

# Broadway, Main and Third Street Kendall Square Urban Redevelopment Area Conceptual Streetscape Redesign Project



# Table Of Contents

5	1. Introduction
8	2. Process
10	3. Design Analysis & Criteria
14	4. Existing Conditions
19	5. Streets
20	5.1 Broadway
28	5.2 Third Street
38	5.3 Main Street
63	6. Intersections
68	7. Design Elements
79	8. Conclusion
80	9. Appendices
81	Appendix A. Traffic Study Memo
369	Appendix B. Transit Study Memo
397	Appendix C. Public Meeting Minutes
399	Appendix D. 325 Main Street Concept Plan
400	Appendix E. Bus & Truck Turning Diagrams
404	Appendix F. MITIMCo Comment Letter and CRA Response
414	Appendix G. Site Analysis Report

# List of Tables

27	Table 5-1 Broadway Existing and Proposed Curbside Uses
37	Table 5-2 Third Street Existing and Proposed Curbside Uses
60	Table 5-3 Main Street Existing and Proposed Curbside Uses
67	Table 6-1 Broadway, Main Street & Third Street Options
74	Table 7-1 Tabulation of Street Trees

# List of Figures

6	Figure 1-1 KSURP and Report Project Boundary	41	Figure 5-17 Main Street Proposed Activation Spaces
7	Figure 1-2 Image of Kendall Plaza on Main Street in KSURP Area	43	Figure 5-18-Main Street West of Ames
9	Figure 2-1 Images from Stakeholder Zoom Meeting	43	Figure 5-19 Main Street Section West of Ames Street
11	Figure 3-1 Bus Priority Study Intersections in the KSURP Area	44	Figure 5-20 Main Street Precedent/Character Images
11	Figure 3-2 Infographic of Bus Priority Treatment	45	Figure 5-21 Main Street Section East of Ames Street Option A
15	Figure 4-1 Surrounding Projects	47	Figure 5-22-A Main Street Option A Plan
16	Figure 4-2 Existing Pedestrian Movement	48	Figure 5-22-B Main Street Option A Plan
17	Figure 4-3 Bicycle Movement	49	Figure 5-23 Main Street Precedent/Character Images
18	Figure 4-4 Existing Transportation Conditions	50	Figure 5-24 Main Street Section East of Ames Street Option B
20	Figure 5-1 Broadway Existing Views	52	Figure 5-25-A Main Street Option B Plan
21	Figure 5-2 Broadway Existing and Proposed Features	53	Figure 5-25-B Main Street Option B Plan
24	Figure 5-3 Broadway Precedent/Character Images	54	Figure 5-26 Main Street Shared Street Precedent/Character Images
25	Figure 5-4 Broadway Cross Section at Marriott Hotel		
26	Figure 5-5 Broadway Existing Parking	58	Figure 5-27-A Main Street Option C
26	Figure 5-6 Broadway Proposed Parking	59	Figure 5-27-B Main Street Option C
28	Figure 5-7 Third Street Existing Views	60	Figure 5-28 Main Street Existing Parking
30	Figure 5-8 Third Street Existing and Proposed Features	61	Figure 5-29 Image of Main Street
32	Figure 5-9 Third Street Precedent/Character Images	63	Figure 6-1 Image of Intersection of Broadway & Galileo Galilei Way
33	Figure 5-10 Third Street Cross Section Between Athenaeum Street and Linskey Way - Two-Lane Approach	64	Figure 6-2 Broadway & Ames Street Considerations
34	Figure 5-11 Third Street Existing Parking	65	Figure 6-3 Main Street & Ames Street Considerations
35	Figure 5-12-A Third Street Proposed Parking Option A	66	Figure 6-4 Broadway, Main Street & Third Street Considerations
36	Figure 5-12-B Third Street Proposed Parking Option B	67	Figure 6-5 Broadway, Main Street & Third Street Proposed Intersection Options
38	Figure 5-13 Main Street Existing Views		
39	Figure 5-14 Image of Main Street Existing Conditions	69	Figure 7-1 Cambridge “Selux Saturn” Pedestrian Light
40	Figure 5-15 Main Street Existing and Proposed Features	69	Figure 7-2 Cambridge “1907” Street Light
41	Figure 5-16 Main Street Planned Ground Floor Uses	70	Figure 7-3 Adirondack Style Chairs

70	Figure 7-4 Picnic Tables and Benches
70	Figure 7-5 Parc Vue Benches
71	Figure 7-6 Preva Urbana benches
71	Figure 7-8 Pebble Seating
71	Figure 7-9 Pebbles installed on Galileo Galilei Way
72	Figure 7-10 Precast Planters
72	Figure 7-11 Integrated Planters and Benches
73	Figure 7-12 Images of BlueBike Station & Bus Shelter on Main Street
74	Figure 7-13 Image of Trees on Kendall Plaza
75	Figure 7-14 Binney Street, Galileo Way, and Broadway Planting Palette & Precedent/Character Images
76	Figure 7-15 Broadway Planting Palette & Precedent/Character Images
77	Figure 7-16 6th Street Connector Planting Palette & Precedent/Character Images

# 1. Introduction

# Introduction

This Kendall Square Urban Redevelopment Area Streetscape Redesign Project Report investigates conditions along a number of key corridors and intersections within and around the Kendall Square Urban Redevelopment Plan (KSURP) area and aims to provide guidance for future enhancements to their streetscape design and infrastructure.

Kendall Square's present investment in transit-oriented development, transportation demand management, and multi-modal infrastructure has created a highly desirable mixed-use employment district with high transit ridership, pedestrian traffic, and growing bicycle usage. Furthermore, Kendall Square is a nexus along Boston's regional transportation network. Cambridge's Hampshire Street, which ends eastbound at Broadway and feeds into the KSURP area, is one of Massachusetts's busiest commuter cycling corridors. The recent renovation of Longfellow Bridge to the east provides one of the best facilities connecting people to downtown Boston from all points north or west of Kendall Square, regardless of mode choice. The 2020 update of the City of Cambridge's Bicycle Plan has also identified the roadways studied in this report as targets for greater facility separation, in line with the City's sustainable transportation and Vision Zero goals. This report develops multiple street design concepts to better match the needs of active transportation commuters, visitors, and residents while keeping up with current transportation behavior trends in the area.

The City of Cambridge (the City) and the Cambridge Redevelopment Authority (CRA) have previously developed 25% streetscape design concepts for a portion of the KSURP area, known as the Alta plan. This includes the reconstruction of the Ames Street corridor from Binney to Memorial Drive, which was redesigned with separated bicycle facilities in three phases by the CRA, Boston Properties, and MIT. Additionally, in 2018, the CRA completed design plans for cycle tracks along Binney Street, Galileo Galilei Way, and a block of Broadway, often referred to collectively as the Alta plan. A portion of the Alta plan has been implemented by Boston Properties on Galileo Galilei Way between Fulkerson Street and Broadway, and a significant portion of the remainder will be under construction by 2023.

This report was developed in partnership with the CRA and multiple departments of the City of Cambridge to create designs for improved bicycle facilities along the

remainder of Broadway and portions of Main Street and Third Street, as illustrated in the figure below.

This project includes 10% level design drawings for the project: Main Street, Broadway, and Third Street. Portions of Main Street were initially prioritized ahead of the other street designs in a Phase I to coordinate with MITIMCo's SoMa and Boston Properties 325 Main Street construction timeline; complications arising from the COVID-19 pandemic, however, delayed action from this project alongside these developments. The team also coordinated with proposed designs for the Volpe Exchange Parcel and BioMed project at 585 Third Street. Full build out for streetscape facilities in the project area will be dependent on future redevelopment projects. It is anticipated that reconstruction of Broadway and portions of Third Street will be coordinated with MITIMCo as part of the Volpe site redevelopment, whose site will likely take at least ten years to fully redevelop. BioMed's "Parcel C" project on Third Street will likely be complete by 2024-2025.



Figure 1-1 KSURP and Report Project Boundary

## Project Goals

- Design streets as high-quality public spaces that **maximize the human experience** through the provision of public art, street furniture, plantings, hardscape materials, and interpretive elements.
- Reflect Cambridge's environmental sustainability goals
- Design streets to be **safe for all users** regardless of age, ability, or mode of transportation.
- Design streets to meet all City policies and standards.

The purpose of this project was to develop concepts to improve the bicycle and pedestrian facilities along Main Street, Broadway, and Third Street. Bike lanes have been present along these roadways for several years, but the high volume of bicycle traffic and the Vision Zero goals of the City necessitated a new look at these streets. The design also considers signalized intersection designs, approaches to intersections with side streets and garage driveways, and transitions to anticipated improvements that are already designed or under construction.

## Objectives

- Include fully separated bicycle lanes where feasible, as per the Bicycle Network Vision and the Cycling Safety Ordinance
- Accommodate access to new and existing developments
- Plan around existing and future utilities
- Preserve and enhance the tree canopy
- Improve pedestrian, transit, and bike infrastructure at intersections
- Design for bus/shuttle priority and access to Kendall MIT Station.
- Design for pick-up/drop-off and commercial loading zones
- Activate with retail

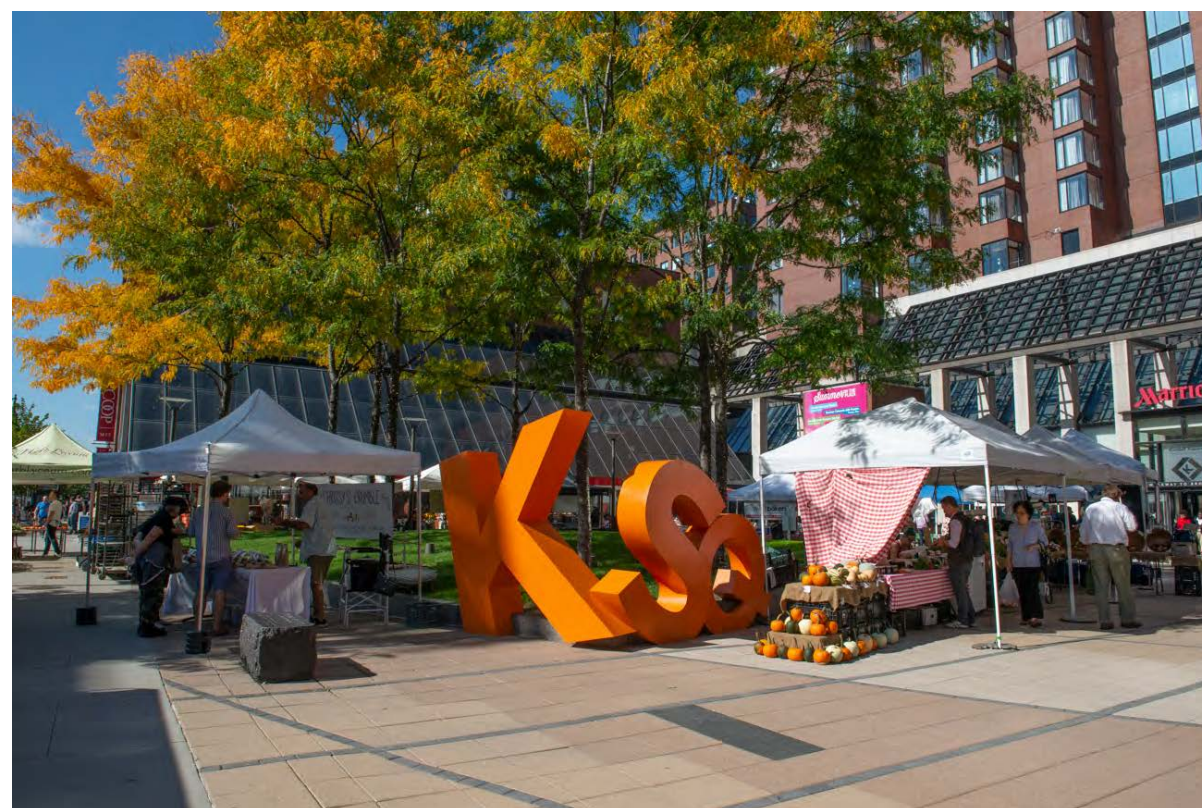


Figure 1-2 Image of Kendall Plaza on Main Street in KSURP Area

## 2. Process



## Working Group

The project team coordinated with a working group consisting of members from the CRA, the City’s Department of Public Works (DPW), the City’s Community Development Department (CDD) and the City’s Traffic, Parking and Transportation Department (TPT). The team held interdepartmental meetings with the working group along with site visits and email correspondence. The team also used an interactive MIRO board interface to aggregate comments on plans for virtual collaboration.

## Public Meetings

Due to the ongoing Coronavirus pandemic, the team held several public engagement meetings virtually. Those included individual meetings with the Cambridge Transit, Bicycle, and Pedestrian Advisory Committees, as well as a meeting with the East Cambridge Planning Team. The CRA also independently hosted a virtual Community Meeting and a public CRA Board meeting to discuss the various design concepts. Notes from the meetings are included in Appendix C.

## Stakeholder Meetings

Stakeholder discussions were held with the design team, the Cambridge Redevelopment Authority and other interested parties. Below is a list of stakeholders with which the team consulted.

- Cambridge Fire Department
- Boston Properties
- Marriott Hotel
- Alexandria Real Estate
- Equity Real Estate
- Kendall Hotel
- BioMed Realty
- MITIMCo
- The Broad Institute

MITIMCo submitted a comment letter on May 7, 2021, in response to the designs discussed during the CRA’s virtual Community Meeting. The CRA responded to these comments in a letter dated July 7, 2021. Copies of these letters are included in Appendix E.

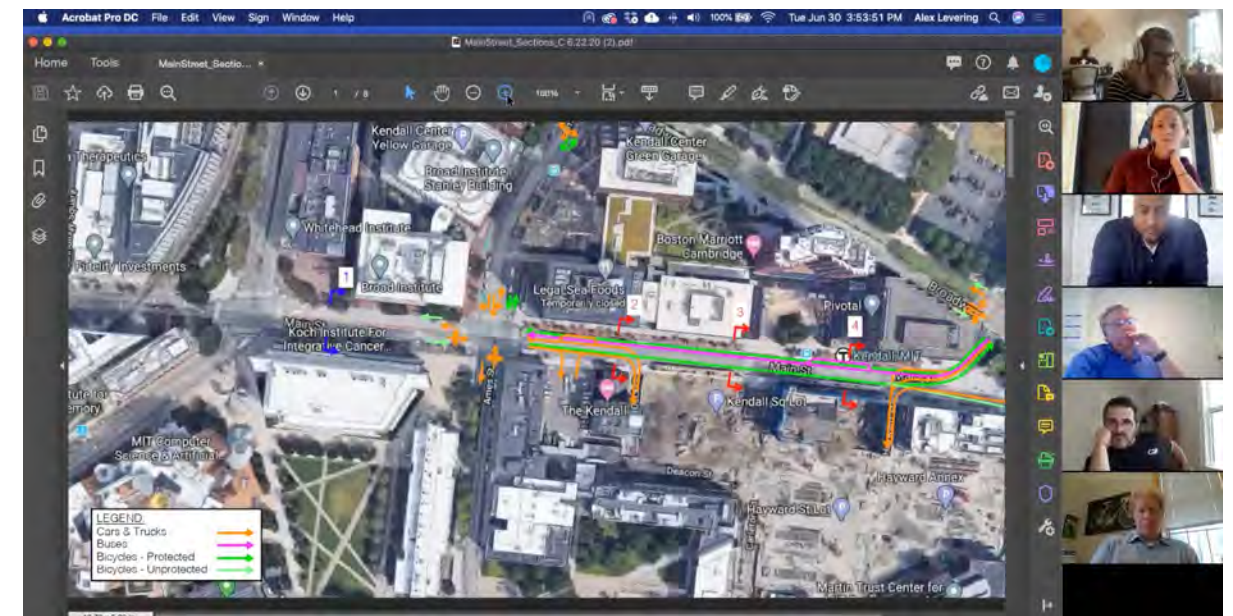
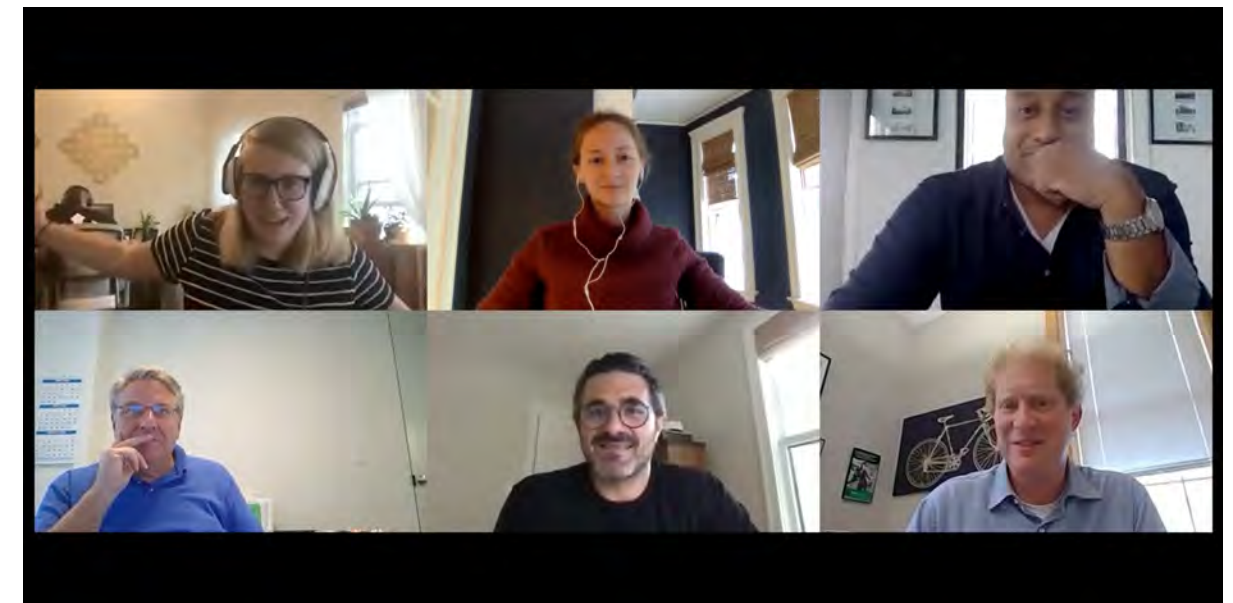


Figure 2-1 Images from Stakeholder Zoom Meeting

# **3. Design Analysis and Criteria**

## Transit/Bus Study

A transit analysis was completed by HDR, Inc. with funding from the Kendall Square Transit Enhancement Program (KSTEP). The analysis is included in Appendix B of this report. The purpose of this analysis was to study the traffic delays for bus routes in the study area and identify opportunities to reduce these delays, including signal priority, queue jump lane, and bus lane feasibility. See figure 4.2 for diagram of bus priority treatments.

The intersections studied include Broadway and Galileo Galilei Way, Broadway and Ames Street, Main Street and Ames Street, and Broadway, Third Street and Main Street as shown below. While results from the transit analysis have been considered in this streetscape work, further analysis is needed to determine bus priority solutions to implement in the area.

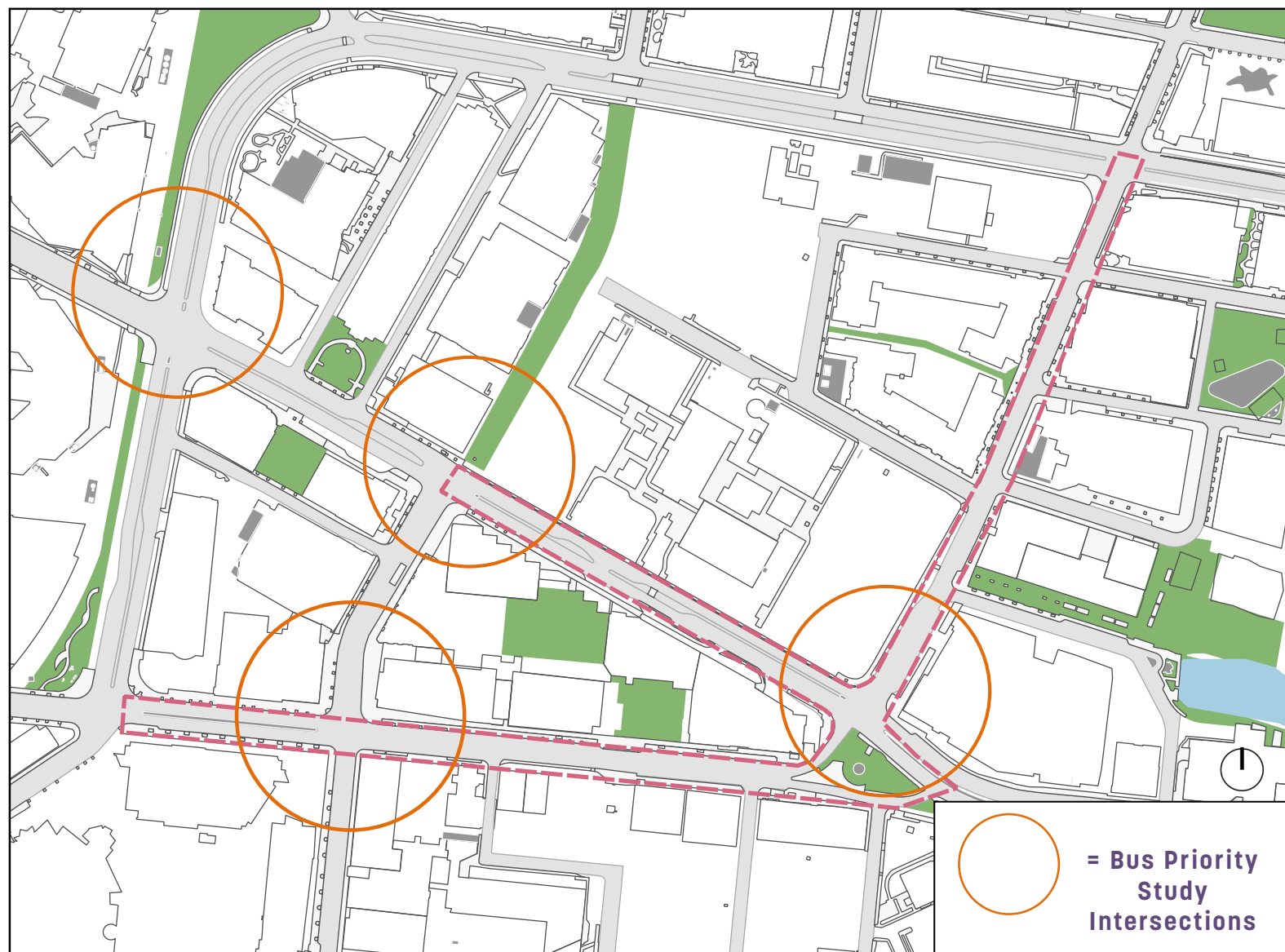


Figure 3-1 Bus Priority Study Intersections in the KSURP Area

## Traffic Study

A traffic study was completed by HDR, Inc. as part of the streetscape design work to analyze the impacts of the proposed changes to the streets and intersections. The study is included as Appendix A, and its findings are analyzed in the relevant recommendation sections of this report.

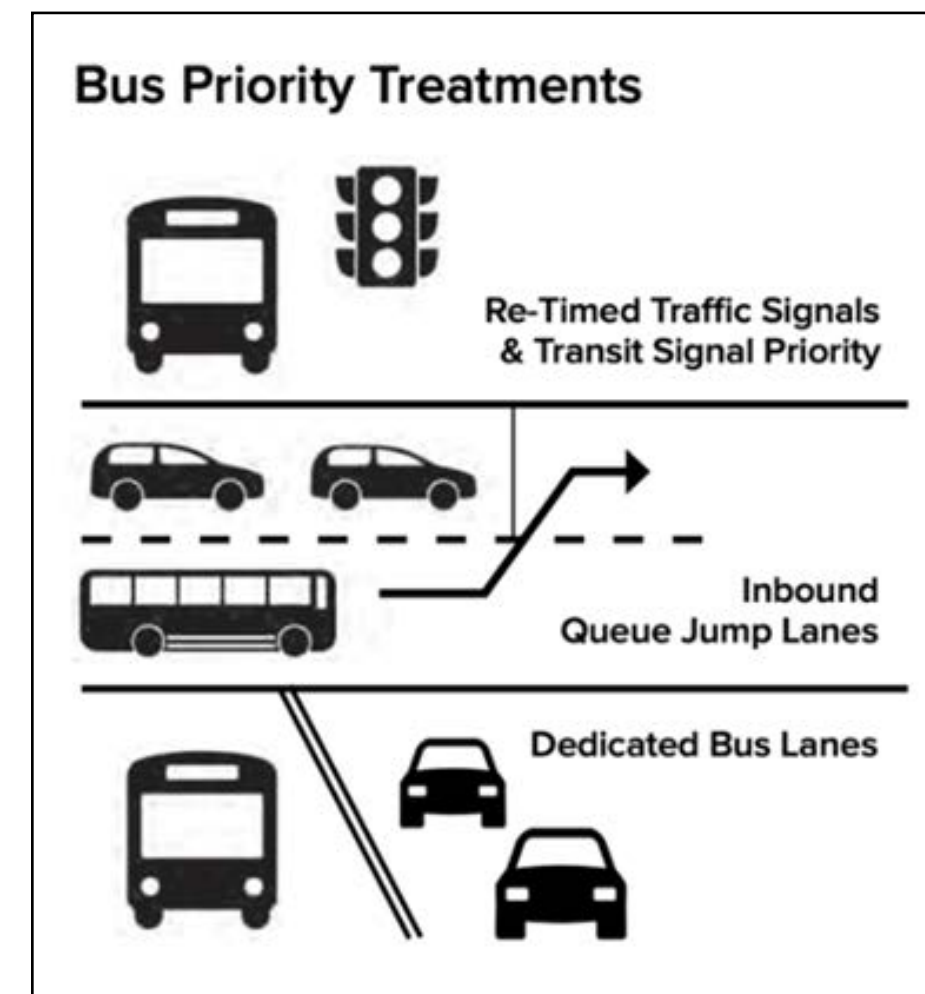


Figure 3-2 Infographic on Bus Priority Treatments

## Design Standards

This report recommends the following streetscape elements as the preferred design standard for future changes to the project area's roadways. In instances where identified constraints limit the ability to meet recommended standards, exceptions may be made in conference with the relevant City departments.

The following standards and guidelines were used to develop the design criteria for the streets in the study area:

- NACTO Urban Street Design Guide
- NACTO Urban Bikeway Design Guide
- MassDOT Separated Bike Lane Planning & Design Guide
- City of Cambridge DPW streetscape design standards
- City of Cambridge Bicycle Plan 2020
- City of Cambridge Complete Streets Policy

## Sidewalks

Where feasible, sidewalks should be 10 feet wide to allow for higher volumes of pedestrian movement and the location of street furnishings. At a minimum, sidewalks within the project area will provide an accessible route with a minimum width of 5 feet. The materials for the sidewalks will mainly be cast-in-place concrete with some areas of brick, stone, or concrete unit pavers. Some areas of existing sidewalk may remain in place where the sidewalk location and elevation will not change as long as the sidewalks meet Americans with Disability Act (ADA) standards without excessive slopes, level changes, or drainage issues. Wheelchair ramps with detectable warning panels meeting ADA standards will be provided at all crosswalks.

## Bike Facilities

The proposed one-way raised separated bike lanes are to be 8 feet wide. In areas where space is limited, the raised separated lanes may be narrowed to 6 feet wide with a 2-foot-wide concrete buffer to provide separation from the curb and space for car doors to open where the bike facility is adjacent to on-street parking spaces. Any two-way separated bike lanes, which are discussed later on as one of Main Street's design options, should have a minimum total width of 10 feet, with 5 foot lanes in each direction.

The minimum total width of pavement for all separated bicycle facilities will be 8 feet wide to allow clearance for snow removal equipment where feasible. The raised separated bike lanes will be paved with porous asphalt pavement to allow for infiltration of stormwater and improved aeration for the adjacent trees. The bicycle facilities will include pavement markings to indicate where bicycles should yield to pedestrians at crosswalks, bus stops, and in plaza areas. They will also be marked with solid green non-slip paint where they cross vehicular travel lanes to clarify the route for

cyclists and call attention to the presence of cyclists for drivers. Where raised bicycle facilities cross unsignalized street intersections, they should remain raised if possible. For signalized intersections, raised bicycle lanes should cross at street grade. For term definitions or more information on bicycle facility standards, please refer to the City of Cambridge's 2020 Bicycle Plan.

In the case of Main Street, there is limited space available to provide dedicated bike lanes while also allowing for other uses, such as buses, loading, general traffic, and parking. This report has included an option for a "woonerf" or "slow street" approach where cyclists would share the space with vehicles. In this option, measures would be applied to limit the volume and speed of traffic on the street. This approach is discussed further in the Main Street section, Option C.

## Vehicle Lanes

Vehicular travel lanes will vary from 10 feet to 12 feet wide. Travel lanes for truck and bus routes will be 12 feet wide. Turning lanes may be as narrow as 10 feet wide at intersections. Most travel lanes will be 11 feet wide to limit the street crossing width for pedestrian crossing and encourage slower travel speeds, while still providing smooth operation of the travel lanes. Narrow lanes are preferred where possible. Lanes should be 10 feet wide where possible, however, 11 feet may be necessary for bus and truck routes.

## Access for Emergency Vehicles

The minimum clear space for emergency access is 18 feet wide between curbs. This space should be clear of vehicle parking and loading areas to ensure adequate access for emergency vehicles to pass. In necessary cases, transient parking such as taxi stands or loading zones may encroach into this space as these vehicles can be readily moved in the case of an emergency.

## On-Street Parking and Loading

On street parking spaces will be 7 to 8 feet wide. These spaces will be metered with various time limits as determined by the City. Most spaces in the study area are currently limited to 30 minute or 2 hour limits.

# 4. Existing Conditions

The proposed concepts were developed based on the existing conditions at the time of the study and take into consideration the area's current planned developments, including the completion of the SoMa development on Main Street, the redevelopment of the Volpe Exchange Parcel by MITIMCo, and the construction of 585 Third Street in place of the current gas transfer station by BioMed. In addition, the team gathered background data, surveys, and plans to conduct a site analysis of the KSURP and surrounding project area. This included a review of primary pedestrian, bicycle and transit/shuttle routes, identifying key ground floor and curbside activities, and analyzing the tree canopy and streetscape activation opportunities. For more information, refer to Appendix G.

# SURROUNDING PROJECTS

**ALTA CYCLE TRACK/145**

**ALTA 25% - BINNEY**

**ALTA 25%**

**325 MAIN**

**BIOMED**

**VOLPE**

**SoMa**

Figure 4-1 Surrounding Projects  
(Please click on project names above or hyperlinks to left for more information)

Alta Streetscape Redesign for Binney/Galileo/Broadway - <https://www.cambridgeredevelopment.org/streetscaperedesign>

325 Main Street - <https://www.kendallcenter.com/325-main/>

MIT SoMa Project - <https://capitalprojects.mit.edu/projects/kendall-square-initiative>

MITMCO Volpe Exchange Parcel Project - <https://volpe.mit.edu/>

BioMed 585 Kendall Project - <https://www.biomedreality.com/developments/parcel%20C>

# PEDESTRIAN MOVEMENT

- EXISTING
- - - FUTURE

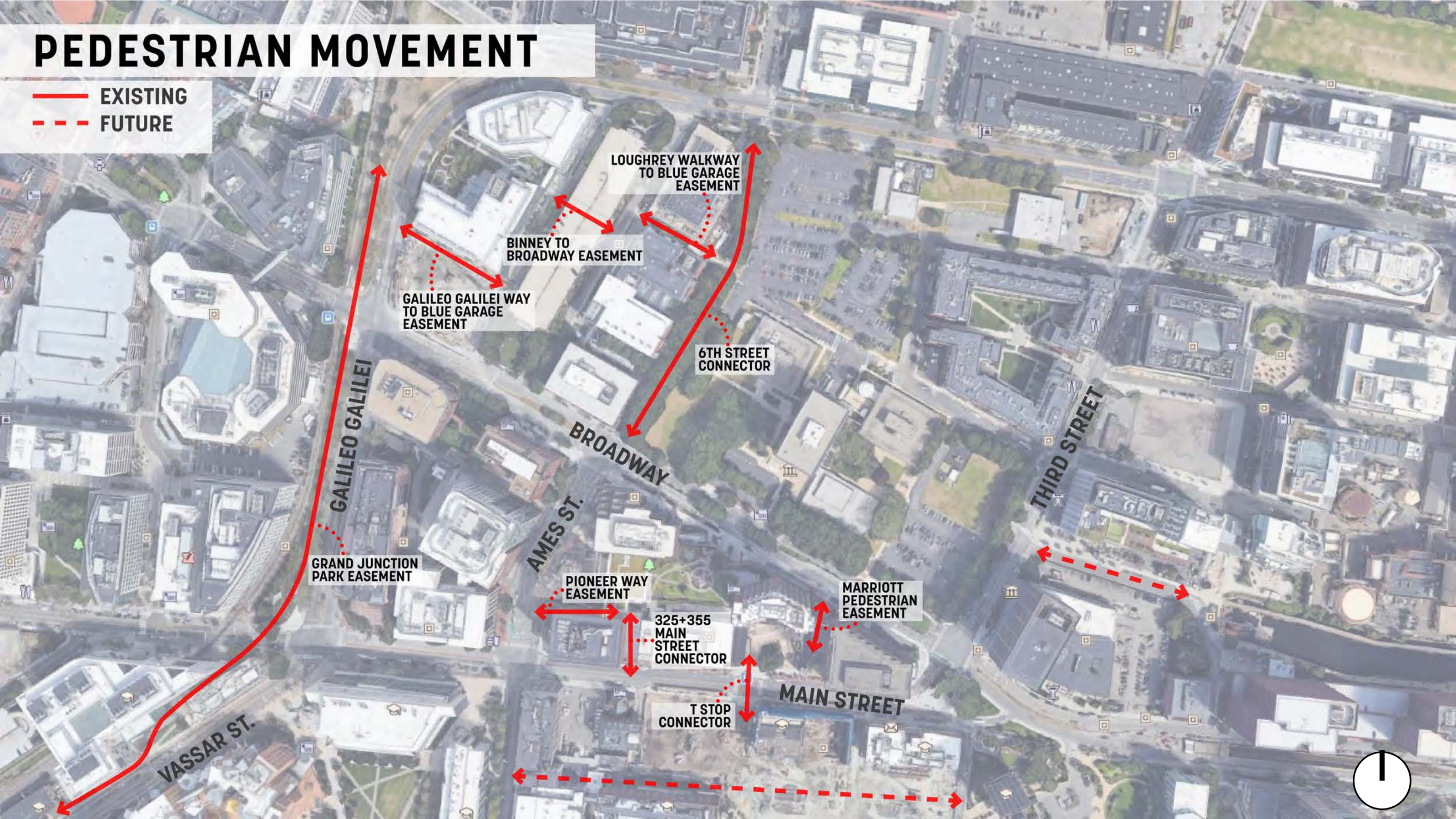


Figure 4-2 Existing Pedestrian Movement



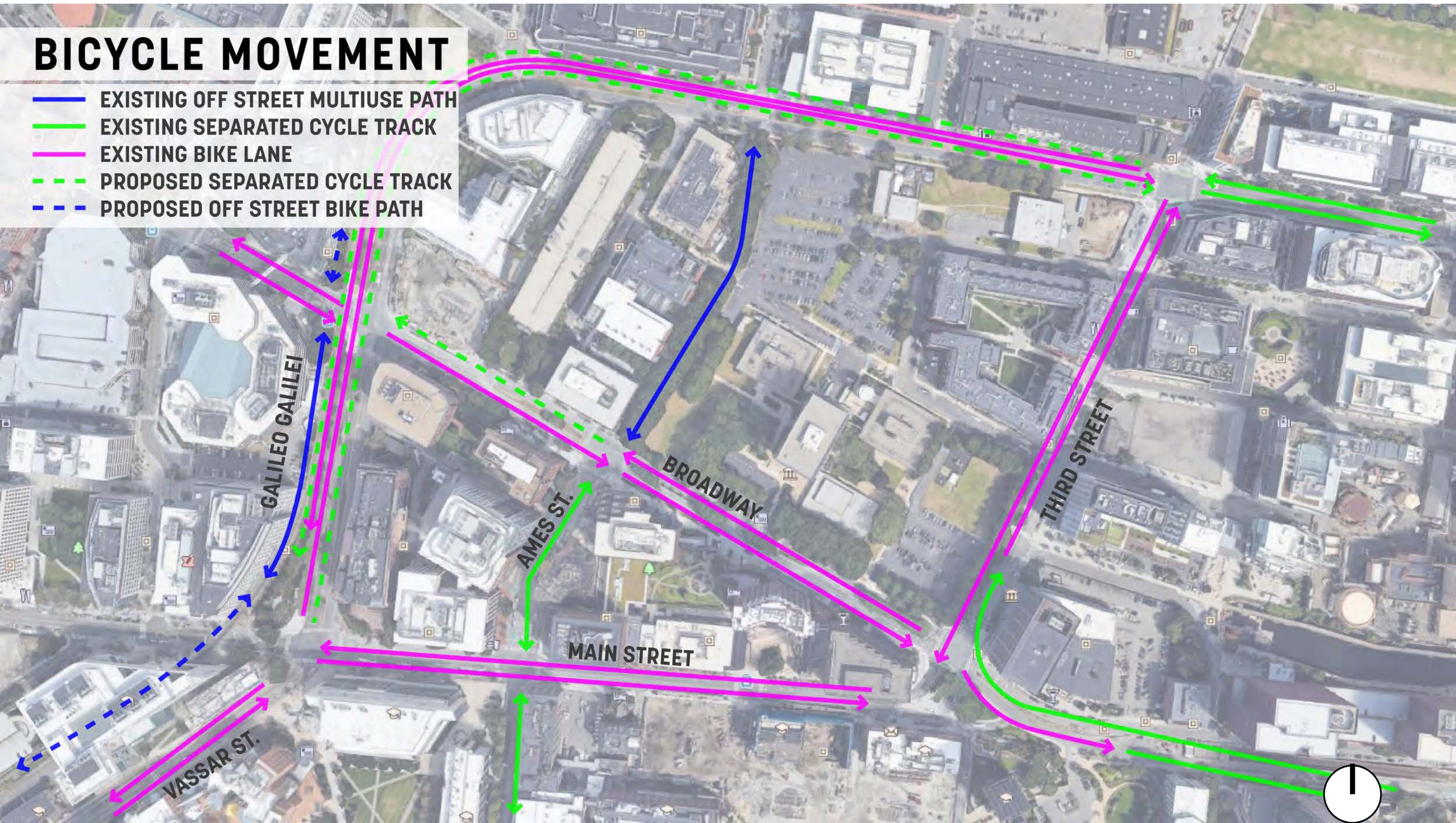


Figure 4-3 Bicycle Movement

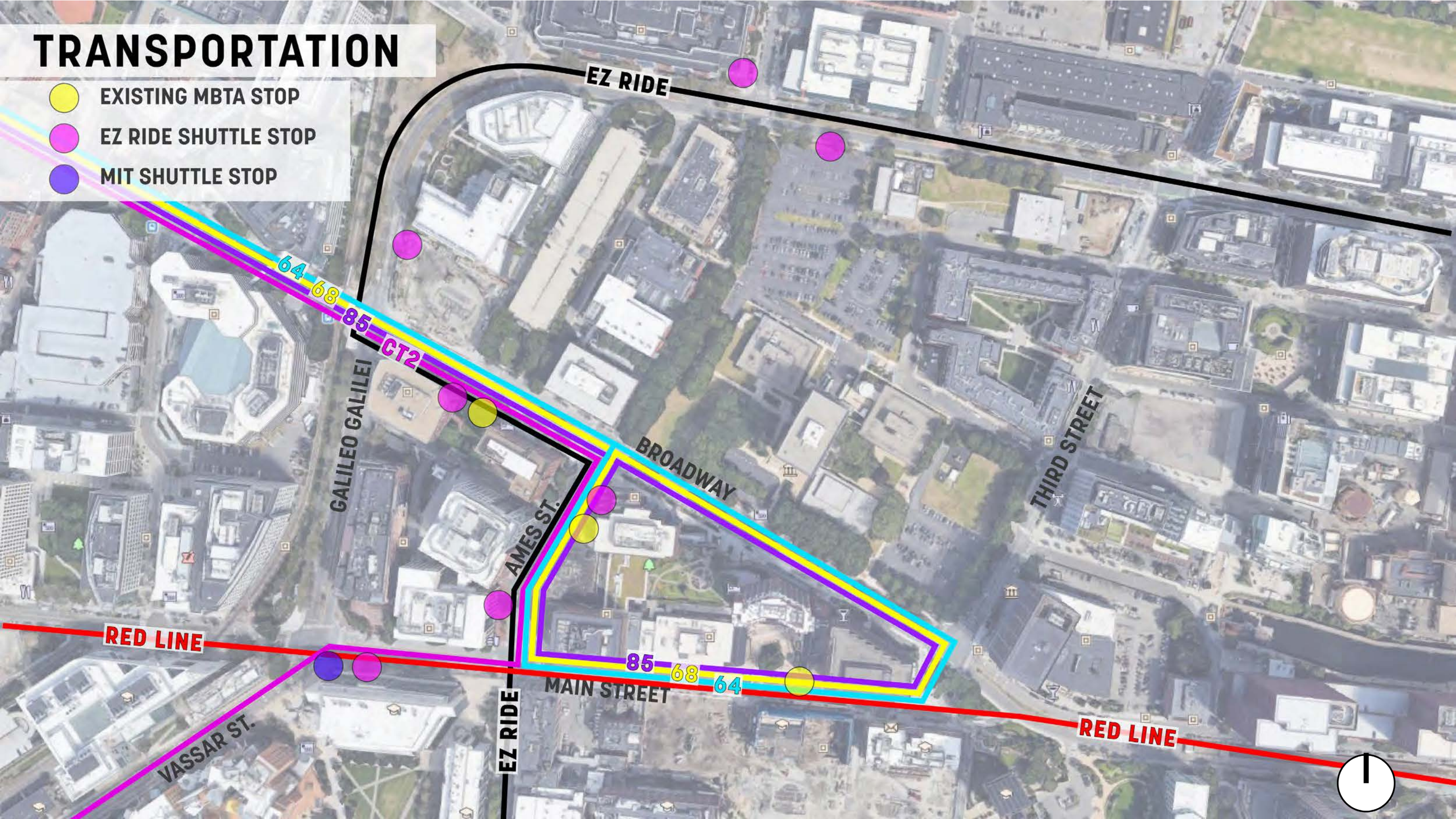


Figure 4-4 Existing Transportation Conditions

# 5. Streets

This section focuses on the street corridors of Broadway, Third Street, and Main Street. Here we define their current conditions and propose improvements for any future reconstruction projects. Proposed changes to these three streets were developed based on conditions identified in our traffic and transit studies, input gathered through meetings with the public and stakeholders, and best practices for streetscape design as previously defined in Section 4. This section exclusively addresses the street corridors themselves; a thorough evaluation of their associated intersections is included in Section 6 of this report.

# Broadway

Broadway serves as a major east-west connection to and from the Longfellow Bridge to Boston. The section within the study area includes significant tree canopy. It serves as a gateway to the Kendall Square area from Boston.



Figure 5-1 Broadway Existing Views

# Existing Conditions

This section of Broadway extends from the signalized intersection at 6th Street/Ames Street to the signalized intersection at Third Street and generally includes one 13- to 14-foot travel lane in each direction separated by a 6-foot median planted with trees and grass. At the intersections, there are 10-foot dedicated turning lanes. There are 5 foot wide on-street bike lanes on both sides of the street. On the south side of the street there are metered parking spaces and a taxi stand.

There are existing crosswalks at the signalized intersections as well as a mid-block crosswalk with a Rectangular Rapid Flashing Beacon (RRFB) style signal. The median also contains an Eco-Counter automated bicycle counter.

The median has been removed to the west of the 6th Street/Ames Street intersection. Raised separated bike lanes are planned to be built from Galileo Galilei Way to the 6th Street/Ames Street intersection.

The street is bordered on the south side by commercial buildings including ground floor retail space, the Green Garage entrance and exit, the loading dock entrance at the rear of 255 Main Street, and the Marriott Hotel, which has an on-street bus/shuttle drop-off area and a separate covered entrance, or porte-cochère, with valet access to the parking garage . Access to MBTA substation equipment is also located within the loading dock area at 255 Main Street.

The street is bordered on the north side by the existing Volpe Transportation Center. A new mixed-use development is planned for this area by MITIMCo. This proposed project will include new street connections for 5th Street which will provide a new vehicular connection through to Binney Street to the north, and Kendall Way which will be a pedestrian oriented shared street providing limited vehicular access for service to the adjacent buildings.

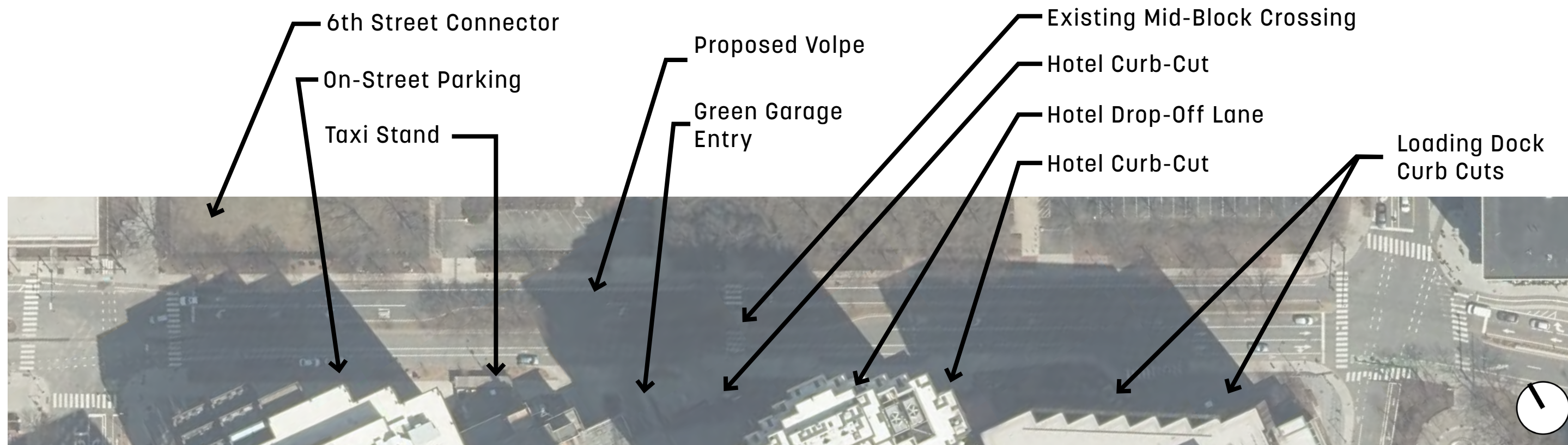


Figure 5-2 Broadway Existing and Proposed Features

The width of this section of Broadway allows for one-way cycle tracks on both sides of the street while preserving the existing median and street trees. These raised separated bike lanes will serve as an extension to the proposed bicycle facilities to the west of 6th Street and Ames Street. The lanes will also connect to the proposed bike facilities adjacent to 5th Street through the Volpe project.

The existing curb on the south side of Broadway will be moved north to provide grade separation for the raised separated bicycle path between the existing trees and the street. The existing metered parking spaces in front of 90 Broadway will be removed to allow for emergency vehicle access between the new curb alignment and the existing median. As was discussed in meetings with the Cambridge Fire Department, the taxi stand can be expanded in this area as those vehicles can be moved in an emergency.

## Proposed Conditions

The entrance and exit of the Marriott hotel porte-cochère will be narrowed to reduce the pedestrian and bicycle crossing distance and improve visibility of pedestrians and cyclists to people in vehicles. The existing bus/shuttle drop-off space in front of the Marriott hotel will be removed to allow space for the raised separated bike lane. The porte-cochère will be widened to allow buses to drop off passengers within the covered area instead of using the on-street drop-off zone, which was an important desired design feature established with the Kendall Marriott Hotel during stakeholder conversations.

The curb cut for the 255 Main Street loading dock will be raised to the sidewalk level and could be paved to match the sidewalk and raised separated bike lane materials to reduce the speed of trucks entering the loading area and improve visibility for pedestrians and cyclists. The width of the curb cut will need to remain as is to allow semi-trailer trucks to back into and out of this loading area.

The existing sidewalk on the north side of the street will be relocated to the north of the existing trees, which allows the raised separated bike lanes to be located between the existing trees and the curb. This will require a portion of the sidewalk to the west of the future 5th Street connection to be located outside of the public right-of-way within the Volpe parcel. This location will need to be coordinated with the final plans for the Volpe project. The right-of-way to the east of 5th Street is wider so the sidewalk will still be located within the public right-of-way.

The width between the existing median and the curb on the north side of Broadway will not allow for on-street parking, but space for pick-up and drop-off of transportation network companies (TNC), such as Uber and Lyft, can be provided in front of the new Volpe buildings. Crossing markings on the proposed raised separated bike lanes and paved access areas between existing trees should be provided at pick-up and drop-off locations to facilitate pedestrian access along this curb.

### Broadway Streetscape Goals Established with the Public & Stakeholders

1. Expand the raised separated bike lanes beyond 6th Street for the full length of the street
2. Connect into Volpe redevelopment plans
3. Preserve existing tree canopy and expand on the “forested edge”
4. Reconcile loading zones with pedestrian and cyclist experience.
5. Continue placemaking elements begun at 145 Broadway

**BROADWAY CYCLE TRACK AT GALILEO GALILEI WAY****INDIANAPOLIS CULTURAL TRAIL****WALK OF THE TOWN - BANGKOK***Figure 5-3 Broadway Precedent/Character Images*

The existing mid-block crossing in front of the Marriott porte-cochère will be moved east to allow for a new median opening and left turn lane at 5th Street, to be created as part of the Volpe project. A new mid-block crosswalk will also be added to the west of the Green Garage entrance connecting to the new street connection proposed by MITIMCo between 5th Street and the 6th Street Walkway. A new pedestrian access route through the Green Garage has been proposed by Boston Properties to provide improved pedestrian access from Main Street, Kendall Plaza and the MBTA Station to the developments north of Broadway.

The location of this access route is still under discussion, but will likely be located between the two proposed mid-block crossings on Broadway. To the east of Third Street, north of Galaxy Park, one of the two eastbound travel lanes on Broadway will be removed to allow for a separated raised bike lane to be installed. This will also enable the pedestrian sidewalk to be widened, which will alleviate an existing pinch point along the northern edge of the park while maintaining its existing mature trees. The existing median in this area and the existing separated raised bicycle lane on the northern edge of Broadway to the east of Third Street will remain in their current state.





Figure 5-4 Broadway Cross Section at Marriott Hotel

# Curbside Uses

Below is a summary of the existing and proposed curbside uses available on this street.



Figure 5-5 Broadway Existing Parking



Figure 5-6 Broadway Proposed Parking

## Broadway Existing and Proposed Curbside Uses

	EXISTING	PROPOSED
SHORT & LONG TERM PARKING SPACES	4 (1 HOUR)	-
ACCESSIBLE SPACES	-	-
LOADING SPACES	2	-
TAXI/TNC SPACES	7	20
TOTAL SPACES	13	20
BUS/SHUTTLE LOADING (LINEAR FEET)	65'	N/A*

\* Bus/shuttle loading at the Marriott Hotel will be provided within widened port-cochère instead of on-street

Table 5-1 Broadway Existing and Proposed Curbside Uses

# Third Street

Third Street is a narrower street that serves as a connector between East Cambridge neighborhoods to the north and Kendall Square. Apart from private shuttle service, the street does not currently have any MBTA bus routes. The corridor between Binney Street and Main Street, however, has been identified as a potential route for a new MBTA Silver Line bus route.

For more information on the Silver Line Extension process visit [the MBTA's website here](#).



Figure 5-7 Third Street Existing Views

## Third Street

The section of Third Street reviewed in this report extends from the intersection of Broadway and Main Street to the south to Binney Street to the north. This section of Third Street is currently comprised of two 11-foot travel lanes (one lane per direction), 5-foot-wide bike lanes in each direction located between travel lanes and parking, and two 8 foot wide on-street parking lanes, each adjacent to their respective curbs. At the southern end of the street, a northbound raised separated bicycle lane has been constructed in front of One Broadway.

There is currently a dedicated right turn lane and a shared through and left lane at the southbound travel lane's intersection with Broadway, and a separate bike lane located between them provides access for bicycles continuing straight onto Main Street.

## Existing Conditions

There are signalized intersections at Broadway and Binney Street. A traffic signal is also proposed at Potter Street/Kendall Street as part of the proposed Volpe project. There are painted crosswalks at both of the signalized intersections as well as at the unsignalized intersections of Broad Canal Way, Potter Street, Kendall Street, Athenaeum Street, Munroe Street, and Linskey Way.

This section of Third Street is bordered to the east by the One Broadway commercial building, the Watermark residential building, a natural gas transfer station, and the 615 West Kendall Street and 300 Third Street office buildings with ground floor restaurant and retail spaces. A new lab/office building at 585 Kendall Street, with ground floor arts and cultural space is proposed in place of the existing gas transfer station by BioMed Realty. On the west side of the street is an existing parking lot and open space on the Volpe parcel, a residential building with ground floor restaurant and retail spaces at 303 Third Street, and a public civic space owned by the CRA. The parking lot and open space on the Volpe parcel is proposed to be replaced with a new open space at the corner of Broadway and Third Street and a new residential building. One Broadway includes parking and loading dock access from Third Street. All of the other existing and proposed buildings have access to parking and loading from side streets off of Third Street.

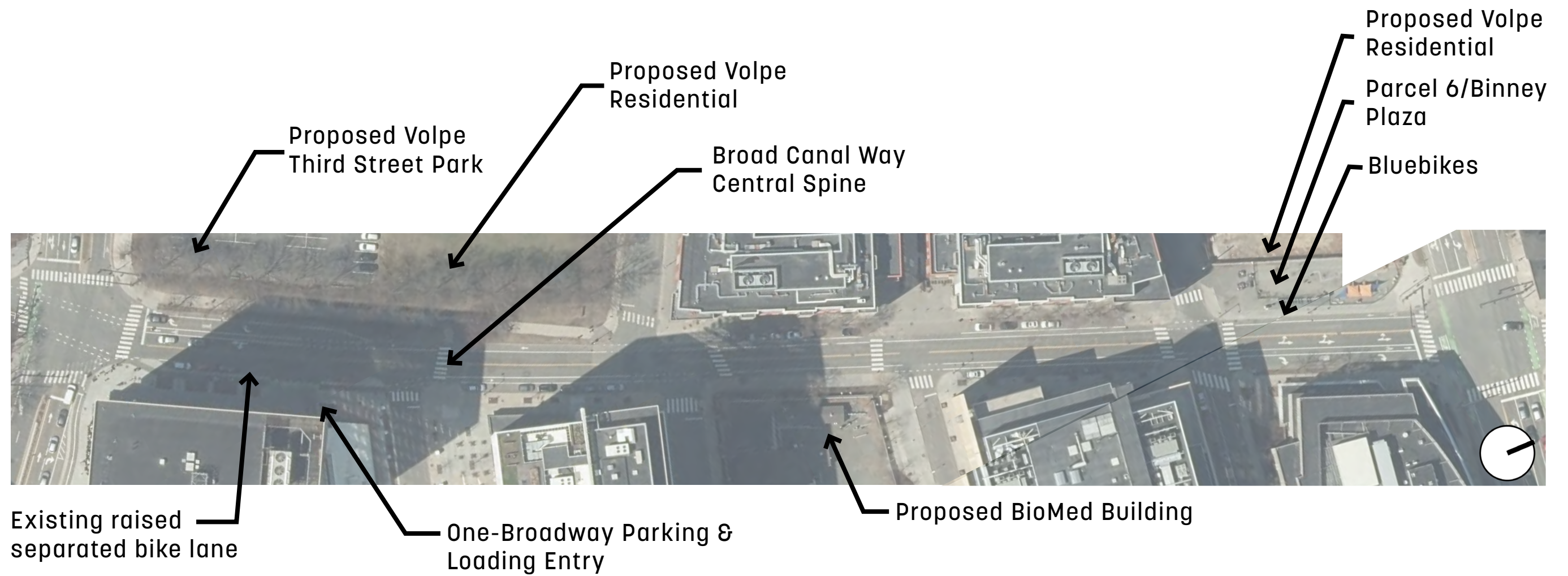


Figure 5-8 Third Street Existing and Proposed Features

## Proposed Conditions

The proposed plan for Third Street includes protected 6 – 8 foot wide cycle tracks on both sides of the street and 11-foot-wide travel lanes in both directions. The existing cycle track at One Broadway will remain as is and connect to the proposed cycle track on the east side of the street. The bike facilities will be located between the existing trees and the vehicular travel lanes. Wherever possible, on-street parking will be maintained between the raised separated bike lane and travel lanes. In some locations there is not adequate width to maintaining the existing trees and on-street parking. In these locations, on-street parking has been maintained on one side of the street only. These parking spaces currently serve as both loading and parking areas. As was heard through public input during the project's public engagement meetings, there may be a need to provide pick-up and drop-off locations in these areas in place of some of the parking spaces.

The proposed raised separated bike lanes will connect to the existing separated bike lanes on Binney Street to the east and the proposed raised separated bike lanes on Binney Street to the west. The separated bike lanes will also connect to the proposed bicycle infrastructure on Broadway and Main Street to the south. A marked bike crossing will be provided at Potter Street to connect to the raised separated bike path on Potter Street proposed as part of the Volpe project. During the project's public engagement sessions, a concern was raised, noting that a pedestrian pinch point existed at the corner of 303 Third Street and Potter Street. To respond, the bicycle facility was realigned to provide additional space for pedestrians waiting to cross the intersection, or accessing the 303 Third Street entrance.

Two options were studied for the southbound vehicular travel lane configuration approaching Broadway on Third Street. These options were included in the Traffic Study (Appendix A) considering various turning movements.

### Third Street Streetscape Goals Established With Public & Stakeholders

1. Integrate intersections of adjacent streets including major connections at Binney, Biomed, and Broad Canal Way (emphasize canal's history)
2. Create placemaking elements that tie the street together and facilitate both safety and interaction
3. Expand on the tree canopy cover existing today
4. Emphasize and increase the raised cycle track extents for the full length of the street

## Two-Lane Approach

The two-lane southbound approach includes two travel lanes approaching Broadway: one dedicated left turn lane to turn east onto Broadway, and one shared lane that would accommodate cars, trucks, and buses that are turning right on Broadway westbound or traveling straight onto Main Street westbound. In these options, the protected bike lane would be located between the rightmost travel lane and the existing trees on the west side of Third Street. This two-lane approach configuration was included in the Base Scenario and Option 3 (discussed in Section 6 – Intersections) of the Traffic Study.

## Three-Lane Approach

The three-lane approach includes three travel lanes – a dedicated left turn lane to turn east onto Broadway, a middle lane to travel straight onto Main Street westbound, and a right turn lane west onto Broadway. The middle lane could either be a general purpose travel lane for cars, trucks, and buses or an exclusive transit lane for buses. This lane could also be restricted to local traffic to limit the amount of vehicular traffic on Main Street.

The three-lane approach was included in Options 1 and 2 (discussed in Section 6 – Intersections) of the Traffic Study.



**P STREET - LINCOLN, NE**

*Figure 5-9 Third Street Precedent/Character Images*



**CONGRESS AVE - AUSTIN, TX**



**CONGRESS AVE - AUSTIN, TX**





Figure 5-10 Third Street Cross Section Between Athenaeum Street and Linskey Way - Two-Lane Approach

# Third Street Curbside Uses

Below is a summary of the existing and proposed curbside uses available on this street.

Due to the limited width of the right-of-way on Third Street, it is not possible to provide raised separated bike lanes and maintain the existing parking on both sides of the street. Two options were studied for parking on Third Street. Parking Option A includes parking on alternating sides of the street at 303 Third Street. Parking Option B maintains the existing parking on the west side of the street at 303 Third Street, but removes the existing parking and loading across the street. Below are figures that illustrate these two options, as well as a comparison of the quantity of parking available in each option.



Figure 5-11 Third Street Existing Parking



# Third Street Proposed Parking - Option A

**OPTION A PARKING SPACES**

- 17 Standard Parking (2 hours)
- 4 Accessible Parking
- 5 Loading Spaces (8am - 8pm)

26 Total Spaces



Figure 5-12-A Third Street Proposed Parking Option A

# Third Street Proposed Parking - Option B

(Parking in front of 303 Third Street)

**OPTION B PARKING SPACES**

- 18 Standard Parking (2 hours)
- 2 Accessible Parking
- 3 Loading Spaces (8am - 8pm)

23 Total Spaces

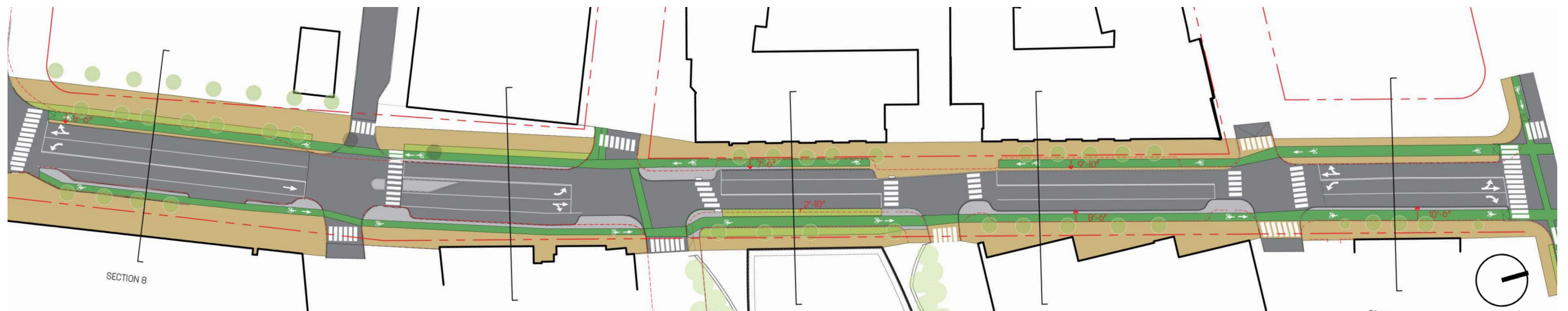


Figure 5-12-B Third Street Proposed Parking Option B

## Third Street Recommendations on Design Options

The design team analyzed two concepts for Third Street's southbound approach to Broadway, and two concepts for on street parking configurations. For the southbound approach to Broadway, Approach Option B with a shared right-through lane and a left turn only lane is recommended. This option would also include an exclusive transit through lane for buses, which may be added as needed for increased bus service. This is the recommended approach as it provides the greatest flexibility for a future intersection design that is inclusive of an exclusive bus lane. Providing the space for a three-lane approach also provides benefits in the traffic study, which is discussed in Section 6 – Intersections.

For parking configurations on Third Street, Option A, parking on alternate sides, is recommended for two reasons. First, it provides a greater number of spaces compared to Parking Option B, while maintaining the existing number of accessible and loading spaces. Second, providing parking on alternative sides of the street allows for greater parking access for cars traveling in either direction.

### Summary of Recommendations of Third Street

1. Three southbound lanes at Broadway, including a shared right
2. Through lane an exclusive transit through lane for buses, and a left turn only lane to provide flexibility for bus accommodation on Third Street
3. Include on-street parking areas on alternate sides of the street between Potter Street and Linskey Way

	EXISTING	PARKING OPTION A (PARKING ON ALTERNATE SIDES)	PARKING OPTION B (PARKING ON ONE SIDE)
SHORT & LONG TERM PARKING SPACES	22 (2 HOURS)	17	18
ACCESSIBLE SPACES	4	4	2
LOADING SPACES	5 (8 AM – 8 PM)	5	3
TAXI/TNC SPACES	-	-	-
TOTAL SPACES	31	26	23
BUS/SHUTTLE LOADING (LINEAR FEET)	-	-	-

Table 5-2 Third Street Existing and Proposed Curbside Uses

# Main Street

Main Street serves as a pedestrian-focused multi-modal transit hub with several buses and shuttles utilizing the street to pick-up and drop-off passengers from the MBTA Kendall subway station.

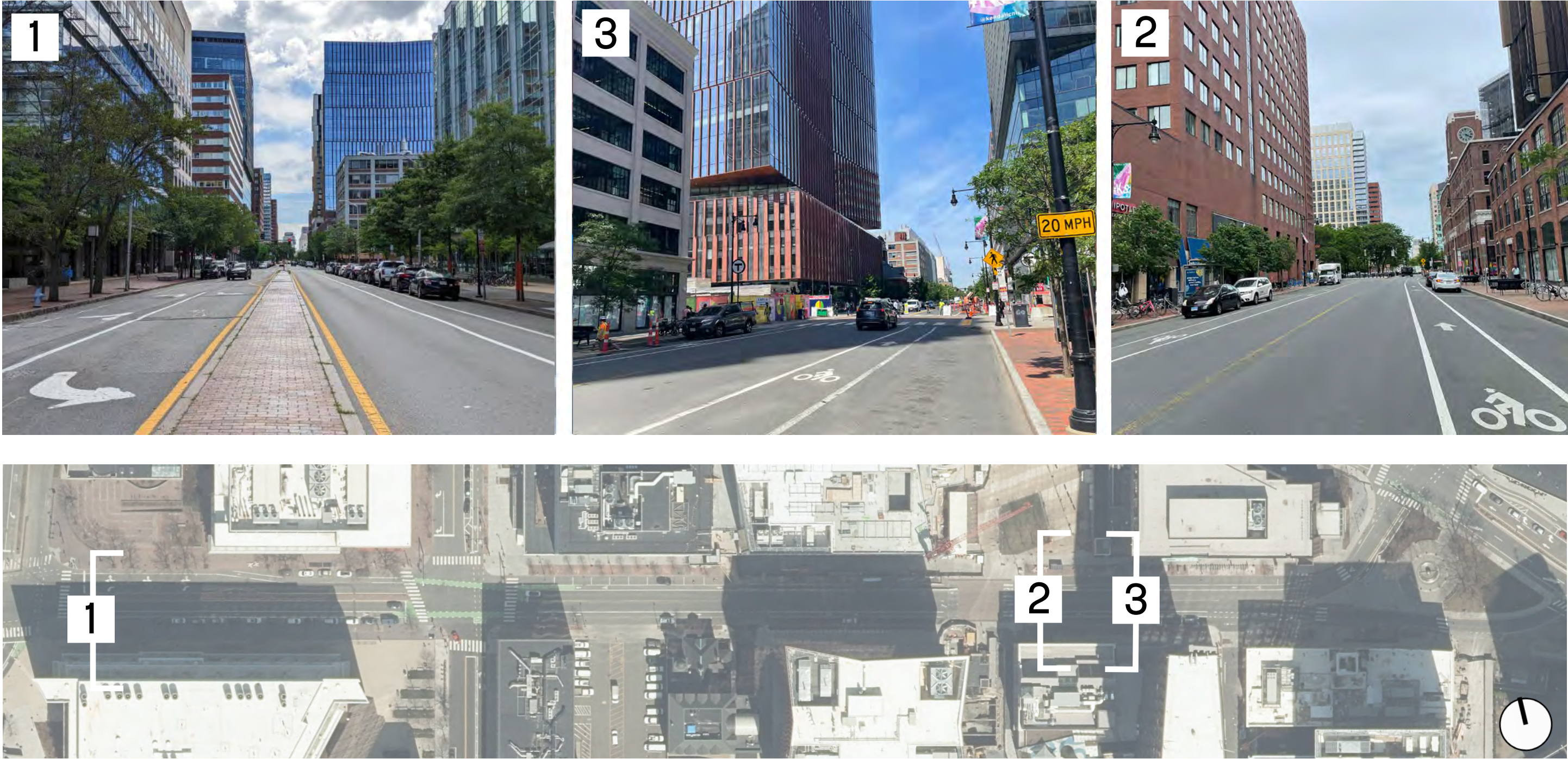


Figure 5-13 Main Street Existing Views

## Existing Conditions

Main Street was recently reconstructed in 2015. Prior to this date, the section of Main Street between Ames Street and Third Street consisted of: a restricted westbound traffic lane solely accessible by a dedicated right turn lane from Broadway, primarily used by buses and taxis; an eastbound traffic lane used by general traffic; a raised median separating the travel lanes; and an eastbound on-street bike lane located between the travel lane and on-street parking. The median was then removed between Ames Street and Third Street, and the intersection with Broadway and Third Street was modified to allow southbound vehicles and bicycles on Third Street to enter Main Street westbound.

The raised median still exists between Galileo Galilei Way/Vassar Street and Ames Street. This section consists of 13-foot travel lanes on either side of the 6-foot median with 5-foot bike lanes between the travel lanes and on-street parking adjacent to the curb. This section of Main Street is bordered by the Koch Institute to the south and the Broad Institute to the north. Current conditions of Main Street between Ames Street and Third Street include a 12-foot-wide travel lane in each direction, 5-foot-wide bike lanes between travel lanes and on-street parking, and parking lanes adjacent to each curb. The small spur that connects Main Street to the intersection of Broadway and Third Street also has a contraflow cycle track that allows people cycling to turn north from Main Street onto Third Street.

There are signalized intersections on Main Street at Vassar Street/Galileo Galilei Way and at Ames Street. Both of these intersections include signalized painted crosswalks, while the signal at Ames Street also includes a dedicated bike signal for the bi-directional bike lane located on the east side of Ames Street. Movement at the eastern end of Main Street is controlled by the signalized intersection of Broadway, Third, and Main Street, which is discussed in further detail in Section 6. To the east, cars enter Main Street traveling westbound from the signalized intersection at Third Street and Broadway, and cars traveling eastbound have a stop-controlled intersection which turns right towards the Longfellow Bridge. There are unsignalized raised crosswalks paved with concrete unit pavers mid-block between the two main head houses for the Kendall MBTA station and where Main Street splits at Galaxy Park. There is also an unsignalized painted crosswalk between Wadsworth Street and Galaxy Park.



Figure 5-14 Image of Main Street Existing Conditions

At the heart of this block, where Carleton Street previously connected to Main Street, lies Kendall Plaza and the MBTA headhouses. This space is a central landing point for people arriving at Kendall Square from rapid transit and numerous bus services, and the plaza's role as a pedestrian hub is only increasing due to the new public stairway accessing the Roof Garden and the upcoming opening of Kendall Public Market. With the public easement through the Marriott Hotel connecting to Broadway in the north and the pedestrianized Carleton Street connecting to SoMa buildings and open space to the south, this section of Main Street is a crucial mixing zone for people of all different travel modes.

On the north side of the street are several commercial buildings, some of which are part of the MXD mixed use project, and include ground floor retail and restaurant spaces. The curb on the north side of Main Street has a landing zone for multiple MBTA buses and privately run buses such as EZRide, CambridgeSide and MIT's Lincoln Lab shuttle. There is a wide driveway entrance to MIT's Ford parking lot on Main Street between Ames Street and Dock Street, which is eventually slated for development by MITIMCo. There are no loading docks on Main Street, but Dock Street, Hayward Street, and Wadsworth Street on the south side of Main Street provide access to below grade parking and loading for the Kendall Hotel and SoMa buildings. Loading for the MXD buildings owned by Boston Properties on the north side of Main Street is mostly provided by the below grade loading dock accessed off Broadway, but some restaurants along Main Street occasionally use curb-side spaces for loading.

The portion of Main Street discussed in this report is bordered by a diversity of urban uses. The southern side of Main Street includes MIT's Building E19, the MIT Facilities Ford parking lot, the Kendall Hotel, and the new MIT SoMa development buildings. The SoMa buildings include ground floor retail and restaurant spaces.

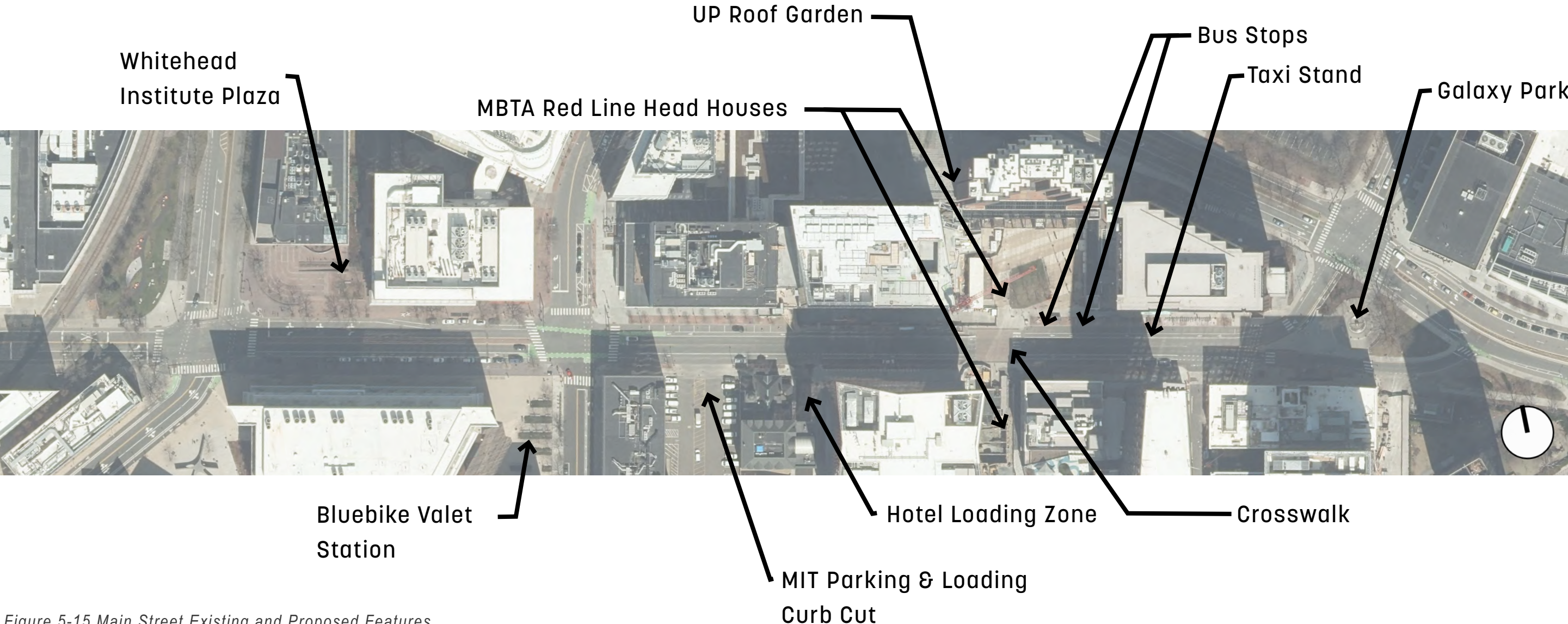


Figure 5-15 Main Street Existing and Proposed Features





Figure 5-16 Main Street Planned Ground Floor Uses

- Entrance
- Solid Blank Wall
- Glazed Restuarant
- - - - Glazed other retail (bank)
- Glazed Building Lobby



Figure 5-17 Main Street Proposed Activation Spaces

- Bus Stop Activation Zones
- Sidewalk Dining
- Furniture Zones
- BlueBikes Station

## Proposed Conditions

Through the design process for Main Street, the streetscape area was separated into two sections. The first section includes Main Street west of Ames Street, between Galileo Galilei Way and Ames Street, and the second section includes Main Street east of Ames Street, between Ames Street and Galaxy Park. For the second section east of Ames Street, three streetscape design options were considered to accommodate bicycle facilities while still accommodating needs for convenient bus service, pedestrian access to Kendall Plaza and the MBTA headhouse, customer and loading access to the ground floor retail, and restaurant uses and vehicular access to the south side of the street. Below is a summary of the Main Street options, as well as a list of pros and cons for the three design options east of Ames Street. At the end of this section, recommendations are provided based on public and stakeholder input as well as consideration of each option's overall feasibility.

### Third Street Goals Established With Public & Stakeholders

1. Provide a transformative public transit gateway into Kendall Square
2. Facilitate highest and best mix of pedestrian and transit use
3. Incorporate separated bicycle facilities
4. Reconcile need for loading with public realm improvements

## West of Ames Street

For Main Street between Ames Street and Galileo Galilei Way, the proposed streetscape design includes protected one-way bike lanes on each side of the street. The existing median would be removed to allow for the protected bike lanes to be installed without significant impact to the existing parking and trees. These bike lanes would connect to the existing separated bike lanes on Vassar Street and proposed separated bike lanes on Galileo Galilei Way as well as the on-street bike lanes to the west on Main Street.

Ideally, the bicycle facilities on Main Street should be raised to provide the greatest level of cyclist comfort and protection. Further study is needed however to understand the feasibility of raised bicycle lanes due to the depth of the redline tunnel, and concern relating to the relocation of utilities and drainage.

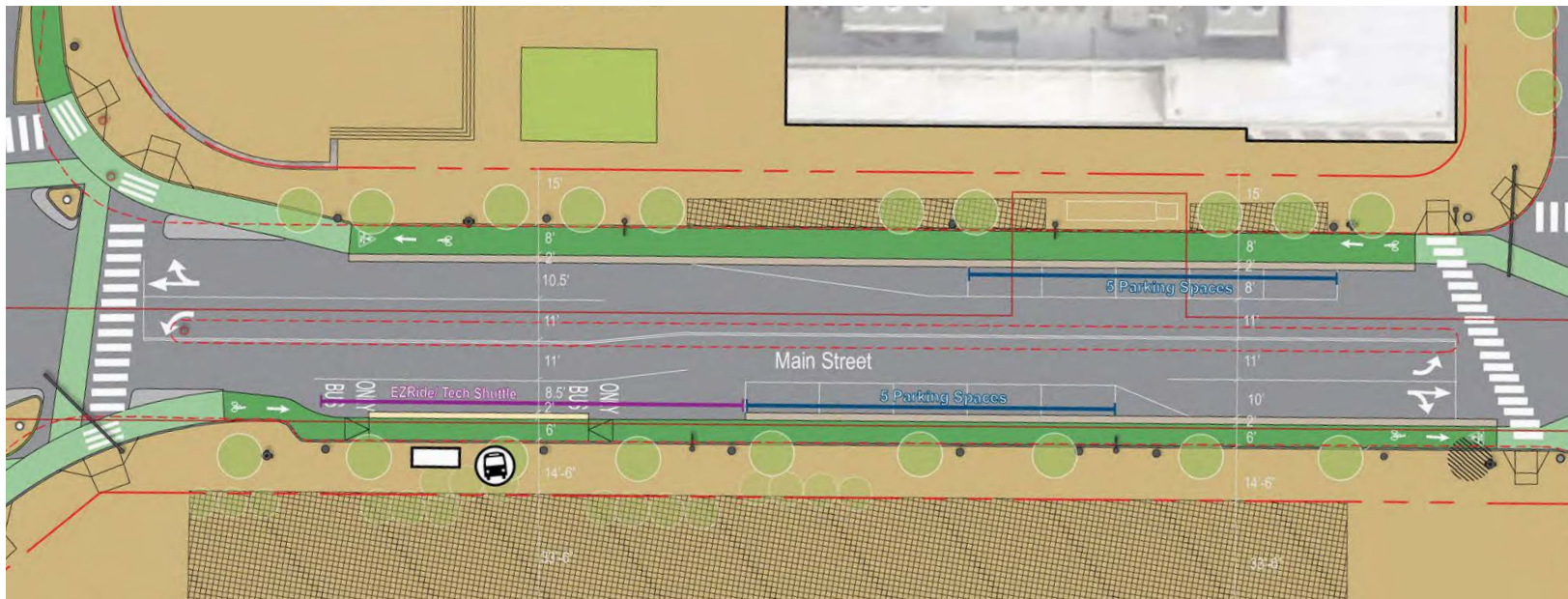


Figure 5-18-Main Street West of Ames

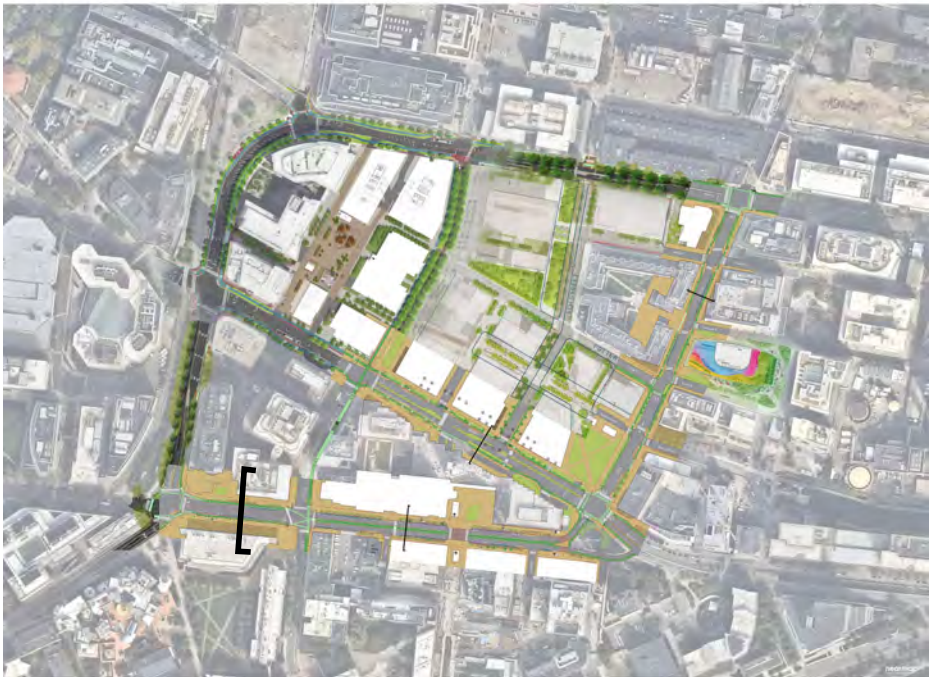


Figure 5-19 Main Street Section West of Ames Street

# Main Street East of Ames Street: Option A - Center Bike Lanes

This option would consist of a 10-foot-wide separated bi-directional bike lane (5 feet wide in each direction) with flexible barriers, 11-foot-wide travel lanes in each direction, and 8-foot-wide parking lanes adjacent to the curb. This option would also allow for shuttle/bus loading areas on either side of the street. This center bike lane concept was proposed due to the unique alignment of eastern Main Street connecting to Galaxy Park, and the inclusion of a contraflow raised separated bicycle lane to the intersection of Broadway. The bicycle lane barriers providing separation between the two-way bike lane and the vehicular lanes need to be flexible to allow emergency vehicles to drive over them if necessary, as there would be less than 18 feet clear between the parked cars and the barriers in this design.

In order to avoid conflicts between cyclists and turning vehicles, left turn movements into and out of the MIT parking and loading area (Ford Lot), Dock Street, and Hayward Street would not be allowed for westbound traffic. Right turns into and out of these areas would still be possible for eastbound traffic. Because of this, traffic entering these locations from the north on Third Street would need to take a right on Broadway, a left on Ames Street, and another left onto Main Street to access these locations. Traffic headed to the west from these locations would need to head east towards Broadway and take a right turn onto Memorial Drive.

In this option, at the eastern end of Main Street, cyclists would need to transition from a side running bike lane on Broadway to a center running bike lane on Main Street, as described in the previous West of Ames Street section. It may be possible to restrict through traffic on this section of Main Street to reduce conflicts at this location. The bike lanes would also transition to side bike lanes at Ames Street. The pavement markings and traffic signal would need to be modified to provide protection for these movements as described later in the Section 6 (intersections).



**CENTER LANE PROTECTED BIKE LANES - Athens, GA**



**CAMBRIDGE STREET - Cambridge, MA**



**QWICK KURB**



**MEDIAN BIKE LANE - Sevilla, Spain**

*Figure 5-20 Main Street Precedent/Character Images*



Figure 5-21 Main Street Section East of Ames Street Option A

## Main Street East of Ames Street Pros & Cons: Option A - Center Bike Lanes

### PROS

- Allows for more curbside pick-up/drop-off, loading, and parking
- Allows for convenient bus/shuttle loading
- Allows for more sidewalk placemaking opportunities
- Existing curbs could remain in the same location

### CONS

- Bicycle signal phase needs to be added at Ames Street to allow bicycles to cross through traffic lanes onto side bike lanes to the west
- Bicycles need to cross vehicular and pedestrian traffic at raised crosswalks at Galaxy Park onto side bike lanes
- Potential conflicts between cyclists and pedestrians at mid-block crosswalk could require pedestrians to stop in crosswalk while crossing motor vehicle lanes
- Bike lanes would separate the open spaces on either side of Main Street making the street less inviting to pedestrians
- Protection barriers for center bike lanes would prevent left turns into and out of MIT Ford Lot, Dock Street, and Hayward Street
- Eastbound semi-trailers would not be able to back into MIT Ford Lot without encroaching on center bike lanes.
- Eastbound semi-trailers would not be able to turn into Hayward Street without encroaching on center bike lanes. Semi-trailers would need to enter SoMa loading entrance on Hayward Street from the south.

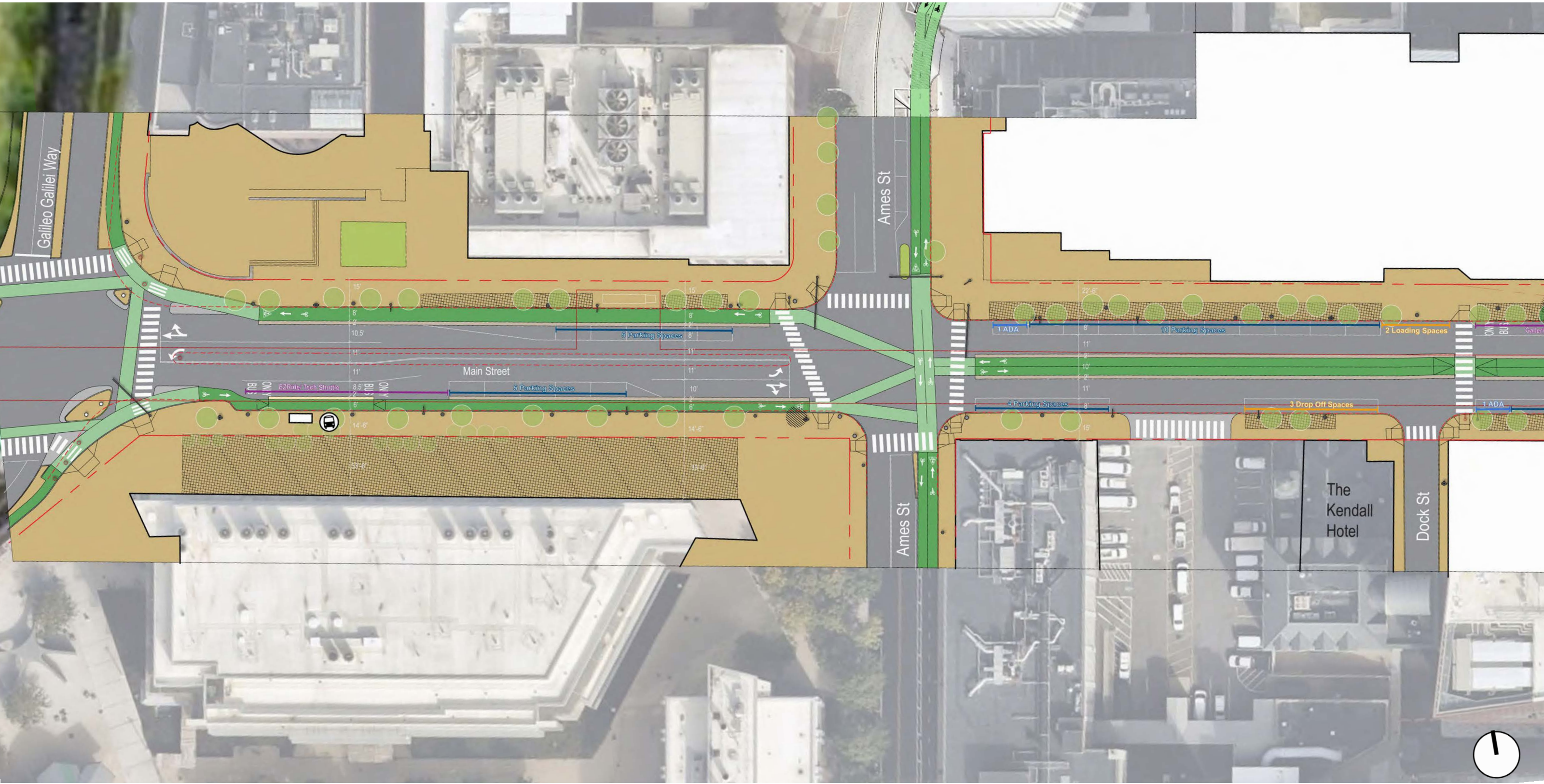


Figure 5-22-A Main Street Option A Plan



Figure 5-22-B Main Street Option A Plan



## Main Street East of Ames Street: Option B - Side Bike Lanes

This option would include protected 6- to 8-foot-wide one-way bike lanes on each side of the street and two 11-foot-wide travel lanes. The bike lanes would be located between the existing trees and the vehicular travel lane protected by a raised curb or barriers. As was discussed in the West of Ames Street section above providing raised protected bicycle lanes is the preferred bicycle facility design, in order to provide the greatest level of cyclist protection.

Further study is needed however to understand the feasibility of raised bicycle lanes due to the depth of the redline tunnel, utilities and drainage.

In this option, the bus/shuttle passengers will need to cross the bike lane to load and unload. This could be done with floating bus stops which would allow passengers to load between the bike lane and the curb or with bus stops where the passengers would cross the cycle track while loading.



**MODULAR BUS PLATFORM** - Oakland, CA



**FLOATING BUS PLATFORM** - Portland, OR

*Figure 5-23 Main Street Precedent/Character Images*



Figure 5-24 Main Street Section East of Ames Street Option B

## Main Street East of Ames Street Pros & Cons: Option B - Side Bike Lanes

### PROS

- Standard design, easily understood by all users
- Turning movements into and out of the Ford Lot, Dock Street, and Hayward Street would not be impacted

### CONS

- Increased conflicts between cyclists and pedestrians, especially at bus stops, taxi stand, and mid-block crossing
- Limited space for pick-up and drop-off, loading, and shuttles
- Eliminates most parking on the south side of the street
- As was raised in the Transit Advisory Committee meeting, floating bus stops can be a challenge to make people waiting feel comfortable and need to be large enough to allow for accessible loading and unloading
- Buses would stop in travel lane to pick up passengers

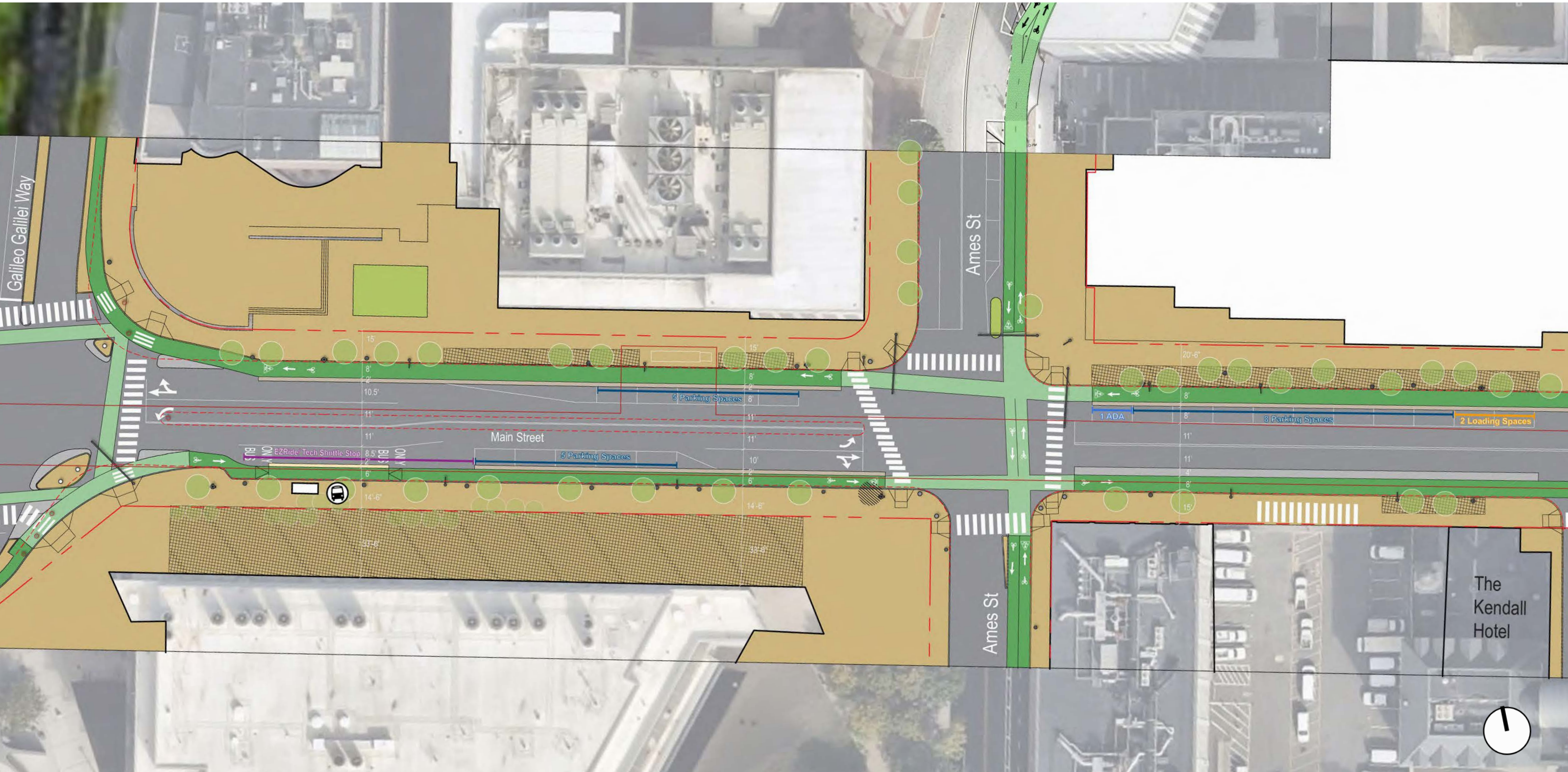


Figure 5-25-A Main Street Option B Plan

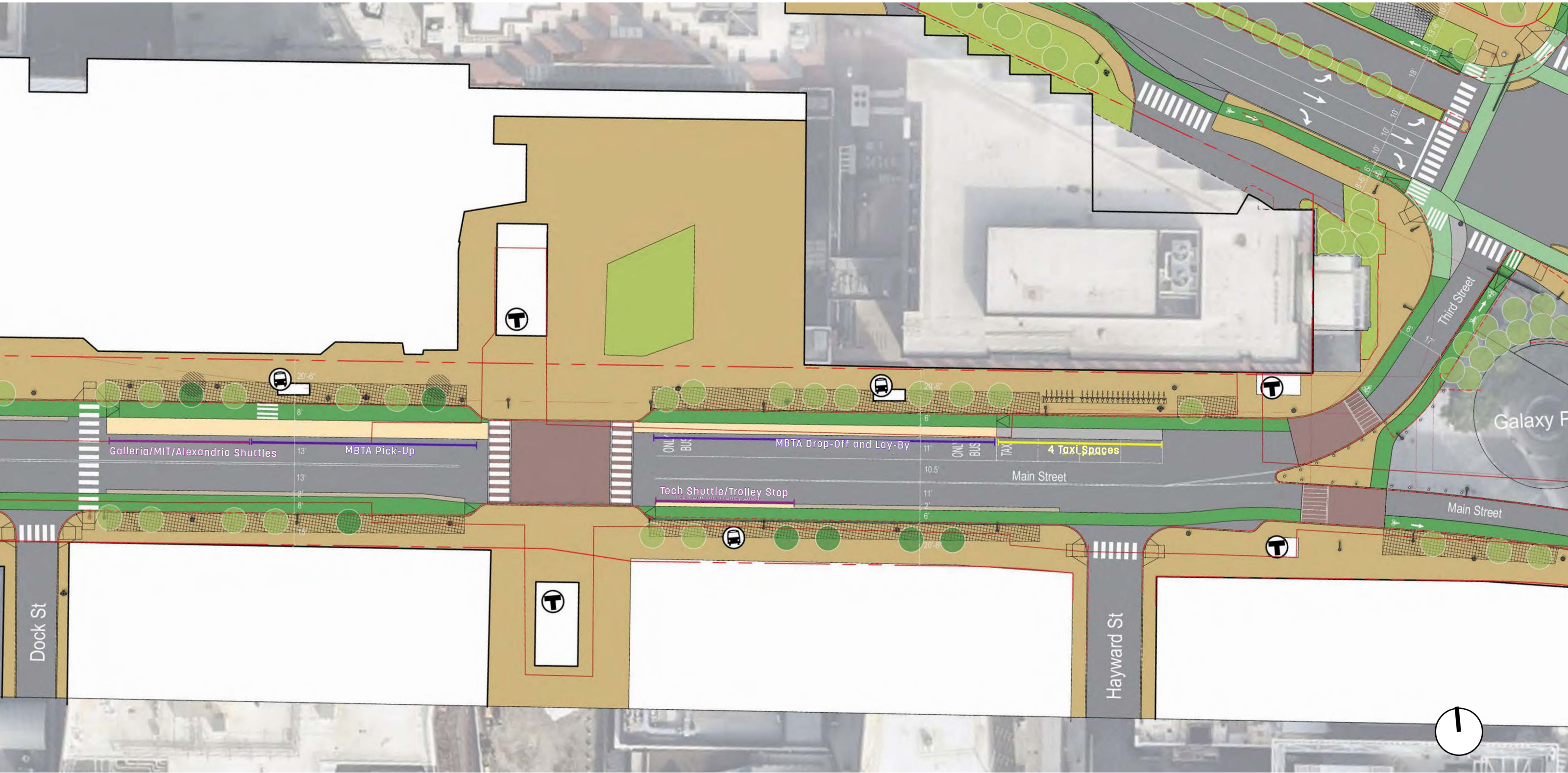


Figure 5-25-B Main Street Option B Plan

## Main Street East of Ames Street: Option C - Woonerf, Or Slow Street

Due to input received during public outreach, CRA Board meetings and stakeholder conversations, an alternative Option C – slow street design, or woonerf, was proposed. A woonerf is defined as a “living street” where all road users, especially vulnerable users such as people walking and biking, share more equal priority in space and design. This option presents the road as a more natural transition between adjacent public realm spaces and aims to slow vehicle traffic and so that cyclists and vehicles may safely share the street rather than providing dedicated space for each. It also allows for placemaking opportunities, such as pocket parks, additional fixed

or movable seating, moveable planters, public art installations, and specialty paving to make this section of Main Street feel like a destination, not just a passageway.

This option would include various traffic calming measures to reduce vehicle speeds and would also include signage to indicate that this section of the street is intended only for local traffic. Traffic calming measures could include raised pavement grades, narrower travel lanes, unique pavement markings to make the travel lanes feel narrower, and street furnishings, such as planters, to designate pedestrian spaces



**PASEO BANDERA - SANTIAGO, CHILE**



*Figure 5-26 Main Street Shared Street Precedent/Character Images*



**NICOLLET MALL - MINNEAPOLIS, MN**



**DISTRICT WHARF - D.C.**



**BELL STREET - SEATTLE, WA**



**SLOVENSKA BOULEVARD - LJUBLJANA, SLOVENIA**

Figure 5-17 Main Street Precedent/Character Images

within the street. These traffic calming measures would still allow vehicle access to local businesses for parking and loading, but would provide a signal to drivers that the travel lanes are shared with other users and would encourage non-local traffic to follow other routes. Loading areas would be limited to locations where off-street loading is not available. Designated drop-off spaces would be provided for taxis and rideshare/transportation network companies (TNC) to discourage blocking of narrow lanes.

As noted, this design option was proposed as a way to respond to feedback heard during the public engagement process. Input collected from residents included comments asking for a more pedestrian-oriented design on Main Street. The woonerf concept also addresses concerns from MITIMCo related to Option B (the

side-bike lane concept), which significantly limits curbside uses for retail, including pick-up and drop off opportunities and parking; it also addresses their concerns for Option A (the center-bike lane concept), which restricted certain turning movements for their parking and loading facilities at the Ford Lot, at Dock Street, and at Hayward Street. Additionally, during the Transit Advisory meeting, members noted that floating bus stop islands, which would be part of Option B's side-bike lane design, felt less comfortable and protected.



Figure 5-25-C Main Street Section East of Ames Street Option C



## Main Street East of Ames Street Pros & Cons: Option C - Woonerf, Or Slow Street

### PROS

- Reduced traffic speeds and volumes would improve safety and comfort of pedestrians
- Facilitates placemaking opportunities to make Main Street a destination, not just a through route
- Expanded space for retail outdoor seating
- Helps to link new open spaces at SoMa project and 325 Main Street
- Allows for more curbside pick-up and drop-off
- Turning movements into and out of the Ford Lot, Dock Street, and Hayward Street would not be impacted
- Provides for enhanced space for bus stops, and eliminates the need for floating bus islands
- Generally received best support from public and stakeholders in favor of this option

### CONS

- May be confusing to drivers
- May not be as comfortable for slower or less experienced cyclists
- Would require review by City Council to confirm compliance with the Cycling Safety Ordinance standards

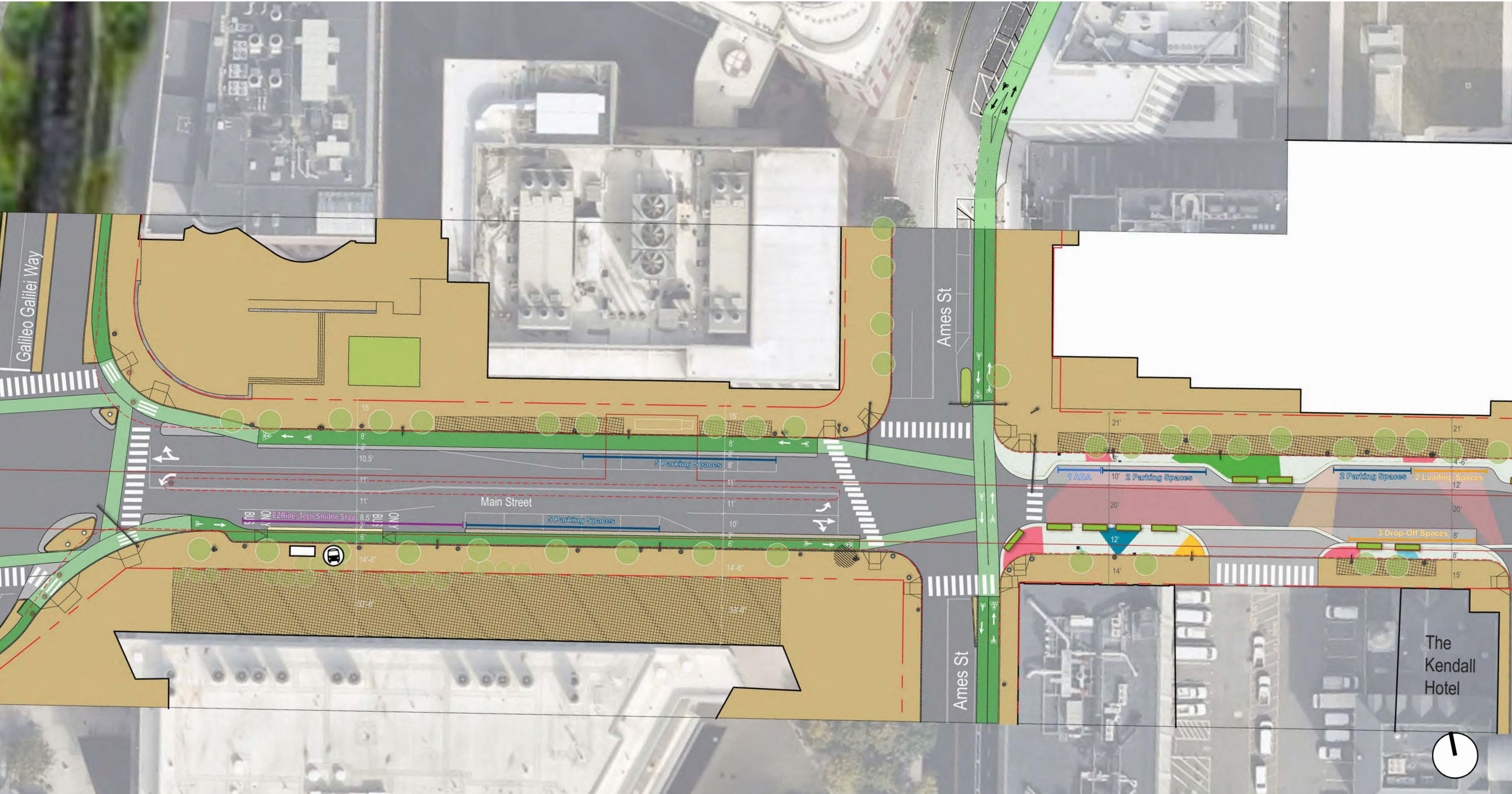


Figure 5-27-A Main Street Option C

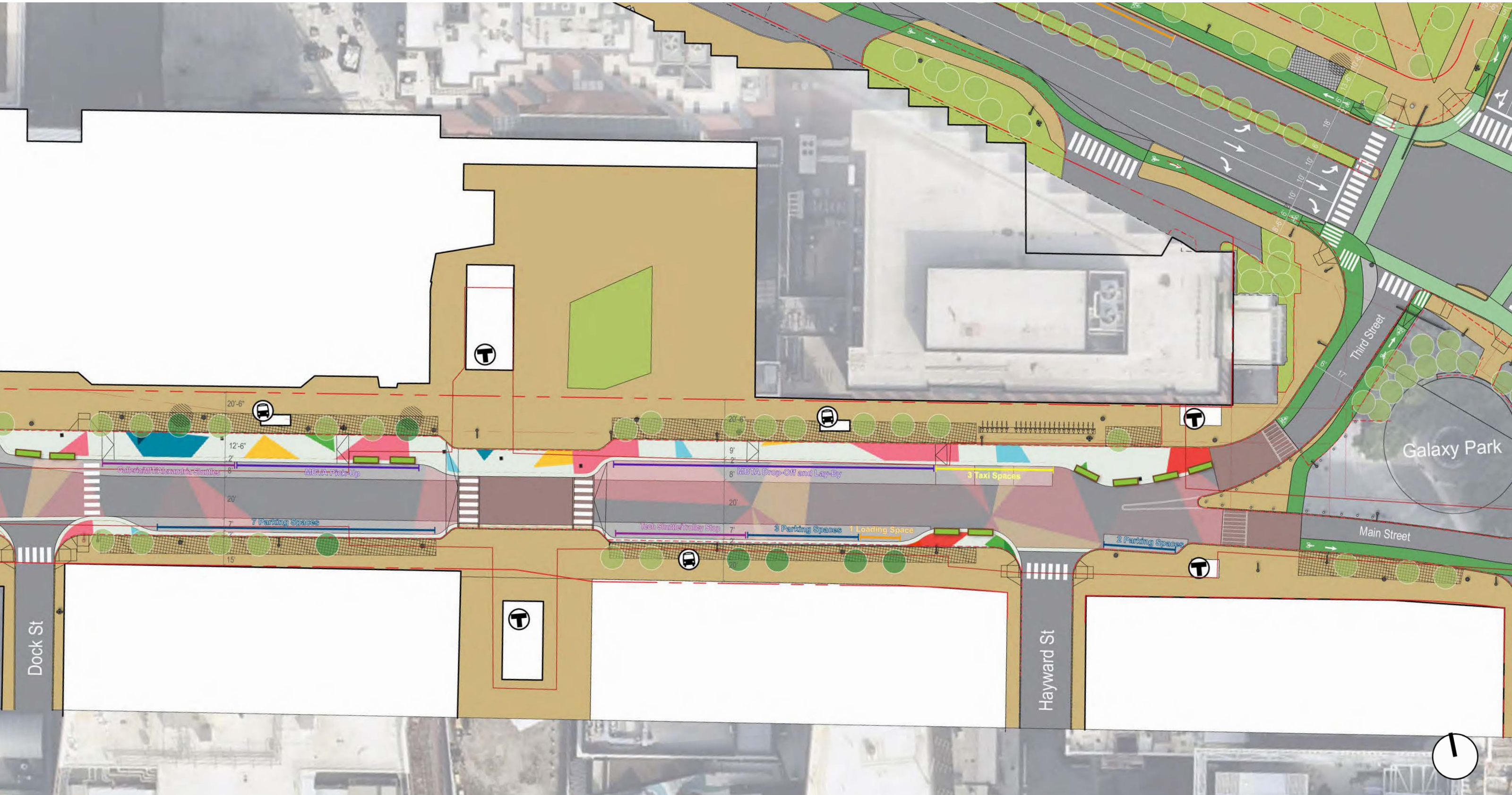


Figure 5-27-B Main Street Option C

# Curbside Uses

Below is a summary of the existing and proposed curbside uses available on this street.



Figure 5-28 Main Street Existing Parking

	EXISTING (AFTER COMPLETION OF SOMA AND 325 MAIN ST)	OPTION A (CENTER BIKE LANES)	OPTION B (SIDE BIKE LANES)	OPTION C (SLOW STREET)
SHORT & LONG TERM PARKING SPACES	38 (30 MINUTES - 2 HOURS)	34	20	31
ACCESSIBLE SPACES	2	2	2	2
LOADING/ DROP-OFF SPACES	5	5	2	5
TAXI/TNC SPACES	8	5	4	5
TOTAL SPACES	53	46	29	43
BUS/SHUTTLE LOADING (LINEAR FEET)	500'	600'	475'	600'

Table 5-3 Main Street Existing and Proposed Curbside Uses

## Recommendations for Main Street Streetscape Design

After significant discussion around the three options for Main Street east of Ames, it is clear that further collaboration and study is needed to finalize and select a design direction. In this study, the design team proposed three streetscape design concepts. These designs have been discussed and reviewed during public engagement, stakeholder and working group meetings, and each offer benefits to certain modes of transit and curbside uses while creating drawbacks for others.

After reflection on community and stakeholder input, however, it is the design team's recommendation that, for a long-term vision of Main Street, Option C- woonerf is given primary consideration. A slow street design honors Main Street's evolution as a destination location while facilitating placemaking opportunities for local retailers and businesses. As the projects at 325 Main Street and MIT SoMa near completion, the street will soon be activated with retail on both sides with enhanced open space, hotels, and museums. Placemaking opportunities include additional space for retail outdoor seating, additional greenery through planters, and art installations. This design also offers more flexibility for curb-side uses including pick-up and drop-off locations and does not limit turning movements like the other design options considered. This design was a direct response to community input heard on the original side and center bike lane design options and was well-received by members of the public and stakeholders, as well as the CRA Board.

The success and safety of a woonerf design concept, however, rests on proper design and its ability to slow traffic to an appropriate pace that promotes accessibility for all users. This could include decreasing speed limits using techniques such as colored paving, or pavers that creates a differentiated feel for vehicles compared to smooth asphalt.

Adding feature trees and planted areas instead of traditional traffic control devices or signs can also help to further increase a sense of place and increase pedestrian and bicycle activity while signaling slower speeds for cars. Using permanent features is important to create safe shared-use environments, and it is unlikely to be as successful in a quick-build or pilot application using temporary interventions. It would also be beneficial to limit vehicles to local traffic only, which was a condition analyzed in the traffic memo (Appendix A).

The memo found that the restriction of local traffic only in this section of Main Street may cause increased delays for vehicles at the Ames Street & Main Street and the Third Street & Broadway intersections, and that further study is necessary to determine appropriate restrictions on through traffic and acceptable intersection impacts. For these reasons, the design team would recommend a slow-street concept only as a complete long-term build and after further traffic study.

Additionally, there are other planning processes underway that could significantly impact the future of Main Street that will need to be followed. The MBTA is working on a Bus Network Redesign process that will potentially increase the number of bus routes, including high-frequency bus routes to Kendall Square. There is also a public process underway to determine the feasibility for a Silver Line Bus extension to Kendall. In both cases, it is possible Main Street will be the terminus location for these new routes, and thus require additional space for pick-up, drop-off and layovers. As such, an alternative interim short-term approach will be needed for Main Street between Ames Street and Galaxy Park. This design will need to accommodate ongoing construction at the north and south MBTA Kendall Station headhouses, and follow the evolving planning processes discussed above.

For the section of Main Street west of Ames Street, side bike lane designs are recommended. This will allow for connection to the existing separated bicycle lanes on Vassar Street and proposed cycle tracks on Galileo Galilei Way. When moving forward with implementation of the design, it will be important to investigate the feasibility of implementing raised bicycle lanes, which would require modifications to utility and drainage infrastructure in the street, which may impact the MBTA's red line tunnel.

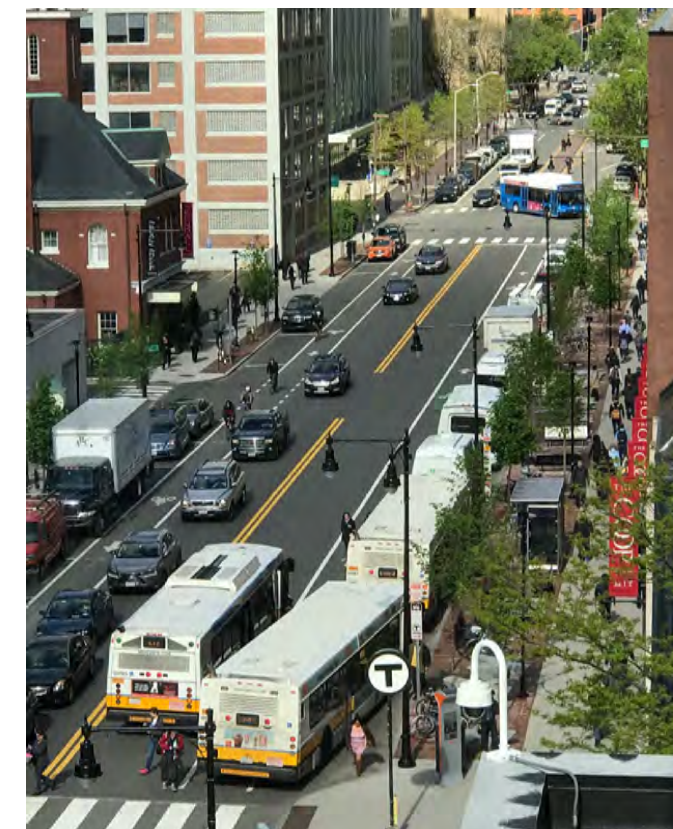


Figure 5-29 Image of Main Street

# 6. Intersections

The vehicular turning movements, queue lengths, delays, and levels of service have been analyzed as part of the traffic study by HDR, Inc. included in Appendix A of this report. Below is a description of the proposed changes to the intersections and modifications that can be made to improve protection for pedestrians and cyclists.

## BROADWAY & GALILEO GALILEI WAY (TRANSIT IMPROVEMENT ONLY)

This is an existing signalized four-way intersection. This project does not include changes to the pedestrian and bicycle accommodations at this intersection; instead, it provides a brief summary of proposed, planned, and previously constructed changes to the intersection's infrastructure. Protected bike lanes have recently been installed on the north side of Broadway to the east of this intersection and on both sides of Galileo Galilei Way to the north side of this intersection. Plans have been completed for a protected bike lane on the south side of Broadway to the east of this intersection. Protected bike lanes are also proposed on both sides of Galileo Galilei Way to the south of this intersection. A traffic island has been installed at the northeast corner of this intersection to protect the cycle tracks on Broadway and Galileo Galilei Way. Additional traffic islands are proposed at the other three corners of this intersection.

Signal modifications have also been designed for this intersection to include phases for bicycles to cross the intersection with motor vehicles traveling straight across the intersection. Bicycles turning left will have space to cross the intersection and wait after to complete their turn during the next phase. The transit analysis (Appendix C) suggests modifications to the signal, to be studied further, to allow for a bus priority for buses traveling eastbound through the intersection on Broadway.



Figure 6-1 Image of Intersection of Broadway & Galileo Galilei Way

## BROADWAY & AMES STREET

This is an existing signalized three-way intersection with a connection to the 6th Street Connector (Loughrey Way) pedestrian path and two-way Kittie Knox Bike Path to the north. There is an on-street bike lane on both sides of Broadway and a bi-directional protected bike lane on the east side of Ames Street. There is a bicycle signal for the bicycles traveling north-south through this intersection, which provides a dedicated phase along with the pedestrian crossings. Bicycles traveling east-west on Broadway share a phase with the motor vehicle traffic.

Bicycles headed eastbound and westbound on Broadway cross the intersection during the same phase as the motor vehicles and therefore most avoid these vehicles. Bicycles turning left from Broadway westbound to Ames Street southbound either need to merge with the motor vehicle traffic and yield to oncoming traffic or occupy a narrow shoulder along Broadway and wait for the bike signal to cross the intersection. The proposed project will include a bike box for bicycles to stop and make this left turn.

This project includes modifications to the signal to allow for a bus priority signal for buses traveling eastbound through the intersection on Broadway. This phase would be controlled to limit conflicts with bicycles. The diagram below shows the existing intersection configuration and proposed changes that were studied to improve the function of the intersection for all users.



Figure 6-2 Broadway & Ames Street Considerations

## BROADWAY & FIFTH STREET (AND GREEN GARAGE ENTRANCE)

There is currently a break in the median on Broadway with a dedicated left turn lane to enter the Green Garage from Broadway westbound. Left turns out of the Green Garage are restricted by the median so cars leaving the garage must turn right onto Broadway eastbound.

In order to accommodate left turns into the new 5th Street intersection, a left turn lane will be added to the east of the Green Garage turn lane. This turn lane will be separated by a short median from the existing left turn lane to Third Street to

provide clarity for drivers. Similar to the Green Garage driveway, left turn cars will be restricted so cars leaving 5th Street will need to turn right onto Broadway westbound. 5th Street will also include protected bike lanes that will be connected to the protected bike lane on the north side of Broadway.



# MAIN STREET & AMES STREET

This is an existing signalized four-way intersection which includes a bike signal for the two-way protected bike lane on the east side of Ames Street. There is a dedicated phase for this bike signal, but not for the east-west bike lanes on Main Street which cross with the motor vehicle traffic phases. Because the eastbound bicycles on Main Street do not have a dedicated phase, they must avoid right-turning vehicles to continue straight on Main Street or access the two-way bike lanes on Ames Street. This is also the case for bicycles headed westbound on Main Street.

The diagram below shows the existing intersection configuration and proposed changes that were studied to improve the function of the intersection for all users.

The suggested changes to this intersection include the addition of a dedicated eastbound left turn lane for cars turning north onto Ames Street. Signal timing will need to be adjusted to accommodate this dedicated turn lane as well as the protected bicycle movements. Depending on which option is implemented for redesigning Main Street, this intersection will receive additional modifications. In Option A (bi-directional bike lanes in the median) and Option C (slow street design), the signal timing will be modified to provide a protected phase for the cyclists to transition to the side bike lanes to the west of Ames Street.

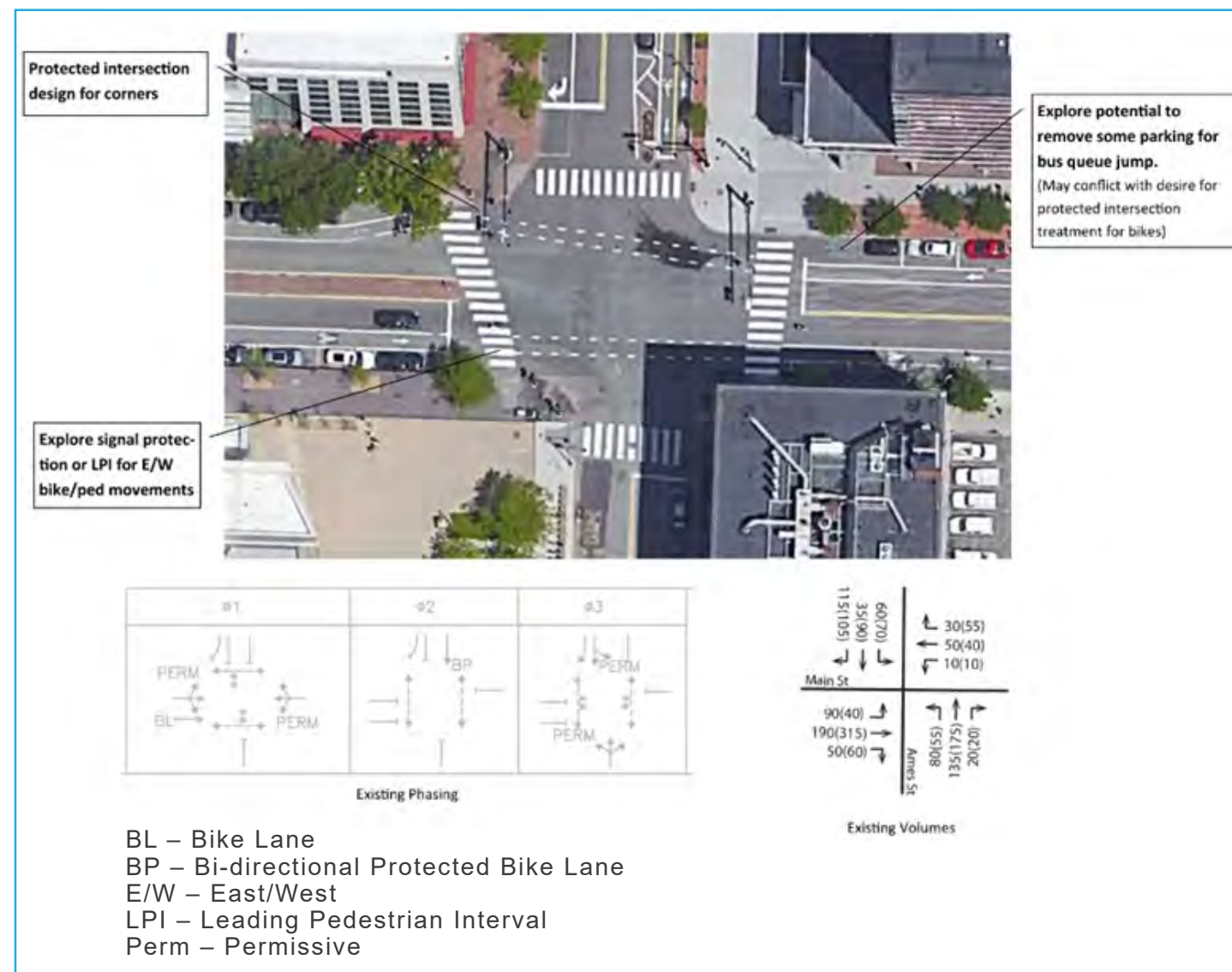


Figure 6-3 Main Street & Ames Street Considerations

## BROADWAY, MAIN STREET & THIRD STREET

This is an existing signalized four-way intersection which includes a bike signal for bicycles headed northbound from Main Street to Third Street. There are two travel lanes for vehicles headed southbound from Third Street – a shared through and left turn lane and a dedicated right turn lane. There is an on-street bike lane between these travel lanes for bicycles headed southbound from Third Street to Main Street and another on-street bike lane for cyclists headed westbound on Broadway. Approaching this intersection from the west on Broadway features a dedicated left turn lane, a straight lane, a shared straight and right turn lane, and an on-street bike lane. Approaching from the east on Broadway, there is a straight lane and a separate right turn lane, as well as a cycle track which is not protected at the intersection. The southern leg of the intersection is a southbound motor vehicle lane and bike lane to Main Street westbound as well as a northbound protected contraflow cycle track with an accompanying bicycle signal. To the east of the intersection, the travel lane from Main Street eastbound merges with Broadway as it heads towards the Longfellow Bridge. This lane is stop controlled.

The current signal phasing includes a three second leading pedestrian interval (LPI) for bicycles and pedestrians headed eastbound on Broadway to reduce conflicts with motor vehicles turning right onto Main Street. Bicycles turning left from Broadway eastbound can cross to the northbound contraflow lane and use the bike signal to cross Broadway towards Third Street. Bicycles headed westbound on Broadway towards Main Street westbound may either cross with the pedestrian phase across Third Street and wait for the signal to cross Broadway or cross Broadway during the pedestrian phase. Southbound bicycles on Third Street headed eastbound on Broadway must either merge with motor vehicle traffic or cross Broadway in the bike lane and wait to cross Main Street. Bicycles turning left from the contraflow bike lane towards Broadway westbound must cross Broadway and wait for the Broadway westbound phase.

Figure 6-4 shows the proposed changes that were studied to improve the function of the intersection for all users. This project recommends modifications to the signal

to allow for a bus priority signal for buses turning right from Broadway onto Main Street. This phase would be controlled to limit conflicts with bicycles.

The design team studied various options for the vehicles headed southbound on Third Street as outlined in table 6-1. The proposed MBTA Silver Line extension (SLX) includes a connection from Sullivan Square to Kendall via Third Street, which would add a new bus route through this intersection. In order to improve the reliability of this service, two options were studied that included a dedicated transit lane.

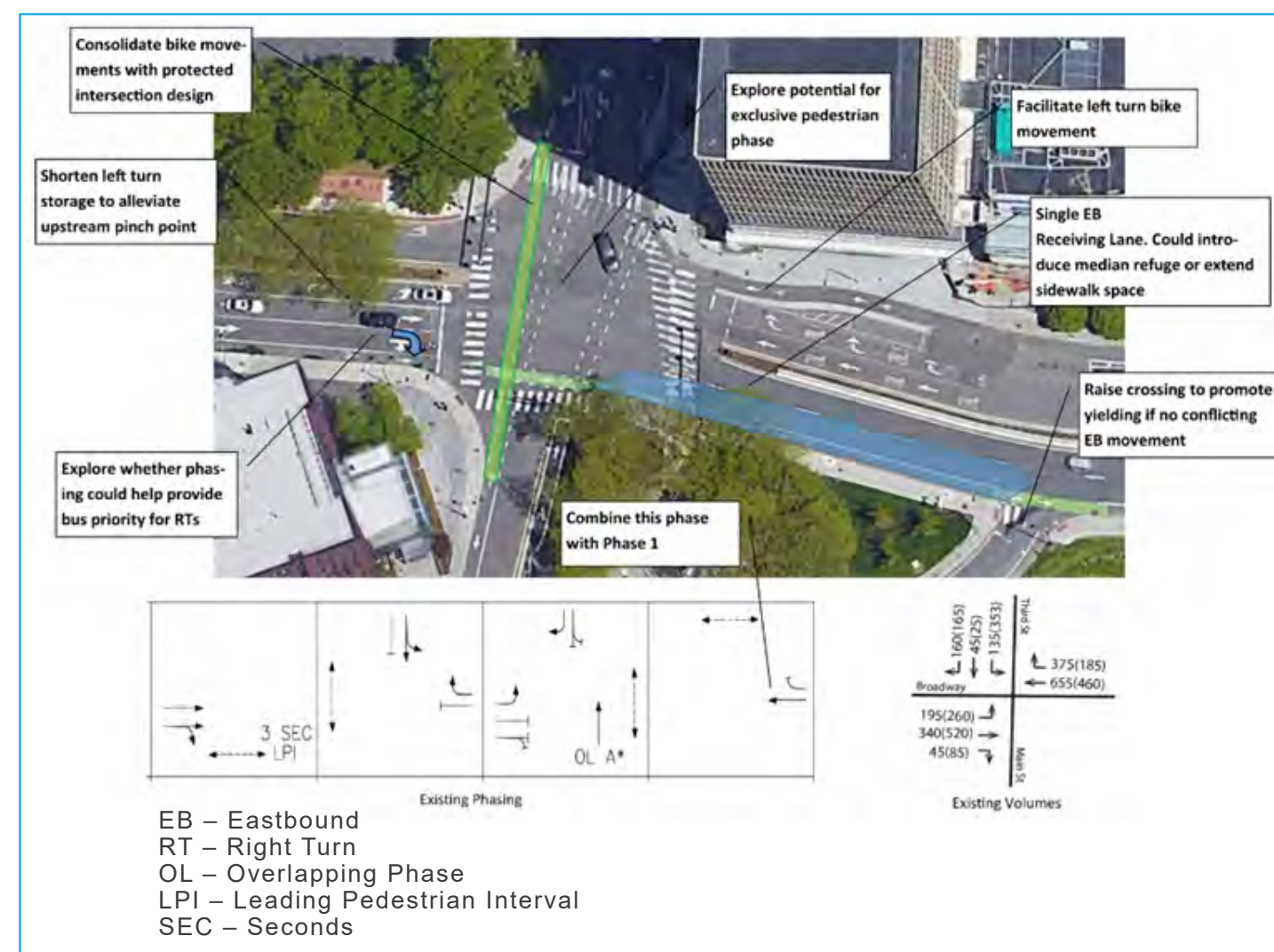


Figure 6-4 Broadway, Main Street & Third Street Considerations

As described in the traffic memo in Appendix A, the preferred option for this intersection is Option 1. The transit lane may be added in the future if bus service is added on Third Street. In this and the other options, the existing eastbound right-through lane on Broadway would be converted to a dedicated right turn lane with exclusive right turn phase and exclusive eastbound bicycle phase. A signal phase would also be added for the southbound bike lane.



Figure 6-5 Broadway, Main Street & Third Street Proposed Intersection Options

2024 EXISTING BUILD OUT CONDITION	APPROACH OPTION 1	APPROACH OPTION 2	APPROACH OPTION 3
Right turn only	Shared right/through	Right turn only	Shared right/through
-	Exclusive transit through	Exclusive transit through	-
Shared left/through	Left turn only	Left turn only	Left turn only

Table 6-1 Broadway, Main Street & Third Street Options

# 7. Design Elements

## CROSSWALKS

Some crosswalks will be raised with special pavement treatments, such as unit pavers to call attention to drivers and reduce speeds. These treatments are proposed where there are significant pedestrian crossings that are not signalized, such as the existing mid-block crossing at the Kendall T station entrance on Main Street and the crosswalk at Broad Canal Way on Third Street. The mid-block crossing at Main Street serves as a north-south pedestrian route from the MIT SoMa parcels through Kendall Plaza and the Marriott Hotel to the Volpe parcel across Broadway. Broad Canal Way is envisioned as a major pedestrian route from the existing Broad Canal open space area, through the east of Third Street, to the proposed pedestrian spine through the Volpe development.

For crosswalks at side streets and driveways, the pavement surface will be sloped up to the sidewalk level to allow for an accessible level route across intersections and to encourage turning cars to slow down and look for pedestrians. This condition will occur at all unsignalized intersections, such as: Dock Street and Hayward Street on Main Street; 5th Street, the Green Garage entrance and Kendall Way on Broadway; and Athenaeum Street, Munroe Street and Linskey Way on Third Street. This raised condition will also be implemented at driveway and loading entrances, such as the Marriott Hotel drop-off and the 255 Main Street loading dock on Broadway, and the MIT Facilities Ford Lot on Main Street.

The crosswalks at signalized intersections will all be standard striped thermoplastic crosswalks with wheelchair ramps and detectable warning pavers.

## PAVEMENT MARKINGS

Pavement markings for streets will be standard MUTCD thermoplastic striping. Wherever bike facilities cross travel lanes, they will be painted with solid green non-slip paint to accentuate the route's visibility for all road users. Bike facilities are shown in solid green on the illustrative plans for clarity, but green paint will only be used at specific locations where the lanes lose their physical protection from vehicular traffic.

## LIGHTING

Street lights will be Cambridge city standard fixtures, as shown in Figures 7-1 and 7-2. The existing street lights are already standard fixtures and can remain in the existing locations. Some fixtures may need to be relocated or added to avoid proposed improvements and to provide adequate light for safety.

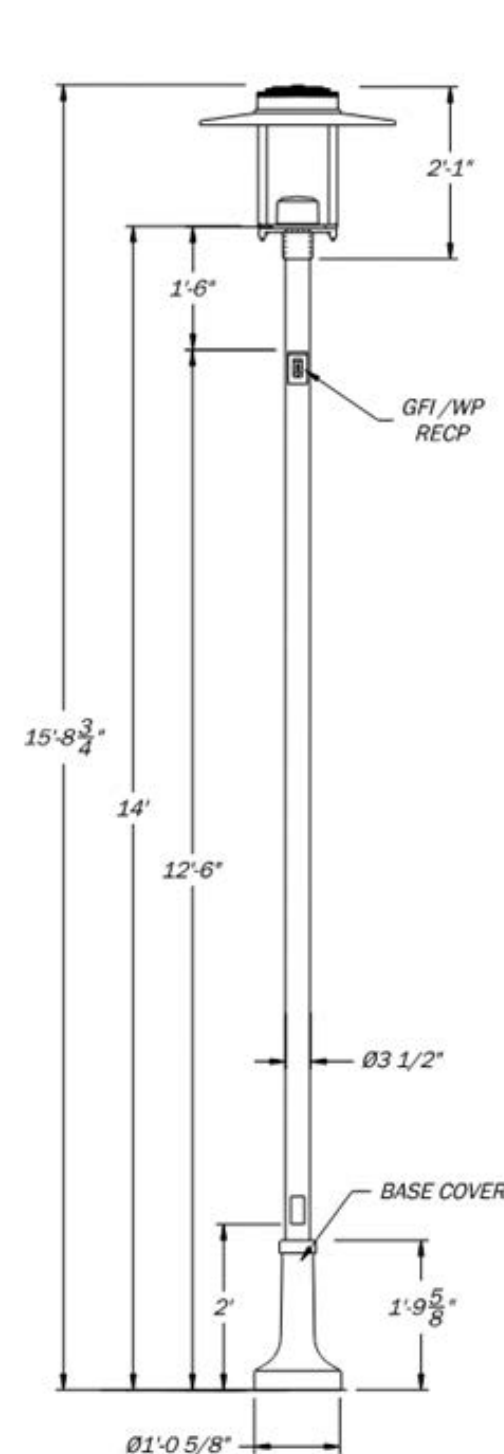


Figure 7-1 Cambridge "Selux Saturn" Pedestrian Light

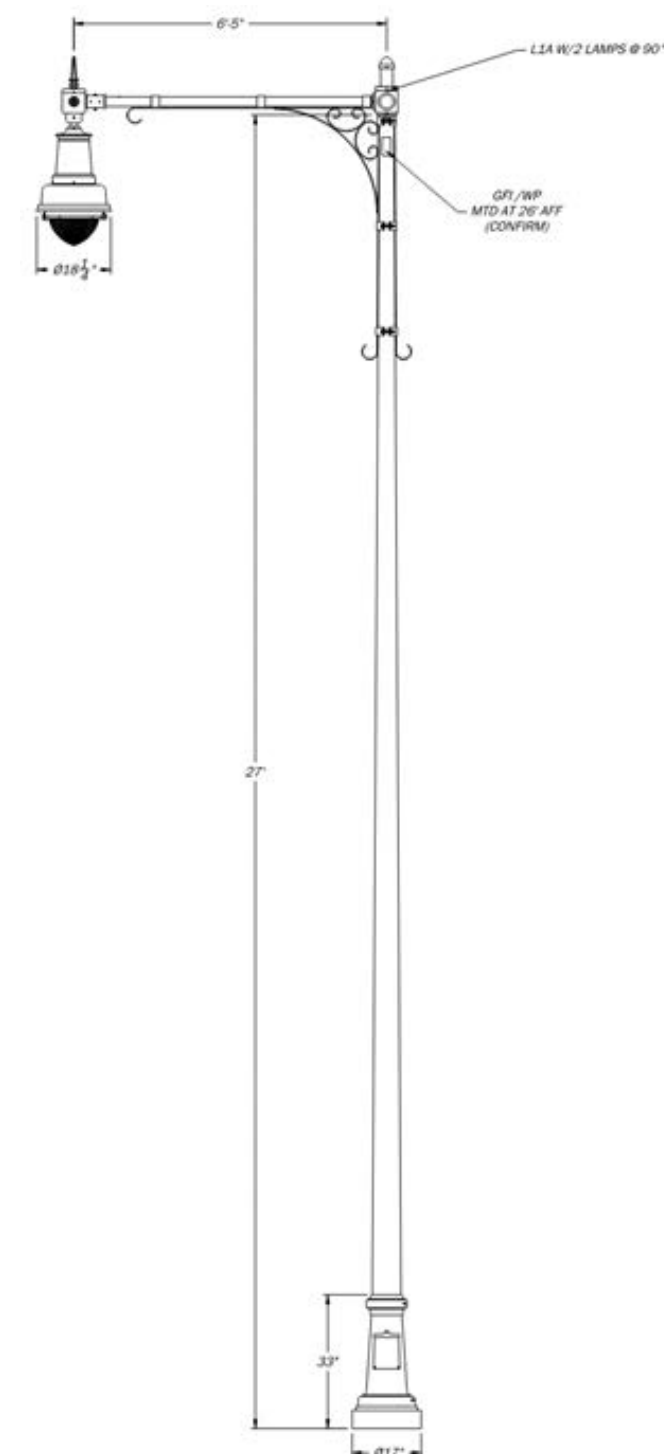


Figure 7-2 Cambridge "1907" Street Light

## FURNISHINGS

A detailed layout of street furnishings is not included in this concept plan. Instead, general street furnishing areas have been identified where seating, bike racks, trash and recycling receptacles, and other street furnishings could create a welcoming and functional space for pedestrians and cyclists.

Street furnishings will be selected to create a consistent look and feel to the Kendall Square area. In many cases, street furnishings can be selected to match existing street furniture, including benches, bike racks, and trash receptacles. In some cases, new furnishings may be selected to provide improved functionality or in instances where existing furniture models are no longer available. Below is a summary of the proposed furniture for the district.

## SEATING

### Casual and Comfortable

Colorful “Adirondack” style chairs and matching tables may be used to match the existing tables and chairs at Grand Junction Park and the new seating areas along Galileo Galilei Way. This would link a colorful, comfortable, movable and identifiable theme through Grand Junction Park, Binney Street, and Galileo Galilei Way. This furniture could be selected in matching colors, or different color schemes could be selected for each street or park. These are HD Adirondack chairs manufactured from 100% recycled high-density polyethylene by Loll Trade in Duluth, Minnesota.

### Picnic Tables

Backless benches and tables may be selected to match the existing furniture at the 6th Street Connector. These are Tably benches and tables manufactured by mmcité in Charlotte, North Carolina as shown in Figure 7-4.



Figure 7-3 Adirondack Style Chairs



Figure 7-4 Picnic Tables and Benches



Figure 7-5 Parc Vue Benches

## In The Family

The existing metal benches on Main Street are Redline benches are from Landscape Forms in Kalamazoo, Michigan. This model has been discontinued by Landscape Forms, but it may be possible to create a custom order to match the existing benches if a significant quantity were desired. To facilitate future replacements, improve comfort, and avoid hostile seating design, it is instead recommended that new metal benches be selected to match the general style of these benches. The Parc Vue bench from Landscape Forms has been selected as a similar style substitute to replace and/or add benches along the streets.



## Warmer Tones

In order to provide warmer tones and more comfortable seating, wood benches could also be provided. The use of wood benches will need to be reviewed with the City, especially near restaurants where people may be eating on the benches. The benches shown below are Preva Urbana benches manufactured by mmcité in Charlotte, North Carolina. These benches would compliment the style of the benches on the 6th Street connector as they could be provided in the same finish and wood species.



Figure 7-6 Preva Urbana benches

## Pebbles

Precast seating elements could also be used to match the seating areas on Galileo Galilei Way and proposed on Binney Street. These are Pebbles and Kernels manufactured by QCP in Norco, California. The Kernels are generally more conducive to seating, while the Pebbles provide visual interest and separation from passing vehicles and bicycles.



Figure 7-8 Pebble Seating

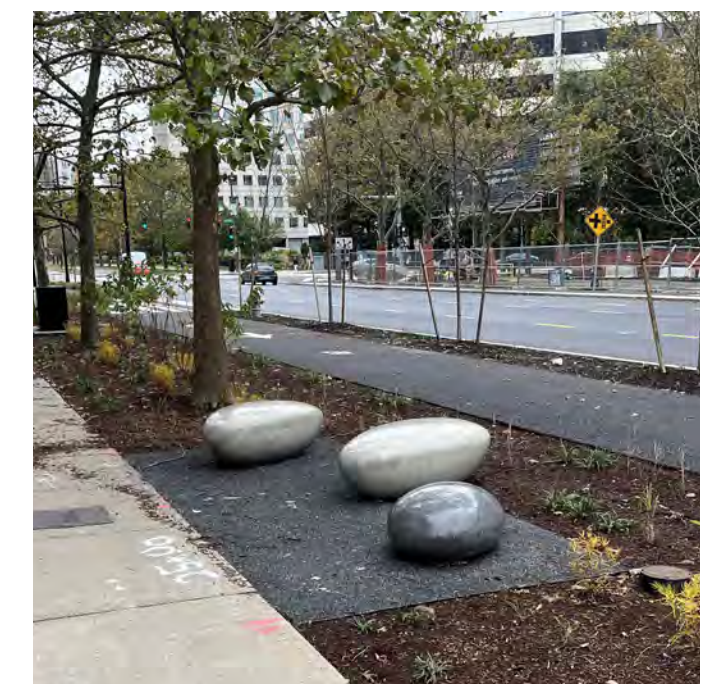


Figure 7-9 Pebbles installed on Galileo Galilei Way

## PLANTERS

Fixed and moveable planters will be considered to provide planting, shade, and protection from vehicles in areas with limited soil depth, shallow utilities, or other constraints. These would most likely be utilized in areas along Main Street where the existing MBTA Red Line tunnel is shallow.

### Slickrock Wave

Large precast planters can accommodate small tree plantings and soften the edges of hardscape areas. The planters below are Wave Planters manufactured by Slickrock Concrete in Boerne, Texas.

### Integrated Planters and Benches

Integrated planters and benches could also be used to create small oases in the hardscape. This would match the style of planters installed in front of One Broadway. The planters shown below are Rough & Ready Hug A Tub tree isles manufactured by StreetLife in Philadelphia, Pennsylvania.



Figure 7-10 Precast Planters



Figure 7-11 Integrated Planters and Benches



## BIKE PARKING

Short term bike parking will be provided in the street furnishing areas as described above. The bike racks will be selected to meet City of Cambridge bike parking standards.

The existing BlueBike stations at 255 Main Street, Third Street at Binney Street, and Ames Street at Main Street will remain in their current locations.

## BUS SHELTERS

There are two existing bus shelters located on the north side of Main Street to the east of the mid-block crosswalk for passengers loading the buses headed eastbound. These bus shelters serve both MBTA as well as various private shuttle passengers. These shelters will be moved to the west of the crosswalk where the new bus pick-up location will be located.

A bus shelter has recently been added on the south side of Main Street to the east of Vassar Street for MIT Tech Shuttle and EZRide passengers. This shelter will remain in place. This project does not presently include any additional bus shelters.

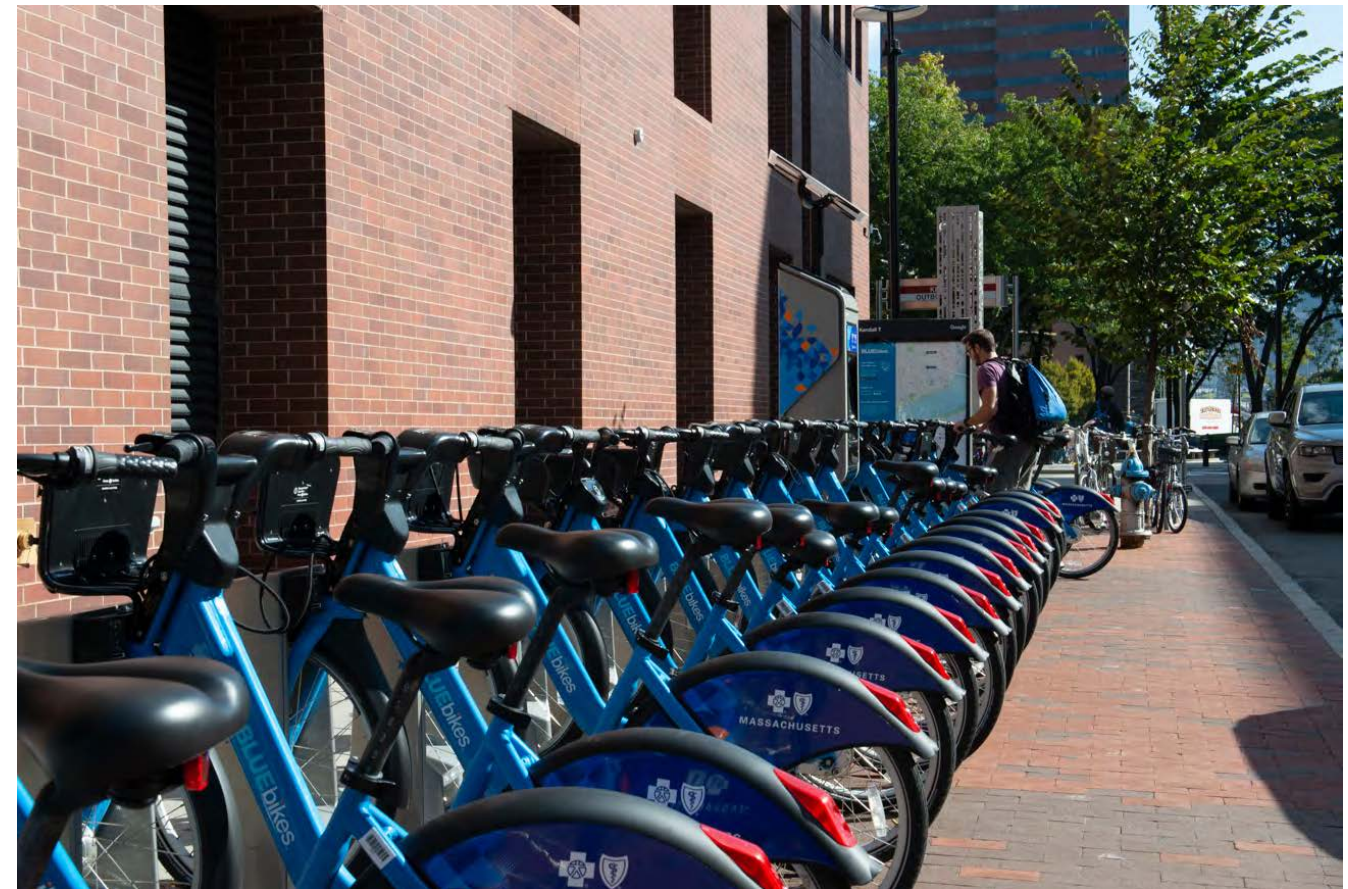


Figure 7-12 Images of BlueBike Station & Bus Shelter on Main Street

# TREES

One of the goals of the project is to preserve as many of the existing trees as possible and to increase the tree canopy wherever possible. There are some locations where existing trees will need to be removed in order to allow for the added space required to provide a separated bicycle path while also maintaining vehicular and pedestrian access.

Below is a table summarizing the number of existing trees that will be saved, how many will be removed and how many new trees will be planted for each of the street corridor options.



Figure 7-13 Image of Trees on Kendall Plaza

	Option A (No bus lane on Third Street, center bike lanes on Main Street)	Option B (Dedicated bus lane on Third Street, side bike lanes on Main Street)	Option C (No bus lane on Third Street, slow street design on Main Street)
Existing Street Trees	175	175	175
Existing Street Trees to be Removed	-14	-16	-14
New Street Trees to be Added	+18	+14	+18
<b>Net Trees Added</b>	<b>+4</b>	<b>-2</b>	<b>+4</b>

Table 7-1 Tabulation of Street Trees

# PLANTS & GROUNDCOVER

The planting palette for the streets will consist of a variety of trees, shrubs, perennial flowers, groundcover, and ornamental grasses and sedges to provide greater biodiversity and visual interest. The planting palette will utilize species that have been used successfully at other projects in the area, including the Binney Street, Galileo Galilei Way, and Broadway streetscapes, at 145 Broadway, and the 6th Street Connector (Loughery Walkway/Kittie Knox Bikeway).

Where possible, design teams are encouraged to consider the use of native plant species that are similar to the planting palettes shown in the tables below.

## Plantings from Broadway, Binney Street, & Galileo Way



PANICUM VIRGATUM



AMSONIA HUBRICHTII



ASTER OBLONGIFOLIUS 'RAYDON'S FAVORITE'



LIATRIS SPICATA

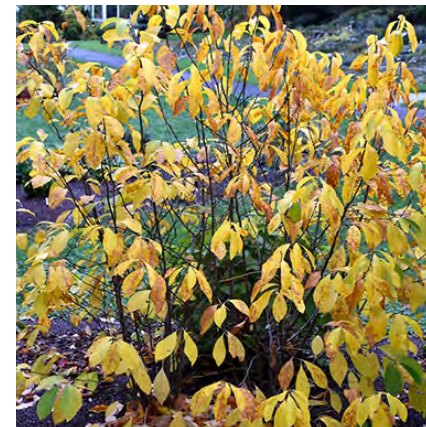
KEY	SCIENTIFIC NAME	PERCENTAGE MIX	COUNT
SM	Sedum kamschaticum	30%	304 SF
	Sedum album 'Green Ice'	30%	
	Sedum album 'Chloroticum'	10%	
	Sedum spurium 'Voodoo'	5%	
	Sedum spurium 'Roseium'	5%	
	Sedum spurium 'Fuldaglut'	5%	
	Sedum acre 'Blue Shag'	5%	
	Sedum acre 'Blue Moss'	5%	
	Sedum acre 'Octoberfest'	10%	
	Sedum immergrunchen	5%	
Sedum weinstephaner 'Gold'	10%		

KEY	SCIENTIFIC NAME	COMMON NAME	CALIPER/CONTAINER SIZE	SPACING	COUNT	NOTES
Road Frontage Zone						
LPC	Liriope muscari	Lilyturf	Plug	12" O.C.	2550	Concentrate at edges of pathways
	Nepeta 'Walker's Low'	Catmint	Plug	12" O.C.	2550	
	Pennisetum alopecuroides 'Hamln'	Dwarf Fountain Grass	Plug	12" O.C.	2550	
	Rudbeckia fulgida	Perennial Coneflower	Plug	18" O.C.	2550	
Inner Planting Zone						
CS	Cornus sericea	Red Twig Dogwood	#1 Container	5' O.C.	103	
SAS	Amsonia hubrichtii	Arkansas Blue Star	Plug	12" O.C.	4273	
	Panicum virgatum 'Ruby Ribbons'	Switchgrass	Plug	12" O.C.	4273	
	Panicum virgatum 'Shenandoah'	Switchgrass	Plug	12" O.C.	4273	
LEA	Echinacea (multiple varieties)	Coneflower	Plug	12" O.C.	2858	
	Liatris spicata	Spike Gayfeather	Plug	12" O.C.	2858	
	Liriope muscari	Lilyturf	Plug	12" O.C.	2858	Concentrate at edges of pathways
	Aster oblongifolius 'Raydon's Favorite'	Aromatic Aster	Plug	12" O.C.	2858	
Activity Zone						
IG	Ilex glabra	Inkberry	#1 Container	3' O.C.	12	
LB	Lindera benzoin	Northern Spice Bush	#3 Container	6' O.C.	18	

Figure 7-14 Binney Street, Galileo Way, and Broadway Planting Palette & Precedent/Character Images

Plantings from Broadway

LARGE TREES			
QR	Quercus rubra	Red Oak	3" cal.
PL	Platanus x acerfolia	London Planetree	3" cal.
SHRUBS			
KL	Kalmia latifolia	Mountain Laurel	5'ht. x 5'w.
FG	Fothergilla gardenii	Fothergilla	3'ht. x 3'w.
CS	Cornus sericea	Red Twig Dogwood	5'ht. x 5'w.
PERENNIALS			
LPC	Liriope muscari	Lilyturf	Plug
	Hepeta 'Walker's Low'	Catmint	Plug
	Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	Plug
	Rudbeckia fulgida	Perennial Coneflower	Plug
SAS	Amsonia hubrichtii	Arkansas Blue Star	Plug
	Panicum virgatum 'Ruby Ribbons'	Switchgrass	Plug
	Panicum virgatum 'Shenandoah'	Switchgrass	Plug
GRE	Bouteloua curtipendula	Sideoats Grama	Plug
	Juncus tenuis	Path Rush	Plug
	Allium Ceruum	Wild Nodding Onion	Plug
	Bouteloua gracilis 'Blonde Ambition'	Blue Grama	Plug
	Rudbeckia fulgida 'Goldstrum'	Black Eyed Susan	Plug
	Echinacea purpurea 'Little Giant'	Purple Coneflower	Plug
	Solidago caesia	Blue-stemmed Goldenrod	Plug
PAT	Polystichum acrostichoides	Polystichum acrostichoides	#1 Container
	Tiarella cordifolia var. collina 'Oakleaf'	Heartleaf Foamflower	Plug
	Asarum canadense	Canadian Wild Ginger	Plug
SOD			
LAWN	Sod as needed, see specifications	--	--



LINDERA BENZOIN



ILEX GLABRA



PENNISETUM 'HAMELN'



NEPETA 'WALKER'S LOW'



RUDBECKIA FULGIDA



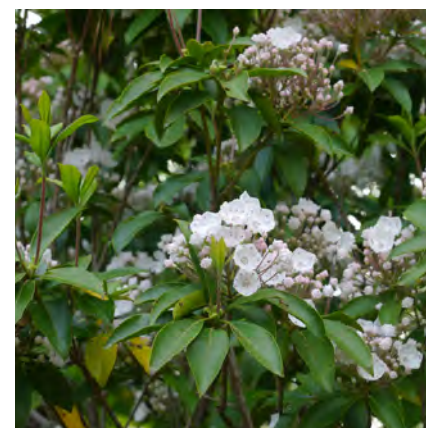
ECHINACEA 'LITTLE GIANT'



FOTHERGILLA GARDENII



SEDUM (11 CULTIVARS)



KALMIA LATIFOLIA



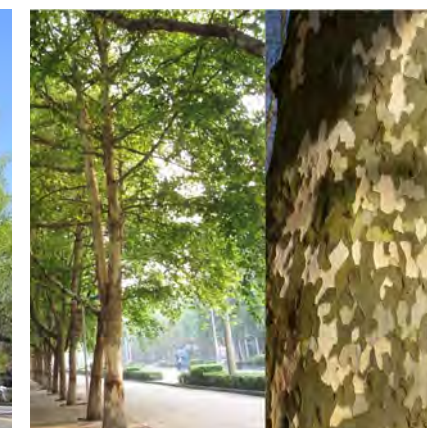
CORNUS SERICEA



CERCIS CANADENSIS



ZELKOVA SERRATA



PLATANUS X ACERIFOLIA



BETULA NIGRA

Figure 7-15 Broadway Planting Palette & Precedent/Character Images

## 6th Street Connector Planting Palette

### ALTERNATIVE TURF / NATIVE PERENNIAL MIX

#### Description

Winter Bentgrass, Piedmont NC Ecotype

Sideoats Grama, 'Butte'

Mistflower, VA Ecotype

Hard Fescue, 'Harpoon'

Path Rush, PA Ecotype

Round Seed Panicgrass

White (Silver Rod) Goldenrod, PA Ecotype

Early Goldenrod, PA Ecotype

MIX NOTES



LIRIOPE MUSCARI



PANICUM SPHAERONCARPON



FESTUCA OVINA



PANICUM CLANESTI



JUNCUS TENUIS



SOLIDAGO BICOLOR



CONOCLINIUM COELESTINUM



CHASMANTHIUM LATIFOLIUM



Figure 7-16 6th Street Connector Planting Palette & Precedent/Character Images

## UTILITIES

The existing streets contain significant existing utility infrastructure as well as the MBTA Red Line tunnel on Main Street. New electric duct banks will also be installed to connect to the proposed Eversource substation in the location of the existing Blue Garage to the west on Broadway.

The proposed streetscape improvements may require utility structures, such as fire hydrants, light poles, or traffic signal to be relocated. The proposed improvements may also necessitate the vertical adjustment of existing utility structures that can remain in place, such as valve boxes, hand holes, and manhole covers. Any utility structures identified for relocation should be relayed to the appropriate office or company to facilitate coordination so that the streetscape is not unduly impacted by additional construction.

Where curb lines are being adjusted to allow for grade separated bicycle lanes, the existing catch basins will need to be relocated or replaced. In some cases, shallow inlet connections may be used to connect to the existing catch basins. In some locations it may not be possible to install new catch basins or shallow inlets. In such situations, it may be necessary to keep the bicycle facilities at the existing street elevation and add a barrier such as a raised curb or flex posts between the bike lanes and the vehicular travel lane.

## STORMWATER/SUSTAINABILITY

In addition to the ecological benefit of the enhanced planting described above, the project will reduce the stormwater runoff quantity and improve the stormwater runoff quality by increasing the tree canopy, reducing impervious surfaces, and providing stormwater treatment.

The proposed raised bicycle facilities will be constructed of porous asphalt pavement above sand based structural soil similar to the other recent facilities installed at 145 Broadway and on Galileo Galilei Way. Not only does this reduce the amount of impervious surfaces and allow for greater infiltration of stormwater, this also allows greater aeration of the root zone around existing and proposed trees and plants.

The stormwater treatment may be treated in bioretention areas in the proposed planting islands or may be provided below ground via infiltration trenches located below the proposed raised bicycle facilities.

# 8. Conclusion

Over the past ten years many streets in and near the KSURP area have been rebuilt, often reducing travel lanes and expanding facilities for pedestrians and bicyclists. The numerous retrofits of the local road system over the past decade have included portions of Ames Street, Binney Street, Main Street, Galileo Galilei Way, Third Street, and Broadway. This report developed design concepts for the remaining portions of Main Street, Broadway and Third Street, that round out the KSURP's network of high-quality facilities and better match the needs of all road users while keeping up with current transportation behavior trends in the area and aligning with the City of Cambridge's sustainable transportation and Vision Zero goals.

The designs established in these 10% concepts ensure continuity among any future developer-driven reconstruction in the KSURP area. Each consultant team moving forward with these plans over the next few years should refer to the design guidelines, analysis and recommendations included in this document, and remain abreast of the evolving future of Kendall Square.