I-90 ALLSTON INTERCHANGE
A MULTIMODAL TRANSPORTATION PROJECT
Cambridgeport Neighborhood Association

January 19 – Central Square Library

Meeting Agenda

- Welcome & Introductions
- Project Purpose
- Project Area
- Project History Since 12/15/15
- MassDOT Concept 3K Refined
- City of Cambridge Specifics
  - Traffic impacts
  - Noise impacts
- Ongoing Public Involvement

Shared Priorities

- ✓ *Improve safety for all modes: walking, cycling, driving, transit*
- ✓ Realign I-90
- ✓ Context sensitive design or:
  - ✓ Lessen impact of interchange
  - ✓ Avoid inducing cut-through traffic with new configuration
  - ✓ Reconnect sections of Allston to each other and the River
- ✓ Protect abutting and adjacent neighborhoods during construction
- ✓ A more vibrant Cambridge Street that serves all modes
- ✓ Accessibility to transit at future West Station

Project Purpose

- Replace structurally deficient/functionally obsolete I-90 viaduct
- Straighten main line through Beacon Park Yards (BPY)
  - All Electronic Tolling
  - Rebuild Urban Interchange
  - Geometric and safety improvements
- Realign Soldiers' Field Road (SFR)
- Create a more vibrant Cambridge Street
- Construct urban improvements/accessibility
  - Shared Use Path (SUP) "Peoples' Pike"
  - Rebuild Lincoln Street Pedestrian Bridge
  - Introduce Cycle Tracks on Cambridge Street
- Build BPY Layover and West Station

Project Area

Since We Last Visited CNA – Ongoing Outreach

- Taskforce meetings:
  - February 24th, 2016
  - March 10th, 2016
  - March 30th, 2016 (site walk)
  - April 7th, 2016
  - April 28th, 2016
  - May 19th, 2016
  - October 13th, 2016
- Targeted briefings:
  - February 29th, 2016 – Brookline Transportation Committee
  - April 22nd, 2016 – Allston Village Main Streets
- Public information meeting: December 8th, 2016

Since We Last Visited CNA - BPDA

- Boston Planning & Development Agency (BPDA) (nee BRA) place-making process:
  - Used Option 3K4 as a baseline for analysis
  - "Test the district to ensure a wide range of successful outcomes"
  - Looked at:
    - Public Realm/Open Space
    - Mobility/Connectivity
    - Development Potential/Flexibility
    - Distinctive Place/Context Sensitive
    - Energy Efficiency/Sustainability
  - Meetings with I-90 Allston Taskforce on:
    - December 17th, 2015
    - January 11th, 2016
    - January 20th, 2016
    - February 3rd, 2016
    - Junes 27th, 2016
    - July 14th, 2016

MassDOT Concept 3K-4

Major Placemaking Standards

Organizing the Placemaking Standards

- Charles River Edges and Connections
- Areas Along and Above the Highway and Rail Alignment
- Cambridge Street and Connections to the North
- Areas within the New District
- Area-Wide Standards
- Guidelines for Future Master Planning

Placemaking Study – Major Standards

- Charles River Edges and Connections

Placemaking Study – Major Standards

- Areas Along and Above the Highway and Rail Alignment

Placemaking Study - Major Standards

- Cambridge Street and Connections to the North

Cambridge Street and Connections to the North

18. Provide a third north/south arterial Street

Provide three north-south arterial streets across Beacon Yards aligned with three north-south streets now being plan

Updated planning will result in 3 connecting streets, better distributing traffic, transit routes and creating better blocks in the new district

Cambridge Street and Connections to the North

20. Consider a direct North Harvard Street intersection alignment

A more direct intersection between Cambridge Street South and North Harvard Street at Cambridge Street would limit neighborhood impa and street and intersection widths alo

If a more direct alignment proves to have fewer impacts, then the odd-shaped blocks in Concept 3K-4 can be reorganized to provide better opportunities for development

I-90 Allston Interchange Placemaking Study

Cambridge Street and Connections to the North

21. Strengthen Cambridge Street for early redevelopment along its southern edges

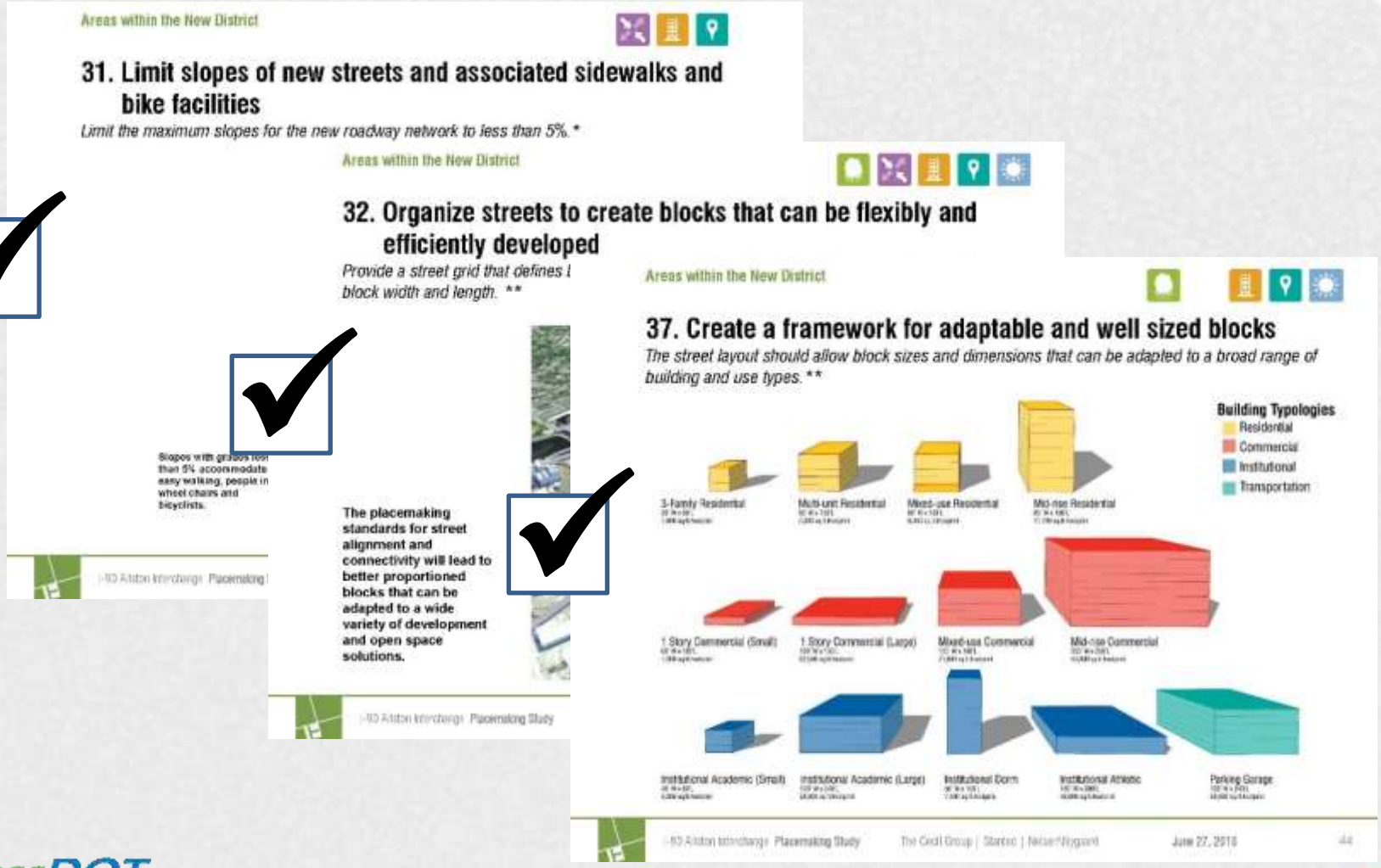
*Provide the opportunity for an improved Cambridge Street as an early phase redevelopment target. ***

Creating an active and developed edge along Cambridge Street will occur better and sooner if the blocks are well proportioned and have adequate depth for retail uses

I-90 Allston Interchange Placemaking Study The Cecil Group Martin | Nelson/Nygaard June 27, 2016 39

Placemaking Study – Major Standards

- Areas within the New District

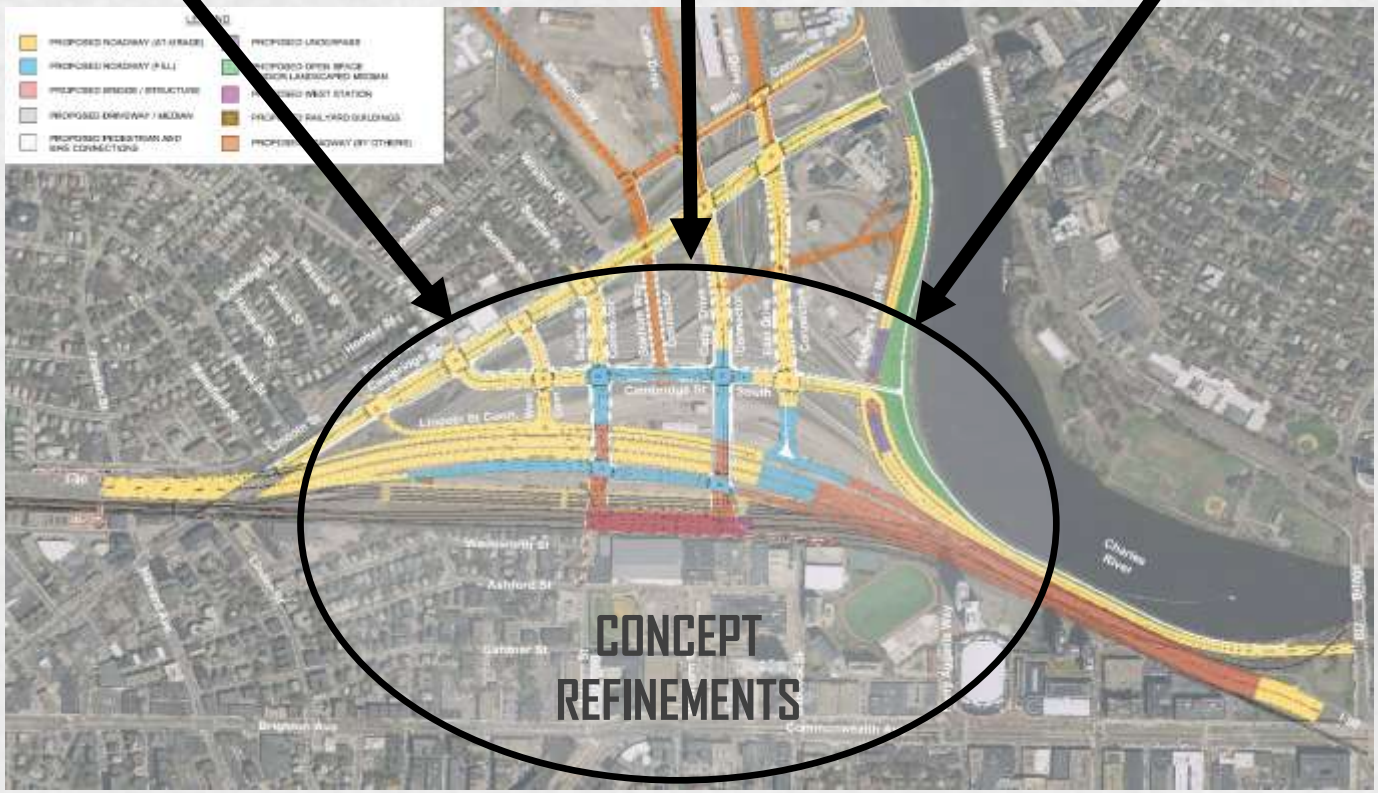


Concept Refinements – Contributing Factors

LAND OWNER

PLACEMAKING STANDARDS

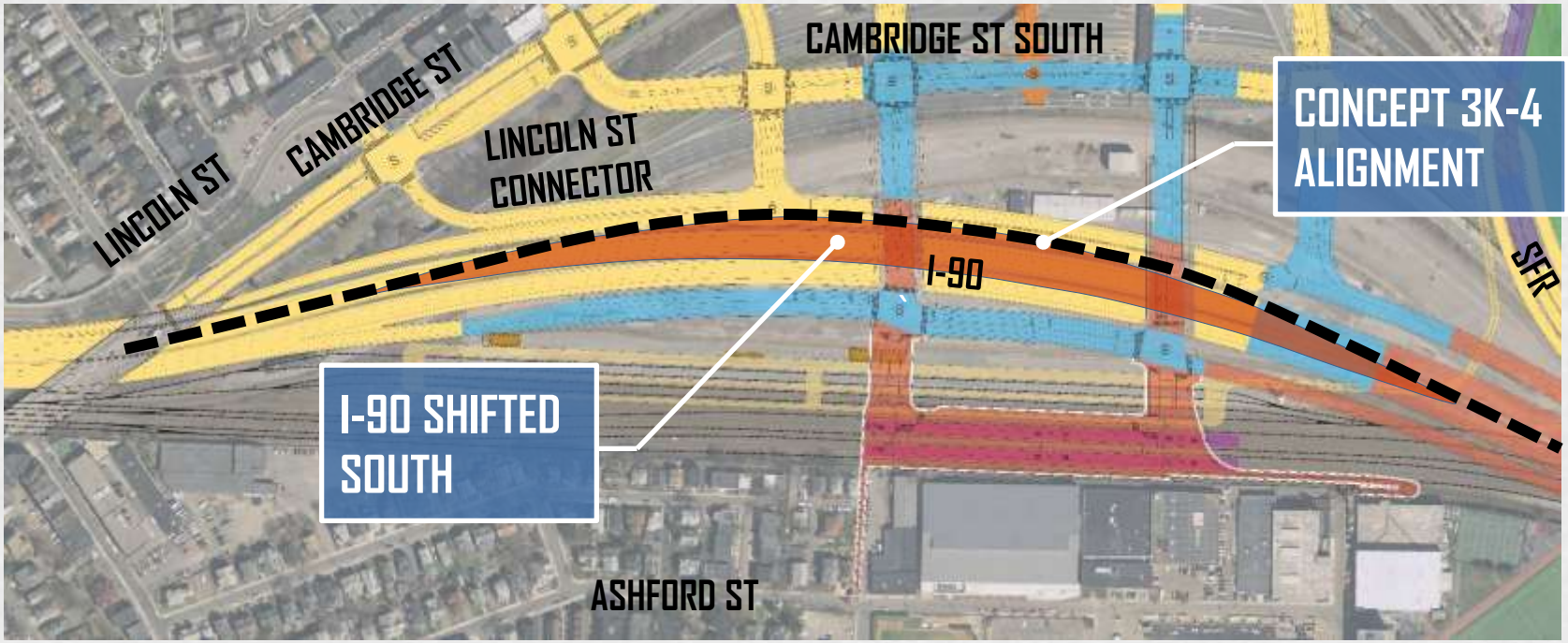
REMOVAL OF HOUGHTON RR SPUR



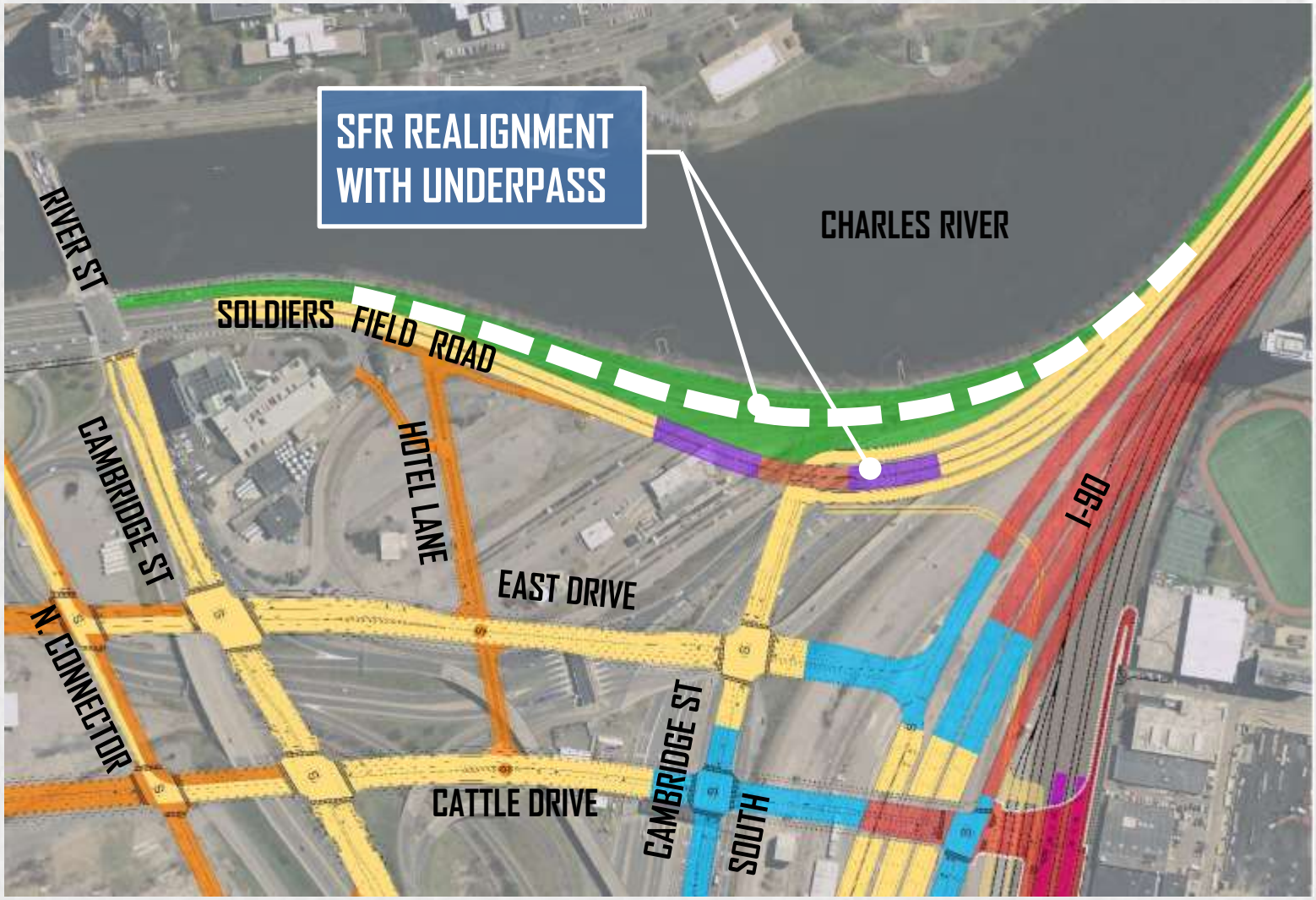
CONCEPT REFINEMENTS

Concept Refinements – I-90 Realignment

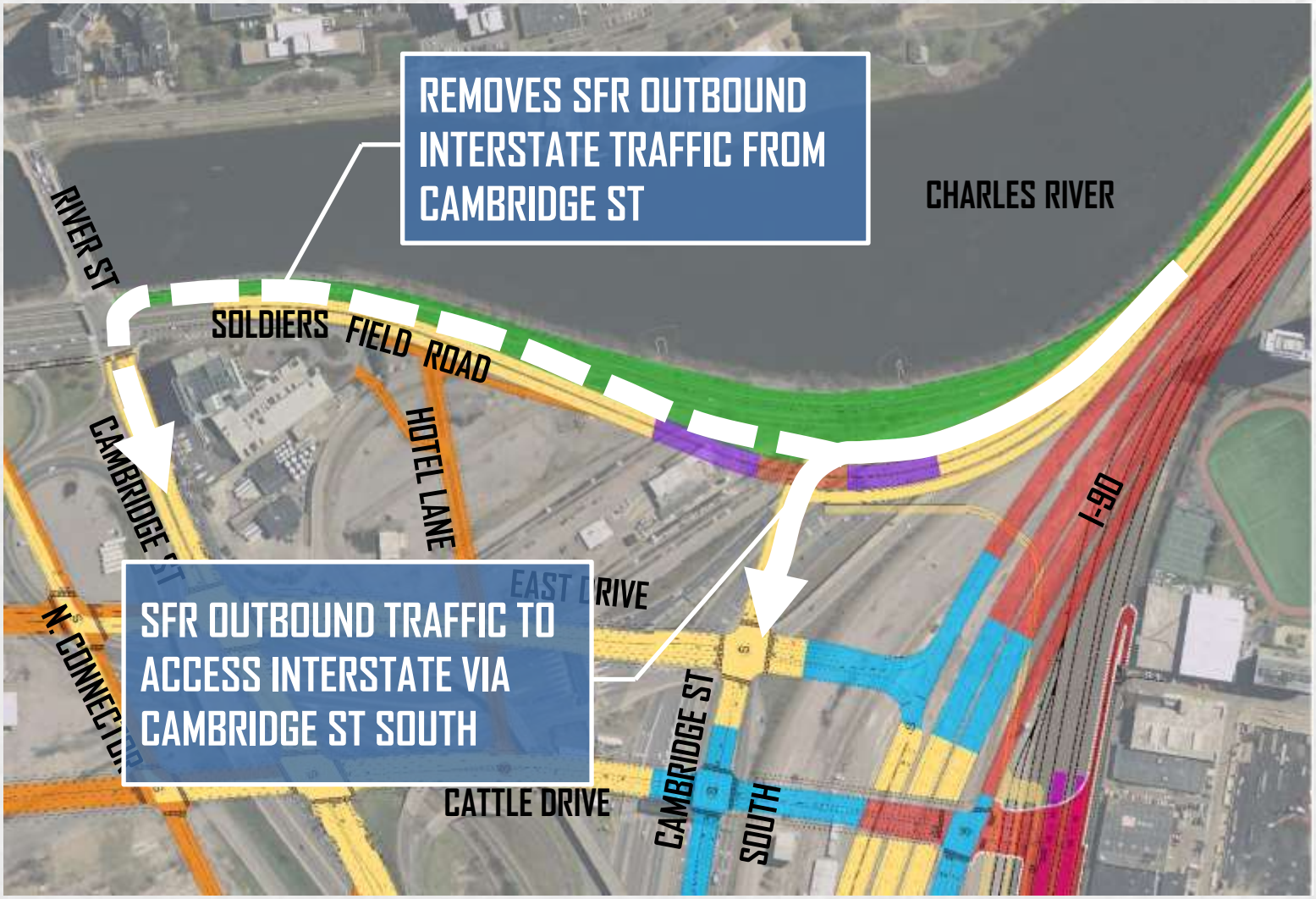
- Shifted 100 ft south
- Allows for adjusted Street Network
- Decreases slopes between Cambridge St and West Station



Concept Refinements – SFR Realignment



Concept Refinements – SFR Vehicular Access



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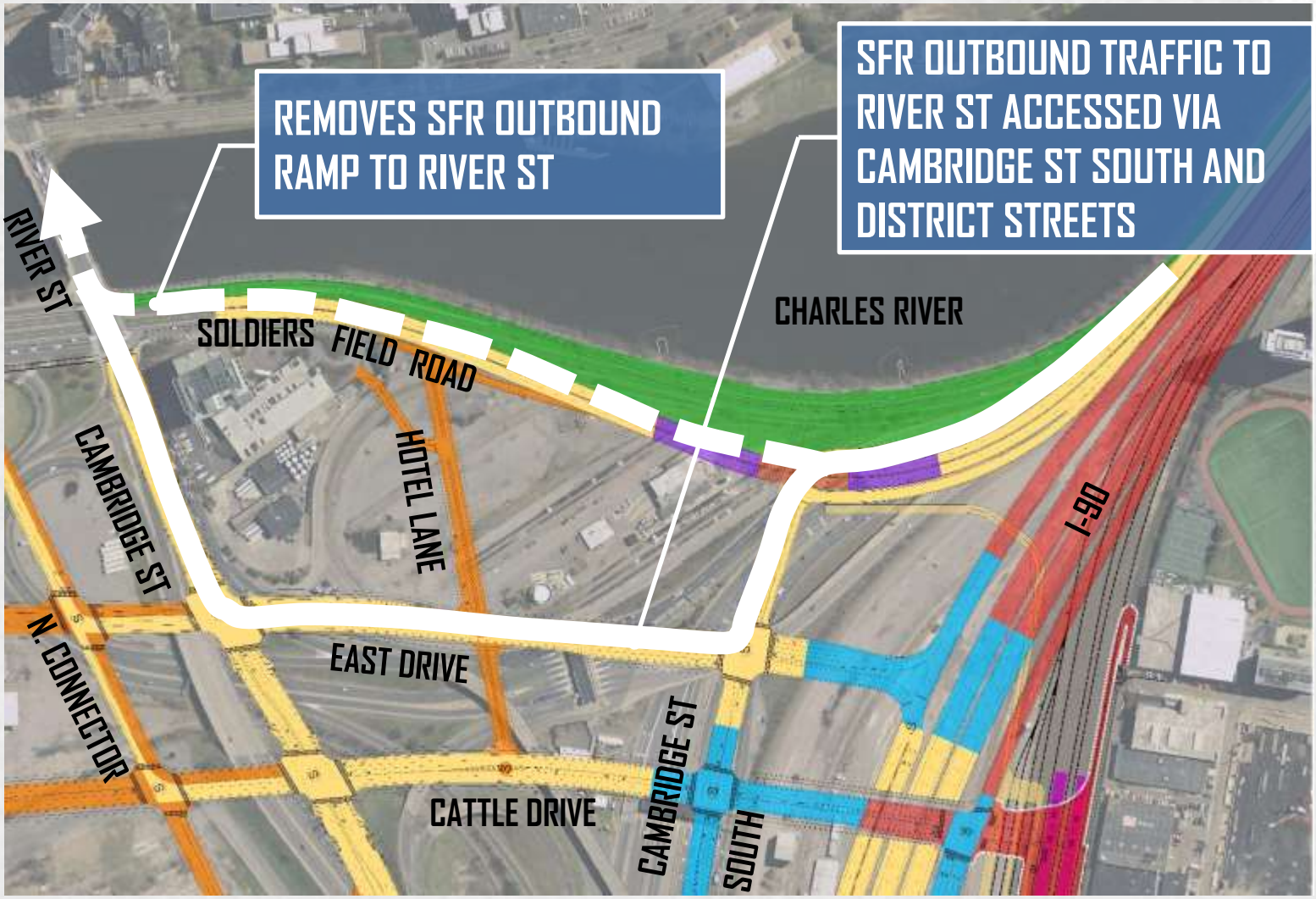
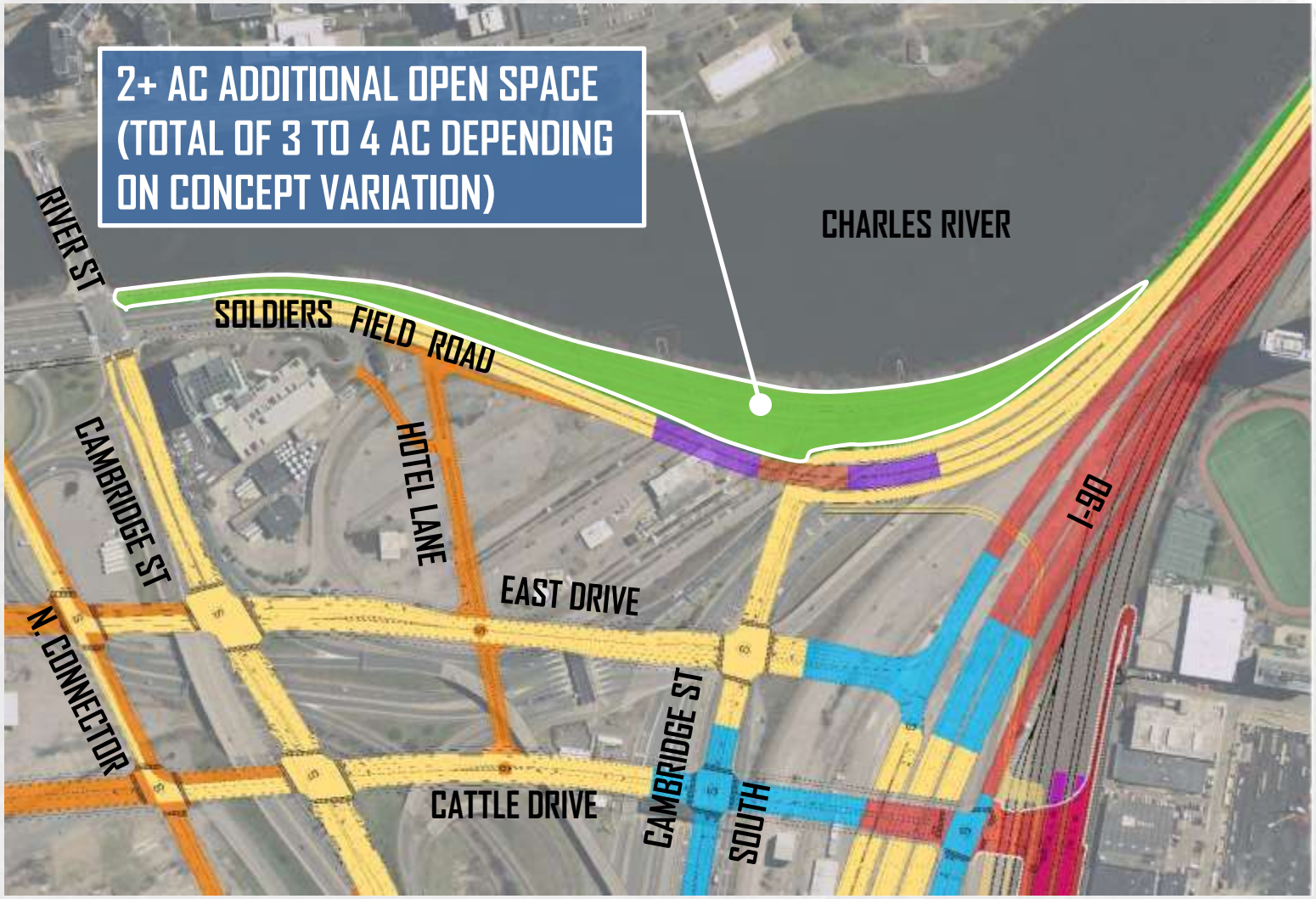
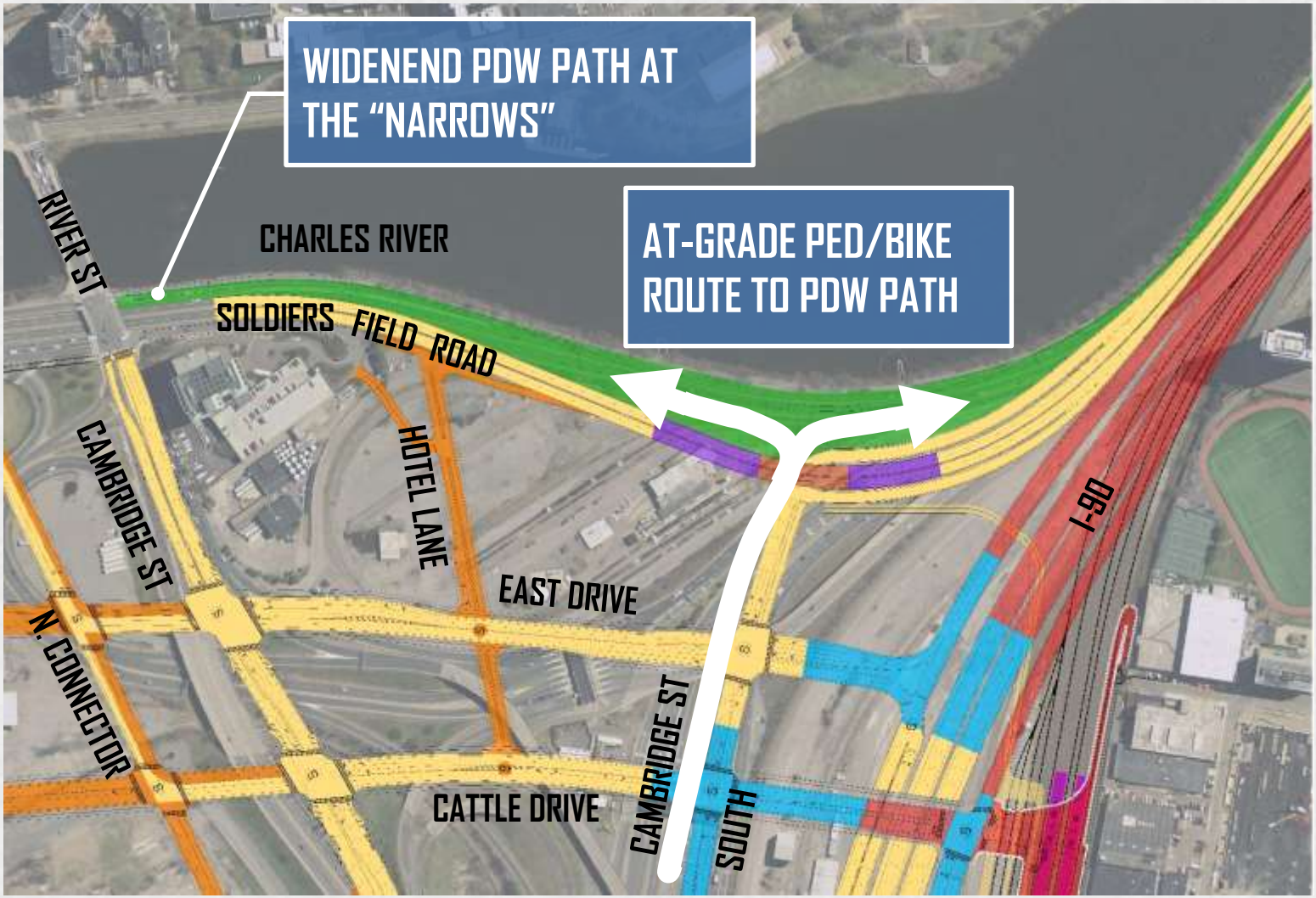


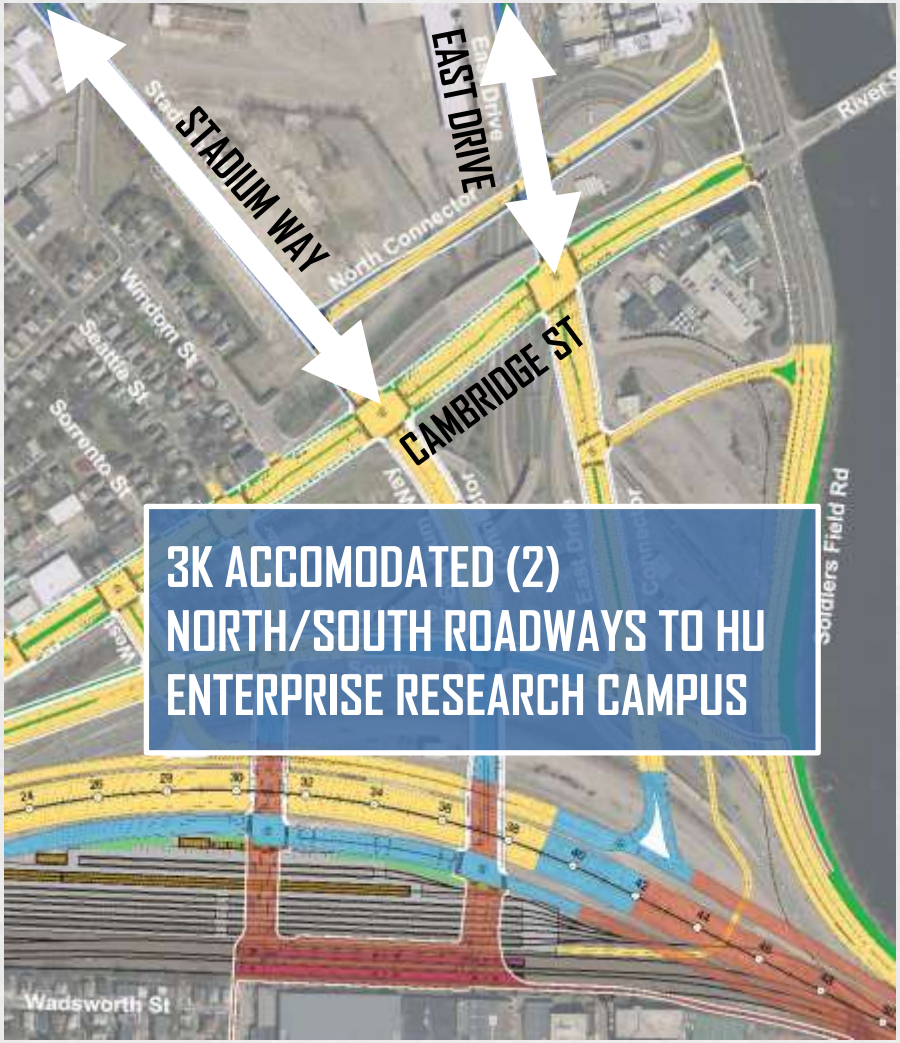
Concept Refinements – SFR Additional Open Space



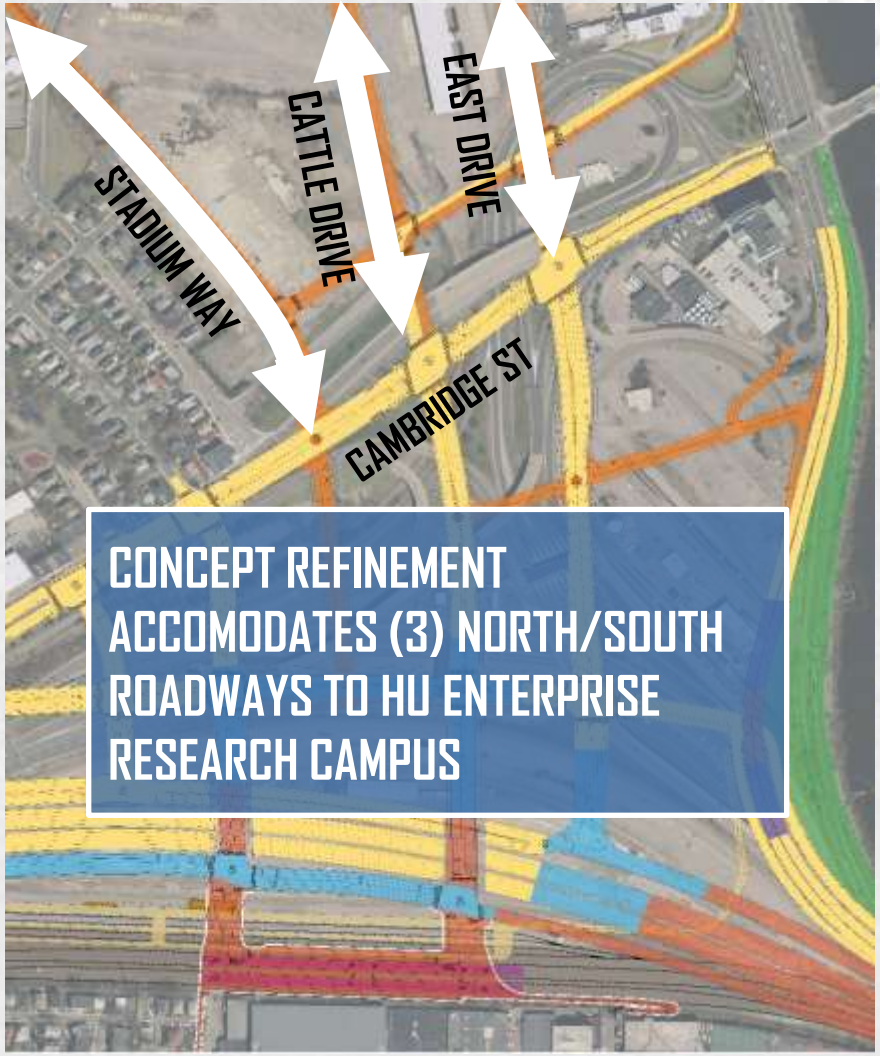
Concept Refinements – SFR At-Grade Ped/Bike



Concept Refinements – 3 North/South Streets

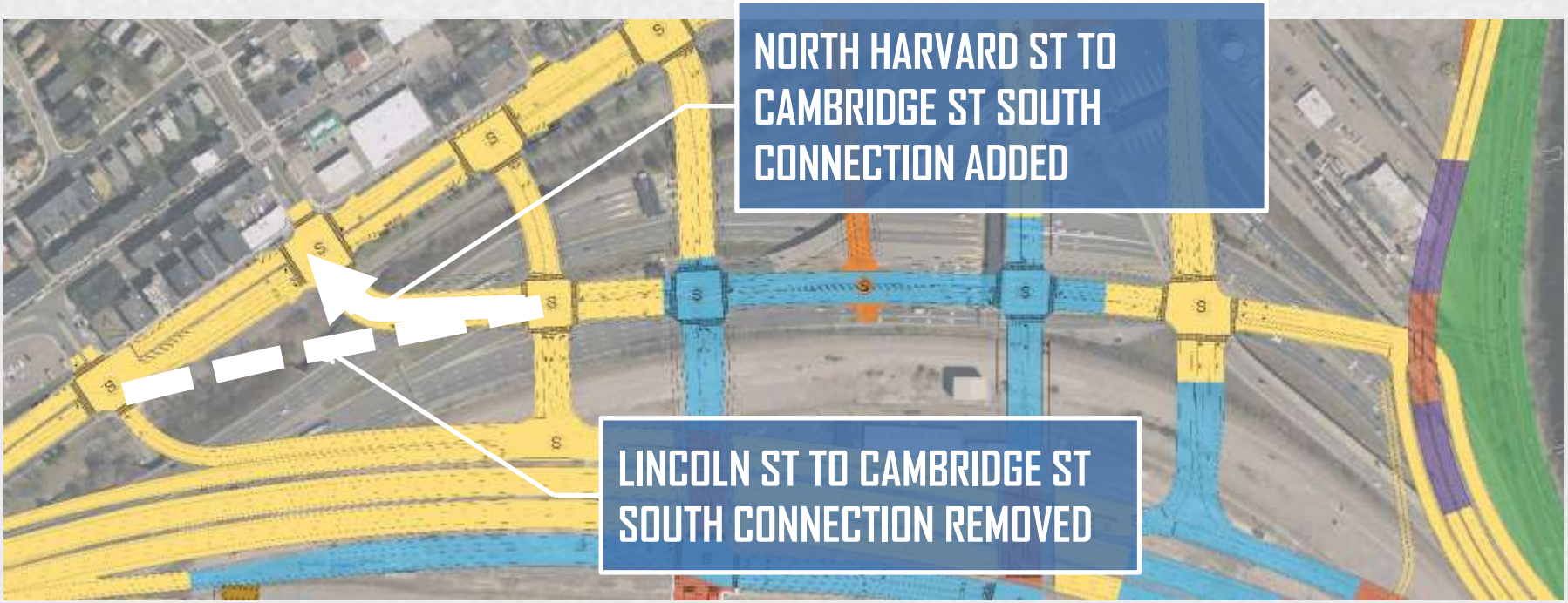


CONCEPT 3K-4

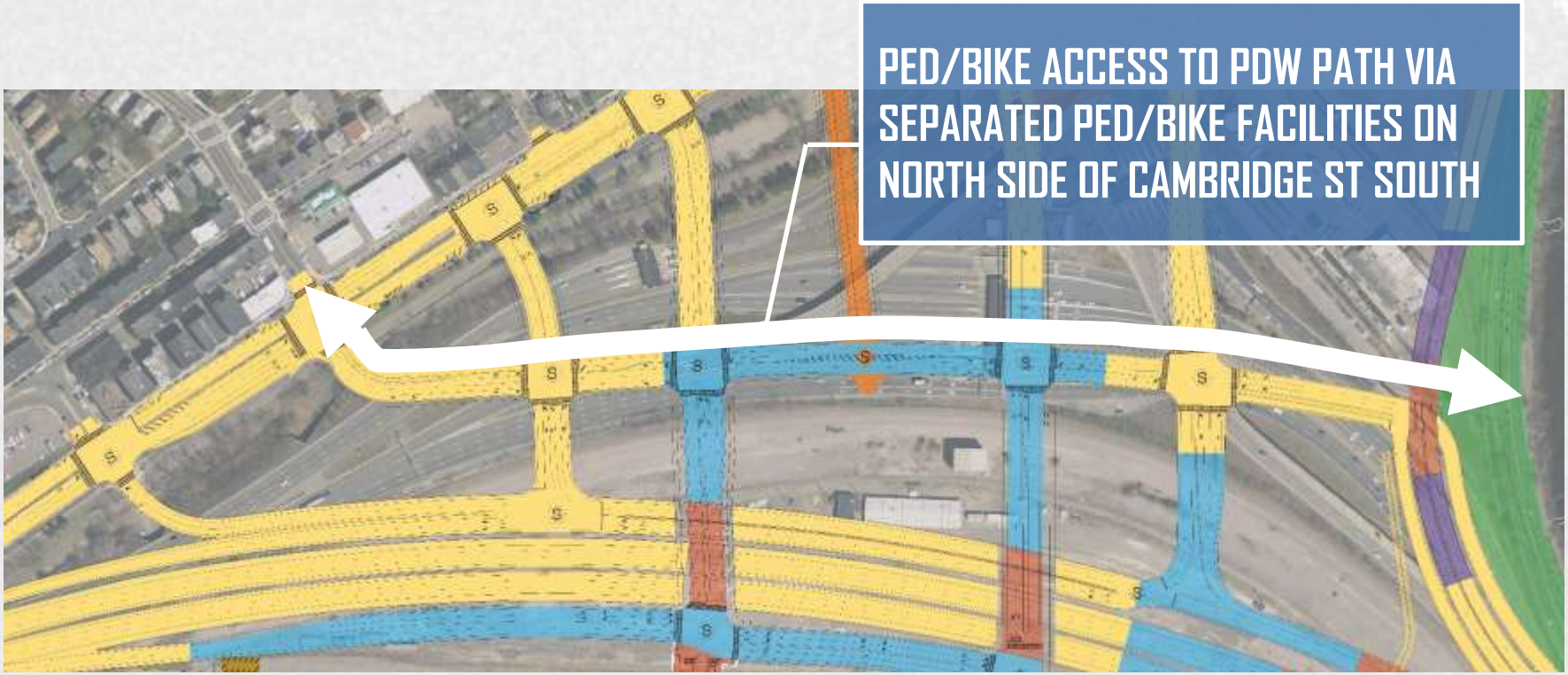


CONCEPT REFINEMENT

Concept Refinements – North Harvard St Connection



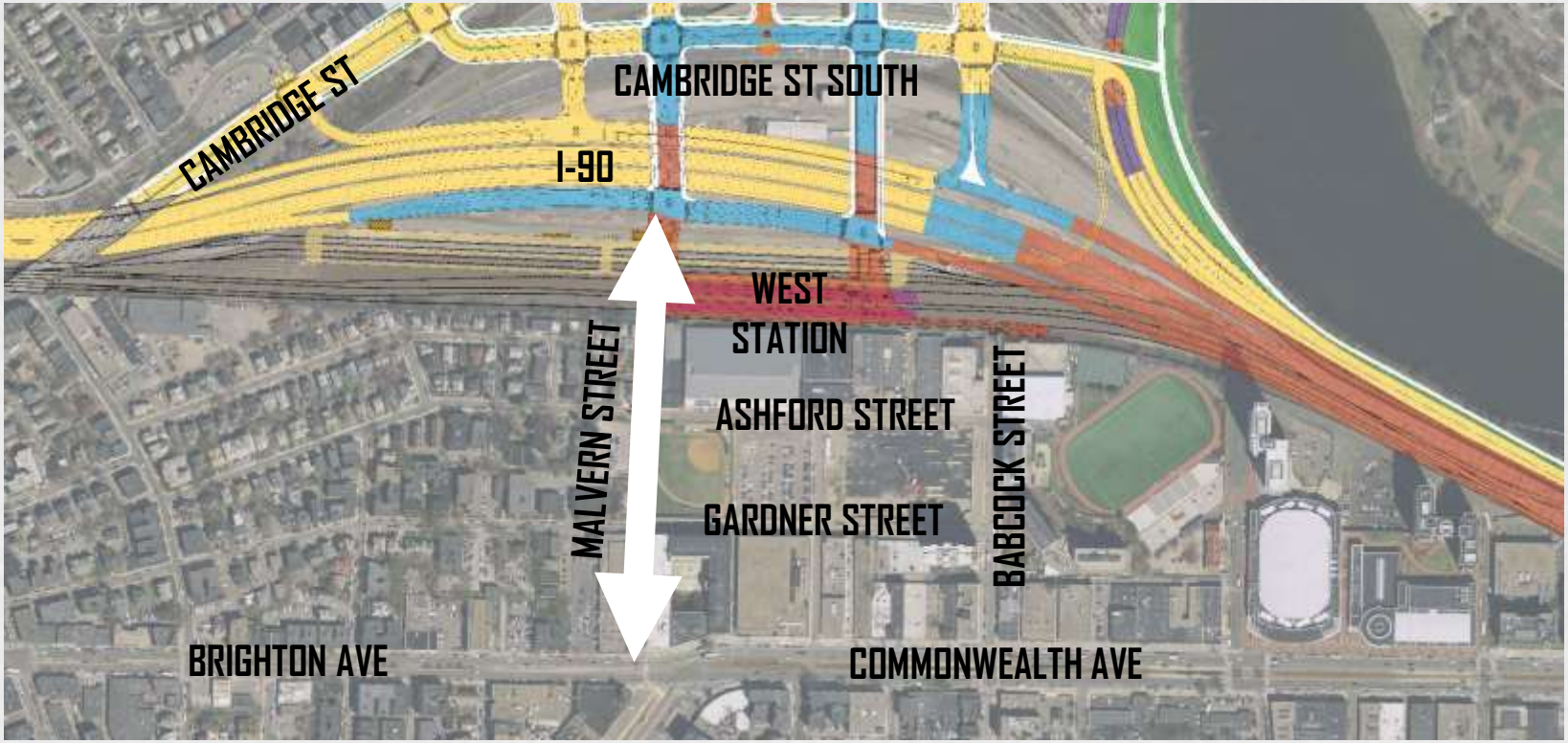
Concept Refinements – Cambridge St South Ped/Bike Facilities



Summary of Concept Refinements (3K-Refined)

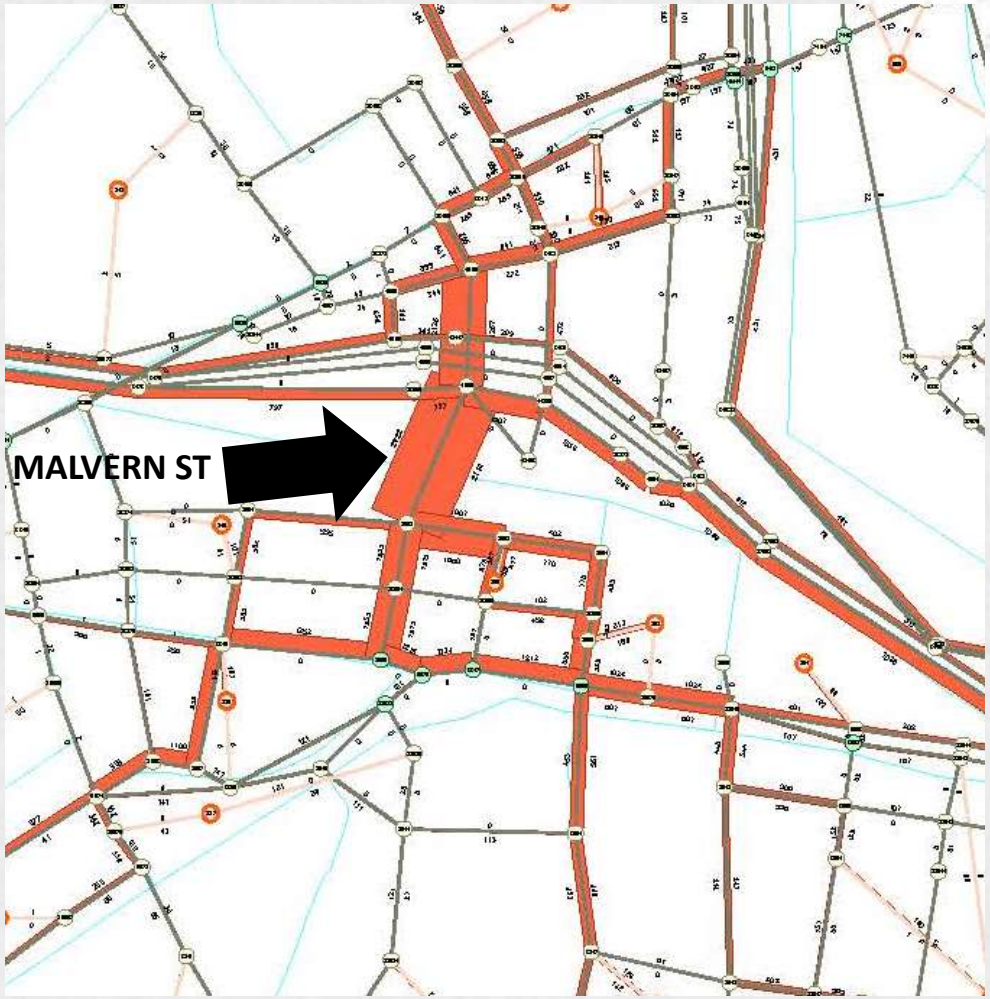
North/South Vehicular Connection

- Malvern Street
- Full two-way connection
- CTPS projected traffic volumes



North/South Vehicular Connection -CTPS projected traffic volumes (year 2035)

- AM Peak: 1,640 vph
  - 955 Northbound
  - 685 Southbound
- PM Peak: 2,000 vph
  - 970 Northbound
  - 1,030 Southbound
- Daily: ~20,000+



Source: CTPS select link analysis for Malvern St

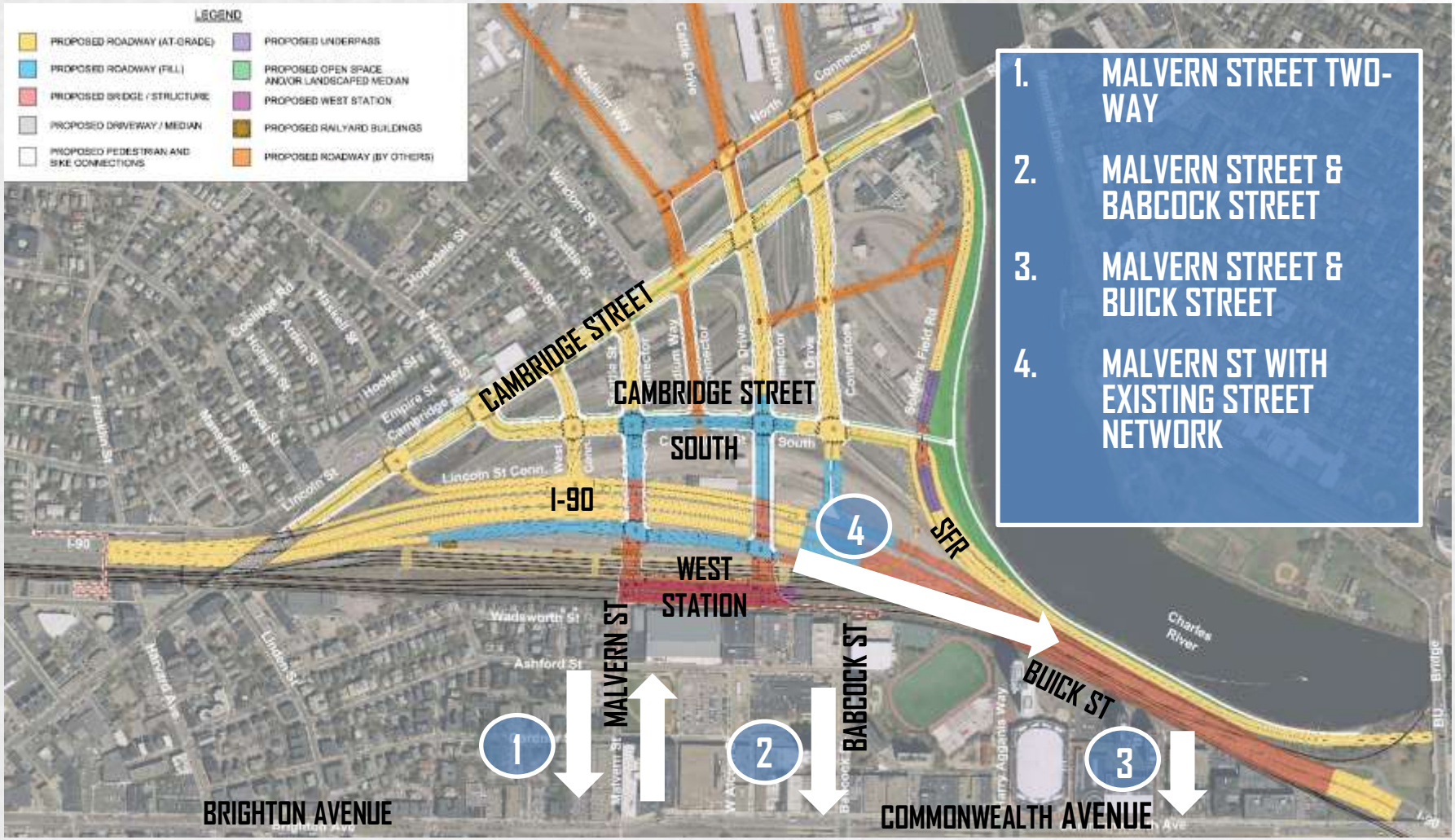
North/South General Purpose Vehicular Connection

Summary of Potential Impacts:

- Congestion at I-90 ramps
  - Heavy North-South flow conflict
- Packard's Corner Impact
- Increased Neighborhood Traffic
- BU West Campus Pedestrian Environment

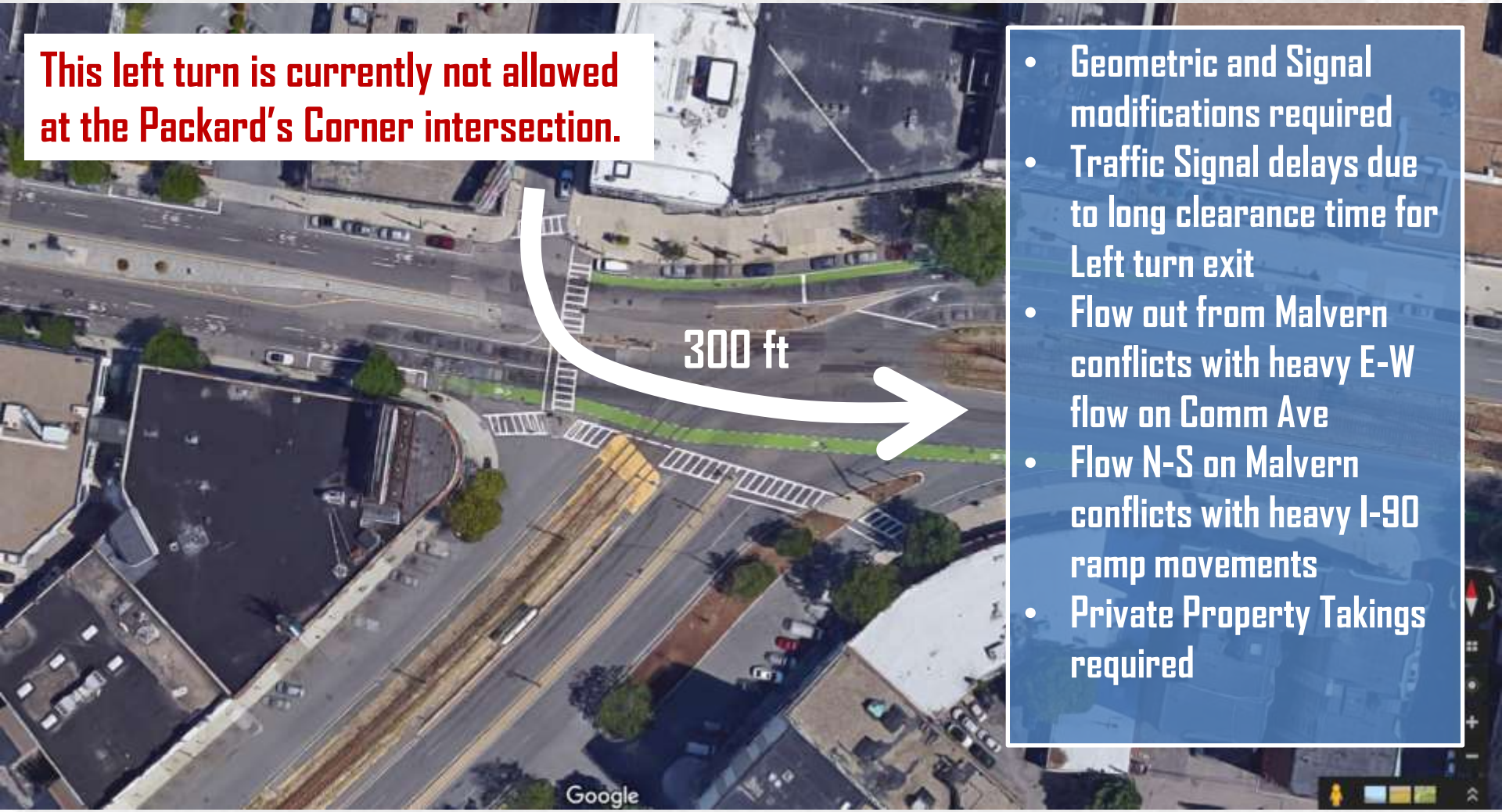
76 ASHFORD STREET
(LOOKING NORTH)

North/South Transit-Only Connection Four Options



Option 1
Malvern Street two-way connector

Option 1: Packard's Corner Signal Impact



- Geometric and Signal modifications required
- Traffic Signal delays due to long clearance time for Left turn exit
- Flow out from Malvern conflicts with heavy E-W flow on Comm Ave
- Flow N-S on Malvern conflicts with heavy I-90 ramp movements
- Private Property Takings required

Option 2
Malvern St & Babcock St

Option 2
Additional Impacts

Potential One-Way Malvern Street NB between Comm Ave and Gardner St.

Would then require Gardner St EB traffic to use W. Alcorn Street

Reduces impacts to Packard's Corner

Requires One-Way Gardner St EB and parking restrictions for Bus Turns to Babcock Street

Remove Parking on Babcock St to Introduce 2nd SB Lane

Option 3
Malvern St & Buick St

Option 3
Impacts Harry Agganis Way & Buick Street

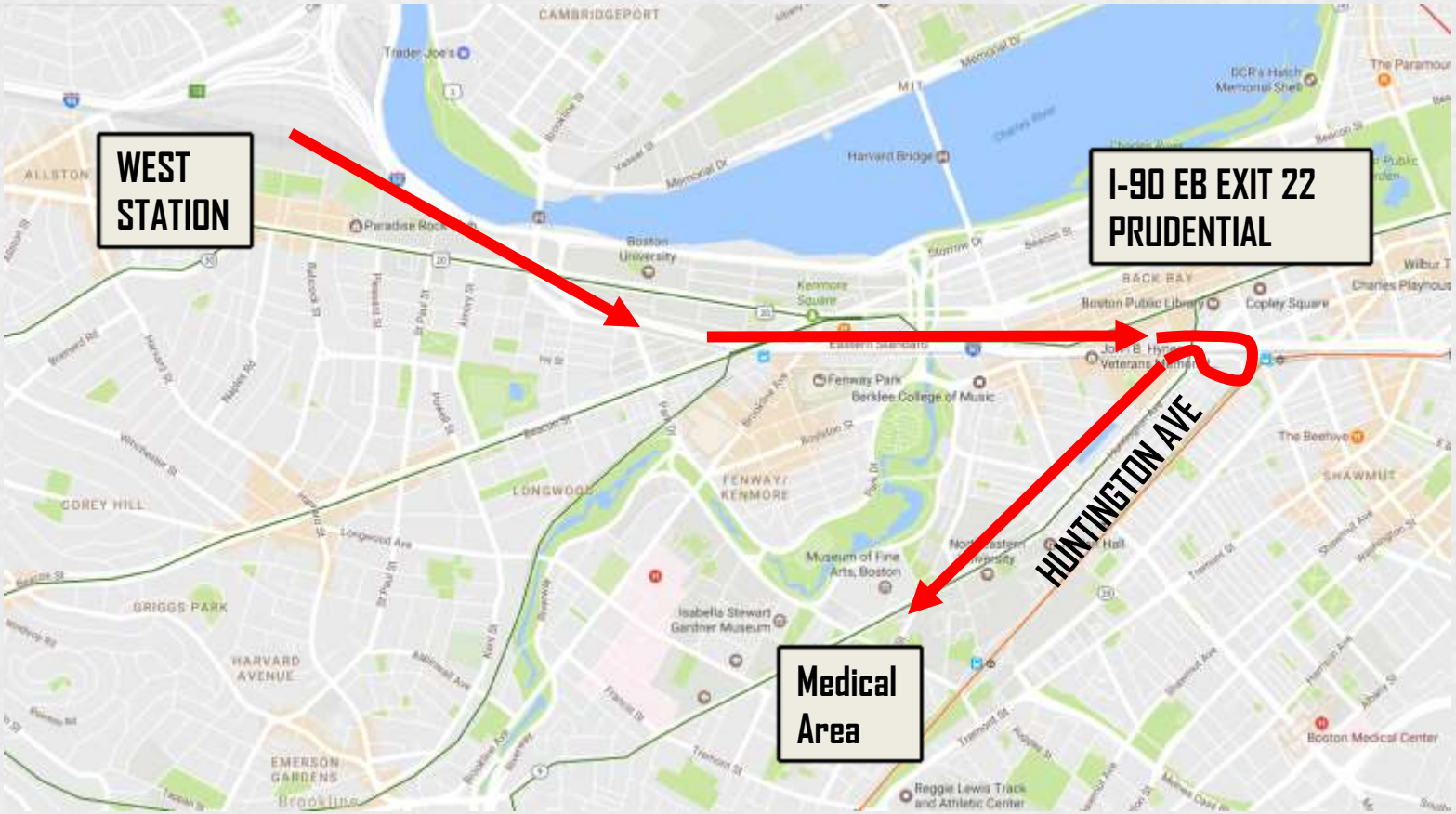
Option 3
Impacts Harry Agganis Way & Buick Street

One-way SB Buick St to add 2nd SB lane at signal; poor operations due to traffic diversions to Agganis Way

- Partial route similar to BU shuttle
- Two-way Buick St only allows one outbound lane; poor operations
- Additional Private Property Takings

Option 4
Malvern St with Existing Street Network

Option 4
Malvern St with Existing Street Network



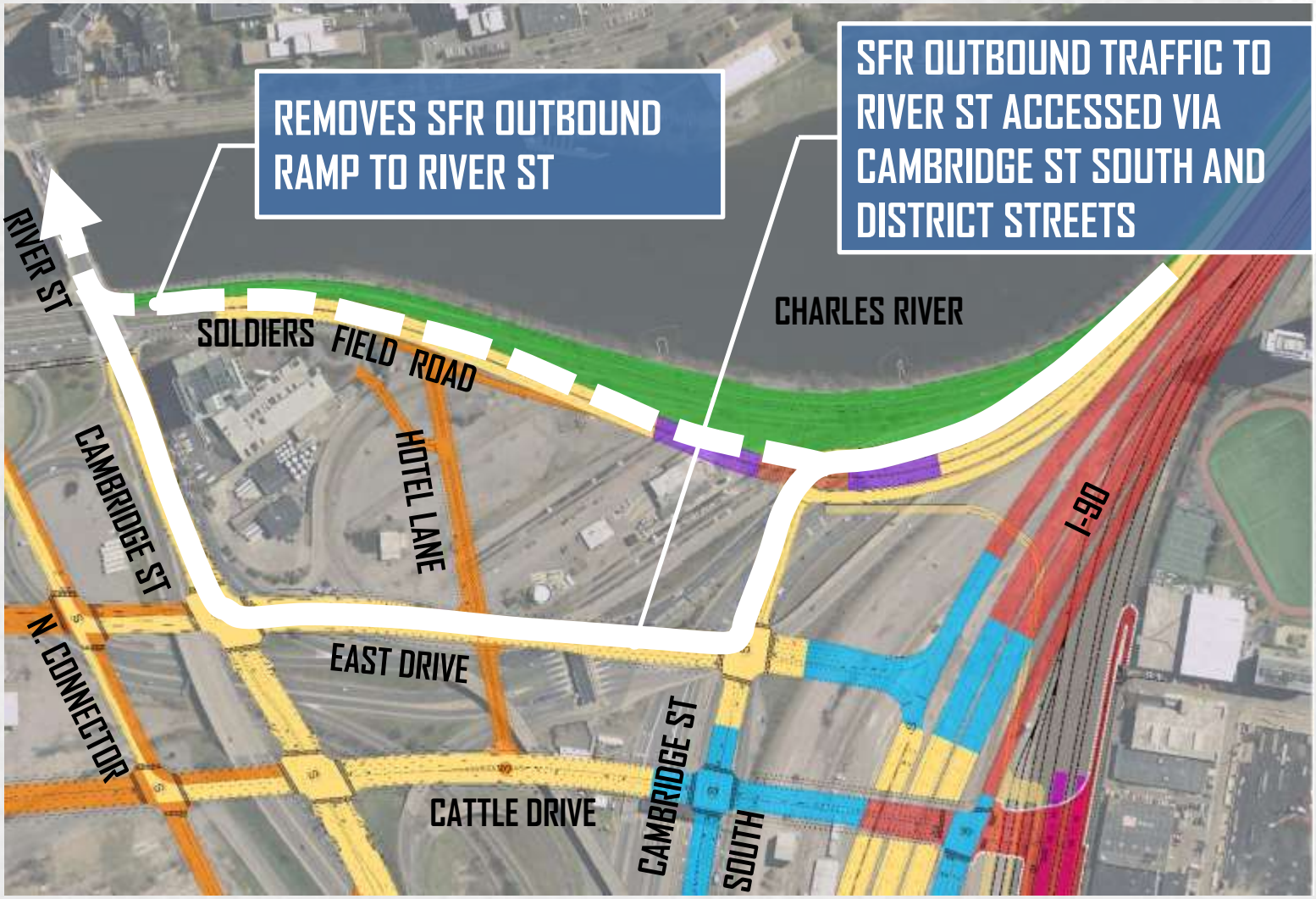
What to Expect in the DEIR

- The Draft Environmental Impact Report (DEIR) will cover:
  - 3K-Refined
  - Variants opposite Magazine Beach:
    - I-90 roadway viaduct (bridge) like today
    - All at-grade (I-90/SFR/RR Lines) – originally advanced by ABC
    - Rail viaduct over at-grade I-90 – originally advanced by Ari Ofsevit
    - All to be designed to same level for analysis purposes
  - All options to be analyzed for:
    - Noise
    - Traffic
    - Air quality
    - Environmental justice
    - Economic development
    - *And much more*
  - Anticipated filing during 2017

City of Cambridge Specifics

- Traffic impacts:
  - Right turn to River Street from SFR
  - BU Bridge Rotary
  - River intersections
- Noise impacts
  - Planned baseline monitoring
  - DEIR Analysis
  - Characteristics of the various options

Concept Refinements – SFR Vehicular Access



SFR Access to River Street Change

- A trade-off:
  - Allows alleviation of "the narrows" on the Paul Dudley White (PDW) path at River Street
  - Provides Allston cyclists with direct, at-grade connection to (PDW)
  - Provides Cambridge cyclists with a safer turn to Cambridge
  - Roughly speaking:
    - 9,000 vehicles turn right to Cambridge every 24 hours
    - 87 during the AM peak hour
    - 151 during the PM peak hour
    - 3 new signals versus 1 today
    - Roughly 3 minutes of additional delay versus today
  - The bind:
    - A single right-turn exit to Cambridge cannot be maintained due to the width needed (approx. 8 feet clear for emergency vehicles, plus an 11-foot travel lane)
  - New CTPS model run coming in February
  - Will be fully analyzed in the DEIR – Not Set in Stone
  - Give us your thoughts

BU Bridge Rotary

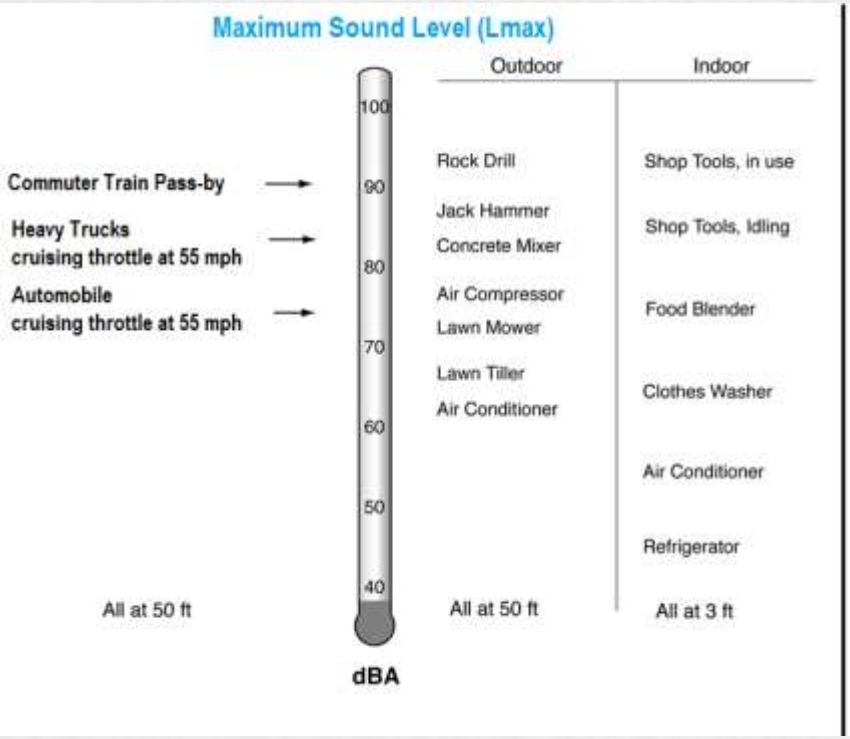
- 3K-Refined not expected to impact BU Bridge Rotary beyond background traffic growth driven by land use.
- Anticipated routes:
  - Cambridgeport to I-90 – via BU Bridge Rotary
  - Harvard Square to I-90 – via Western Avenue
  - Memorial Drive WB to I-90 – via BU Bridge Rotary flyover to Western Avenue
  - Allston and Brighton to I-90 – Via Cambridge Street
- New CTPS model run coming in February
- Will be fully analyzed in the DEIR

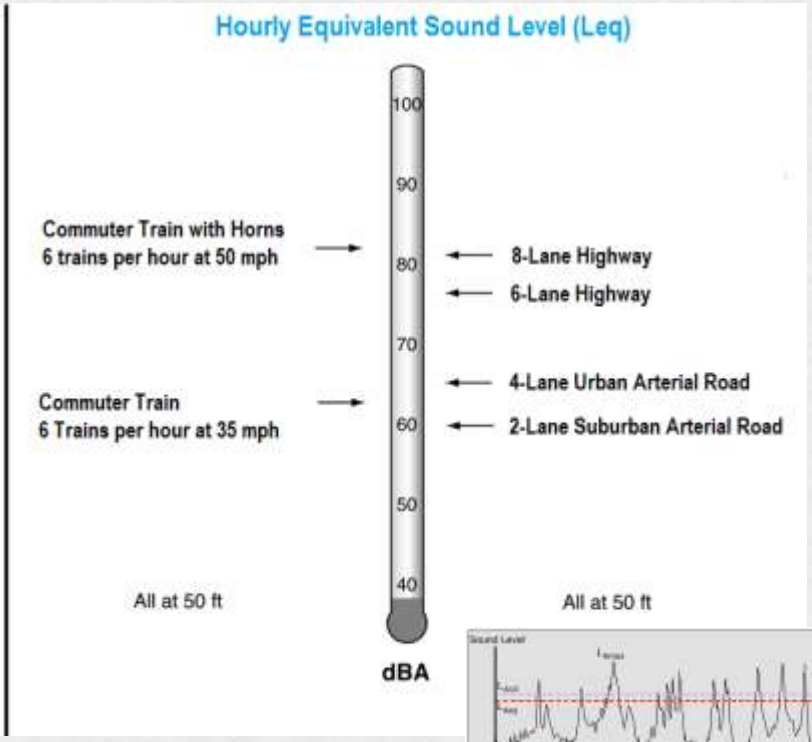
River Intersections

- Will run additional CTPS modeling on:
  - SFR/River Street
  - SFR/Western Avenue
  - Memorial Drive/River Street
  - Memorial Drive/Western Avenue
  - Currently working with LPI on all intersections
  - Ongoing discussions with Cambridge
  - Interchange design does not add traffic to intersections, but land use decisions within the parcel will impact these volumes.

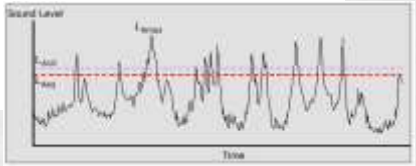
Noise Background

- Noise is measured in A-weighted decibels (dBA)
  - Noise impact is assessed according to loudest-hour Leq sound level
  - Leq is a single value that represents the equivalent amount of acoustic energy as the time varying sound levels





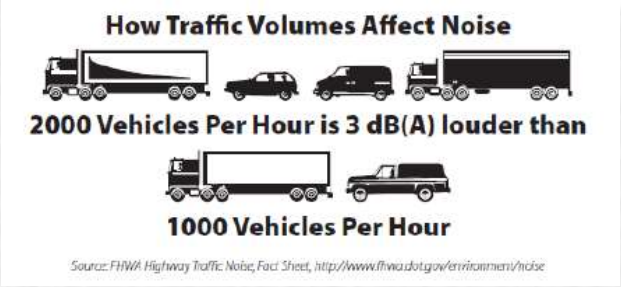
Source: FTA, 2006

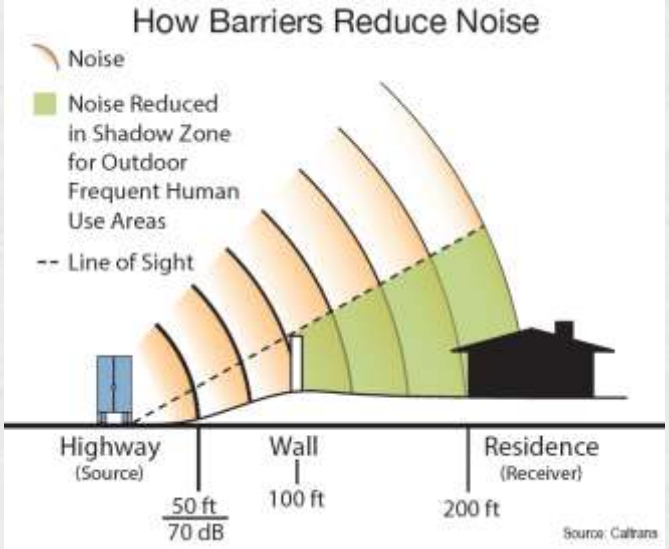


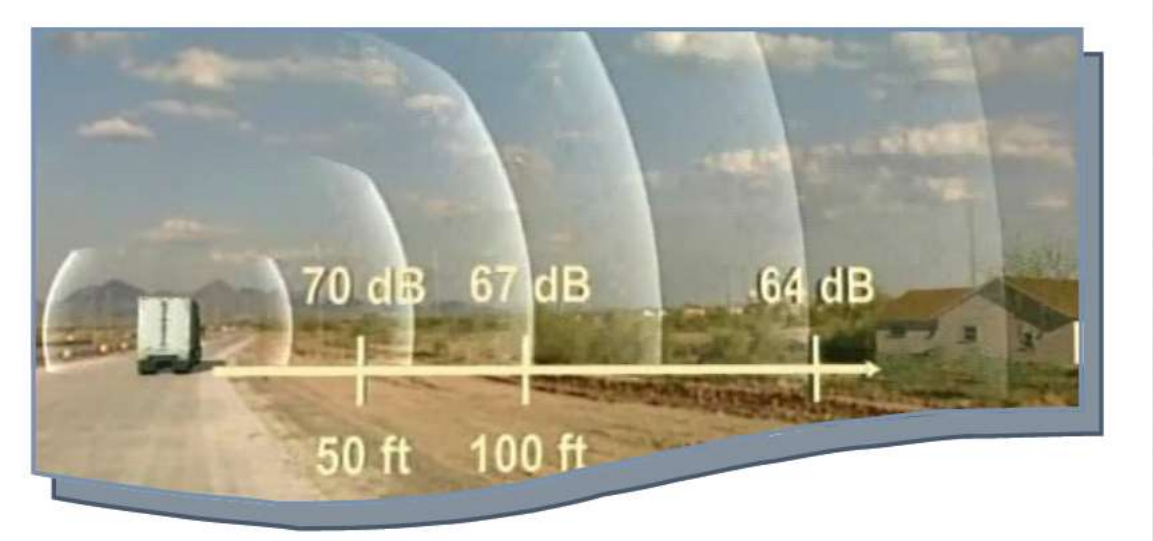
Source: UK Department of Environment, Food & Rural Affairs

Noise Background

- Highway noise levels depend on:
  - Traffic volume and speed
  - Number of trucks
  - Distance from highway
  - Intervening terrain/barriers







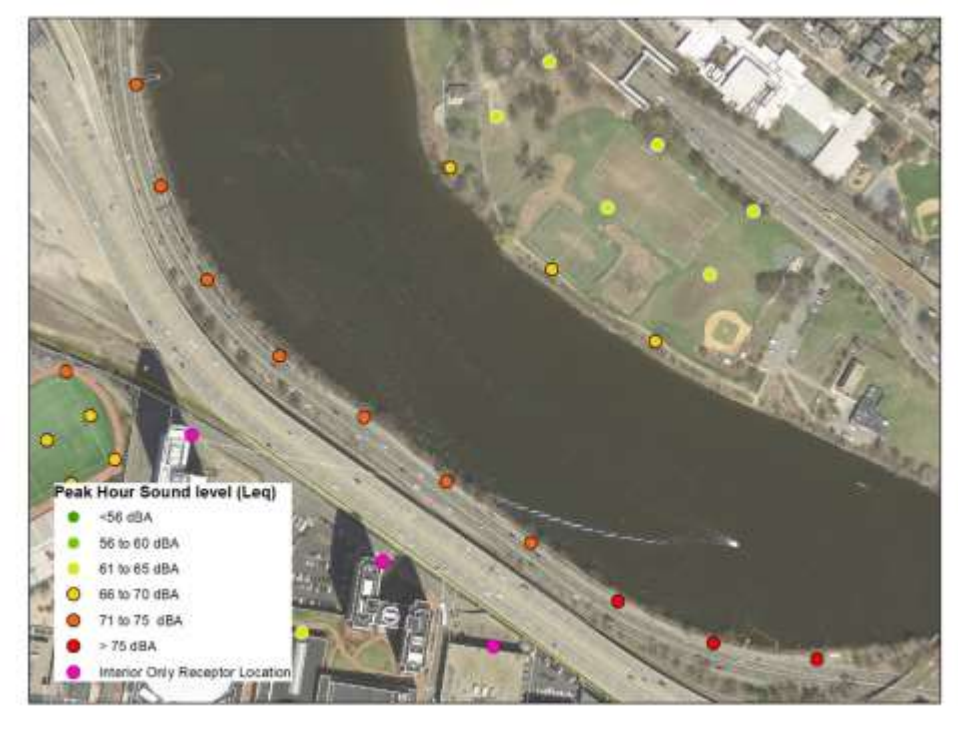
Source: ADOT

Update on Noise Study

- Noise and vibration measurements have been conducted throughout the study area to characterize existing conditions and to validate the highway and rail noise modeling
- Noise impact being assessed for future conditions (project options being refined, traffic data are being analyzed)
- Noise is assessed at receptors as categorized by FHWA / MassDOT
  - Residential
  - Schools
  - Parks
- MassDOT Noise Abatement Criteria (NAC) is 66 dBA

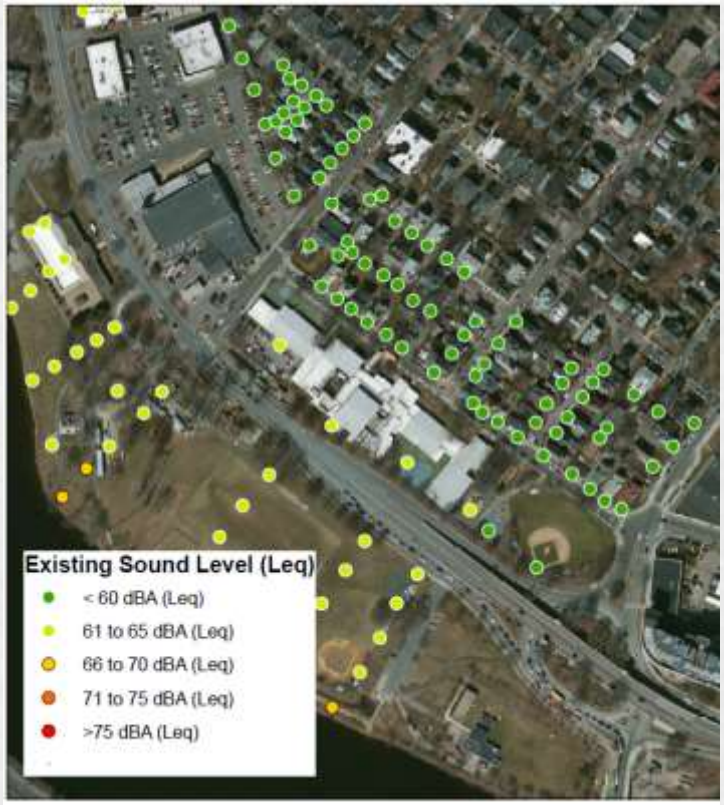
Paul Dudley Path and Magazine Beach

- Future build noise levels for all design options are expected to exceed NAC on Paul Dudley Path due to SFR, I-90 and trains
- Future noise levels at Magazine Beach may exceed NAC near the shore of the Charles River, not expected to exceed farther back



Cambridgeport

- Future build noise levels for all design options are not expected to exceed NAC in residential areas near Granite St, Glenwood Ave, Rockingham St and the Morse School



At receptors ~1500'+ from SFR and I-90, non-project roads such as Memorial Drive and local roads significantly contribute to noise

Riverside

- Future build noise levels may approach or exceed NAC at Riverside Press Park and residential high-rise buildings on Memorial Drive

Memorial Drive and River Street contribute significantly to the noise environment

Upper floor receptors are analyzed in model

Cambridge

- Differences in future noise levels among the design options expected to be relatively small for receptors in Cambridge (500'+ away from project roads)
  - Sound reflects off buildings and is attenuated by intervening objects

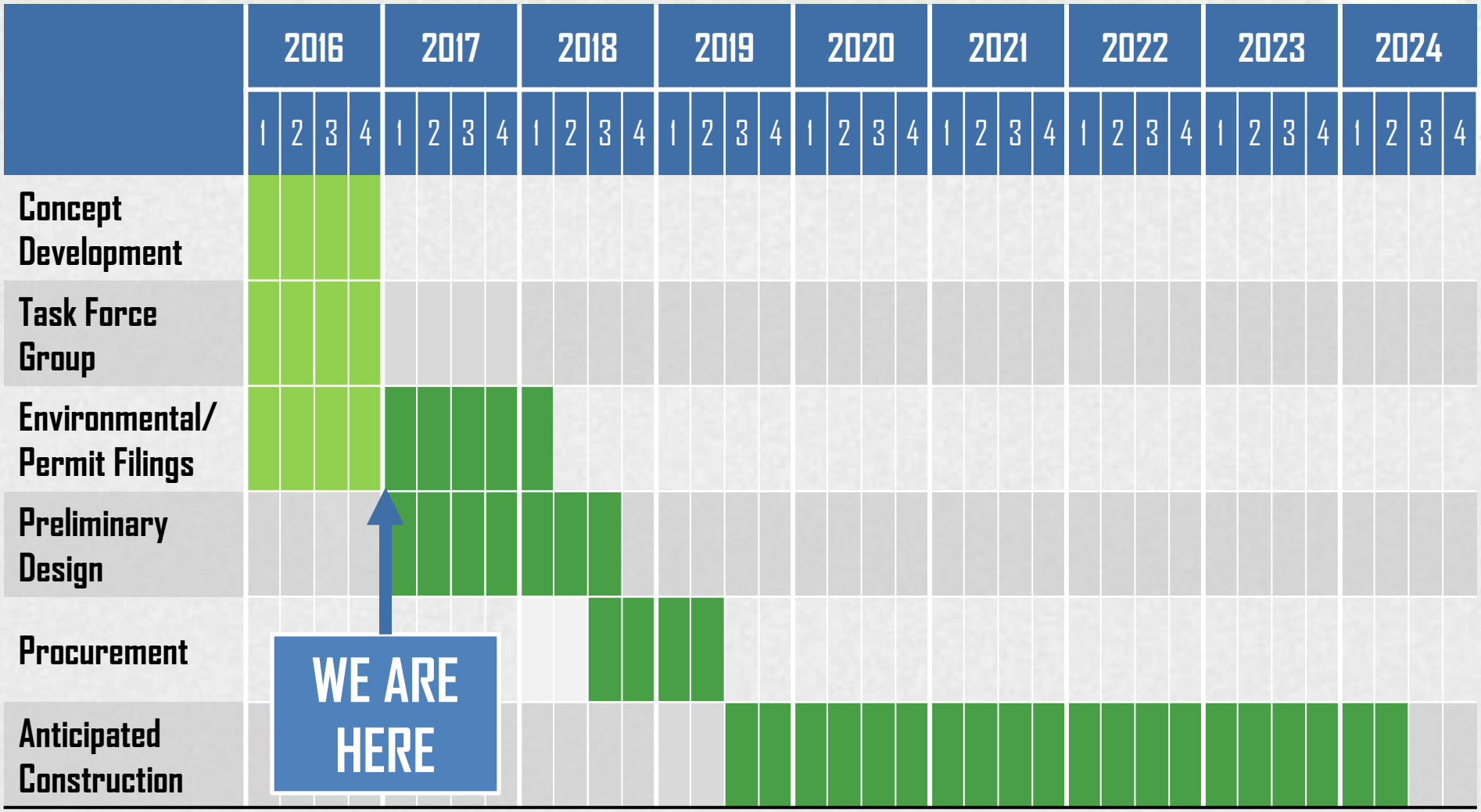
Noise Impact Assessment and Mitigation

- Noise mitigation must be considered when noise levels meet or exceed MassDOT's Noise Abatement Criteria (NAC) – 66 dBA
- Noise barriers must be feasible and reasonable as defined by:
  - Constructability – must meet highway design specifications for safety, access and maintenance
  - Cost effectiveness criteria - which depends on barrier size/cost, noise reduction it provides and the number of receptors it benefits
  - Acoustical effectiveness – must provide a minimum of 5 dB noise reduction at the majority of impacted 1st row receptors
  - Acoustical Design Goal – must provide 10 dB of noise reduction at a minimum of one receptor
  - Property owners must be in favor of barrier – A public meeting would be held and voting survey mailed to property owners and residents

Next Steps

- Continue periodic public meetings and briefings on Request
  - *Anticipated visit to Brookline Transportation Committee – 2/17*
- Reconvene taskforce in advance of DEIR filing
- Draft Environmental Impact Report (DEIR) to include three refined Urban Interchange Concept 3K variations
  - Highway Viaduct/Rail At-Grade
  - Rail Viaduct/Highway At-Grade
  - Highway/Rail At-Grade
- Advance Preferred Alternative to Preliminary Design

Preliminary Project Timeline



Question & Comments

Patricia Leavenworth, PE, MassDOT, Chief Engineer

10 Park Plaza, Boston, MA 02116

Attn: Bridge Project Management - Project File No: 606475

Nathaniel Curtis, Howard Stein Hudson, Public Involvement

(617) 482 – 7080 ext. 236

ncabral-curtis@hshassoc.com