections, even in instances where legal parking spaces were available nearby. Double parking was also observed adjacent to the metered spaces on the north side of Huntington Avenue between Tremont Street and Fenwood Road, and in the vicinity of Mission Park near Parker Hill Avenue, mostly prior to 12:00 p.m. Double parking often resulted in short-term blockages of Green Line service as trolleys were unable to pass double parked vehicles. Similarly, vehicles standing in bus stops along the corridor typically would not move when buses arrived, impacting transit accessibility. Frequent parking in the crosswalk at the southeast corner of Huntington and South Huntington Avenue occurred to pick up takeout from Subway, obstructing the path for pedestrians.

5 Summary and next steps

Overall, the Corridor needs improvements to facilitate better mobility and accessibility options for multimodal transportation. The next document, the Multimodal Needs and Opportunities Report, will discuss in more detail interventions to address, remedy, and reduce the constraints that multimodal users experience along the Corridor.

1. Appendix

Table 1: Green Line E Branch Ridership by Day and Time

	Weekday						Saturday		Sunday	
Station	AM Peak Boardings	Midday Boardings	PM Peak Boardings	AM Peak Alightings	Midday Alightings	PM Peak Alightings	All-Day Boardings	All-Day Alightings	All-Day Boardings	All-Day Alightings
Brigham Circle	3,241	7,291	7,802	5,308	4,436	4,947	3,954	2,877	3,727	2,609
Fenwood Road	2,335	4,840	5,667	1,902	2,727	3,124	3,005	2,423	3,127	1,723
Mission Park	2,989	4,756	5,319	1,015	2,957	4,146	3,397	3,270	3,420	3,471
Riverway	3,116	4,529	5,331	1,944	3,828	5,312	3,305	3,953	3,263	3,418
Back of the Hill	2,136	4,121	4,785	1,333	2,499	3,181	2,854	1,939	2,917	1,798
Heath Street	1,724	2,045	2,503	3,823	6,396	7,724	1,181	4,594	1,237	5,461

Table 2: Route 39 and Route 66 Bus Service Levels

Bus Route	Service Period	Frequency	Frequency – Off-Peak (Minutes)	Number of Bus Stops Along Study Area	Span
39	Weekday	8 – 9 min.	9 – 14 min.	10	4:45 AM – 1:00 AM
66	Weekday	8 – 9 min.	10 – 15 min.	6	4:45 AM – 1:00 AM
39	Saturday	15 min.	15 min.	10	4:39 AM – 1:01 AM

66	Saturday	12 min.	12 min.	6	4:40 AM – 1:00 AM
39	Sunday	15 min.	15 min.	10	5:44 AM – 12:55 AM
66	Sunday	16 min.	16 min.	6	5:51 AM – 1:00 AM

Table 3: Route 39 and 66 Study Area Ridership by Stop

Route	Direction	Stop	Average Boardings	Average Alightings
39	Inbound	100 South Huntington Ave.	97	57
39	Inbound	South Huntington Ave. @ Huntington Ave.	205	312
39	Inbound	Huntington Ave. @ Parker Hill	200	100
39	Inbound	Huntington Ave. Opp Fenwood Rd.	178	508
39	Inbound	Huntington Ave @ Wigglesworth St.	155	200
39	Outbound	677 Huntington Ave.	145	119
39	Outbound	Huntington Ave. @ Fenwood Rd.	424	176
39	Outbound	835 Huntington Ave. Opp Parker Hill	125	113
39	Outbound	South Huntington Ave. @ Huntington Ave.	365	134
39	Outbound	105 South Huntington Ave.	64	64
66	Inbound	Huntington Ave. @ South Huntington Ave.	75	228
66	Inbound	Huntington Ave. @ Parker Hill	111	110
66	Inbound	Huntington Ave. Opp Fenwood Rd	111	414
66	Outbound	Huntington Ave. @ Fenwood Rd.	357	103

66	Outbound	835 Huntington Ave. Opp Parker Hill	120	87
66	Outbound	Huntington Ave. @ Riverway	238	67

Table 4: Route 39 and 66 Study Area Ridership by Day

Route	Direction	Weekday	Saturday	Sunday
39	Inbound	5001	2326	1994
39	Outbound	5172	2372	2079
66	Inbound	2761	1727	1370
66	Outbound	2603	1613	1239