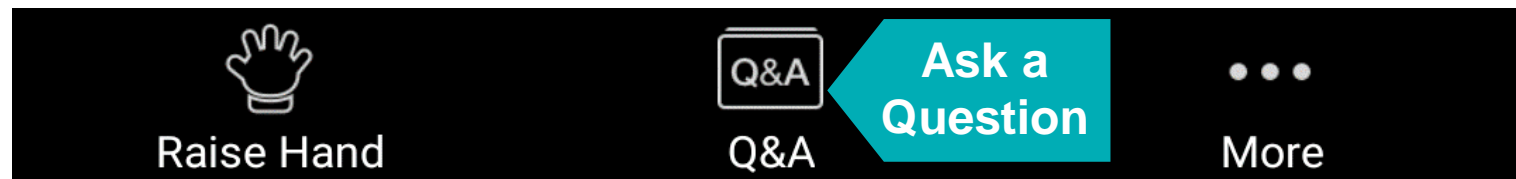


**River Street  
Reconstruction**

# Remote Participation Instructions

- **Working group members may speak and show webcam video**
  - Use "Raise Hand" button during discussion
- **Members of the public are muted and cannot show webcam video**
- **Public can write questions or to ask for assistance in Q&A window**
  - Questions may be submitted at any time and will be addressed, as time allows, after working group member discussion
- **Participants can be removed for inappropriate behavior**
- **Technical support – Sara Fontanez – sfontanez@cambridgema.gov**

Bottom Panel  
of Zoom  
Screen





# Working Group # 10

Tuesday, August 18, 2020

# Welcome and Overview

# Today's Agenda

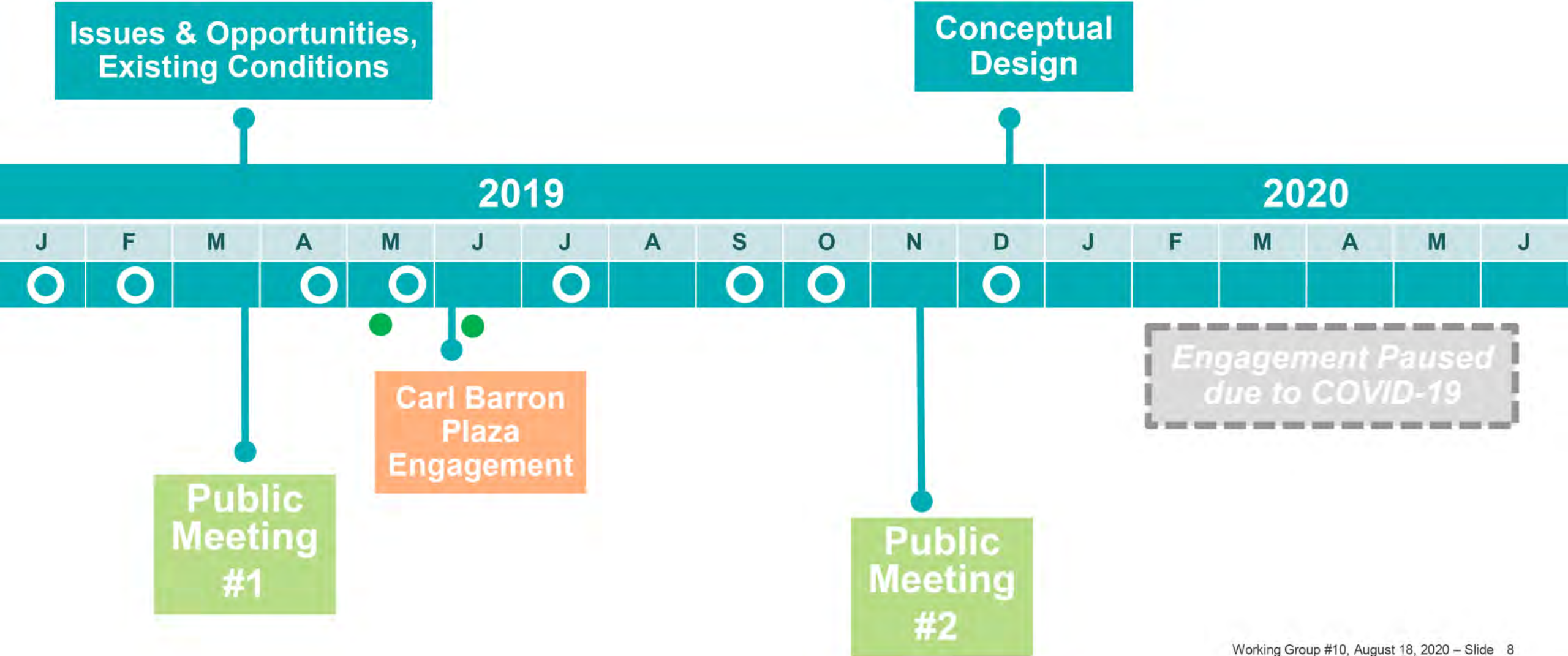
- **Welcome and Overview** 5 minutes
- **Project Updates** 5 minutes
- **Corridor Traffic Overview** 10 minutes
- **Auburn St to Mass Ave – Circulation** 20 minutes
- **Carl Barron Plaza - Urban Design Options** 30 minutes
- **Working Group Discussion** 15 minutes
- **Public Comment** 10 minutes
- **Next Steps** 5 minutes

# Goals for Today's Meeting

- 1. Review the corridor traffic analysis results**
- 2. Present the proposed transportation network between Auburn Street and Mass Ave**
- 3. Clarify, explore, and discuss the urban design approaches for Carl Barron Plaza**

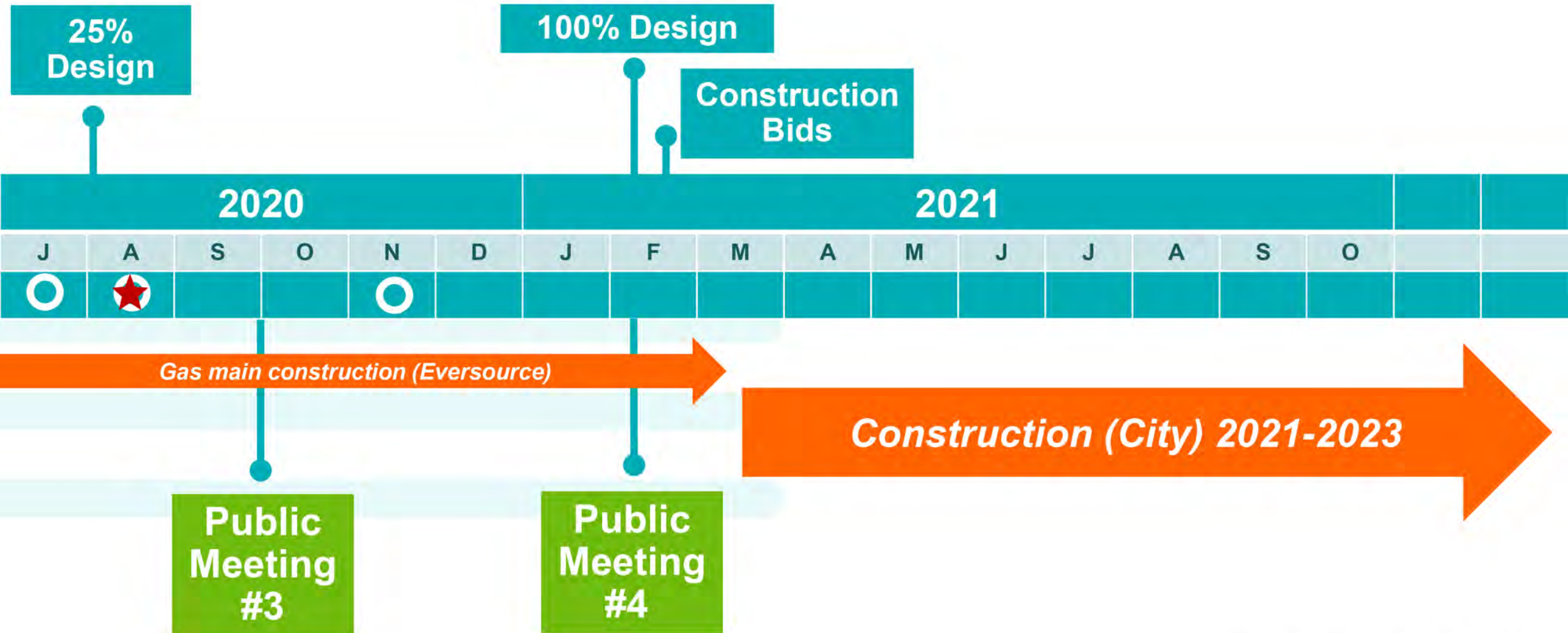
# Updated Expected Timeline

- Working Group
- Public Walks
- ★ Today



# Expected Timeline

-  Working Group
-  Public Walks
-  Today





# Upcoming Meetings

- **Public Meeting #3:** October 2020 (tentative)
  - Review of Full Concept with Emphasis on Carl Barron Plaza and Traffic Analysis
- **Working Group Meeting #11:** November (tentative)
  - Design Plans
  - Review Public Meeting Feedback

# Project Area Update

- **Additional proposed Shared Streets: Howard, Kelly, Kinnaird between Kelly and Putnam**
  - Part of the citywide response to COVID-19
  - Vehicle usage restricted to local access to allow for increased opportunity for physical distancing for pedestrians
- **MBTA schedule changes to take effect Sunday 8/30**
  - Route 70 to have added service on weekdays and weekends
- **Neighborhood street design**
  - Portions of Fairmont Ave, Fairmont St, Rockwell St, Laurel St, and Kelly Rd.
  - Separate community process / construction with River Street
- **Eversource Gas**
  - Replacing main line and customer services ahead of City project



CITY OF CAMBRIDGE

*Magazine Shared Street*

# Corridor Traffic Overview

# VISSIM Analysis Overview

- What is VISSIM?
  - Traffic simulation software
  - Used to model complex transportation interactions between all modes
- What was analyzed for River Street?
  - Travel times & delay for all modes
  - River Street corridor & Central Square
    - Existing 2018
    - Future (2030) – without project
    - Future (2030) – with project



*VISSIM Analysis Study Area*



# Memorial Drive to Putnam Avenue

- VISSIM Modeling Results
  - Observed sufficient vehicle capacity with one general purpose lane and shared bus/right-turn lane
  - Reduced pedestrian waiting time with concurrent pedestrian phasing
  - Overall vehicle delay at the intersection will be similar to today



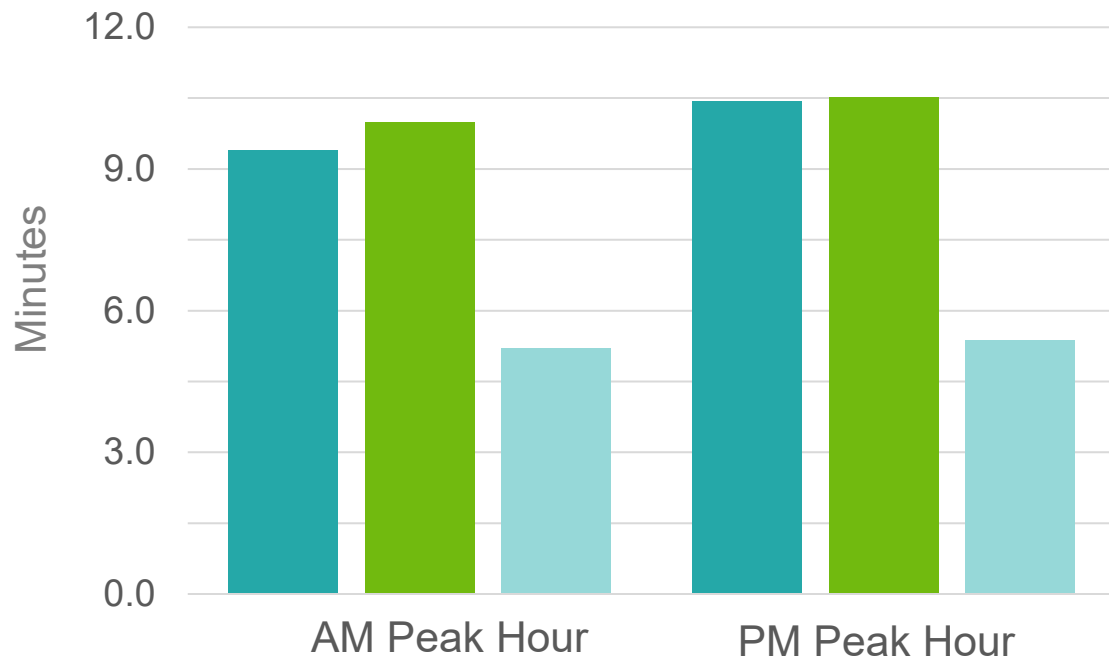
Screen shot of VISSIM simulation

# Pedestrian Wait-time Weekday Morning Peak Hour



# Transit Travel Times

## Route 64/70 Travel Times (Memorial Drive to Mass Ave)

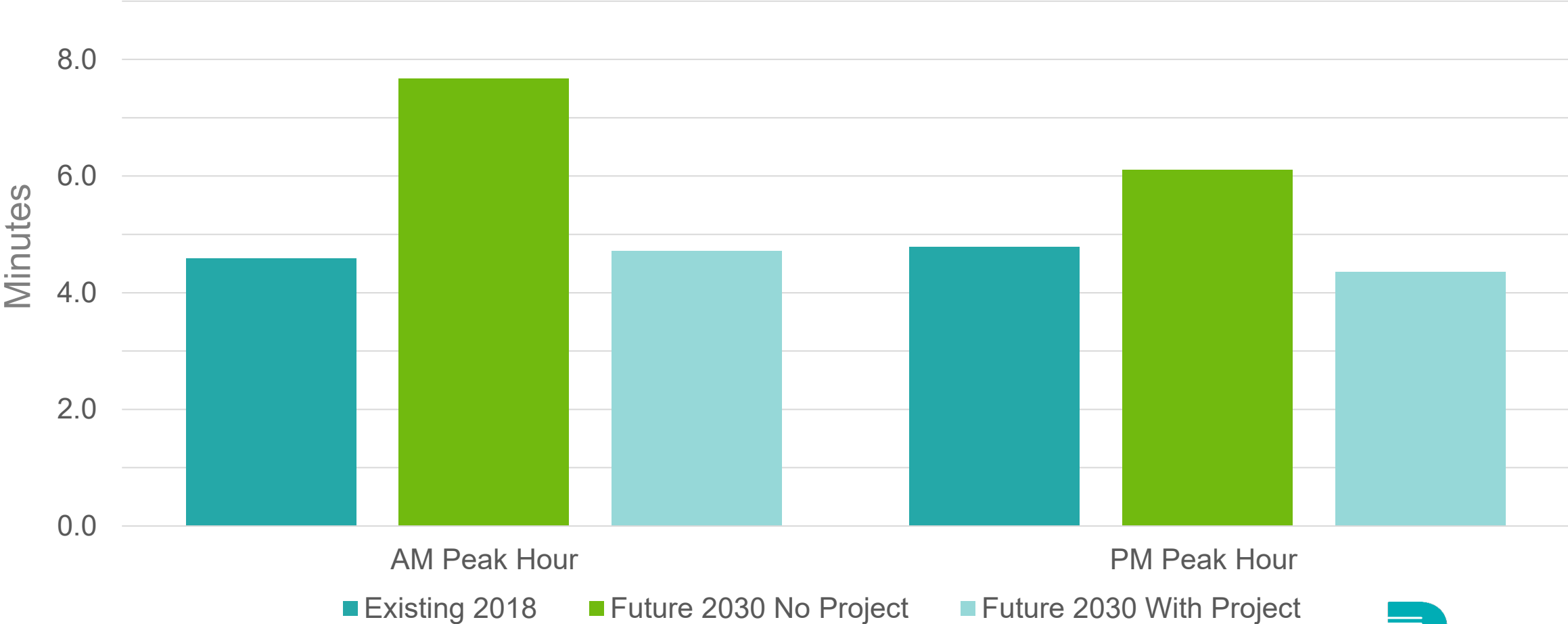


■ Existing 2018   ■ Future 2030 No Project   ■ Future 2030 With Project

## River Street Transit Travel Times

- Travel time savings of 4 – 5 minutes over existing condition
- Bus lane to provide more reliable and on-time bus service

# River Street Vehicle Travel Times





# Bicycle Improvements

- Bicycle Level of Comfort (BLC)
  - River Street is currently BLC 3 or BLC 4
  - Proposed River Street to be BLC 1
    - Integrated separated bicycle facility with signalized crossings

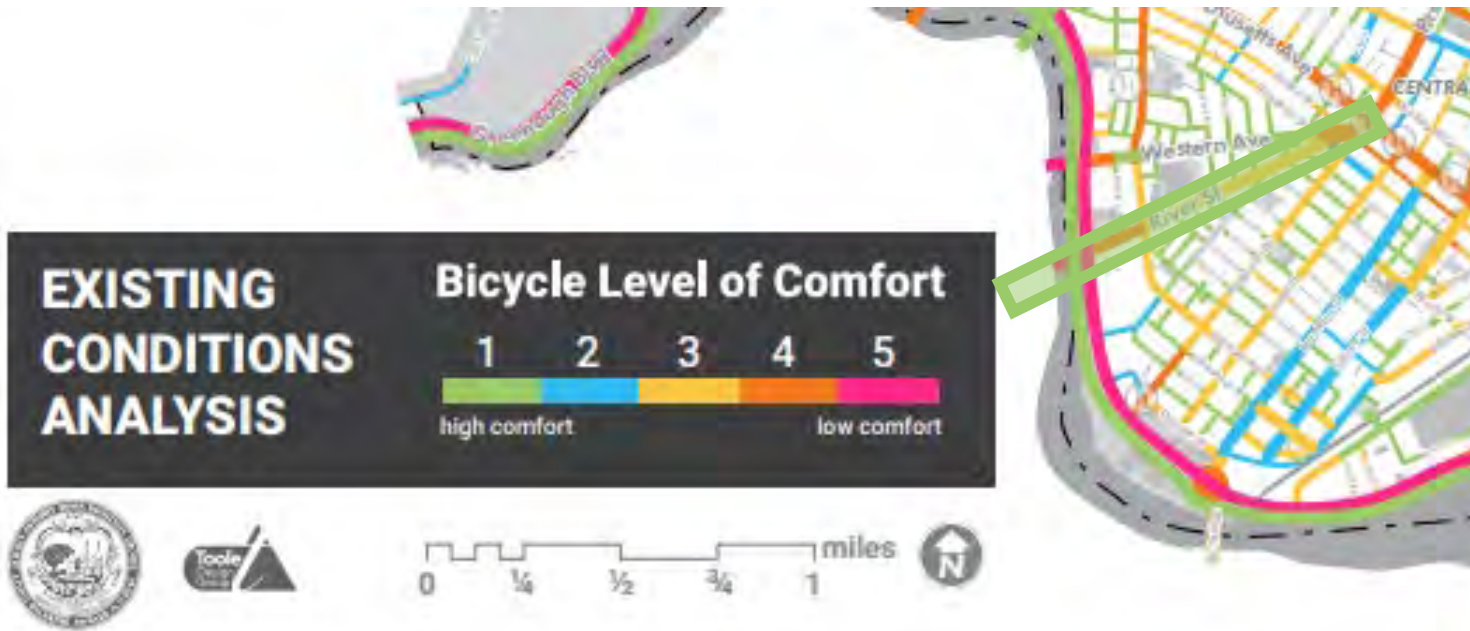
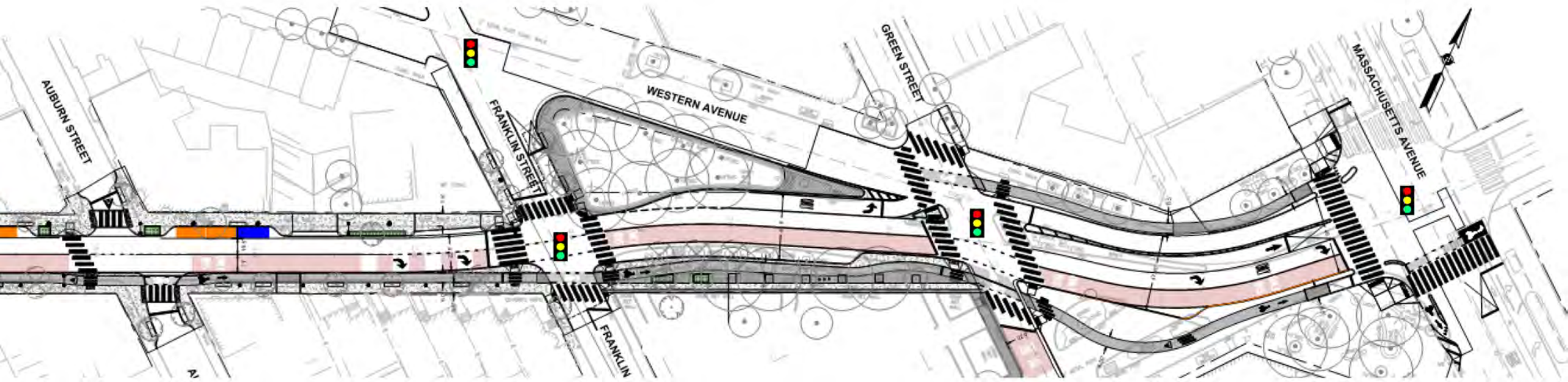


Figure 5.4: Bicycle Level of Comfort Sample User Types

# Auburn St to Mass Ave- Circulation

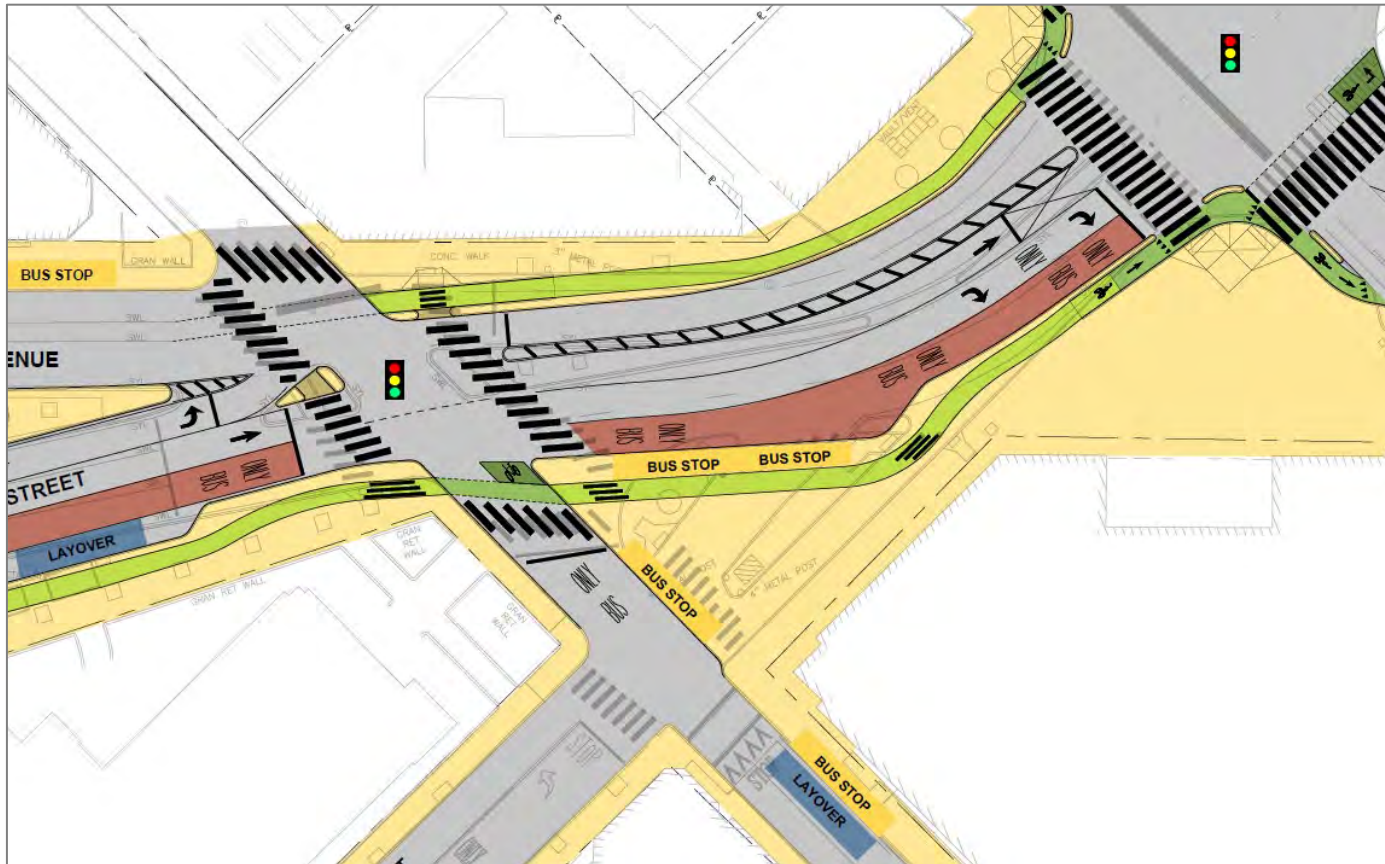
# River Street Corridor Auburn Street to Mass Ave

- Maintains single general purpose lane + bus only lane
- Additional turning lanes provided at Green Street and Mass Ave
- Existing raised median island removed between Green Street and Mass Ave to allow for bus lane and separated bike lanes

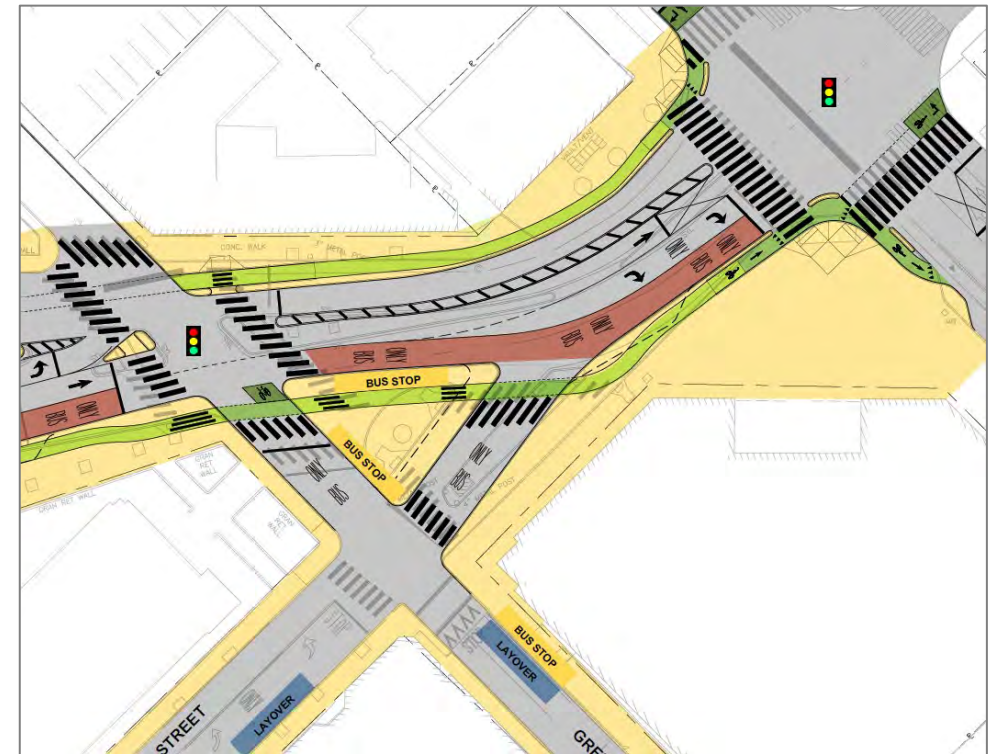


# Design Direction Review

- Decisions from previous Working Group meetings:
  - Butterfly shape for plaza preferred

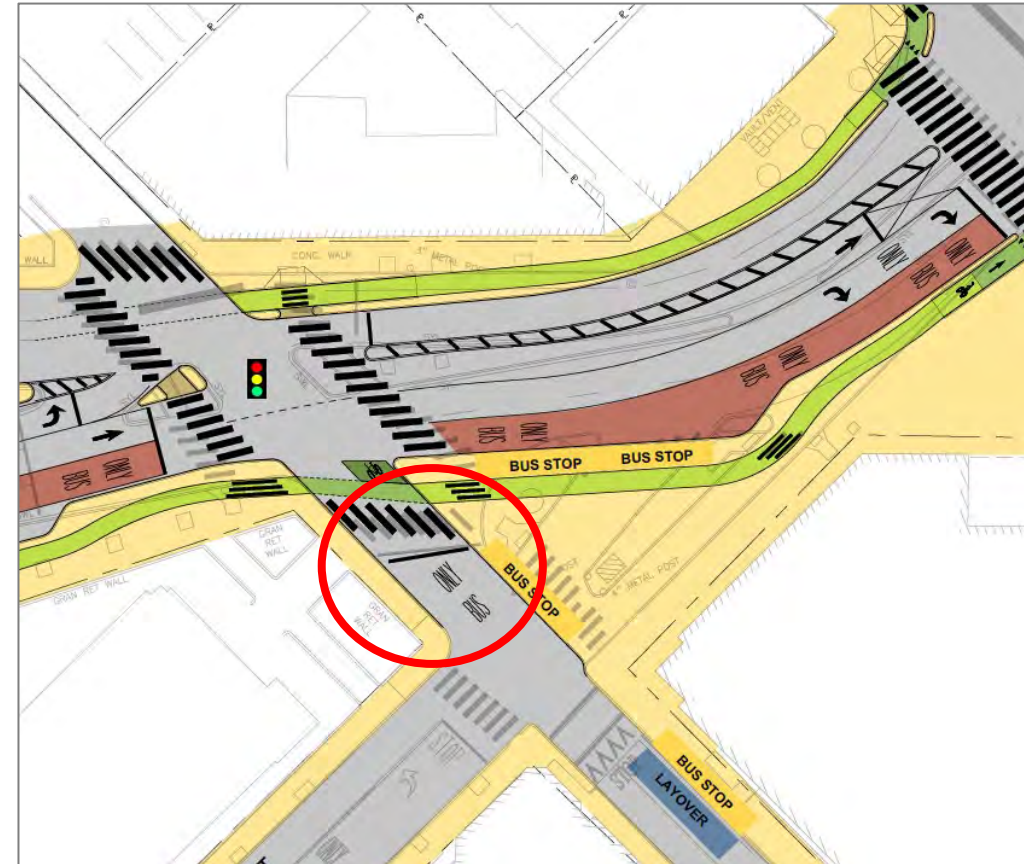


Island Configuration Option (Not Preferred)



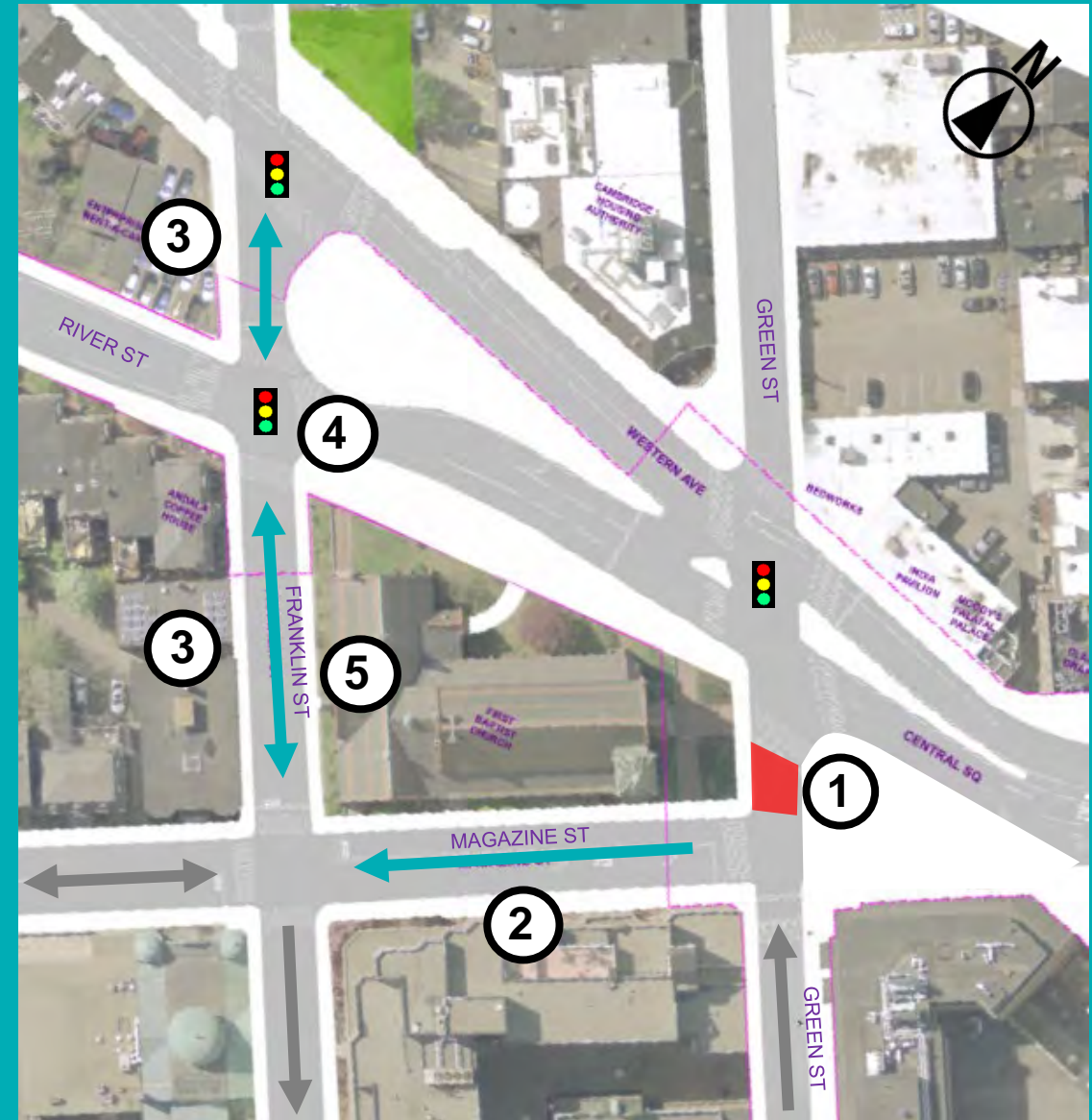
# Circulation Changes Needed To Support Butterfly Plaza

- To expand the available plaza space, bus/bike only operations are proposed at Green Street & River Street
- These network changes will improve safety and operations for all modes



# Proposed Network Changes

1. No through vehicle movement at Green Street except buses and bikes
2. First block of Magazine Street changed to one way southbound
3. Franklin Street between Magazine St and Western Ave changed to two-way
4. New signals at Franklin Street
5. Removal of parking spaces along north side of Franklin St, to be replaced along Magazine St

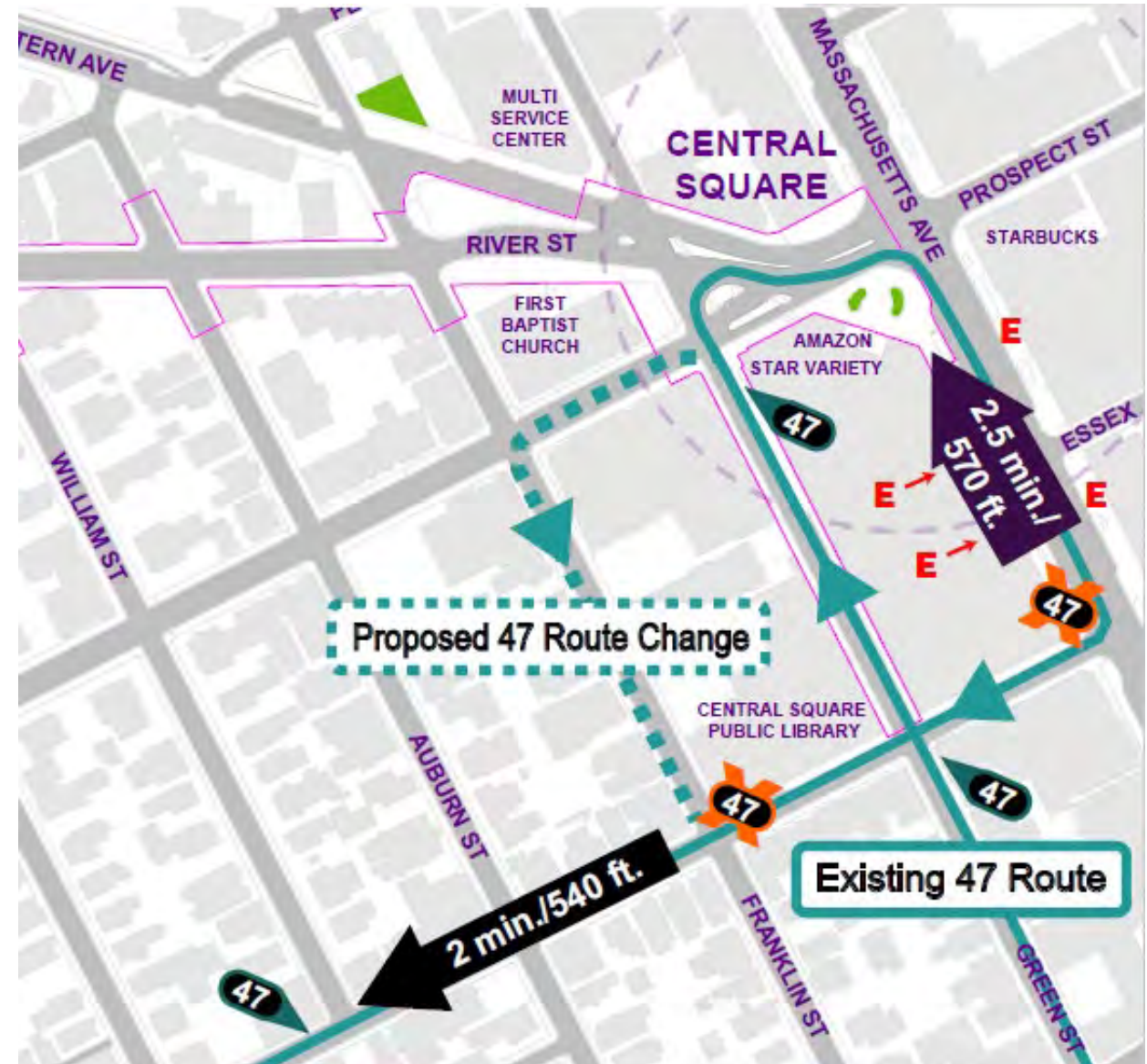


# Bus/Bike Connector Bus Route Change

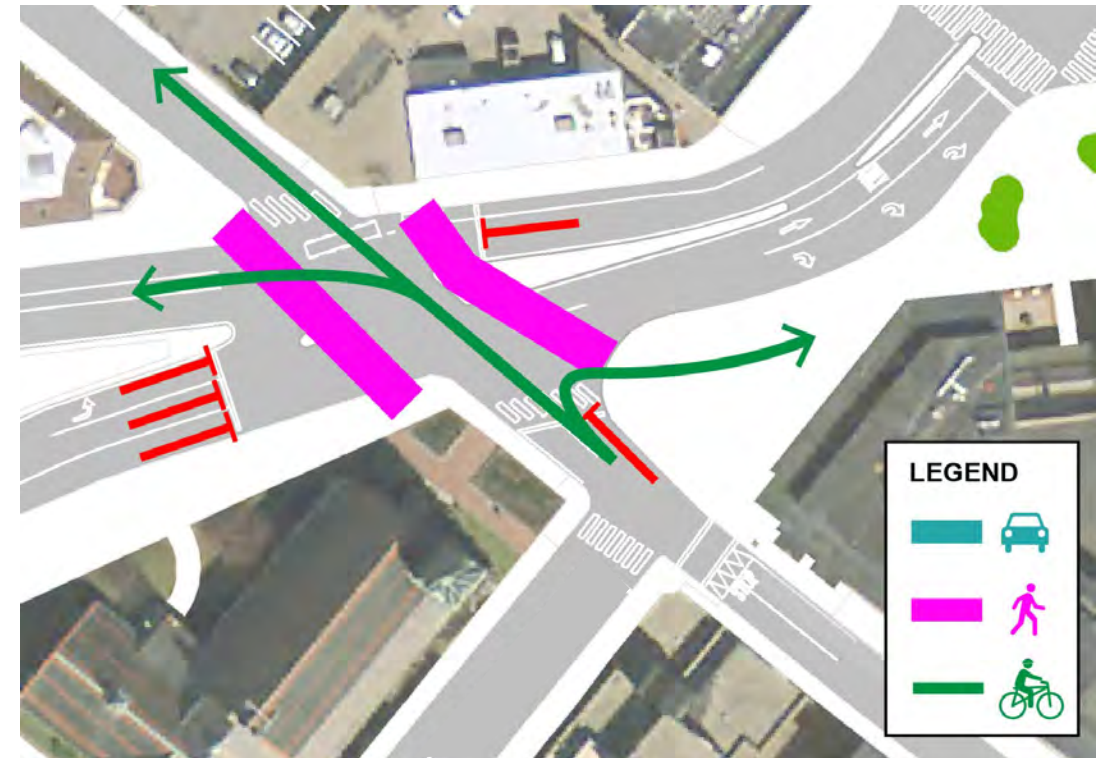
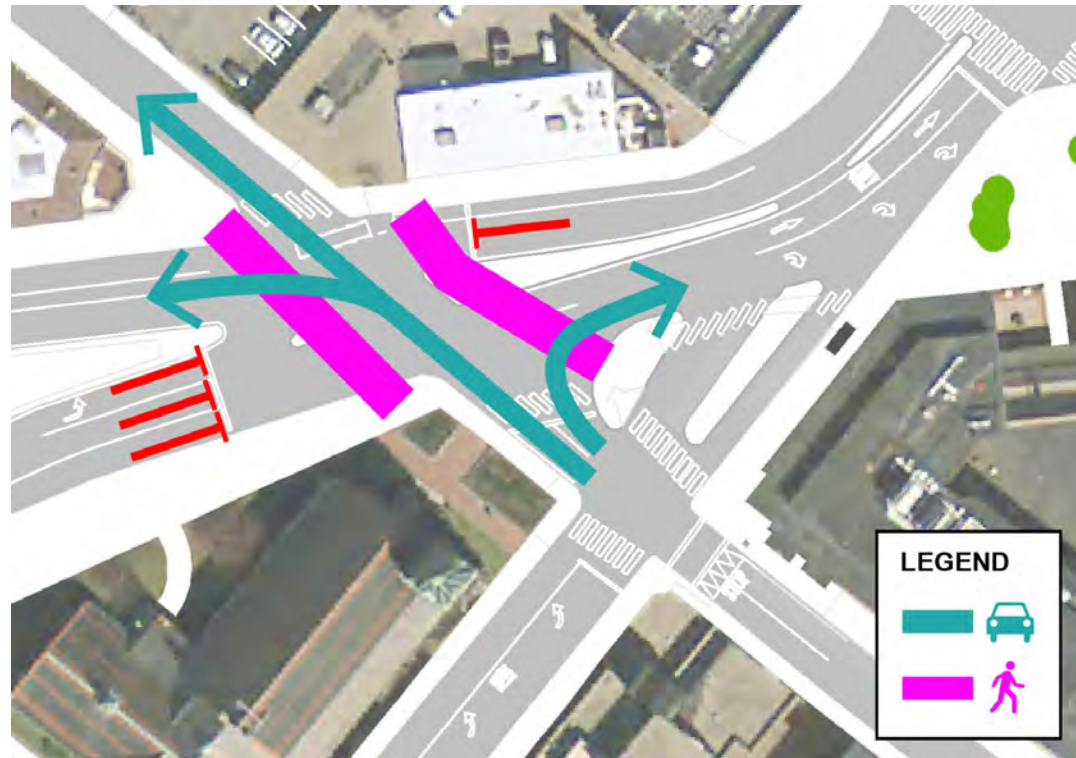
- Proposed 47 Route Changes:
  - First/final stop at Green/Magazine St
  - Return to Pearl Street via Magazine & Franklin Streets
  - Improved travel time by avoiding Mass Ave intersection
  - Walking distance from existing Mass Ave stop approximately 570 feet
  - MBTA coordination ongoing

## LEGEND:

- |  |                       |   |                           |   |  |
|--|-----------------------|---|---------------------------|---|--|
|  | Proposed route change |  | Proposed stop removal     |  | Existing or proposed MBTA Red Line elevator location |
|  | Existing bus route    |  | Proposed or existing stop |   |  |



# Bus/Bike Connector Pedestrian Phasing & Vehicle Conflicts

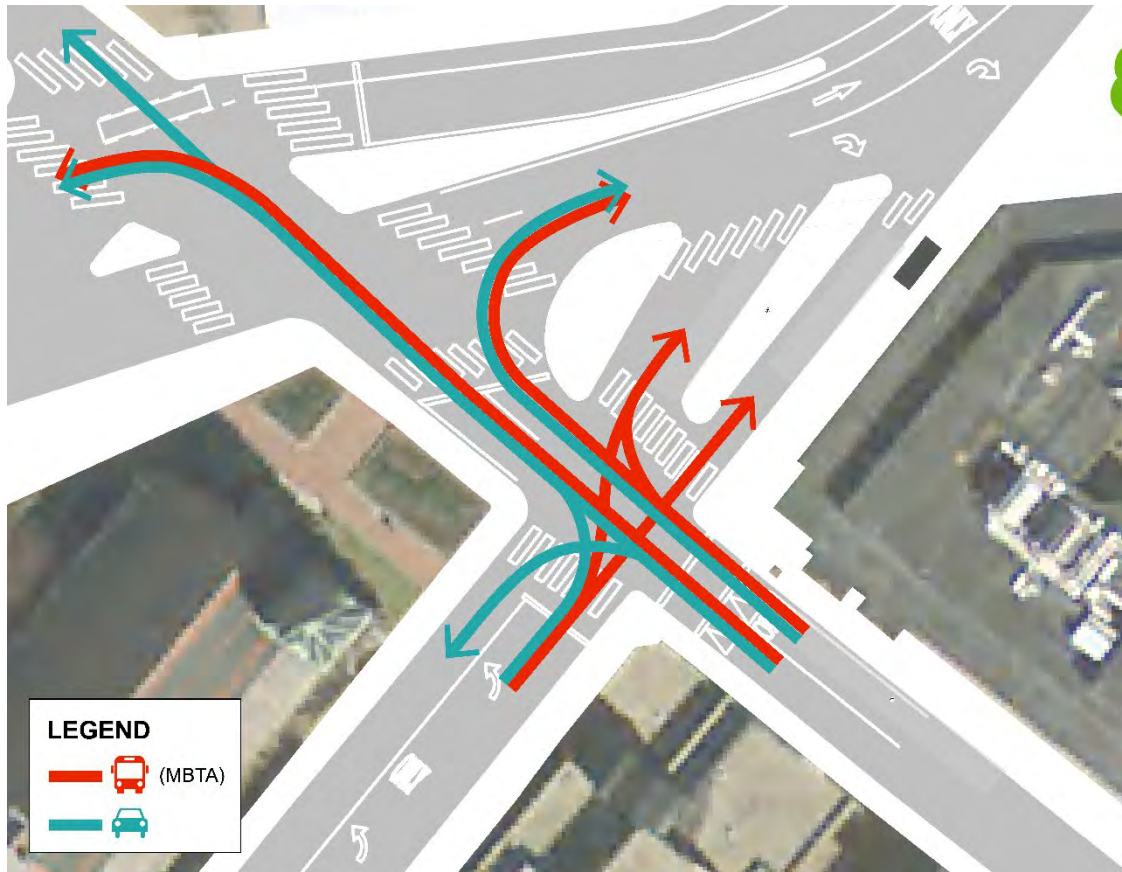


Existing Pedestrian Phasing

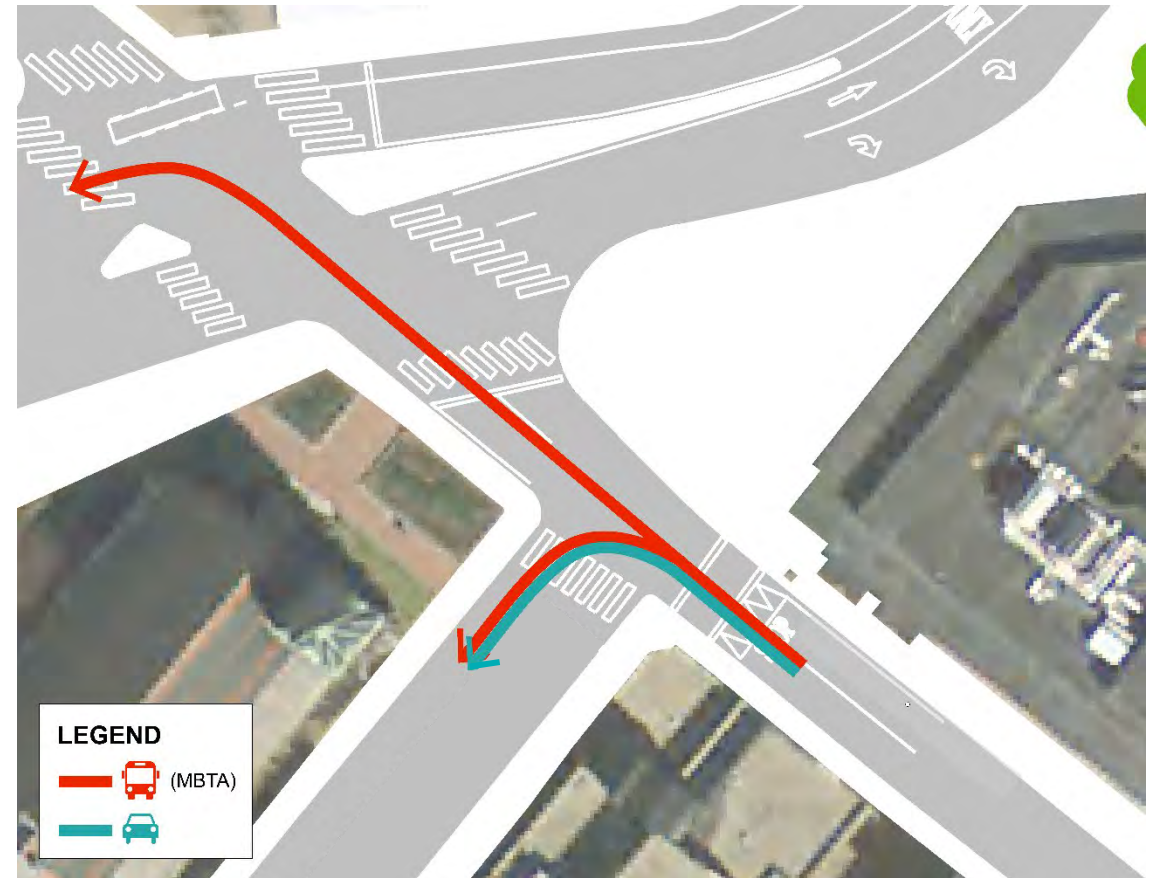
Proposed Pedestrian Phasing



# Bus/Bike Connector Vehicular Movements Change



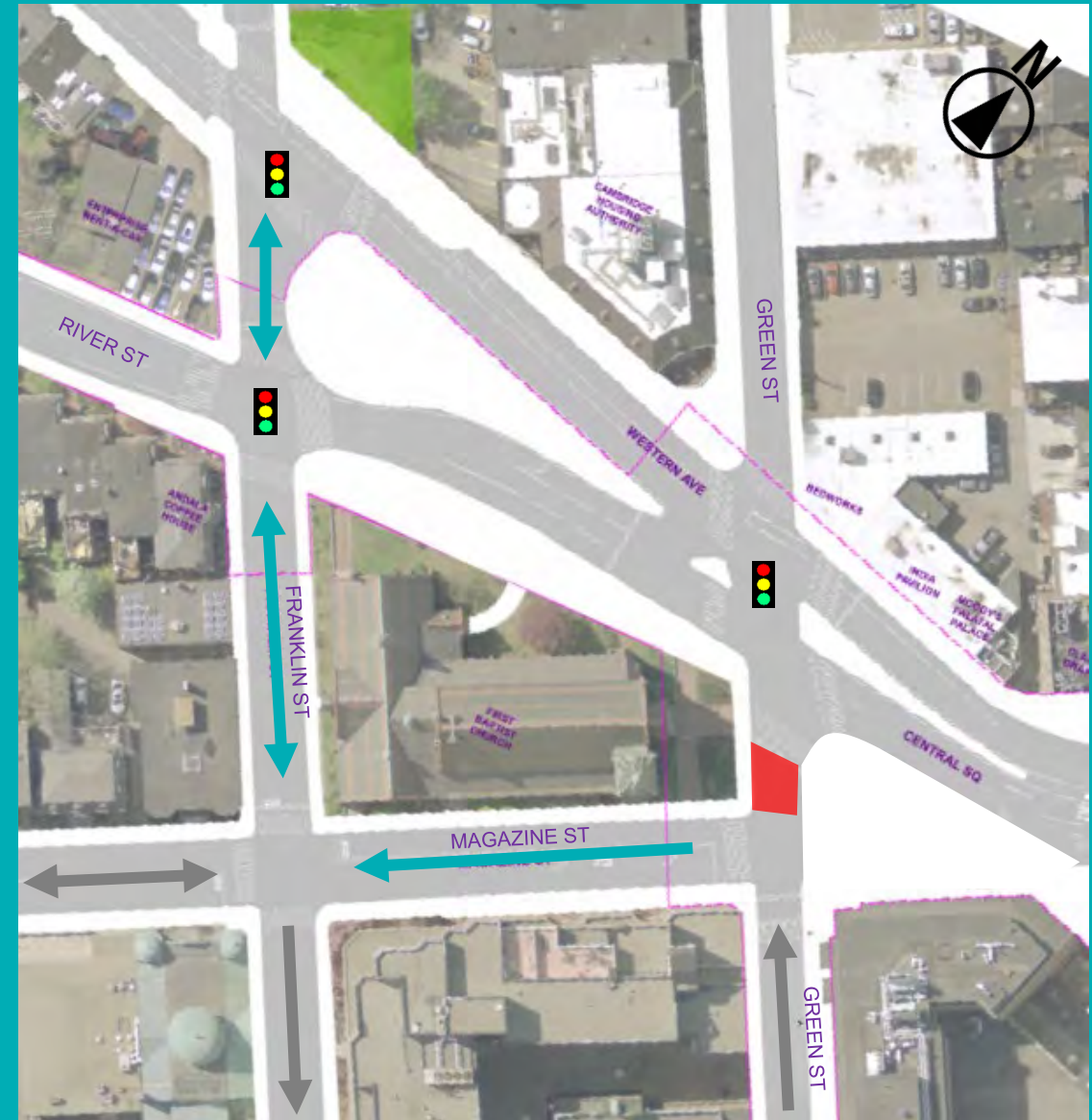
Existing Vehicular Movements



Proposed Vehicular Movements

# Bus/Bike Connector Transportation Benefits

- The proposed network changes will allow:
  - Direct access to Western Avenue to be maintained for MBTA buses
  - Protected pedestrian crossing of River Street at Green Street
  - Improved bicycle connections
  - Reduced conflicts at Magazine Street and Green Street
  - Improved traffic flow due to signal at Franklin Street



# Green Street Existing Vehicular Volumes

Weekday AM



Weekday PM



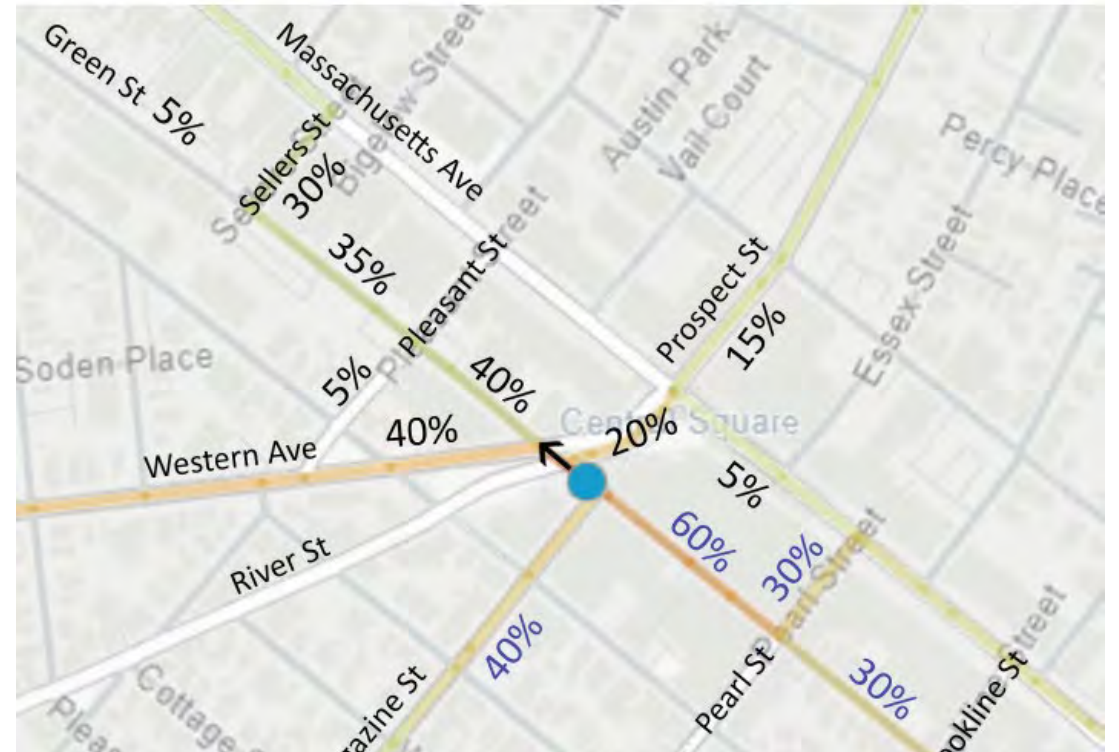
# Green Street Origin-Destination Data

- Anonymous cellphone/GPS location data used to understand trip patterns
- Allows us to understand common origins and destinations, as well as short-cutting patterns
- Informs potential re-routing scenarios

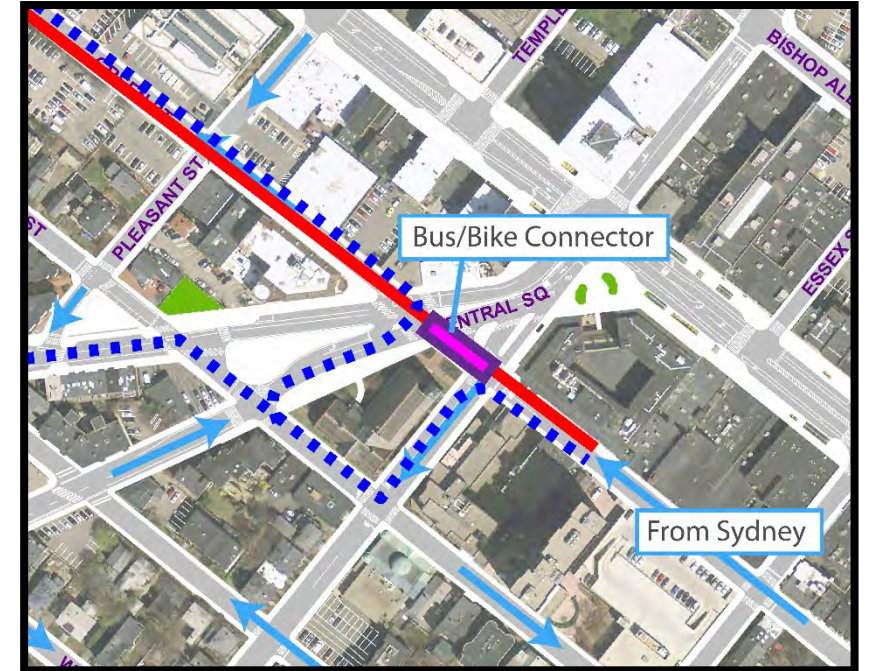
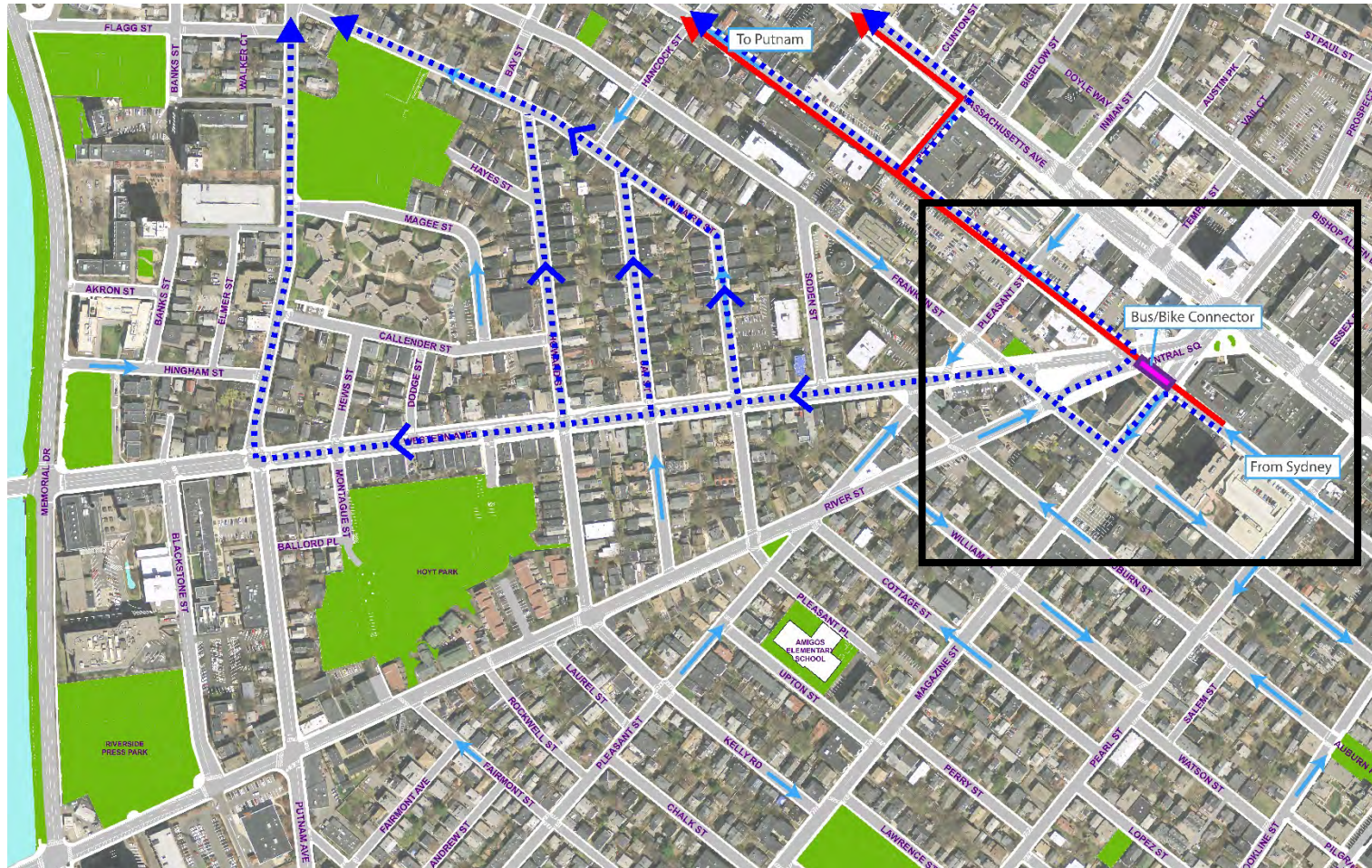
xx% Proportion of vehicles heading to existing Green Street west of Magazine Street

xx% Proportion of vehicles leaving from existing Green Street west of Magazine Street

## Trip Distribution (PM Peak)



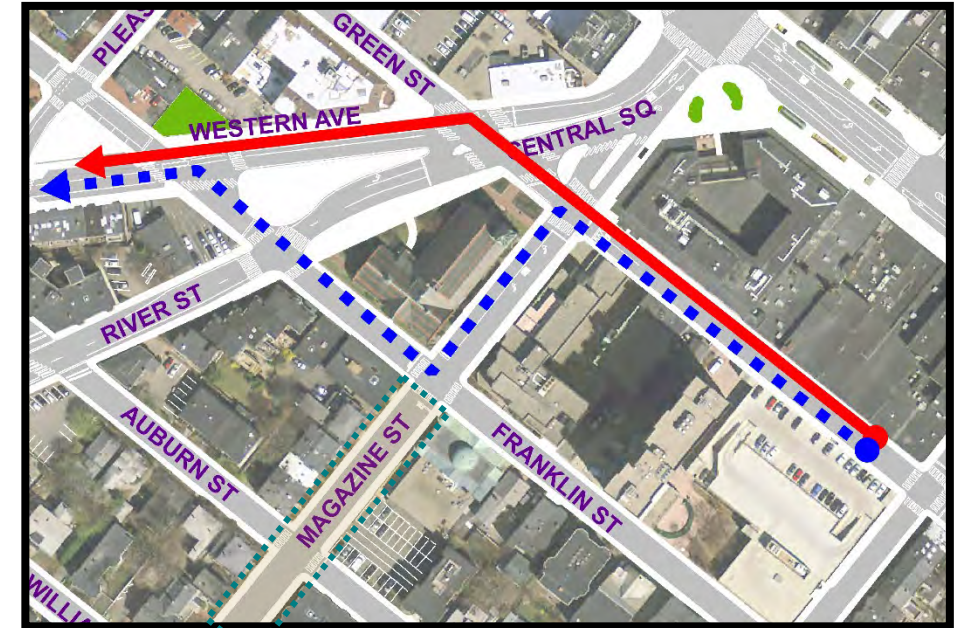
# Green Street Bus/Bike Connector Alternate Routes – Northern Destinations






## LEGEND

- Current Route
- - - Alternate Routes

# Green Street Bus/Bike Connector Alternate Routes – Western Destinations



## LEGEND

-  Current Route
-  Alternate Routes
-  Magazine Shared St



# Auburn Street to Mass Ave

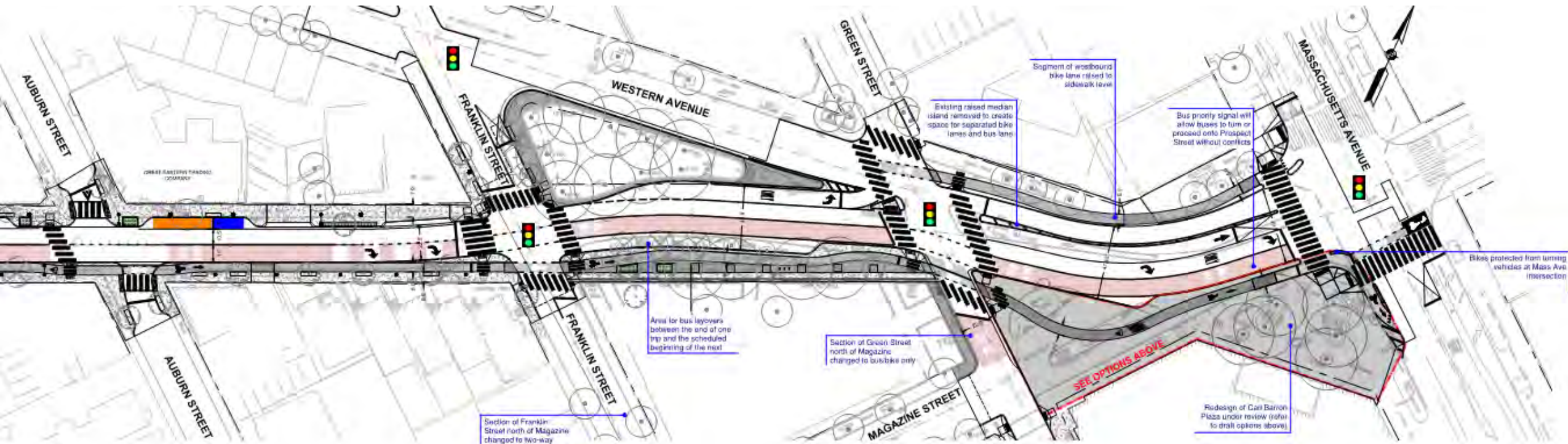


Screen shot of VISSIM simulation

# OVERVIEW OF DRAFT DESIGN PLAN

The Draft Plan will be posted at the project website's "Documents" under Working Group Meeting #10.

After this meeting, please share your thoughts by email - [RiverStreet@CambridgeMA.gov](mailto:RiverStreet@CambridgeMA.gov)



*Sample of Design Plan*



# Check in Question

**Do the proposed network changes require further clarification when presented at the public meeting?**

- A. No, it's great as you have presented it!
- B. Overall it's good, but I recommend minor changes/clarifications
- C. Yes, additional details and/or explanations would be helpful

# Clarifications?



# Carl Barron Plaza Urban Design Options

# The Community Process

## On-site research

- Movement tracking
- Activity mapping
- Diary entries/on-site observations

## Community Engagement

- In person interviews - 17 total
- Online survey - 32 respondents
- Open house and day of engagement - over 140 people engaged

# Design Objectives/Themes distilled from the community process

**Comfort:** Ensure everyone feels comfortable to linger

**Identity:** A cleaner, more inviting space

**Access:** Balance transportation needs with enjoyment of the plaza

**Uses:** Everyday activity mixed with programmed events

**Sociability:** Spaces for people to gather in large and small groups

# Shared Design Goals Review

<b>Inclusive</b>	Attract a wide range of users while preserving usability for the existing regulars
<b>Activated</b>	Create a vibrant space through everyday activities and special programming
<b>Safe</b>	Create a feeling of safety for everyone
<b>Flexible</b>	Allow for a wide range of uses and activities that can evolve over time
<b>Attractive</b>	Improve the perception of the space
<b>Comfortable</b>	Provide seating, lighting and amenities that promote short- and long-term lingering
<b>Multimodal</b>	Ensure pedestrian and bicyclist flow, and coordinate with transit users' needs
<b>Functional</b>	Provide materials and amenities that are functional and easily maintained
<b>All-Season</b>	Provide comfortable year-round use and reduce microclimate influence

# Site Analysis & Constraints

- **Underground Utilities/Subway**
  - Major public and private utilities
  - Shallow utilities (electric, comms)
  - Sewer lines
  - Red Line Subway - Mass Ave.
  - Sanitary and drainage Lines
- **Seven (7) Existing Trees**
- **Relocate/Re-envision Art**
- **Solar Orientation**
  - Green St. edge: Sunny
  - Mass Ave: Shady



# Design Givenens for all Options

- **Direct pedestrian routes** through and around plaza (8'-0" min.)
- **Maintain healthy trees** in Carl Barron Plaza
- Maximize additional **tree plantings** and green space
- Provide **flexible plaza areas** for a variety of activities
- **Transit Shelters** at all (3) transit stop areas
- **MBTA Operators' Booth** with visibility to all three bus stops and layover area
- **Bus boarding areas** (8'-0" min. clear zone)
- **Separated bicycle facility** (width varies, 6'-0" min.)



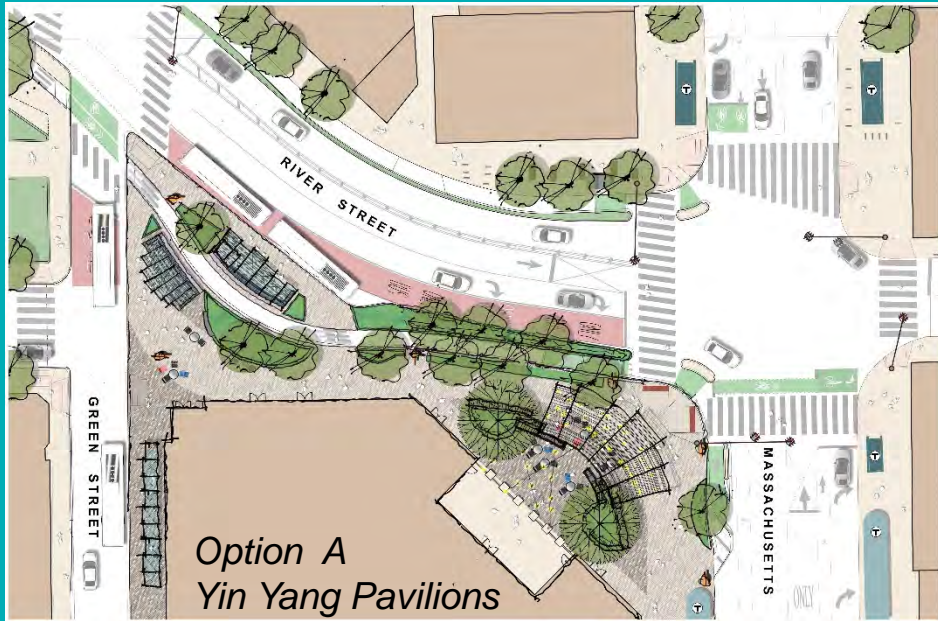


# Design Option Review

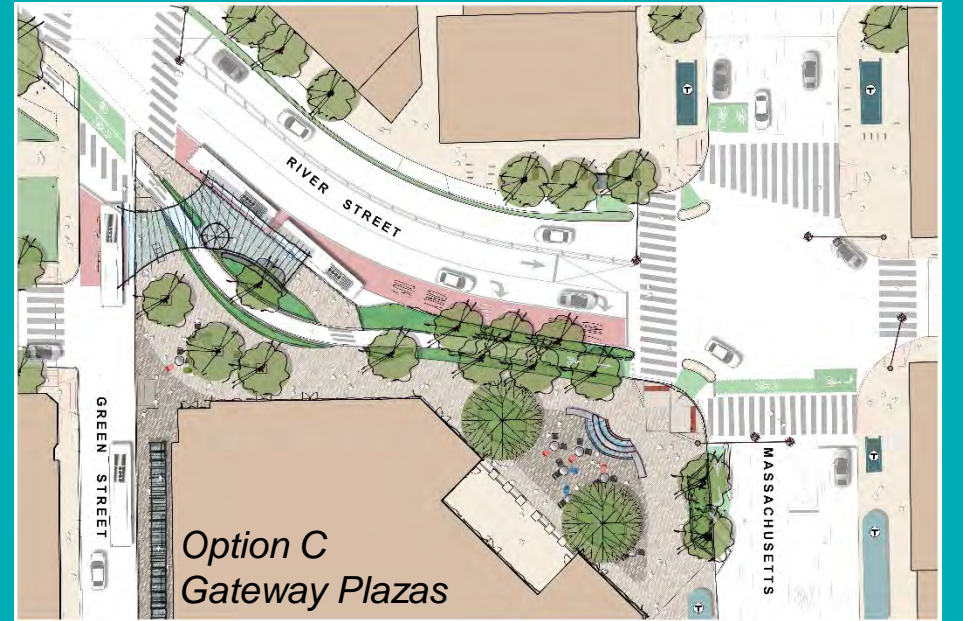
## Where are we in the process?

- Materials presented are **draft only**
- Looking for your **feedback** on desired features and overall design direction
- Initial review of design alternatives is **one step** in the process
  - not picking favorites yet
- Sharing with **additional stakeholders** over Summer/Fall 2020.
- **Public meeting** is tentatively scheduled for Fall 2020

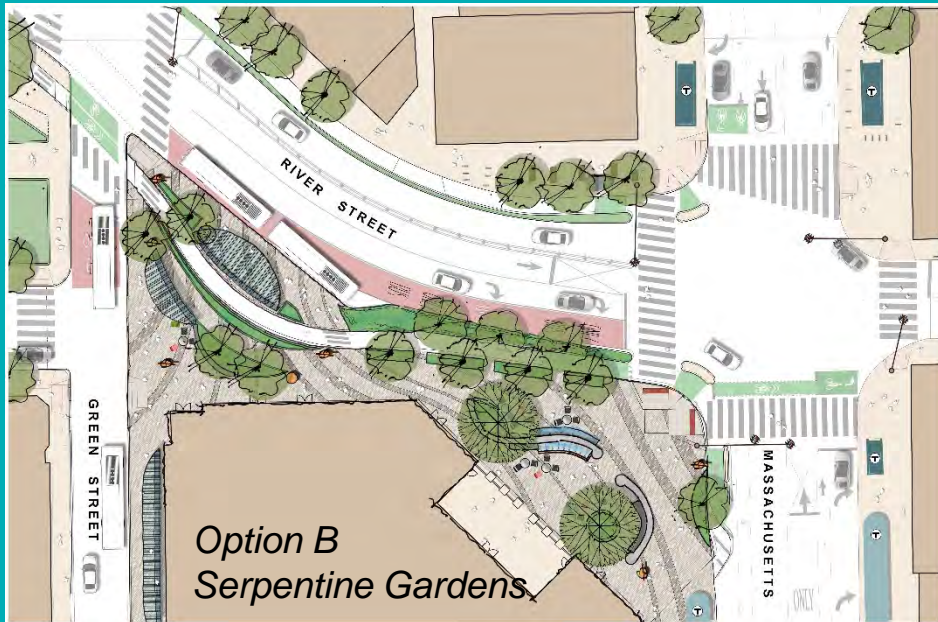
# Option Overview



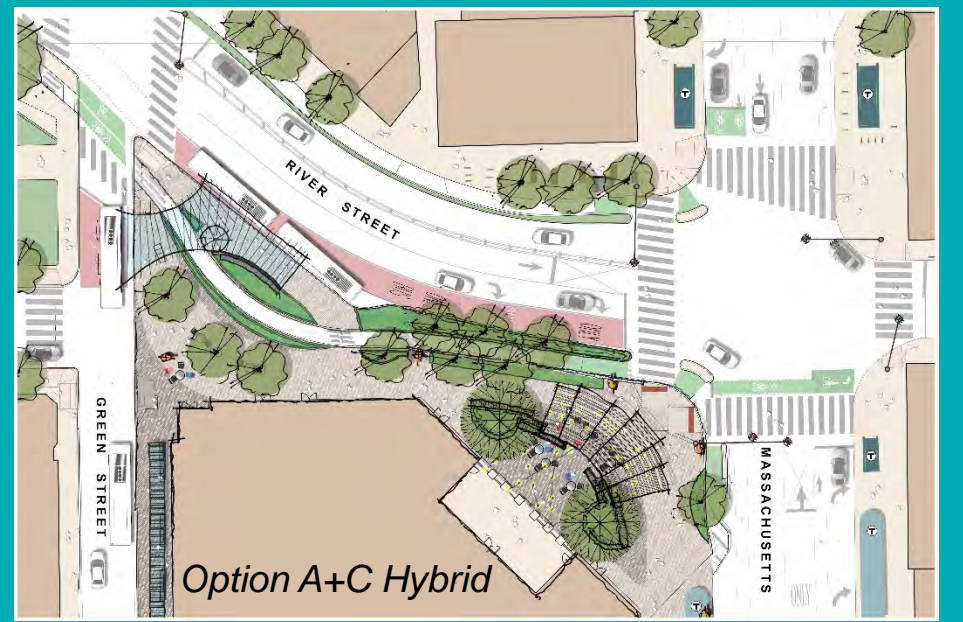
*Option A  
Yin Yang Pavilions*



*Option C  
Gateway Plazas*



*Option B  
Serpentine Gardens*



*Option A+C Hybrid*

# Option A : Yin Yang Pavilions

## Key Design Features

### Green St. End

- Custom bus shelters: 3 Locations

### Mass Ave End

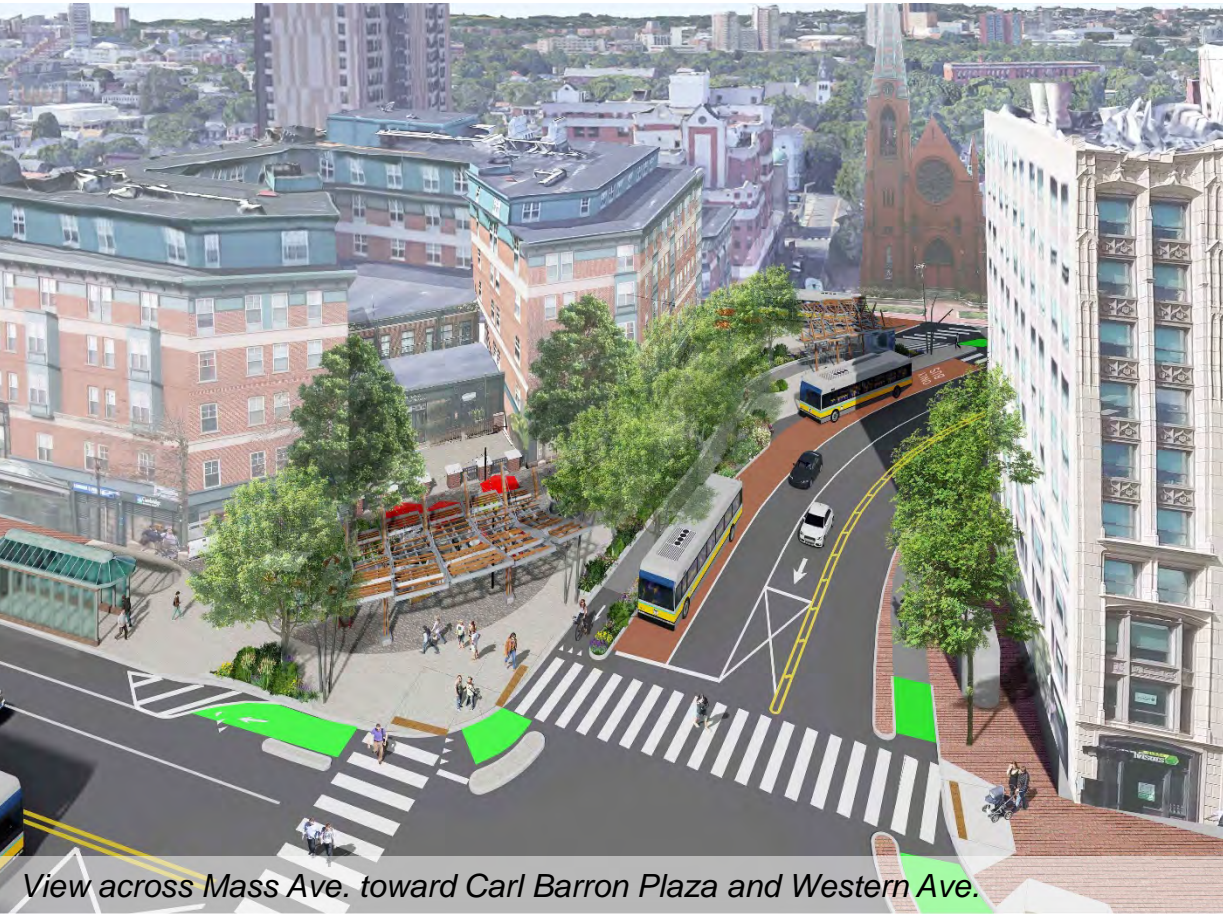
- Iconic open air pergola structure at Mass Ave. Plaza
- Flexible plaza space with suspended overhead lighting
- Curved seat wall and low curved planting elements

### General

- Two existing trees to remain
- Eleven new trees



# Option A | Birdseye Views



Option A | Perspectives



*View SE along transit hub toward Holmes Building*



*View looking toward River Street at Mass Ave*



*View SE along transit hub toward Holmes Building*



*View toward church at Green Street end of Plaza*

# Option A: Example Program Diagram

## Opportunities

- Gathering under the Mass. Ave. pergola (small – medium)
- Independent but complementary programming for both sides of plaza
- Small performance or vendors
- Flexible & movable seating

## Constraints

- Curvilinear seating at main plaza bisects space
- Planters, unless flush with pavement, reduce programmable space



# Option B: Serpentine Gardens

## Key Design Features

### Green St. End

- Curvilinear Bus shelters: 3 Locations
- Pedestrian path running along bike path

### Mass Ave End

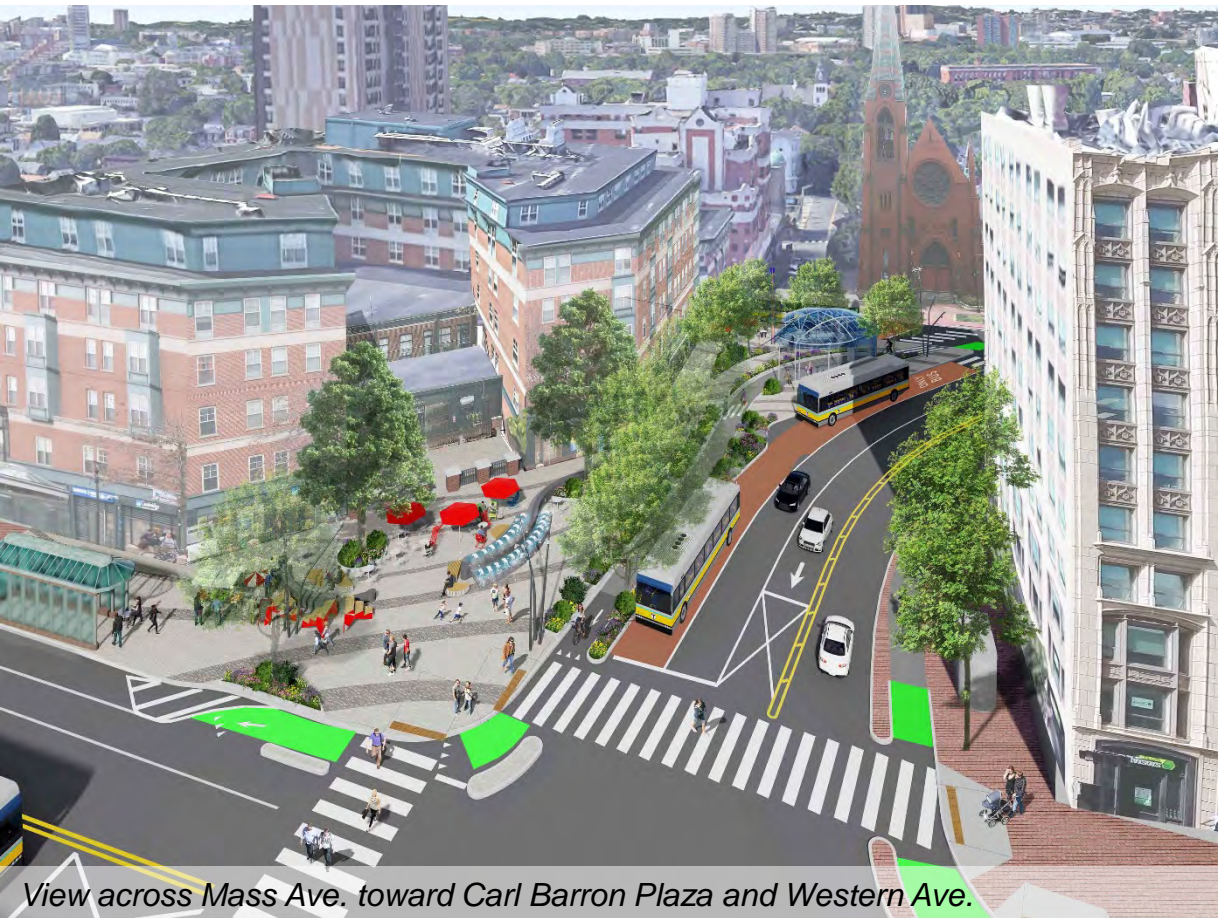
- Curvilinear fixed seating with backs
- Linear water feature (two sided)
- Open Plaza

### General

- Paving - serpentine motif
- Wayfinding features
- Two existing trees to remain
- Twelve new trees



# Option B | Birdseye Views





Option B | Perspectives



*View SE along transit hub toward Holmes Building*



*View looking toward River Street at Mass Ave*



*View SE along transit hub toward Holmes Building*



*View toward church at Green Street end of Plaza*

# Option B : Example Program Diagram

## Opportunities

- Gathering around linear fountain and plaza area (small – medium)
- Independent programming for both sides of plaza
- Small performance or vendors
- Flexible & Movable seating

## Constraints

- Curvilinear seating at main plaza bisects space
- Green Street Plaza can only host small activities



# Option C: Gateway Plazas

## Key Design Features

### Green St. End

- Iconic Transit hub structure visible from various vantage points
- Trees in flush pavement
- Pedestrian circulation parallel to and separated from bike lane

### Mass Ave End

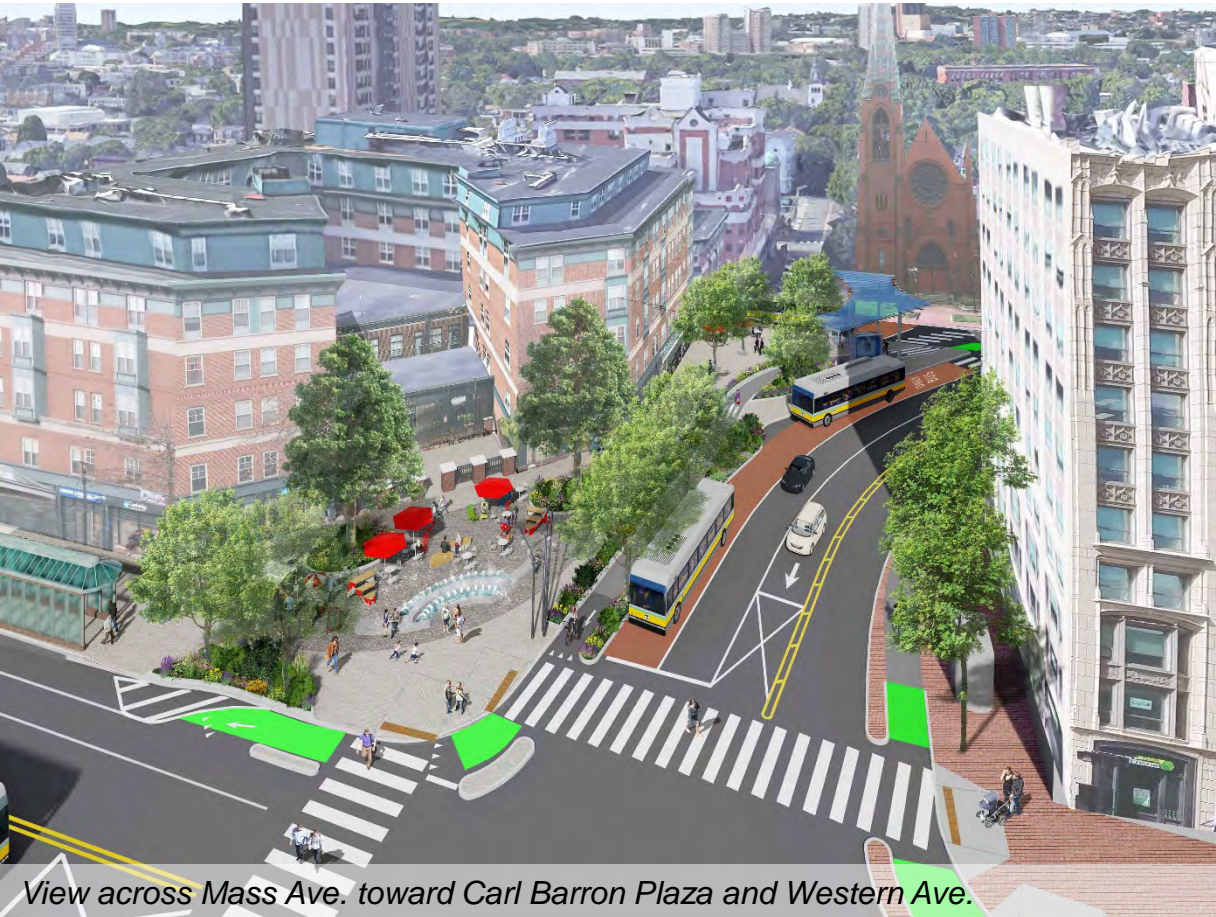
- Multi - use open plaza
- Central water feature (two sided)

### General

- Two existing trees to remain
- Thirteen new trees



# Option C | Birdseye Views



*View across Mass Ave. toward Carl Barron Plaza and Western Ave.*



*View SE across Western Ave. to transit hub at Carl Barron Plaza*

# Option C | Perspectives



*View SE along transit hub toward Holmes Building*



*View looking toward River Street at Mass Ave*



*View SE along transit hub toward Holmes Building*



*View toward church at Green Street end of Plaza*

# Option C : Example Program Diagram

## Opportunities

- Gathering around central fountain and plaza area (small-medium)
- Several activities can be combined into a medium sized event
- Independent programming is feasible for both plazas
- Small performance or vendors
- Flexible and movable seating
- Trees in flush pavement and large pavilion at Green St. End provide flexibility



# Option A+C Hybrid

## Key Design Features

### Green St. End

- Iconic Transit hub structure visible from various vantage points
- Trees in flush pavement
- Pedestrian circulation parallel to bike lane

### Mass Ave End

- Iconic open air pergola structure at Mass Ave. Plaza
- Flexible plaza space with catenary lighting
- Curved seat wall and low curved planting elements

### General

- Two existing trees to remain
- Ten new trees



# Option A+C Hybrid | Birdseye Views





Option A+C | Perspectives



*View SE along transit hub toward Holmes Building*



*View looking toward River Street at Mass Ave*



*View SE along transit hub toward Holmes Building*



*View toward church at Green Street end of Plaza*

# Option A+C: Example Program Diagram

## Opportunities

- Gathering under the Mass. Ave. pergola (small – medium)
- Independent programming is feasible for both plazas
- Small performance or vendors
- Flexible & movable seating

## Comments

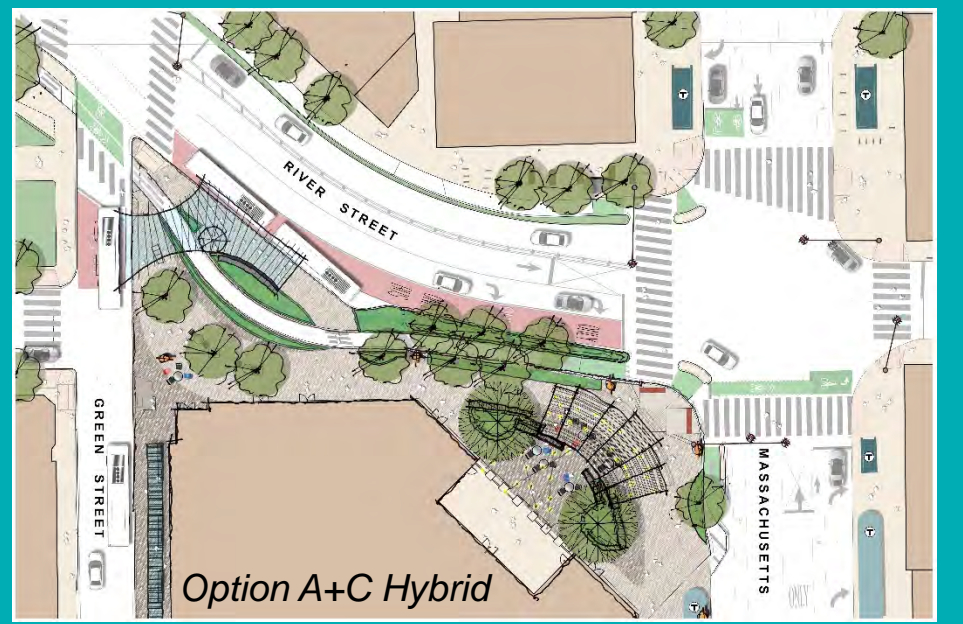
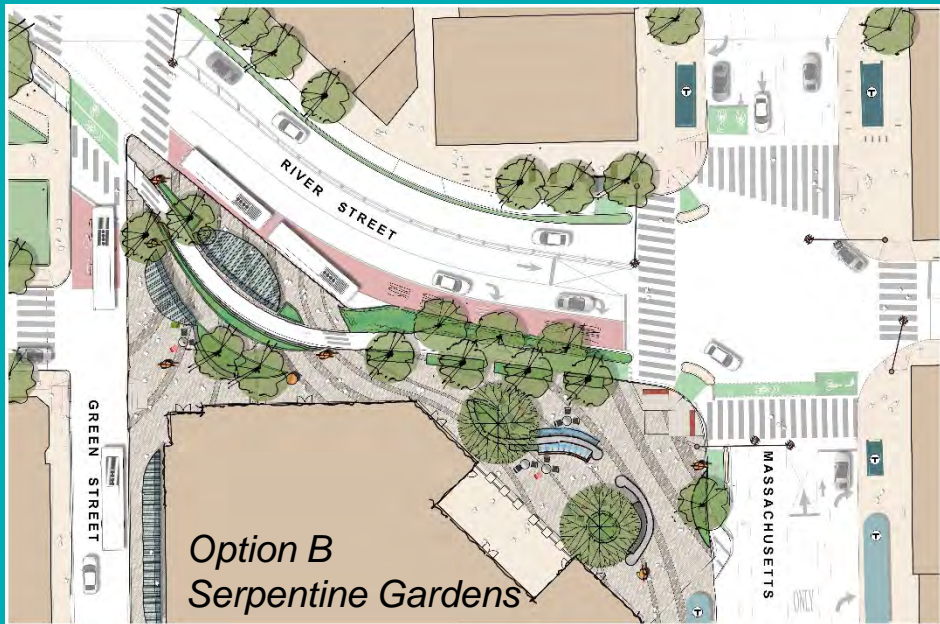
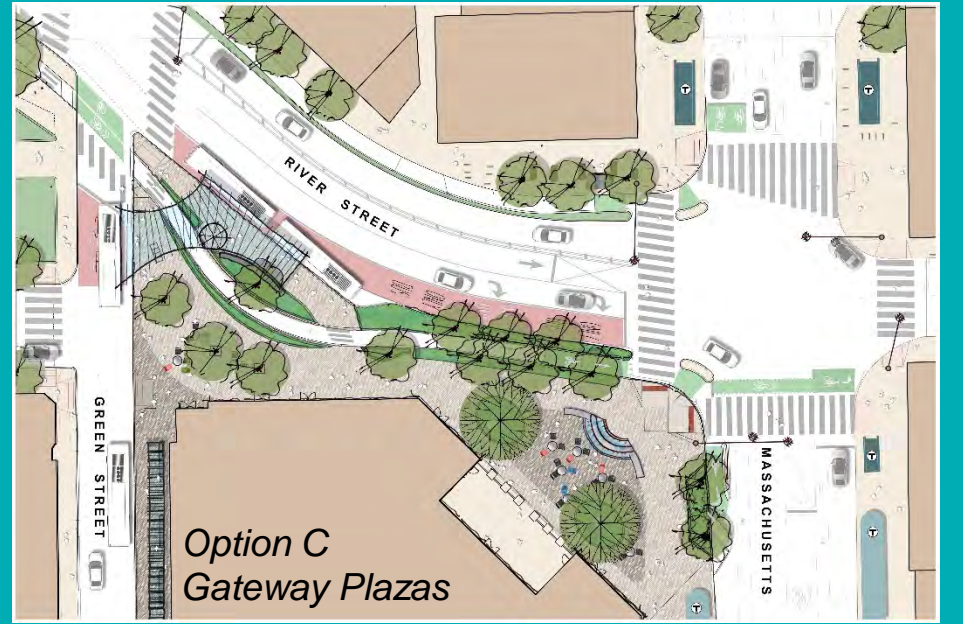
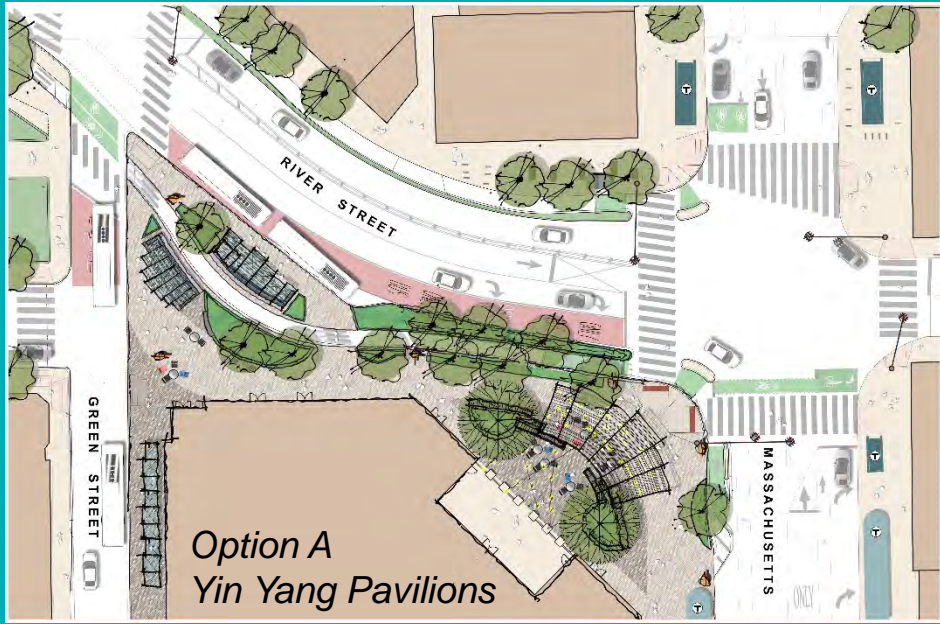
- Trees in flush pavement & large pavilion at Green St. End provide flexibility
- Curvilinear seating at main plaza bisects space



# Option Summary

Comparison Uses / Features	Option A Yin Yang Pavilions	Option B Serpentine Gardens	Option C Gateway Plazas	Option D A+C Hybrid
<b>GREEN ST. END</b>				
Larger Iconic Transit Hub Structure			●	●
Pedestrian walkway parallel to bike lane		●	●	●
Maximized Flex Space	●		●	●
<b>MASS AVE END</b>				
Water Feature		●	●	
Pergola Structure	●			●
Maximized Flex Space	●	●	●	●
<b>TREE CONSIDERATIONS</b>				
Existing Tree to Remain	2	2	2	2
New Trees	11	12	13	10

# Option Summary



# Check in Question

Which feature(s) do you think are most important to include in the redesigned Carl Barron Plaza?

- Fixed Seating
- Movable Seating
- Trees & Landscaping
- Pergola Structure
- Water Feature
- Café/game tables
- Bicycle Parking
- Wayfinding
- Direct pedestrian routes
- Space for programming

# Possible Movable Furniture Elements



A. Lounge chair



B. Chair w/ back



C. STOOP bench-Vestre



D. STRIPES bench-Vestre



E. Solstice Umbrella-Landscape forms



F. Rapson Rocking Chair-Loll

# Check in Question

Which movable seating do you like for Carl Barron Plaza?

A. Lounge chair

B. Chair w/ back

C. STOOP bench (stepped)

D. STRIPES bench (semi-circular backless)

E. Solstice Umbrella w/ fixed tables and chairs

F. Rapson Rocking Chair

# Clarifications?





# Working Group Discussion

# Public Comment

# Next Steps

# Cambridgema.gov/RiverStreet



Community Development Calendar | Projects | Publications | Forms | Contact Us | cambridgema.gov

Text Size: A A A

Enter keyword(s)

COMMUNITY DEVELOPMENT DEPARTMENT  
344 Broadway

CLIMATE  
& ENERGY

ECONOMIC  
DEVELOPMENT

FACTS  
& MAPS

HOUSING

PARKS &  
PLAYGROUNDS

PLANNING &  
URBAN DESIGN

TRANSPORTATION

ZONING &  
DEVELOPMENT

CDD > Projects > River Street Reconstruction

## River Street Reconstruction

Take our [survey](#) and tell us how River Street works for you today!

The River Street Reconstruction project will upgrade the sanitary sewer, stormwater and water subsurface infrastructure while developing a new surface design for River Street, the bus terminal area at River and Magazine Streets near Central Square, and Carl Barron Plaza. The project aims to create a streetscape design that meets the needs of all the various users and in a way that engages the local community, contributes to overall enhancement of the neighborhood, and meets the City's goals related to infrastructure, transportation, and urban design.

The concurrent design of Carl Barron Plaza, the significant open space at the heart of Central Square will include consideration of public art, fixed and/or unfixed furniture, access, plantings, and landscaping. The design must also consider the complexity of transportation needs related to the bus bays adjacent to the Plaza and people moving through the plaza.

The community outreach and design processes will occur throughout 2019 and into early 2020. Construction is anticipated to begin in Spring 2020.

[Click here to sign up for email updates on this project.](#)

[Click here to provide general comments and feedback.](#)

The **Public Input Map** is now closed, but you can still access it through the link to see what input was provided on issues and opportunities along River Street and in Carl Barron Plaza. Soon we will be posting a survey to understand how you use River Street today so that we can use that input in the design and also compare to a similar survey after the construction is complete.

### Quick Links

I'd like to learn more about...

Select a Topic

Neighborhood or Square

Select One

Current Projects...

Select One



[Click the Map to  
Explore Cambridge](#)

**A 5-STAR Community  
and National Leader in  
Sustainability**



[The Latest](#) | [Schedule](#) | [Description](#) | [Community Process](#) | [Documents](#) | [Carl Barron Plaza](#)  
[Contact](#)

September 2019

# Complete and Share the Pre-Construction Survey!!

- Still live at [cambridgema.gov/riverstreet](http://cambridgema.gov/riverstreet)
- Will become the “before” survey for the River Street Reconstruction
- When the post-construction survey is complete, the two will help the City evaluate the project
- **Please help us distribute to your neighbors!**

1. What brings you to River Street? (Check all that apply)

I live nearby

I work nearby

I go to school nearby

I shop or do errands nearby

Other (please specify)

OK

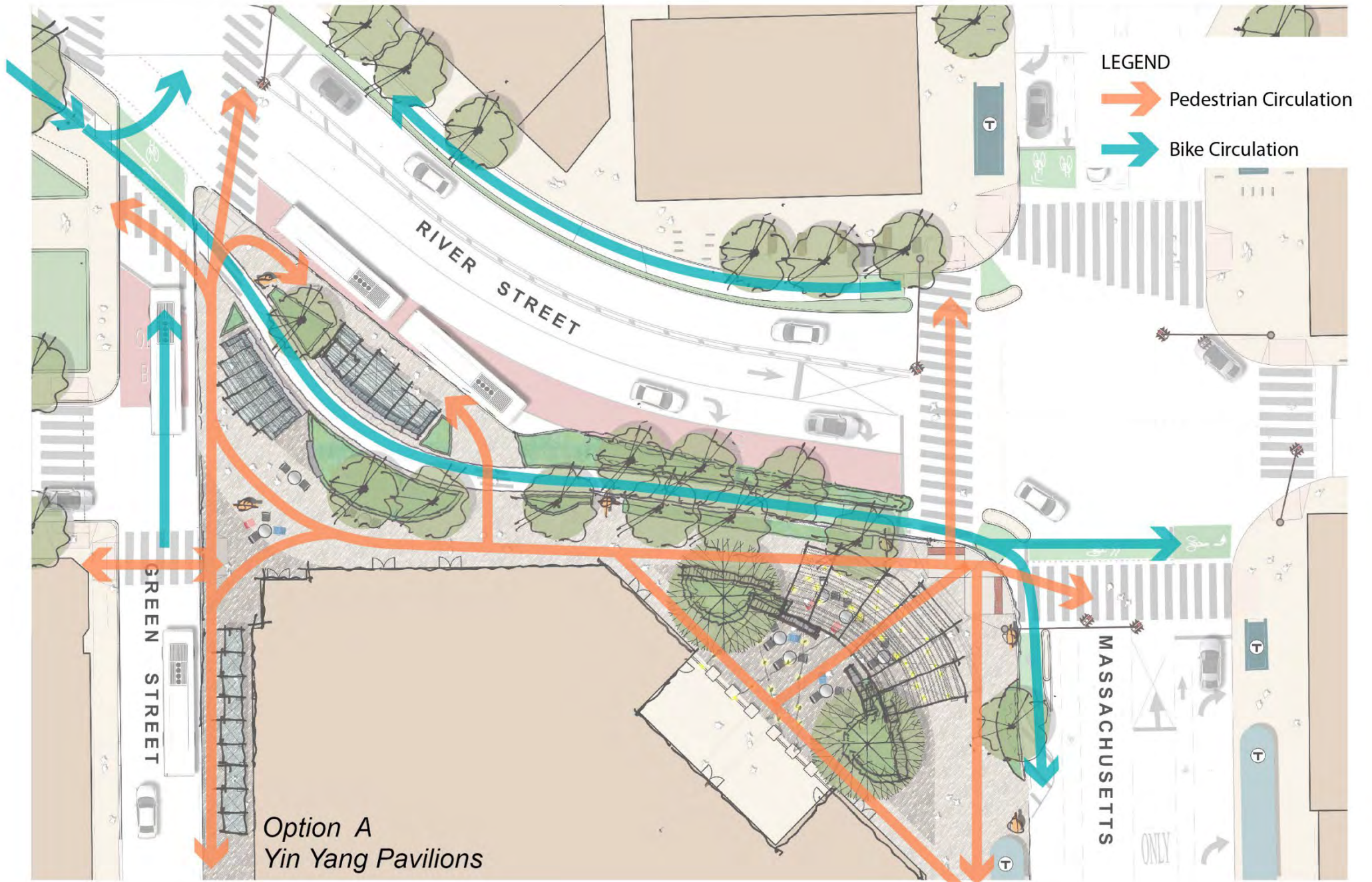
THANK YOU!

[riverstreet@cambridgema.gov](mailto:riverstreet@cambridgema.gov)

# Option A Yin Yang Pavilions



# Option A Circulation Diagram





# Option A Birdseye View 1



*View across Mass Ave. toward Carl Barron Plaza and Western Ave.*

Not shown at Working Group #10; added at the request of Working Group members.

# Option A Birdseye View 2



*View SE across Western Ave. to transit hub at Carl Barron Plaza*

Not shown at Working Group #10; added at the request of Working Group members.

Option A | Perspective 1



*View SE along transit hub toward Holmes Building*

Option A | Perspective 2



*View from Mass Ave toward Holmes Building*

Option A | Perspective 3



*View looking toward River Street at Mass Ave*

# Option A | Perspective 4

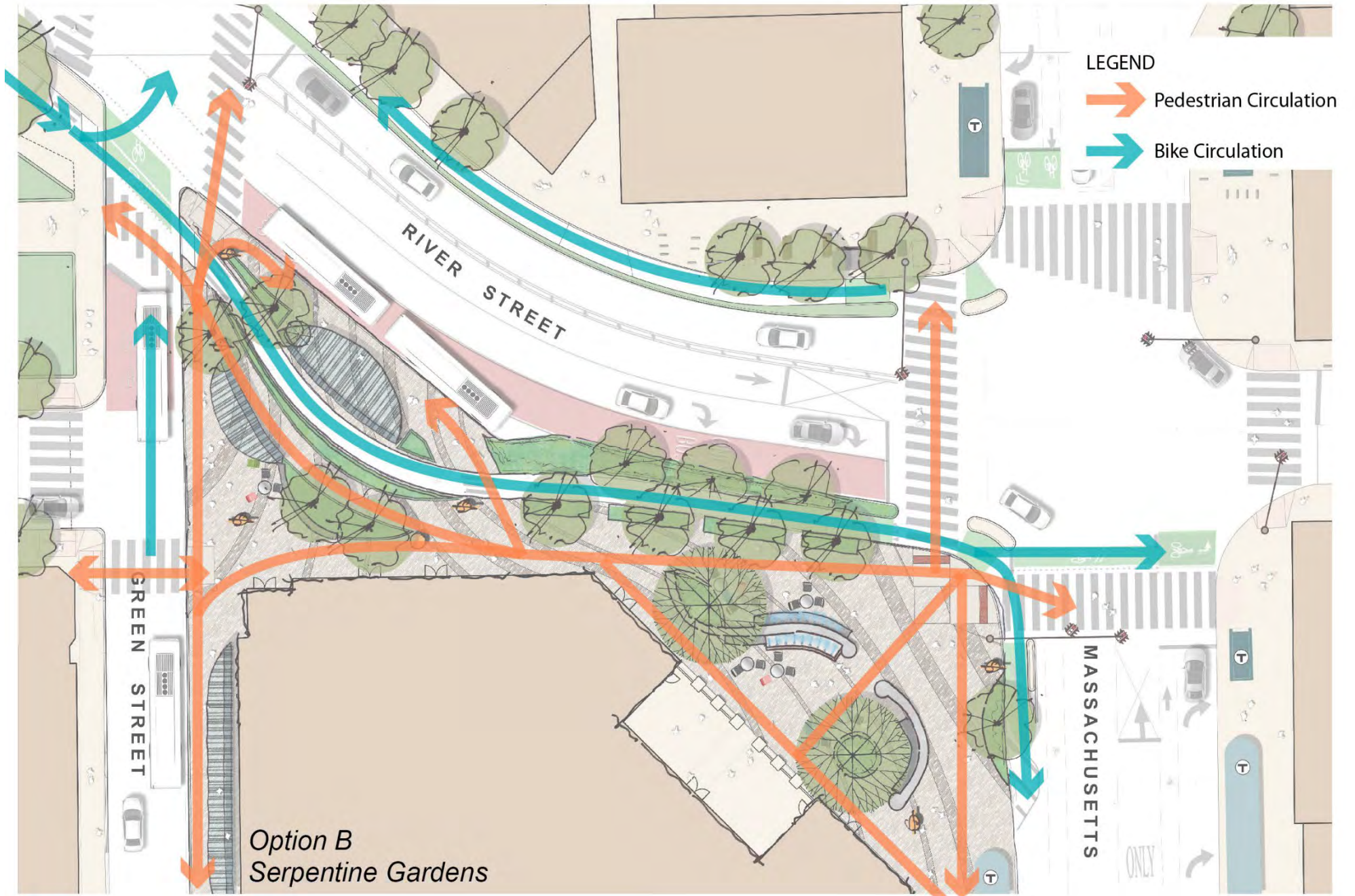


*View toward church at Green Street end of Plaza*

# Option B Serpentine Gardens



# Option B Circulation Diagram





# Option B Birdseye View 1



*View across Mass Ave. toward Carl Barron Plaza and Western Ave.*

# Option B Birdseye View 2



*View SE across Western Ave. to transit hub at Carl Barron Plaza*

Not shown at Working Group #10; added at the request of Working Group members.

Option B | Perspective 1



*View SE along transit hub toward Holmes Building*

Not shown at Working Group #10; added at the request of Working Group members.

Option B | Perspective 2



*View from Mass Ave toward Holmes Building*

Option B | Perspective 3



*View looking toward River Street at Mass Ave*

# Option B | Perspective 4

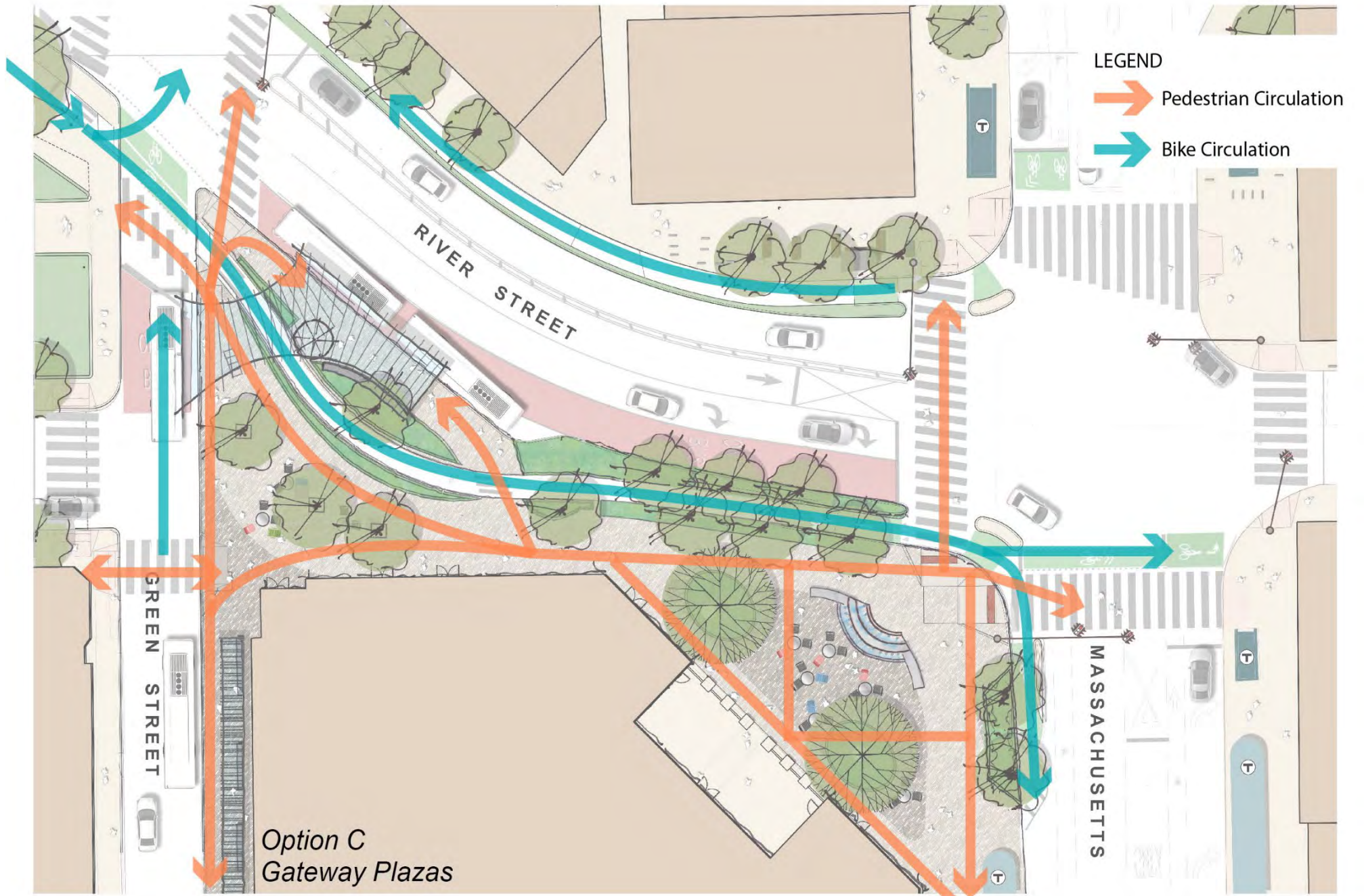


*View toward church at Green Street end of Plaza*

# Option C Gateway Plazas

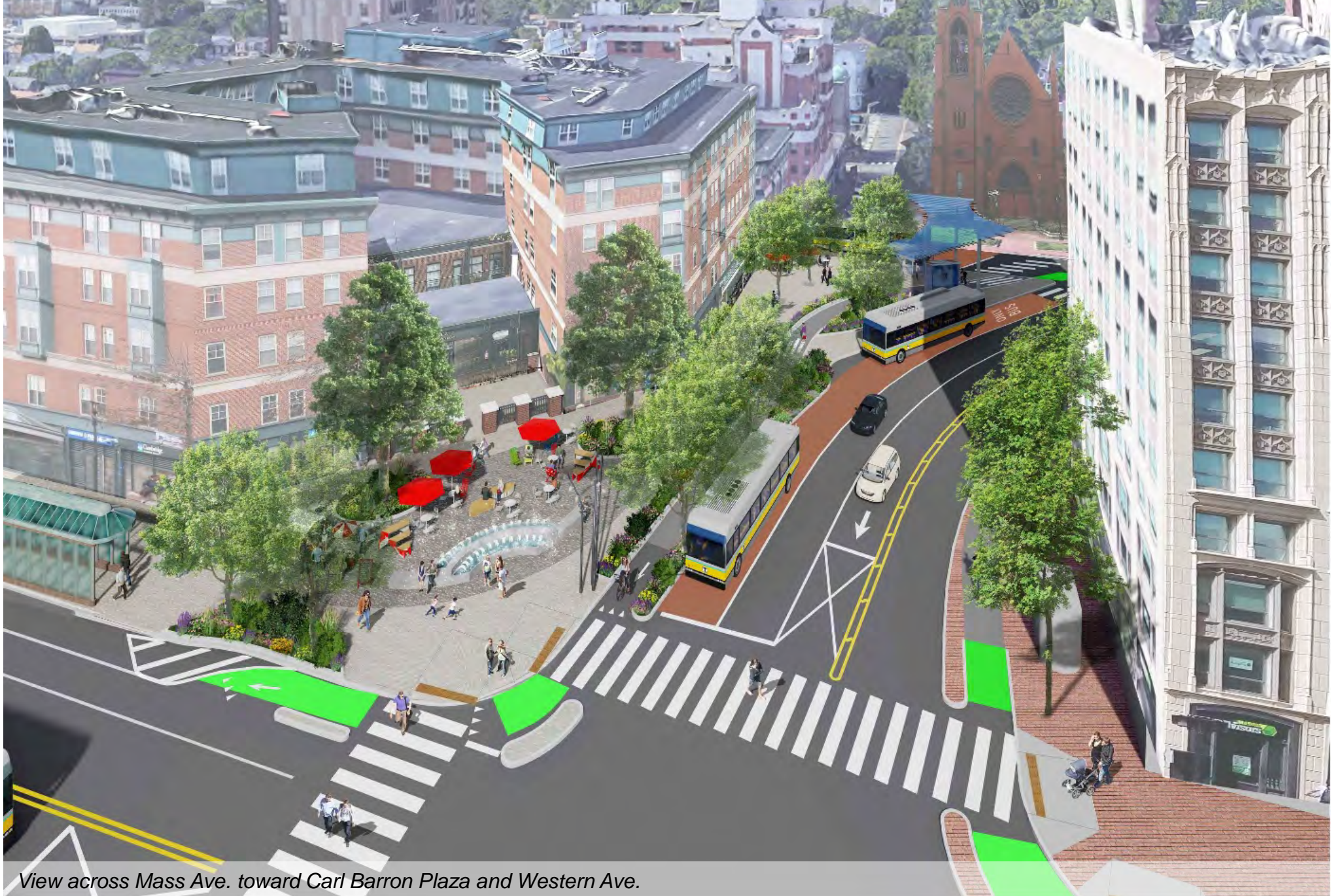


# Option C Circulation Diagram





# Option C Birdseye View 1



*View across Mass Ave. toward Carl Barron Plaza and Western Ave.*

# Option C Birdseye View 2



*View SE across Western Ave. to transit hub at Carl Barron Plaza*

# Option C | Perspective 1



*View SE along transit hub toward Holmes Building*

# Option C | Perspective 2



*View from Mass Ave toward Holmes Building*

# Option C | Perspective 3



*View looking toward River Street at Mass Ave*

# Option C | Perspective 4



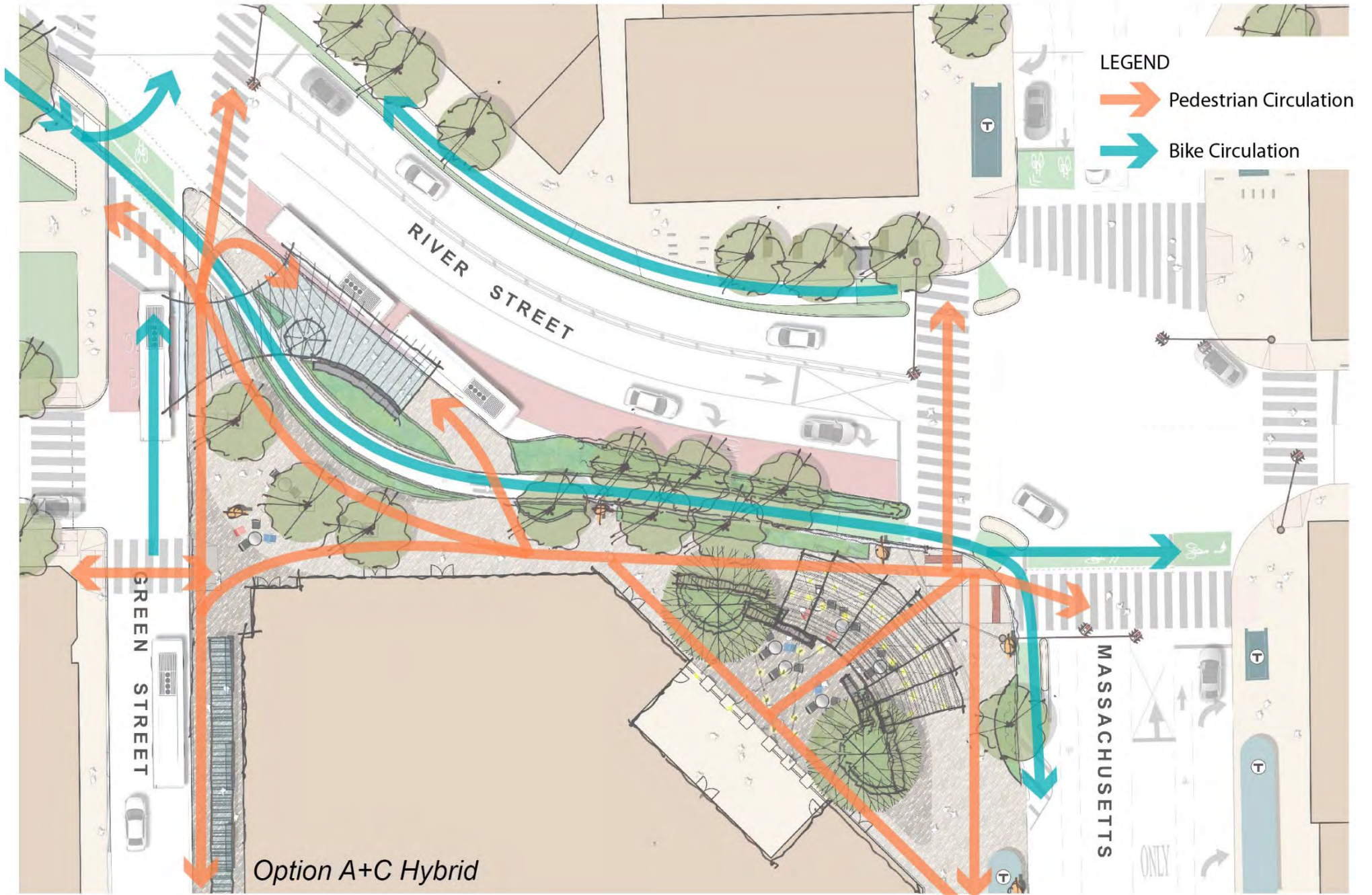
*View toward church at Green Street end of Plaza*

# Option A+C Hybrid



Not shown at Working Group #10; added at the request of Working Group members.

# Option A+C Hybrid Circulation Diagram



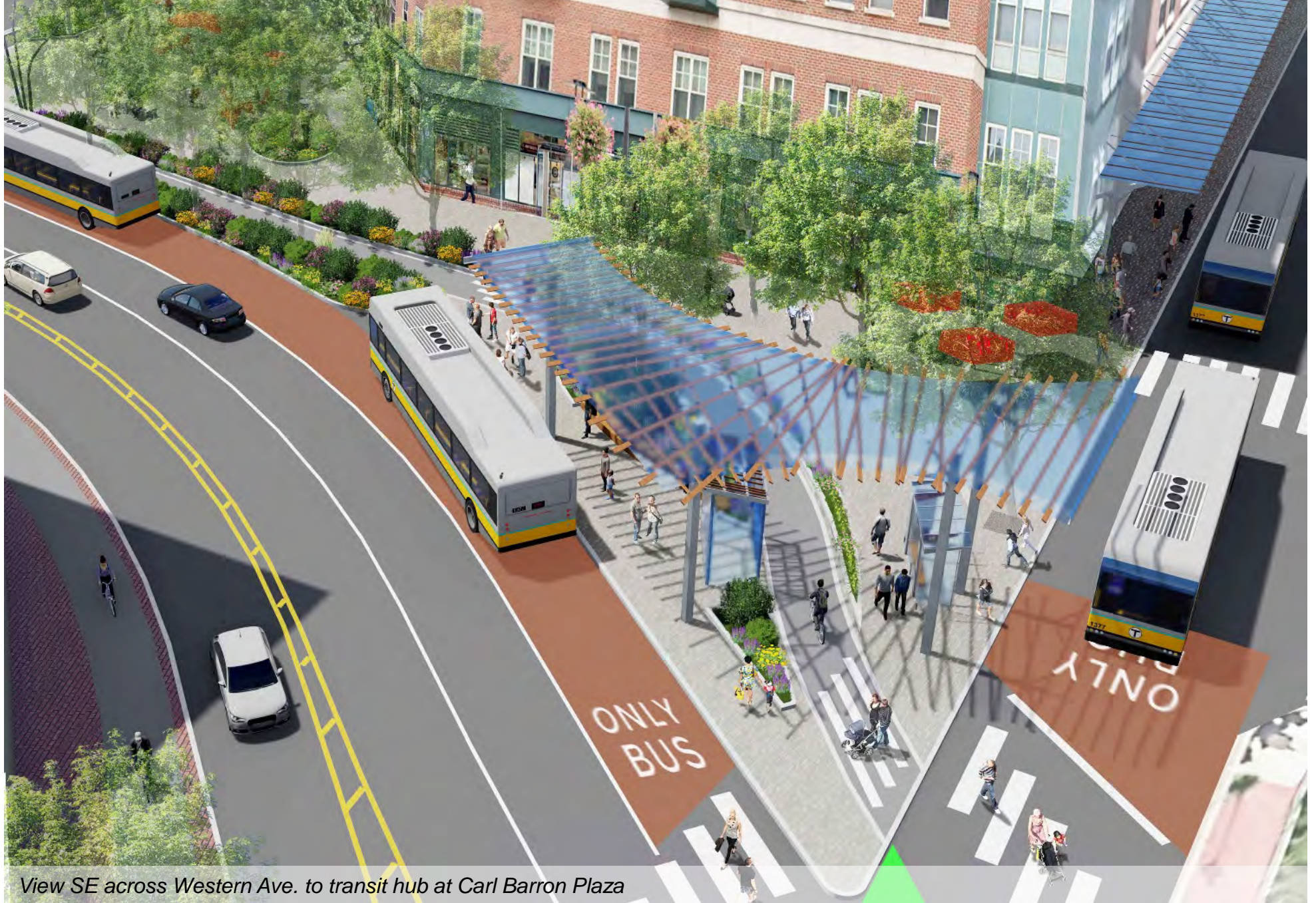


# Option A+C Hybrid Birdseye View 1



*View across Mass Ave. toward Carl Barron Plaza and Western Ave.*

# Option A+C Hybrid Birdseyeye View 2



*View SE across Western Ave. to transit hub at Carl Barron Plaza*

# Option A+C | Perspective 1



*View SE along transit hub toward Holmes Building*

Not shown at Working Group #10; added at the request of Working Group members.

Option A+C | Perspective 2



*View from Mass Ave toward Holmes Building*

# Option A+C | Perspective 3



*View looking toward River Street at Mass Ave*

Option A+C | Perspective 4



*View toward church at Green Street end of Plaza*