



I-90 ALLSTON INTERCHANGE

A MULTIMODAL TRANSPORTATION PROJECT

TASK FORCE MEETING #2
MAY 21, 2014 – HONAN LIBRARY, ALLSTON

MassDOT Priorities



Improve Safety, Access & Connections for All Modes

Interchange

- Replace Viaduct
- Realign I-90
- Implement AET
- Context Sensitive Design

Cambridge St

- Redesign C-bridge St
- Revitalize C-bridge St
- Reconfigure Local Roadway Connections
- Context Sensitive Design

Transit

- Support S. Station Expansion, C-Rail, DMU, etc.
- Context Sensitive Design

Neighborhood

- Avoid/minimize ROW/property displacements
- Minimize local impacts during construction
- Context Sensitive Design

The Bottom Line

Use available financial resources within timeframe allotted

Taskforce Priorities



Improve Safety, Access & Connections for All Modes

Interchange

- Realign I-90
- Minimize interchange presence
- Safe connections to C-bridge St.
- Increase permeability across interchange
- Context Sensitive Design

Cambridge St

- Safe connections to interchange
- Less interchange impact to C-bridge St.
- Reconfigure Local Roadway Connections
- Improve safety
- Context Sensitive Design

Transit

- Connections between C-bridge St. & W. Station
- Context Sensitive Design

Neighborhood

- Minimize local impacts during construction
- Avoid new cut-thru traffic
- Reconnect Allston
- Foster local business
- Context Sensitive Design

The Bottom Line

Improve safety, respect the neighborhood, reconnect Allston to itself & the Charles



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 the neighborhood during construction**
- ✓ **A more vibrant Cambridge Street that serves all modes**
- ✓ **Accessibility to transit at future West Station**

Traffic Analysis Area



Existing Highway Volumes



DAILY



Existing Ramp Volumes



DAILY



Existing Highway & Ramp Volumes - AM Peak



Existing Highway & Ramp Volumes - AM Peak



Existing Highway & Ramp Volumes - AM Peak



Existing Highway & Ramp Volumes - AM Peak



Existing Highway & Ramp Volumes – PM Peak



Existing Highway & Ramp Volumes - PM Peak



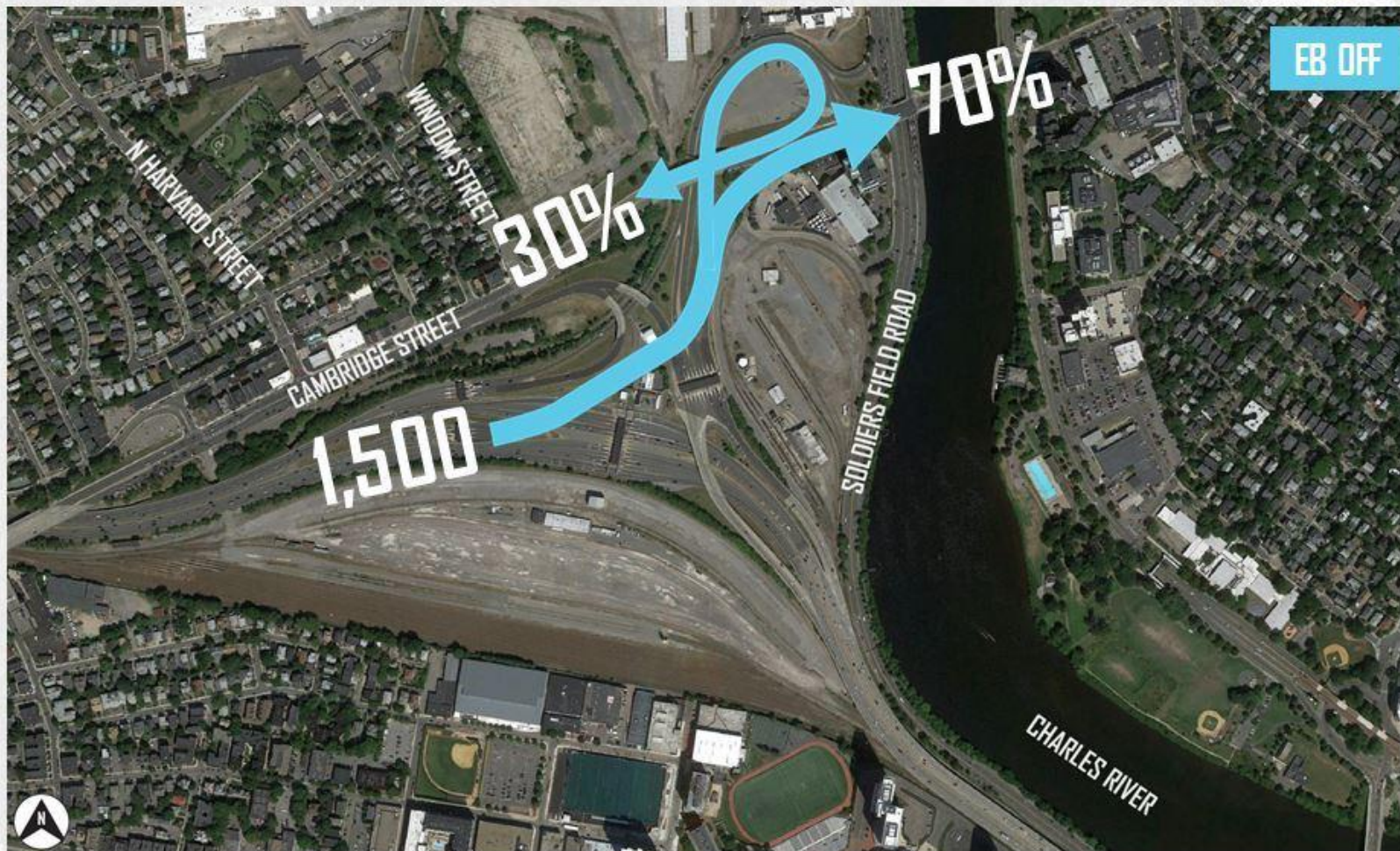
Existing Highway & Ramp Volumes - PM Peak



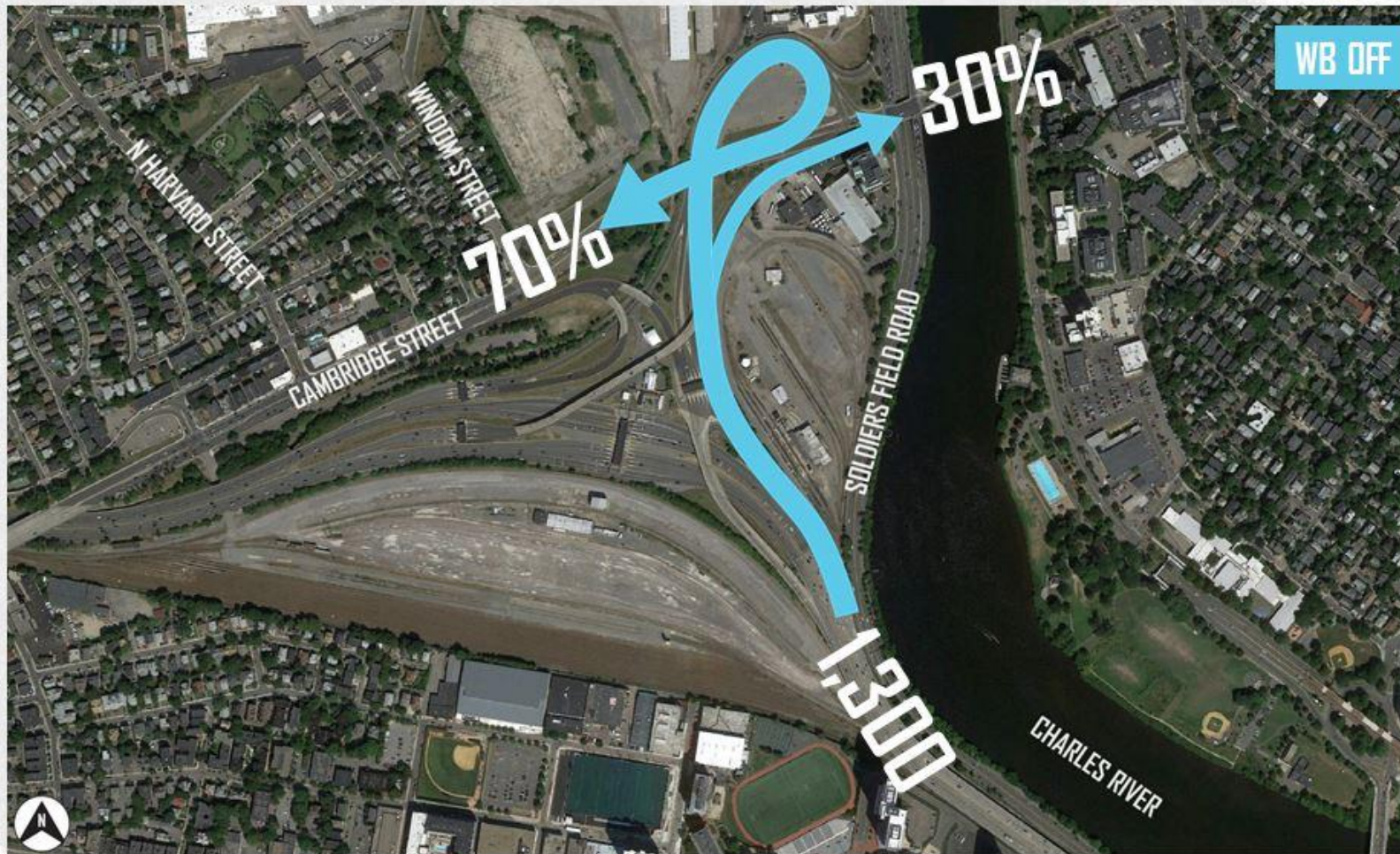
Existing Highway & Ramp Volumes - PM Peak



Existing Ramp Distribution - AM Peak



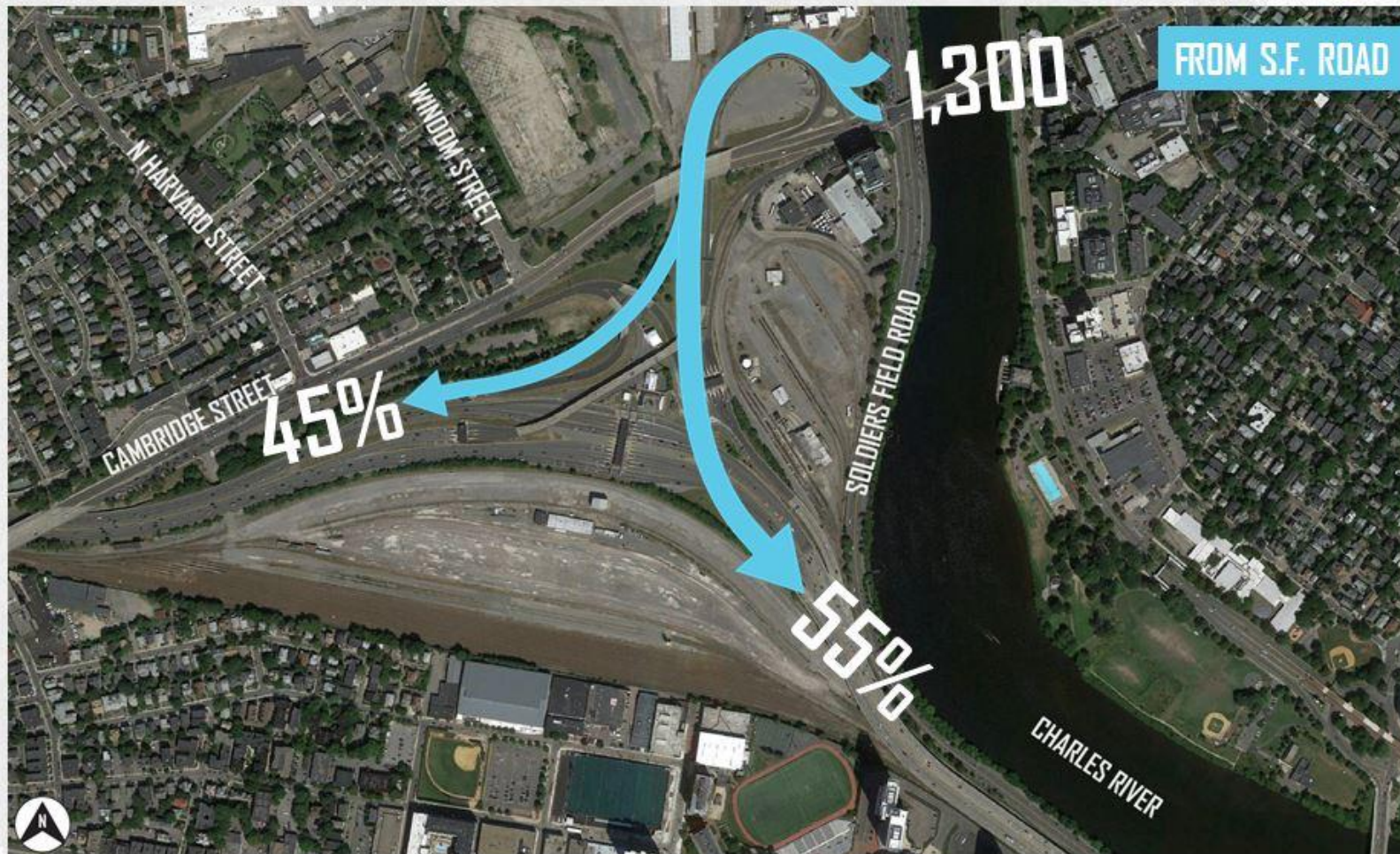
Existing Ramp Distribution - AM Peak



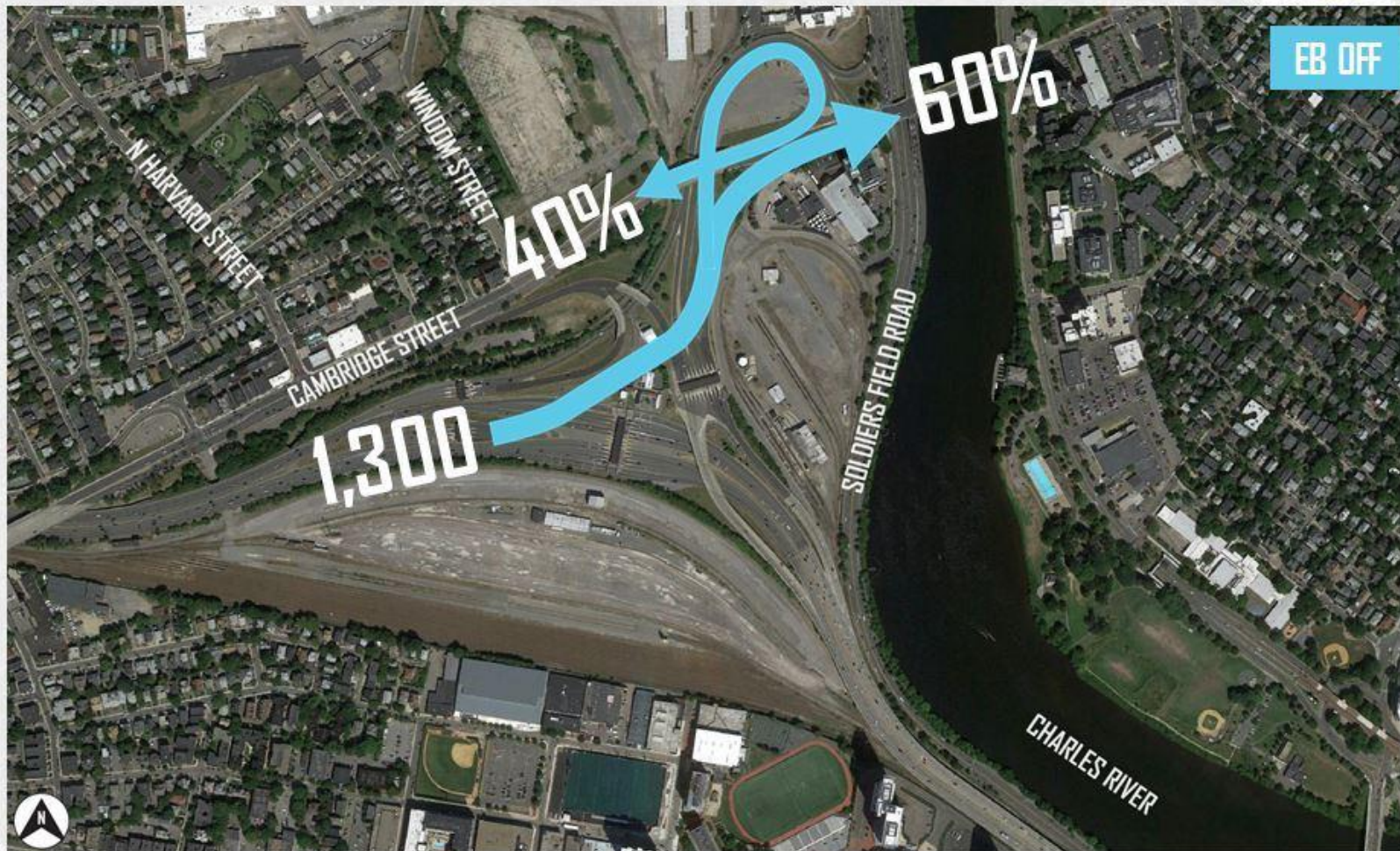
Existing Ramp Distribution - AM Peak



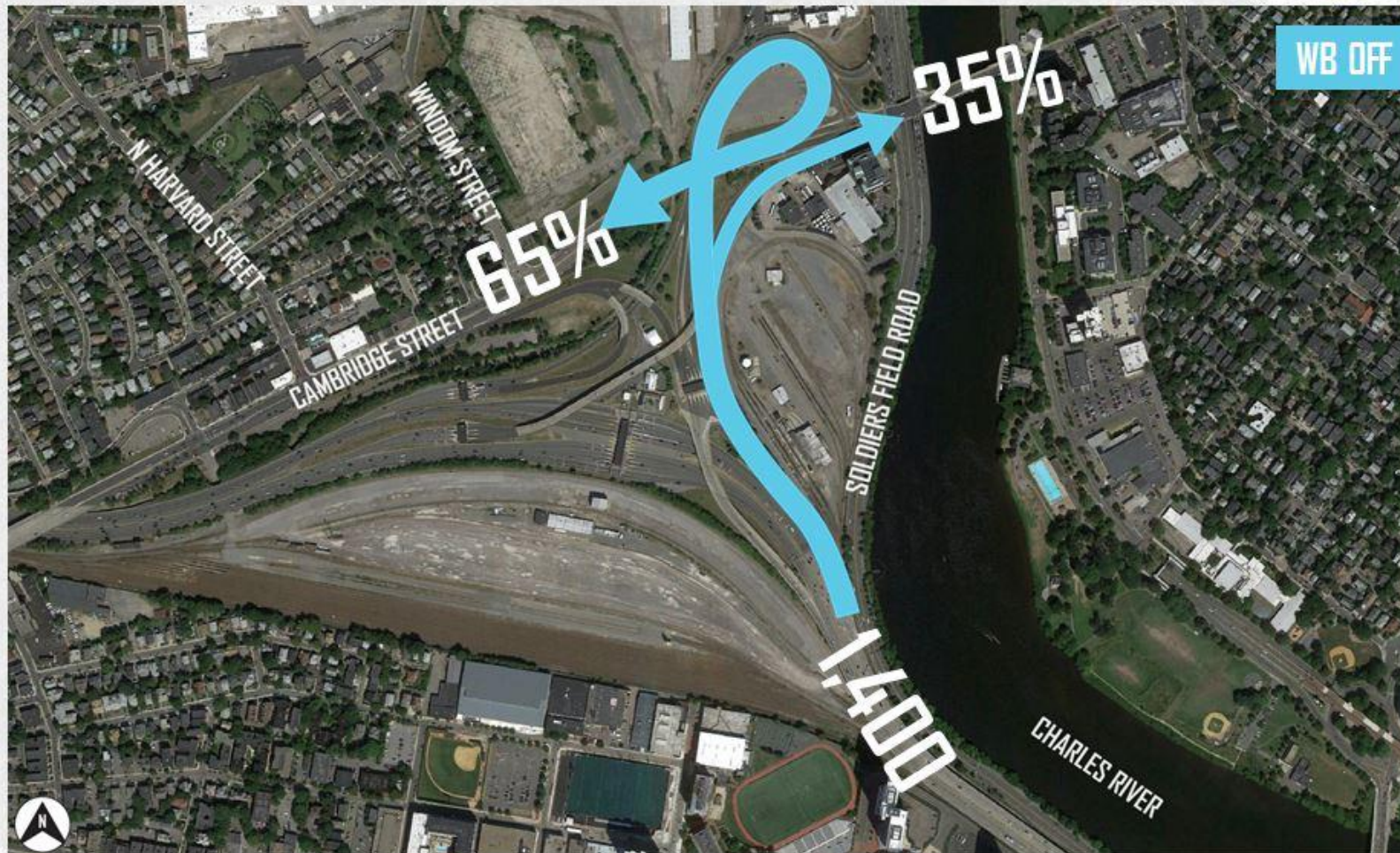
Existing Ramp Distribution - AM Peak



Existing Ramp Distribution - PM Peak



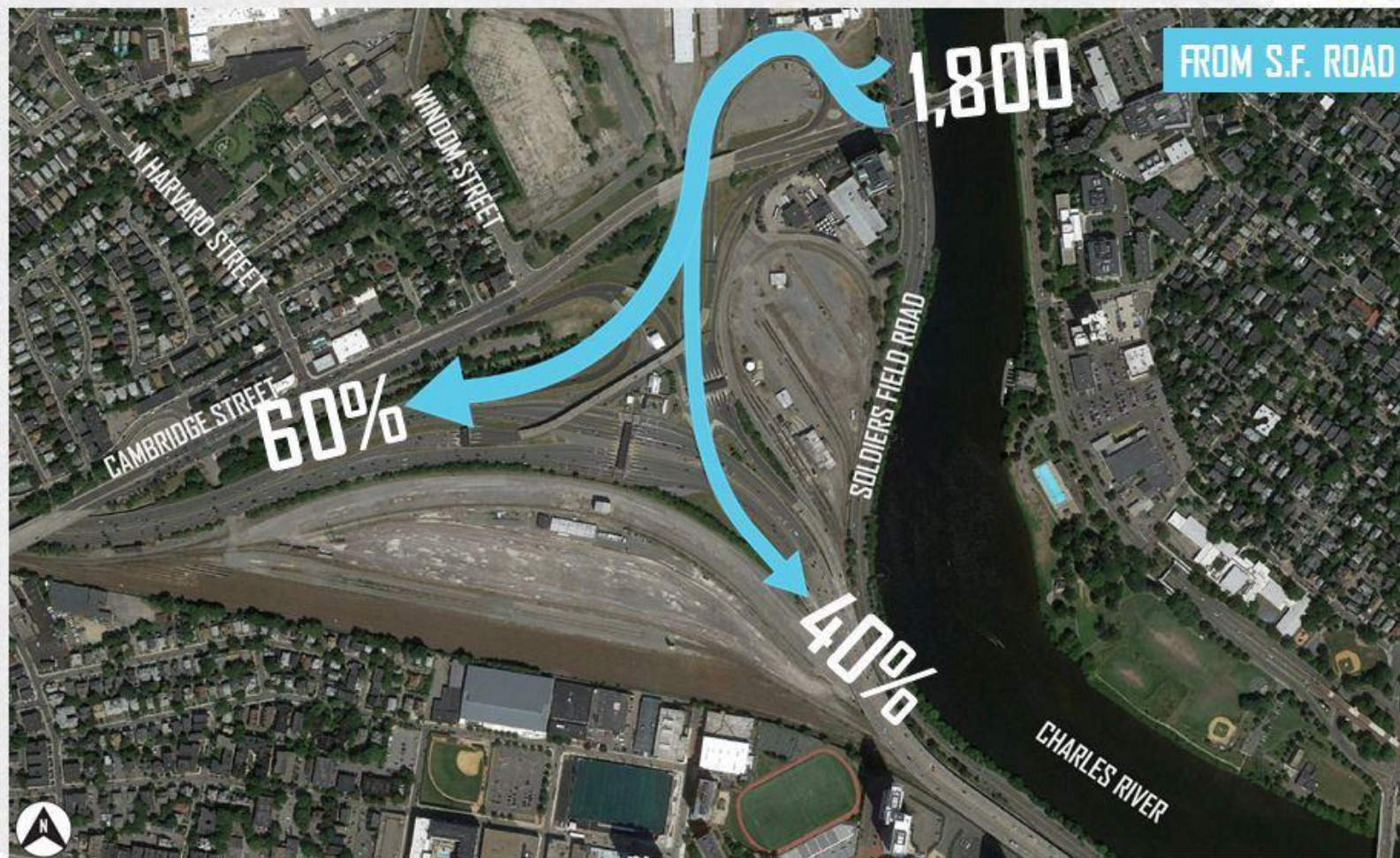
Existing Ramp Distribution - PM Peak



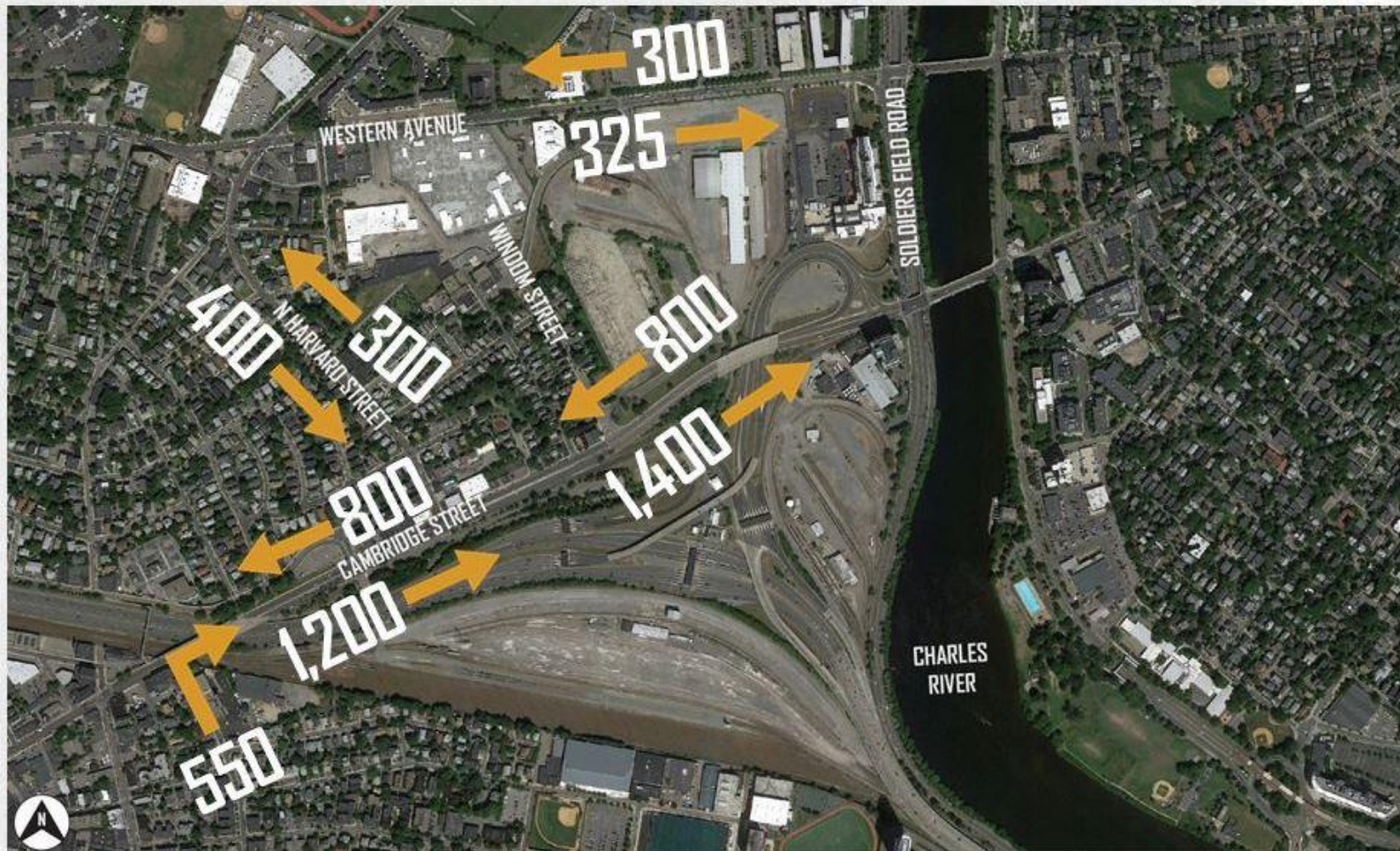
Existing Ramp Distribution - PM Peak



Existing Ramp Distribution - PM Peak



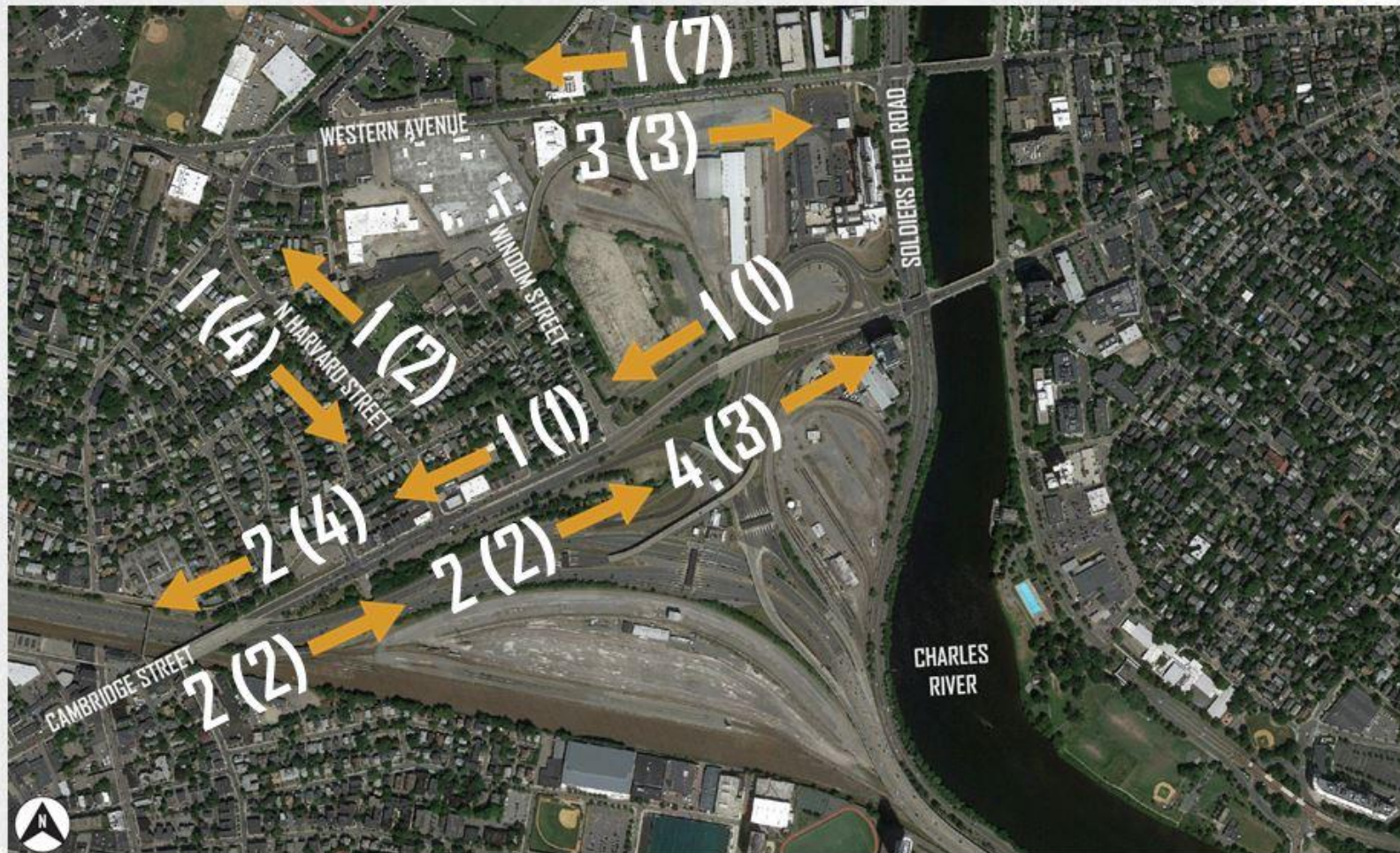
Existing Local Roadway Volumes – AM Peak



Existing Local Roadway Volumes – PM Peak



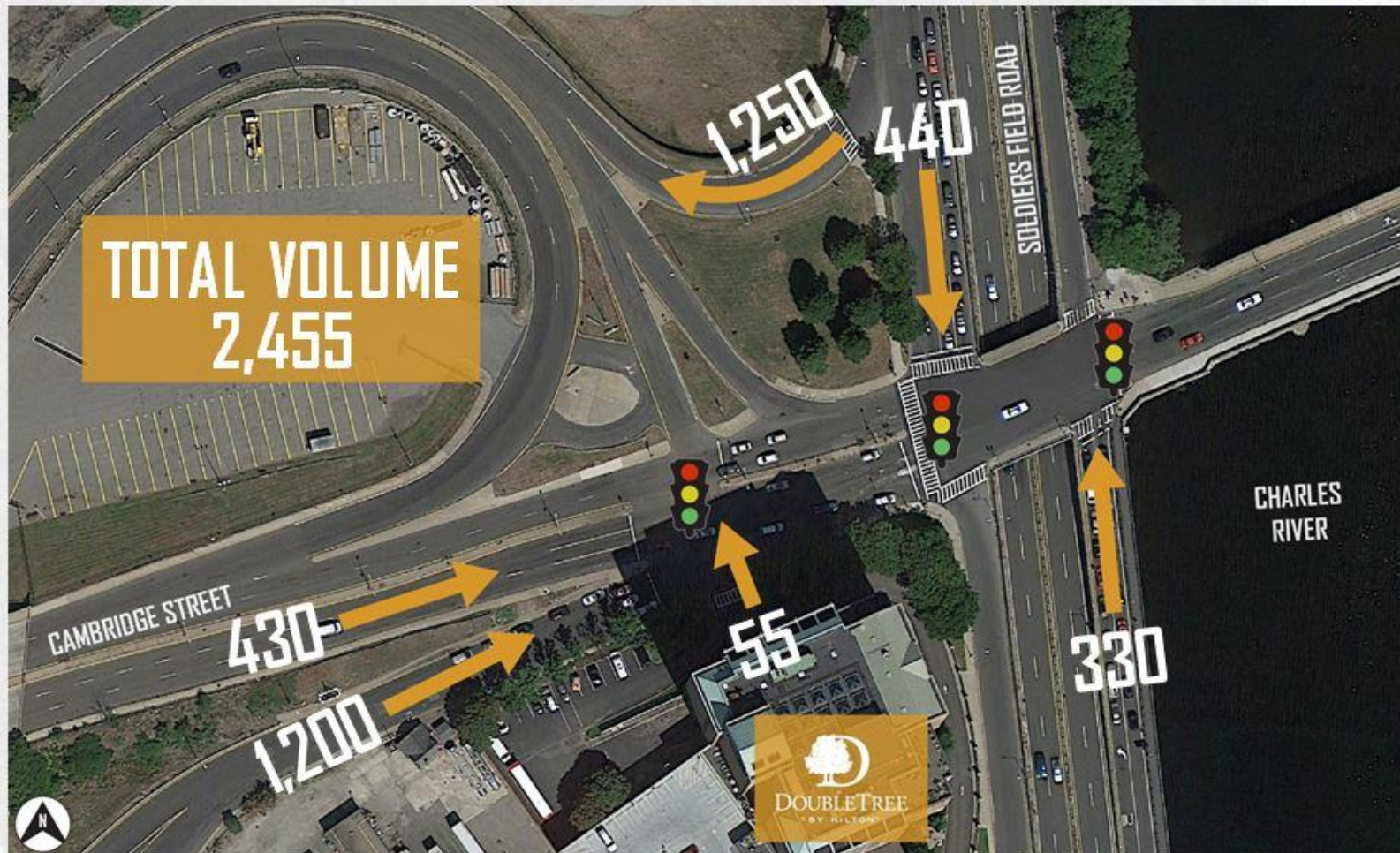
Local Roadway Bicycle Volumes – AM (PM) Peak



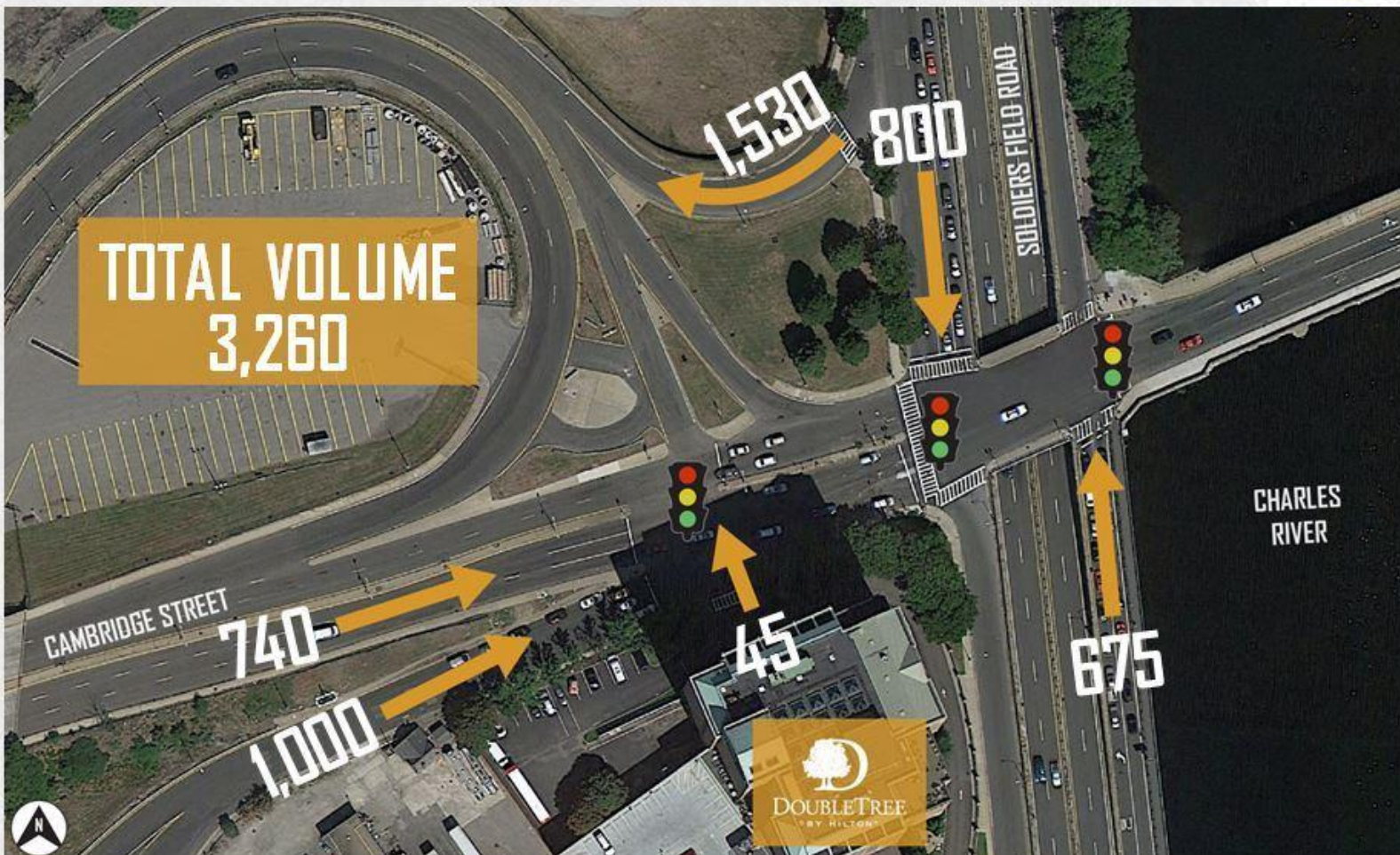
Local Roadway Pedestrian Volumes - AM (PM) Peak



Cambridge St/S.F. Rd - AM Peak Hour Volumes



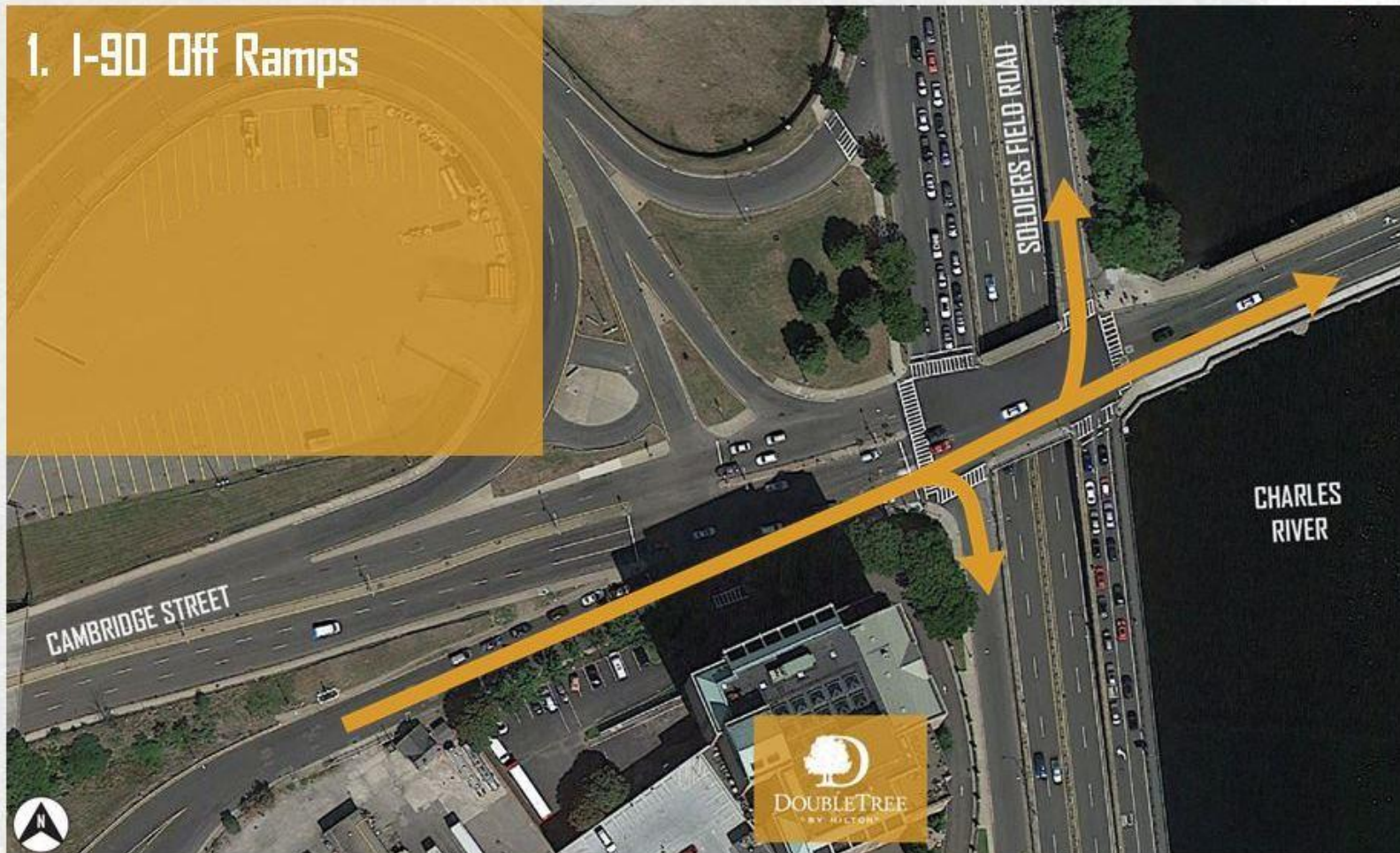
Cambridge St/S.F. Rd - PM Peak Hour Volumes



Cambridge St/S.F. Rd - Traffic Signal Phasing



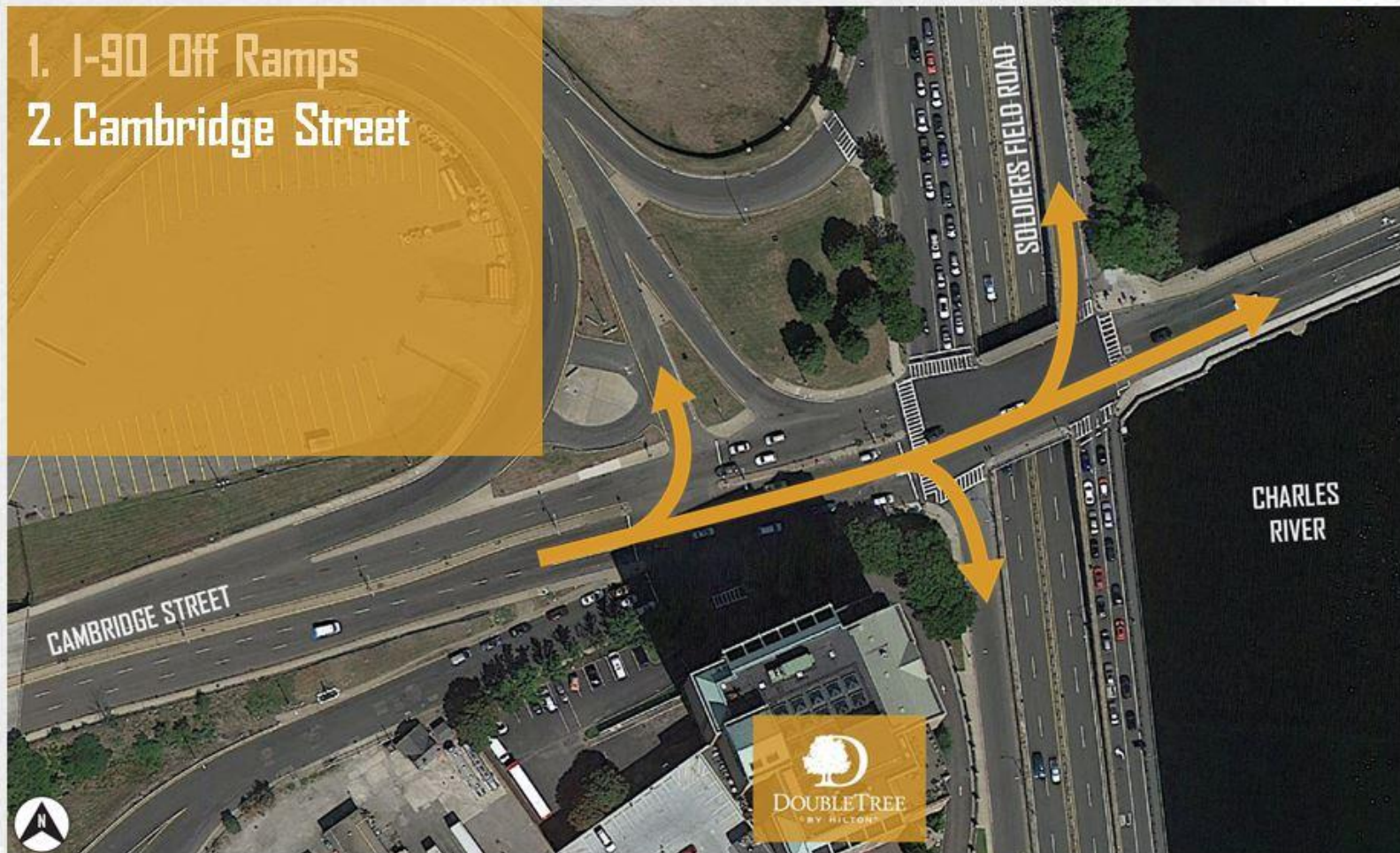
1. I-90 Off Ramps



Cambridge St/S.F. Rd – Traffic Signal Phasing



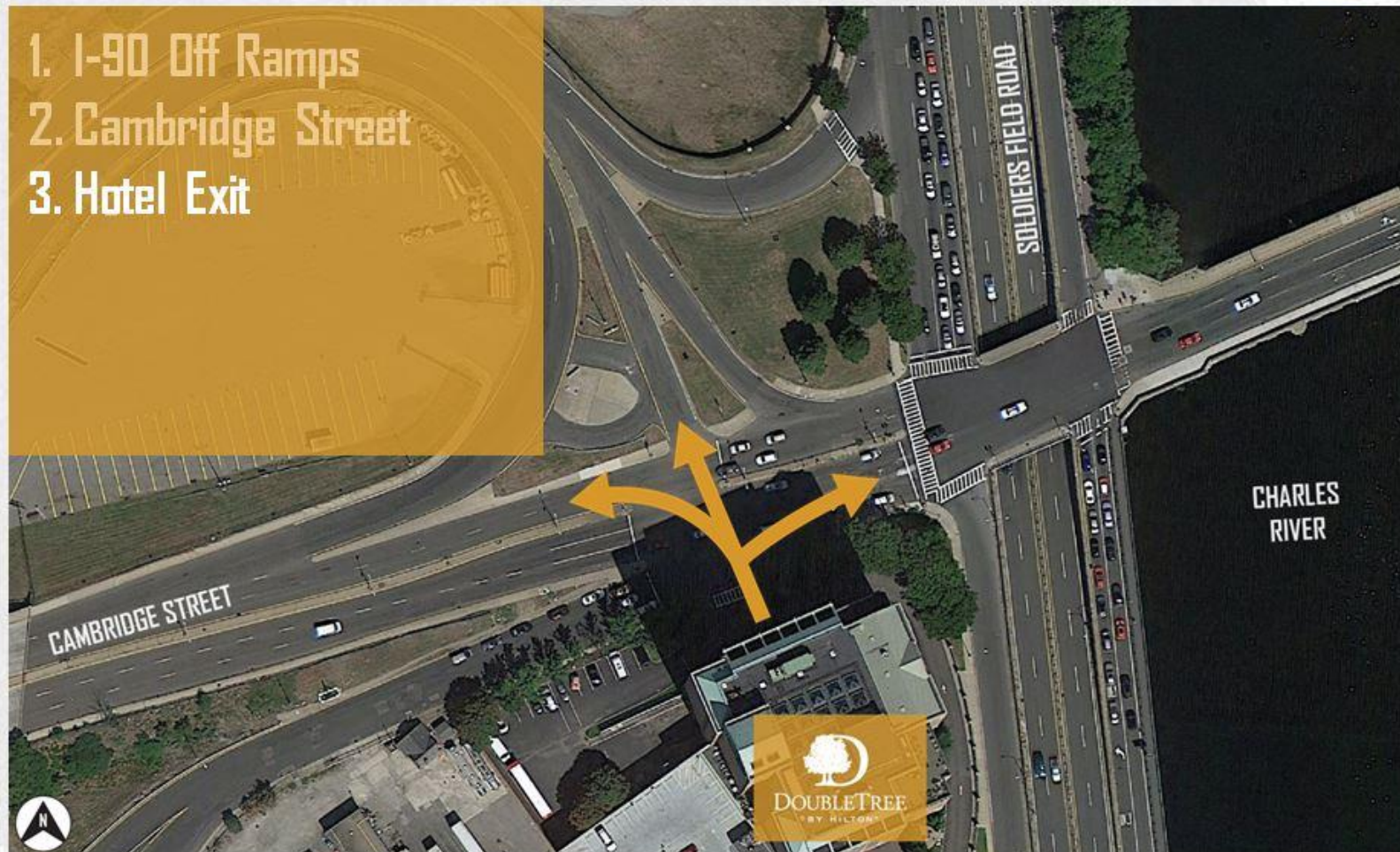
1. I-90 Off Ramps
2. Cambridge Street



Cambridge St/S.F. Rd - Traffic Signal Phasing



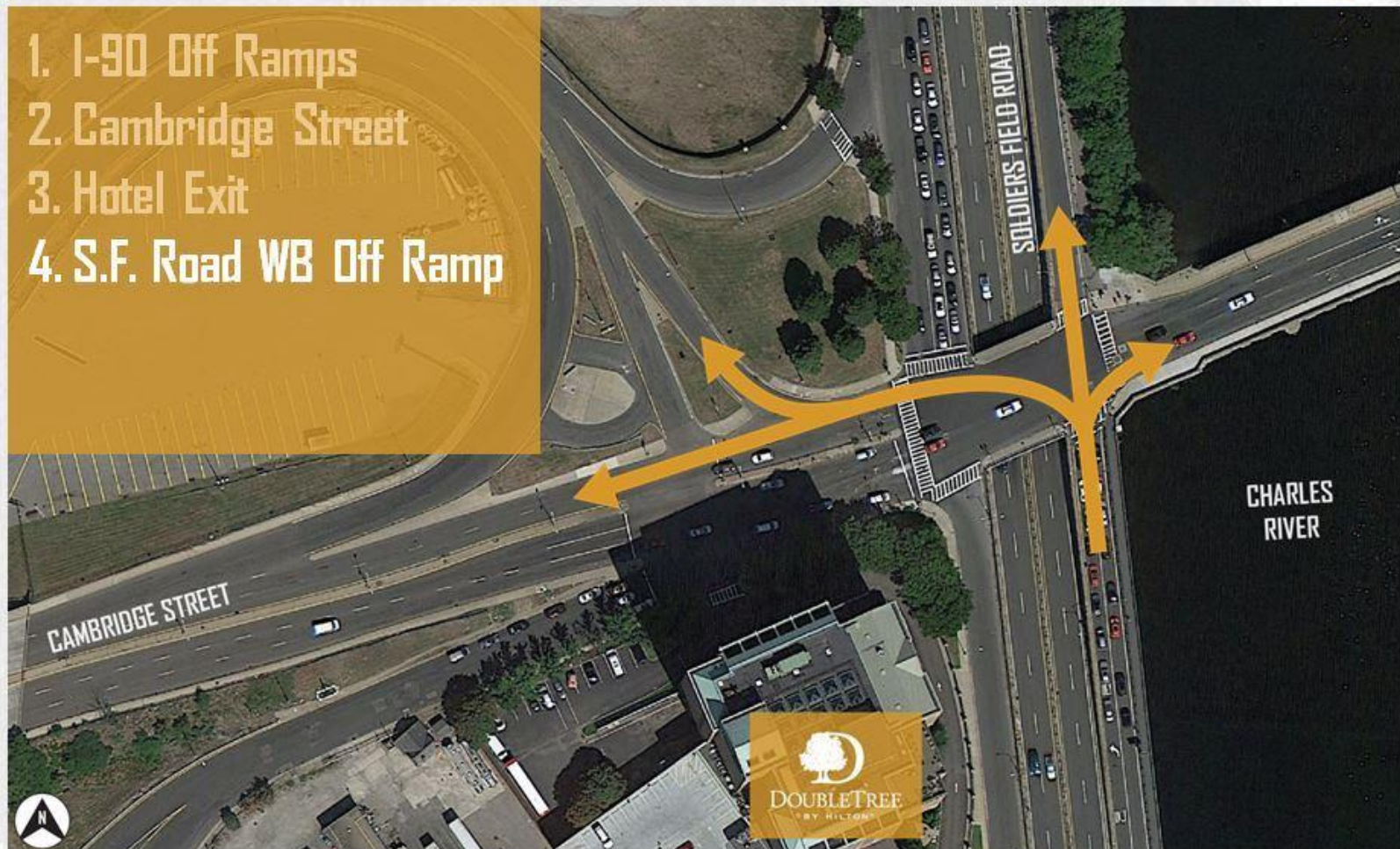
1. I-90 Off Ramps
2. Cambridge Street
3. Hotel Exit



Cambridge St/S.F. Rd - Traffic Signal Phasing



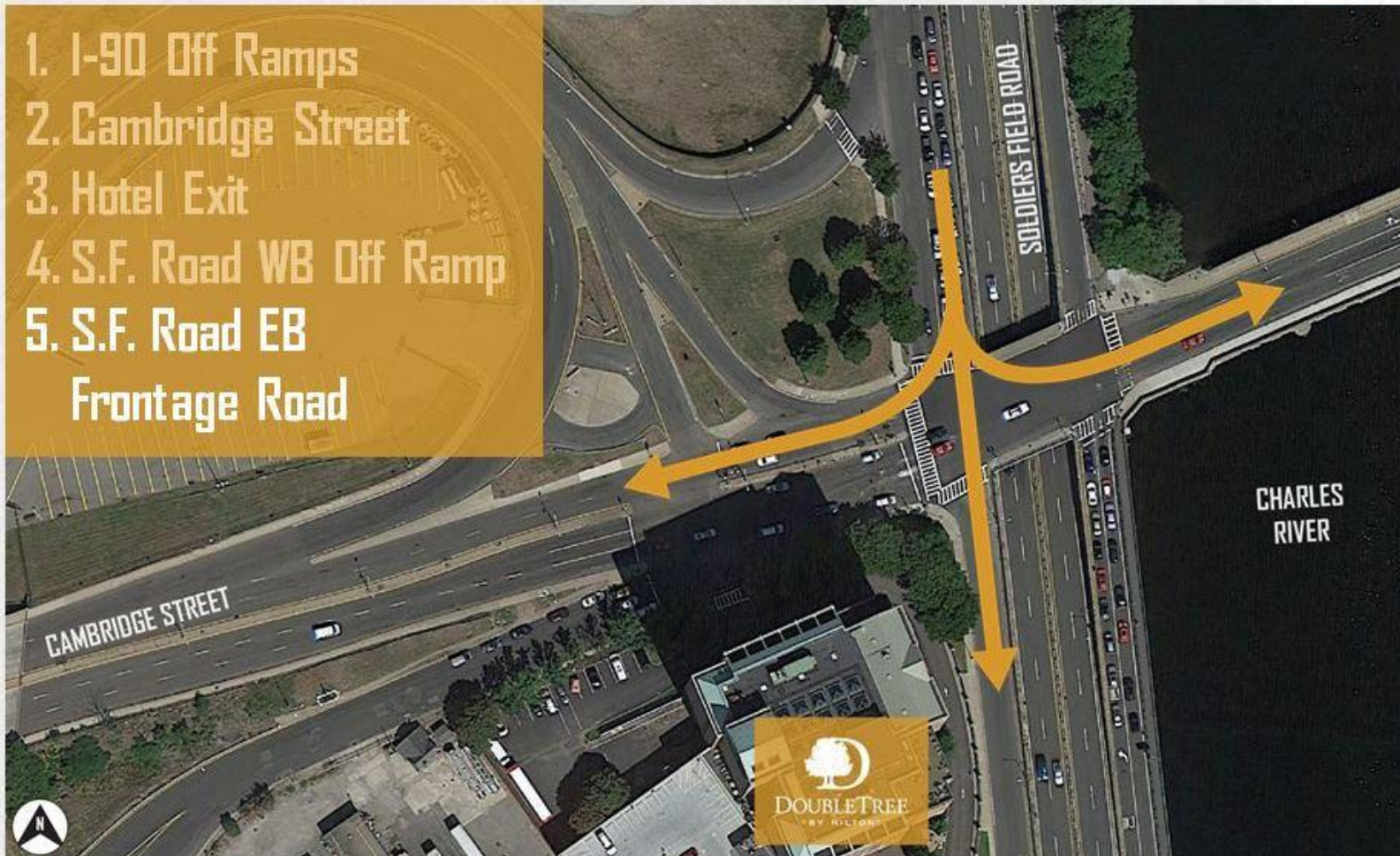
1. I-90 Off Ramps
2. Cambridge Street
3. Hotel Exit
4. S.F. Road WB Off Ramp



Cambridge St/S.F. Rd – PM Peak Hour Volumes



1. I-90 Off Ramps
2. Cambridge Street
3. Hotel Exit
4. S.F. Road WB Off Ramp
5. S.F. Road EB Frontage Road





Interchange Concept Development – Traffic Considerations

- **Simplify the Cambridge Street/Soldiers Field Road intersection**
- **Provide system that disperses rather than concentrates traffic flows**
- **Reduce traffic on Cambridge Street by providing multiple connection points**
- **Determine need for 2-lane ramps vs. 1-lane ramps**

Project/Site Constraints



Operational
(During Construction)

Operational
(Final Configuration)

Physical

Regulatory

**Fiscal/
Schedule**

Project/Site Constraints



Operational

(During Construction)

- Maintain all local connections
- Maintain 8 lanes of travel on I-90
- Maintain all rail service

Operational

(Final Configuration)

Physical

Regulatory

Fiscal/ Schedule



Project/Site Constraints

Operational

(During Construction)

- Maintain all local connections
- Maintain 8 lanes of travel on I-90
- Maintain all rail service

Operational

(Final Configuration)

- Rail yard location south of I-90
- Future Commuter Rail Station location
- I-90 design speed of 65 mph
- On/off ramps lengths sufficient for acceleration/deceleration and queuing

Physical

Regulatory

Fiscal/ Schedule



Project/Site Constraints

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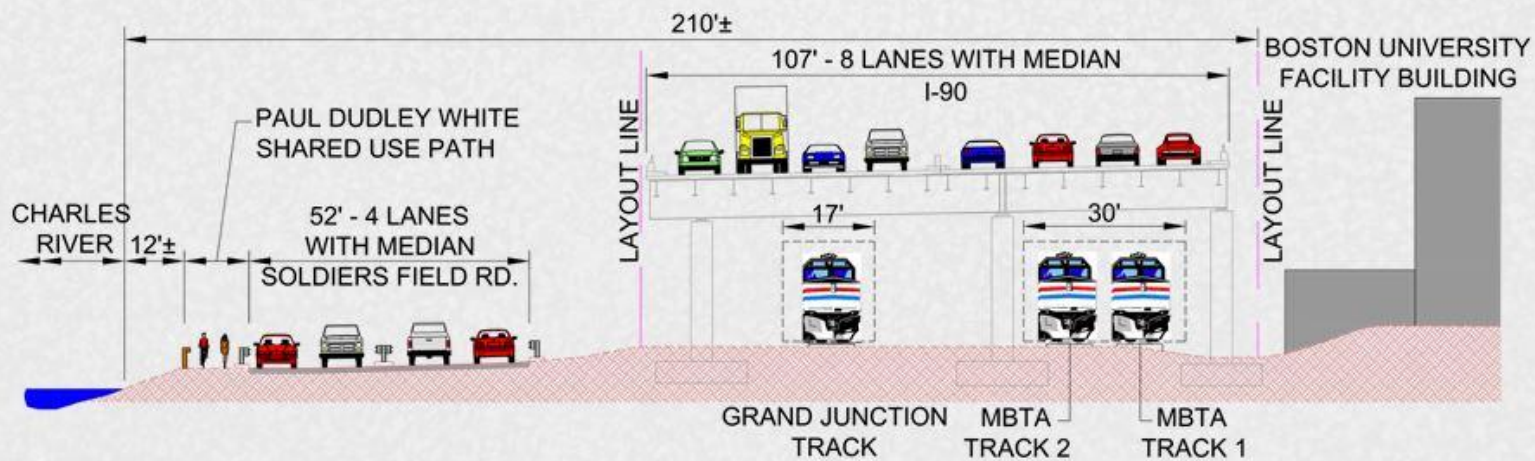
Physical

- Limited distance between River and BU property

Regulatory

Fiscal/ Schedule

Existing Section Near Buick Street





Project/Site Constraints

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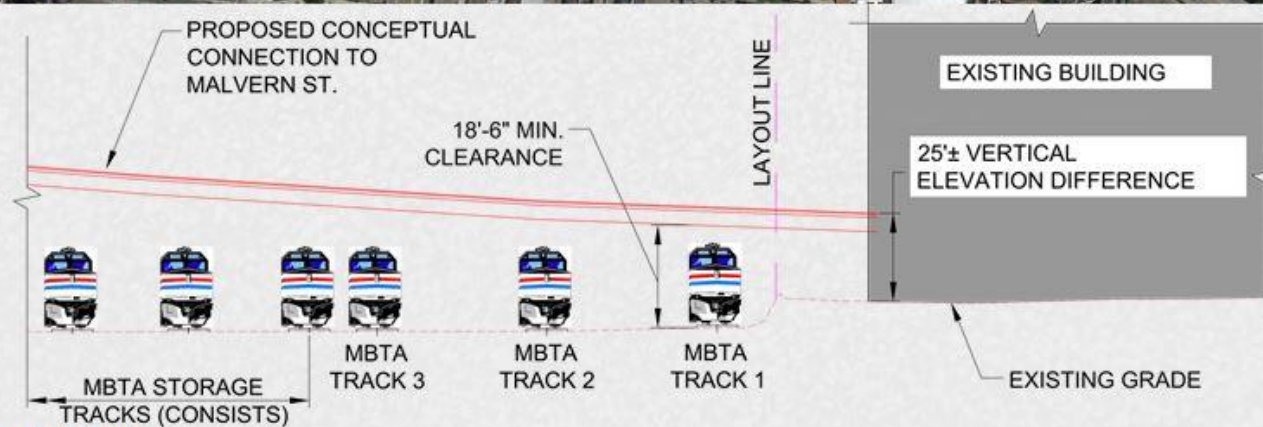
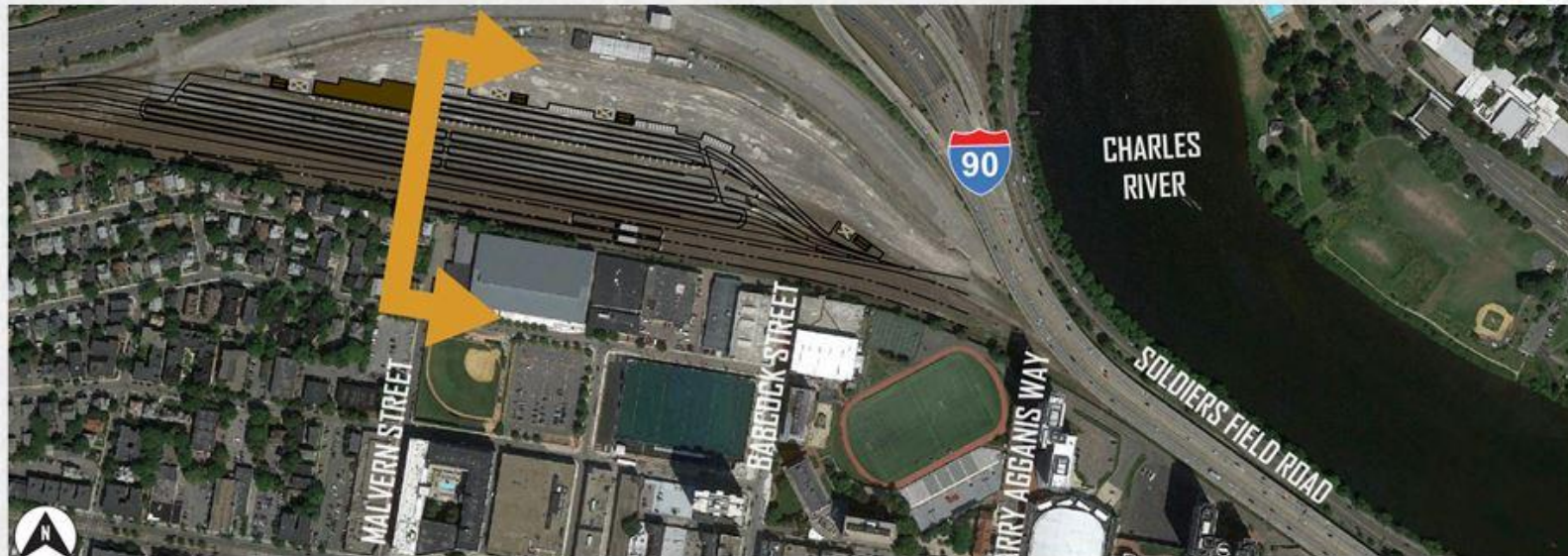
Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections

Regulatory

Fiscal/ Schedule

Preliminary Section Near Malvern Street





Project/Site Constraints

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(During Construction)

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Operational

(Final Configuration)

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- Future Commuter Rail Station location
- I-90 design speed of 65 mph
- On/off ramps lengths sufficient for acceleration/deceleration and queuing

Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections
- Right-of-way

Regulatory

Fiscal/ Schedule



Project/Site Constraints

Operational

(During Construction)

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Operational

(Final Configuration)

- Rail yard location south of I-90
- Future Commuter Rail Station location
- I-90 design speed of 65 mph
- On/off ramps lengths sufficient for acceleration/deceleration and queuing

Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections
- Right-of-way
- Length required for street connections from Cambridge St over I-90

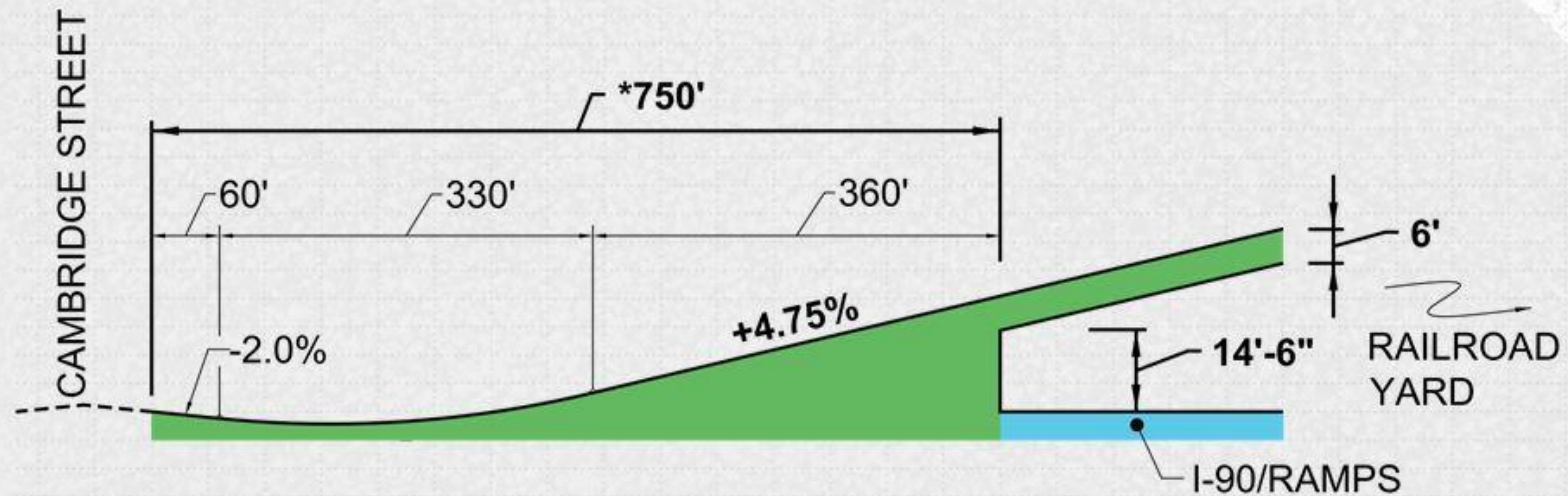
Regulatory

Fiscal/ Schedule

Schematic Connector Location Limit



Schematic Connector Profile



*** IF CAMBRIDGE ST AND
I-90/RAMPS ARE AT SAME
ELEVATION**



Project/Site Constraints

Operational

(During Construction)

- Maintain all local connections
- Maintain 8 lanes of travel on I-90
- Maintain all rail service

Operational

(Final Configuration)

- Rail yard location south of I-90
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- I-90 design speed of 65 mph
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Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections
- Right-of-way
- Length required for street connections from Cambridge St over I-90
- Potential subsurface contamination

Regulatory

Fiscal/ Schedule

Project/Site Constraints

Operational

(During Construction)

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Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections
- Right-of-way
- Length required for street connections from Cambridge St over I-90
- Potential subsurface contamination

Regulatory

- Historic impacts Section 106
- Parkland impacts Section 4(f)
- Stormwater treatment

Fiscal/ Schedule



Project/Site Constraints

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- Maintain 8 lanes of travel on I-90
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Operational

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Physical

- Limited distance between River and BU property
- Clearance over rail yard – possible connections
- Right-of-way
- Length required for street connections from Cambridge St over I-90
- Potential subsurface contamination

Regulatory

- Historic impacts Section 106
- Parkland impacts Section 4(f)
- Stormwater treatment

Fiscal/ Schedule

- Funds identified from Capital Improvement Plan (CIP) FY14-FY18 (approx \$160M)
- Schedule linked to AET coming on-line 2016

Preliminary Interchange Concept Design



GROUP 1 Suburban Type

- One intersection for on-ramps
- One intersection for off-ramps

GROUP 2 Suburban Type

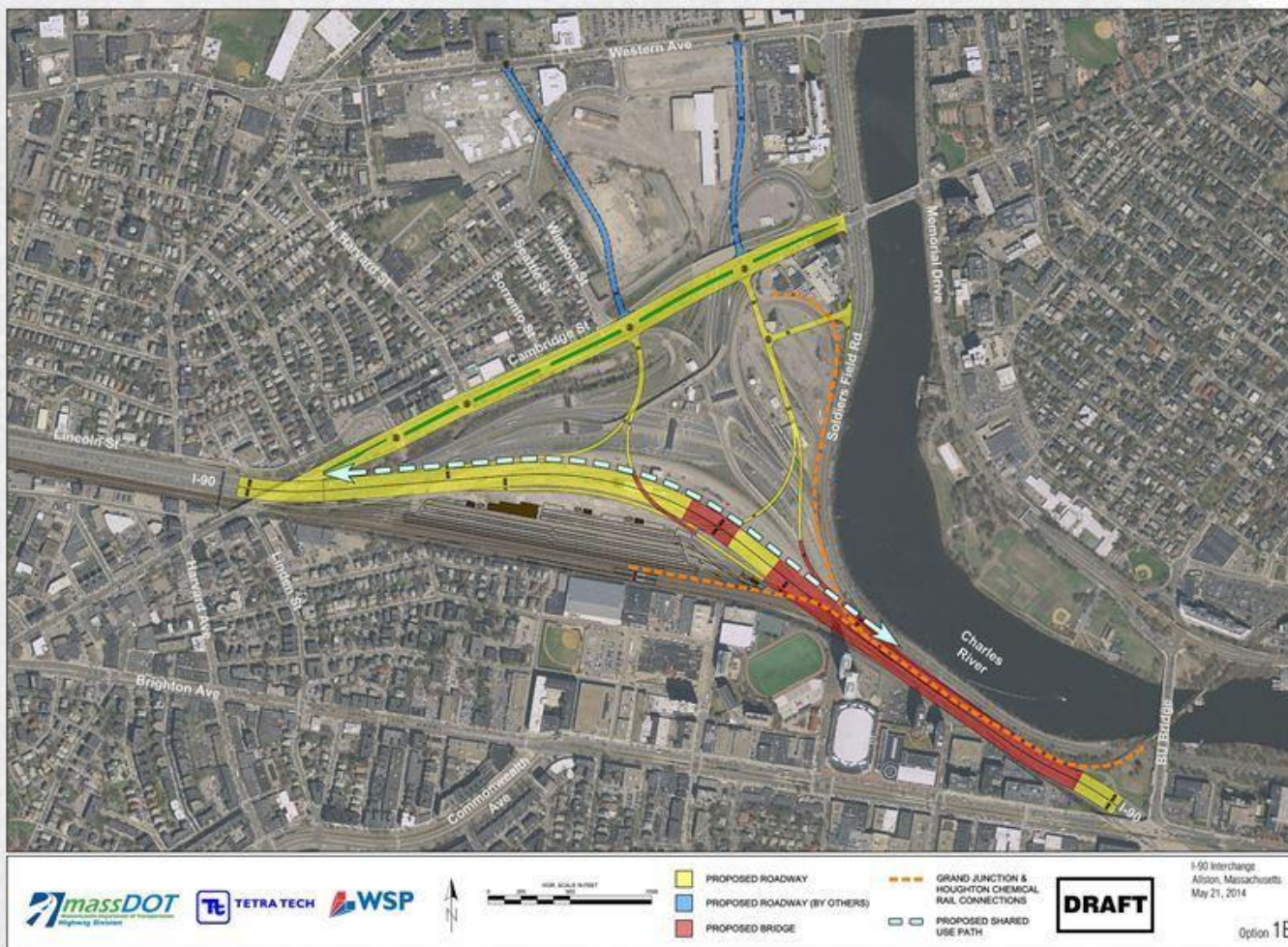
- One intersection for EB on-ramps & WB off-ramps
- One intersection for WB on-ramps & EB off-ramps

GROUP 3 Urban Type

- Split diamond configuration



Option 1B



Option 1C



- PROPOSED ROADWAY
- PROPOSED ROADWAY (BY OTHERS)
- PROPOSED BRIDGE
- GRAND JUNCTION & HOUGHTON CHEMICAL RAIL CONNECTIONS
- PROPOSED SHARED USE PATH

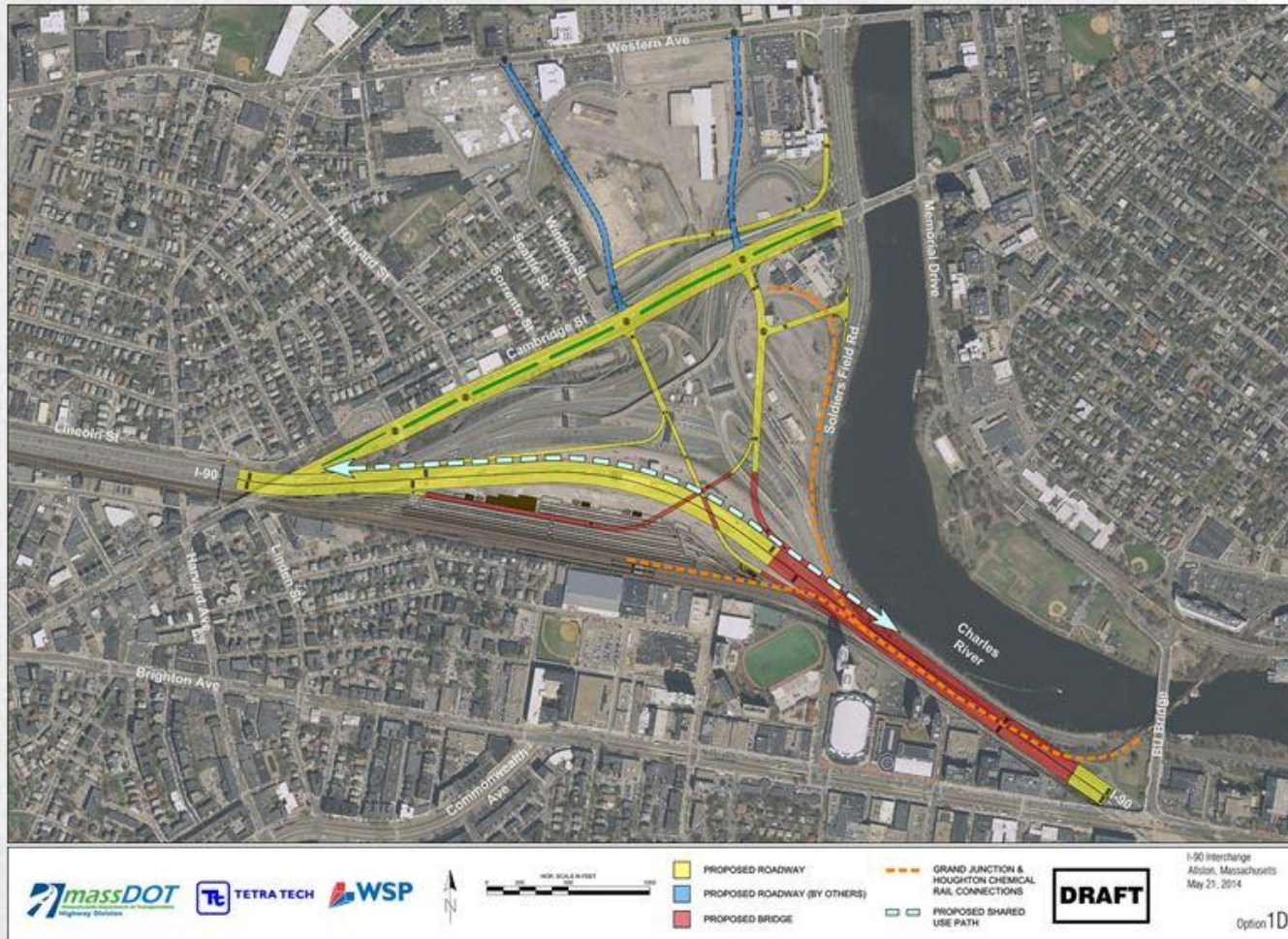
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I-90 Interchange
Allston, Massachusetts
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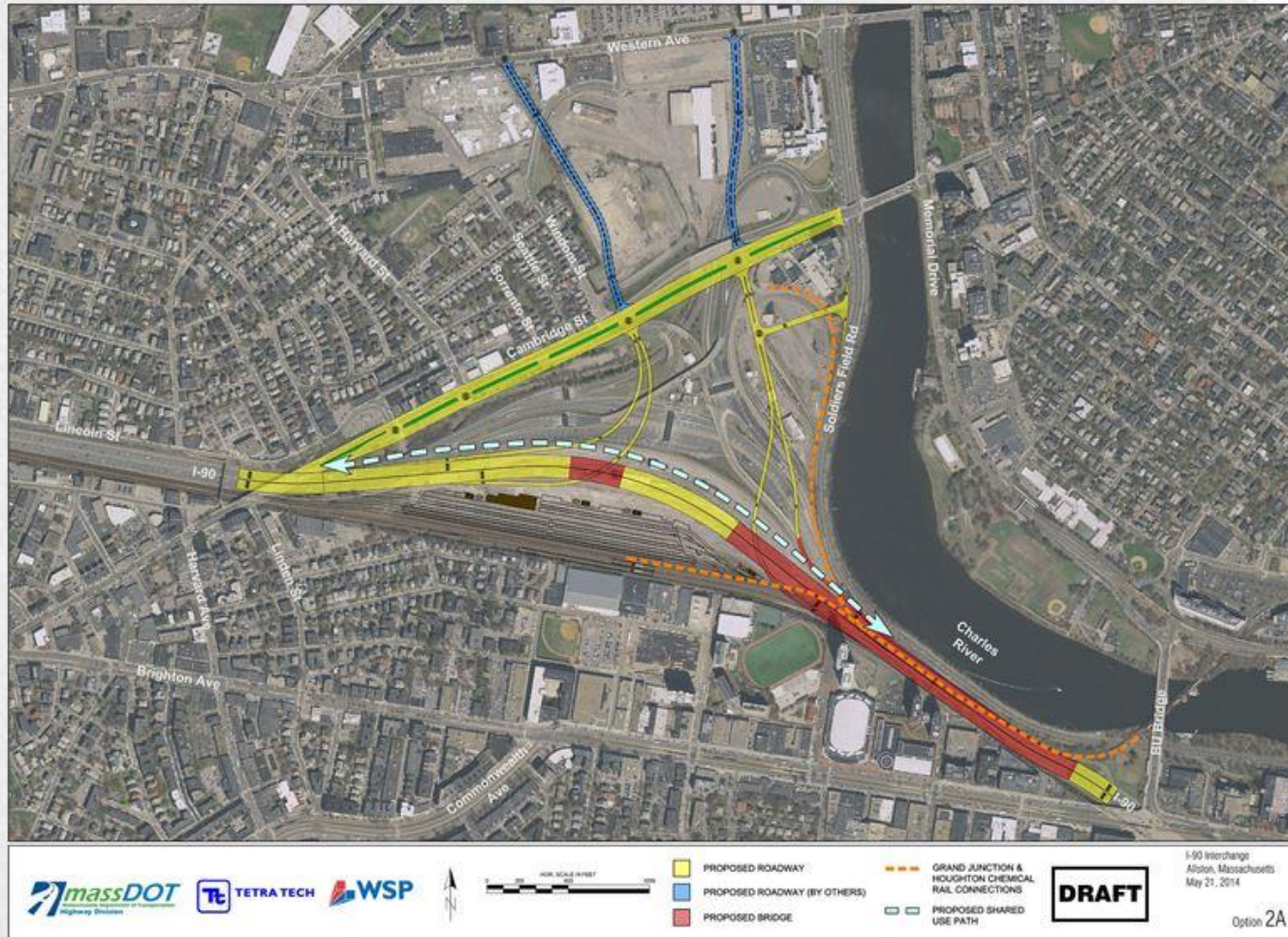
Option 1C



Option 1D



Option 2A



Option 2B



- PROPOSED ROADWAY
- PROPOSED ROADWAY (BY OTHERS)
- PROPOSED BRIDGE

- GRAND JUNCTION & HOUGHTON CHEMICAL RAIL CONNECTIONS
- PROPOSED SHARED USE PATH

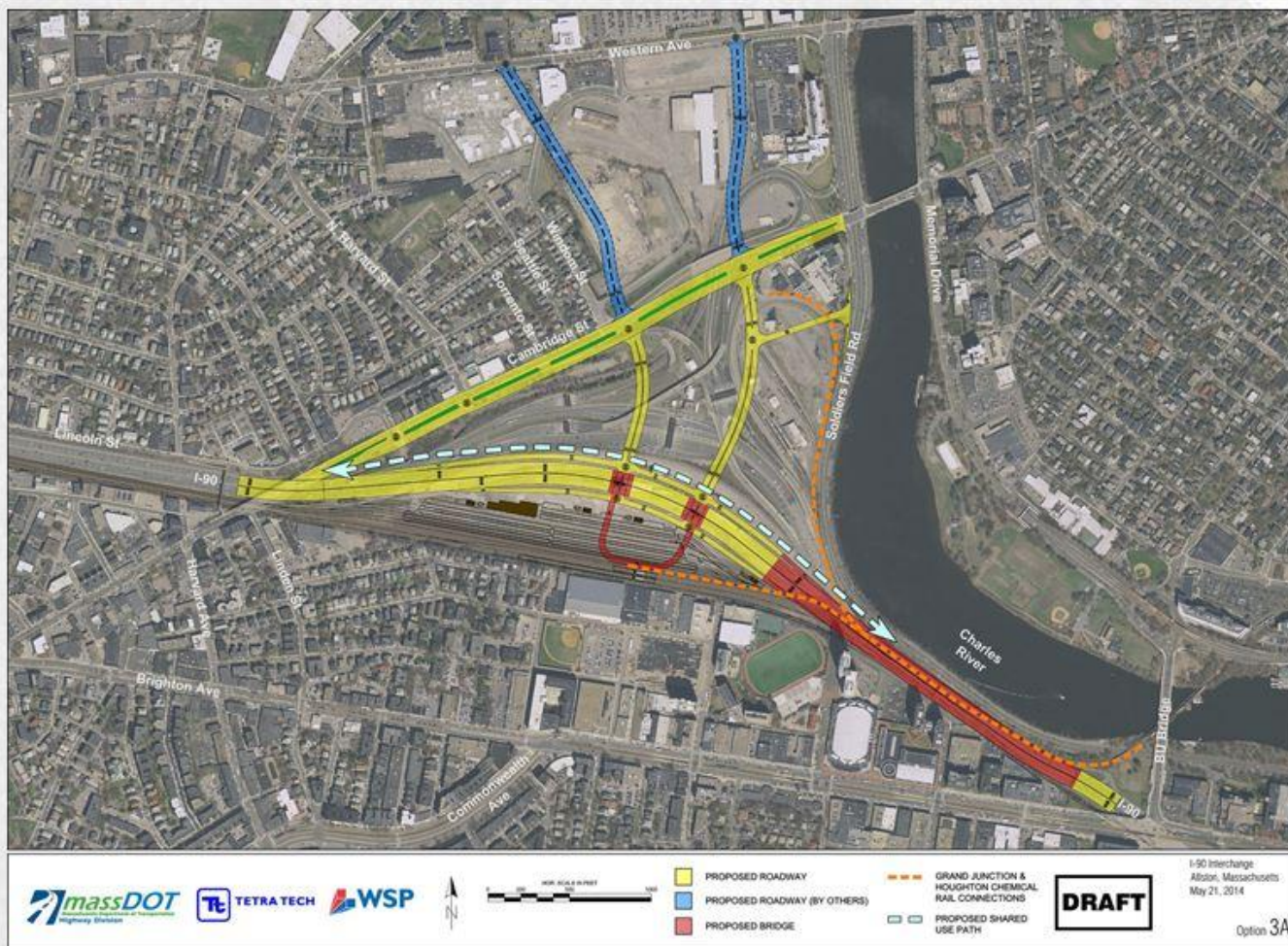


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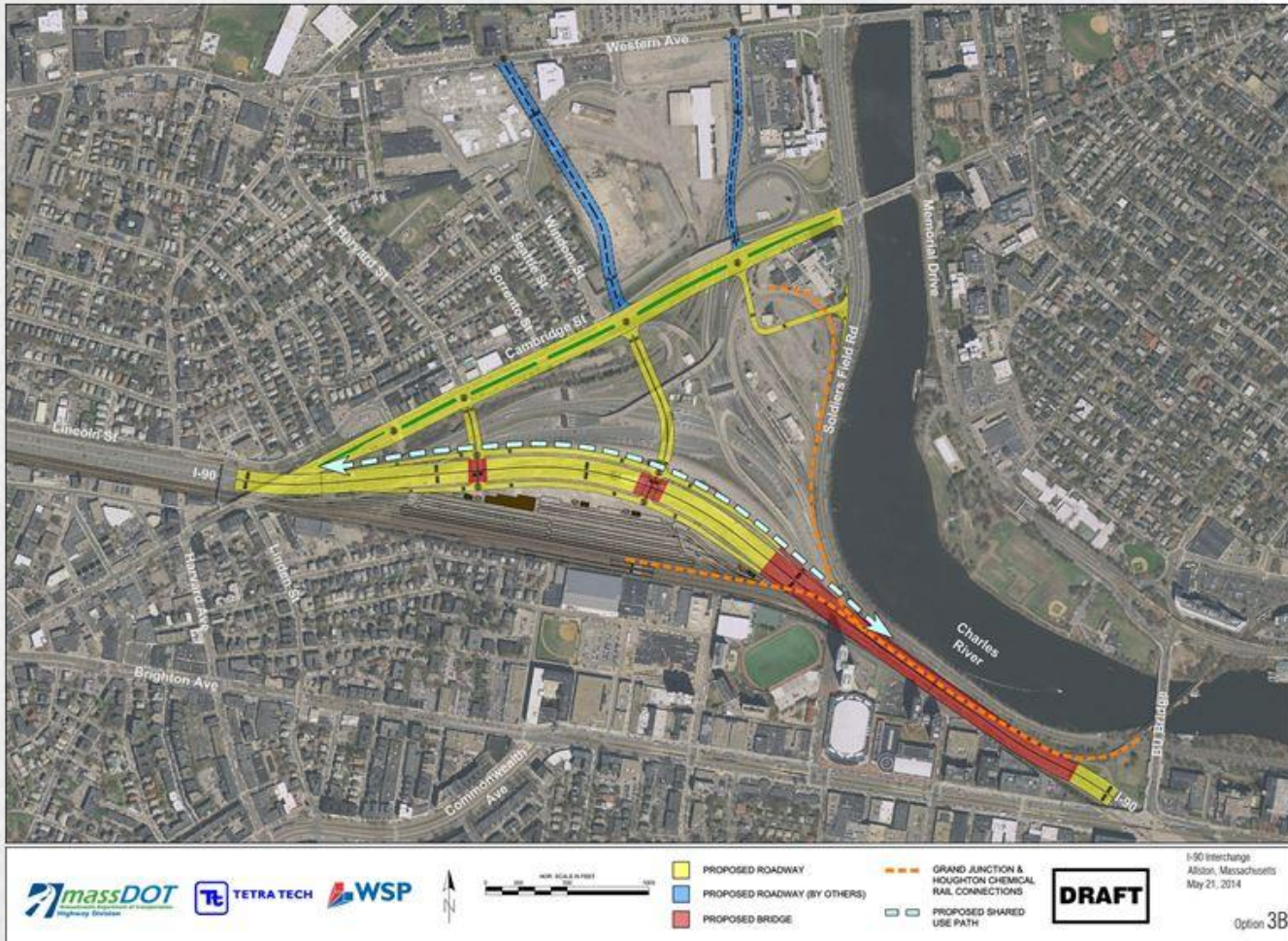
Option 2B



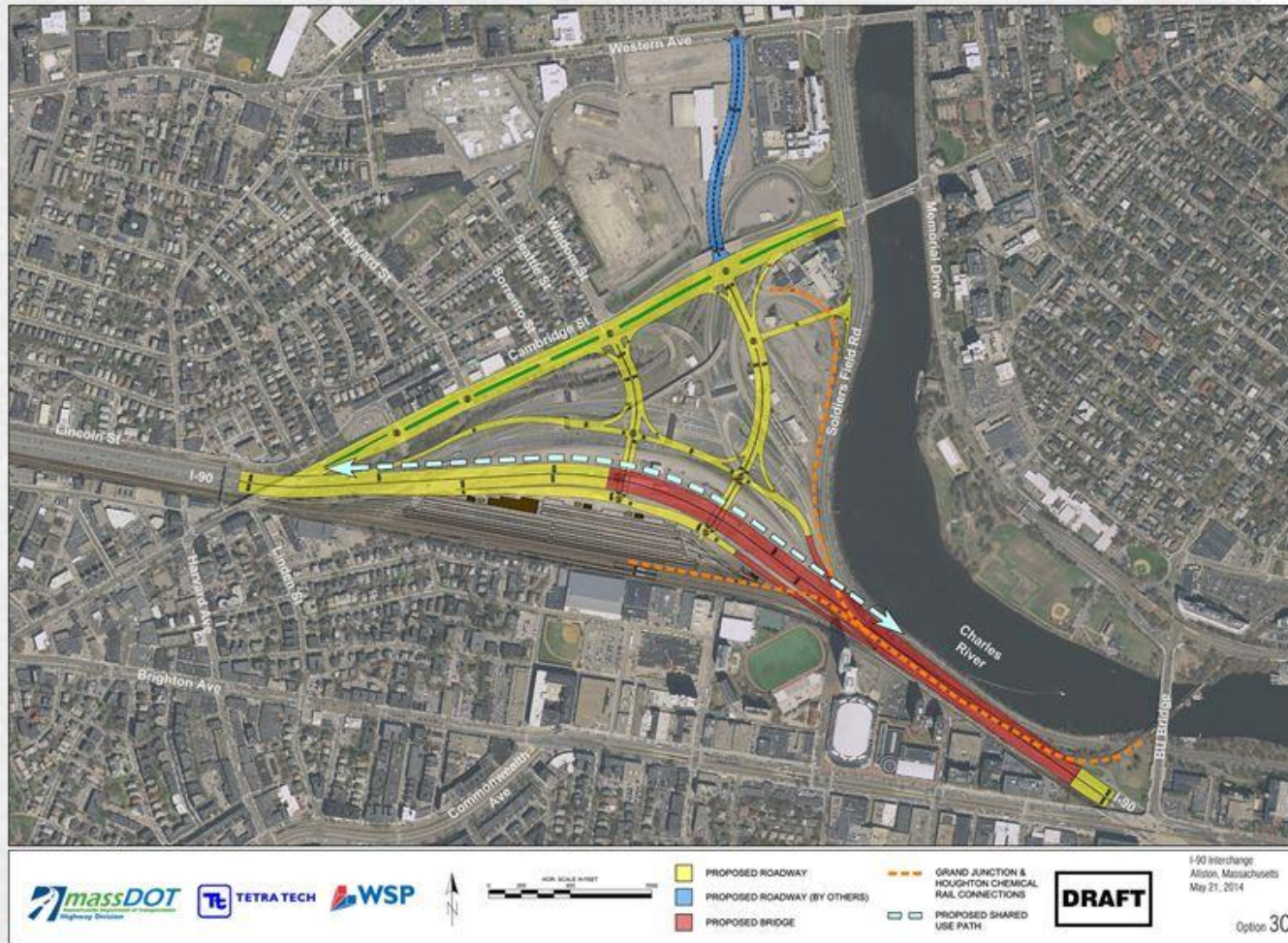
Option 3A



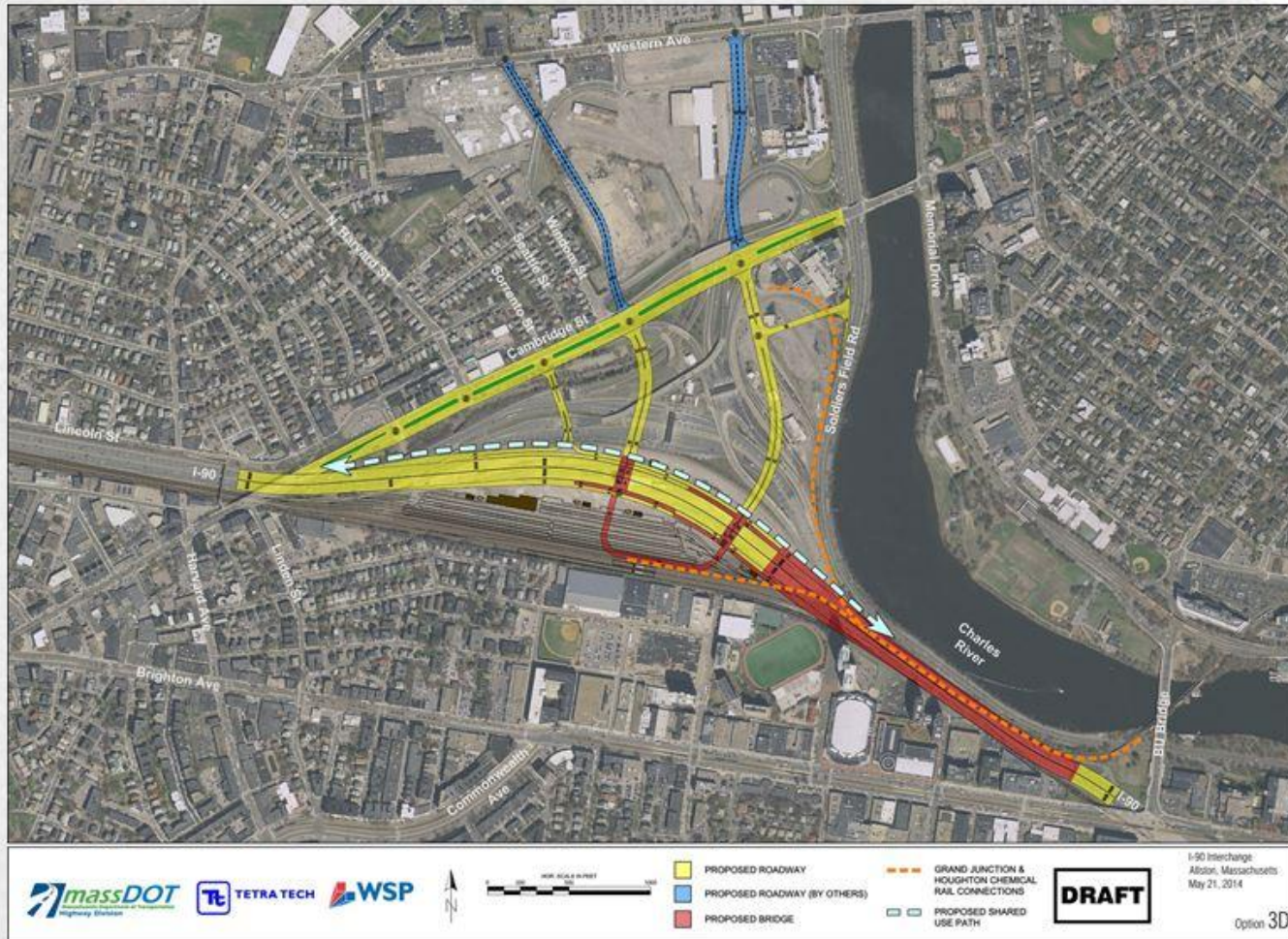
Option 3B



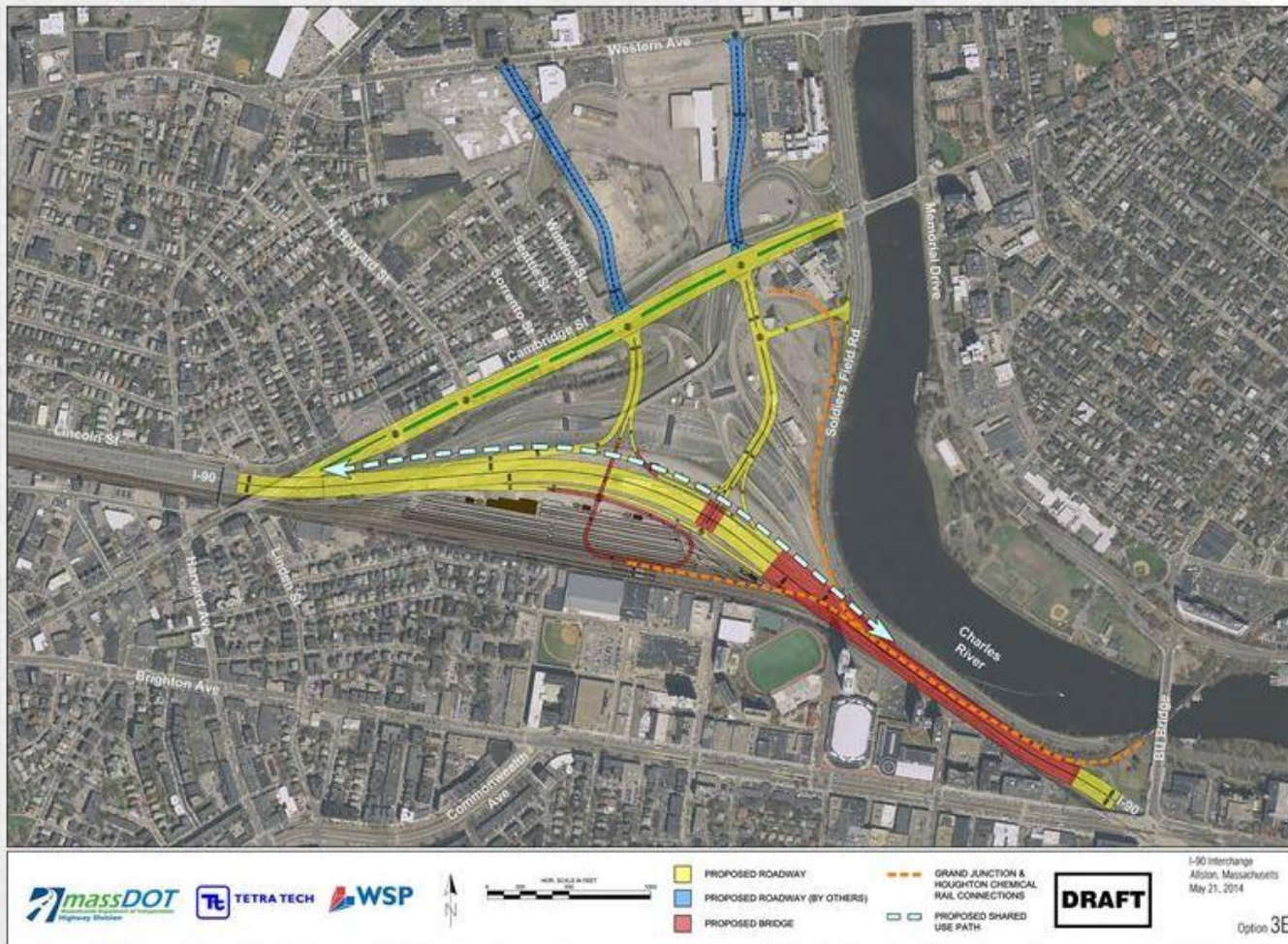
Option 3C



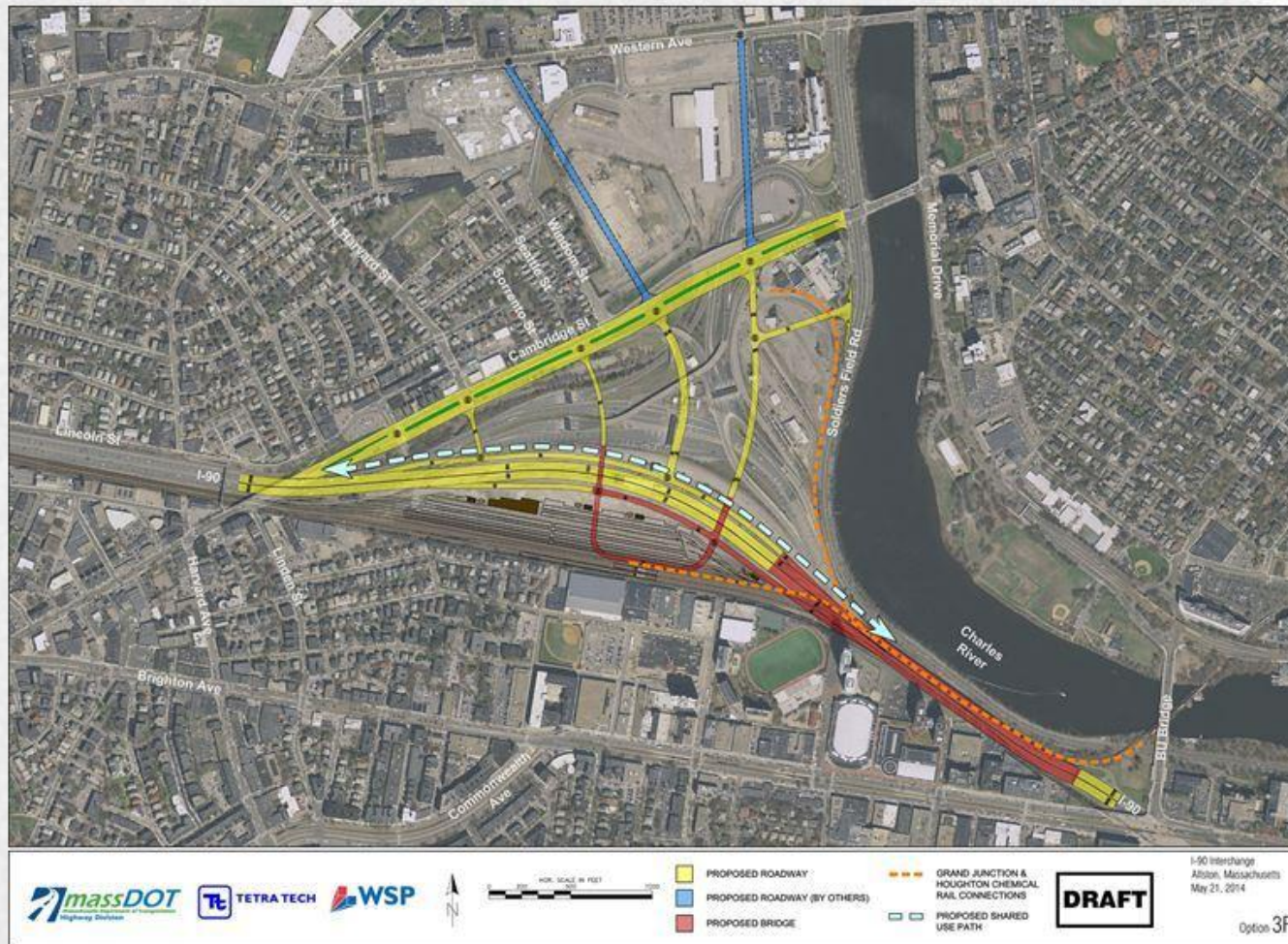
Option 3D



Option 3E



Option 3F





Project Locus

