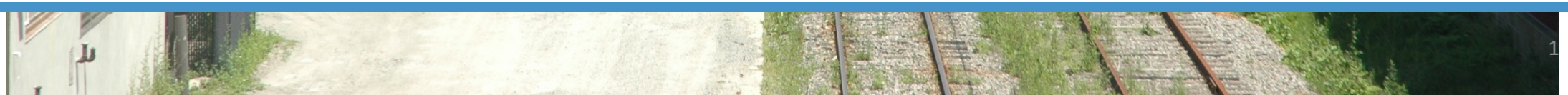
GRAND JUNCTION multi-use path

CITY OF CAMBRIDGE

GRAND JUNCTION MULTI-USE PATH DESIGN PROJECT
WORKING GROUP #5 – AUGUST 6, 2020



GRAND JUNCTION multi-use path

MEETING AGENDA

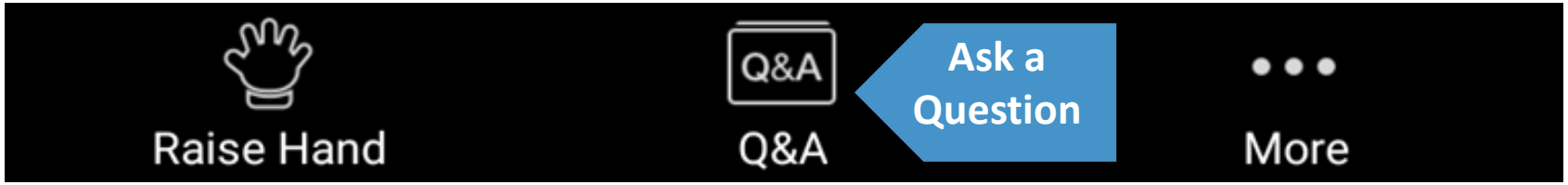
Welcome!

- Introductions and Welcome (5 min)
  - Virtual Meeting Instructions
- Project Recap (10 min)
    - Design Updates and Schedule
    - Working Group Meetings Recap
- Urban Design, Public Art, and Lighting Concepts (30 min)
- Tree Inventory Update (10 mins)
- Intersection Analysis Update (10 min)
- Public Comment (15 min)
- Next steps (5 min)
    - Community Meeting #2, Fall 2020
    - Working Group Meeting #6, Fall 2020

Virtual Meeting 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 in questions or ask for assistance in Q&A Window
  - Questions may be submitted at any time and will be addressed, as time allows, during discussion/comment periods
- Participants will be removed for inappropriate behavior
- Technical support – Wallensteen Joseph – wajoseph@cambridgema.gov

Bottom Panel of Zoom Screen

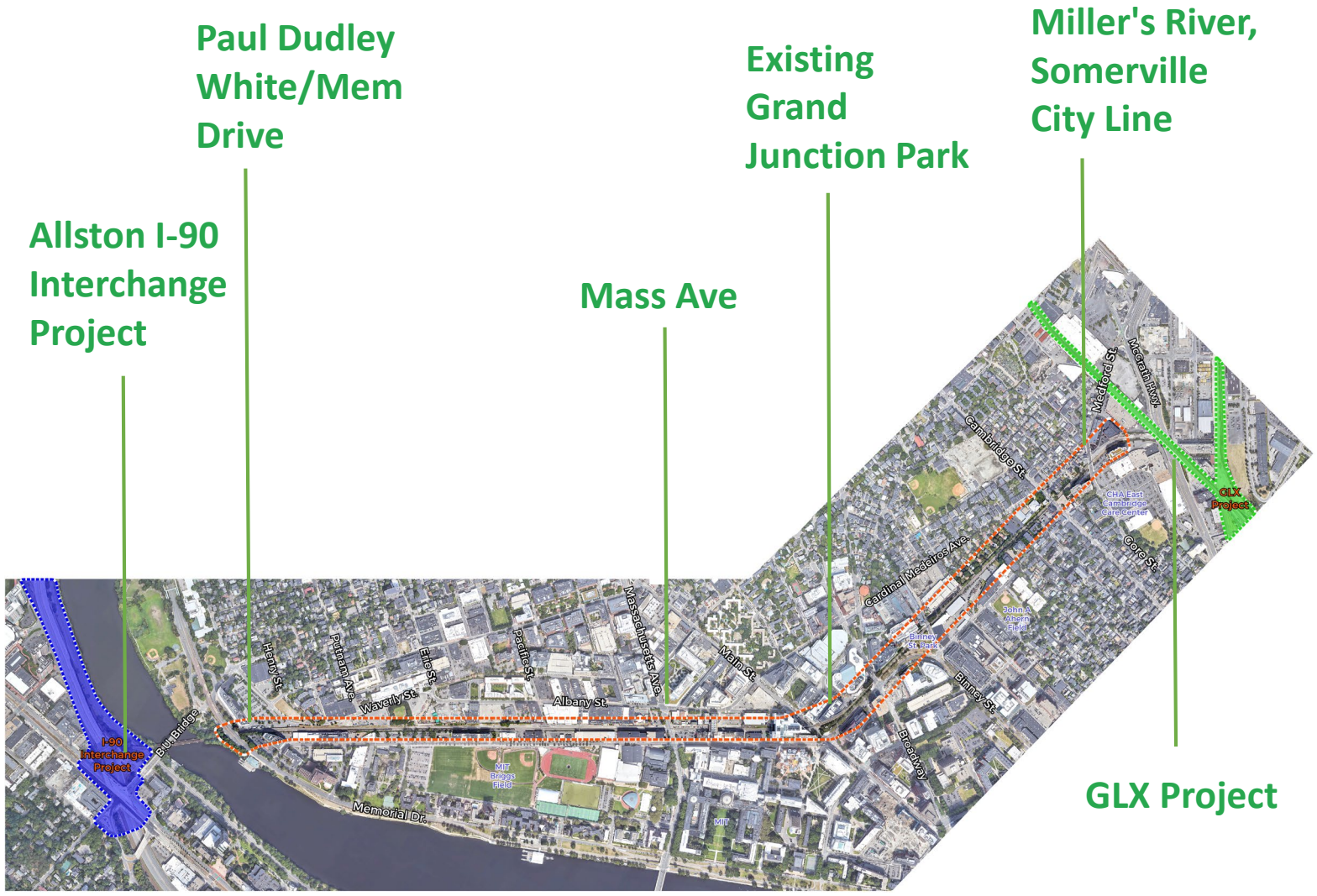


GRAND JUNCTION multi-use path

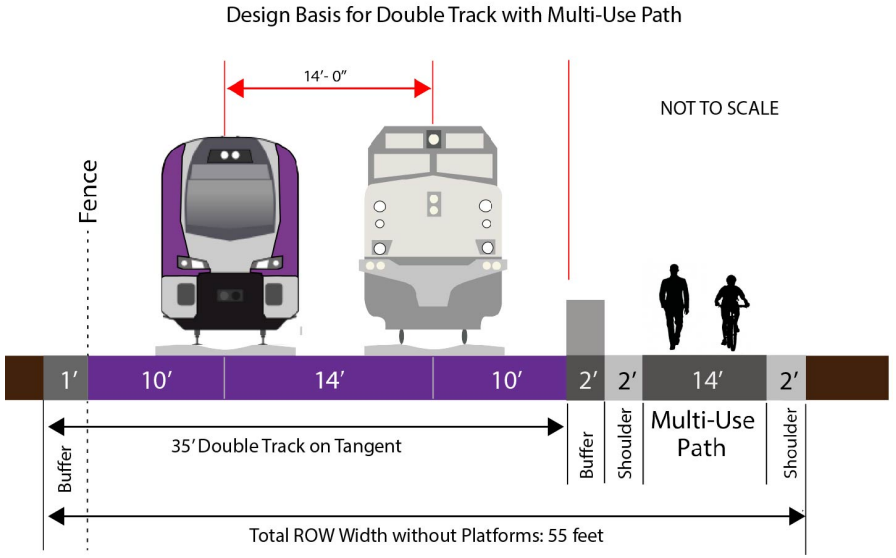
PROJECT RECAP

Project Recap

PROJECT PURPOSE



- Design multi-use path adjacent to the Grand Junction rail tracks
- Create a safe way to sustainably move eastern half of Cambridge for all ages and abilities
- Create attractive spaces for path users that react to different neighborhoods
- Account for future transit projects



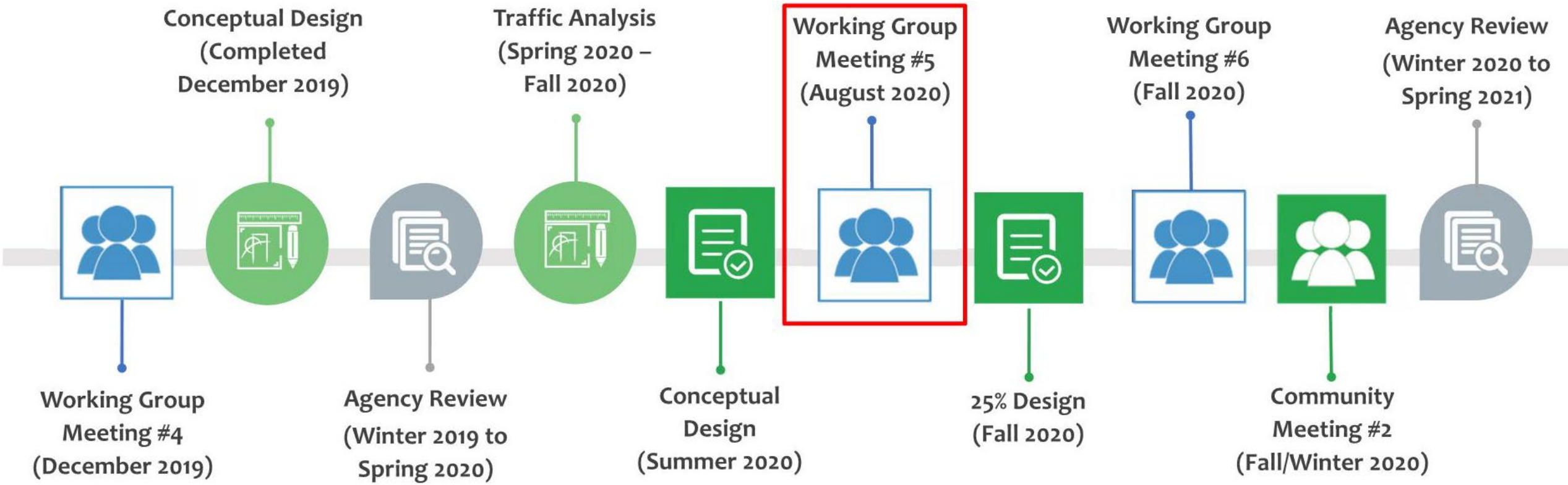
REVIEW: PROJECT STATUS

Design Updates:

- Urban design, public art, and lighting concepts developed;
- Tree inventory complete and planting potential identified;
- Preliminary traffic analysis performed, will continue into 25% design;
- Transitioning concept design to 25% engineering design;
  - Performing geotechnical field work Summer to Fall 2020;
- Coordination with ongoing development projects and state agency transportation projects.

REVIEW: PROJECT SCHEDULE

Overview Schedule



REVIEW: PREVIOUS WORKING GROUP MEETINGS

What We've Heard

What you hope to see overall:

- Separation from traffic
- Separation from rail with barrier/fence
- Water fountains, trash bins, and quality seating of different types
- Bicycle parking and Blue Bikes stations
- Public art
- Trees and plantings
- Renewed and integrated open spaces

What transportation features you hope to see:

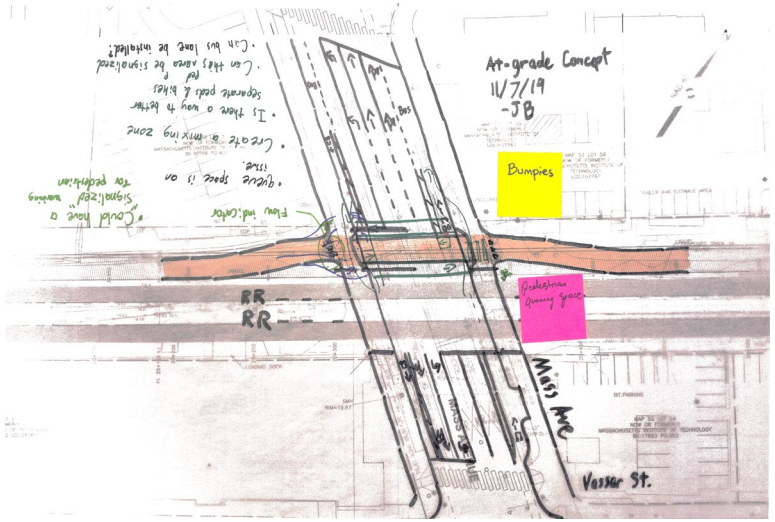
- Separating directions of travel along path
- Protected pedestrian and bicycle crossings at intersections
- Considerations for local pedestrian movements in neighborhoods

Concerns:

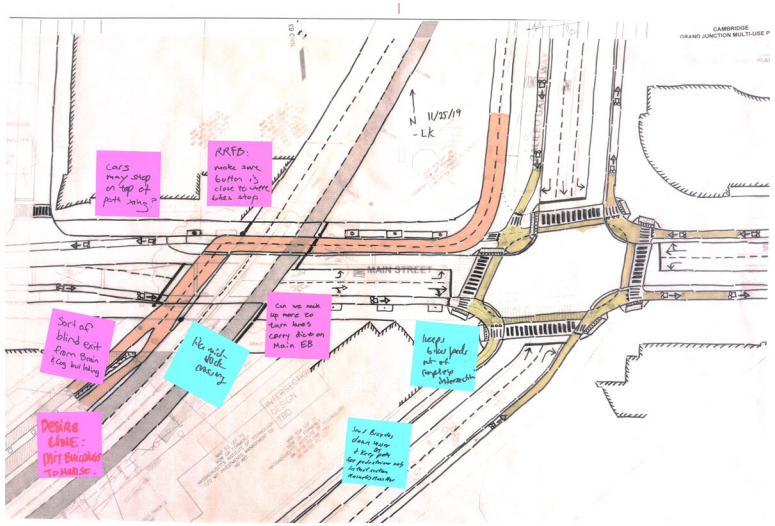
- Public Safety on path corridor
- Bicycle and pedestrian interaction on path and at crossings

REVIEW: WORKING GROUP MEETING #4

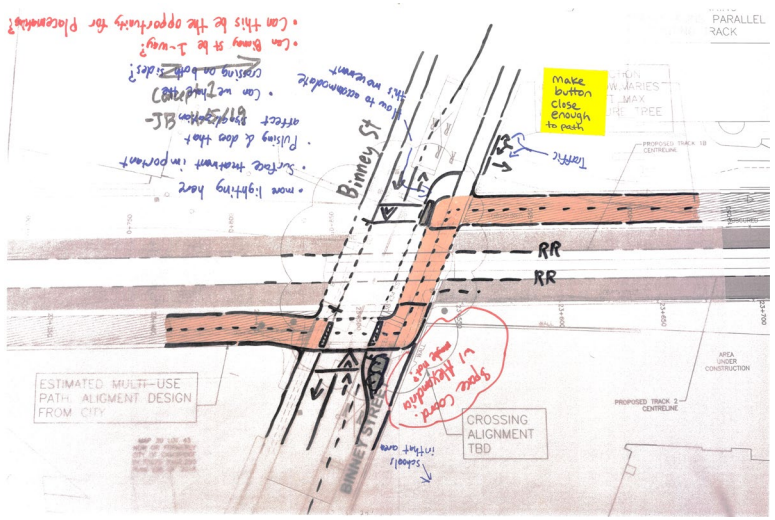
Input on Design Concepts



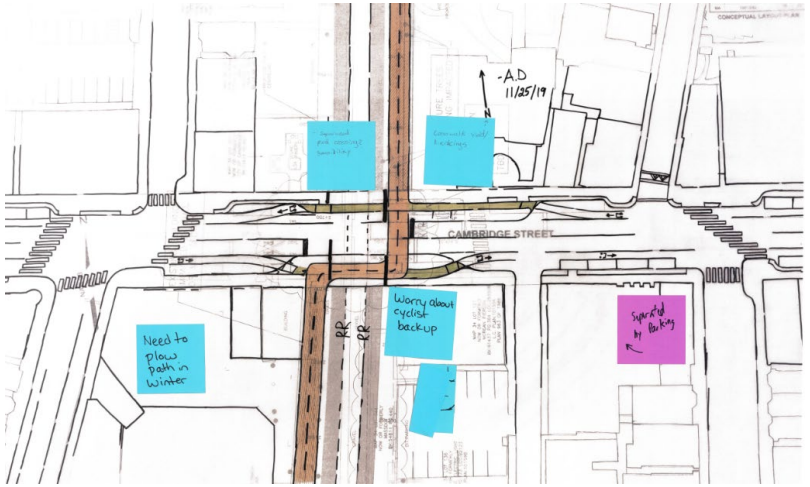
Massachusetts Avenue



Main Street



Little Binney Street



Cambridge Street

REVIEW: PREVIOUS WORKING GROUP MEETINGS

Key Take-Aways:

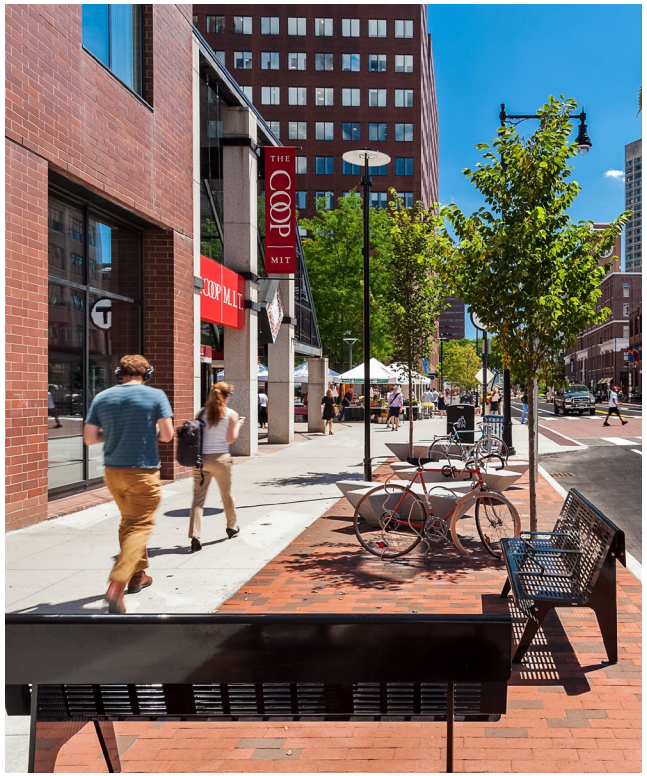
- Vision is for a Grand Junction Multi-Use Path as a corridor for commuting, exercise, safe cycling, and a connection to other modes.
- Varied availability of right of way along track and varied ownership.
- Multi-use path will have to cross sides of the railroad at two points and has major street intersections to cross as well.
- Identified a preferred path cross-section and a limited space cross-section.
- Designing for current rail use, but not precluding future two-track transit.

GRAND JUNCTION multi-use path

URBAN DESIGN, PUBLIC ART, & LIGHTING CONCEPTS

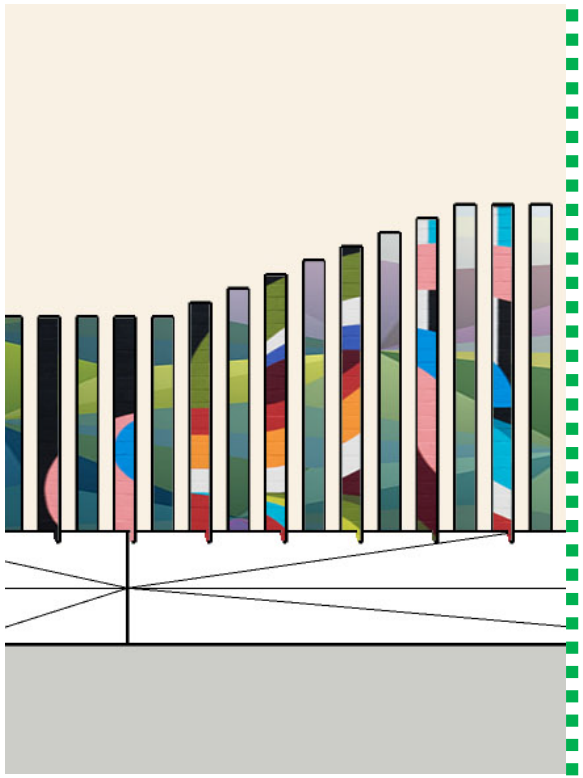
PLACEMAKING KIT OF PARTS - ELEMENTS

Special Paving



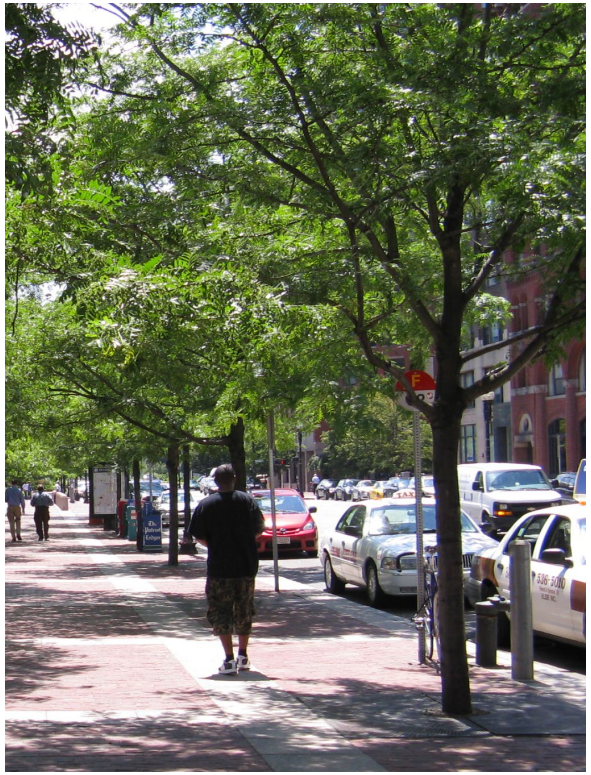
Possible Seating/Furniture

Lighting



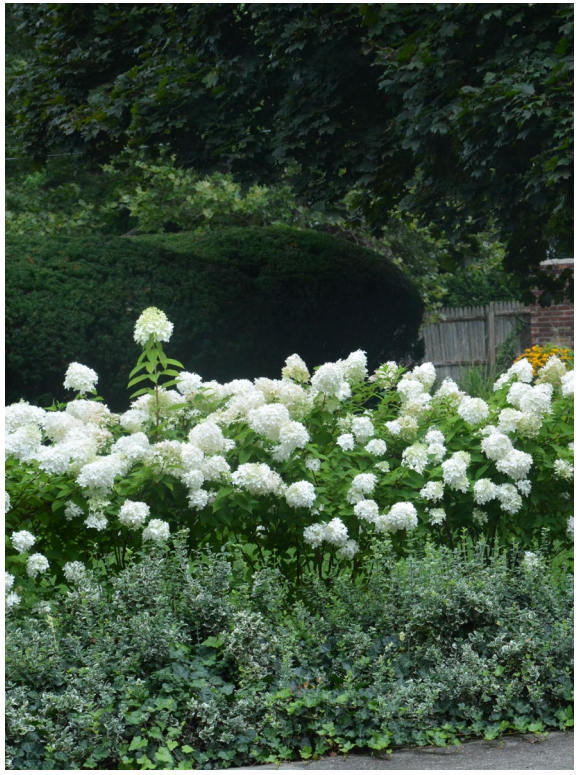
Art fence + perimeter fence

PLACEMAKING KIT OF PARTS - PLANTING



Street trees

Low plantings/perennials/ground cover

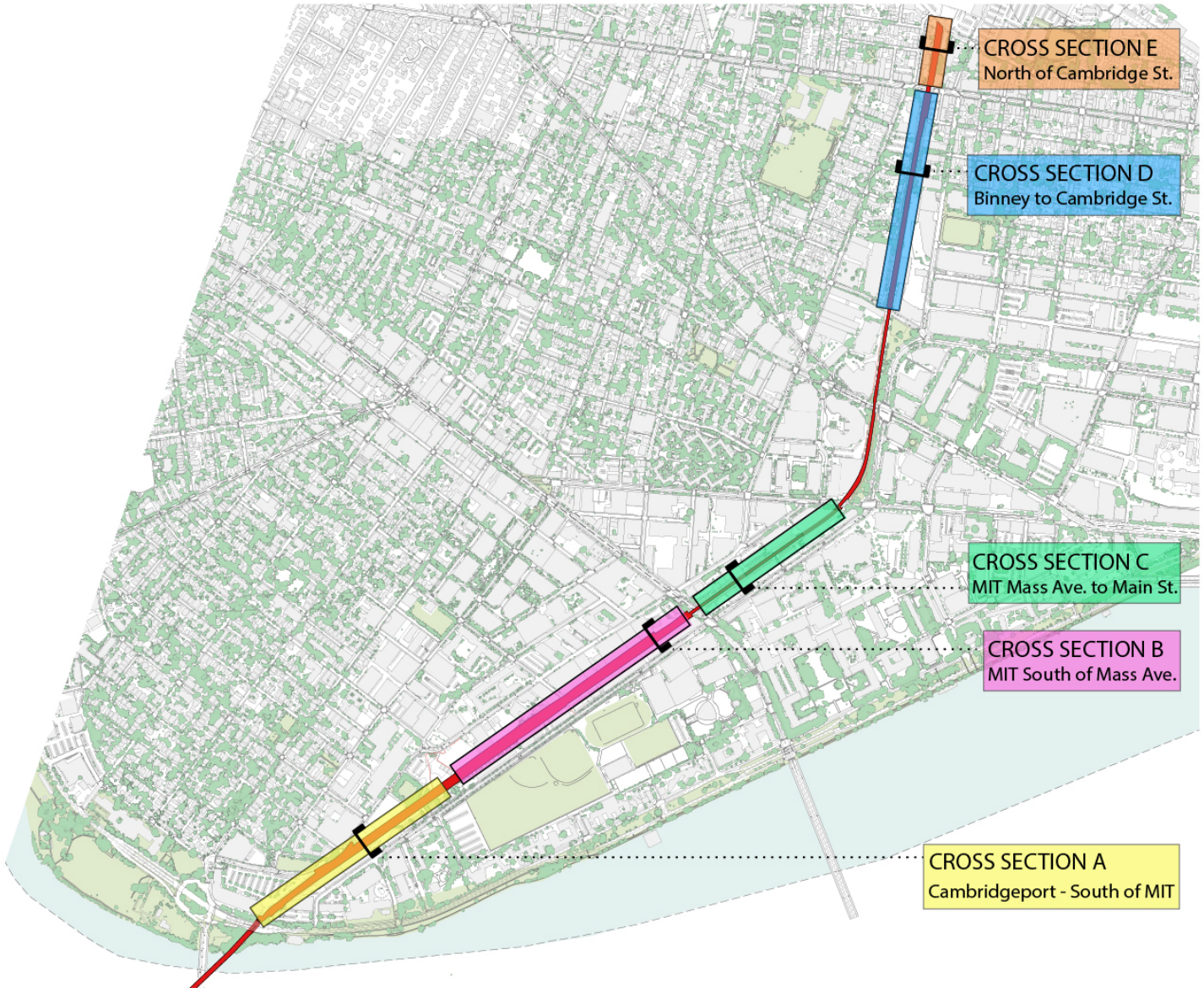


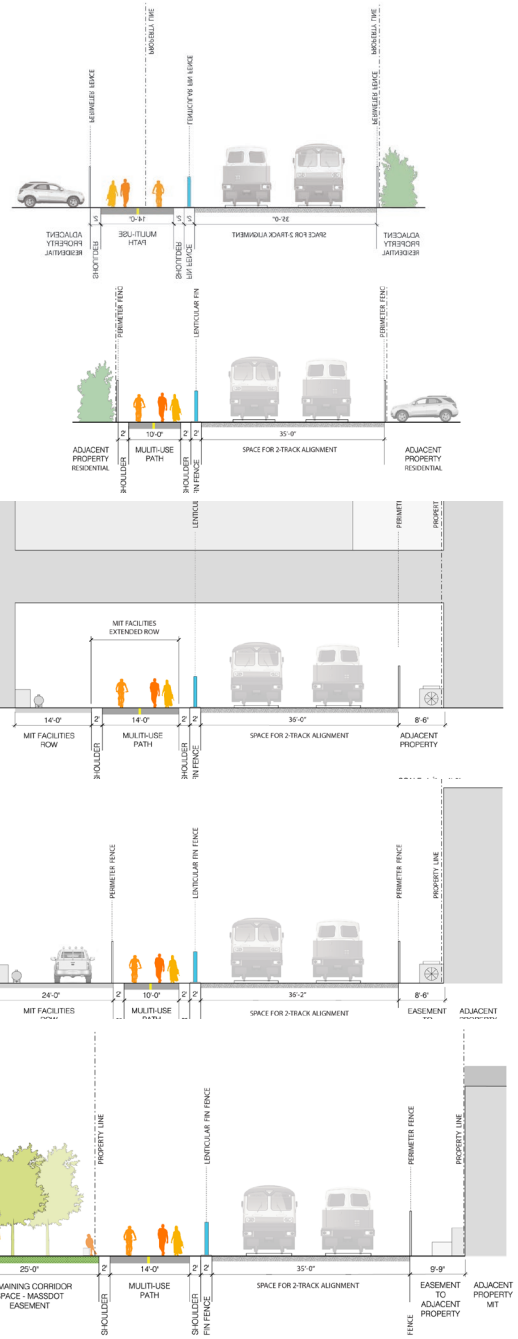
Shrubs
(where sight lines allow)

GRAND JUNCTION multi-use path

Working Group Overview

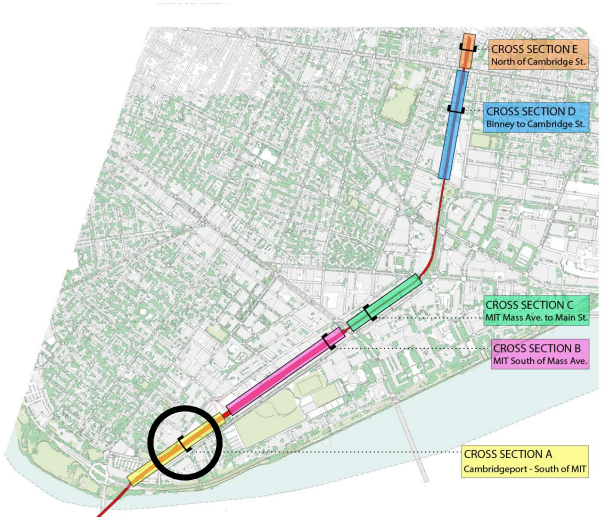
VARIATIONS IN PATH CONDITIONS

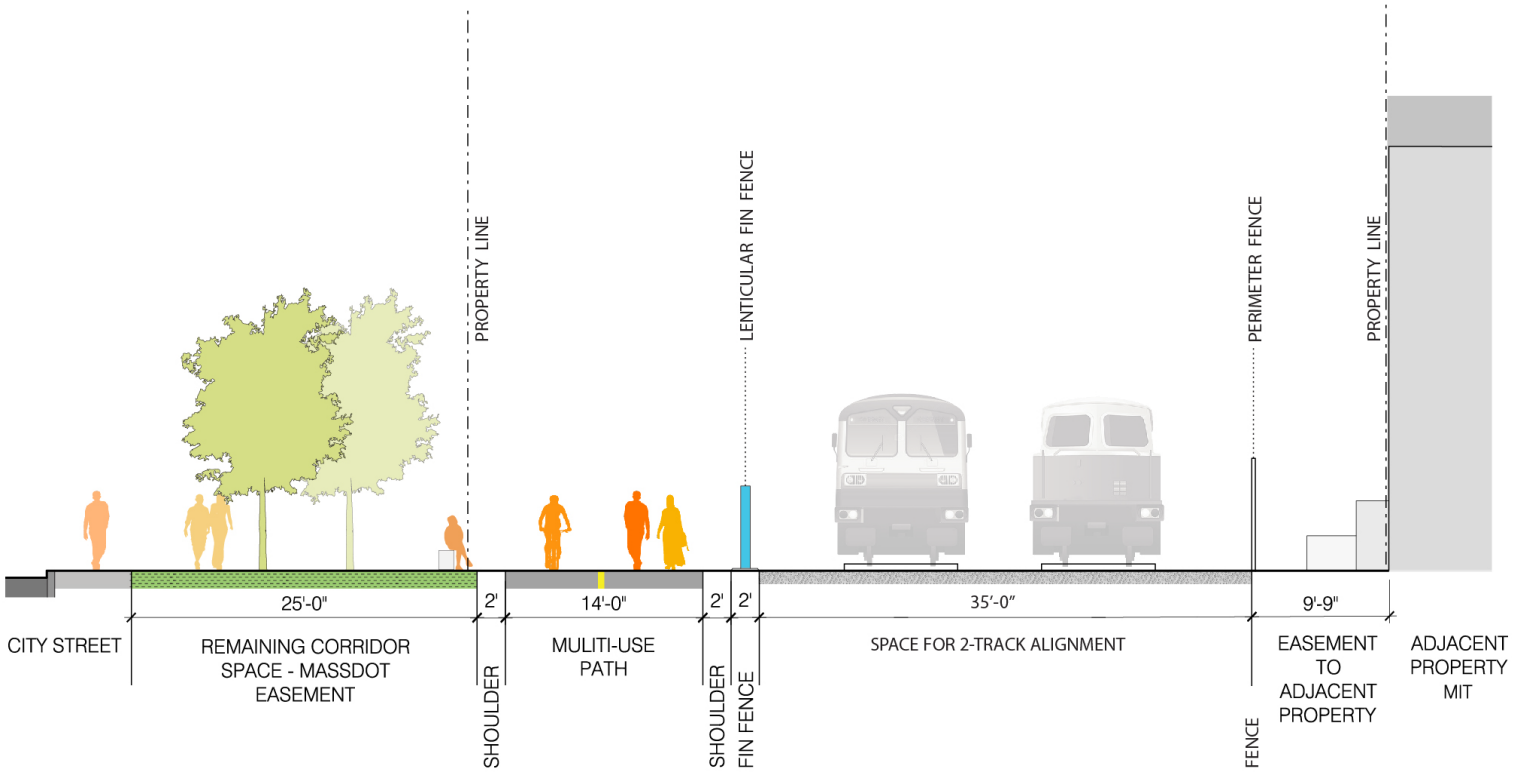




VARIATIONS IN PATH CONDITIONS

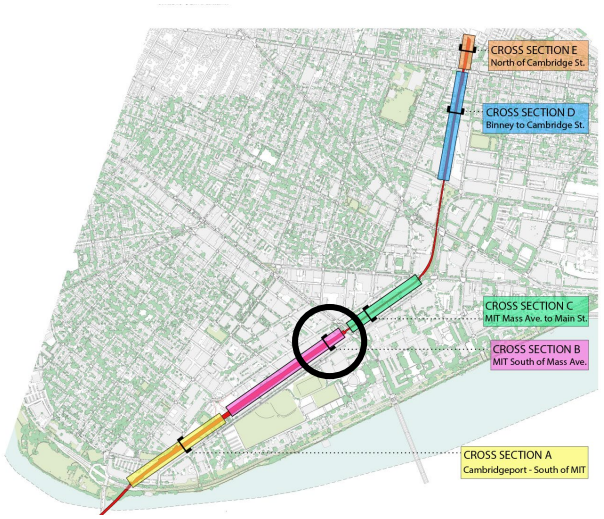
Cambridgeport – Southern Portion

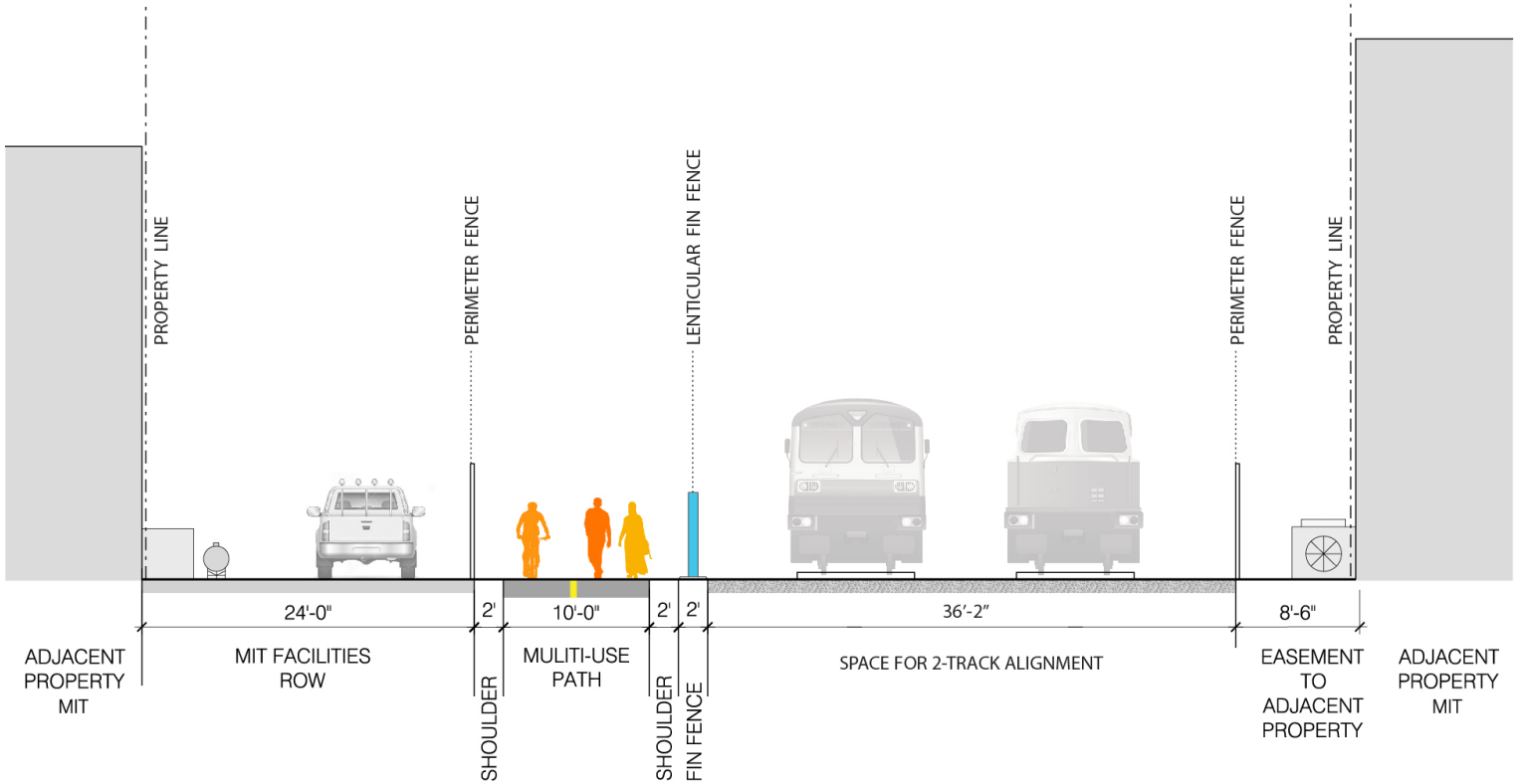




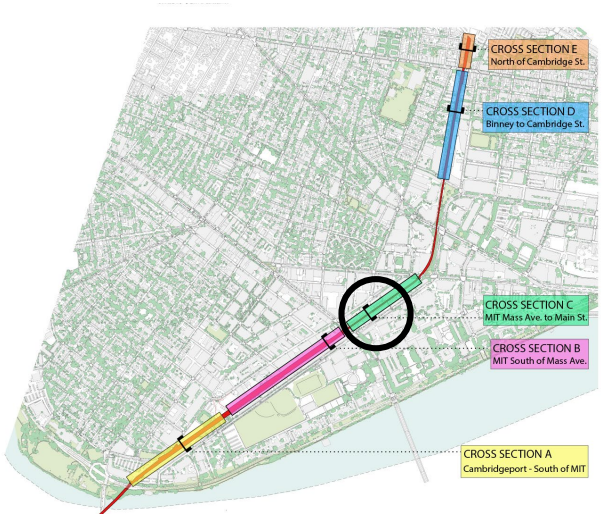
VARIATIONS IN PATH CONDITIONS

MIT Campus – South of Mass Ave.

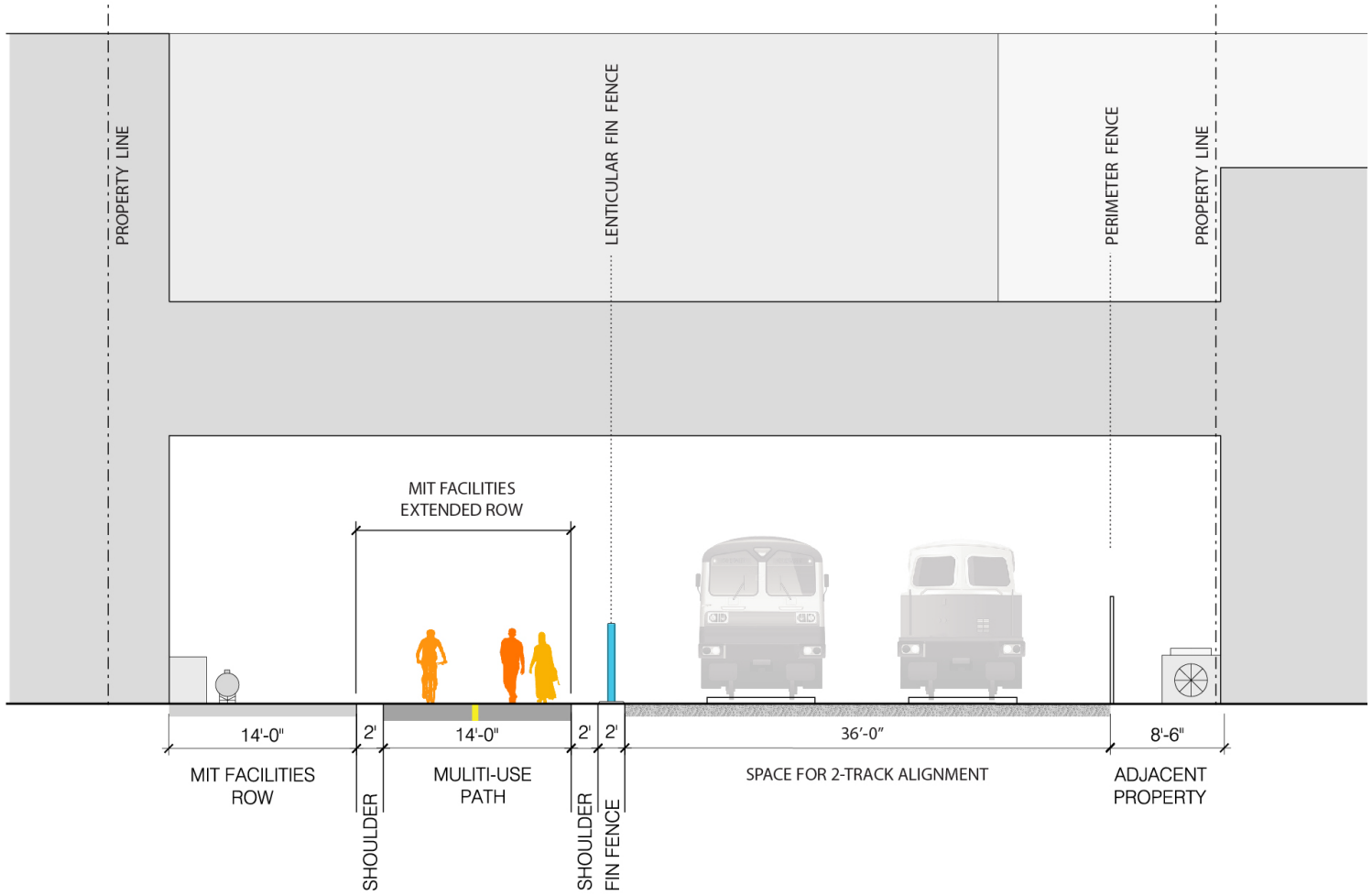




VARIATIONS IN PATH CONDITIONS

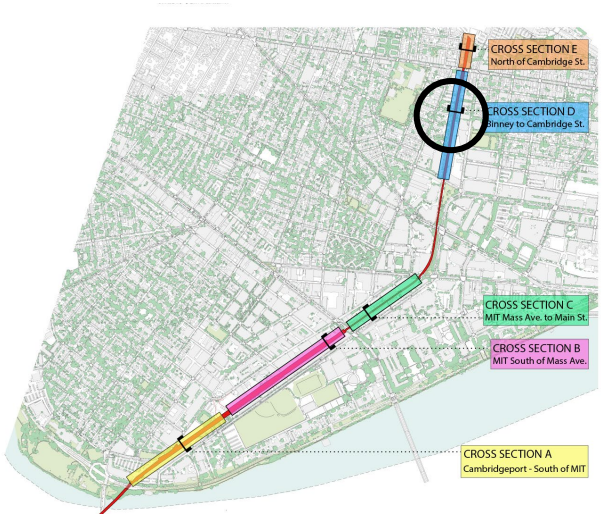


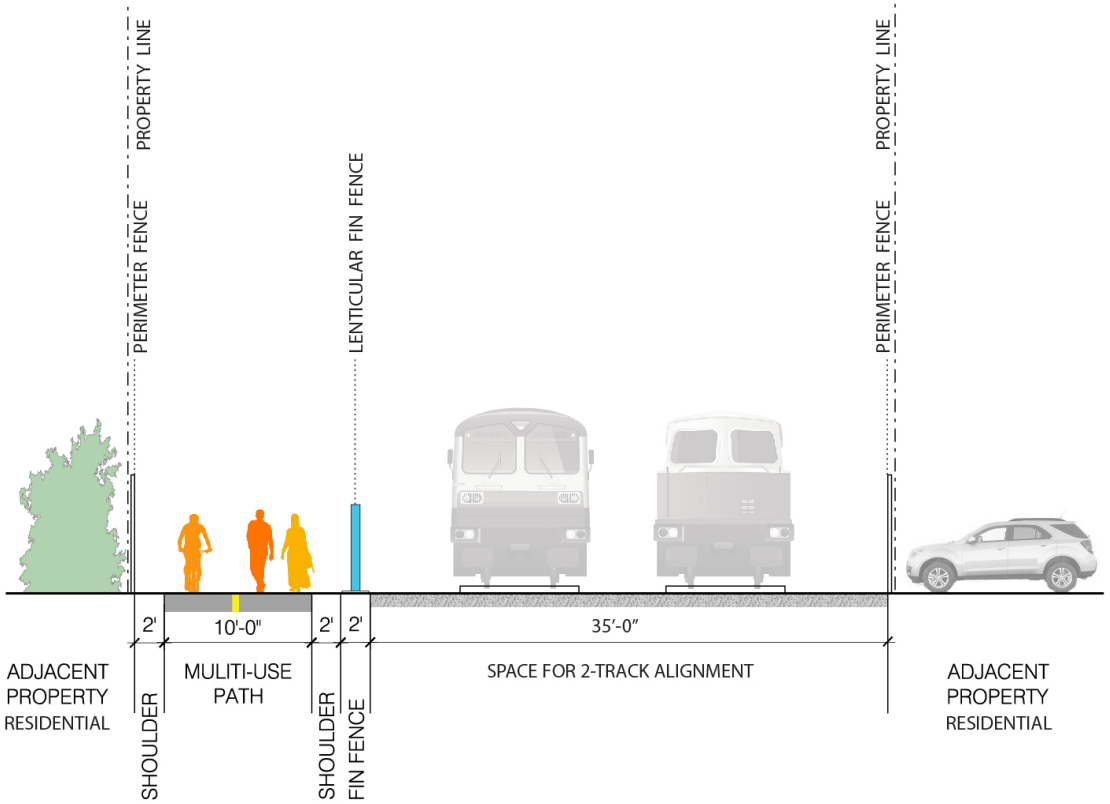
MIT Campus – Mass Ave to Main St.



VARIATIONS IN PATH CONDITIONS

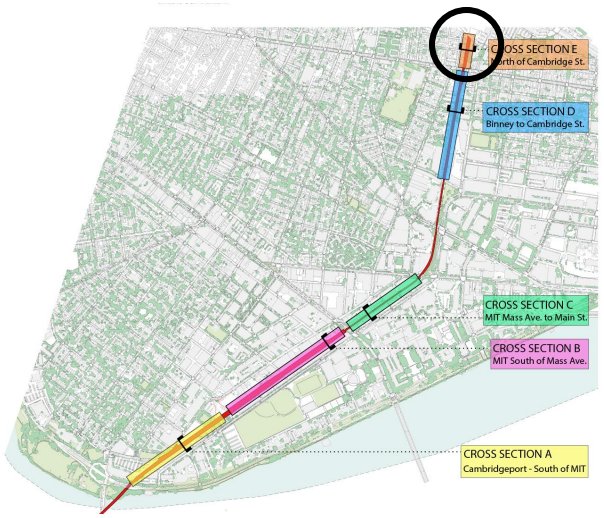
Binney St. to Cambridge St.

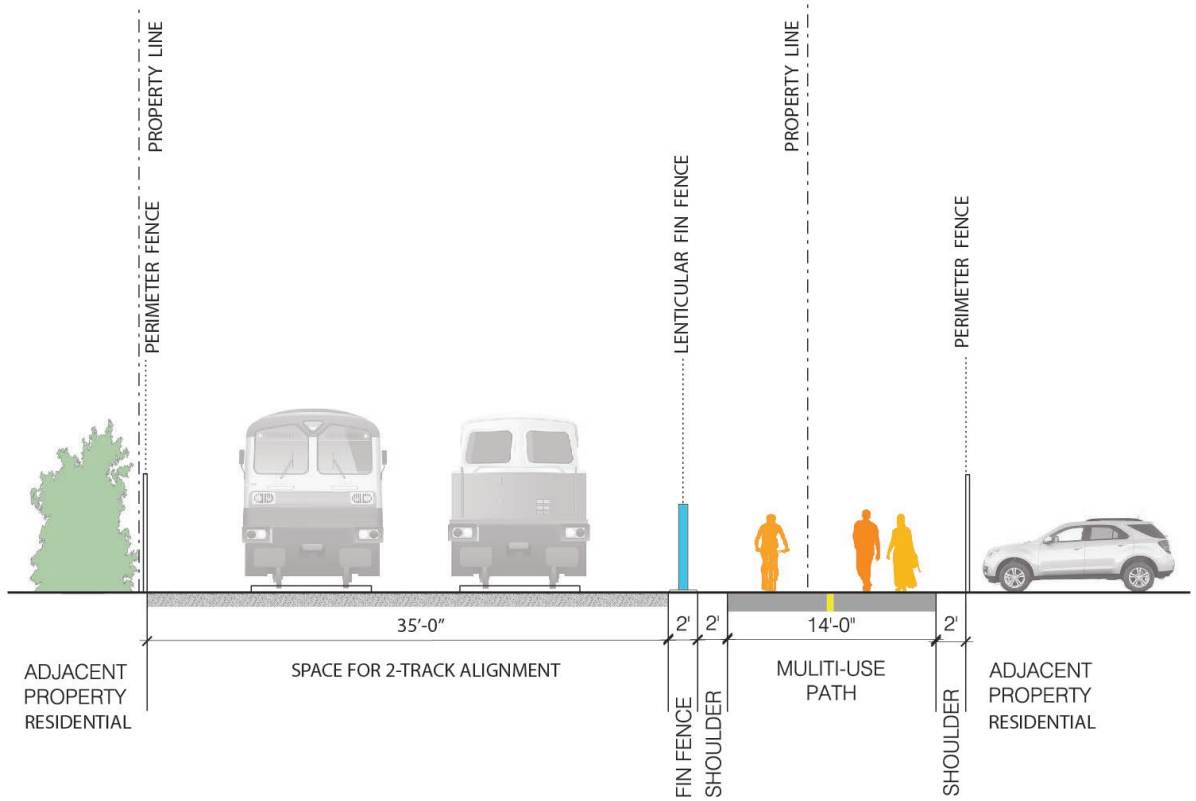




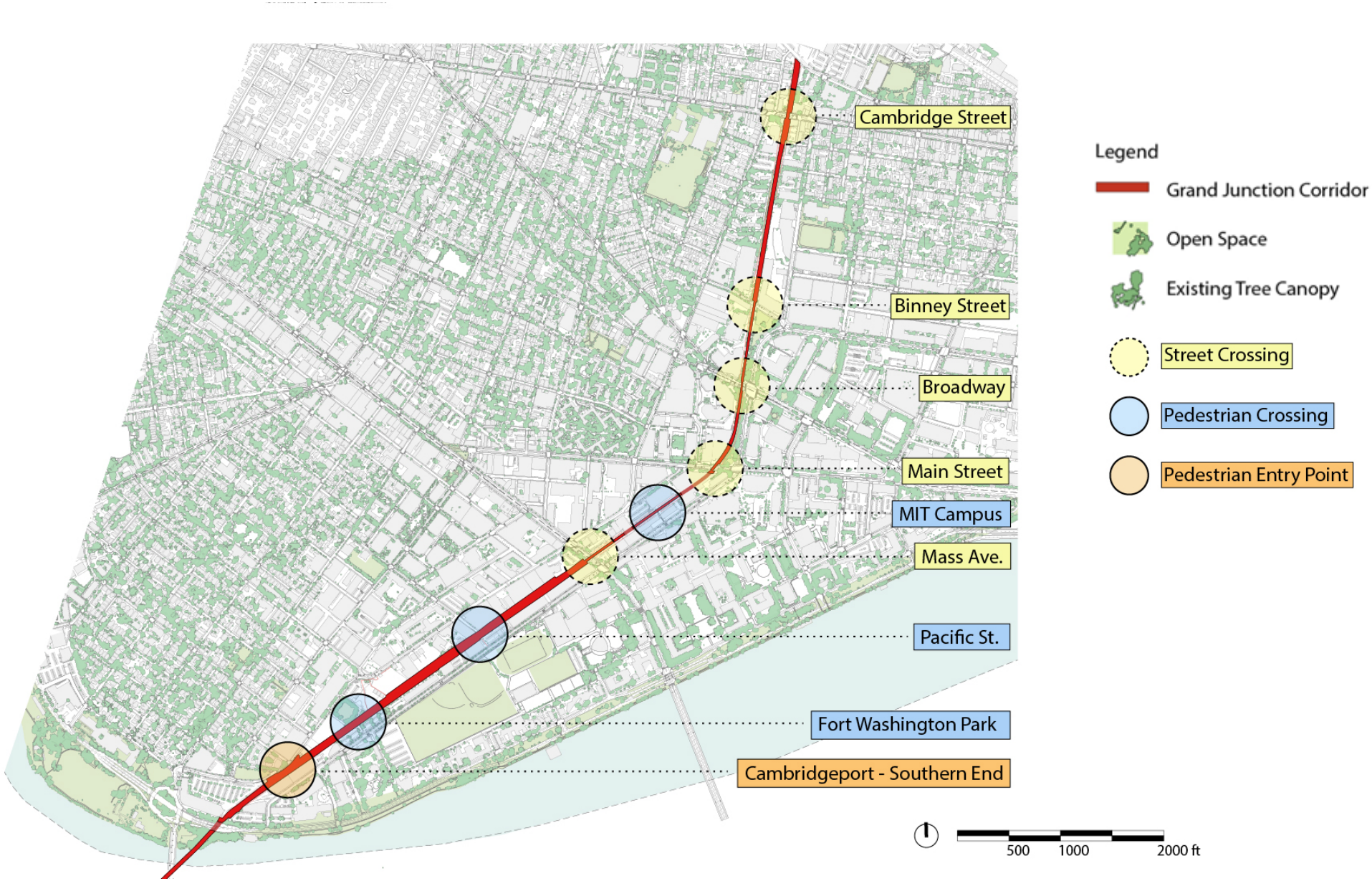
VARIATIONS IN PATH CONDITIONS

North of Cambridge St.





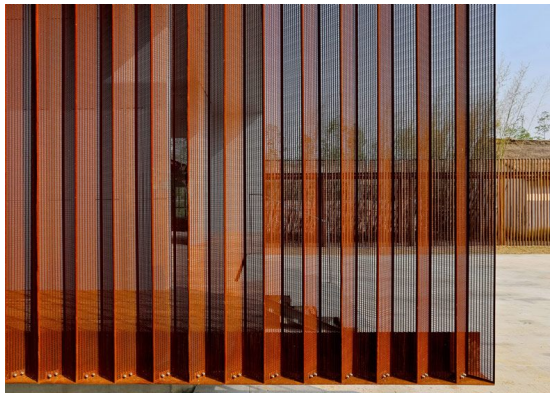
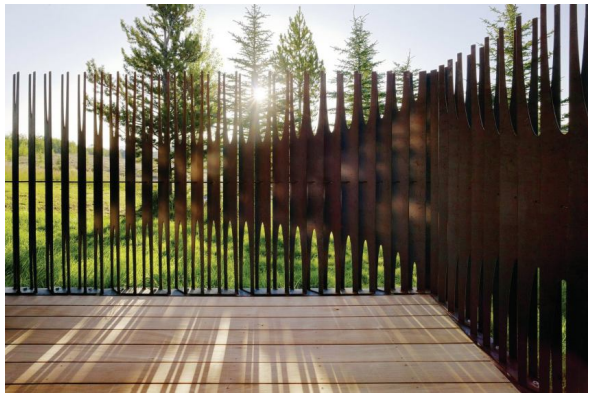
CORRIDOR AND CROSSINGS AND ENTRY POINTS



FIN FENCE / LENTICULAR MURAL STRATEGY

Fin Fences



Lenticular Murals




VISUAL IMPACT STRATEGY FOR ART FENCE

Public art

- idea of incorporating into the fence discussed

Cone of vision and isovist shapes

- Analyze each crossing and each entry location for sight lines from:
  - Neighboring streets
  - The multi-use path

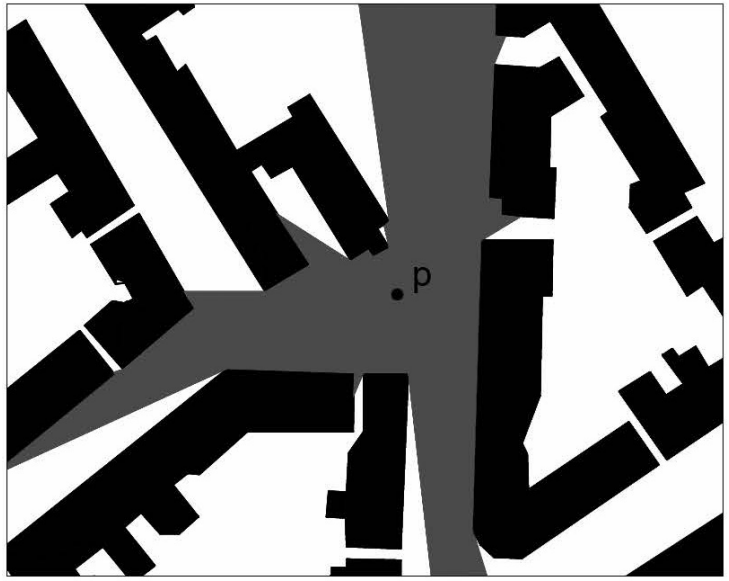


Figure 1. Isovist in a city plan. Point *p* indicates the isovist origin

- Locate murals in places that are most visible from the approach to the crossing or entry point

Working Group Overview

VIEWSHED ANALYSIS

Corridor Viewsheds with Crossings

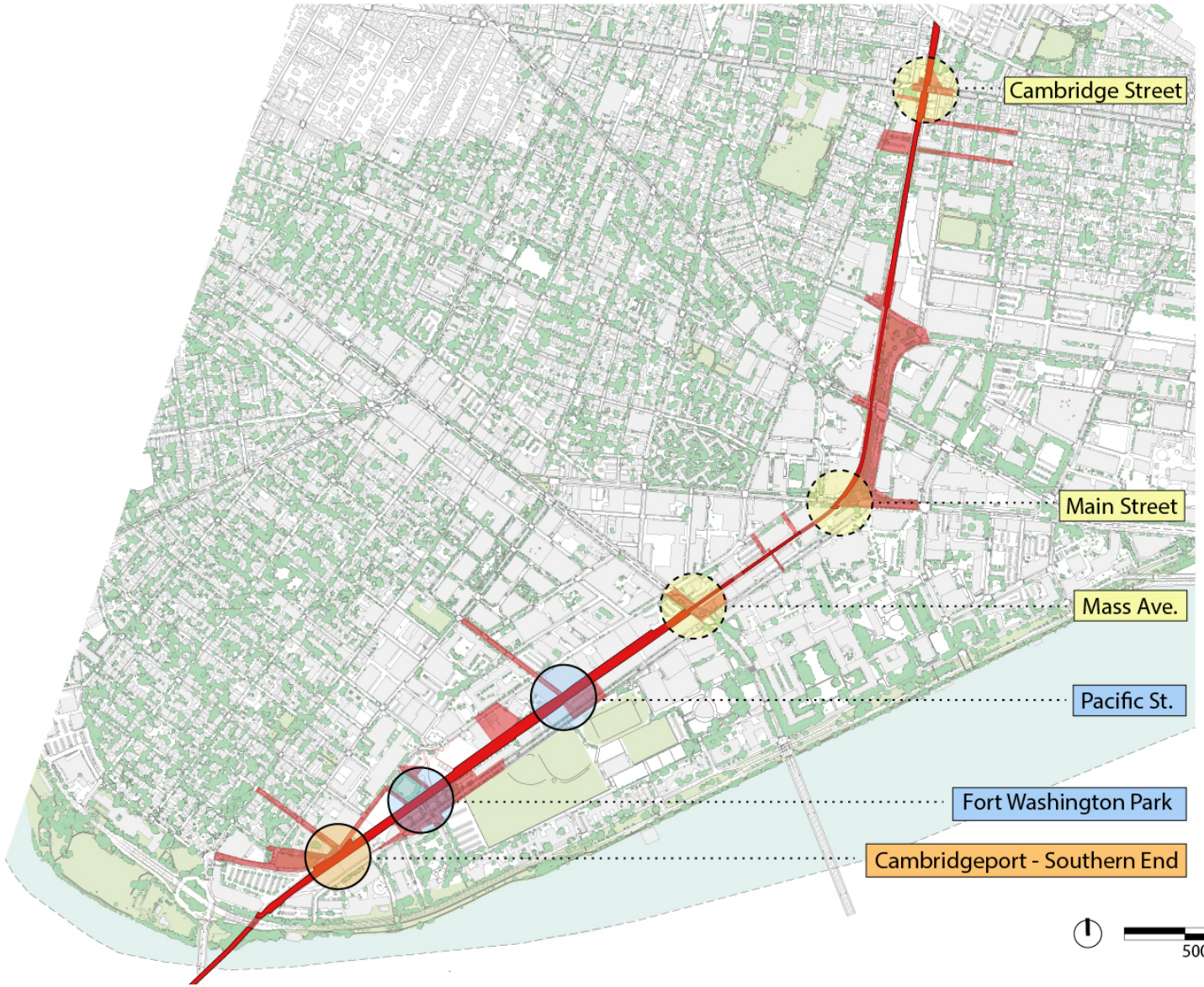
Legend

- Grand Junction Corridor
- Open Space
- Existing Tree Canopy
- Pedestrian Viewshed of Corridor
- Street Crossing
- Pedestrian Crossing or Entry Point

500 1000 2000 ft

Working Group Overview

VIEWSHED ANALYSIS



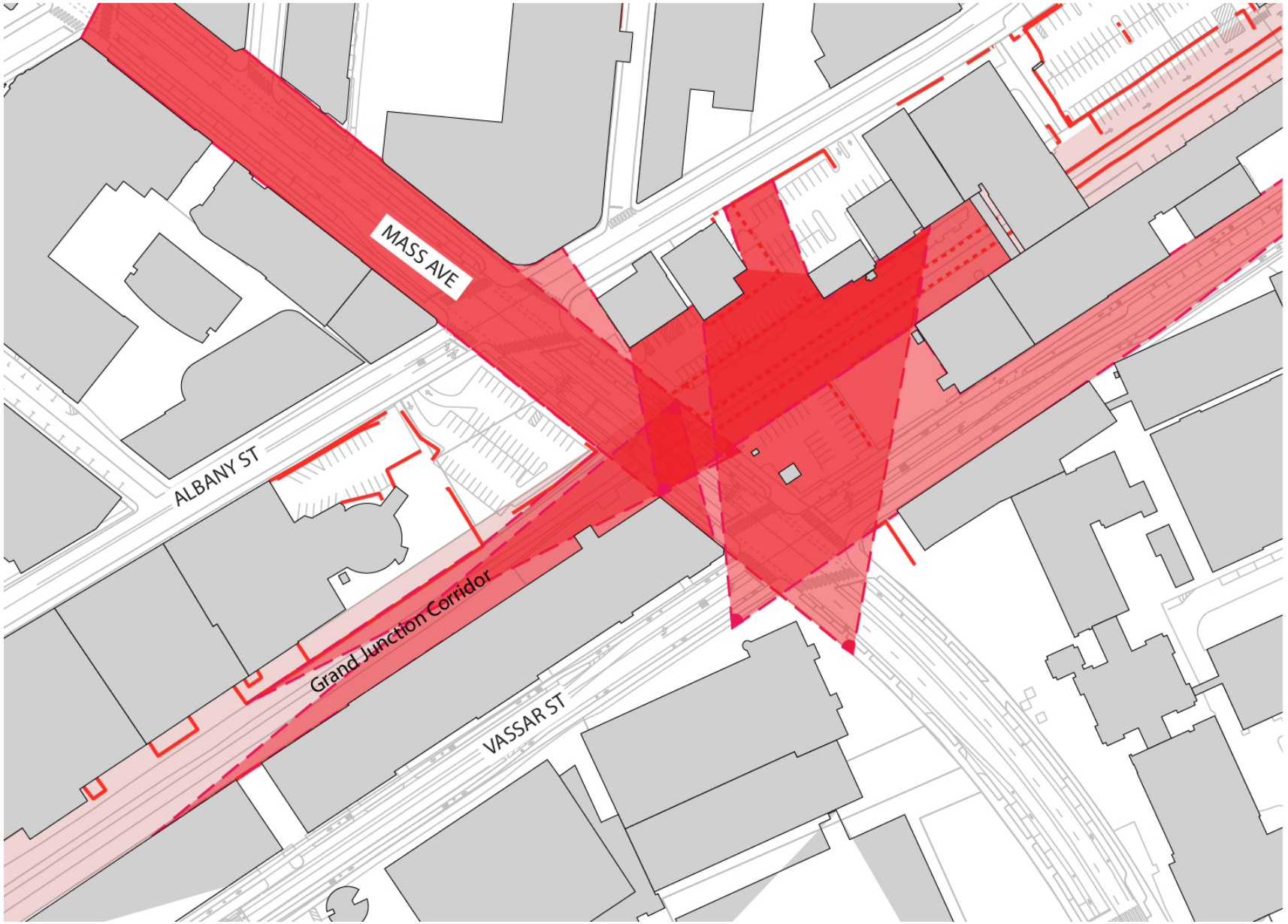
Points of Greatest Impact / Public Art Opportunities

Legend

- Grand Junction Corridor
- Open Space
- Existing Tree Canopy
- Pedestrian Viewshed of Corridor
- Street Crossing
- Pedestrian Crossing
- Pedestrian Entry Point

500 1000 2000 ft

VIEWSHED ANALYSIS VEHICULAR CROSSING



Mass Ave.

Legend

- Grand Junction Corridor
- Open Space
- Existing Fence - Perforated
- Existing Fence - Solid
- Pedestrian Viewcone
- Overall Pedestrian Viewshed of Rail Corridor

0 100 200 300 ft

VIEWSHED ANALYSIS PEDESTRIAN CROSSING

Cambridgeport – Ft. Washington Park

Legend

- Grand Junction Corridor
- Open Space
- Existing Fence - Perforated
- Existing Fence - Solid
- Pedestrian Viewcone
- Overall Pedestrian Viewshed of Rail Corridor

0 100 200 300 ft

VIEWSHED ANALYSIS PEDESTRIAN ENTRY POINT

Cambridgeport – Southern End

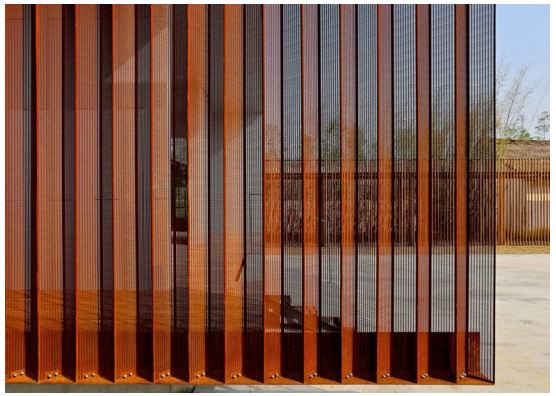
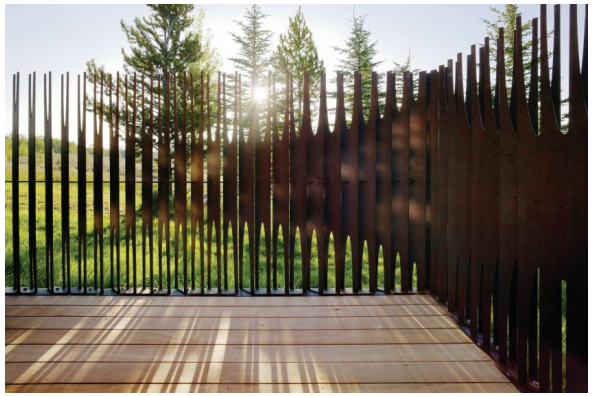
Legend

- Grand Junction Corridor
- Open Space
- Existing Fence - Perforated
- Existing Fence - Solid
- Pedestrian Viewcone
- Overall Pedestrian Viewshed of Rail Corridor

0 100 200 300 ft

FIN FENCE / LENTICULAR MURAL STRATEGY

Fin Fences

Lenticular Murals



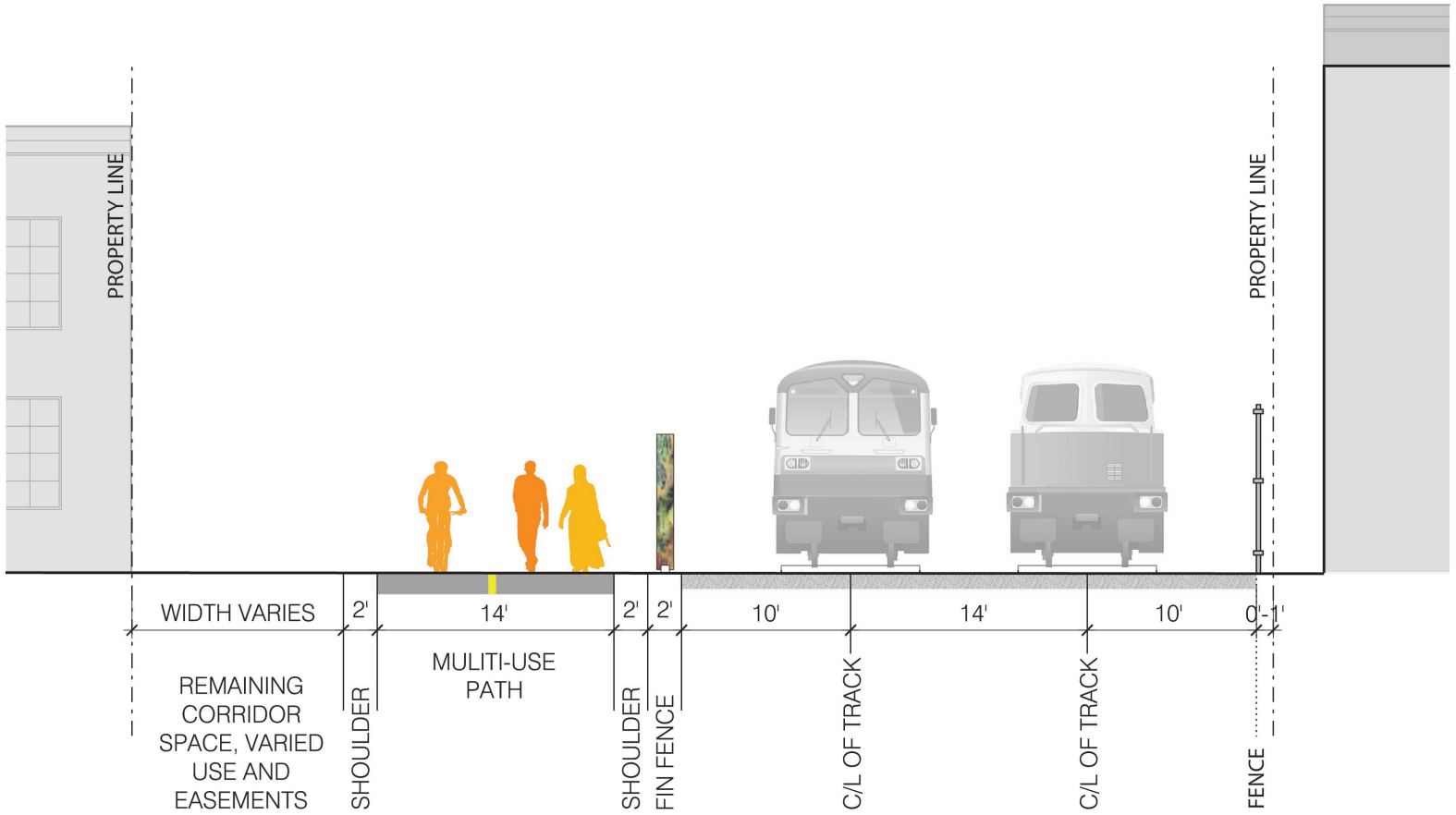

FENCING GOALS

- **Primary goal from MBTA perspective (as we understand it currently) is to prevent trespassing onto the railroad tracks**
- **Impact mitigation/attenuation viewed as a secondary goal**
- **Armature for integrating public art**
- **Support wayfinding and identify for Grand Junction corridor**
- **Efficient, cost effective fabrication and installation**

FIN FENCE / LENTICULAR MURAL STRATEGY

Fin Fence Location

Typical Cross Section



FIN FENCE OPTION 01

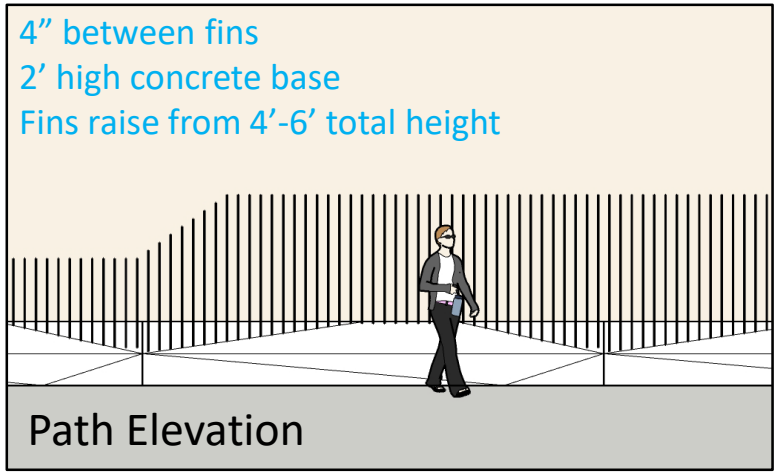
Faceted Concrete Base with Perpendicular Fins

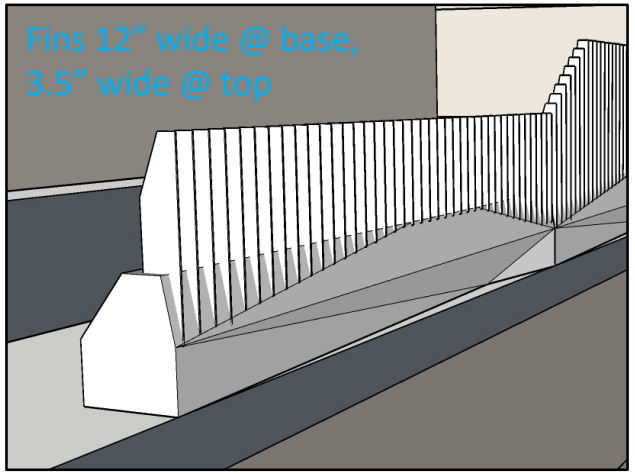
Pros:

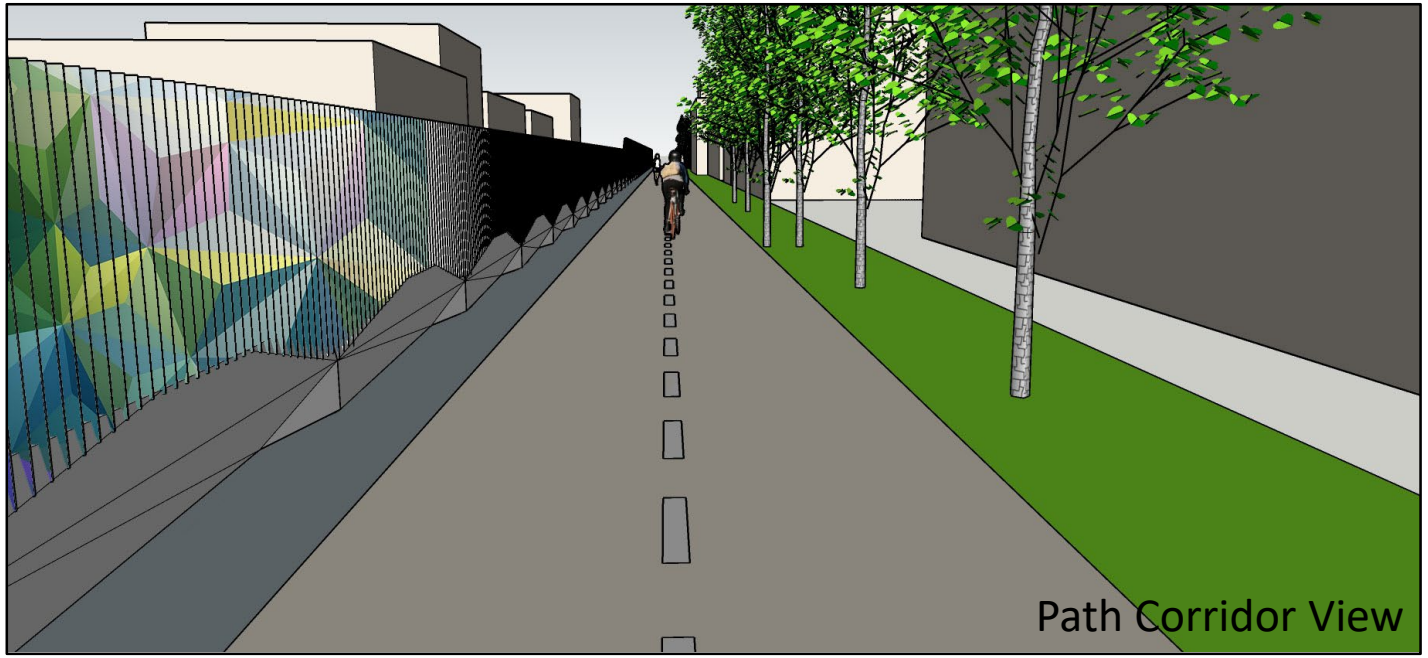
- Concrete base can become part of the public art
- Concrete base allows for simpler installation with less excavation
- Concrete base protects multi-use path from gravel or other projectiles from RR corridor
- Concrete base raises artwork away from snow

Cons:

- Overall fence may feel less transparent because of solid raised base
- More fins are needed than in angled placement







FIN FENCE OPTION 02

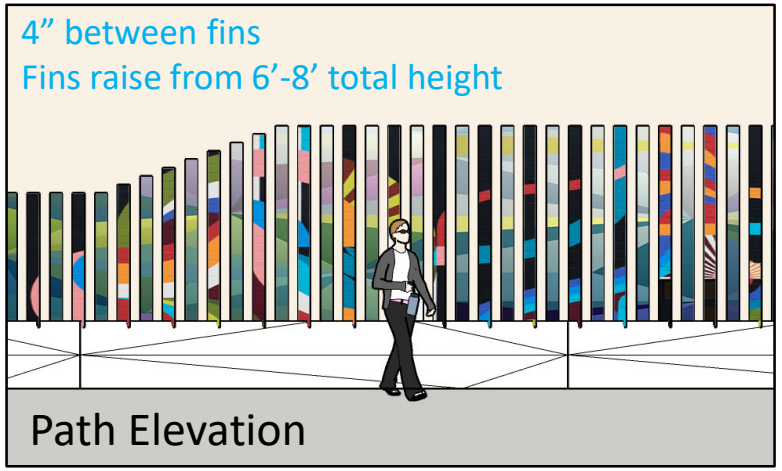
Faceted Concrete Base with Angled Fins

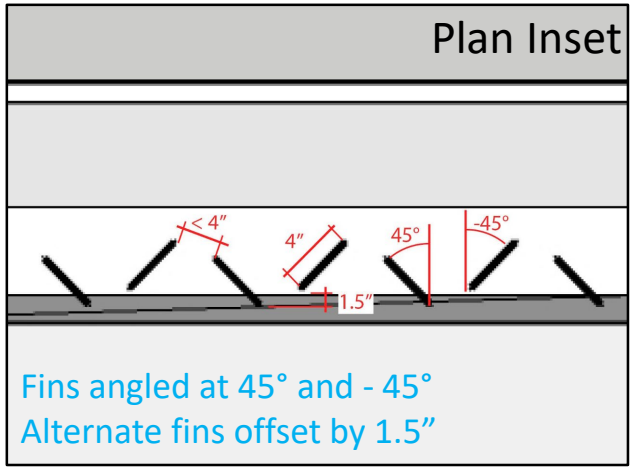
Pros:

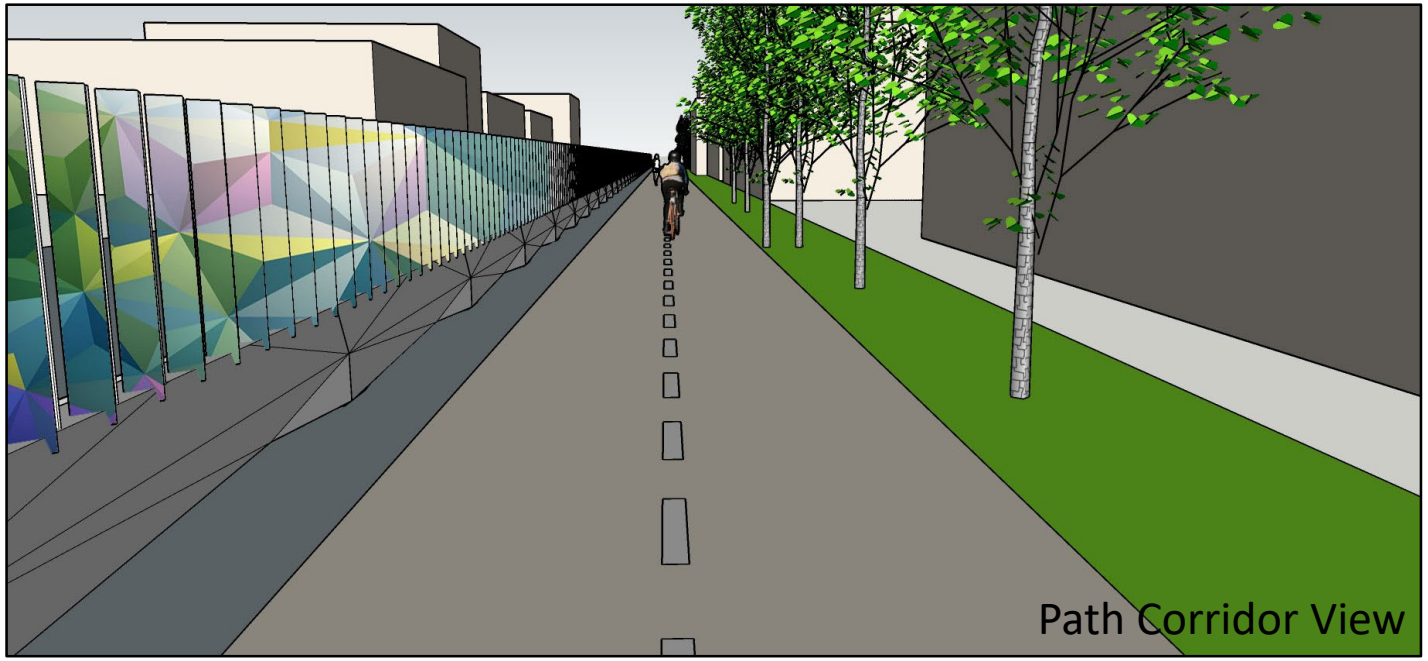
- Concrete base can become part of the public art
- Concrete base allows for simpler installation with less excavation
- Concrete base protects multi-use path from gravel or other projectiles from RR corridor
- Concrete base raises artwork away from snow
- Angled fin placement requires fewer fins needed than perpendicular placement

Cons:

- Overall fence may feel less transparent because of solid raised base and angled fins

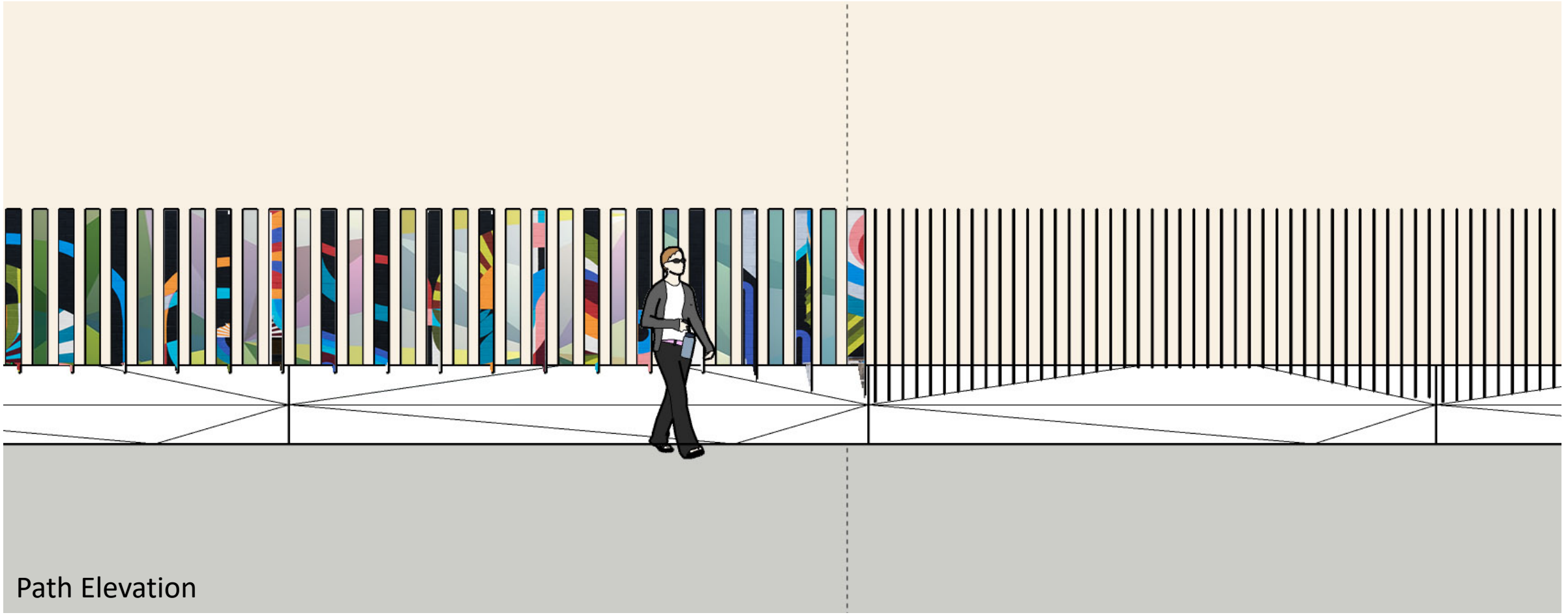






FIN FENCE HYBRID OPTION

Faceted Concrete Base with Angled Fins Shifting to Perpendicular Fins



FIN FENCE OPTION 03

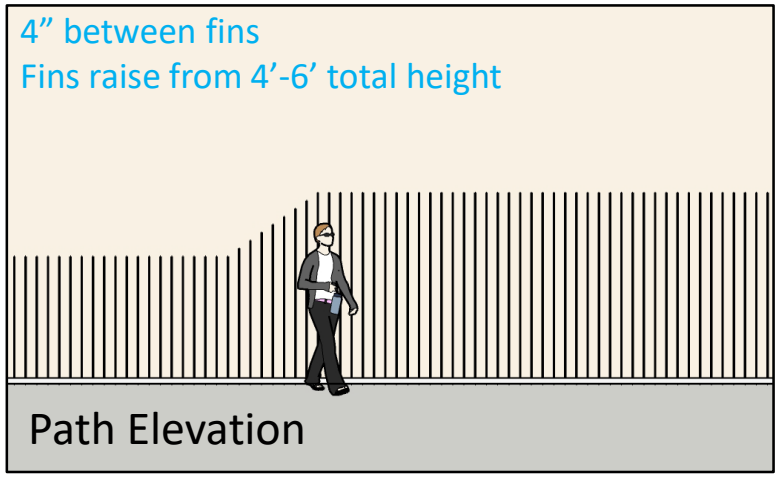
Curb Height Base with Perpendicular Fins

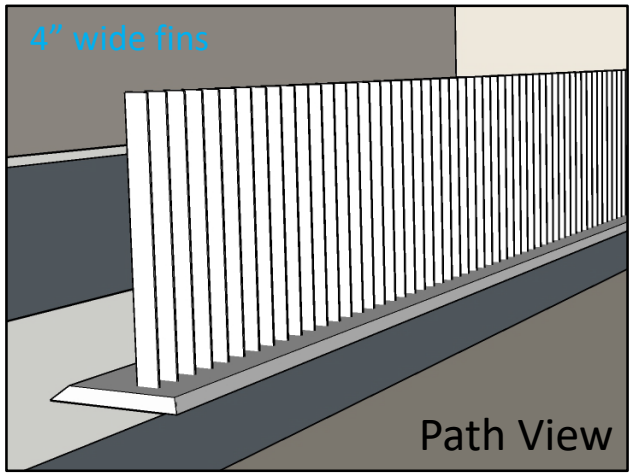
Pros:

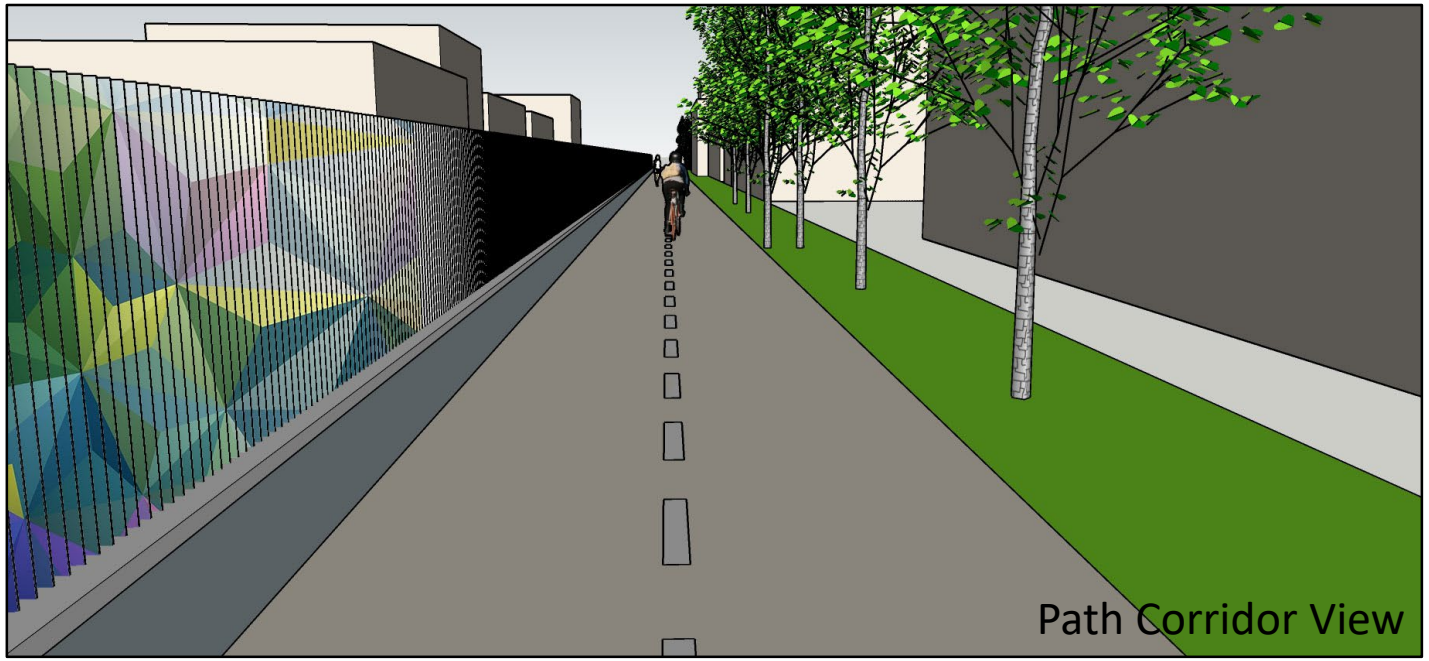
- Fence feels more transparent overall because of low concrete base
- Larger ‘canvas’ surface area for mural because of taller fins

Cons:

- Likely more challenging to construct and more excavation will be required
- Less protection from ballast or other projectiles between path and RR corridor
- Base of mural potentially impacted by snow/ice







FIN FENCE OPTION 04

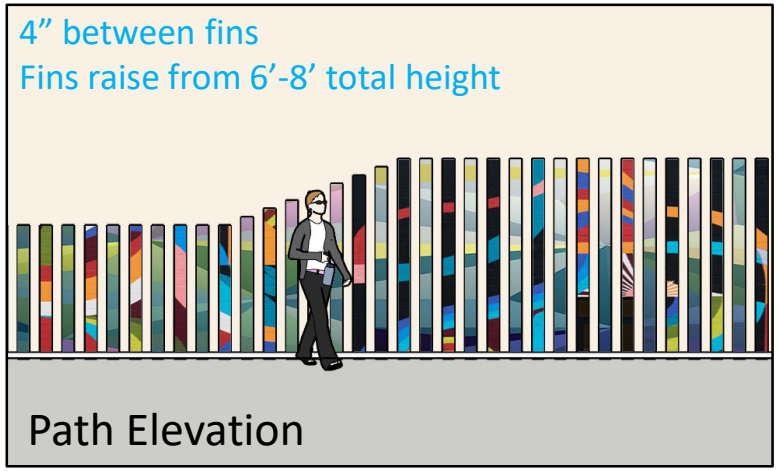
Curb Height Base with Angled Fins

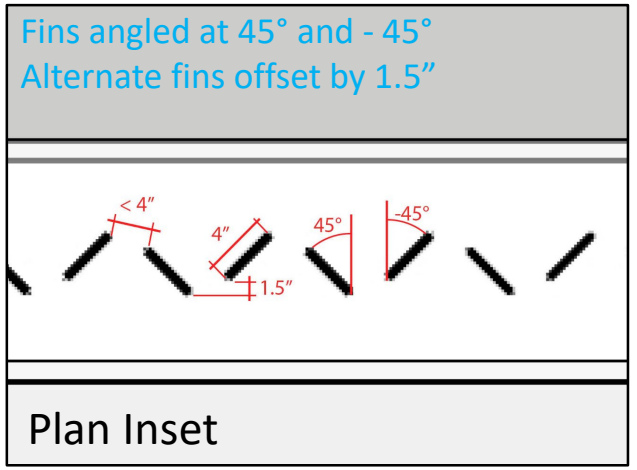
Pros:

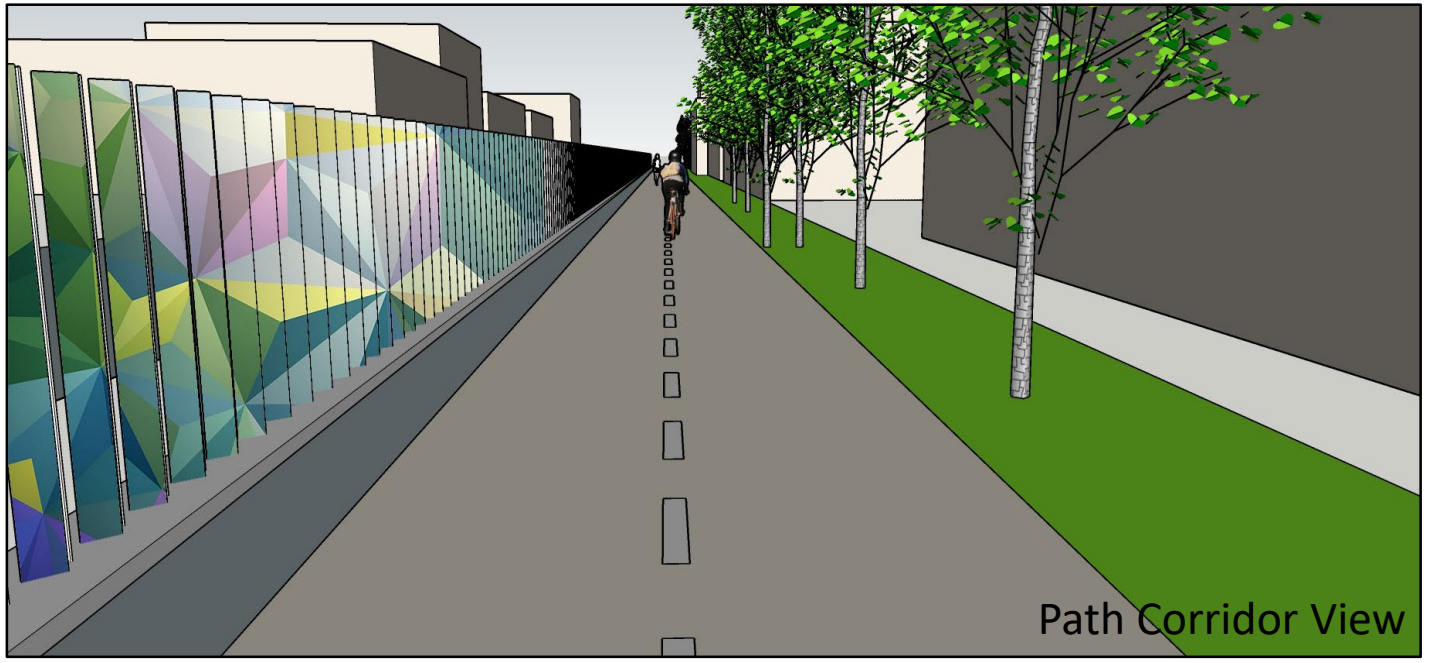
- Fence feels more transparent overall because of low concrete base
- Larger ‘canvas’ surface area for mural because of taller fins

Cons:

- Likely more challenging to construct and more excavation will be required
- Less protection from ballast or other projectiles between path and RR corridor
- Base of mural potentially impacted by snow/ice







PUBLIC ART - CHECK-IN QUESTION

AS BUDGET ALLOWS, WHERE WOULD YOU LIKE TO SEE PUBLIC ART INCORPORATED ALONG THE GRAND JUNCTION PATH?

- Along straightaways
- At entry points and crossings
- Both
- Not sure

PATH LIGHTING

City Standards

Waverley Path

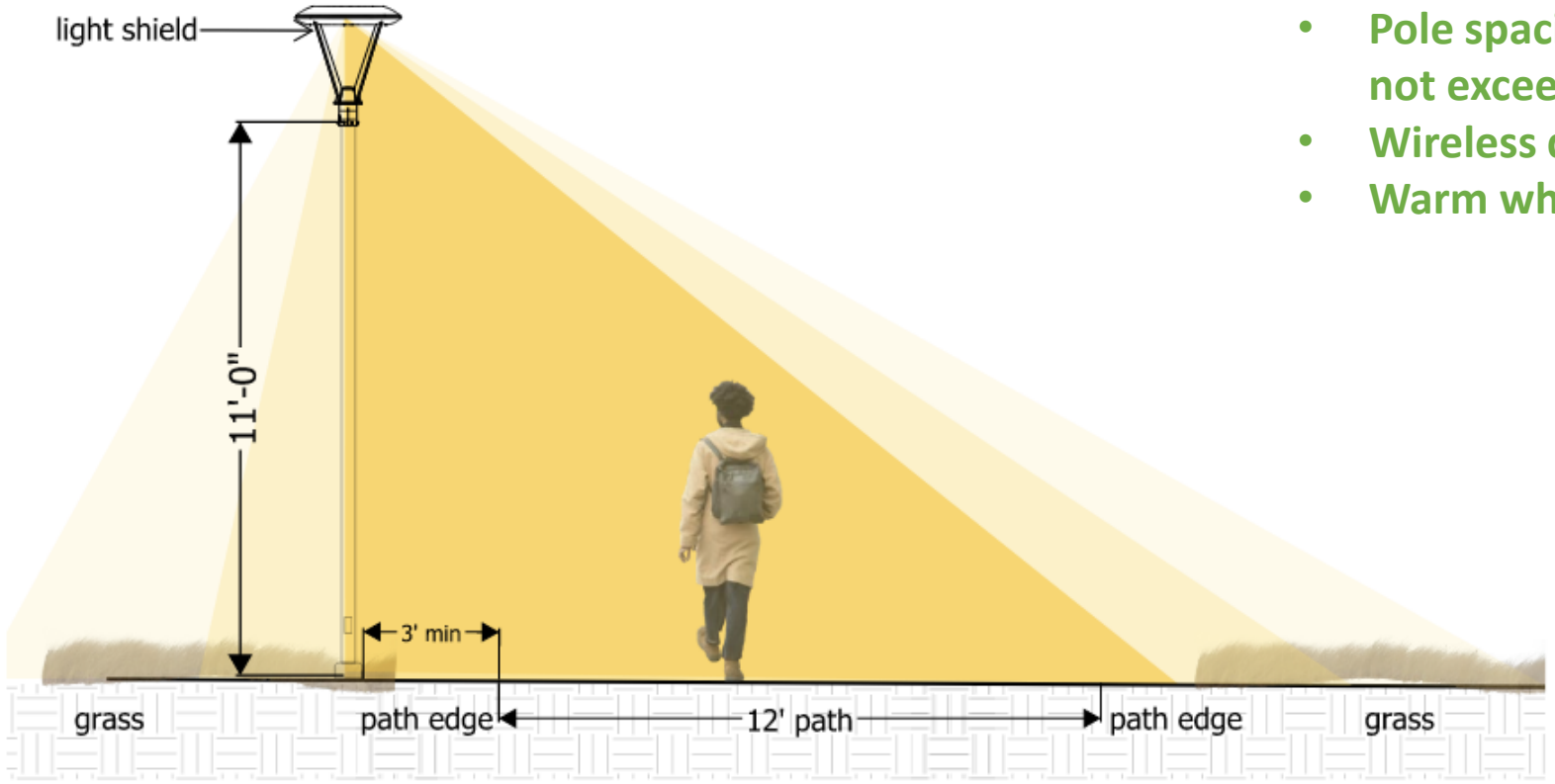
Left: Selux Saturn

Right: Cree Edge

Loughrey Walkway

PATH LIGHTING- GOALS

PATH LIGHTING DIAGRAM



- Shielded light distribution to focus light on path
- Shorter pedestrian poles (11’ vs. typical 13’ in a park) also limit spread of light
- Pole spacing of 100-105’ apart to achieve but not exceed targeted light levels
- Wireless dimming control module
- Warm white color specification

PATH LIGHTING- CHECK-IN QUESTION

WHICH PATH LIGHTING OPTION DO YOU MOST PREFER?

- Selux Saturn
- Cree Edge
- Both options
- Not Sure

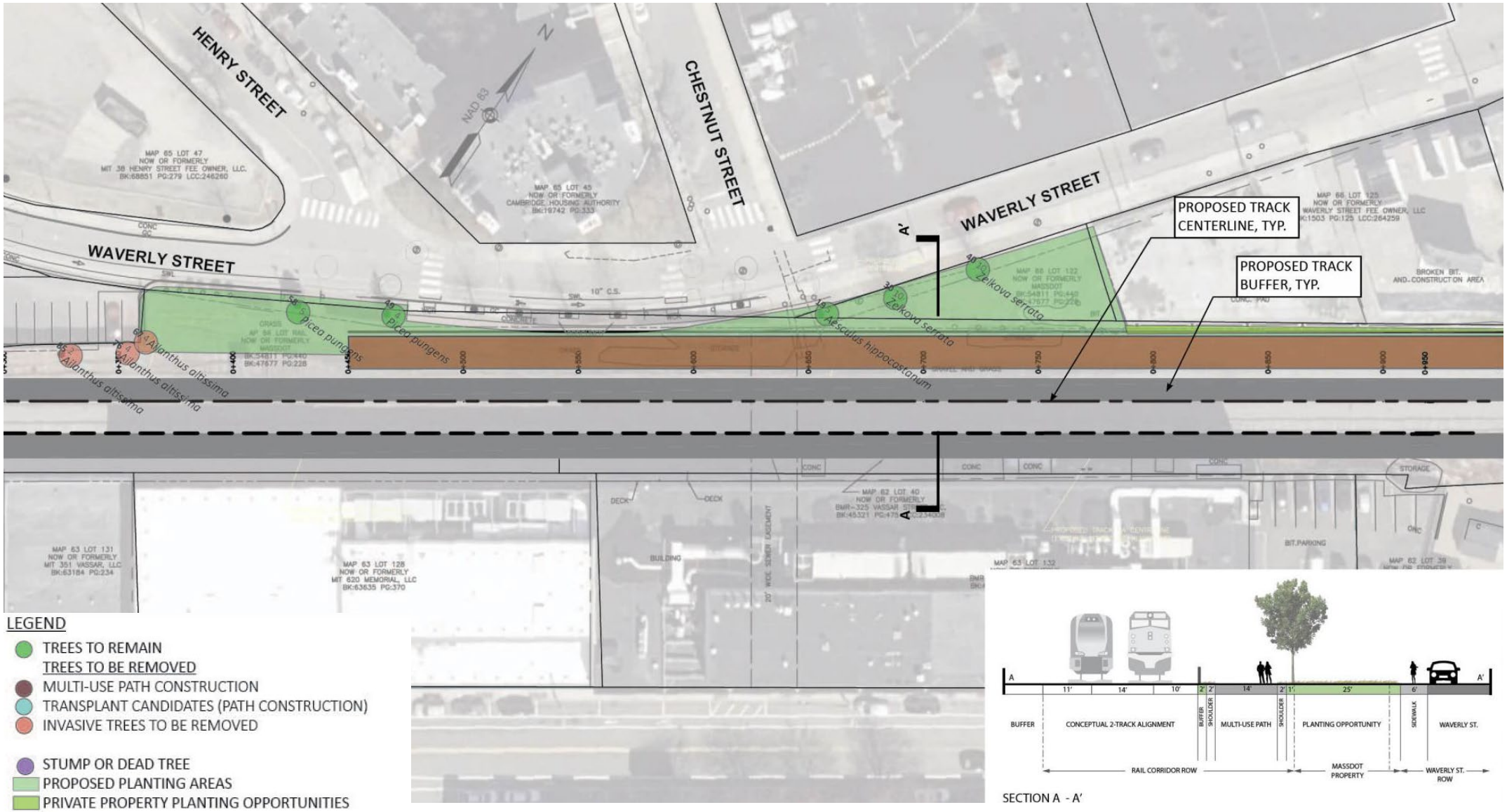
Left: Selux Saturn

Right: Cree Edge

GRAND JUNCTION multi-use path

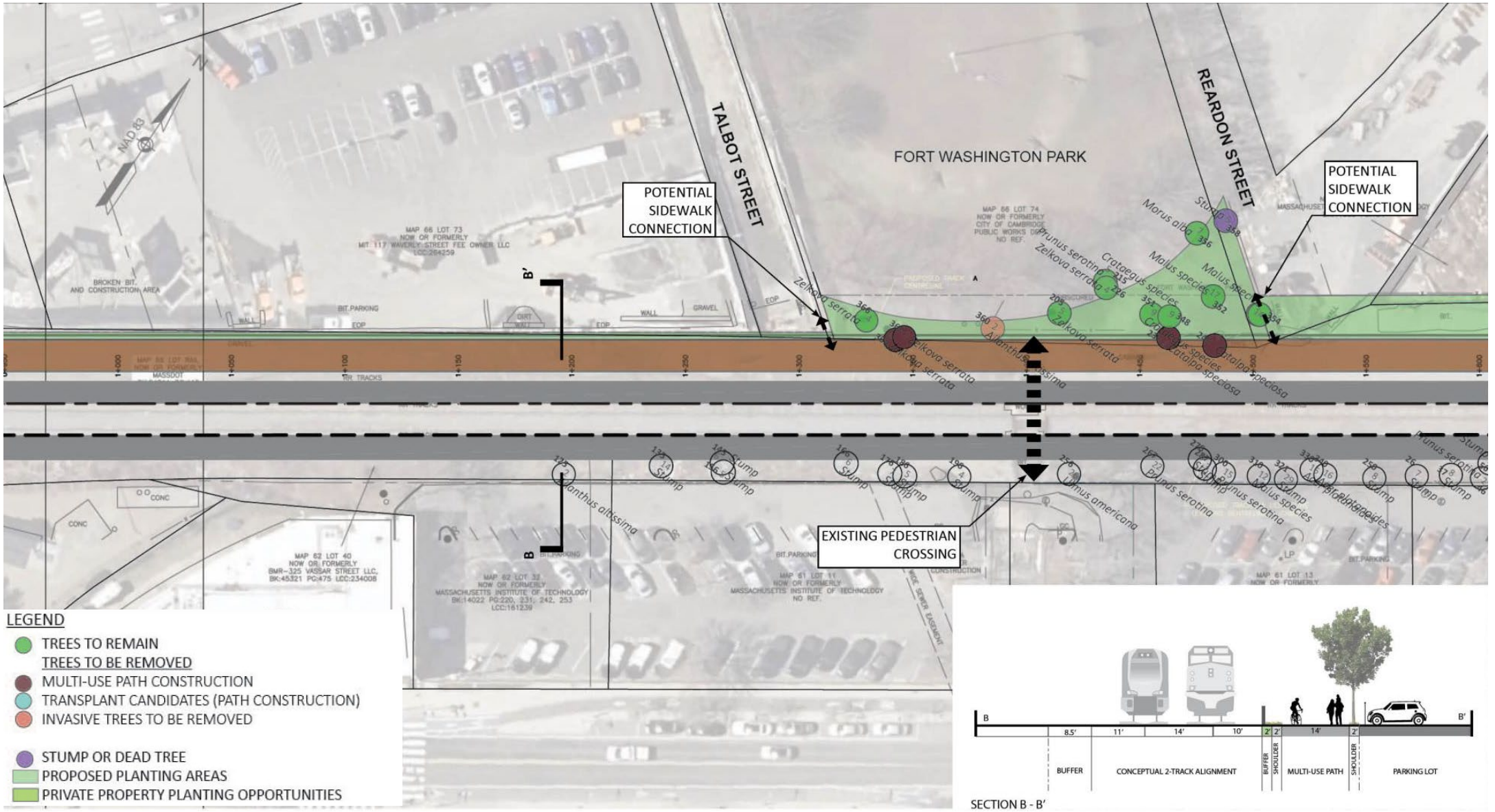
TREE INVENTORY

Tree Inventory Overview

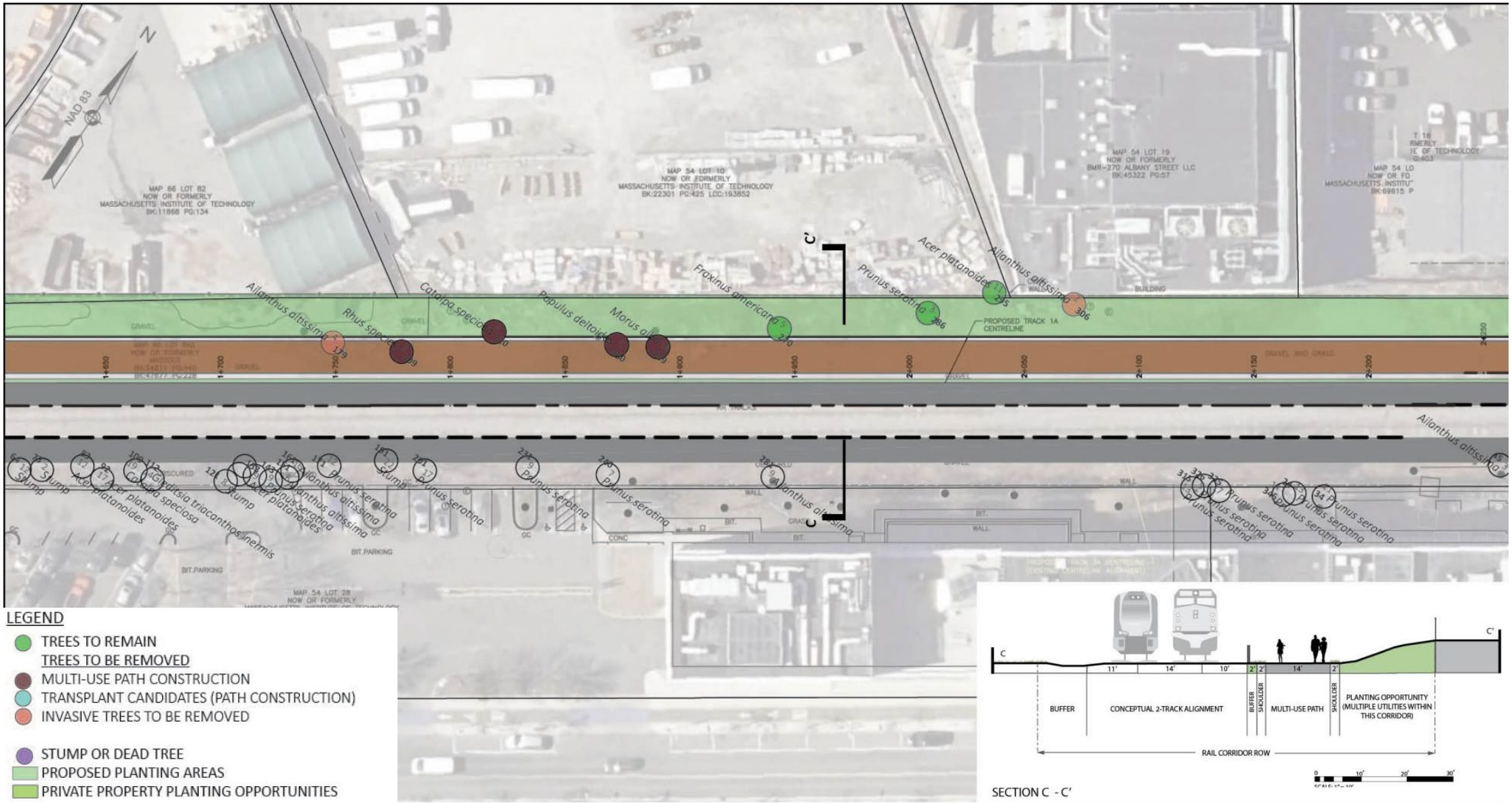


SECTION A - A'

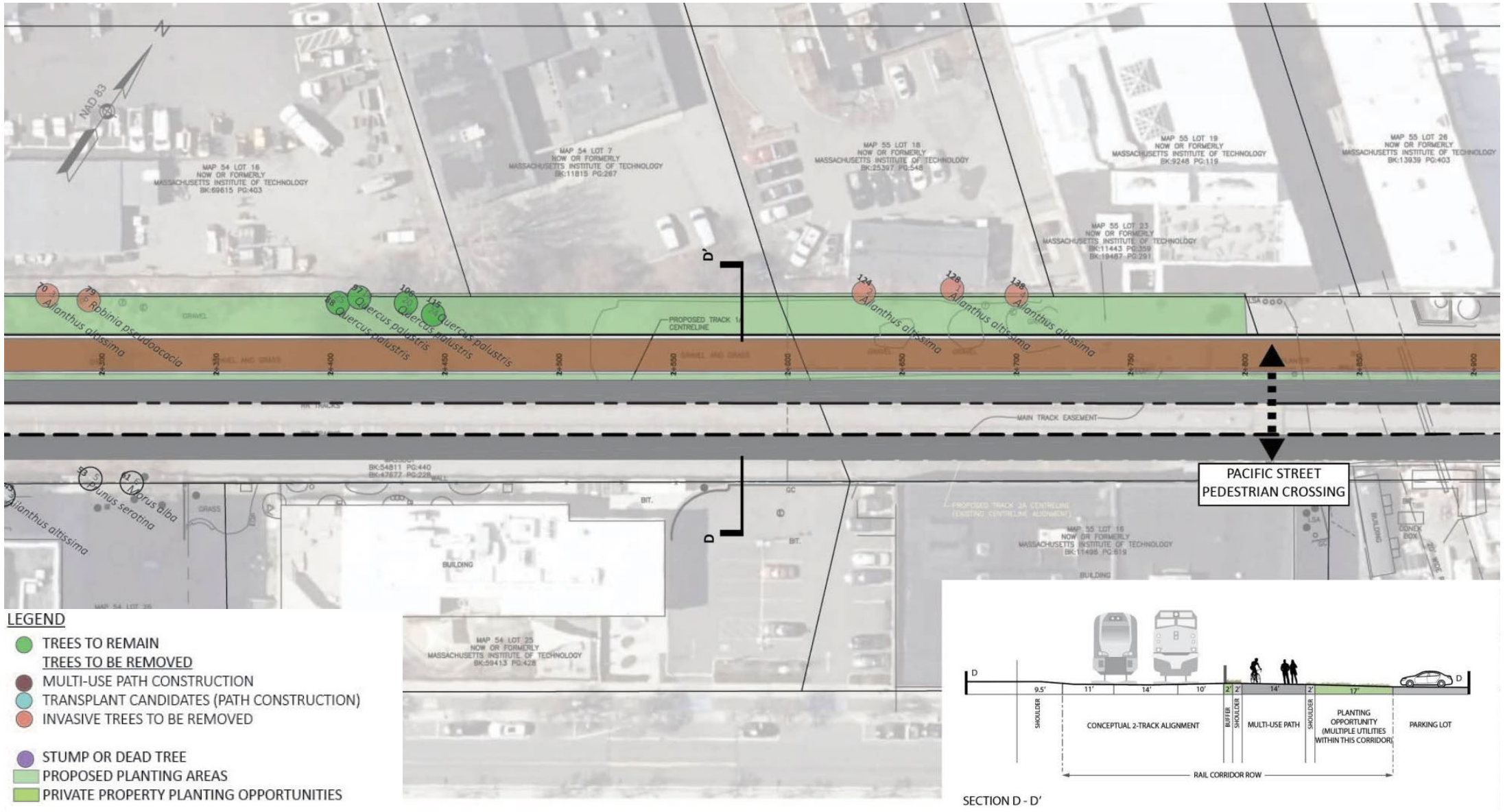
Tree Inventory Overview



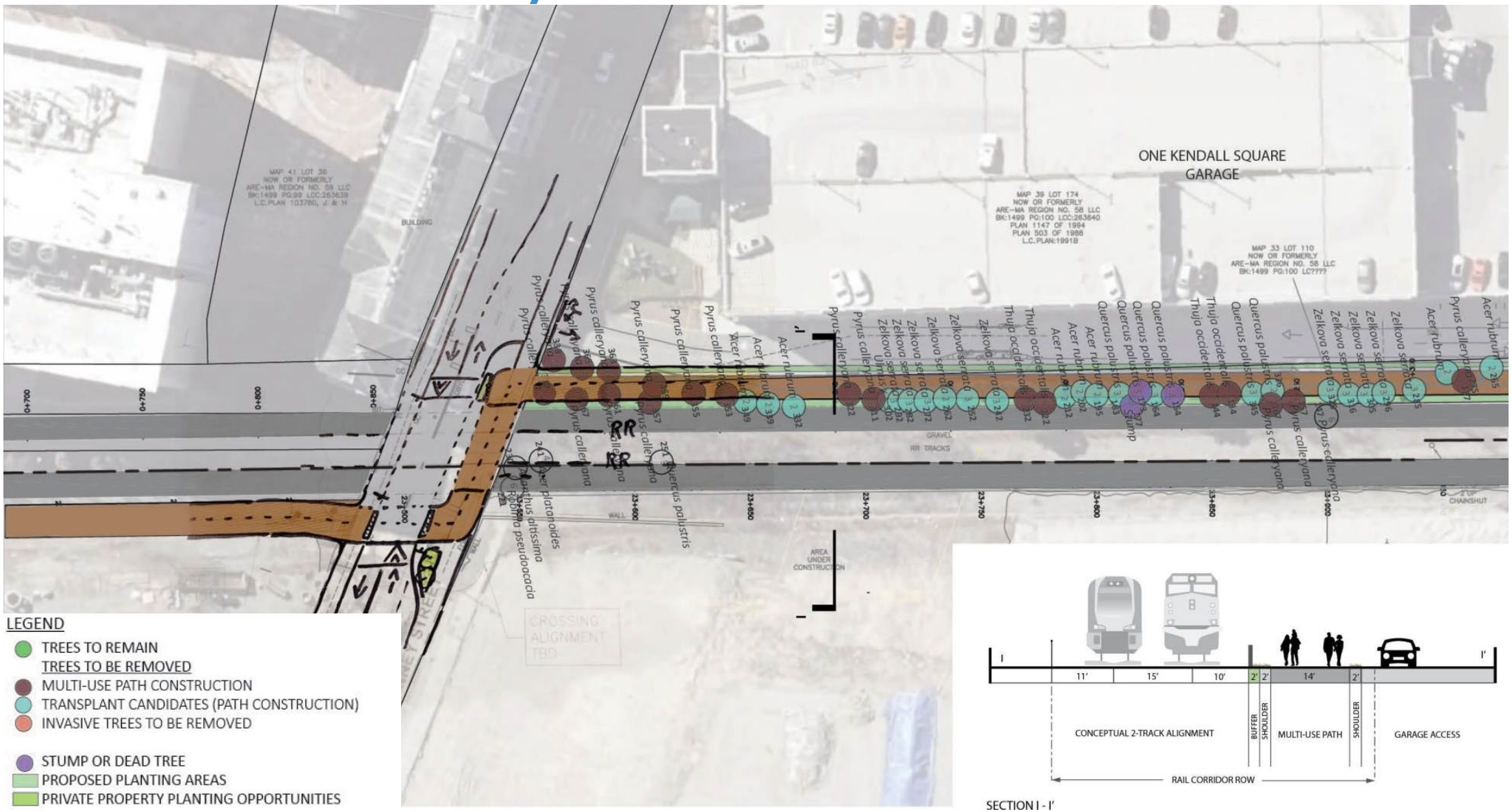
Tree Inventory Overview



Tree Inventory Overview



Tree Inventory Overview

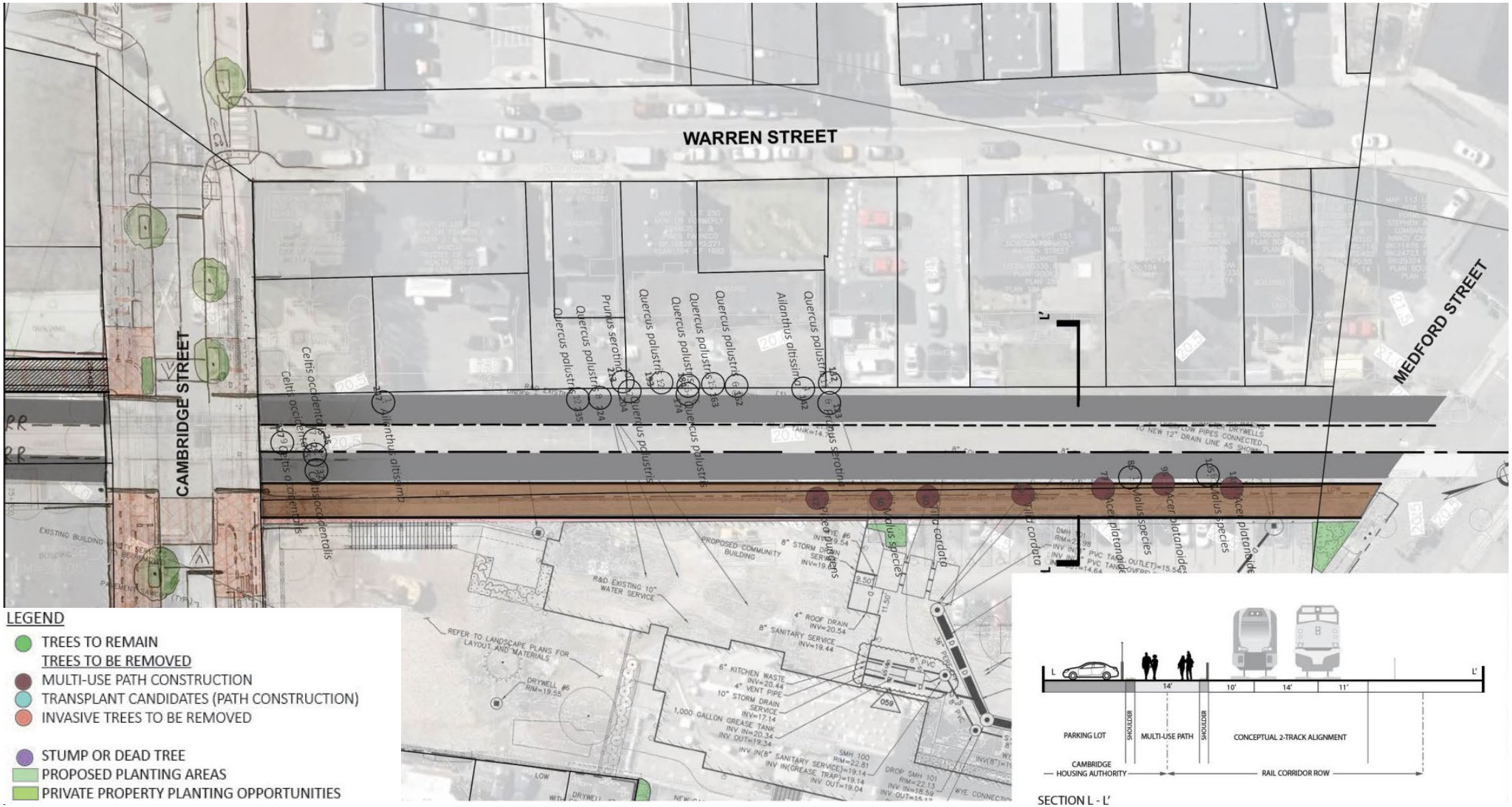


LEGEND

- TREES TO REMAIN
- TREES TO BE REMOVED
- MULTI-USE PATH CONSTRUCTION
- TRANSPLANT CANDIDATES (PATH CONSTRUCTION)
- INVASIVE TREES TO BE REMOVED
- STUMP OR DEAD TREE
- PROPOSED PLANTING AREAS
- PRIVATE PROPERTY PLANTING OPPORTUNITIES

SECTION I - I'

Tree Inventory Overview



Working Group Overview

TREE PLANTING OPPORTUNITIES

Fastigiate White Pine

Crimson Spire Oak

Columnar English Oak

Honey Locust

Tulip Poplar

River Birch

Trees near the Trail

For trees proposed directly adjacent to the tracks or multi-use path, we suggest choosing species with some or all of the following characteristics in order to minimize leaf litter and canopy spread that could interfere with cycling safety or track activity:

- **Narrow growth habit (Taller than wide)**
- **Small leaf size**
- **Evergreen trees**

GRAND JUNCTION multi-use path

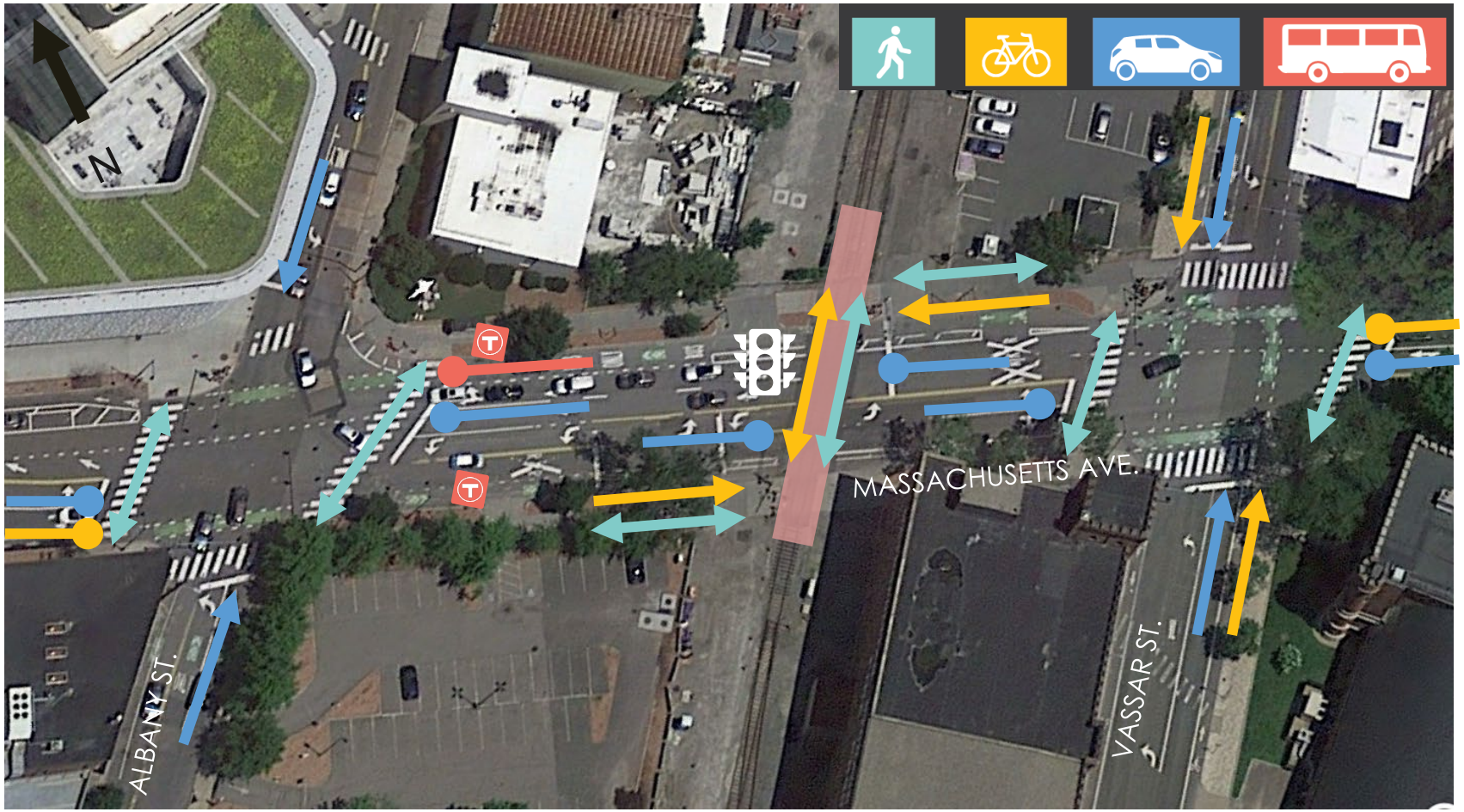
INTERSECTION ANALYSIS UPDATE

INTERSECTION ANALYSIS UPDATE

- Refined the preferred intersection crossing concepts
- Analyzed 4 street crossings
  - Broadway intersection is part of a separate project
- Conducted traffic analysis for each intersection
- Continue to refine through 25% design

INTERSECTION ANALYSIS UPDATE

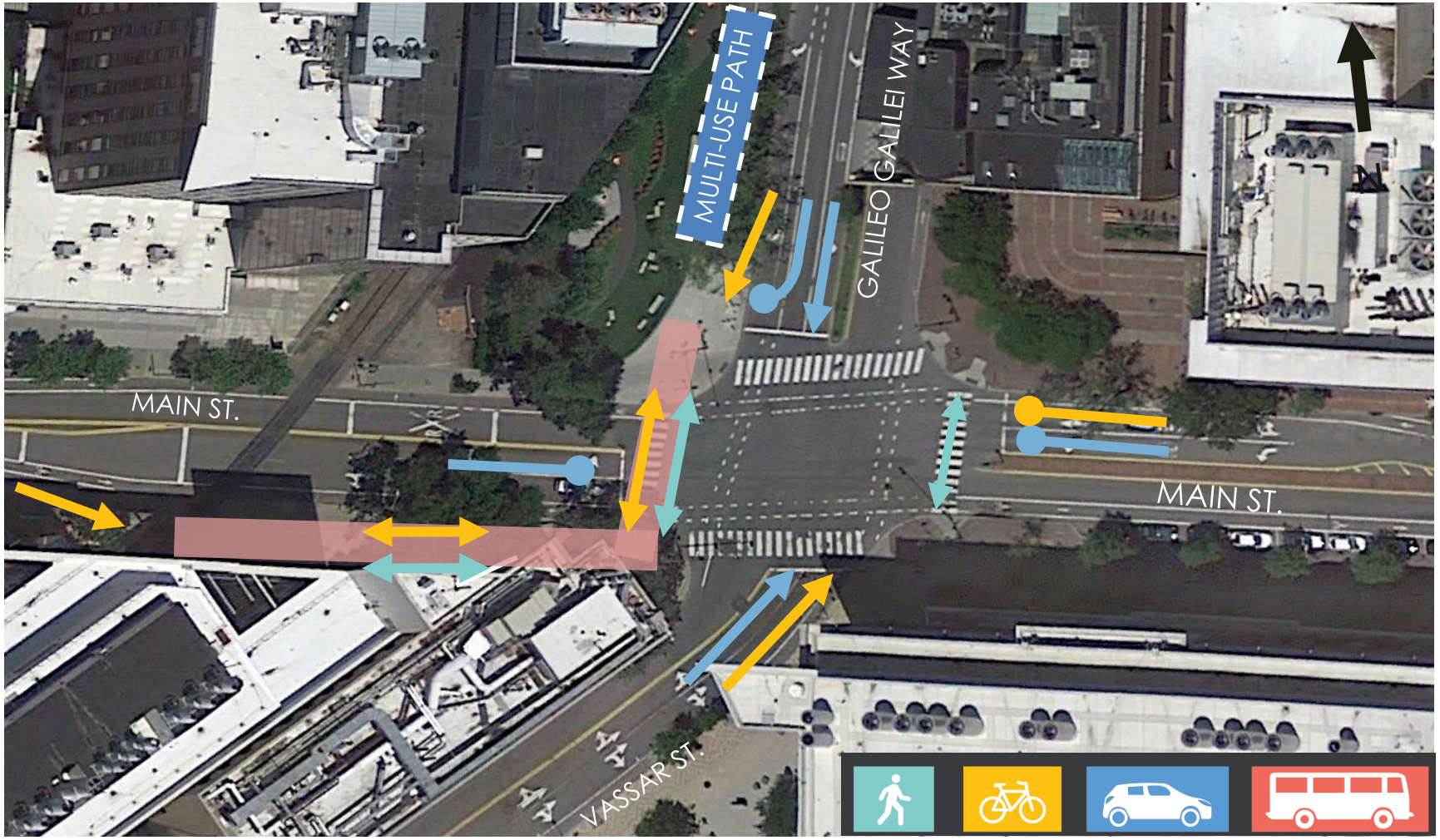
Massachusetts Avenue between Albany St/Vassar St



- Provide fully signalized crossing between the intersections of Albany St and Vassar St
- Coordinate with signals at Albany St and Vassar St
- Provide clearance for vehicles between Albany St and Vassar St for path crossing.

INTERSECTION ANALYSIS UPDATE

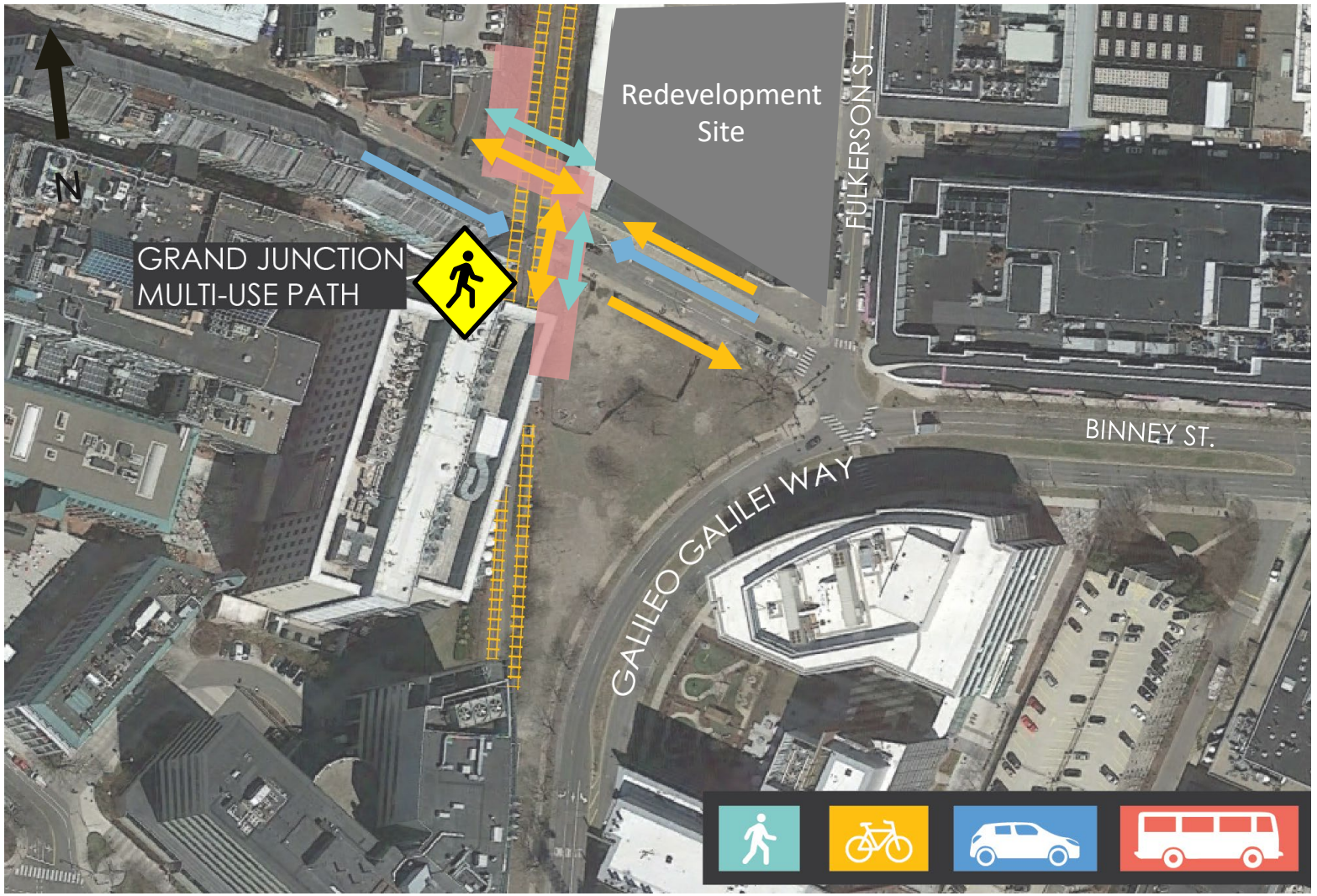
Main Street & Vassar Street/Galileo Galilei Way



- Path crossings on western side of the intersection with Vassar Street
- Protected path crossing from vehicular movements
- Coordination with area development projects
  - Restrict left turns from Vassar Street

INTERSECTION ANALYSIS UPDATE

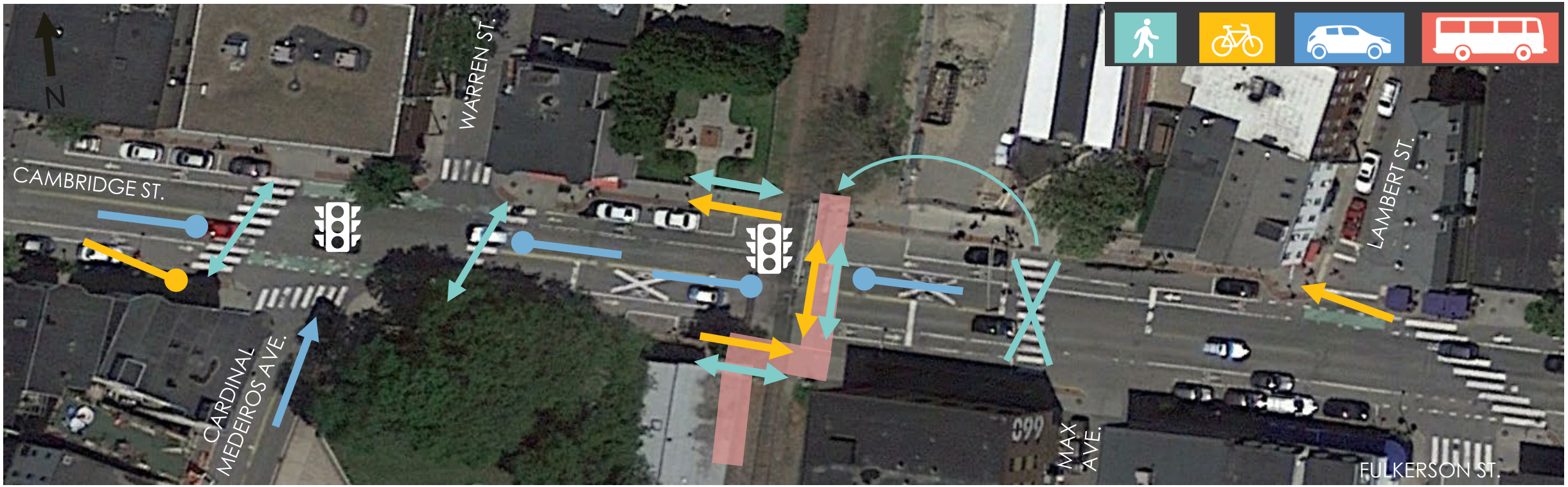
Binney Street - "Little Binney"



- Path transitions from east side to west side of tracks north of Little Binney
- Raised flush crossing
- Recommend adding RRFB
- Coordination with adjacent development

INTERSECTION ANALYSIS UPDATE

Cambridge Street



- Transition path from west side to east side of tracks
- Provide signalized path crossing by shifting existing pedestrian crossing
- Signalize Cardinal Medeiros Ave and coordinate phasing and timing with path crossing

GRAND JUNCTION multi-use path

PUBLIC COMMENT

PUBLIC COMMENT INSTRUCTIONS

"Raise hand" to speak

- If you wish to speak, click on "Raise Hand" in the Zoom application
  - On the telephone, enter * 9 on the dial pad
- Staff will call your name or phone number to acknowledge
- Before starting, please state your name and staff will confirm that we can hear you
- You will have **two minutes** to make your comment

Bottom Panel of Zoom Screen

GRAND JUNCTION multi-use path

NEXT STEPS

FURTHER RESOURCES

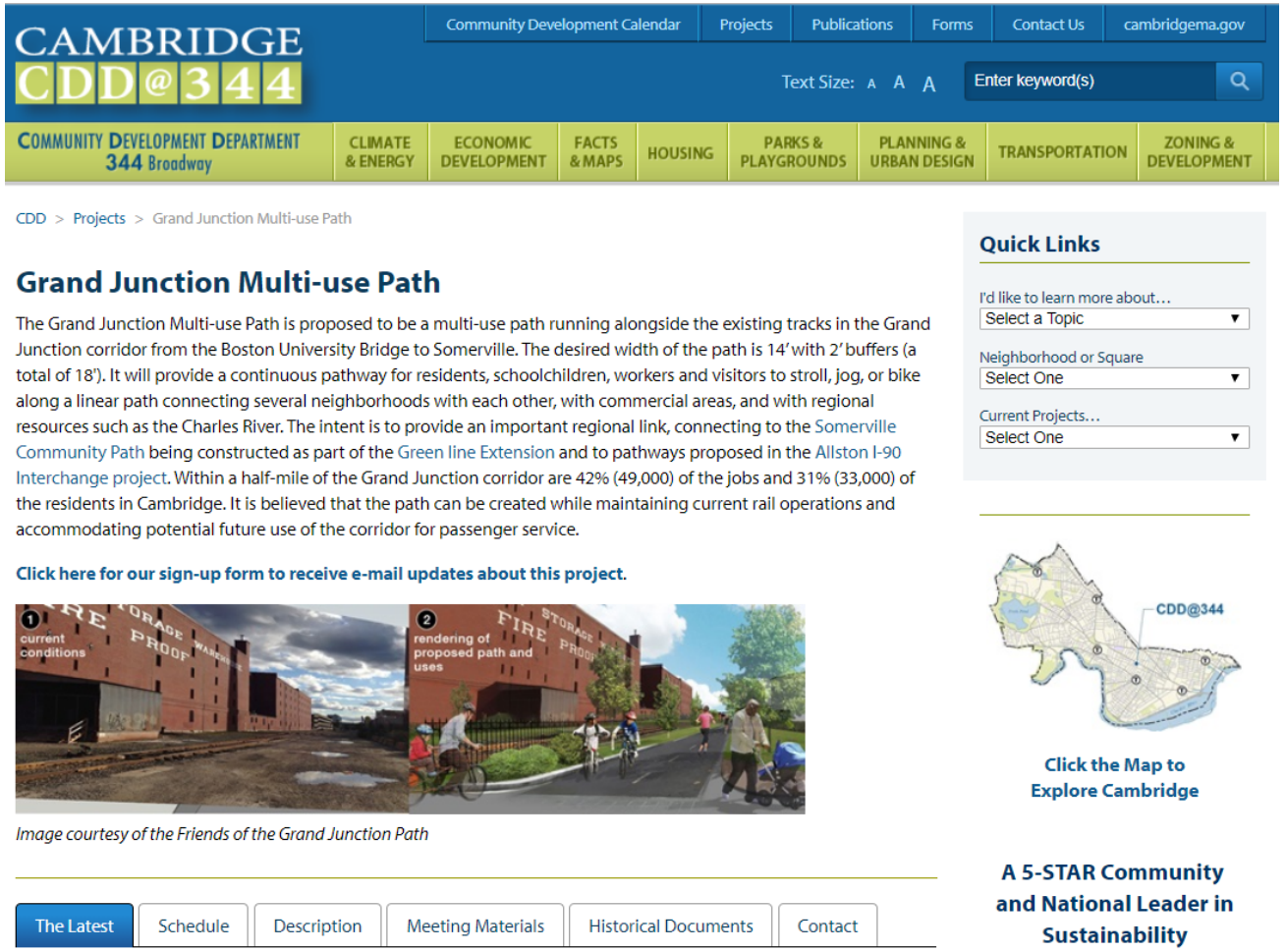
Next Meetings

- Working Group Meeting #6 - Fall 2020
- 25% Design Community Meeting - Fall/Winter 2020

Find us online:

CambridgeMA.gov/GrandJunction

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



THANK YOU

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(617) 349-6959