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
    - June 27th, 2016
    - July 14th, 2016
MassDOT Concept 3K-4

Legend:
- Proposed Roadway (At-Grade)
- Proposed Roadway (Fill)
- Proposed Esplanade and/or landscaped median
- Proposed West Station
- Proposed Railyard Buildings
- Proposed Driveway/Median
- Proposed Pedestrian and Bike Connections

Potential new roadway shifted south for more direct pedestrian & bike connection to Dr. Paul Dudley White Path

Redesigned Cambridge St. as a complete street

Replace existing pedestrian bridge

I-90 EB ramp connections & access to West Station via Stadium Way and Seattle Street Connectors

New Vehicle Connection to Soldiers Field Road

Stadium Way Elevated

East Drive At-Grade

New Vehicle Connection to Soldiers Field Road

Proposed Pedestrian Bridge over Soldiers Field Road

Widened Dr. Paul Dudley White Path

Realigned Turnpike

Rail Operations/Layover

Replace existing viaduct

Cambridgeport Neighborhood Association Briefing – 1/19/17 – Central Square Library
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

1. Add I-90 and Soldiers Field Road connections
   - Provide addit in order to re help support

2. Realign portions of Soldiers Field Road along the River
   - Soldiers Field Road
   - open space, public

3. Create Park Space on the Charles
   - Provide the space alignments **

4. Provide a primary, at-grade pedestrian and bicycle connection to the Charles River edge
   - As part of the roadway interchange and intersection design along Soldiers Field Road, provide a connection to the open space along the River for pedestrians and bicyclists. **
Placemaking Study – Major Standards

• Areas Along and Above the Highway and Rail Alignment
Placemaking Study - Major Standards

• Cambridge Street and Connections to the North
Placemaking Study – Major Standards

- Areas within the New District

31. Limit slopes of new streets and associated sidewalks and bike facilities
   Limit the maximum slopes for the new roadway network to less than 5%.

32. Organize streets to create blocks that can be flexibly and efficiently developed
   Provide a street grid that defines block width and length.

37. Create a framework for adaptable and well sized blocks
   The street layout should allow block sizes and dimensions that can be adapted to a broad range of building and use types.
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

- Removes SFR outbound interstate traffic from Cambridge St

- SFR outbound traffic to access interstate via Cambridge St South

- Soldiers Field Road

- Cattle Drive

- Cambridge St

- Interstate 90

- Charles River
Concept Refinements – SFR Vehicular Access

SFR OUTBOUND TRAFFIC TO RIVER ST ACCESSED VIA CAMBRIDGE ST SOUTH AND DISTRICT STREETS

REMOVES SFR OUTBOUND RAMP TO RIVER ST
Concept Refinements – SFR Additional Open Space

2+ AC ADDITIONAL OPEN SPACE
(TOTAL OF 3 TO 4 AC DEPENDING ON CONCEPT VARIATION)
Concept Refinements – SFR At-Grade Ped/Bike

- WIDENED PDW PATH AT THE “NARROWS”
- AT-GRADE PED/BIKE ROUTE TO PDW PATH

MAP: CHARLES RIVER
- RIVER ST
- CAMBRIDGE ST
- N. CONNECTOR
- EAST DRIVE
- FIELD ROAD
- HOTEL LANE
- CATTLE DRIVE
- SOLDIERS
- I-90
- "NARROWS"
Concept Refinements – 3 North/South Streets

CONCEPT 3K-4

3K ACCOMODATED (2) NORTH/SOUTH ROADWAYS TO HU ENTERPRISE RESEARCH CAMPUS

CONCEPT REFINEMENT ACCOMODATES (3) NORTH/SOUTH ROADWAYS TO HU ENTERPRISE RESEARCH CAMPUS
Concept Refinements – North Harvard St Connection

- Lincoln St to Cambridge St South connection removed
- North Harvard St to Cambridge St South connection added
PED/BIKE ACCESS TO PDW PATH VIA SEPARATED PED/BIKE FACILITIES ON NORTH SIDE OF CAMBRIDGE ST SOUTH
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

1. **MALVERN STREET TWO-WAY**
2. **MALVERN STREET & BABCOCK STREET**
3. **MALVERN STREET & BUICK STREET**
4. **MALVERN ST WITH EXISTING STREET NETWORK**
Option 1
Malvern Street two-way connector
Option 1: Packard’s Corner Signal Impact

This left turn is currently not allowed at the Packard’s Corner intersection.

- 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

Viaduct ramp to Agganis Way

Agganis Way and Buick St are Private Ways
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

TO: I-90 EB on-ramp to exit 22 Prudential
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

REMOTES SFR OUTBOUND RAMP TO RIVER ST

SFR OUTBOUND TRAFFIC TO RIVER ST ACCESSED VIA CAMBRIDGE ST SOUTH AND DISTRICT STREETS
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: UK Department of Environment, Food & Rural Affairs

Source: FTA, 2006
Noise Background

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

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Question & Comments

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