



**GRAND  
JUNCTION**  
multi-use path

CITY OF CAMBRIDGE  
**GRAND JUNCTION MULTI-USE PATH DESIGN PROJECT**  
**WORKING GROUP #3 – OCTOBER 1, 2019**



# MEETING AGENDA

# Welcome!

- Introductions and welcome (10 min)
- Recap meetings held to date (20 min)
  - Stakeholder groups
  - Agency meetings
  - July 22 Working Group meeting homework
- Design challenges for the conceptual design phase (35 min)
  - Street crossings
  - Limited right-of-way
- Public Art Elements/Overview (30 min)
- Public comment (10 min)
- Upcoming meetings schedule (5 min)
  - Working Group Meeting #4, early December 2019
  - Community Meeting #2, January 2020
- Next steps (5 min)

# Review of meeting guidelines

- Be prepared
- Stay on schedule
- Reserve "airtime" for Working Group members
- Step up/step back – everyone on Working Group speaks
- One person speaking at a time
- Don't repeat ("air knock" for agreement)
- Turn tent on side (if you like, instead of raising hand)
- Silence phones
- Do what you need to (take phone call outside, use restroom)
- Listen
- Assume good intentions
- Disagreement is ok but don't criticize



# RECAP OF MEETINGS HELD TO DATE

## Events

- Volpe Block Party – Sennot Park – Sunday, September 8
- PARK(ing) Day – Central Square – Friday, September 20
- Port Pride Day – Saturday, September 21

## Emerging themes

- Multi-Use Path project is new to many in the Cambridge community
- People expressed interest in the path as:
  - Recreation
  - Commute corridor
  - Neighborhood amenity



**Cambridge PARK(ing) Day - September of 2019**

## Key points

- Advocacy groups -- Friends of the Community Path and Friends of the Grand Junction Path -- applied for grants to study the feasibility of connections north from Grand Junction Multi-use Path:
  - to the Community Path Extension (part of the Green Line Extension project)
  - to the Mystic River, Northern Strand Trails via Sullivan Square
- Other organizations continue to advocate for a southern connection in the area of the BU Bridge in the Allston Interchange/I-90 Turnpike project



GJ Community Meeting - Summer of 2019

## Key points

- Establishing points of contact between agencies and institutions
- Reconfirming design standards and basic project assumptions
- Confirming details of interim northern connection on Gore St
- Discussing initiatives outside of this project scope, for example:
  - A cross-river bicycle and pedestrian connection at the BU bridge
  - Transit considerations with the Allston Interchange/I-90 Turnpike project
  - Connections to the Green Line Extension project extension of the Community Path



CAMBRIDGE  
REDEVELOPMENT  
AUTHORITY

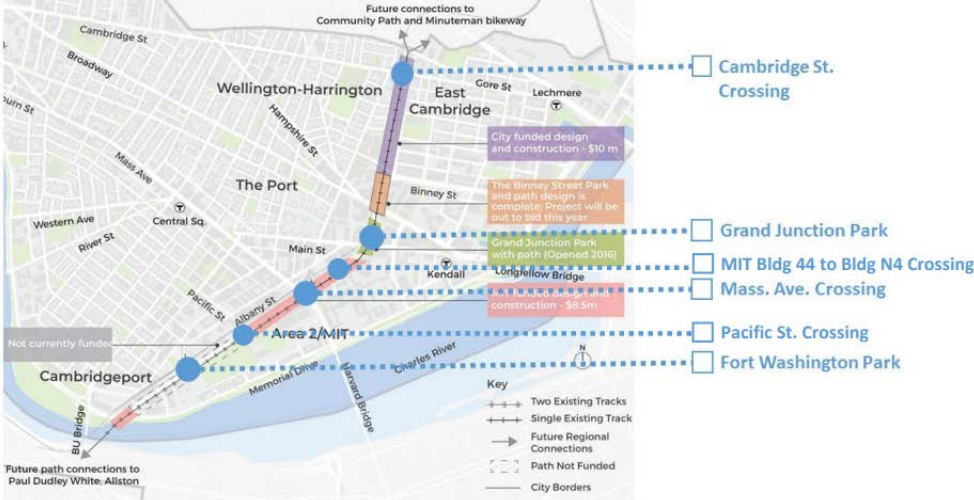


# REVIEW: WORKING GROUP SITE VISITS

## Emerging themes

**Site visit information:**

- Which location did you visit? Mark box or approximate location.



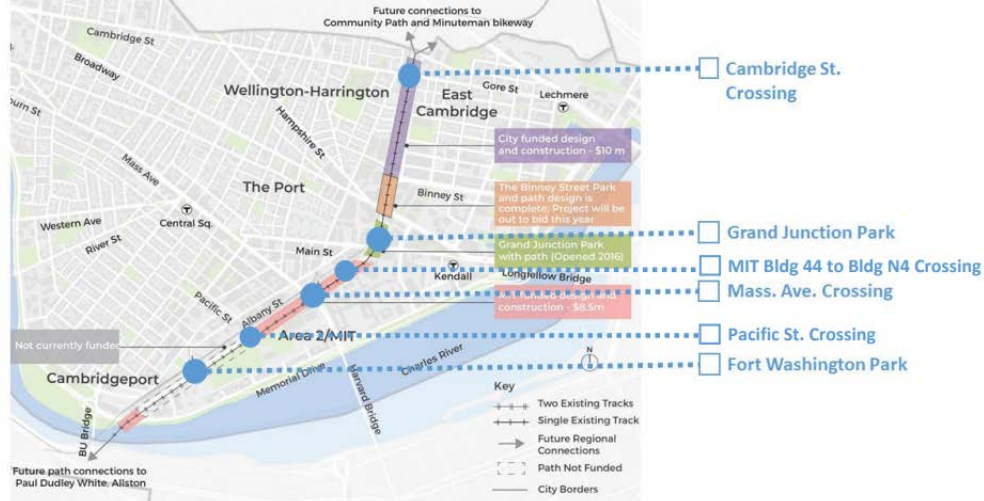
- What day and time was your visit?
- How did you get to and from this location? Circle all that apply.  
Walk    Personal Bike    Bike Share    Bus    Train    Drive    Shared Ride  
Other (describe):
- If the multi-use path were in place today, would you change how you get to and from this location?
- Did you visit alone or with others? Describe your group, if applicable.

- What did you see:
  - At street crossings – many people, drive or walk, some bike, transit is important
  - Nearby destinations: King Open School, Twin City Plaza, Lechmere, Gold Star Mothers' Park, Kendall Square-area offices, MIT, One Kendall Square, cafes and restaurants
  - Concerns: safety, especially at night, fewer "eyes on the street" between street crossings
- What do you hope to see:
  - Separation from traffic – dislike noise and pollution, likes – trees
  - Separation from rail with fence/barrier at minimum, trees and berms (like Grand Junction Park)

# REVIEW: WORKING GROUP SITE VISITS

**Site visit information:**

1. Which location did you visit? Mark box or approximate location.



2. What day and time was your visit?

3. How did you get to and from this location? Circle all that apply.

Walk    Personal Bike    Bike Share    Bus    Train    Drive    Shared Ride

Other (describe):

4. If the multi-use path were in place today, would you change how you get to and from this location?

5. Did you visit alone or with others? Describe your group, if applicable.

## Emerging themes

- What amenities do you hope to see:
  - Adirondack chairs at GJ Park are nice
  - Water fountains, trash bins and seating
  - Bicycle parking and BlueBikes stations
  - Public art
  - Trees, plantings - flower beds
  - Renewed and integrated park/open spaces
- What transportation features do you hope to see:
  - Separating directions of travel and separation of peds from bikes where possible
  - Signalized pedestrian crossings, e.g. at Cambridge St, Binney St

# REVIEW: WORKING GROUP SITE VISITS

## Amenities



## Transportation Elements



## Destinations



## Discuss: Emerging themes

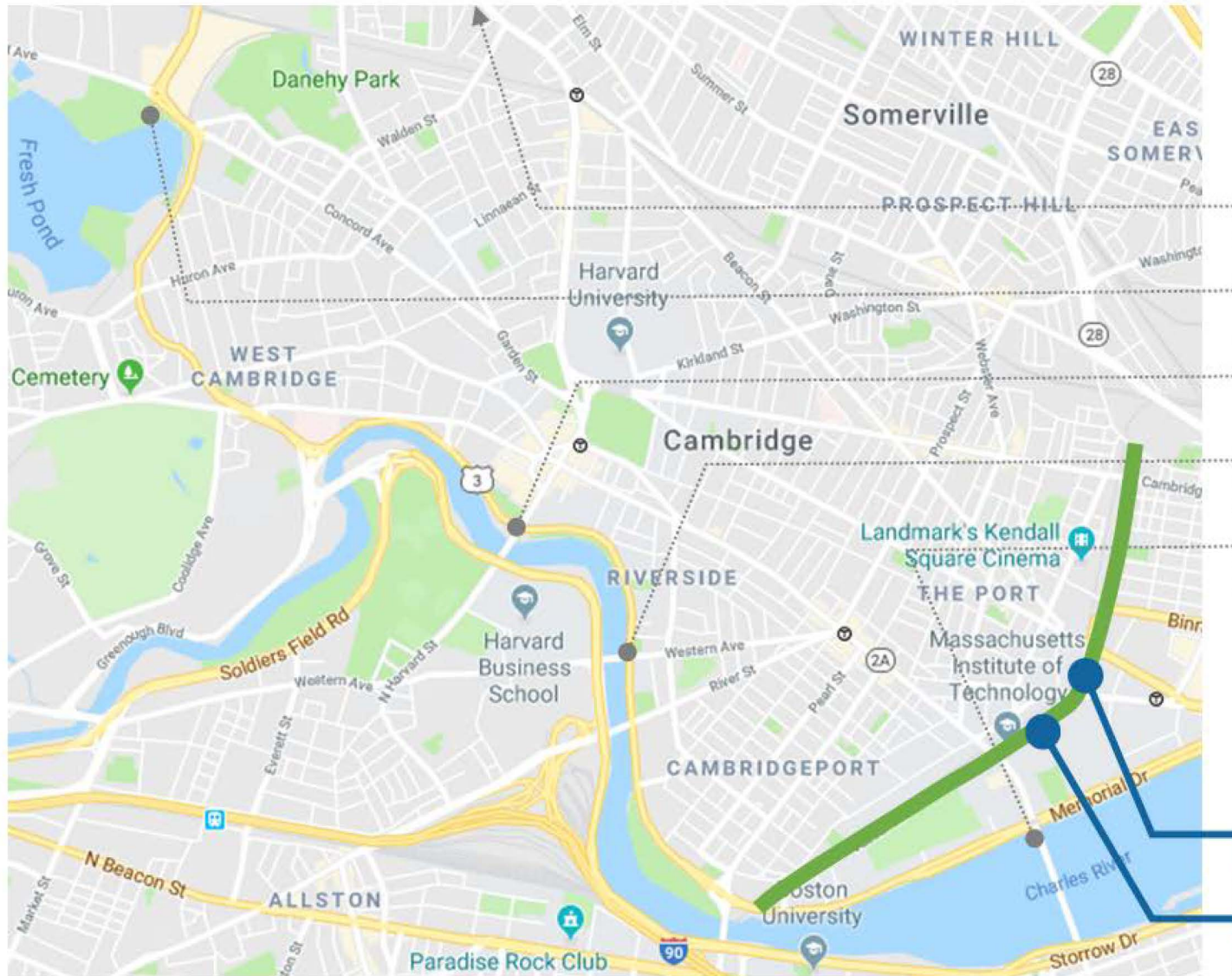
- Are there other elements that you think are important as we work on designing the connecting streets, multi-use path, crossings, and intersections?
- For people who visited the future path, did you find something new about the places you visited?
- Also, was there something that wasn't captured in the summary?

## **Demand estimates for Grand Junction Multi-Use Path**

City of Cambridge asked the Metropolitan Area Planning Council to estimate the number of people cycling on the future Grand Junction MUP on an average weekday.

- Estimated Average AM and PM rush hour combined cyclists:
  - North of Main Street: 468
  - South of Main Street: 558

# REVIEW: REGIONAL PATH DEMAND ESTIMATES



## 2018 Cambridge bike counts of AM and PM peak hour cyclists

178: Linear Park at Mass Ave

169: Fresh Pond path

225: Mem. Dr. at JFK

283: Mem. Dr. at Western Av.

291: Mem. Dr. at Mass Av.

## MAPC Estimates of AM and PM peak hour cyclists

468: North of Main St.

558: South of Main St.



# DESIGN CHALLENGES FOR THE CONCEPTUAL DESIGN PHASE

## Street crossings



View of MIT owned section of the GJ corridor looking north at the Mass Ave Crossing

## Limited rights-of-way

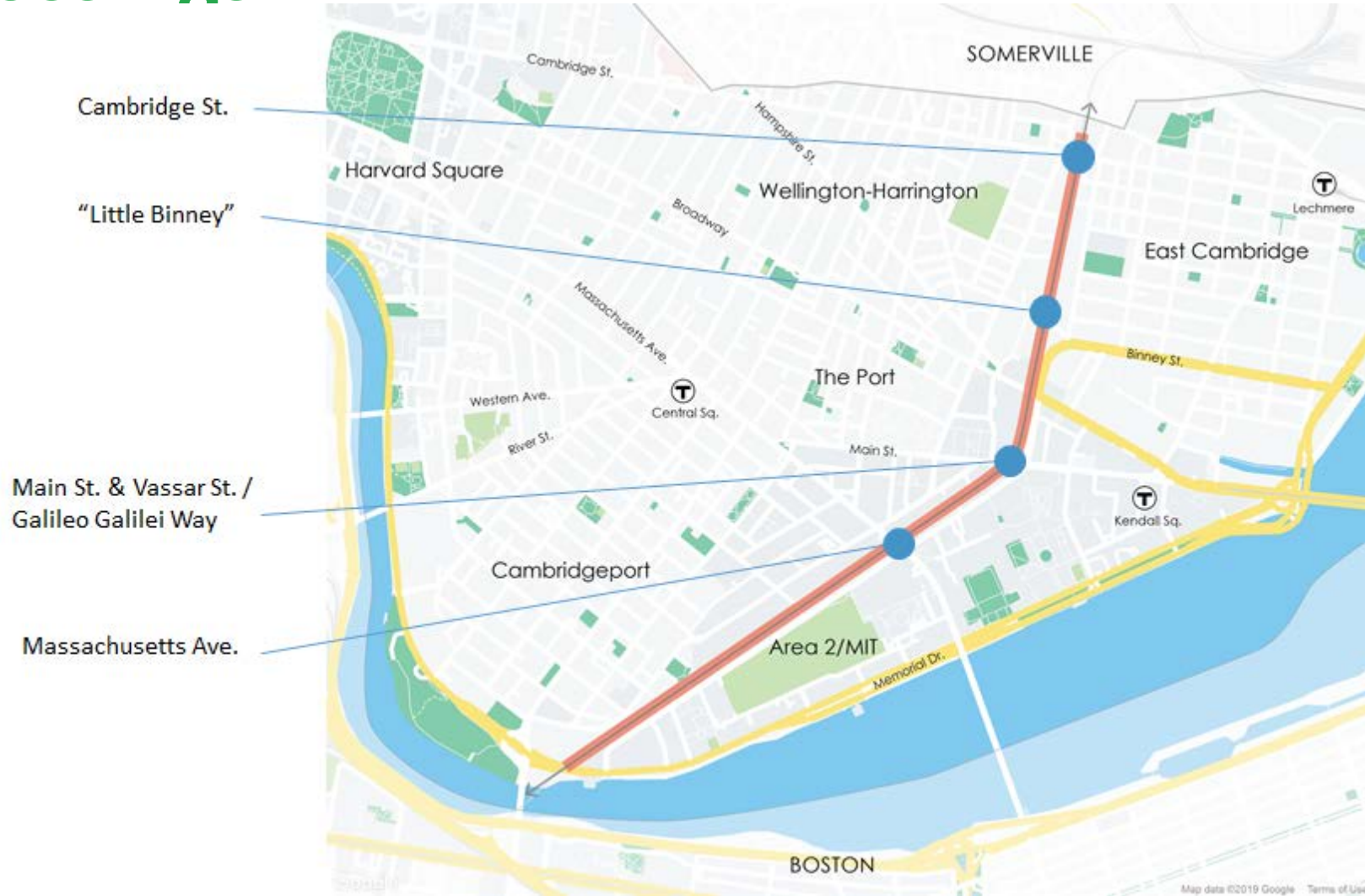


View looking south from northern section of GJ corridor towards Cambridge Street



# CONCEPTUAL DESIGN CHALLENGES: STREET CROSSINGS

## Street crossings



## The transportation design challenge – It's not about modes, it's about PEOPLE

- People in a City like Cambridge often have **choices**; and are not typically restricted to one mode.
- People **choose** to walk, bike, take transit, or drive depending on weather, details of their day, preferences, etc.
- Some people do have mobility restrictions or other life factors that make walking and biking a much more difficult **choice**.
- The city has policies to **reduce drive alone trips** in favor of sustainable, active modes (public transit, walking, biking) for reasons related to health, climate, accessibility, and equity.
- ***This means that we must strive to make walking, biking, AND taking public transit as comfortable and convenient as possible.***
- The challenge is how best to offer a robust sustainable transportation system that makes walking, biking AND public transit feasible, competitive, and safe to get around in constrained right of ways.

## The transportation design challenge – It's not about modes, it's about PEOPLE



## Sample pedestrian crossings and safety features

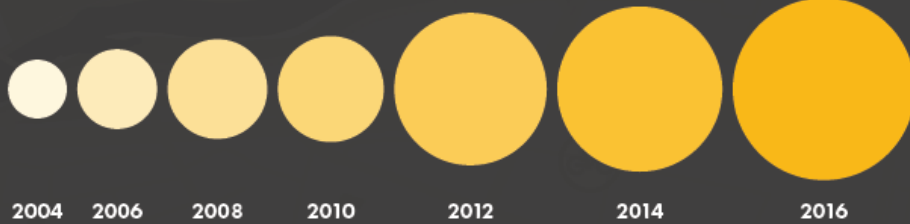


## Bicycle safety




- Extensive data collection and analysis from Cambridge Bicycle Plan (2015)
- Collecting data for Bicycle Plan Update (2020)

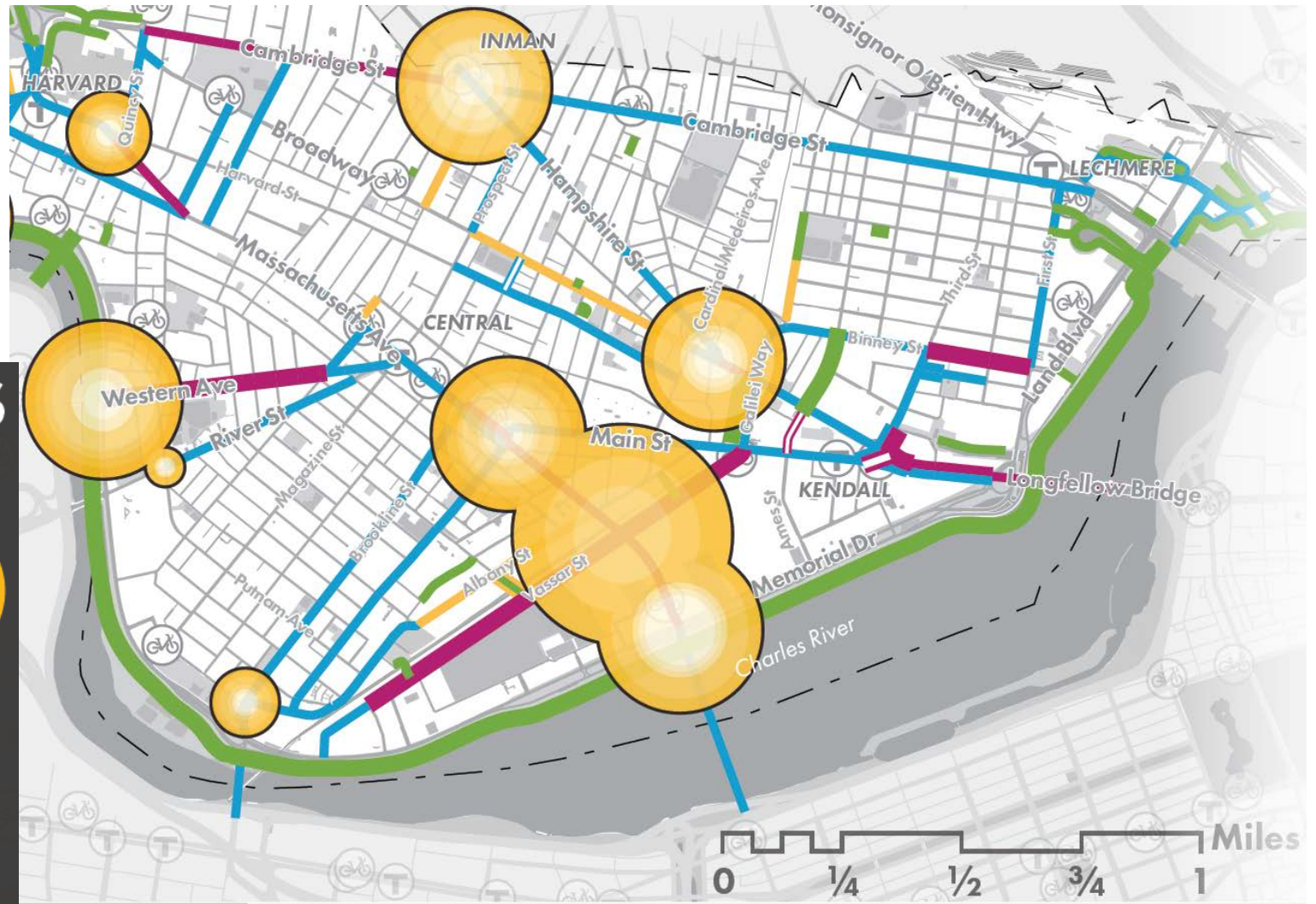
### BICYCLE COUNT STATIONS

# bicyclists counted by year



#### existing bicycle facilities (2019)

- |  |  |   |                      |
|--|--|---|----------------------|
|  | shared-use path                        |  | buffered bike lane   |
|  | sidewalk-level separated bike lane     |  | striped bike lane    |
|  | on-street, striped separated bike lane |  | contraflow bike lane |
|  | contraflow separated bike lane         |  | shared street        |
|  | bus bike lane                          |  | shared-lane marking  |



## Bicycle safety

- Bicycle Crash Rates – per million bicycle miles traveled (BMT)
- High Bicycle Ridership @ Cambridge Street and Mass Ave

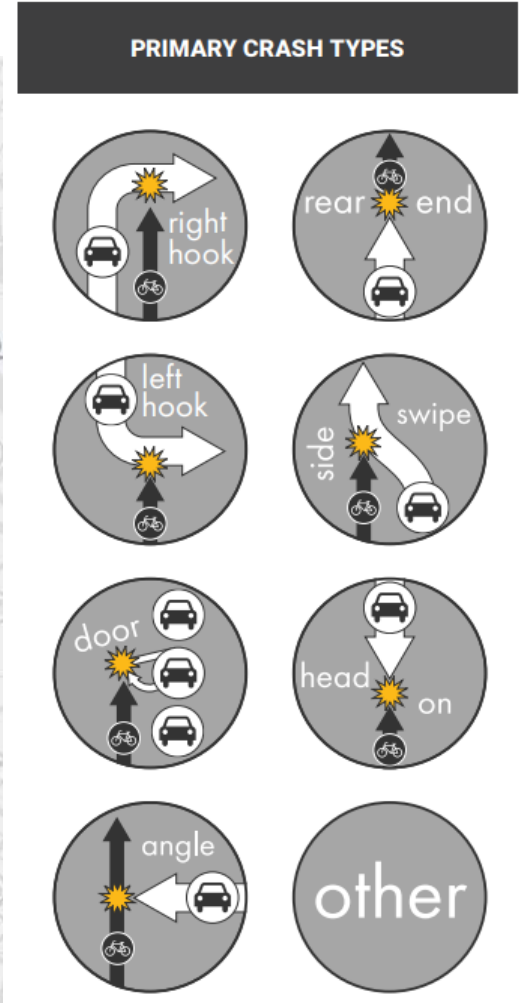
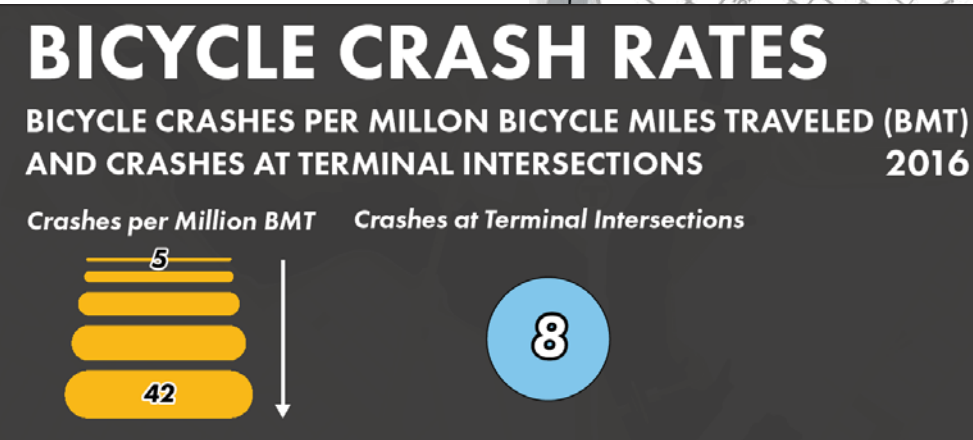
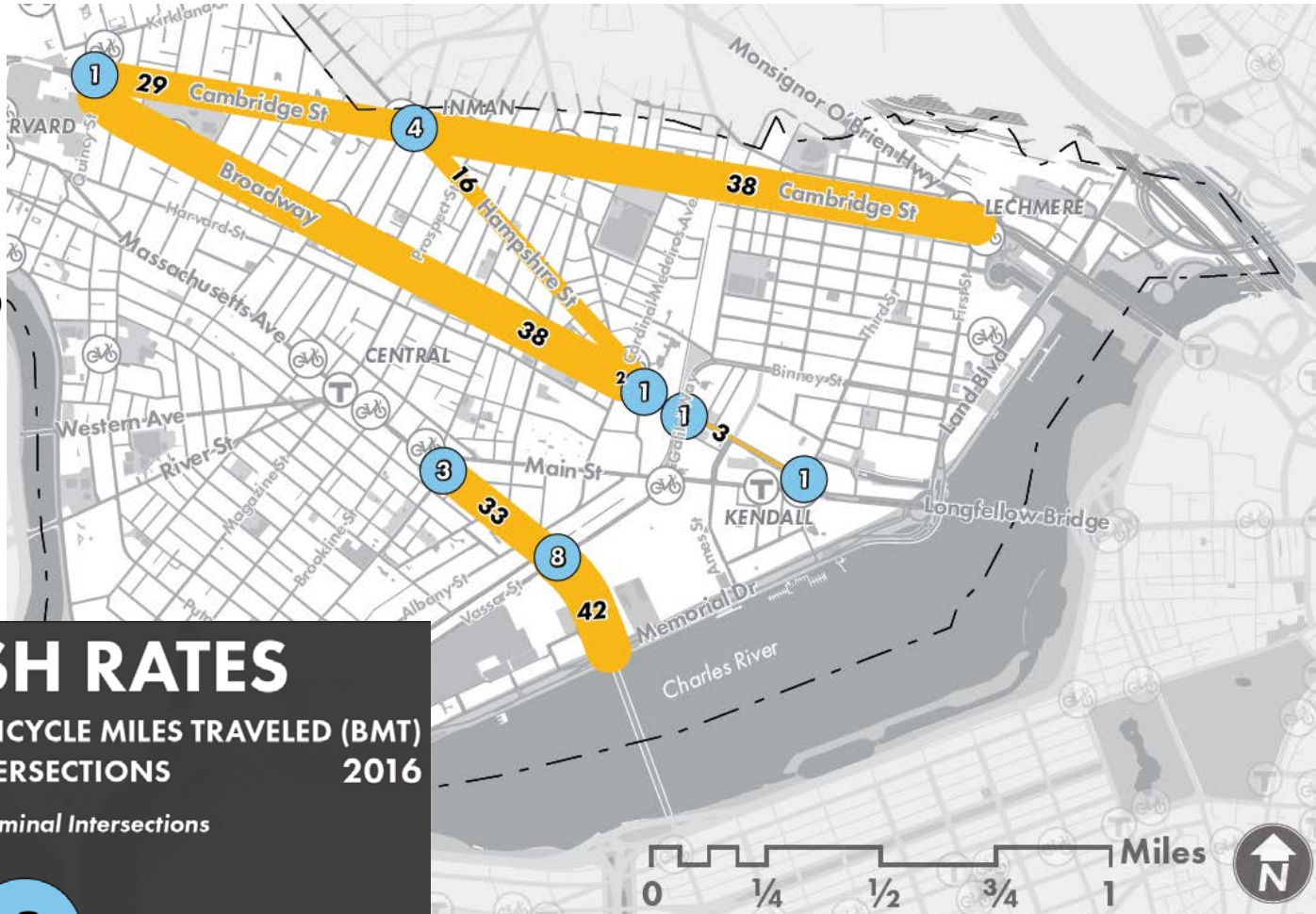


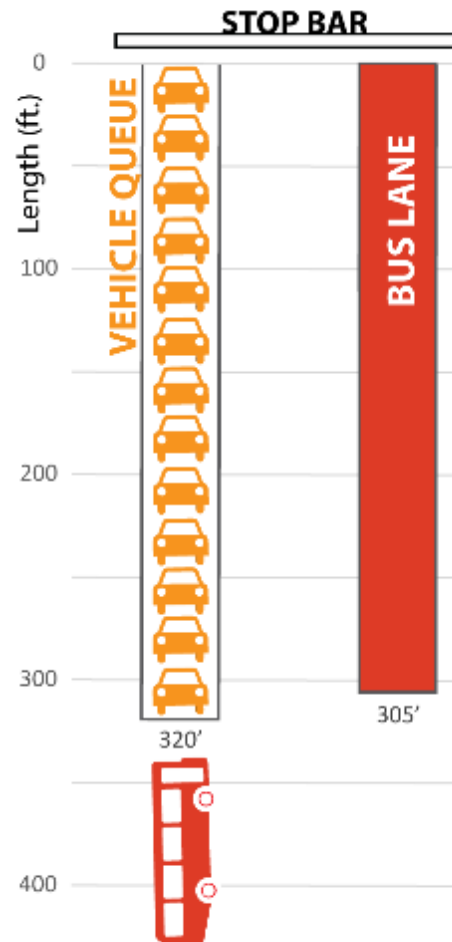
Figure 3.17: Primary Bicycle Crash Types

## Tools for analyzing transportation

### Transit delay and reliability

We look at delay and reliability for buses:

- We measure delay (travel times) due to:
  - Congestion
  - Traffic Signal Delay
- The amount of delay and congestion directly affects the amount of transit service that can be provided - MBTA plans its service based on 90th percentile travel times
- Reliability is absolutely critical to reduce "bus bunching" and provide predictable service
- Total delay is the vehicle delay multiplied by the number of people on a bus
- We justifying bus priority on benefit to **PEOPLE**, not vehicles



# Tools for analyzing transportation

## Vehicle capacity analysis

Tools we use to understand operational challenges:

- Volume compared to capacity (V/C ratio)
- Queuing in peak times (50th and 95th percentiles)
- "Level of Service" – measure of delay, rated A-F. NOTE THAT LOS D and E are **acceptable** in an urban area

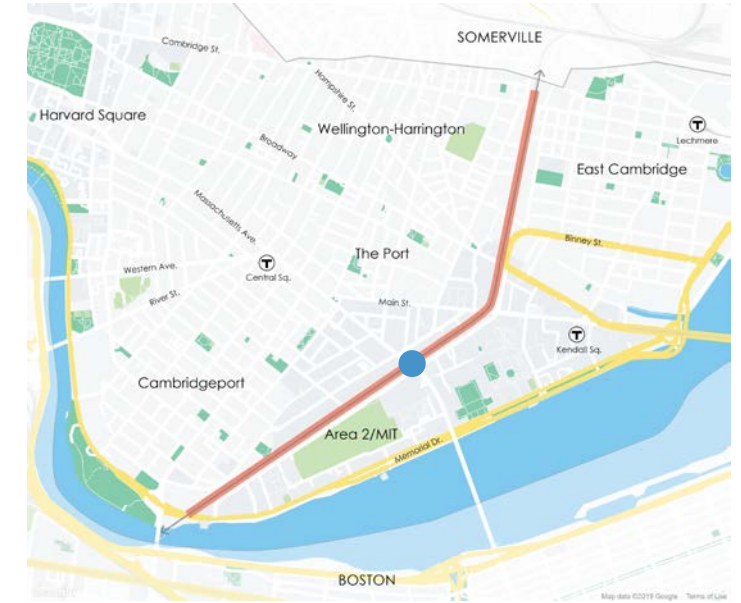
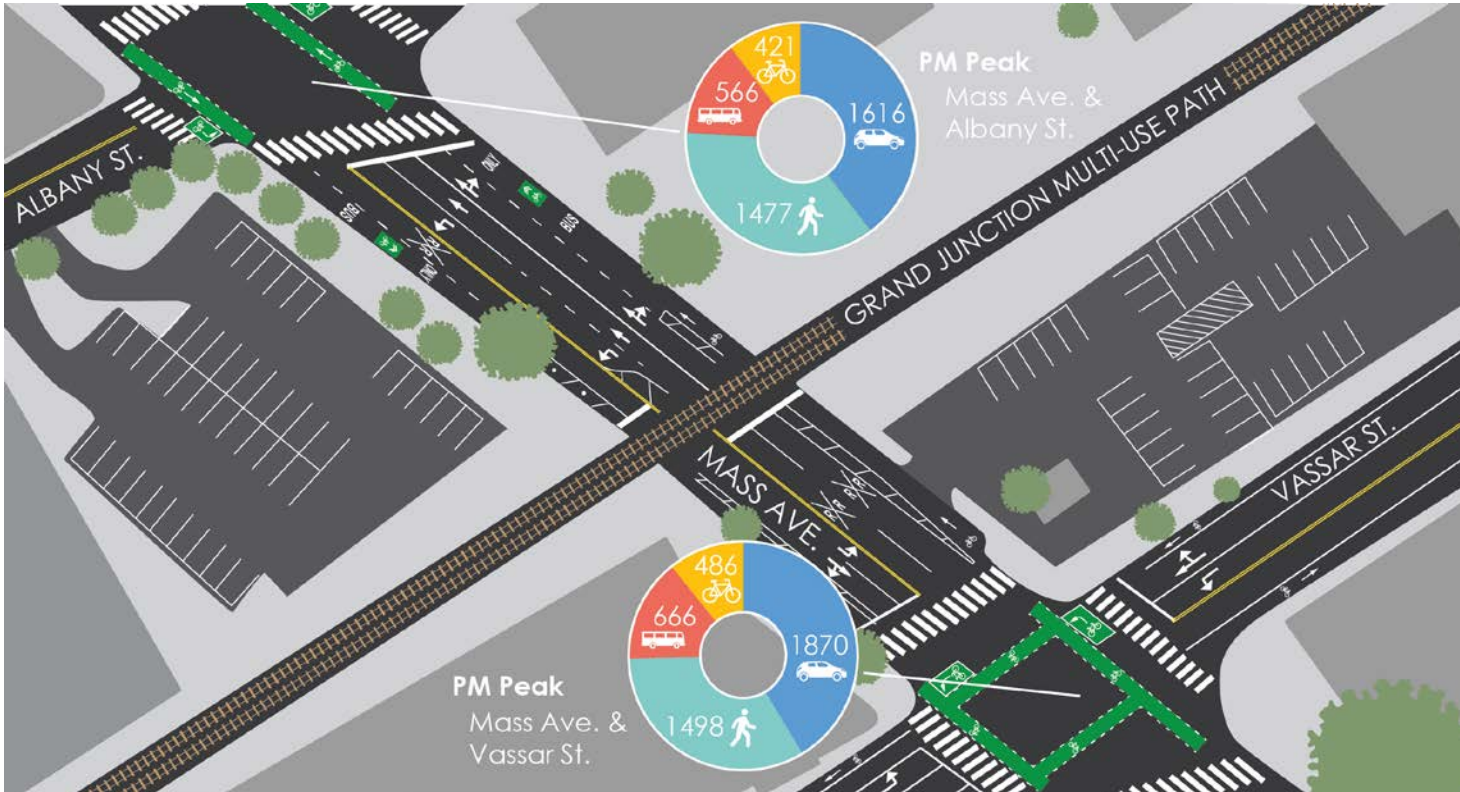
We aim to move traffic consistently, slowly, and safely, but not eliminate delay.

- Level of Service (LOS)
  - A standard measurement, based on vehicle delay and speed, which reflects the relative ease of traffic flow on a scale of A to F
- LOS "A": free-flow traffic
- LOS "F": highly congested traffic conditions



## Massachusetts Avenue

- Quick build project introduced separated bicycle facilities and a southbound bus lane to the north and south of these intersections
- Additional updates will be made in the near term
- Signal coordination with Vassar and Albany intersections

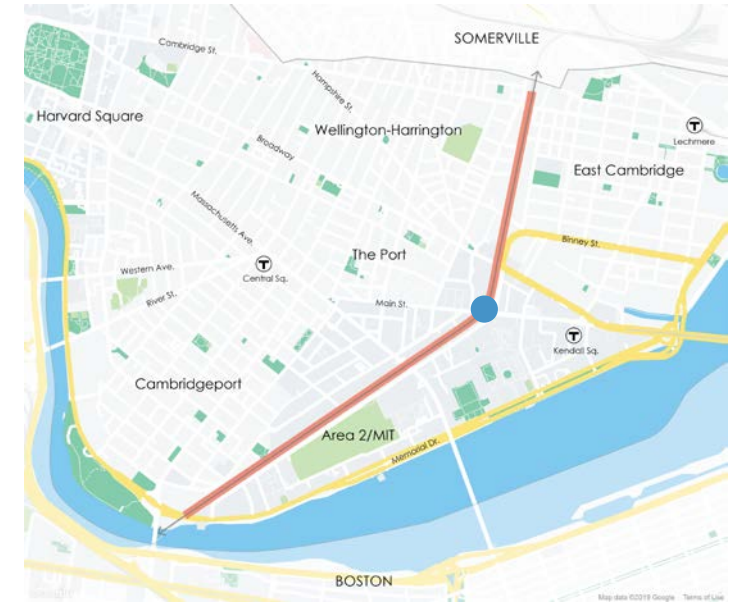


What Else?

# CONCEPTUAL DESIGN CHALLENGES

## Main Street & Vassar Street / Galileo Galilei

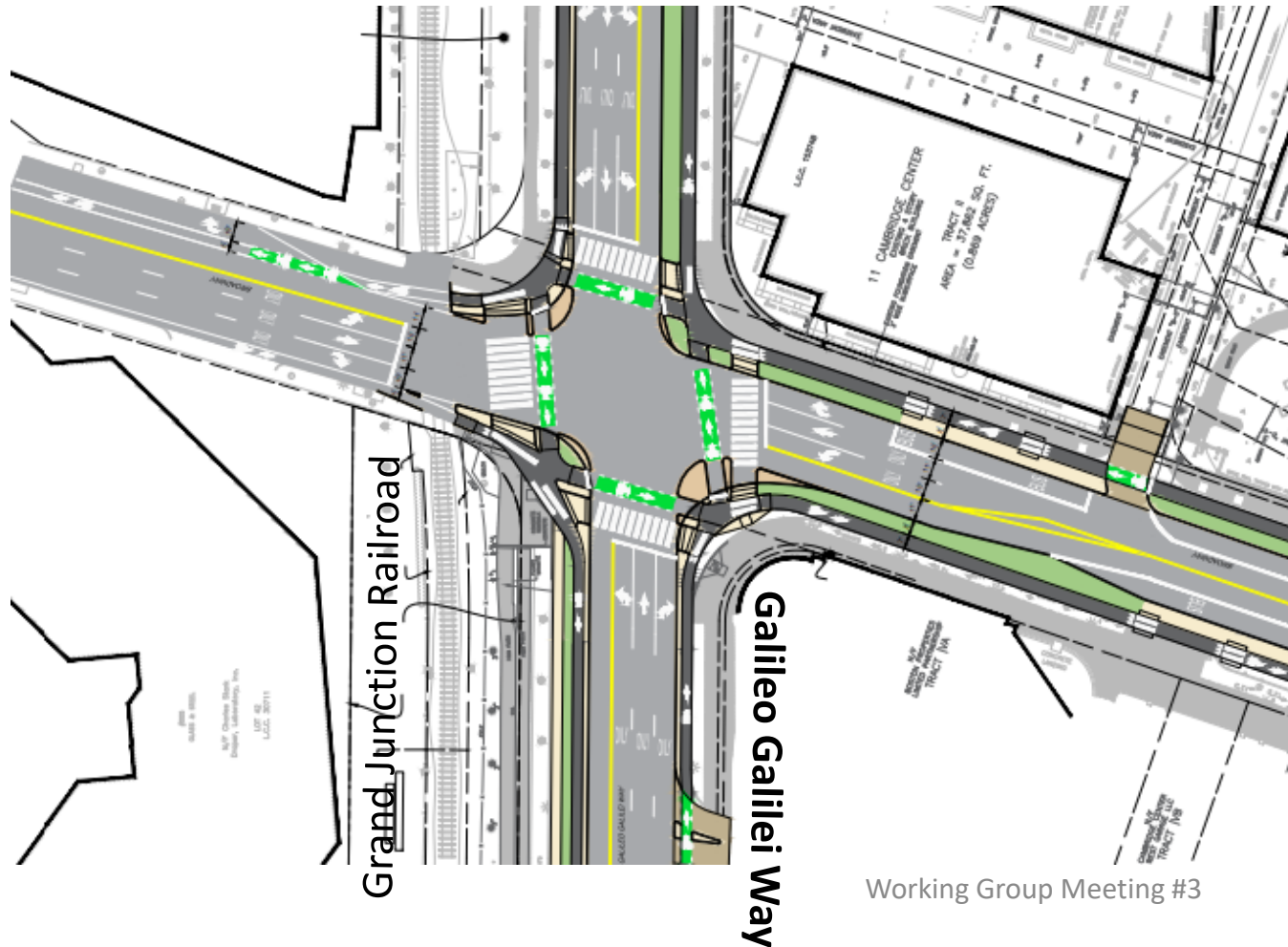
- Path transitions from west side of tracks and into GJ Park
- Provide a separated connection from GJ path to GJ park
- Integrate signaled crossing with Main and Vassar St Intersection



What Else?

## Broadway / Galileo Galilei Way

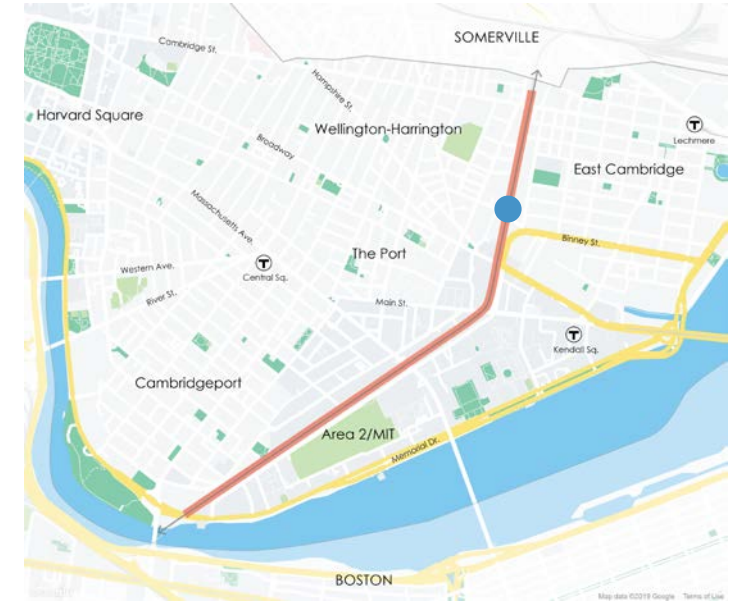
- Being designed as part of other processes – early concept design shown below



**Broadway**

## Little Binney

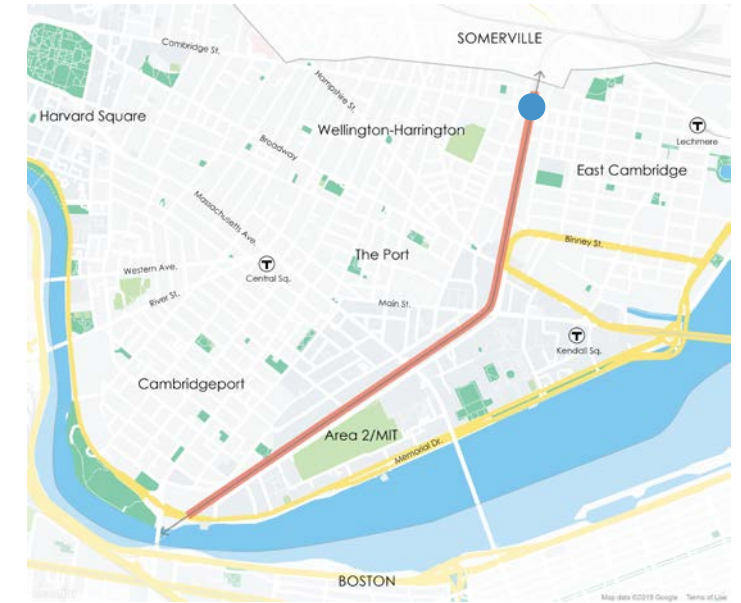
- Binney Street park to be constructed, including GJ Multi-use path segment
- Mid-block crossing treatment considerations (RRFB, raised crosswalk, etc.)
- Path transitions from east side to west side of tracks north of Little Binney
- ARE zoning petition includes offer to commit additional land to the path



What Else?

## Cambridge Street

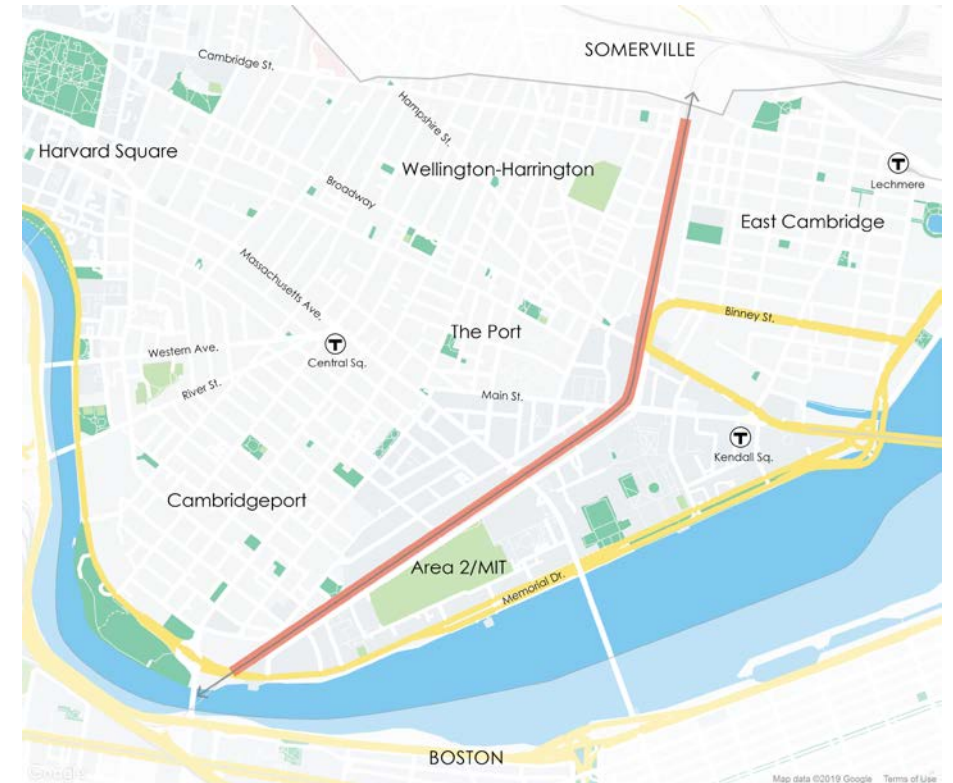
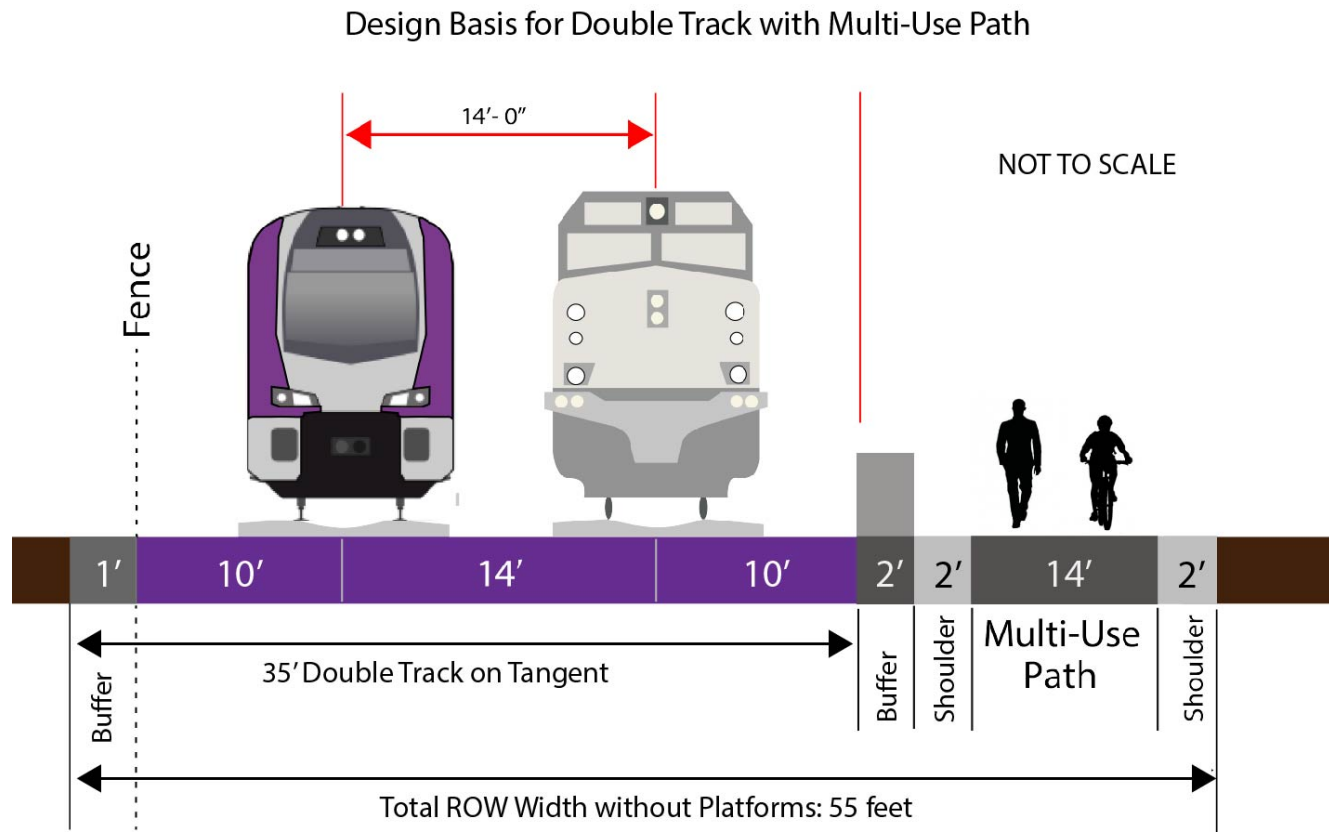
- Millers River Apartment crosswalk to be relocated west toward GJ path
- Path transitions from west side to east side of tracks north of Cambridge Street
- Mid-block crossing treatments required (RRFB)
- Considering bus prioritization and traffic recirculation for intersecting streets



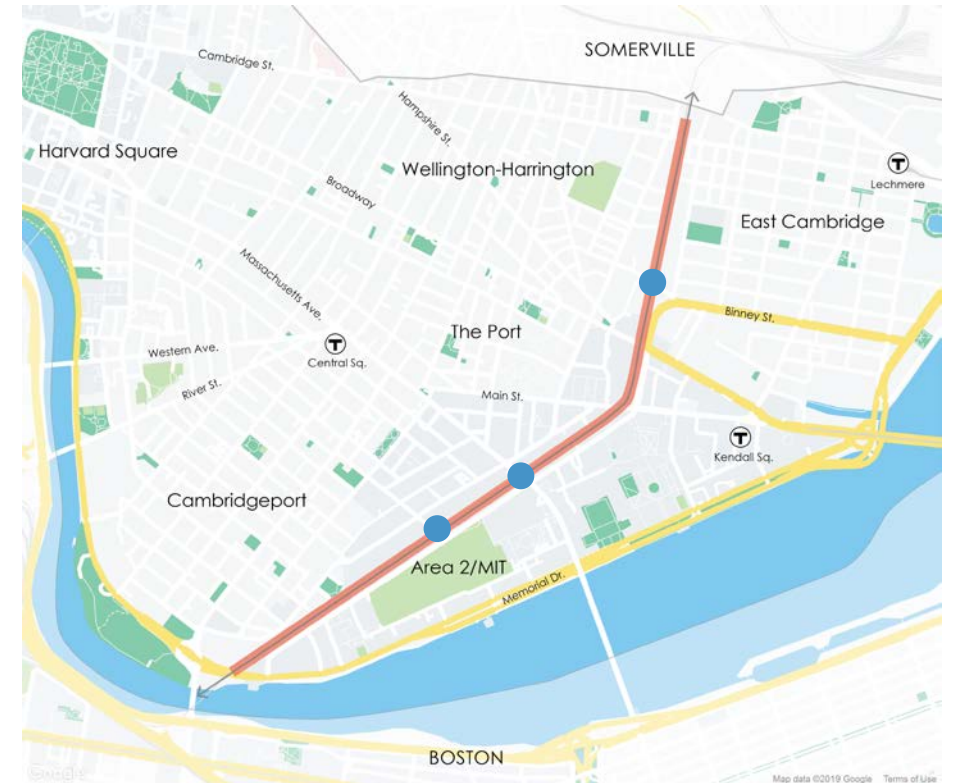
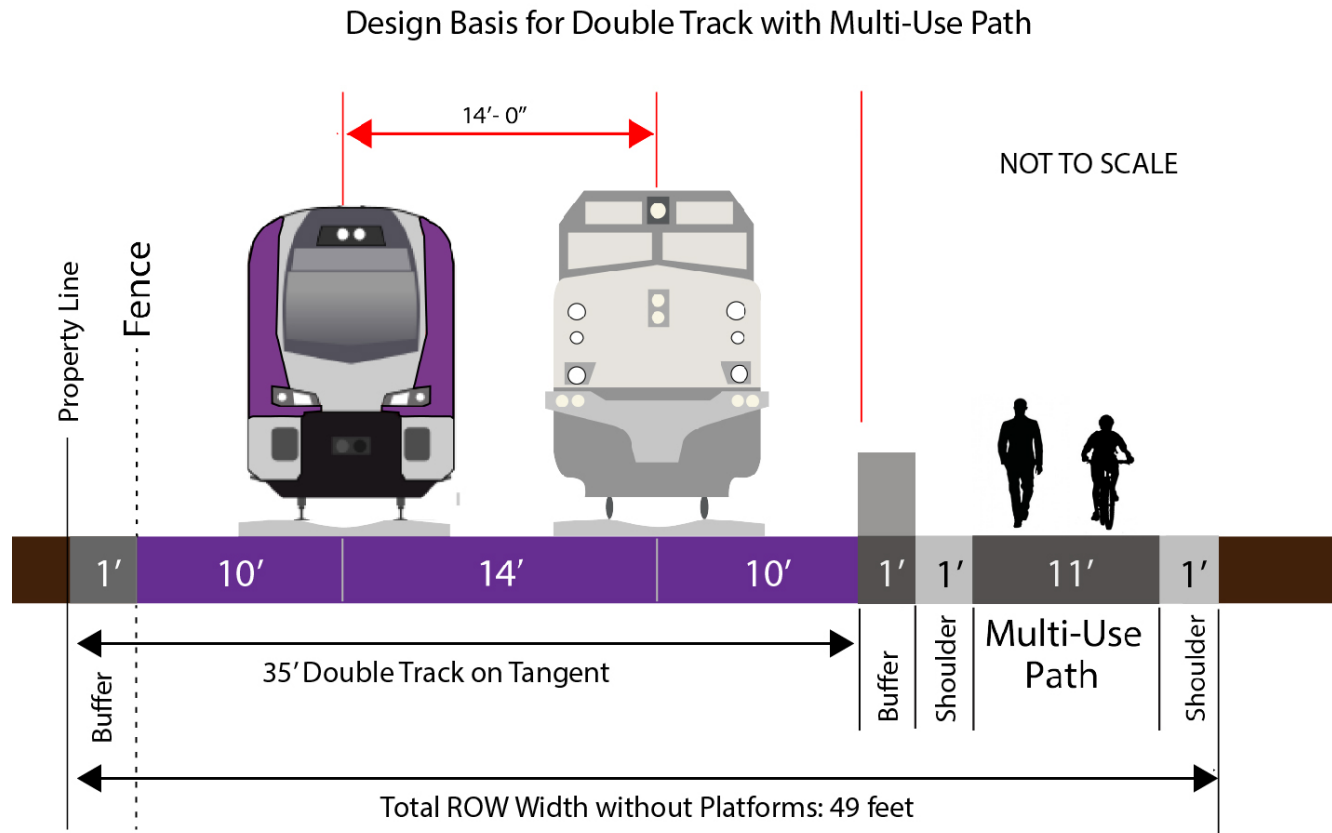
What Else?

# DESIGN CHALLENGES: LIMITED RIGHT-OF-WAY

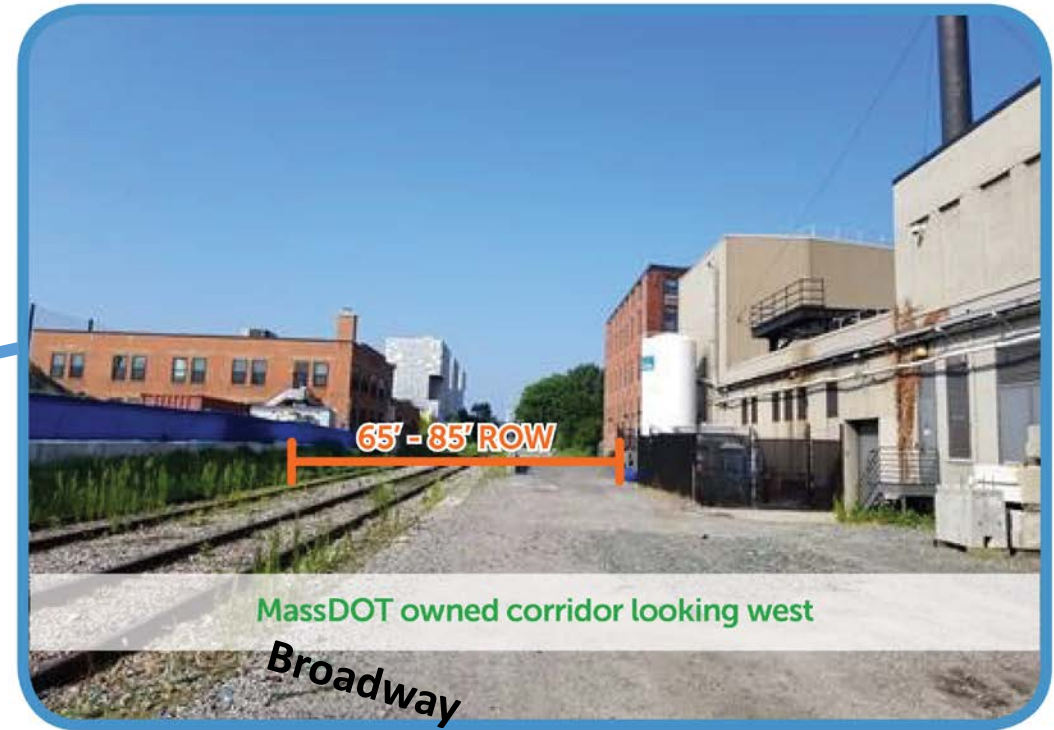
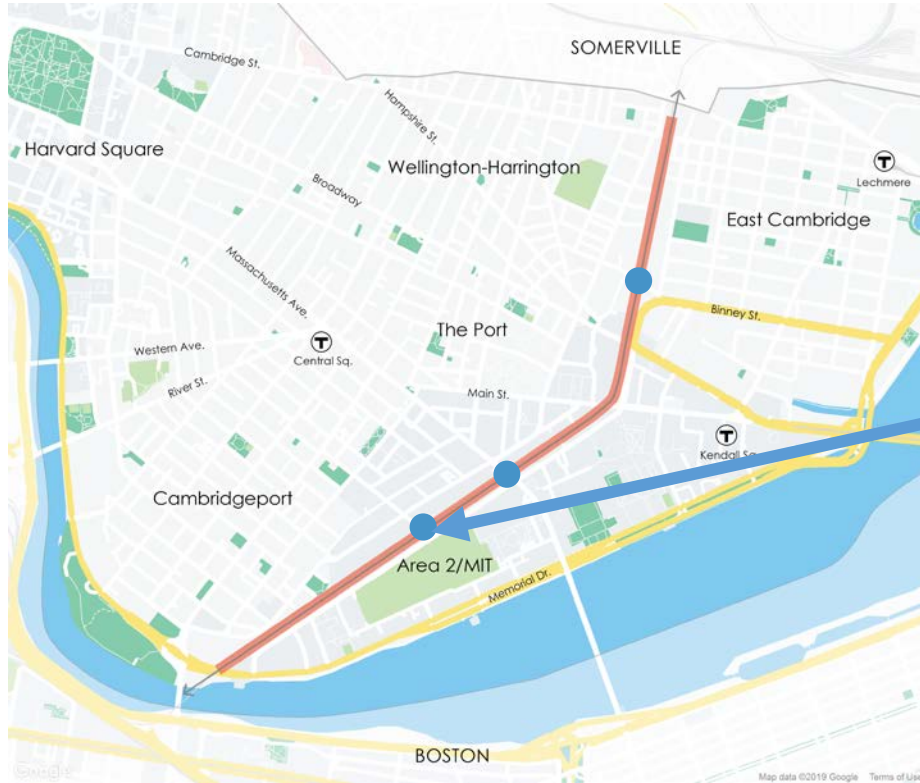
## Design basis (the cross section we are designing for, excluding consideration of stations)



## Limited right-of-way (ROW) example cross-section

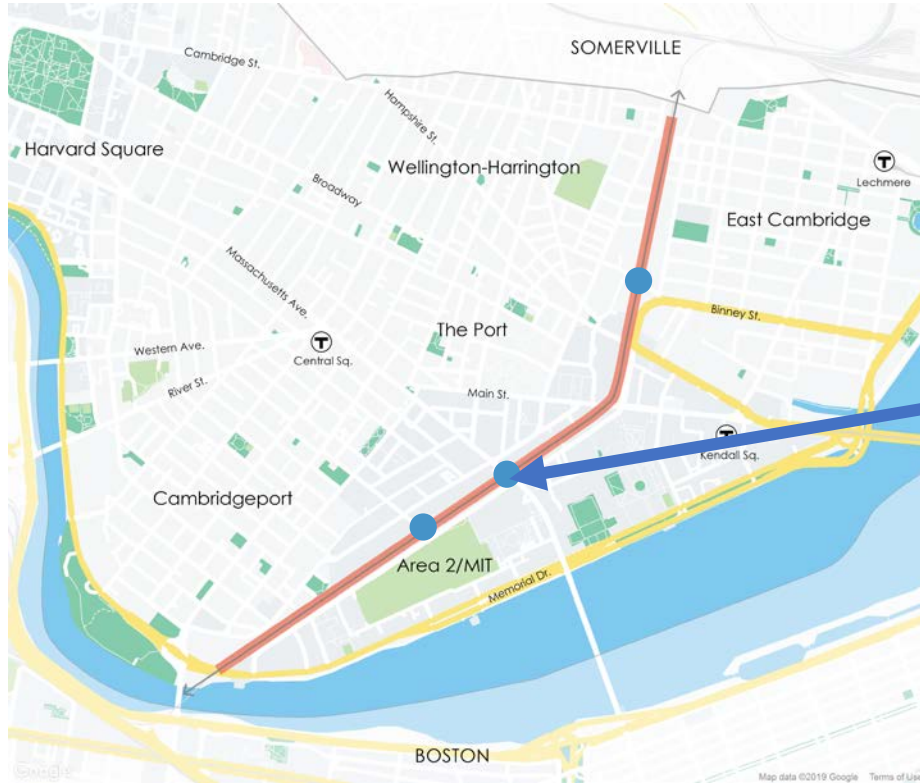


## Example of location with limited ROW

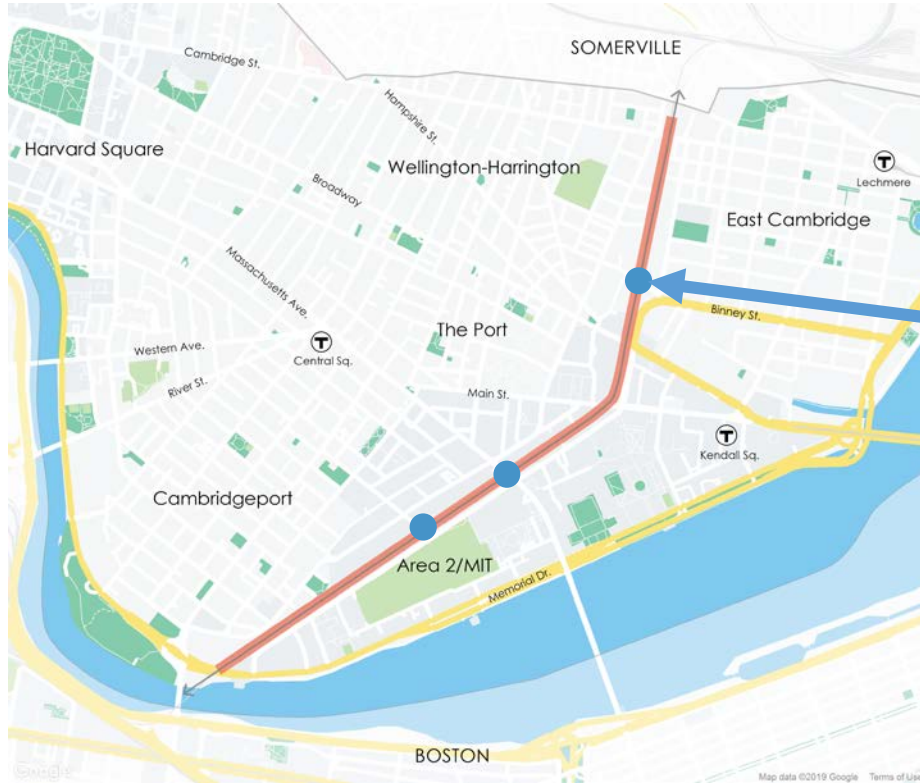




## Example of location with limited ROW



## Example of location with limited ROW





# PUBLIC ART VISION AND OVERVIEW

## Example of a lenticular mural

- Pier 42, Manhattan's East River Waterfront
- By Chat Travieso and Yeju Choi, same artists commissioned for the Fern Street path near Fresh Pond



**interactive community wall transforms fence by chat travieso**

**Source: Design Boom,** <https://www.designboom.com/design/interactive-community-wall-transforms-fence-by-chat-travieso/>

## Example of a lenticular mural

- Pier 42, Manhattan's East River Waterfront
- By Chat Travieso and Yeju Choi, same artists commissioned for the Fern Street path near Fresh Pond



the layered colors from the vertical slats creates a moiré effect

Source: Design Boom, <https://www.designboom.com/design/interactive-community-wall-transforms-fence-by-chat-travieso/>

## Example of a lenticular mural

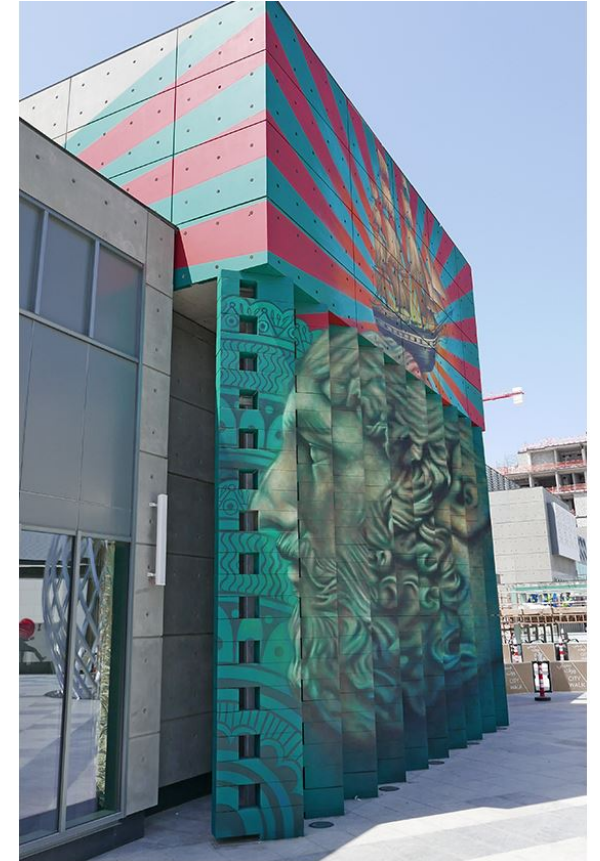
- Pier 42, Manhattan's East River Waterfront
- By Chat Travieso and Yeju Choi, same artists commissioned for the Fern Street path near Fresh Pond



view of the bike rack and stepped seating with thatched roof

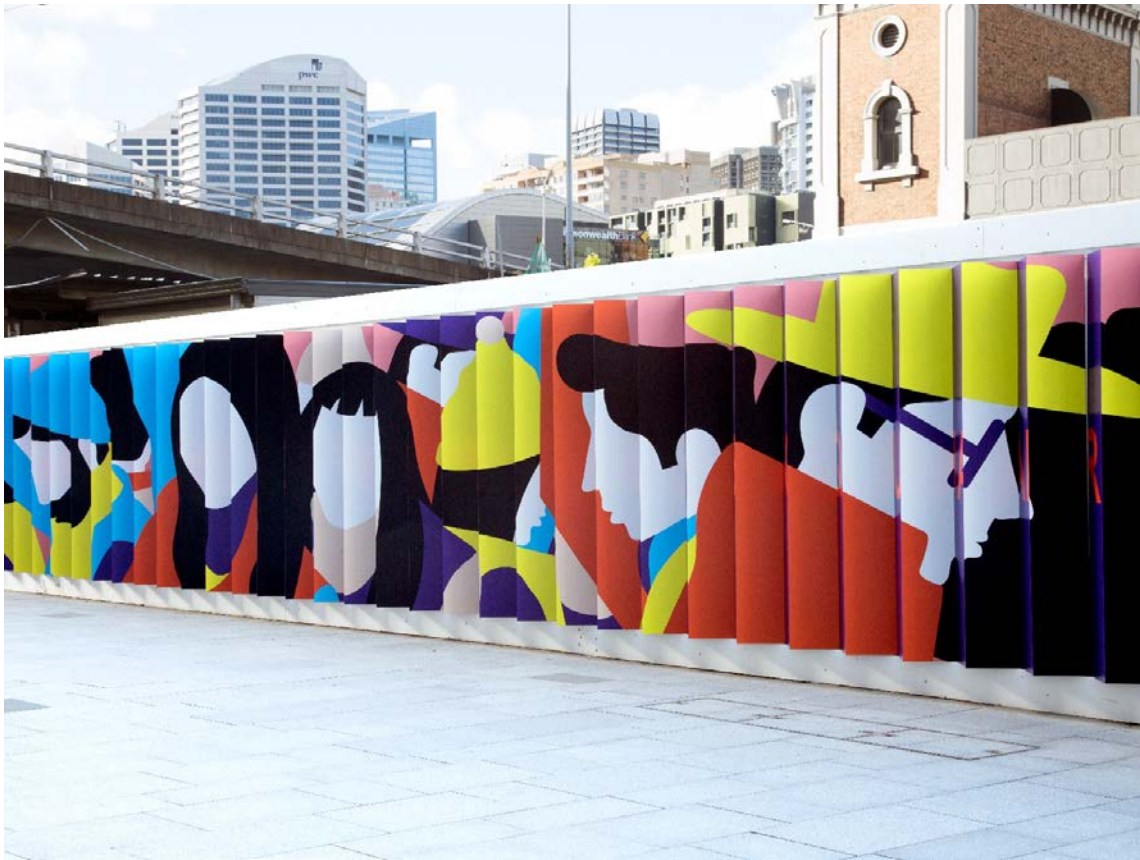
Source: Design Boom, <https://www.designboom.com/design/interactive-community-wall-transforms-fence-by-chat-travieso/>

## Example of a lenticular mural on a solid wall



Source: <http://www.beaustanton.com/projects/lenticular-mural-in-dubai/>

# Other lenticular wall examples (Karan Singh, Lendlease Darling Harbour)





## Other lenticular wall examples



## "Free Wall" example – Toronto's Graffiti Alley



## "Free Wall" example in Beverly, MA along railroad



## "Free Wall" example in Beverly, MA along railroad





PUBLIC

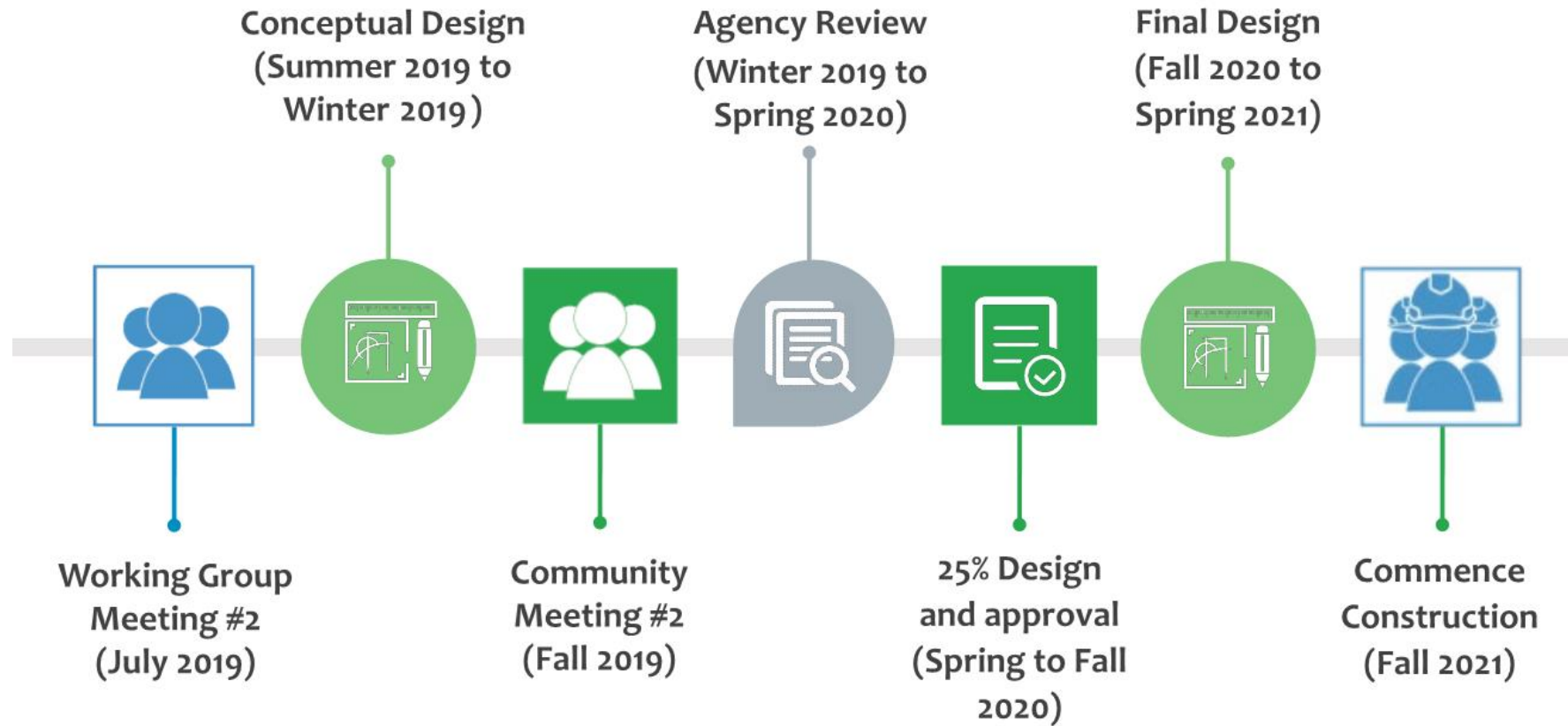
COMMENT



# NEXT STEPS

# PROJECT SCHEDULE

## Overview schedule



## FUTURE MEETING DATES (SUBJECT TO CHANGE)

- Fourth Working Group, early December, 2019
- **Second Community Meeting, January 2020**
- Fifth Working Group, February 2020
- **25% Design Community Meeting, March 2020**
- Sixth Working Group, April 2020
- **75% Design Community Meeting, Feb. 2021**

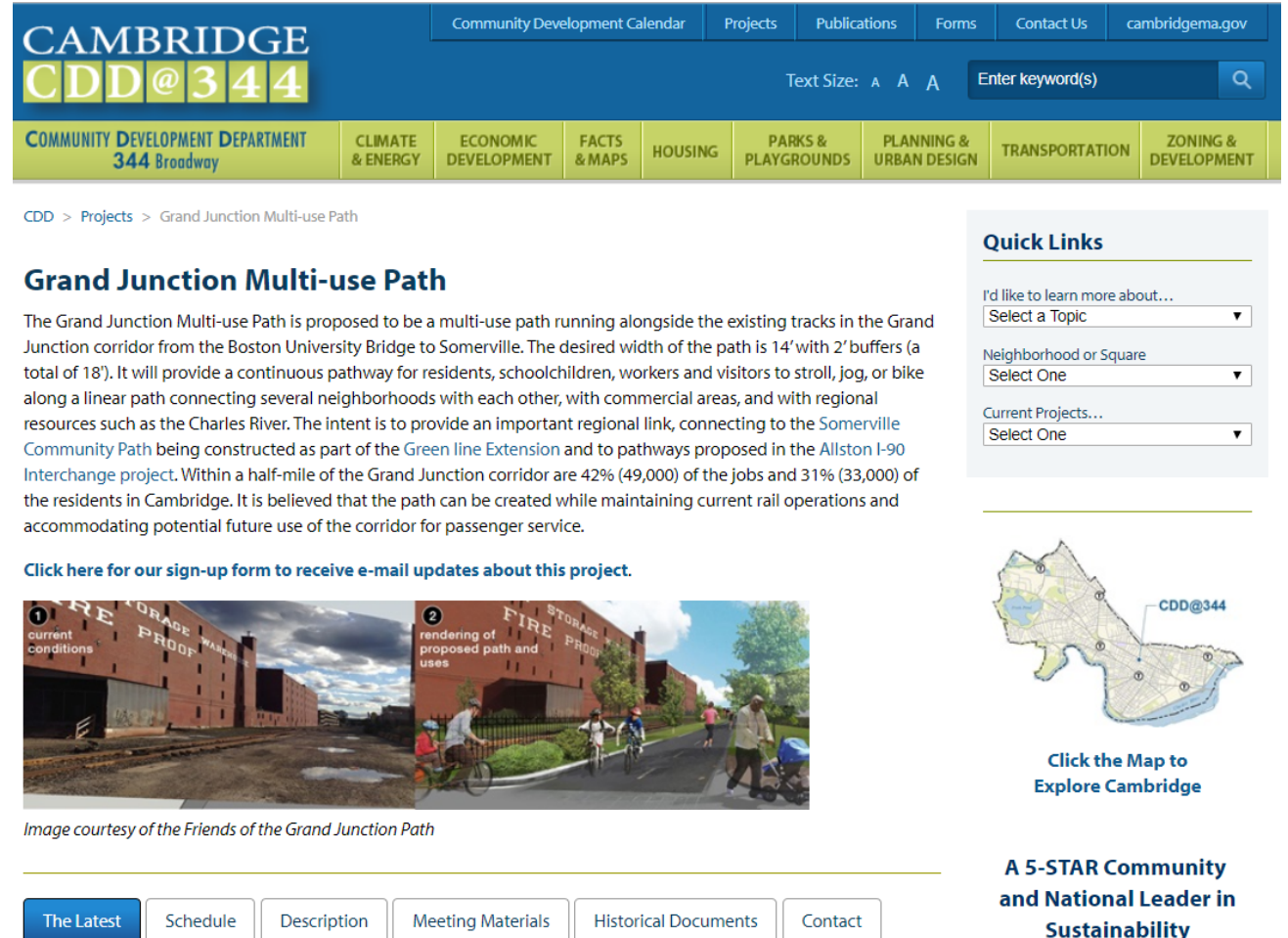




Find us online:

[CambridgeMA.gov/GrandJunction](http://CambridgeMA.gov/GrandJunction)

- Most recent updates
- Historical information
- Documentation of Design Working Group to date



The screenshot shows the Cambridge CDD@344 website. The header includes navigation links for Community Development Calendar, Projects, Publications, Forms, Contact Us, and cambridgema.gov. A search bar is present with the text "Enter keyword(s)". Below the header is a navigation menu with categories: COMMUNITY DEVELOPMENT DEPARTMENT (344 Broadway), CLIMATE & ENERGY, ECONOMIC DEVELOPMENT, FACTS & MAPS, HOUSING, PARKS & PLAYGROUNDS, PLANNING & URBAN DESIGN, TRANSPORTATION, and ZONING & DEVELOPMENT.

The main content area is titled "Grand Junction Multi-use Path" and includes a breadcrumb trail: CDD > Projects > Grand Junction Multi-use Path. The text describes the path's location, width, and purpose, mentioning the Somerville Community Path and the Allston I-90 Interchange project. A link is provided for a sign-up form to receive e-mail updates.

Below the text are two images: (1) "current conditions" showing a brick building and (2) "rendering of proposed path and uses" showing a path with people walking and cycling. A map of Cambridge is also visible, with a callout for "CDD@344".

At the bottom of the page, there is a navigation bar with buttons for "The Latest", "Schedule", "Description", "Meeting Materials", "Historical Documents", and "Contact".

On the right side, there is a "Quick Links" section with dropdown menus for "I'd like to learn more about...", "Neighborhood or Square", and "Current Projects...". Below this is a "Click the Map to Explore Cambridge" link and a "A 5-STAR Community and National Leader in Sustainability" badge.



# THANK YOU

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