

South Massachusetts Avenue Corridor Safety Improvements



Public Meeting #2 | June 19, 2018

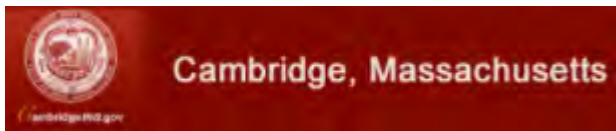
Agenda

Massachusetts Avenue – Sidney Street to Memorial Drive

- Welcome
- Project Background and Process
- Analysis and Conceptual Design
- Discussion/Plan Review
Break-Out Session



🔄 Municipal Policies

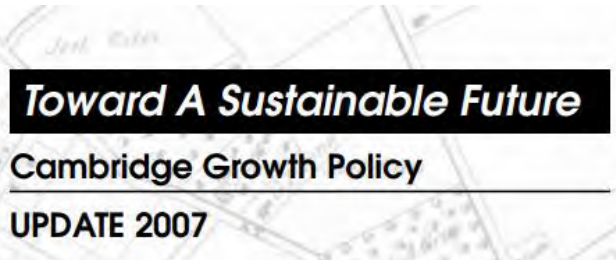


Vision Zero calls for the elimination of fatalities and serious injuries resulting from traffic crashes, and emphasizes that they can, and should be prevented (2016).

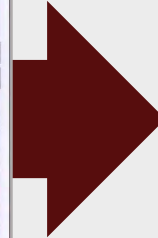
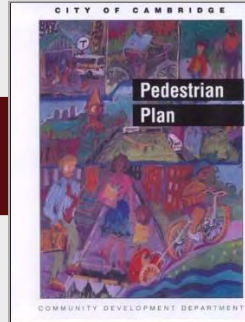
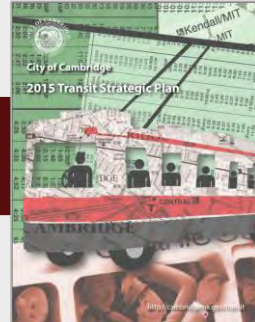
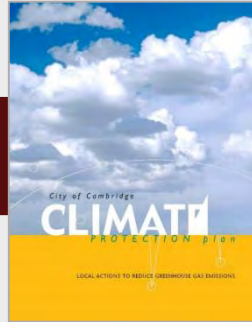
Complete Streets are designed and operated to enable safe access for *all* users – regardless of age, ability, or mode of transportation (2016).

Vehicle Trip Reduction Ordinance established programs to encourage alternatives to single-occupancy vehicle travel (1992).

Cambridge Growth Policy emphasizes sustainable modes of transportation such as walking, biking and using transit and low-emission vehicles, which promote livability and help to improve air quality and reduce greenhouse gas emissions (1993/2007).



From Plans to Actions



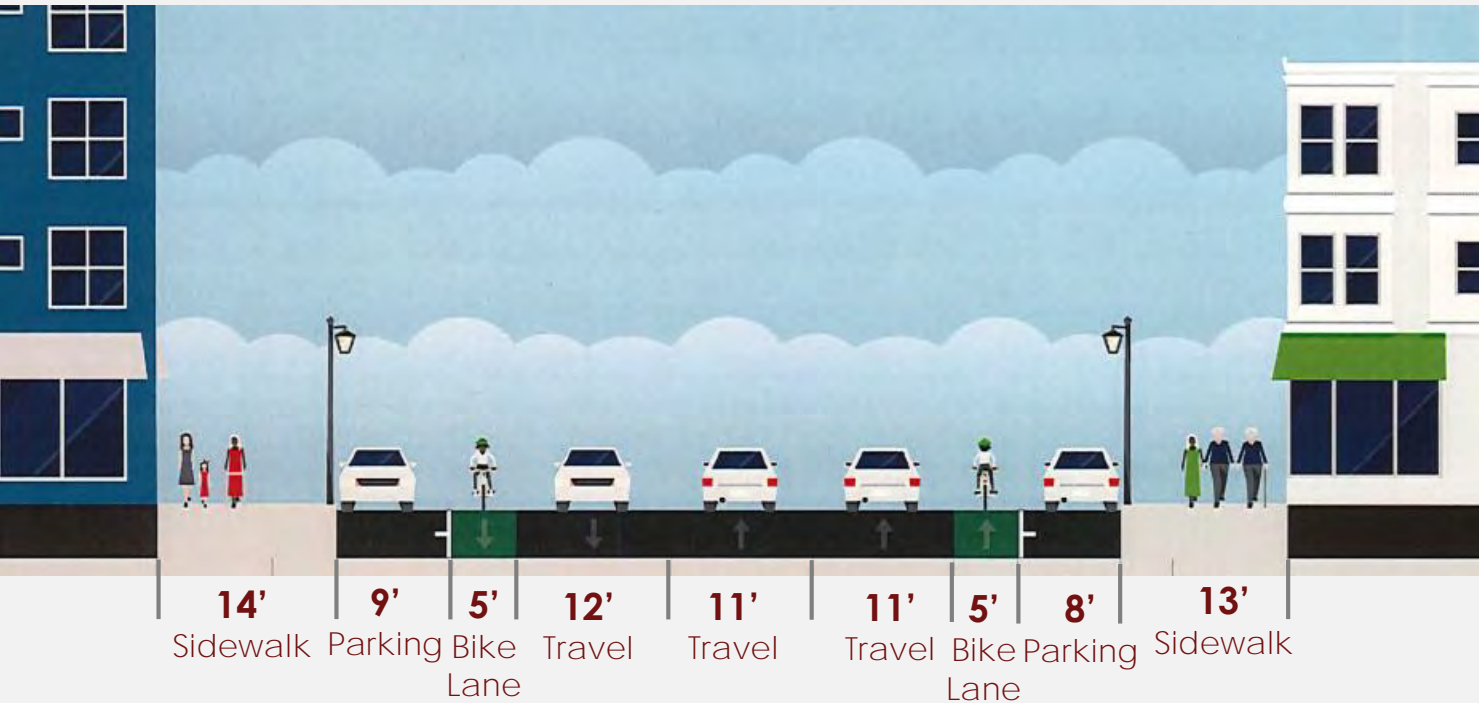
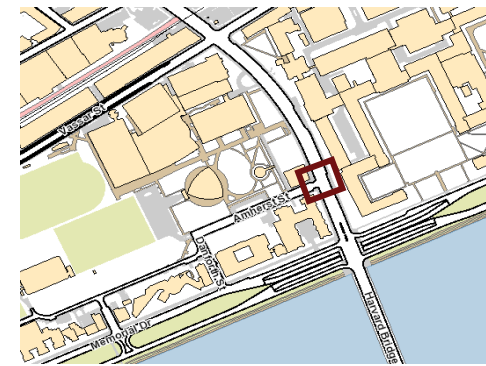
Existing Conditions

Lafayette Square to the Charles River
from Sidney Street to Memorial Drive



Existing Conditions

Mass. Ave. Cross-Section (at Amherst Street)



- ✓ 88' wide
- ✓ On-street bike lane
- ✓ On-street vehicle parking
- ✓ Mix of meters and other parking
- ✓ Bus stops
- ✓ Curb extensions at multiple locations

Flexible Implementation

Based on Policies and Plans and direction of City leadership:

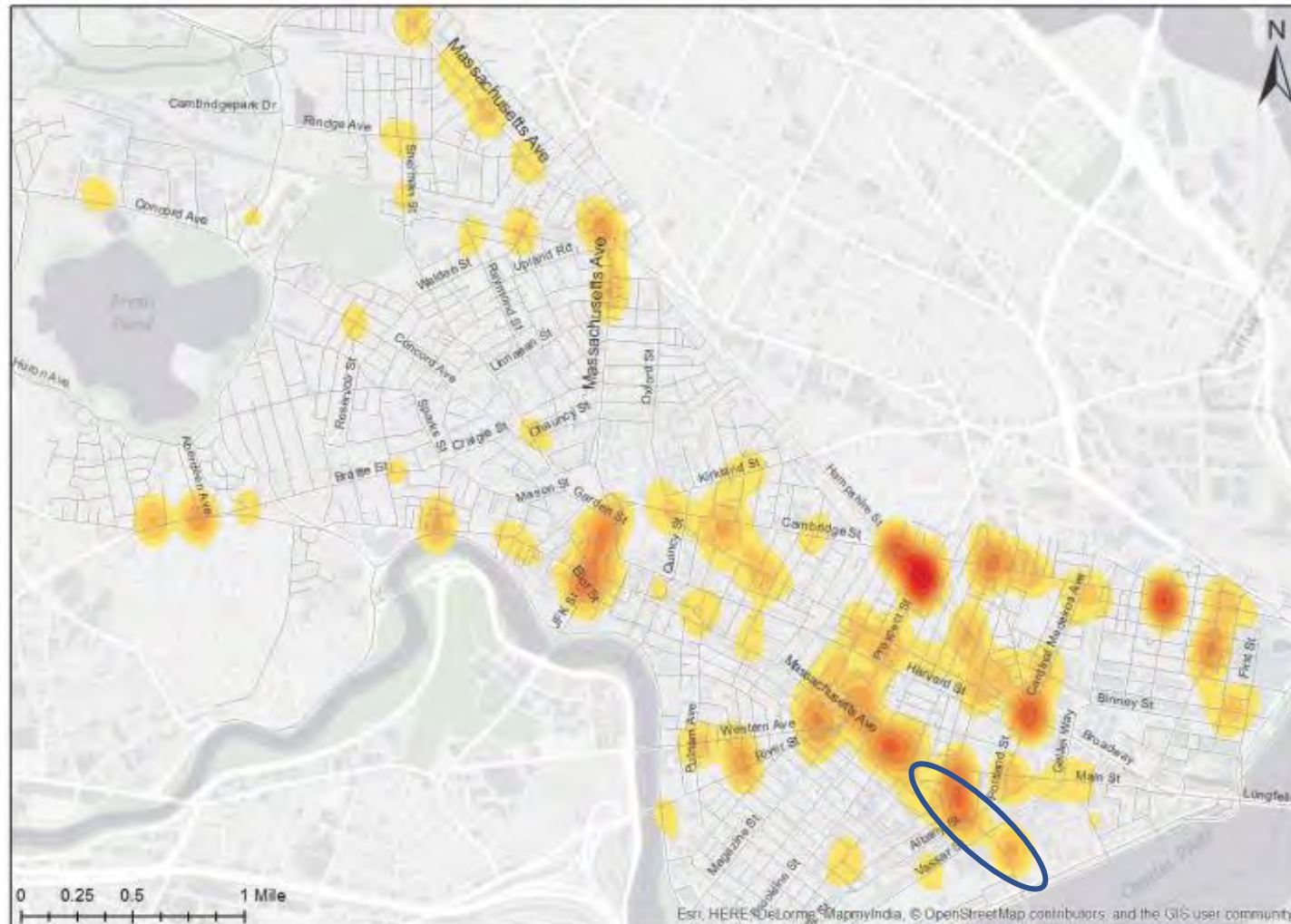
- Evaluate and implement **“quick build” solutions** to enhance the comfort and promote sustainable transportation for people walking, biking, driving and using transit
 - ✓ Designs that are flexible after implementation
 - ✓ Modifications possible based on evaluation (including feedback)



Corridor Safety History

Reported Crashes Requiring EMS Transport, 2015-2016

Crashes Requiring EMS Transports 2015-2016



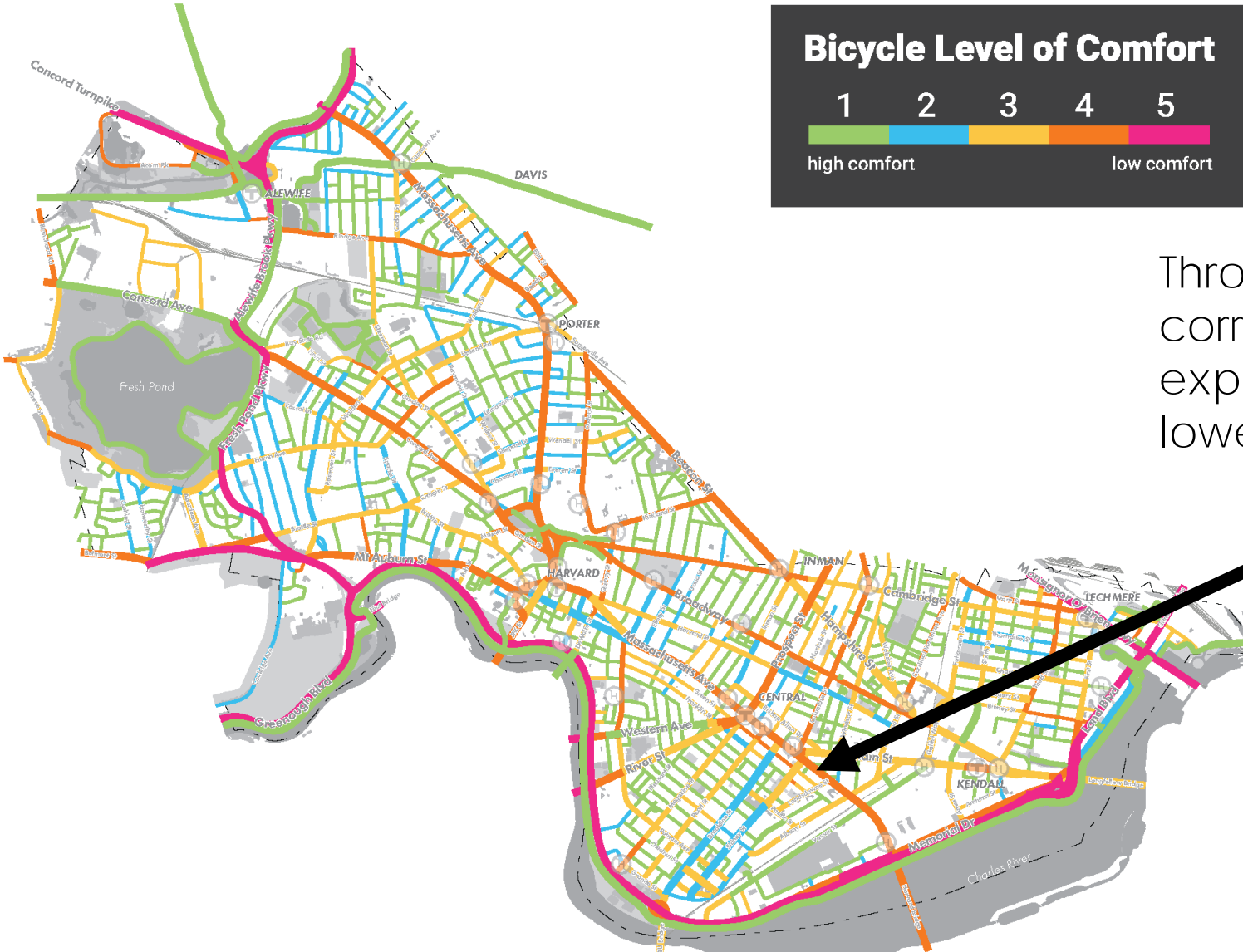
Density Map of Crashes Requiring EMS Transport to the Hospital, as reported by responding officer, for 2015 and 2016.

Safety History

Reported Bicycle Crashes, 2015-2016



People Bicycling



Throughout the entire corridor length, users experience the second lowest level of comfort.

People Walking

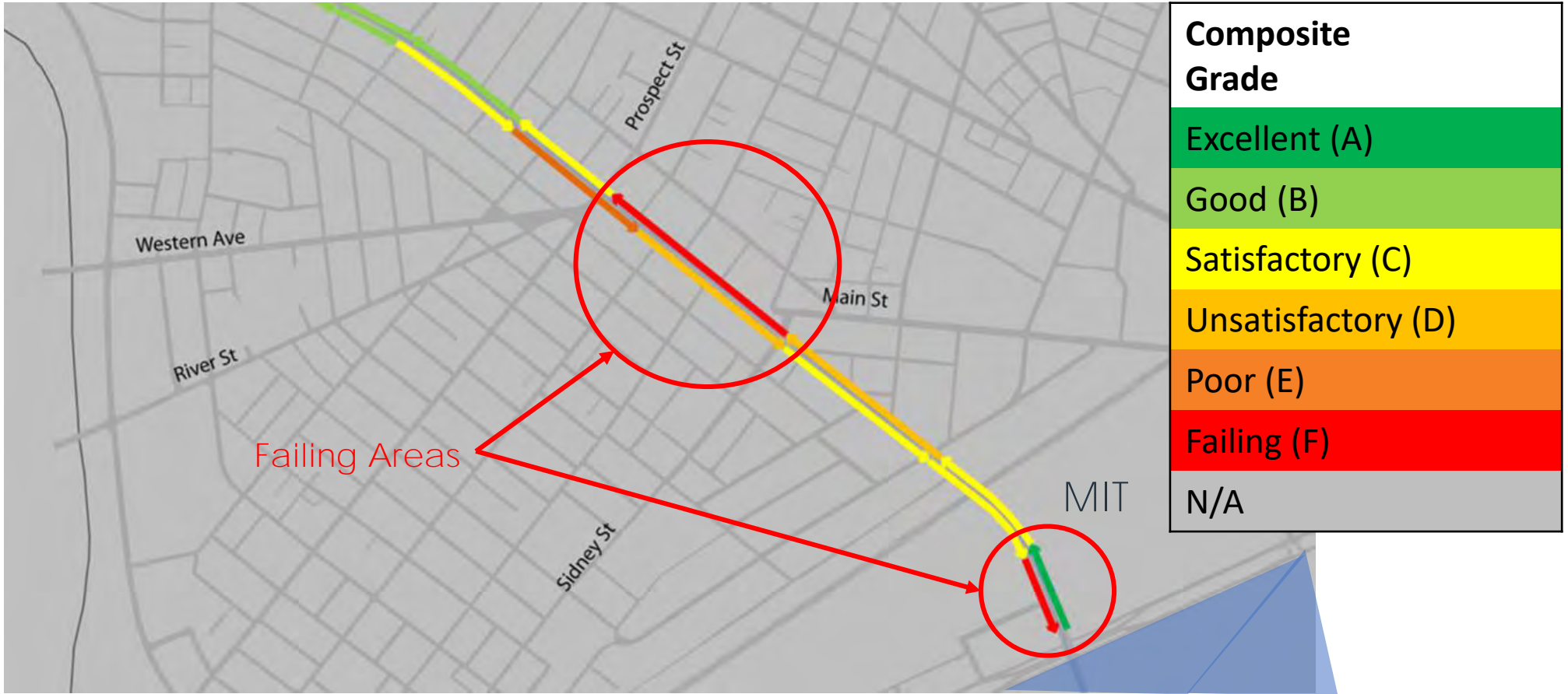


Walking in this corridor:

- ✓ Local and regional destinations and connections
- ✓ Evaluating ease and comfort of crossing at and between intersections

Transit Service

MBTA Bus Route 1: PM Peak



Method: Automatic Passenger Counter (APC) Data (MBTA)

Project Goals



- ✓ Address safety issues and reduce crashes - Vision Zero
- ✓ Reduce transit delays
- ✓ Enable/encourage people of all ages and abilities to choose sustainable transportation

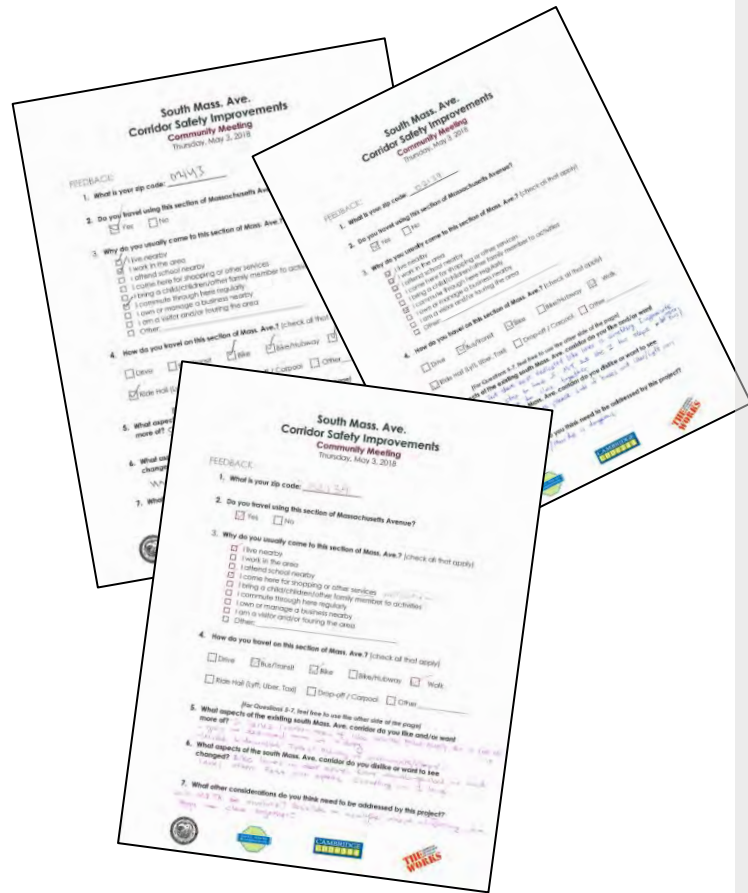
Public Process



- ✓ Appointed Advisory Committee
 - ✓ Met three times
- ✓ Wikimap online
- ✓ Survey online and feedback at public meetings
- ✓ Outreach to Businesses
 - ✓ Direct meetings with local businesses
 - ✓ Coordination with CSBA
- ✓ Individual Stakeholder meetings
- ✓ Transit/Ped/Bike Committees
- ✓ Communitywide Meetings
- ✓ Posted and electronic announcements

Public Feedback

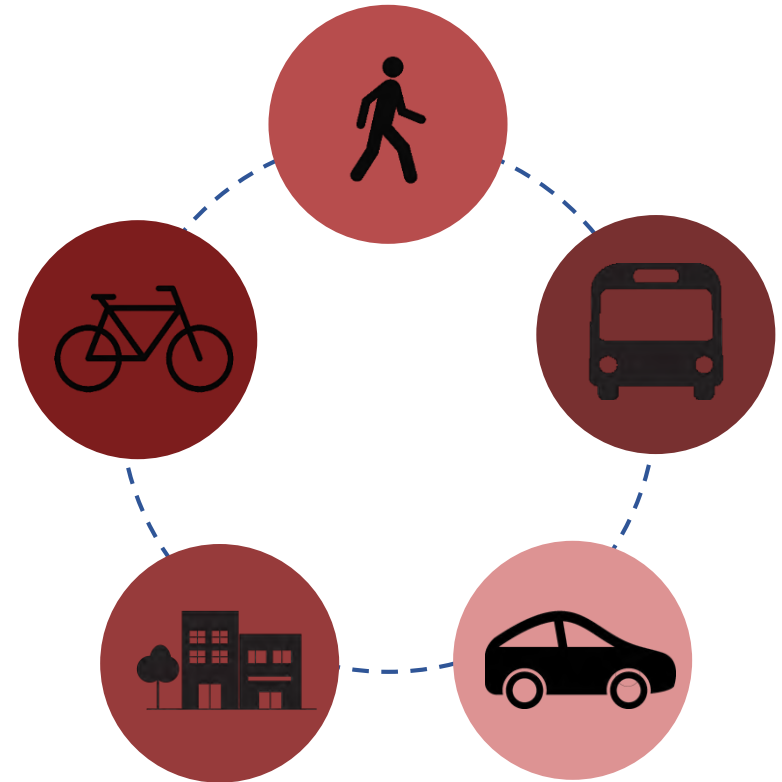
- ✓ Need for safer conditions for bicyclists
 - ✓ Motorists and delivery vehicles block bike lanes
 - ✓ Desire for greater separation from moving vehicles
- ✓ Need for additional crosswalks traversing Mass Ave
- ✓ Desire to improve transit operations
- ✓ Concerns about unpredictable ridesharing, tour bus, food truck, commercial loading & pick-up/drop-off activity
- ✓ Relocate MIT-related tour buses loading/unloading
- ✓ Concerns about long vehicle queues, traffic at Vassar Street
- ✓ Minimize conflicts
 - ✓ Bus/bike conflicts
 - ✓ Bike/ped conflicts esp. at 77 Mass Ave.



Transportation/Traffic Analysis

Corridor-wide transportation analysis to determine where:

- ✓ Bus lanes can be added
- ✓ Vehicle lanes can be repurposed
- ✓ Signal operations can be modified
- ✓ Bicycle lanes can be separated
- ✓ Bicycle buffers can be added
- ✓ Parking can be re-located for better operations



Draft Design – Before and After

South Mass. Ave. Corridor



Before

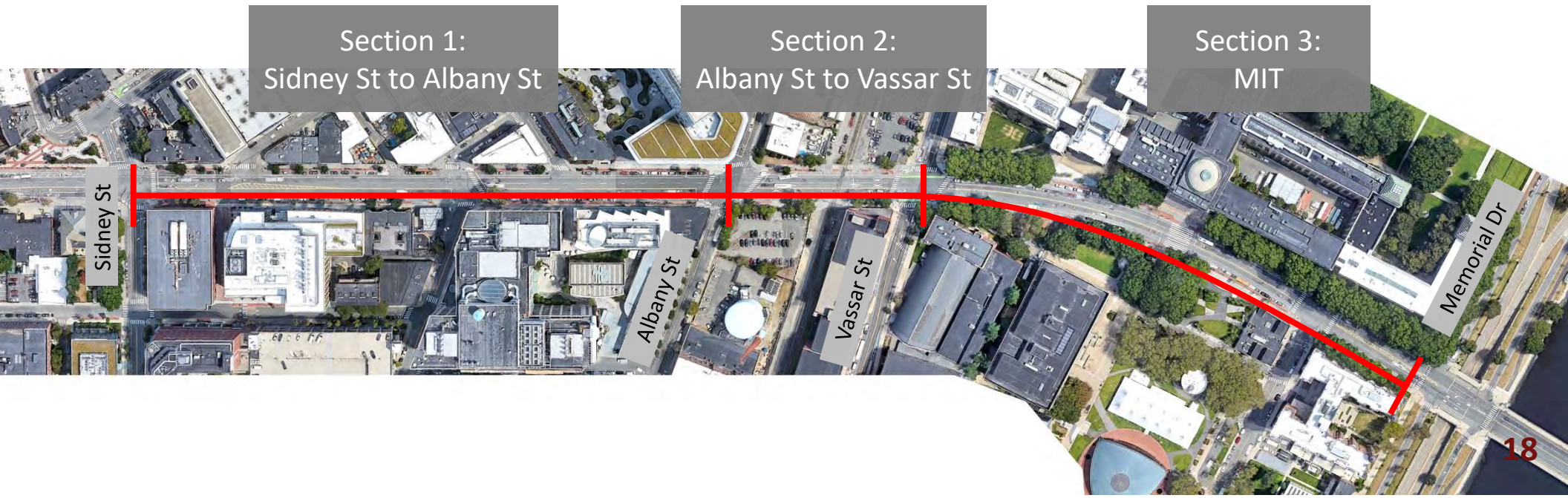


After

Transportation/Traffic Analysis

Three Main Sections

Corridor has been divided into 3 sections for clarity:



Section 1:
Sidney St to Albany St

Section 2:
Albany St to Vassar St

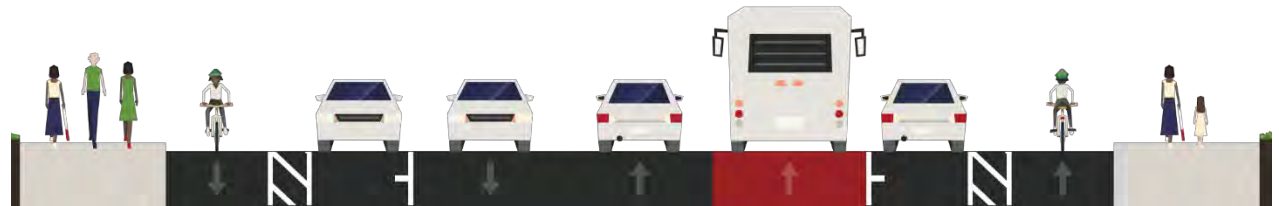
Section 3:
MIT

Transportation/Traffic Analysis

Cross Sections

- The three general cross sections (intersections vary)

Section 1:
Sidney St to Albany St

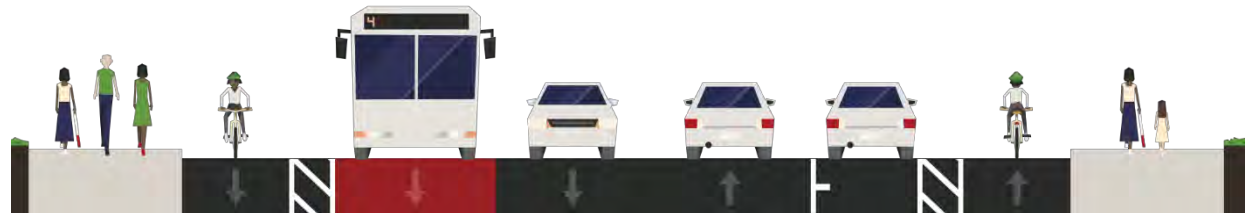


Section 2:
Albany St to Vassar St



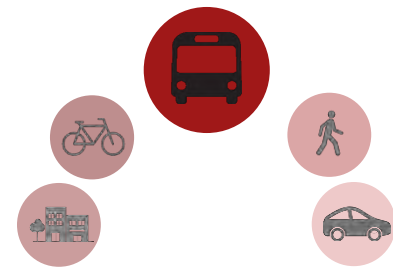
Most Complicated

Section 3:
MIT



Transportation/Traffic Analysis

Bus Facilities

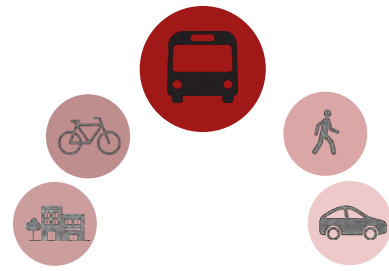


Bus lanes proposed for two sections, to address the key areas of delay



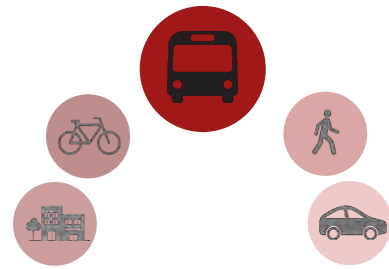
Transportation/Traffic Analysis

Bus Facility Details - *Before*

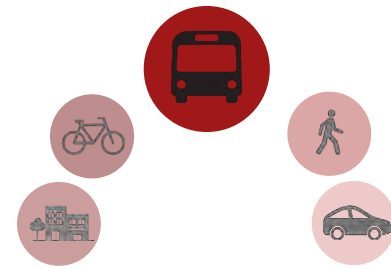


Transportation/Traffic Analysis

Bus Facility Details - After



Transportation/Traffic Analysis

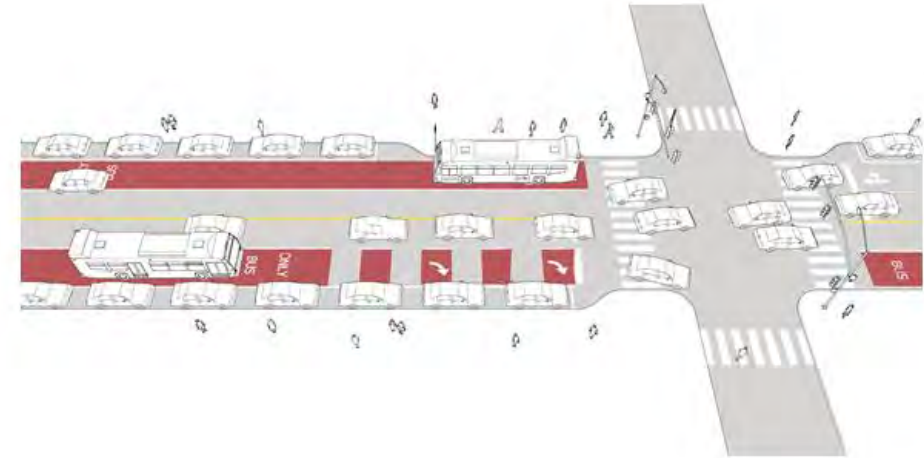


Bus Facility Details

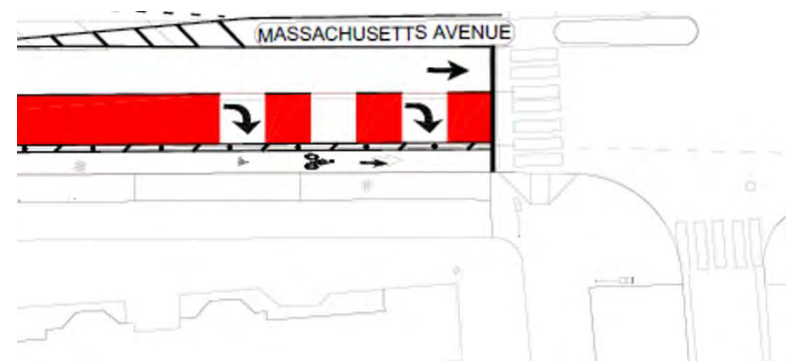
Bus lanes at intersections:

Right turning motorists may use bus lane

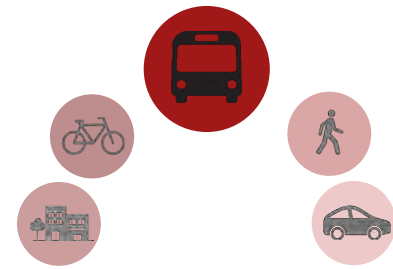
National Precedent



Design Sample



Transportation/Traffic Analysis



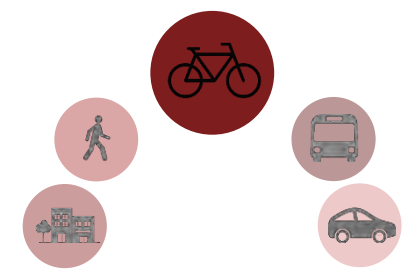
Bus Facility Details

Bus Lanes
with Parking
(*example*)



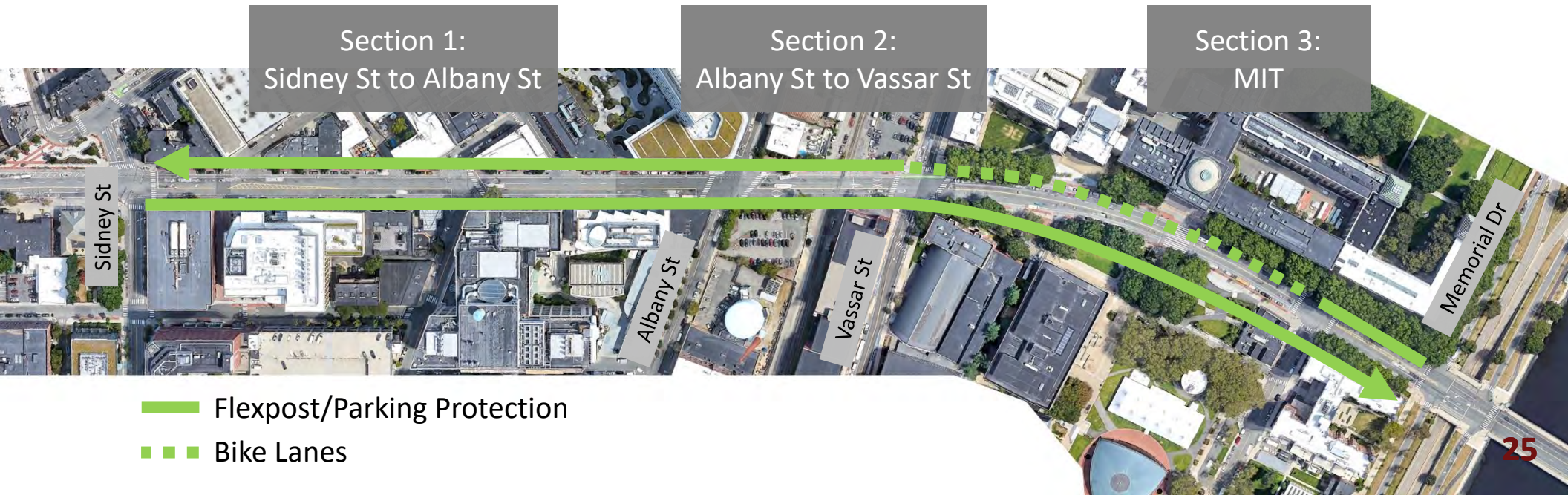
Boston, MA - Wikimedia Commons

Transportation/Traffic Analysis



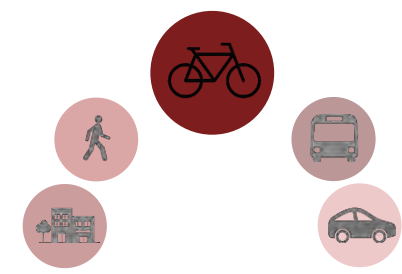
Bicycle Facilities

For most of the corridor, separated bike lanes can be created using on-street parking and flex posts.



- Flexpost/Parking Protection
- - - Bike Lanes

Bicycle Facilities



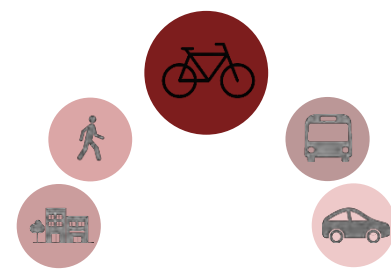
Separated Bike Lane – Parking Protected



Parking Protected Bicycle Lanes (examples)

Bicycle Facilities

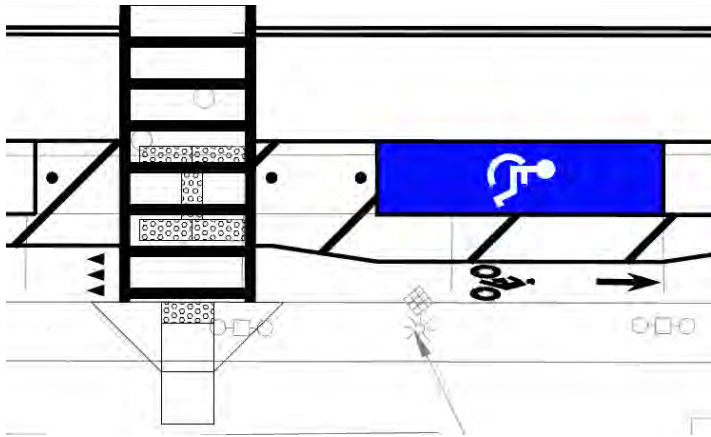
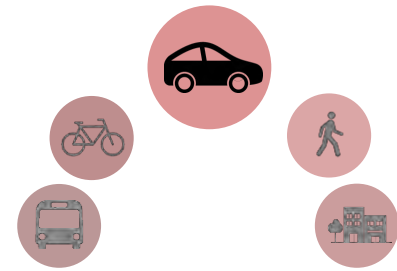
Bike Lane with Curbside Parking



Curbside Parking / Accessible Parking (examples)

Parking Facilities

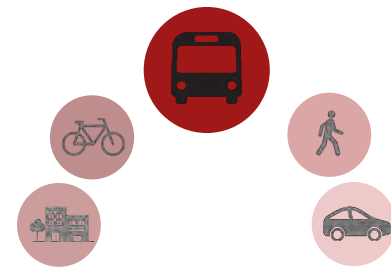
Floating Accessible Parking



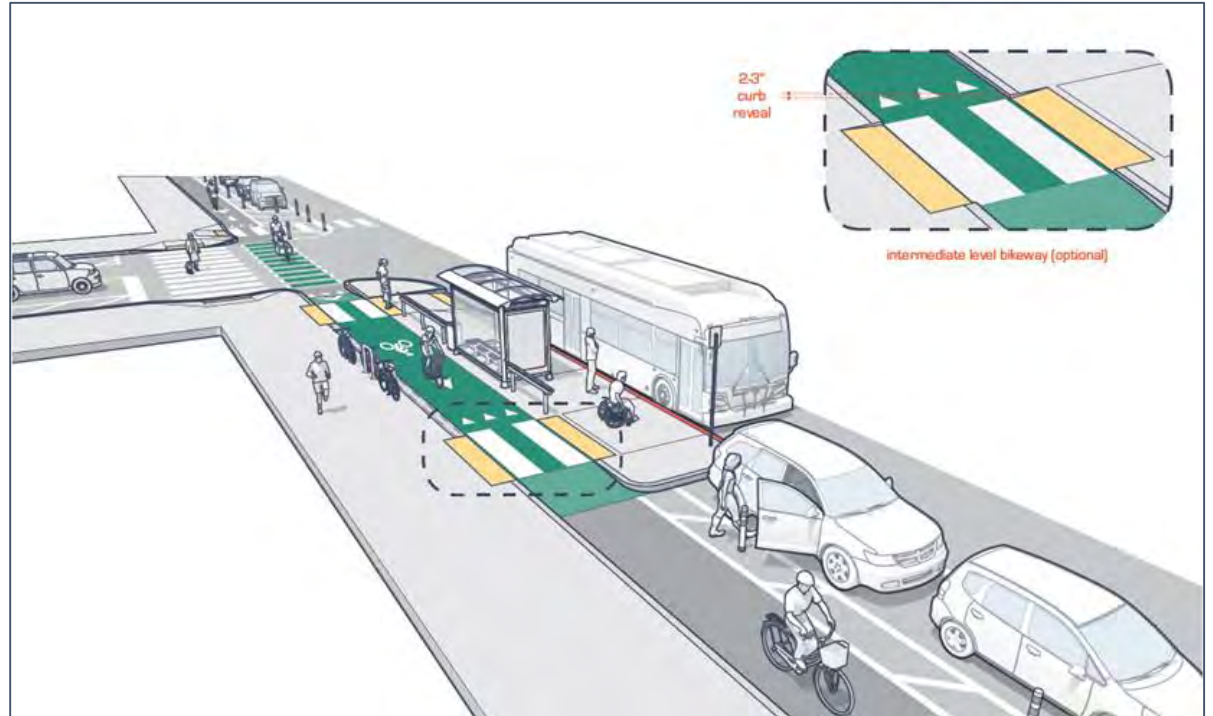
Denver, CO

Design follows federal and state standards

Bus Stop Options

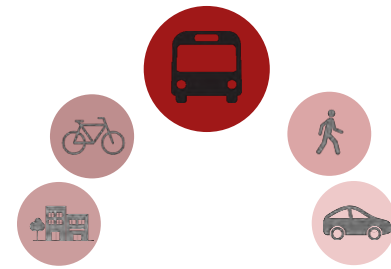


Bus stop at curb



*Floating bus stop
(possible future consideration)*

Bus Stop Options

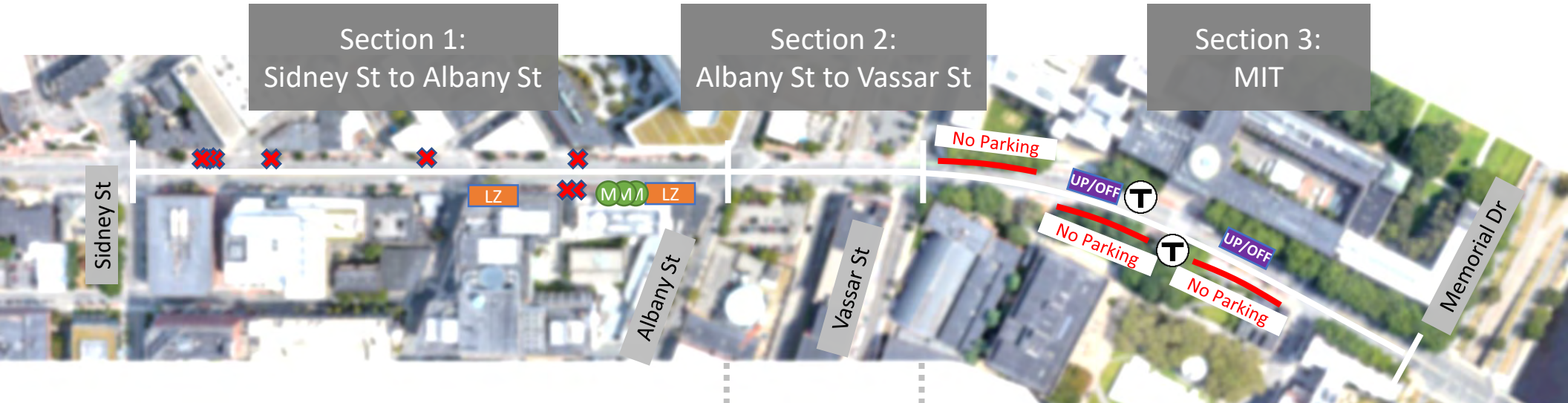
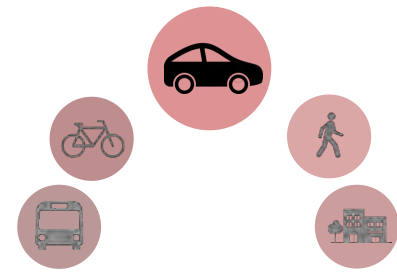


Los Angeles, CA

Modular floating bus stop under evaluation
(possible future consideration)

Vehicle Parking Analysis

Parking Modifications



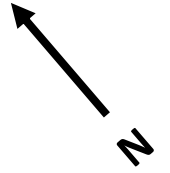
- Two new loading zones
- Re-arranged loading zones
- Seven fewer metered spaces out of 51 metered spaces (due to added crosswalk, loading zones and sight lines)
- Sufficient parking availability on side streets

No Change

- No parking eastbound (six fewer)
- New pick-up/drop-off spaces westbound
- Change metered parking westbound (12) to loading, pickup-dropoff, added space for bus stop
- Maintain food truck location
- Clearer MBTA boarding/alighting areas

Proposed Design

Three Main Sections



Section 1:
Sidney St to Albany St



Proposed Design

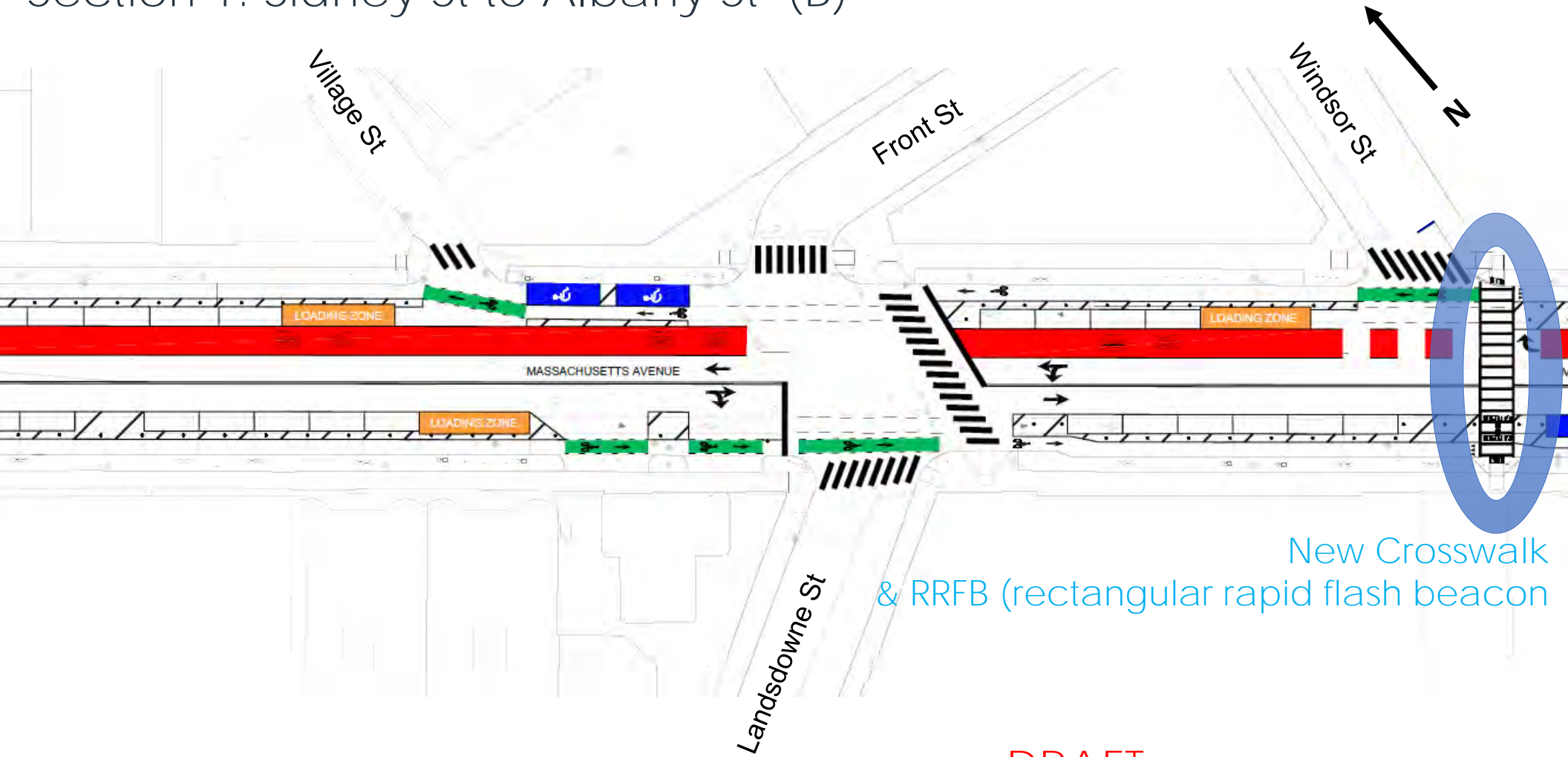
Section 1: Sidney St to Albany St (A)



DRAFT

Proposed Design

Section 1: Sidney St to Albany St (B)

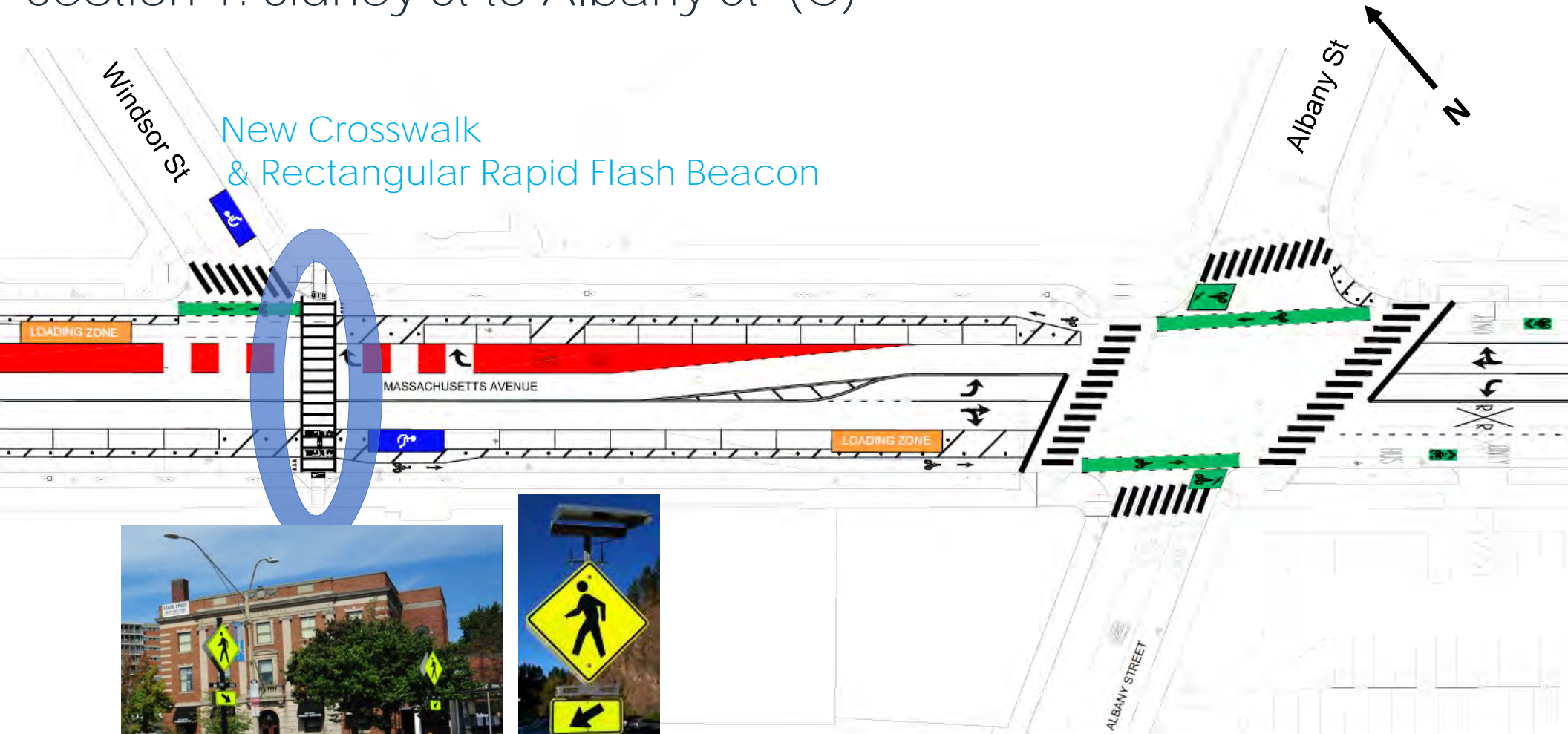


New Crosswalk
& RRFB (rectangular rapid flash beacon)

DRAFT

Proposed Design

Section 1: Sidney St to Albany St (C)



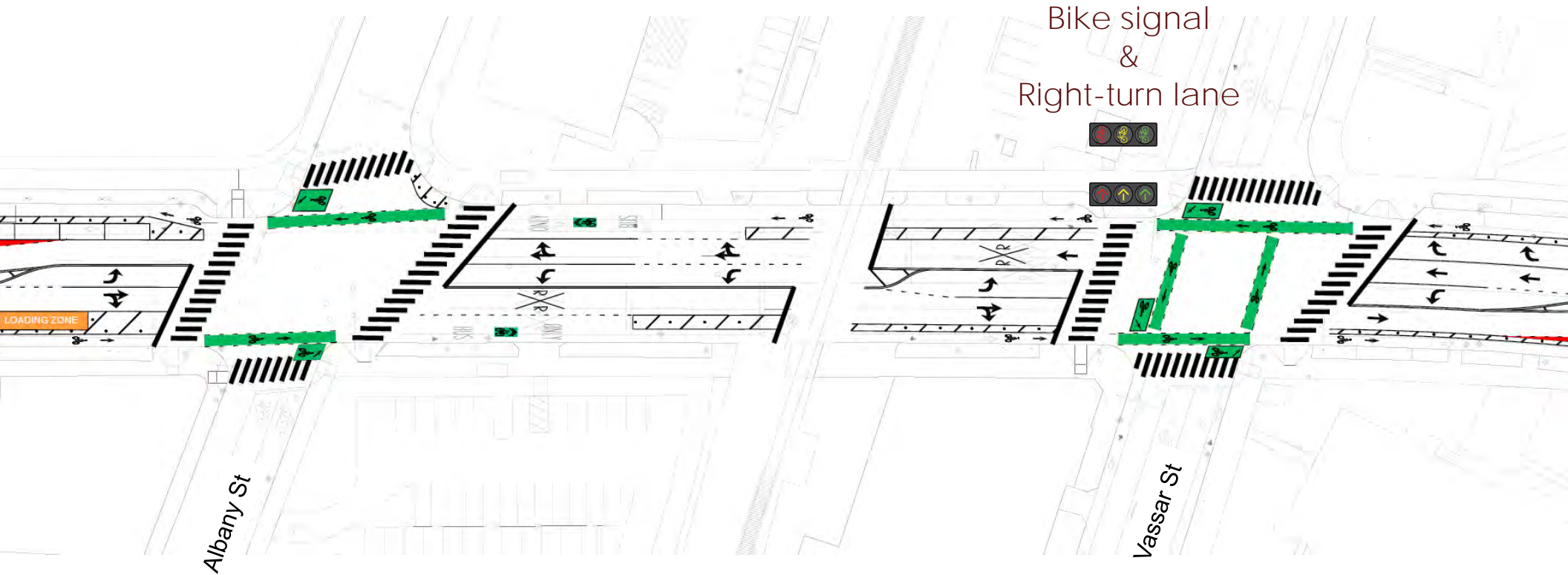
New Crosswalk
& Rectangular Rapid Flash Beacon



DRAFT

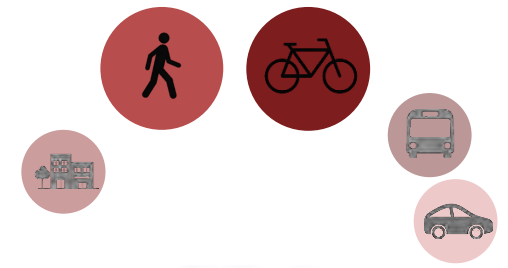
Proposed Design

Section 2: Albany St & Vassar St



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Proposed Design



Mass. Ave

Potential future opportunity to increase space for bicyclists by modifying curb extensions

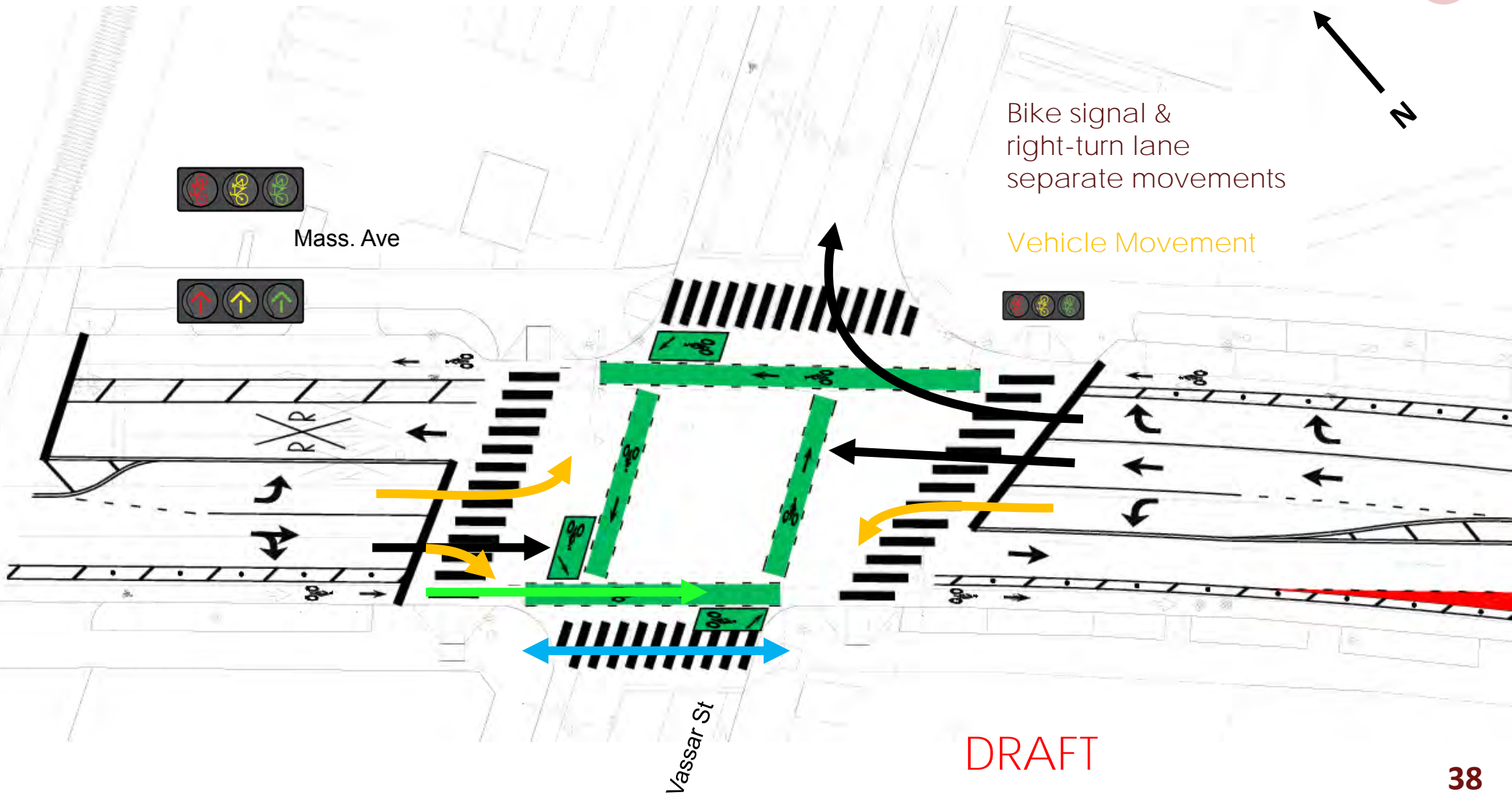
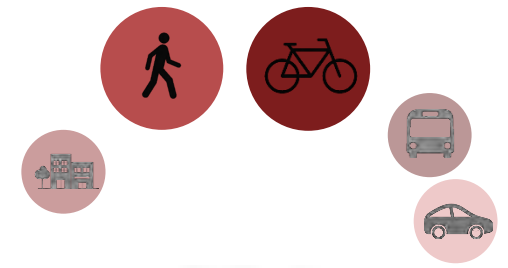


Vassar St

Bike signal & right-turn lane separate movements

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Proposed Design

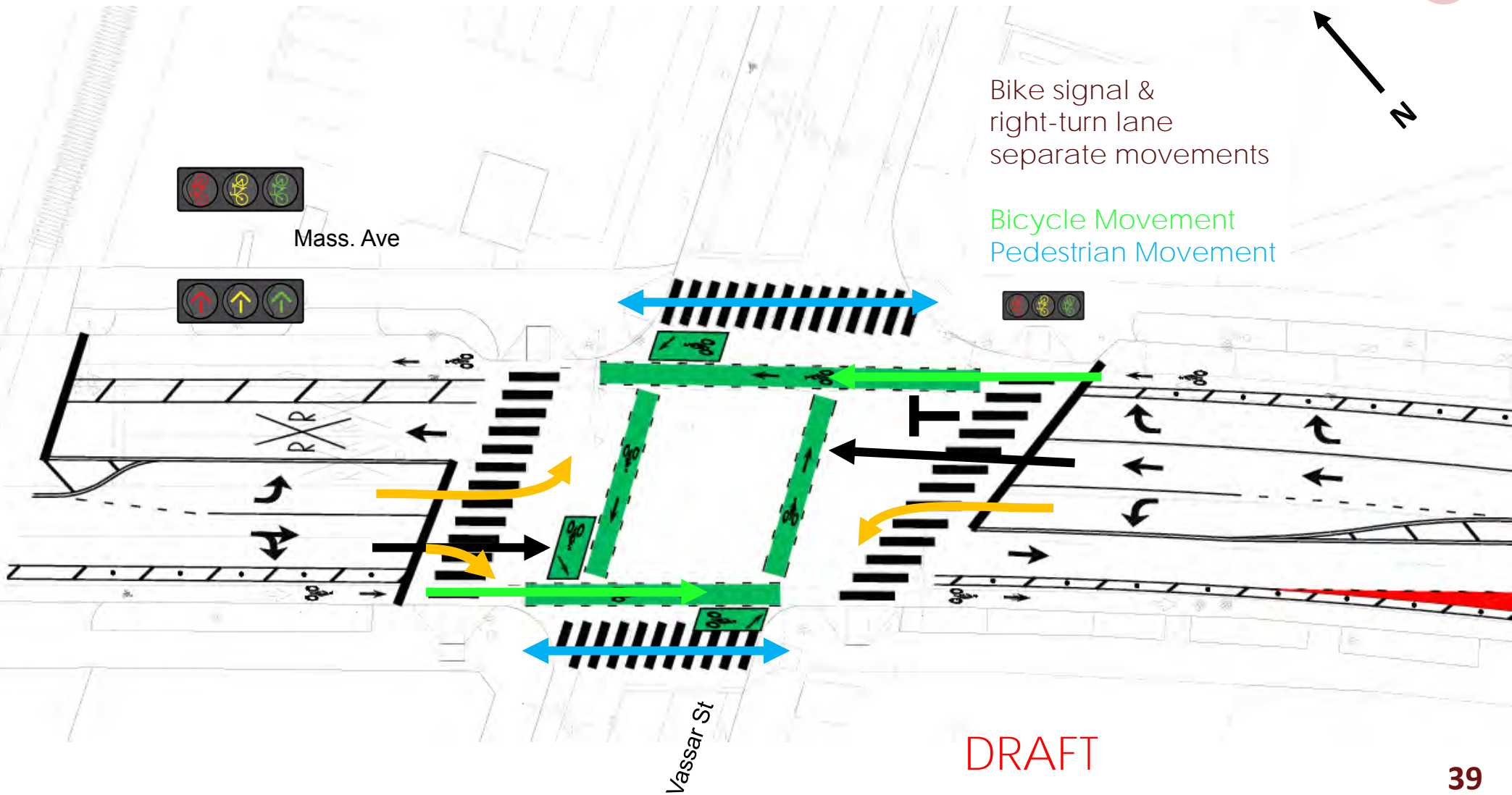
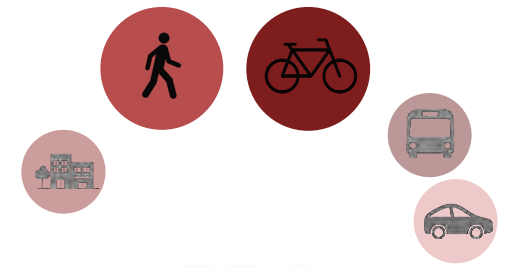


Bike signal & right-turn lane separate movements

Vehicle Movement

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Proposed Design



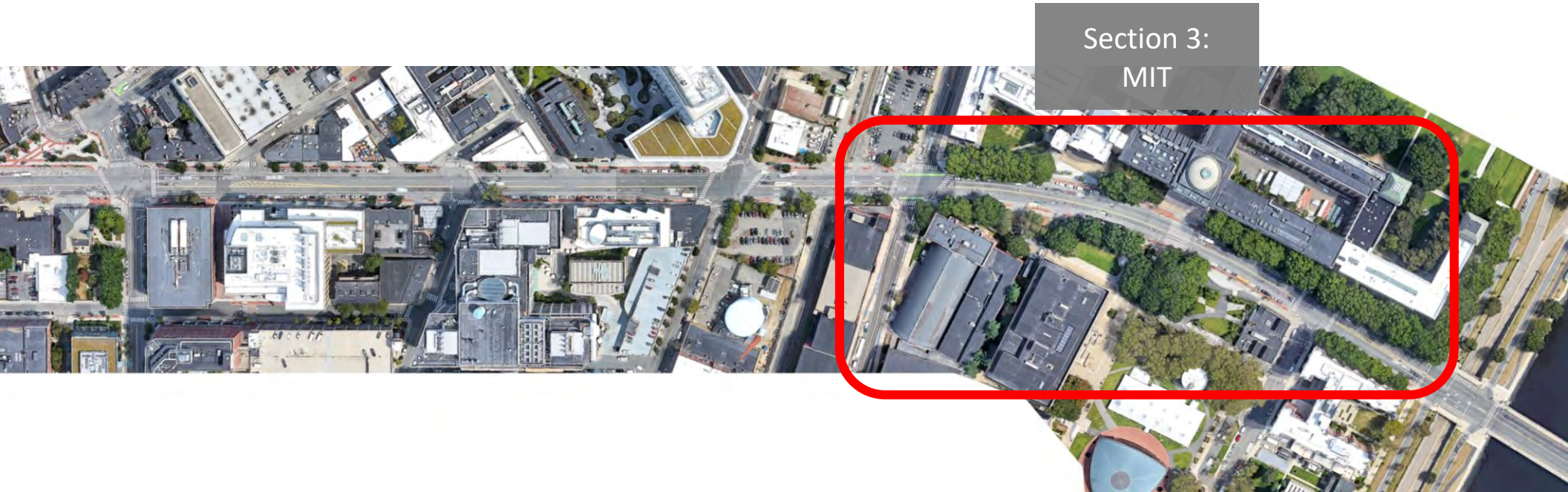
Bike signal & right-turn lane separate movements

Bicycle Movement
Pedestrian Movement

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Proposed Design

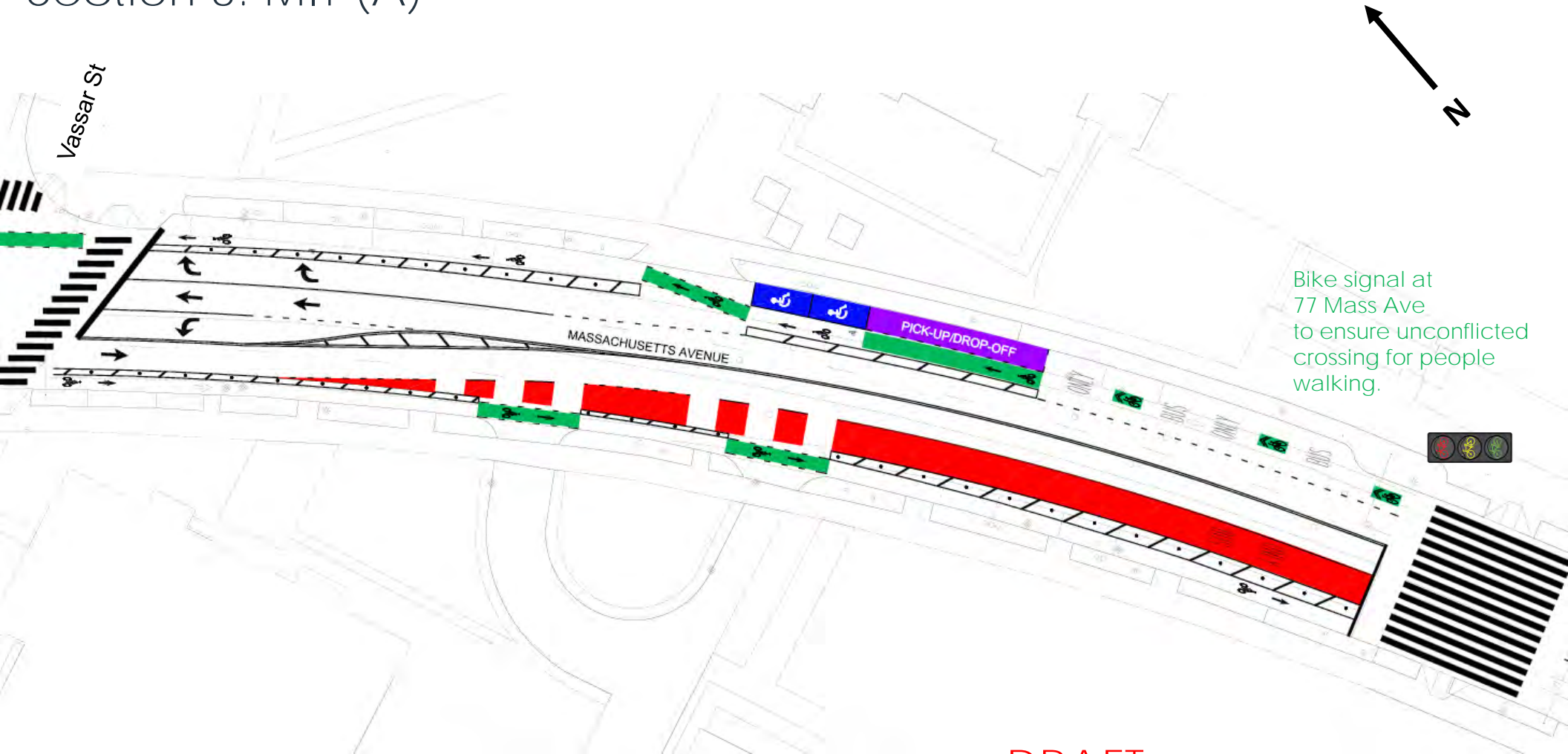
Three Main Sections



Section 3:
MIT

Proposed Design

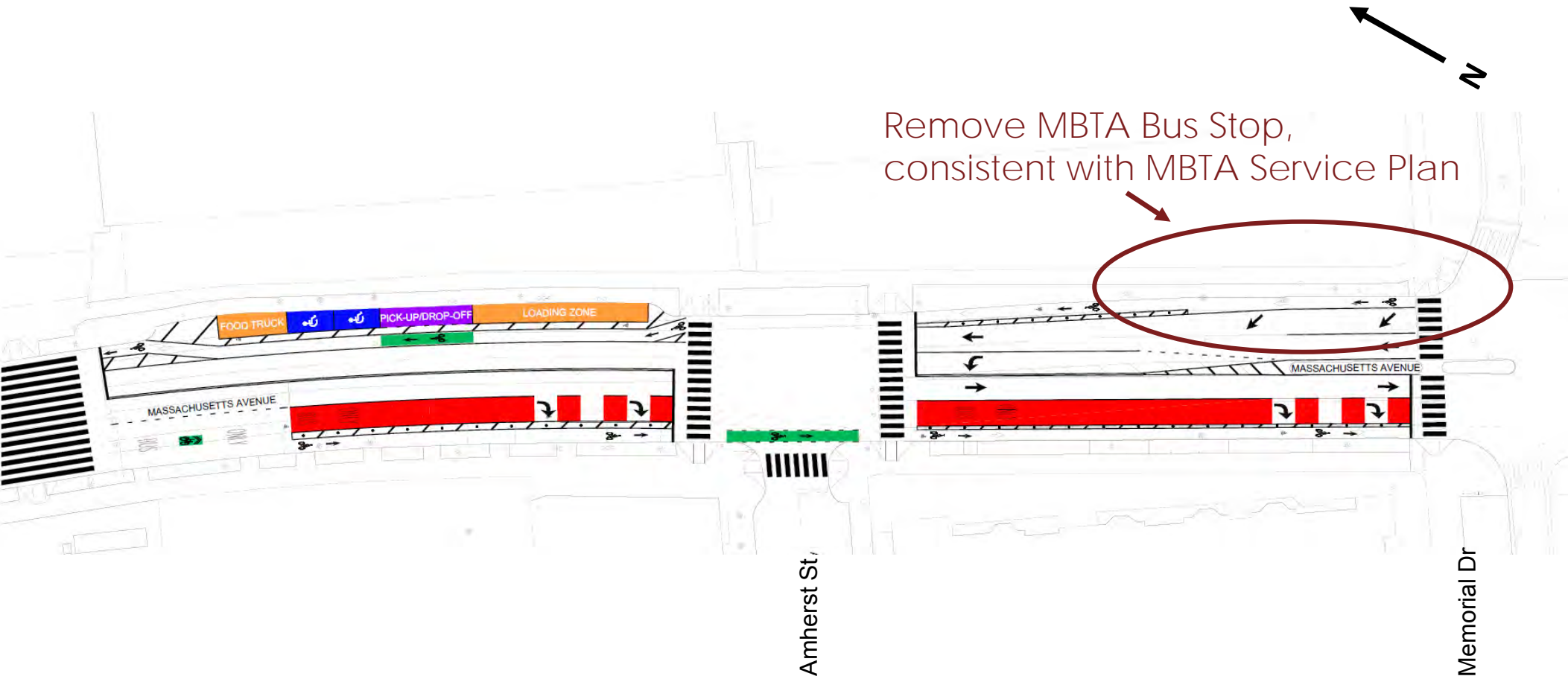
Section 3: MIT (A)



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Proposed Design

Section 3: MIT (B)

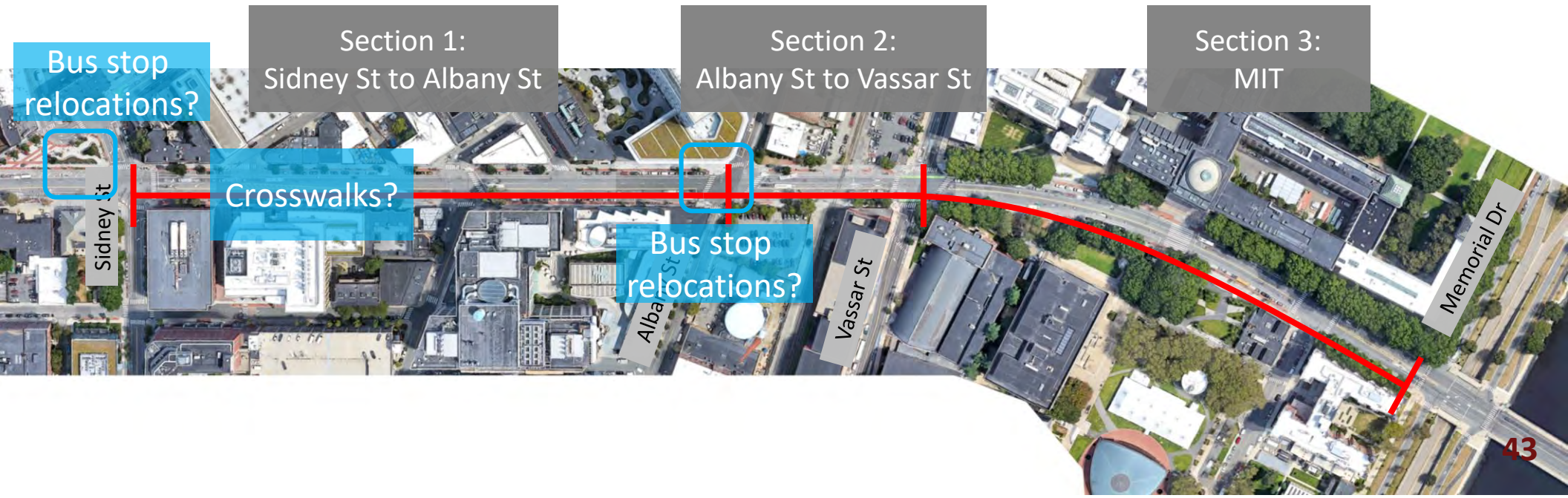


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Possible Future Additions

To Be Evaluated

- ? Additional crosswalk/RRFB in Section 1
- ? Move bus stops to the far side of intersections (for better operations)
- ? Construct modular (or permanent) floating bus stops
- ? Remove/modify curb extensions to allow better bicyclist protection
- ? Work with state DCR and MassDOT on changes at Memorial Dr. and bridge



NEXT STEPS

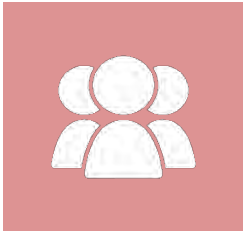
Schedule



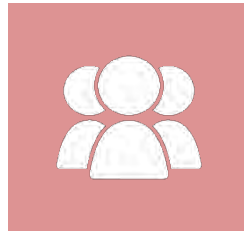
Bicycle,
pedestrian,
traffic
counts
April



Refine design
May - August



Public
Meeting #1
May 3

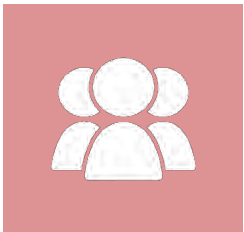


Public Meeting
#2/Open House
June 19

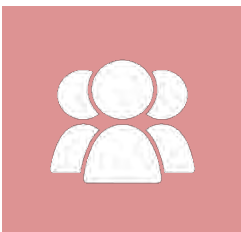
Evaluation



Parking study
Week of April
30



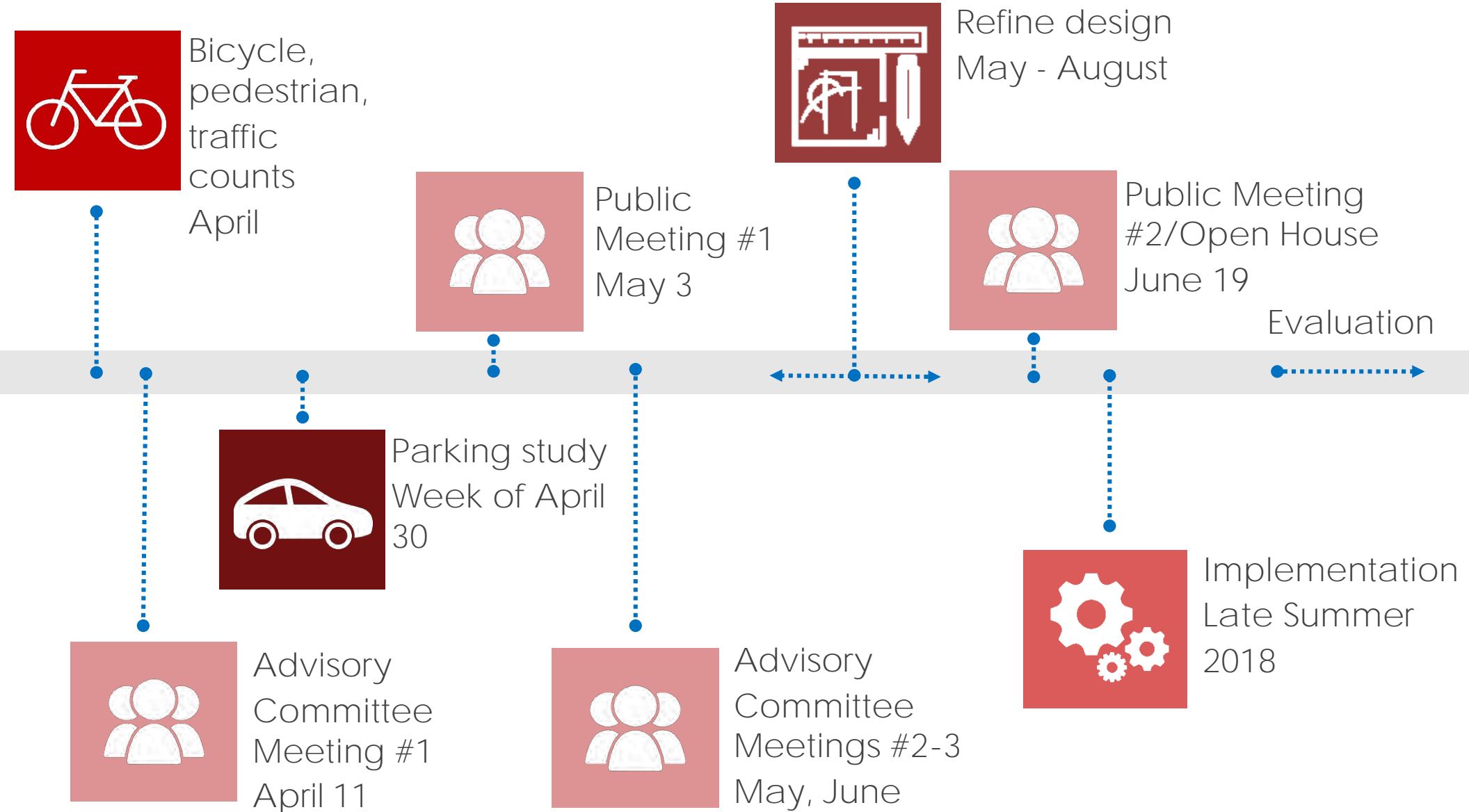
Advisory
Committee
Meeting #1
April 11



Advisory
Committee
Meetings #2-3
May, June



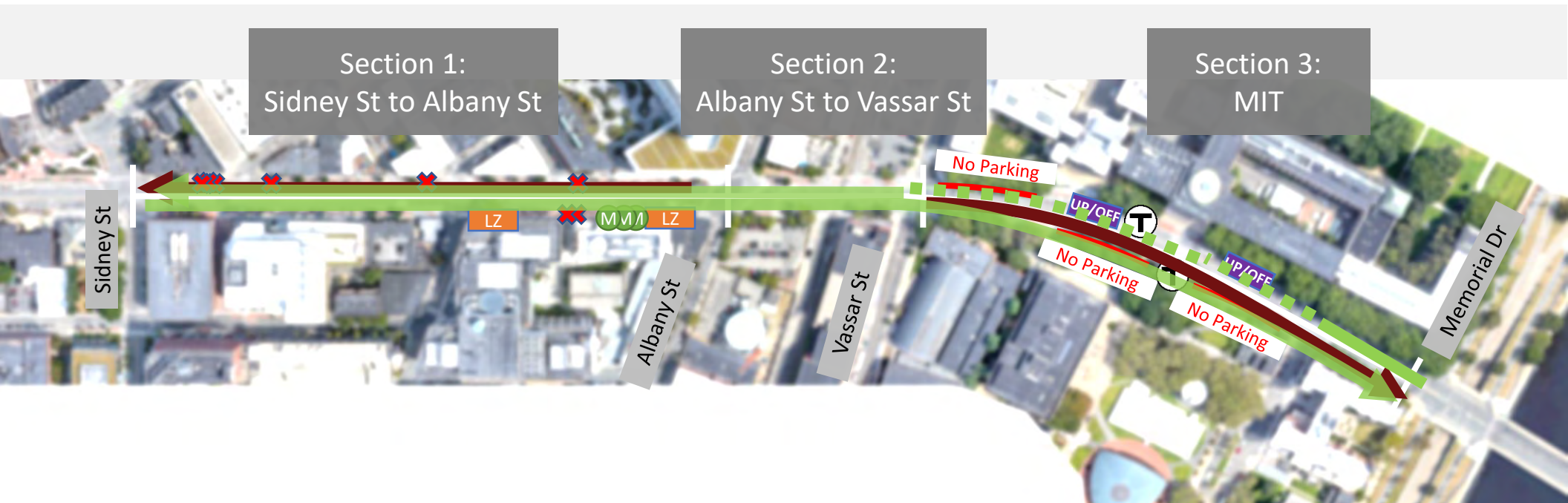
Implementation
Late Summer
2018



NEXT STEPS

Breakout Discussion

South Mass. Ave. Corridor Safety Improvements



More Information and Contact

Project Website: <http://www.cambridgema.gov/CDD/Projects/Transportation/southmassave>

Contact: Bill Deignan, Community Development, wdeignan@cambridgema.gov

Chris Balerna, Kleinfelder Project Manager, Community.Cambridge@kleinfelder.com