

I-90 Allston Interchange

A multimodal transportation project

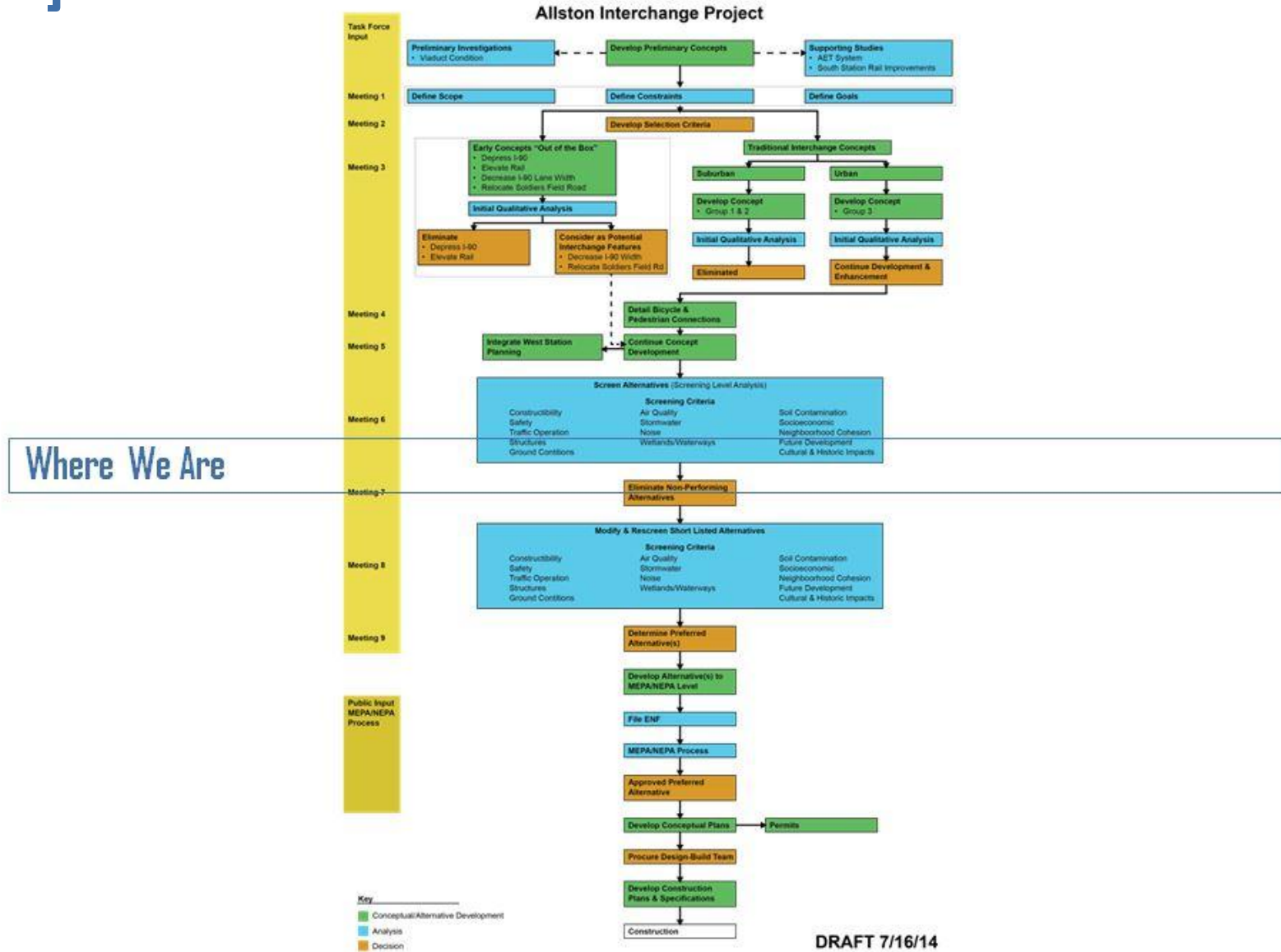


I-90 ALLSTON INTERCHANGE
A MULTIMODAL TRANSPORTATION PROJECT
TASK FORCE MEETING #7
SEPTEMBER 3, 2014 – FLORENTINO COMMUNITY CENTER, ALLSTON

Task Force Administration

- **Minutes**
- **Project Flow Chart/Vision and Goals**
- **Update on Meetings with Government Entities**

Project Flow Chart



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**

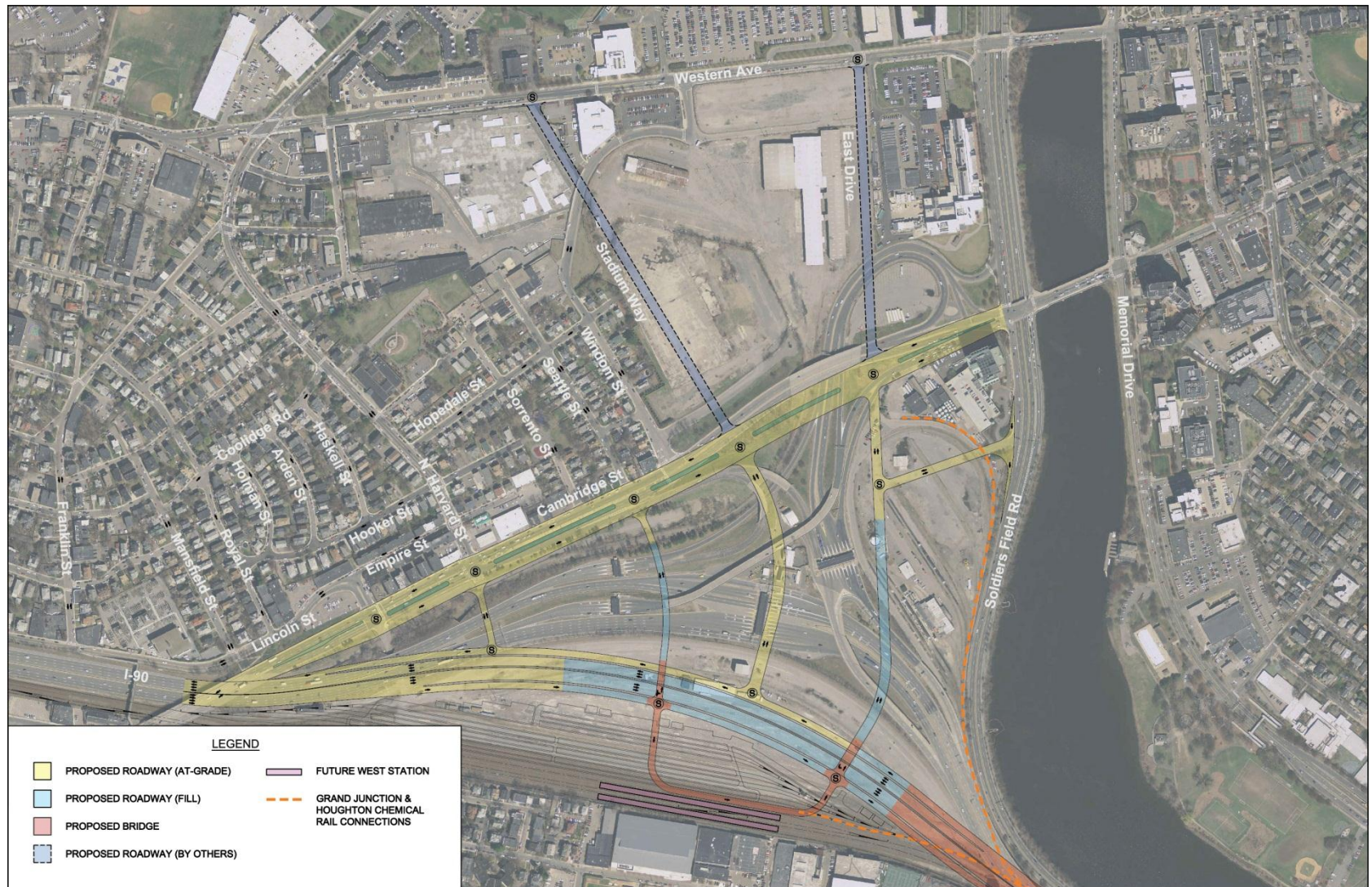
Regional Traffic Study

- **Presentation by Scott Peterson of CTPS**

Preliminary Traffic Results for Selected Interchange Concepts

- Option 3F
- Option 3G
- Option 3H
- Option 3I

Option 3F-1



Option 3F-1: Key Design Features

Connectivity to Cambridge Street



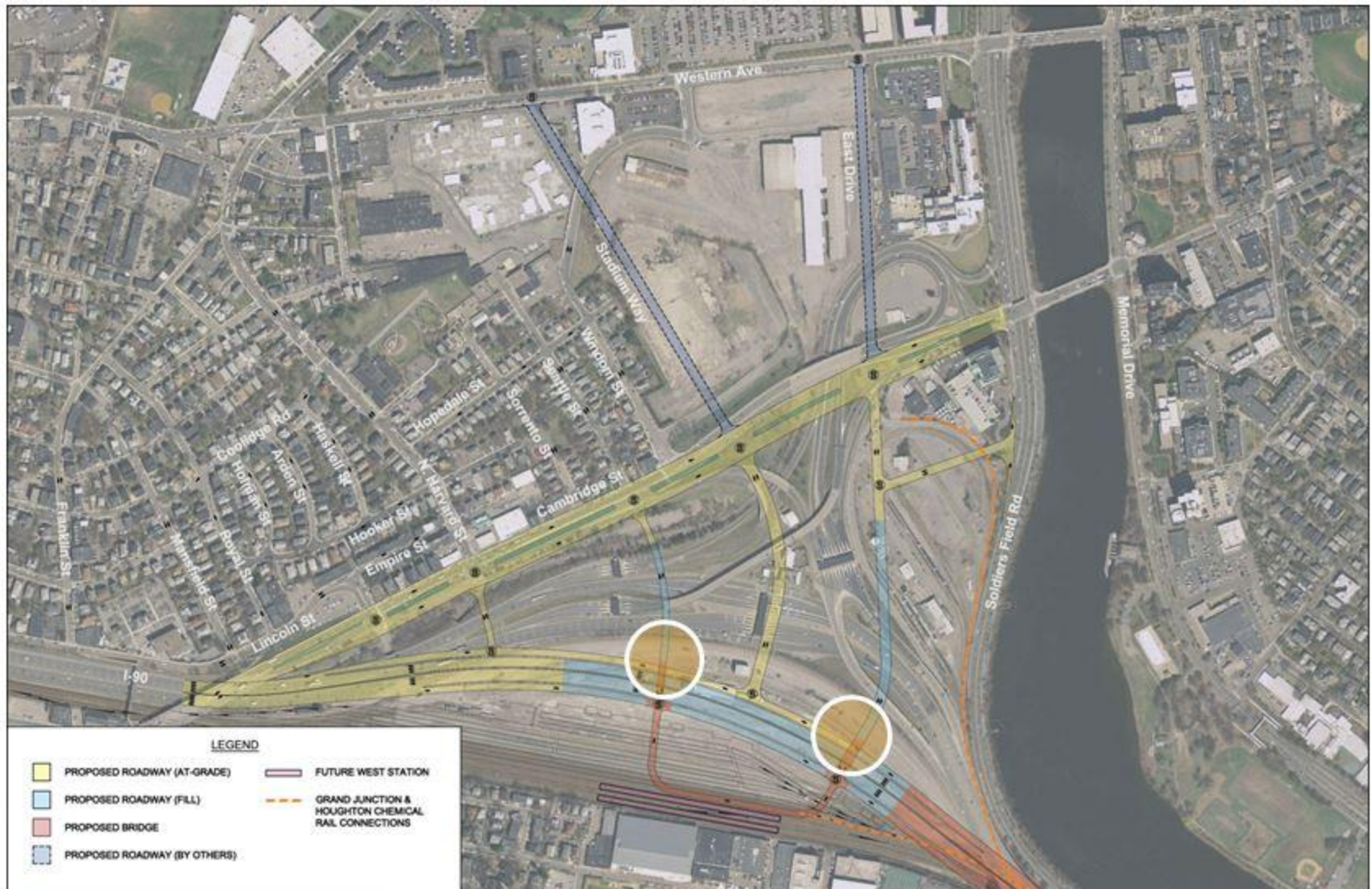
Option 3F-1: Key Design Features

New Connection to Soldiers Field Rd



Option 3F-1: Key Design Features

Grade Separation of EB & WB Ramps



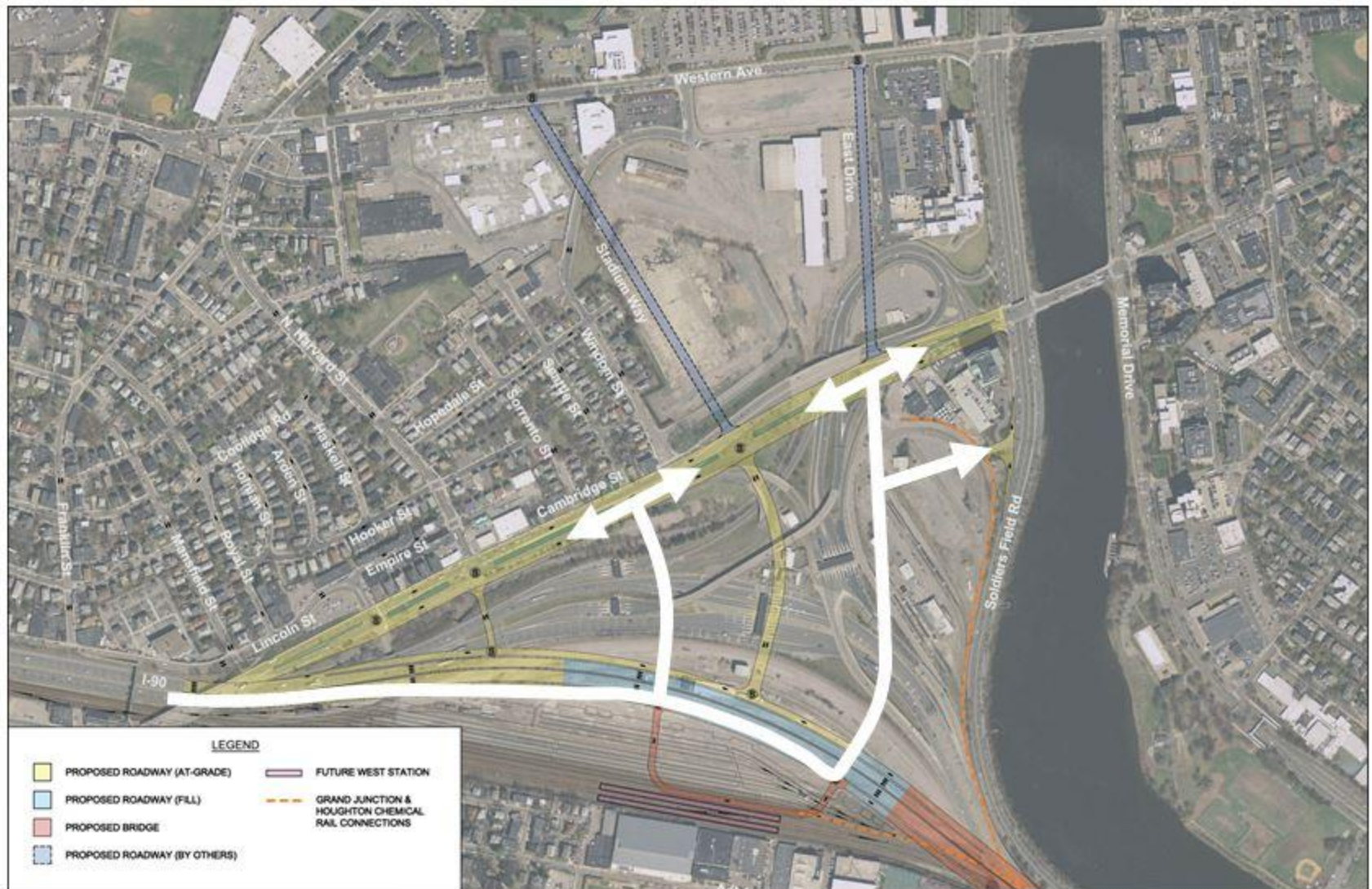
Option 3F-1: Key Design Features

Vehicular Connectivity to West Station



Option 3F-1: I-90 Access

EB Off-Ramp



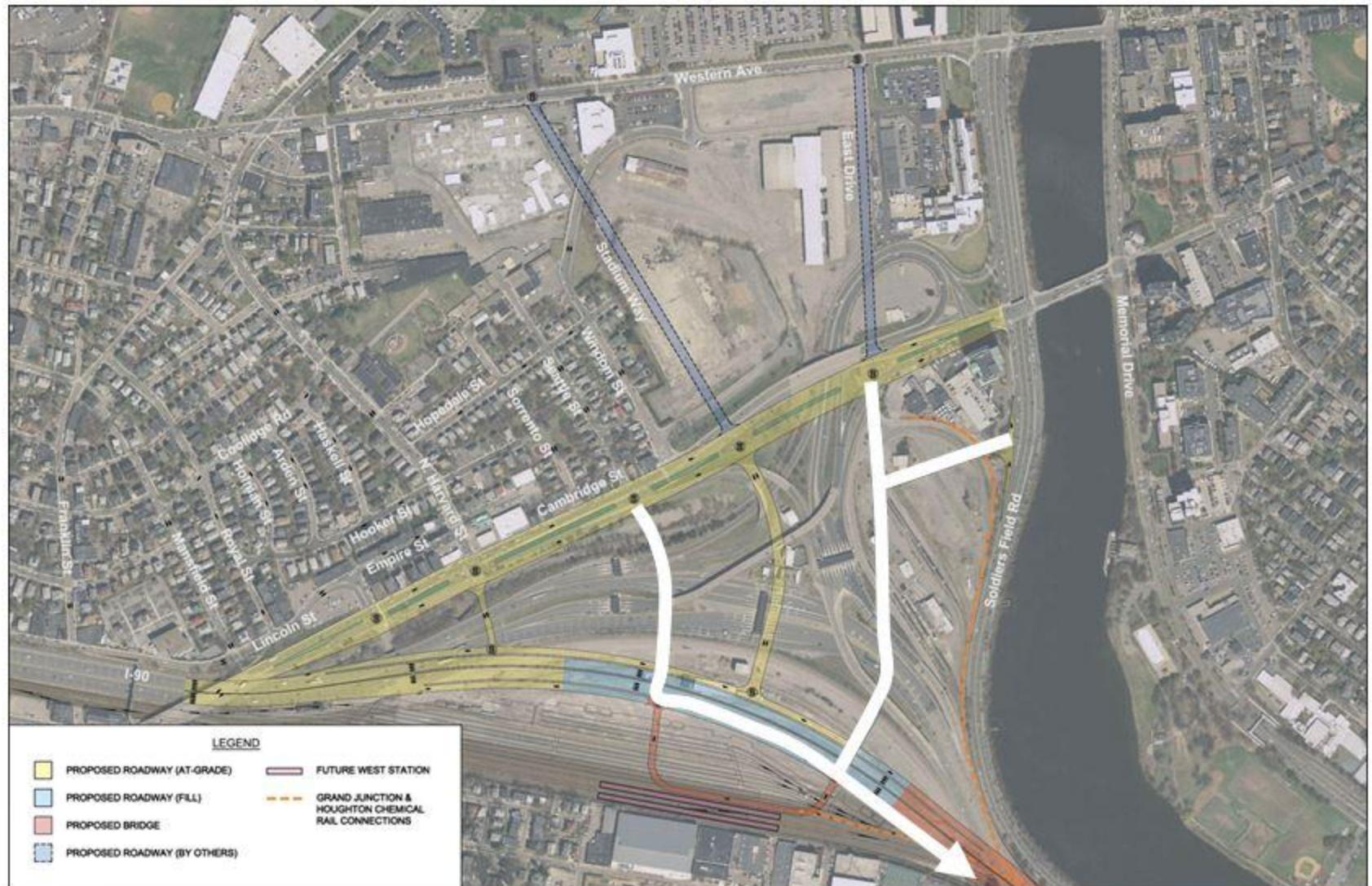
Option 3F-1: I-90 Access

WB Off-Ramp



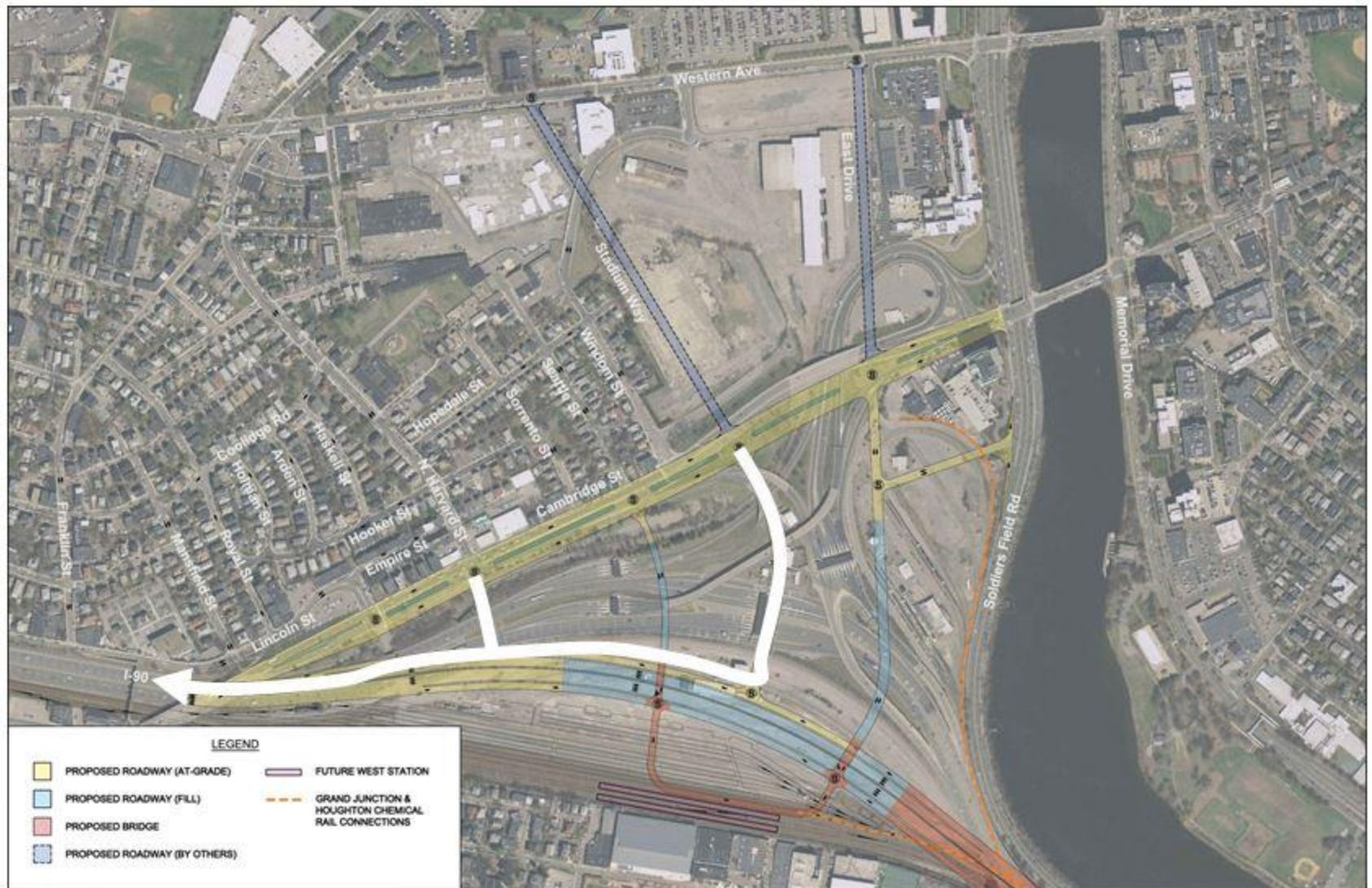
Option 3F-1: I-90 Access

EB On-Ramp



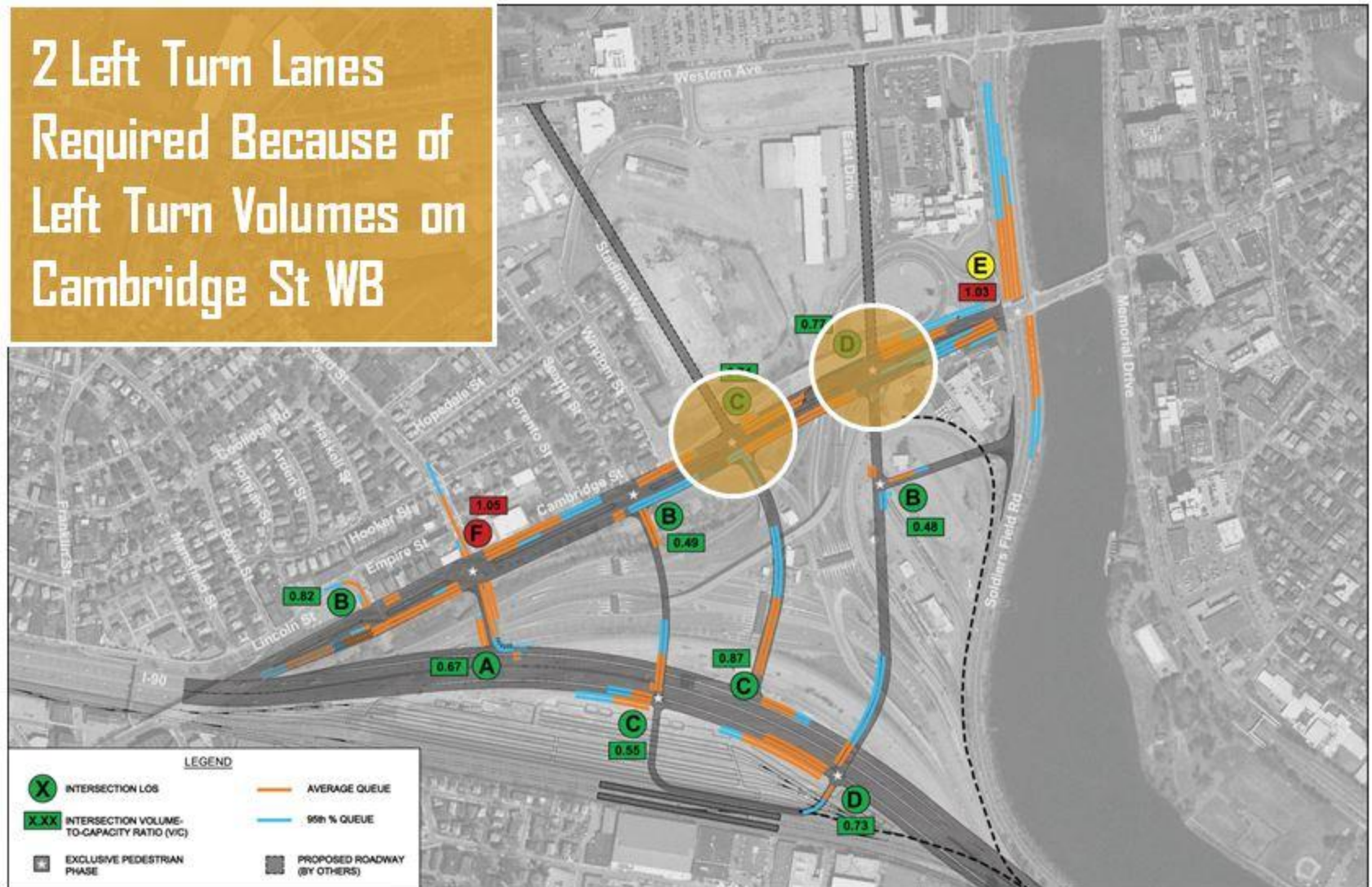
Option 3F-1: I-90 Access

WB On-Ramp



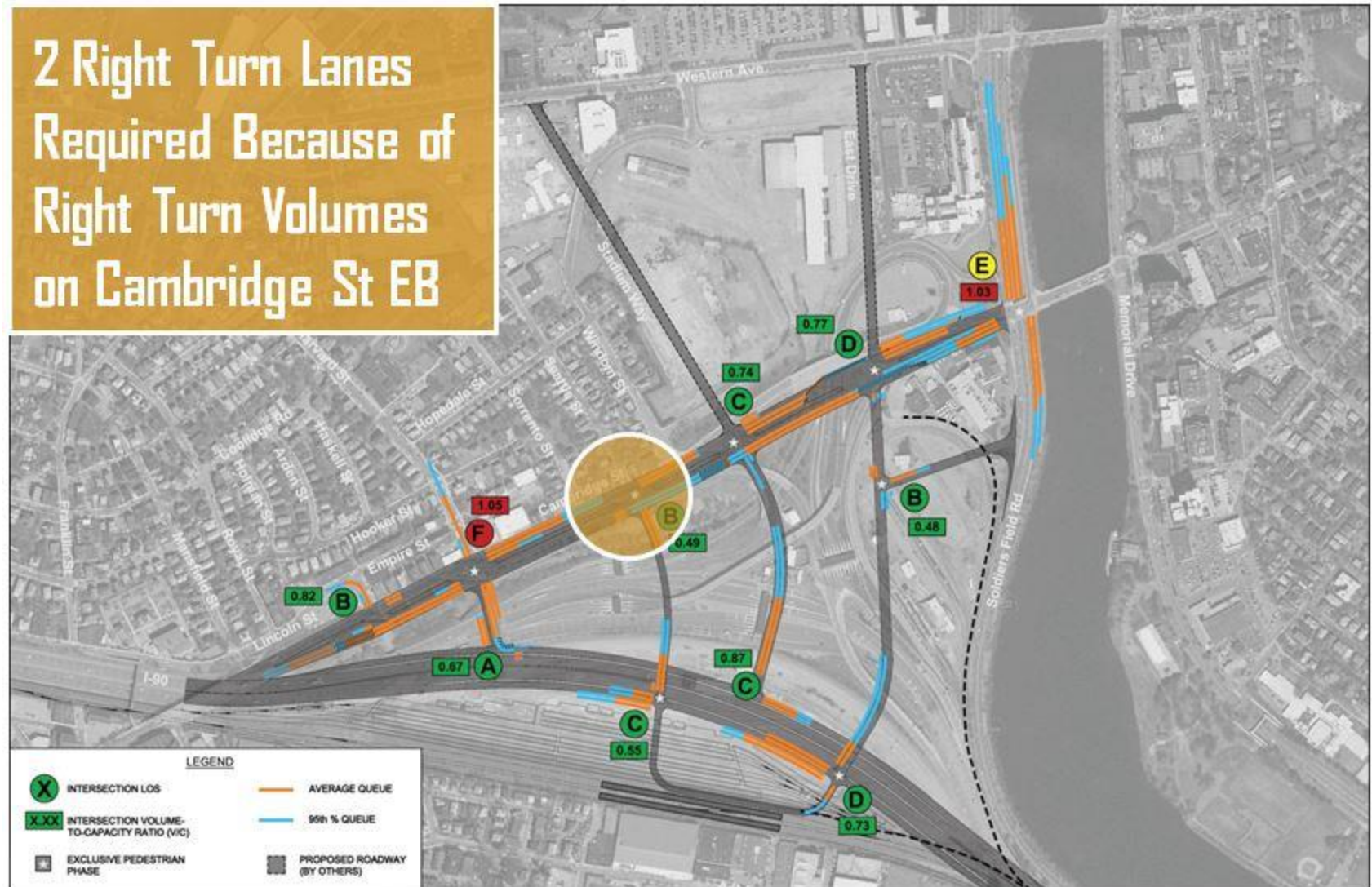
Option 3F-1: Traffic Operations

2 Left Turn Lanes
Required Because of
Left Turn Volumes on
Cambridge St WB



Option 3F-1: Traffic Operations - 1

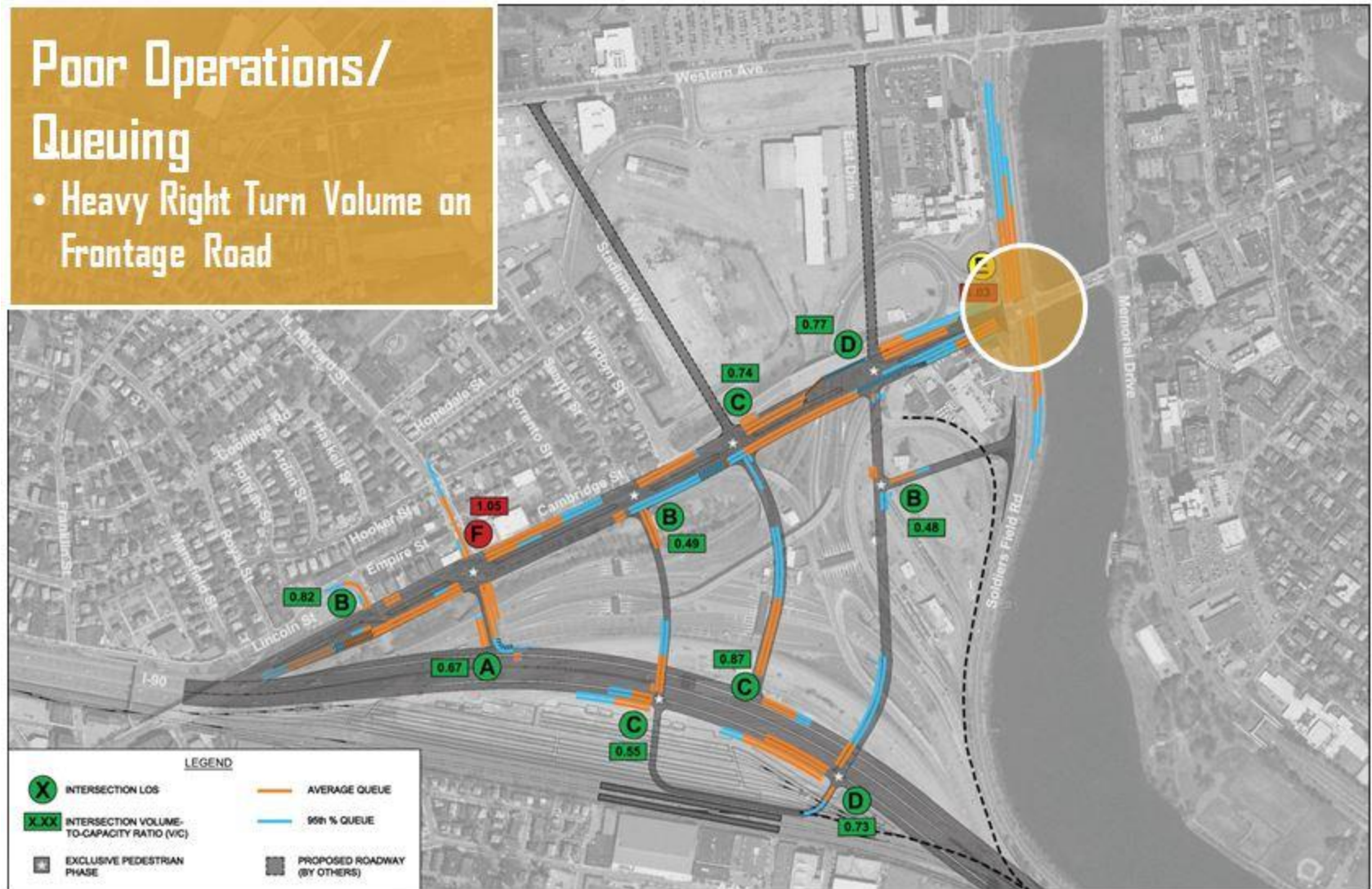
2 Right Turn Lanes
Required Because of
Right Turn Volumes
on Cambridge St EB



Option 3F-1: Traffic Operations - 2

Poor Operations/ Queuing

- Heavy Right Turn Volume on Frontage Road



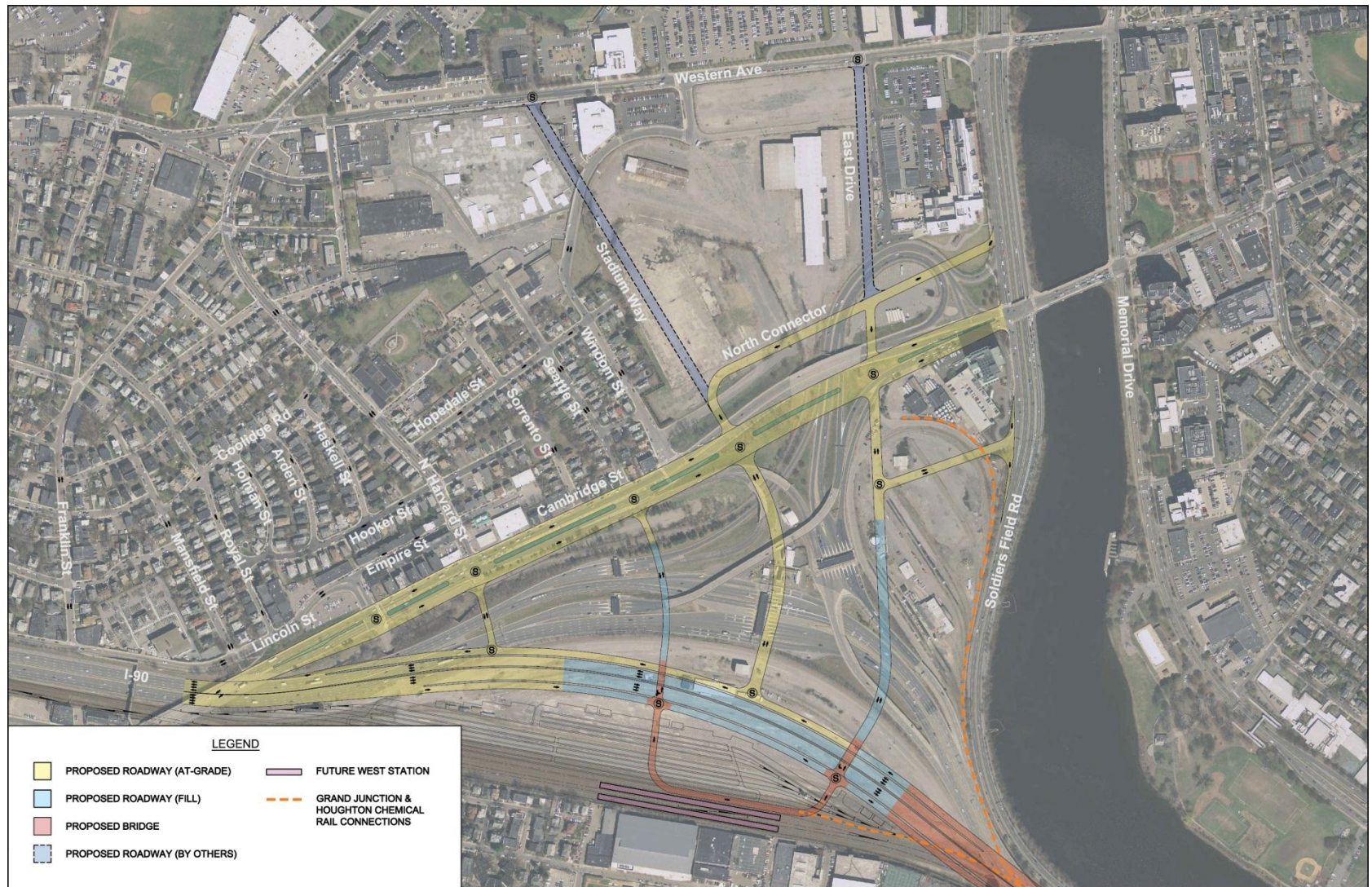
Option 3F-1: Traffic Operations - 3

Poor Operations/ Queuing

- Additional Signal Phases
- Heavy Left Volume From WB Off Ramp



Option 3F-2 - 1



Option 3F-2: Key Design Features

New Parallel Roadway North of Cambridge St.



Option 3F-2: Key Design Features

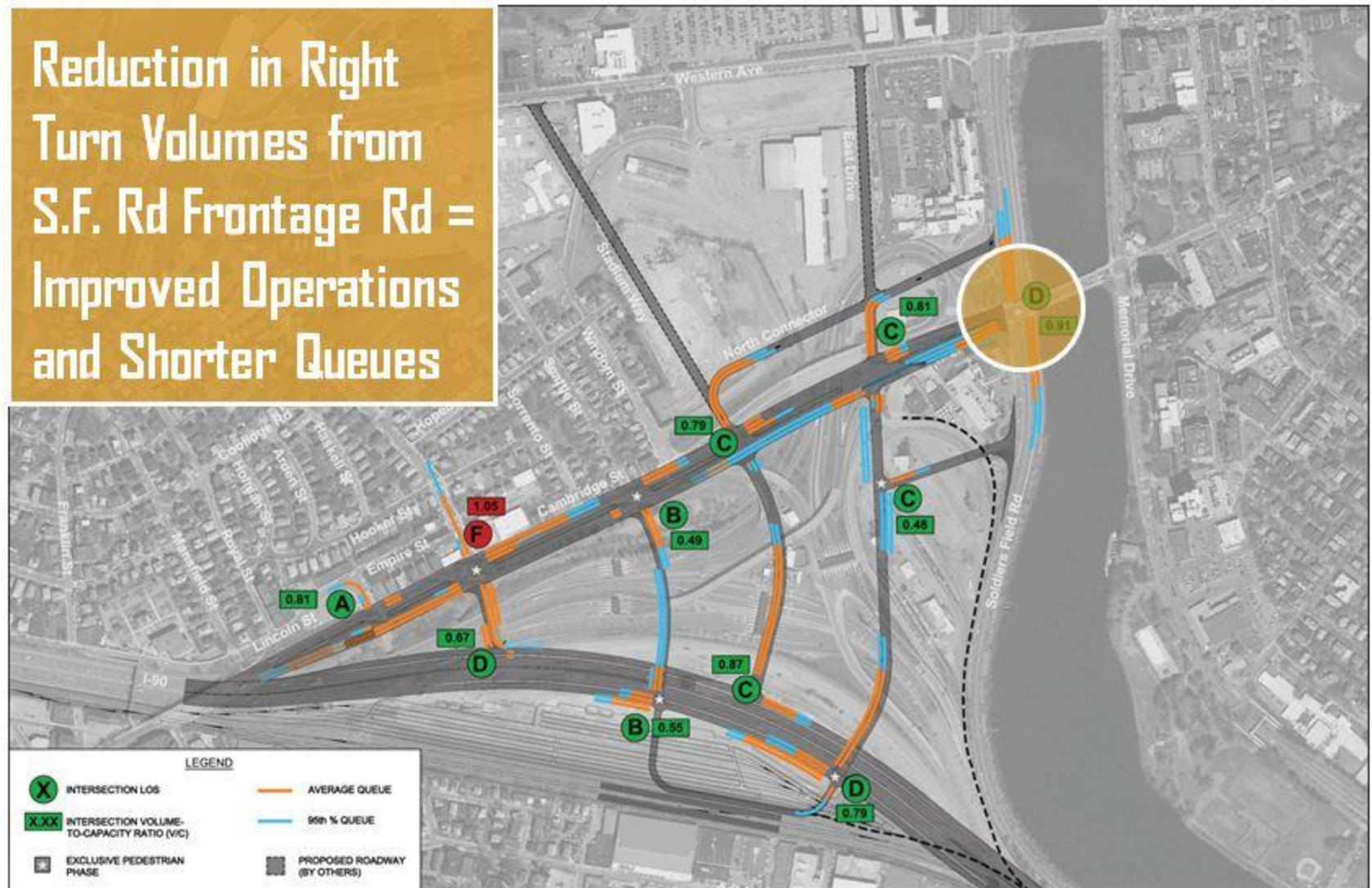
Connectivity to Cambridge Street

Reduction in
Cambridge St. WB Left
Turn Volumes =
Reduction in Left Turn
Lanes from 2 to 1



Option 3F-2: Traffic Operations - 1

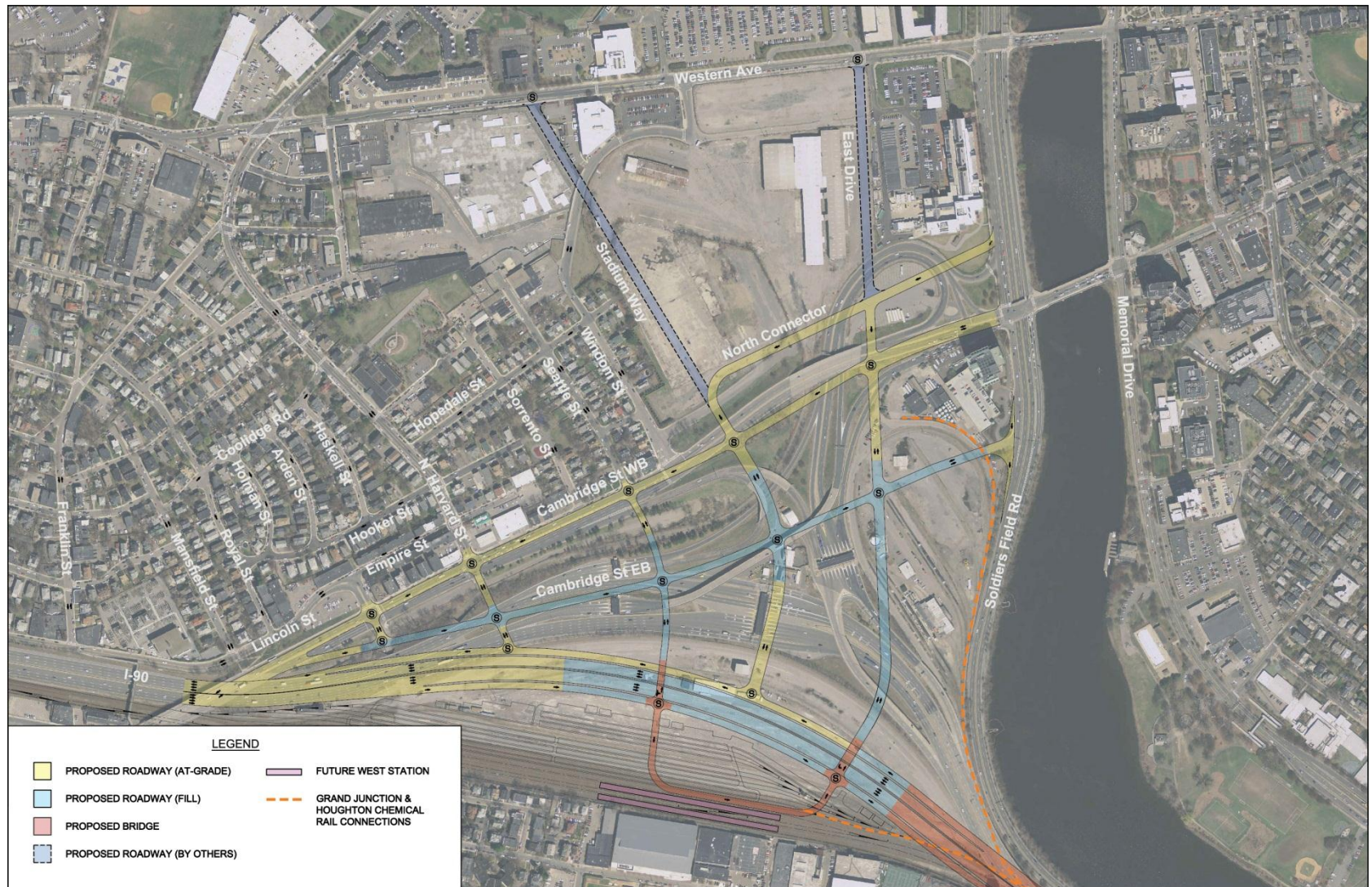
Reduction in Right Turn Volumes from S.F. Rd Frontage Rd = Improved Operations and Shorter Queues



Option 3F-2: Traffic Operations - 2



Option 3F-3



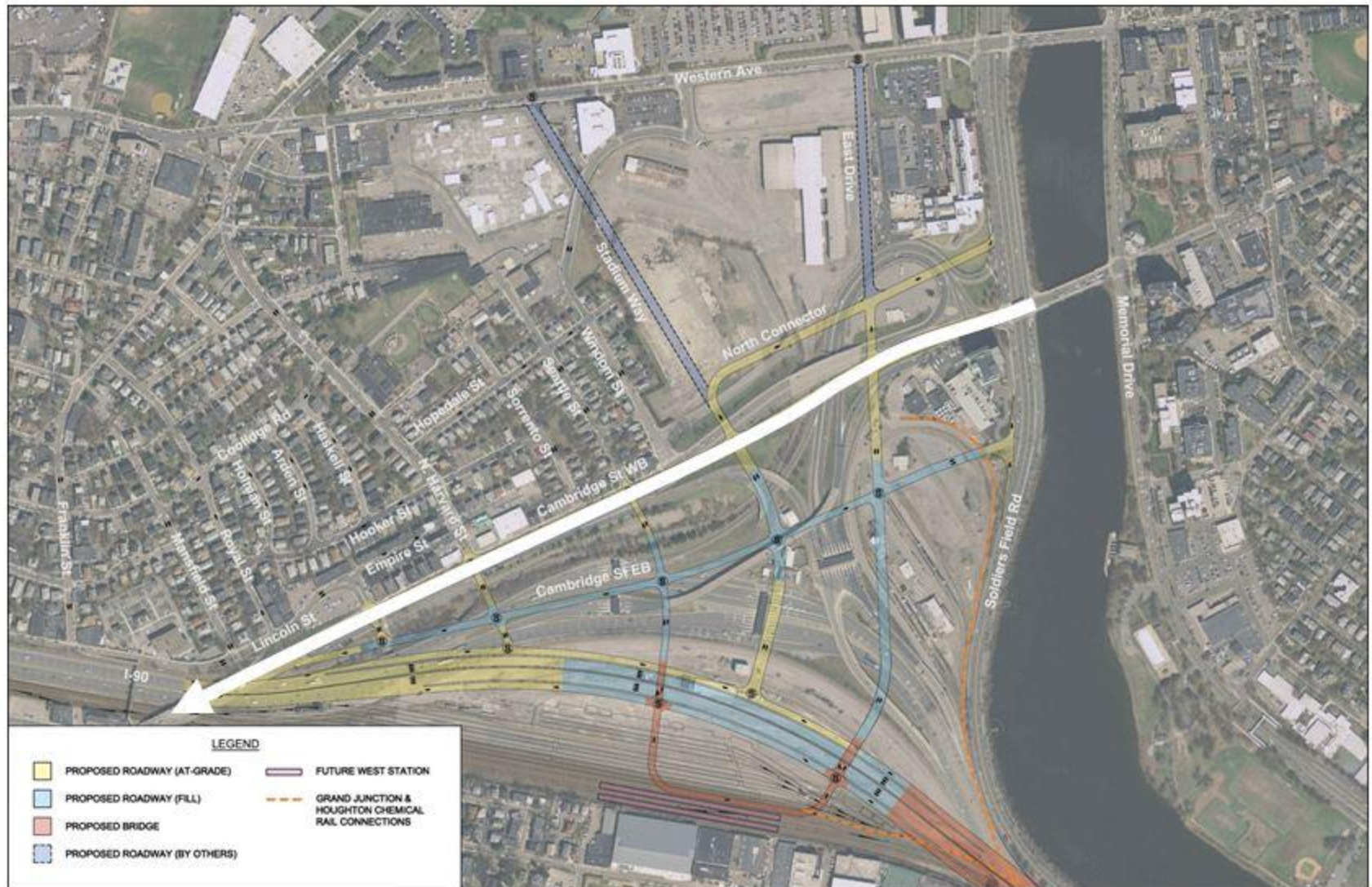
Option 3F-3: Key Design Features - 1

Parallel Roadway South of Cambridge St

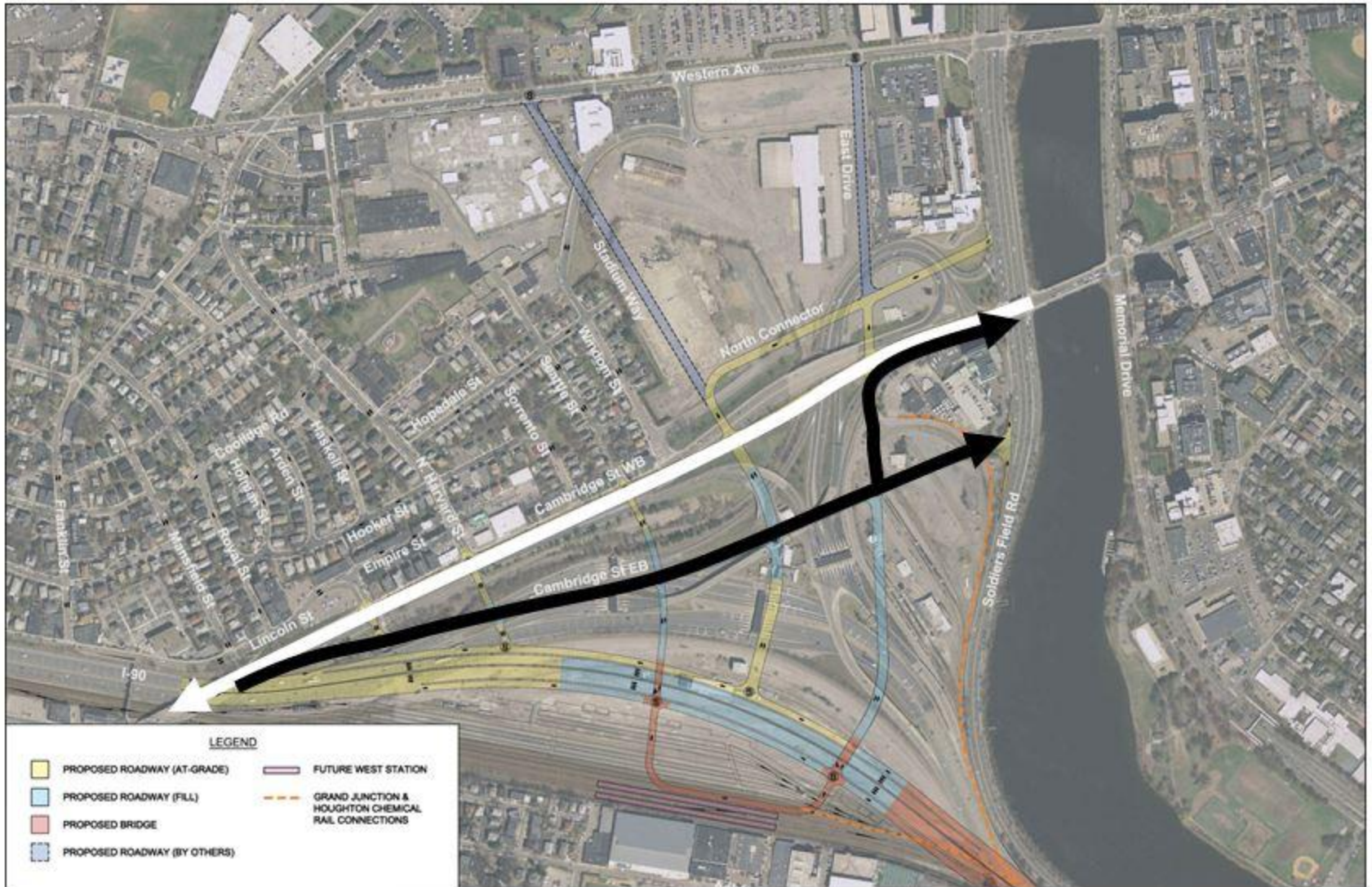


Option 3F-3: Key Design Features -2

Cambridge St – One-Way Pair

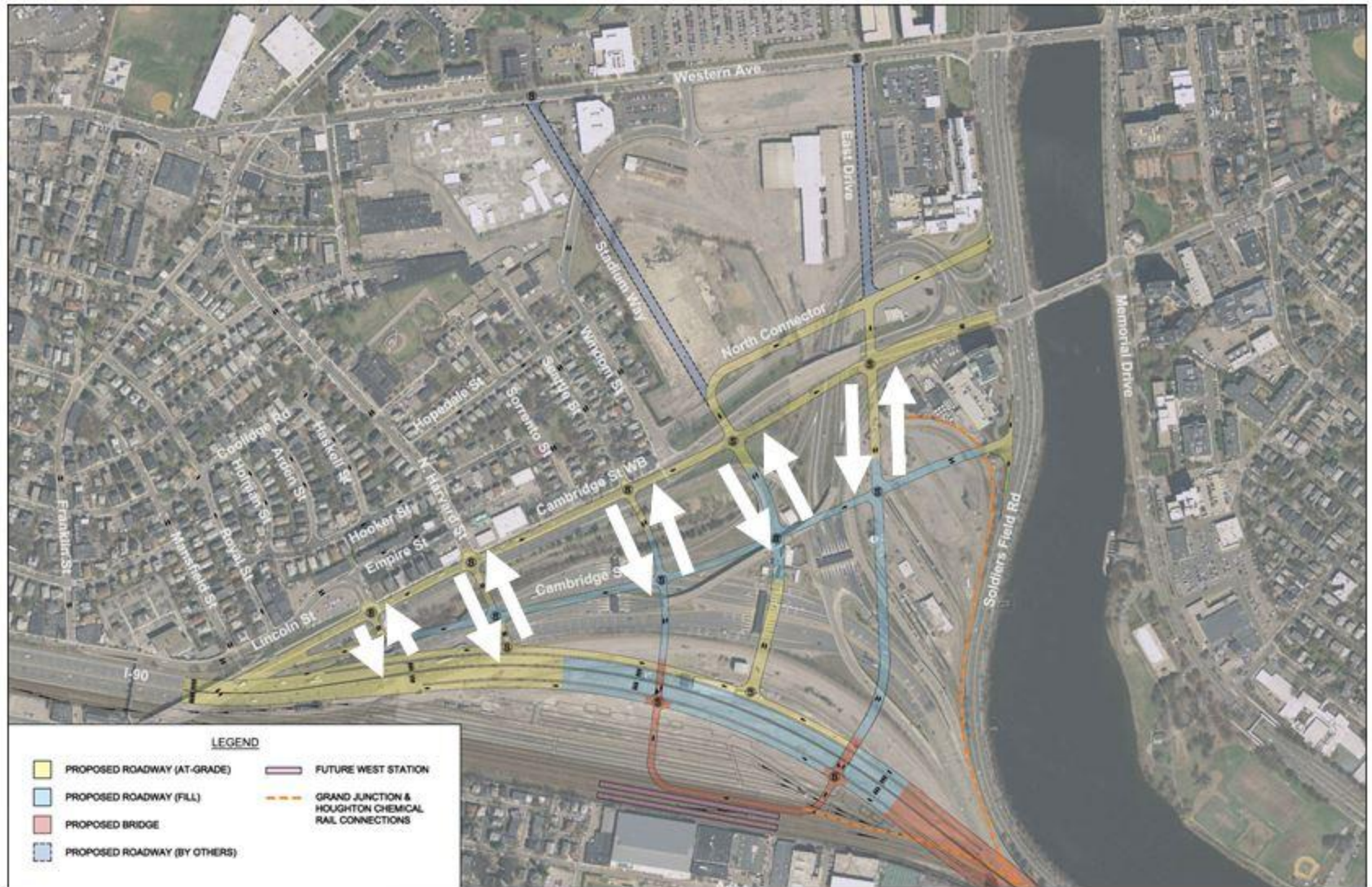


Option 3F-3: Key Design Features - 3



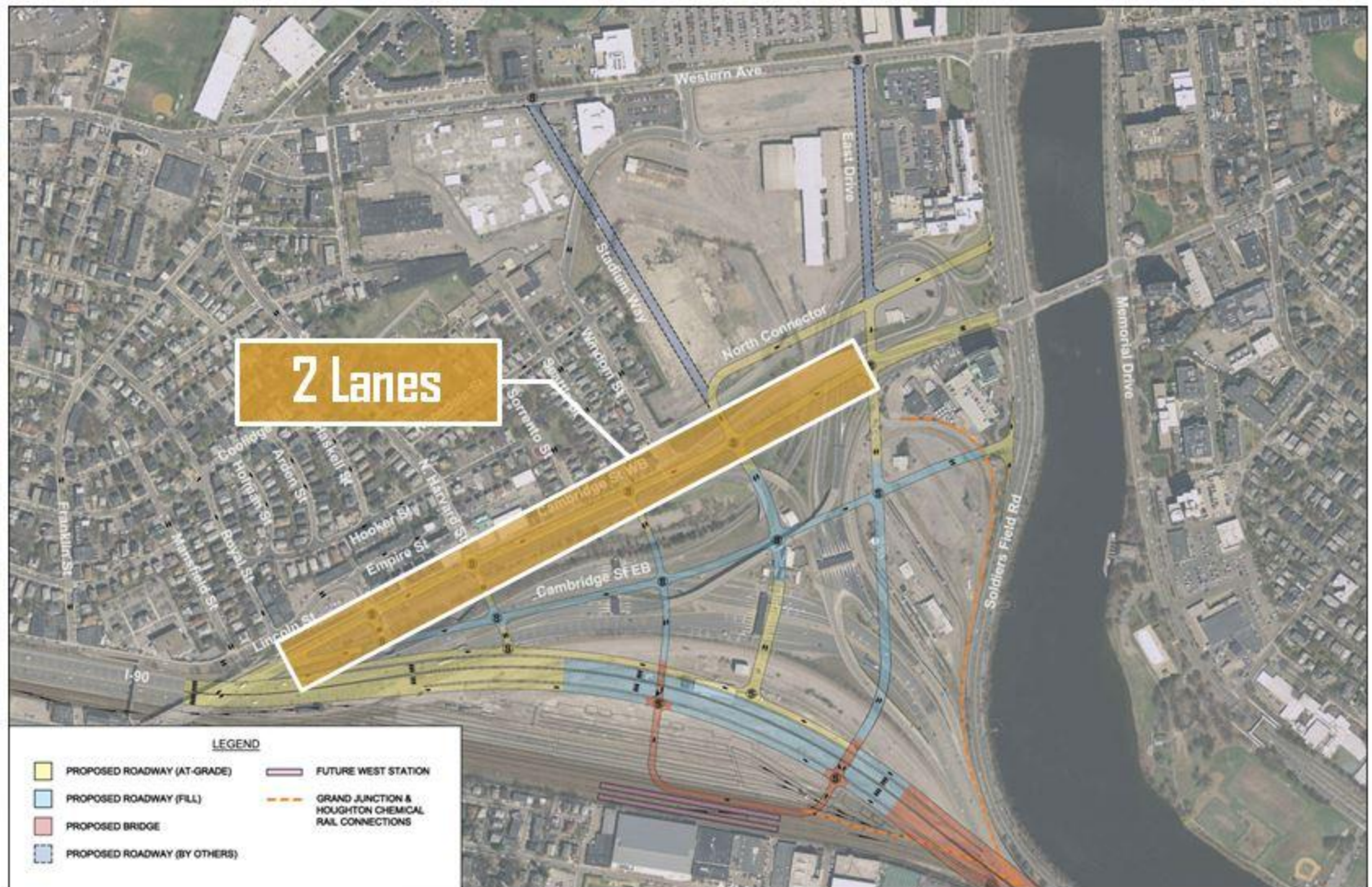
Option 3F-3: Key Design Features - 4

Cambridge St – One-Way Pair



Option 3F-3: Key Design Features - 5

Cambridge St Cross-Section



Option 3F-3: Key Design Features - 6

Cambridge St Cross-Section



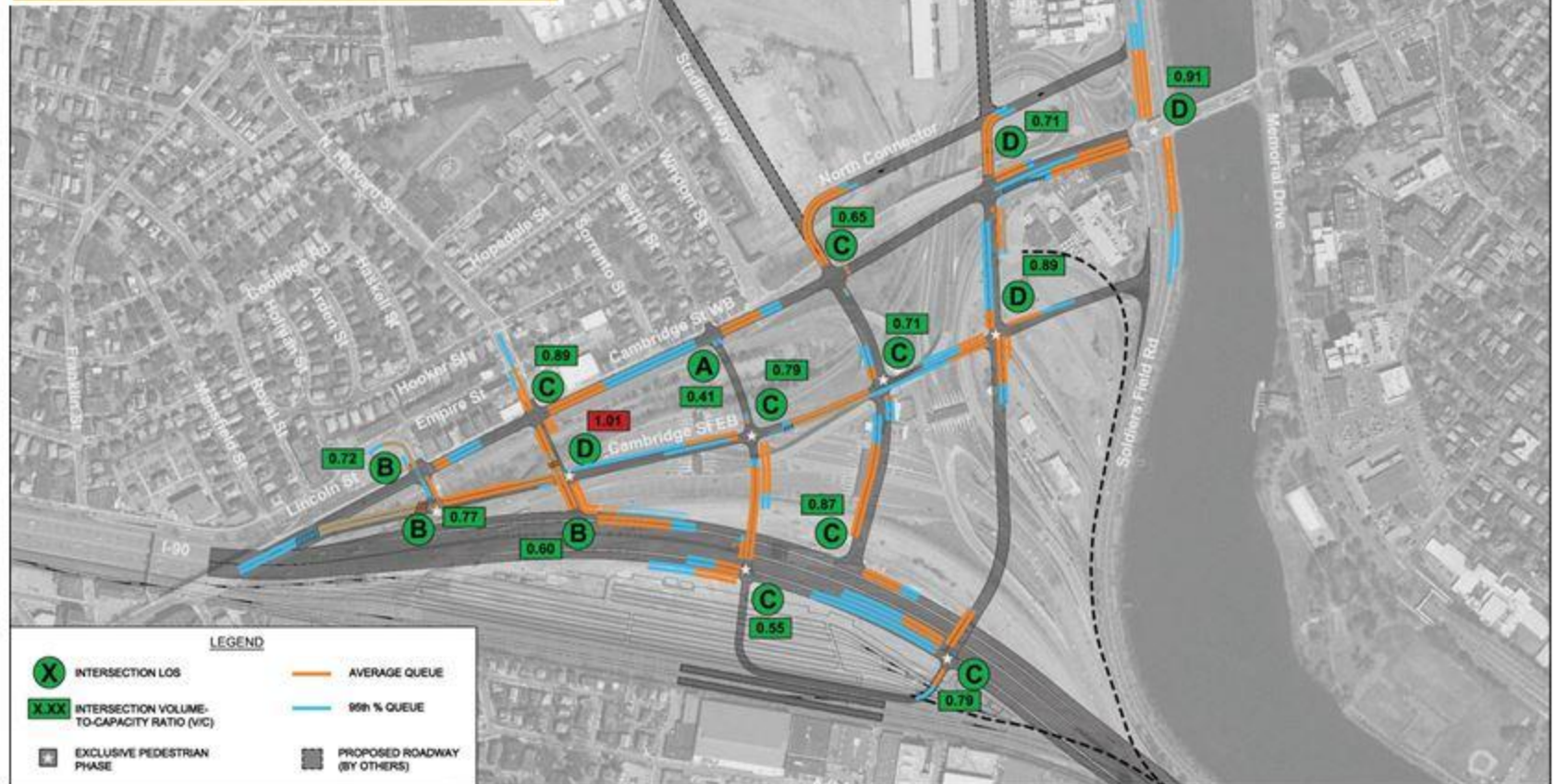
Option 3F-3: Key Design Features - 7 Signal Operations

Simplified Signal Phasing (2 or 3 Phases)



Option 3F-3: Traffic Operations - 8

Improved Operations at All Locations



Option 3F-3: Traffic Operations - 9

New Connection to S.F. Rd Serves Removes More Volume from Cambridge St/S.F. Rd Intersection

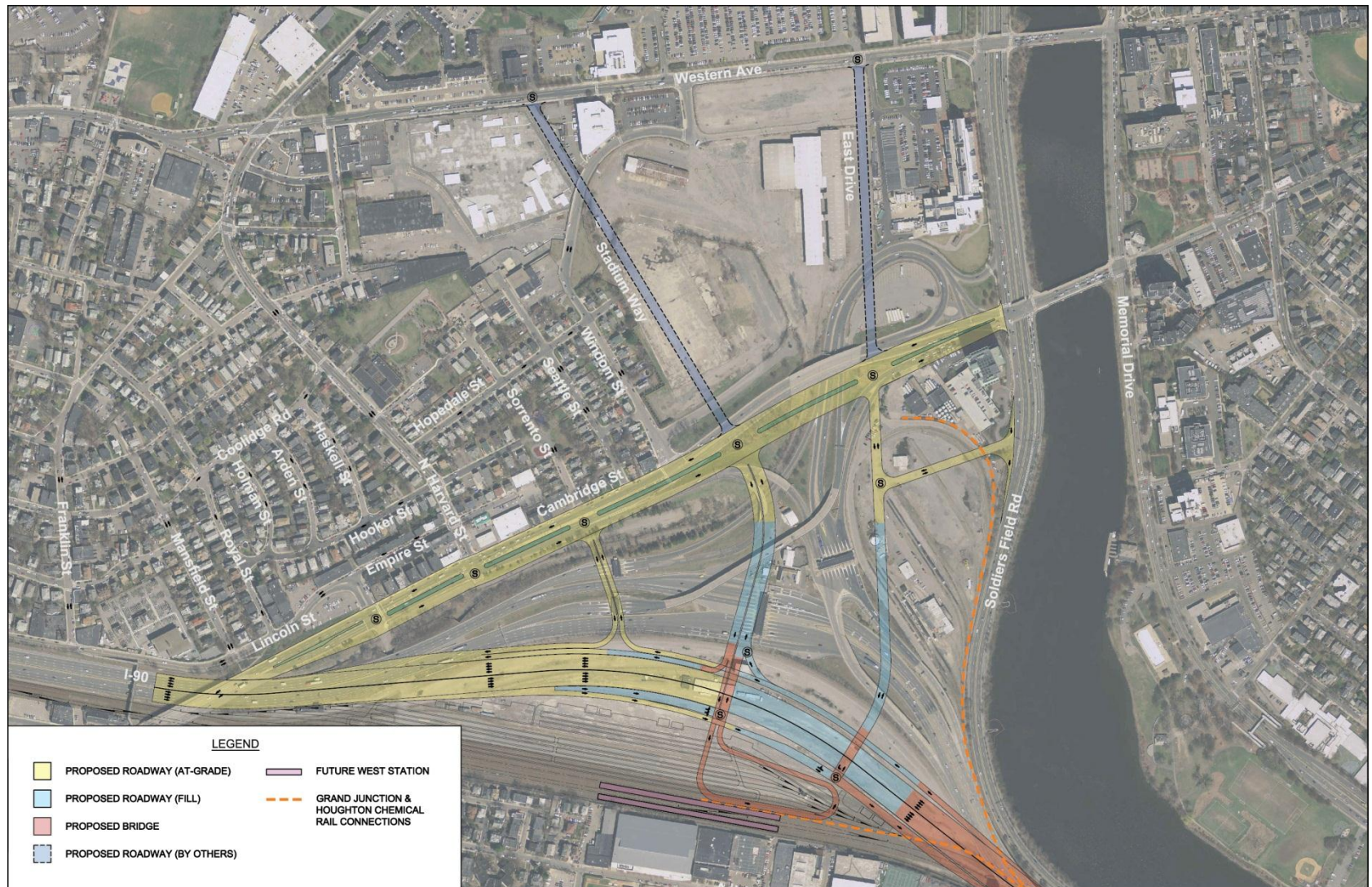


Option 3F-3: Traffic Operations - 10

Still Have
Queuing Issues at
WB Off-Ramp



Option 3G-1



Option 3G-1: Key Design Features

Cambridge St Connectivity



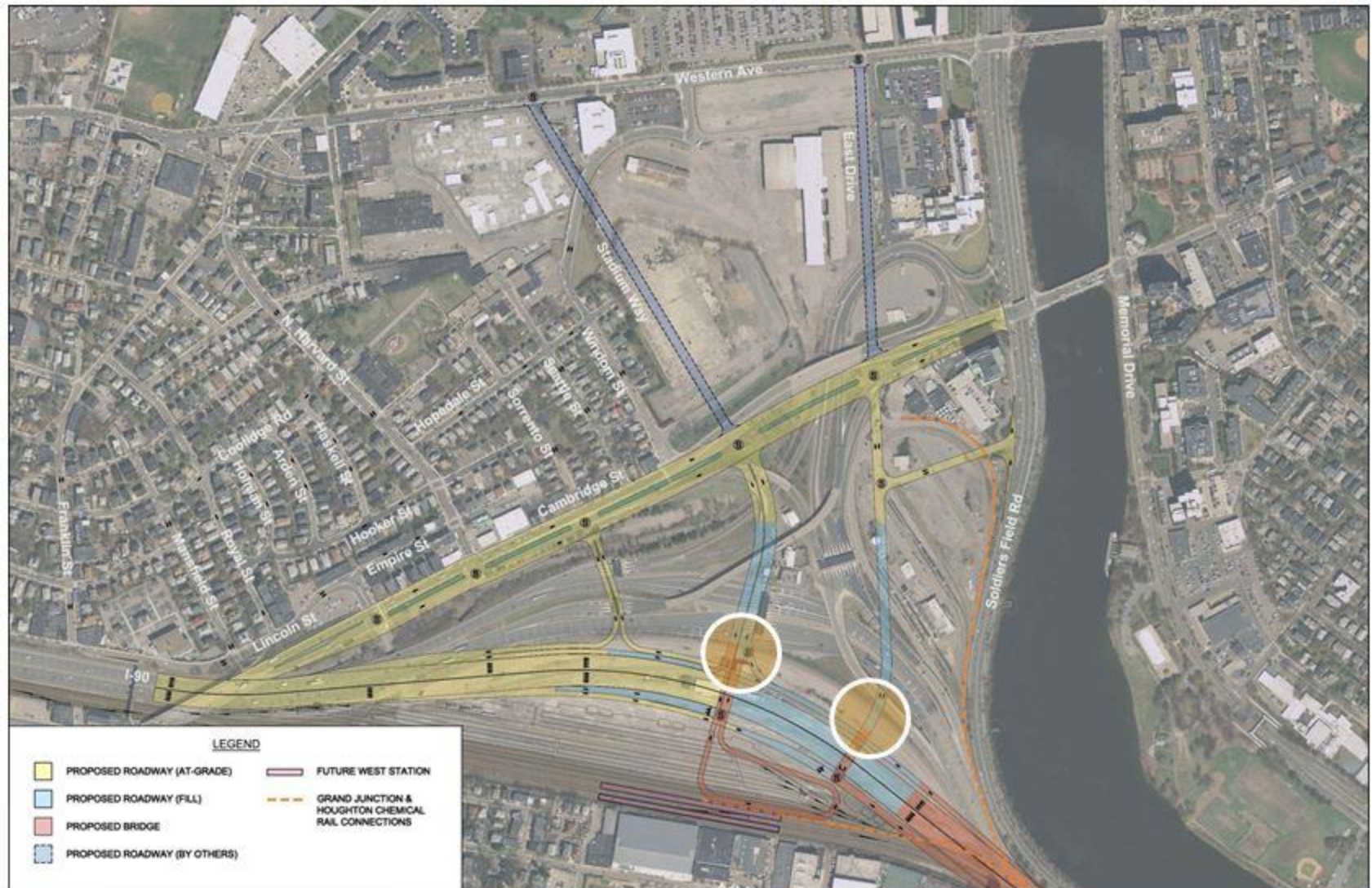
Option 3G-1: Key Design Features

New Connection to Soldiers Field Rd



Option 3G-1: Key Design Features

Grade Separation of EB & WB Ramps



Option 3G-1: Key Design Features

EB & WB Ramp Traffic is Split



Option 3G-1: Key Design Features

Connection to West Station



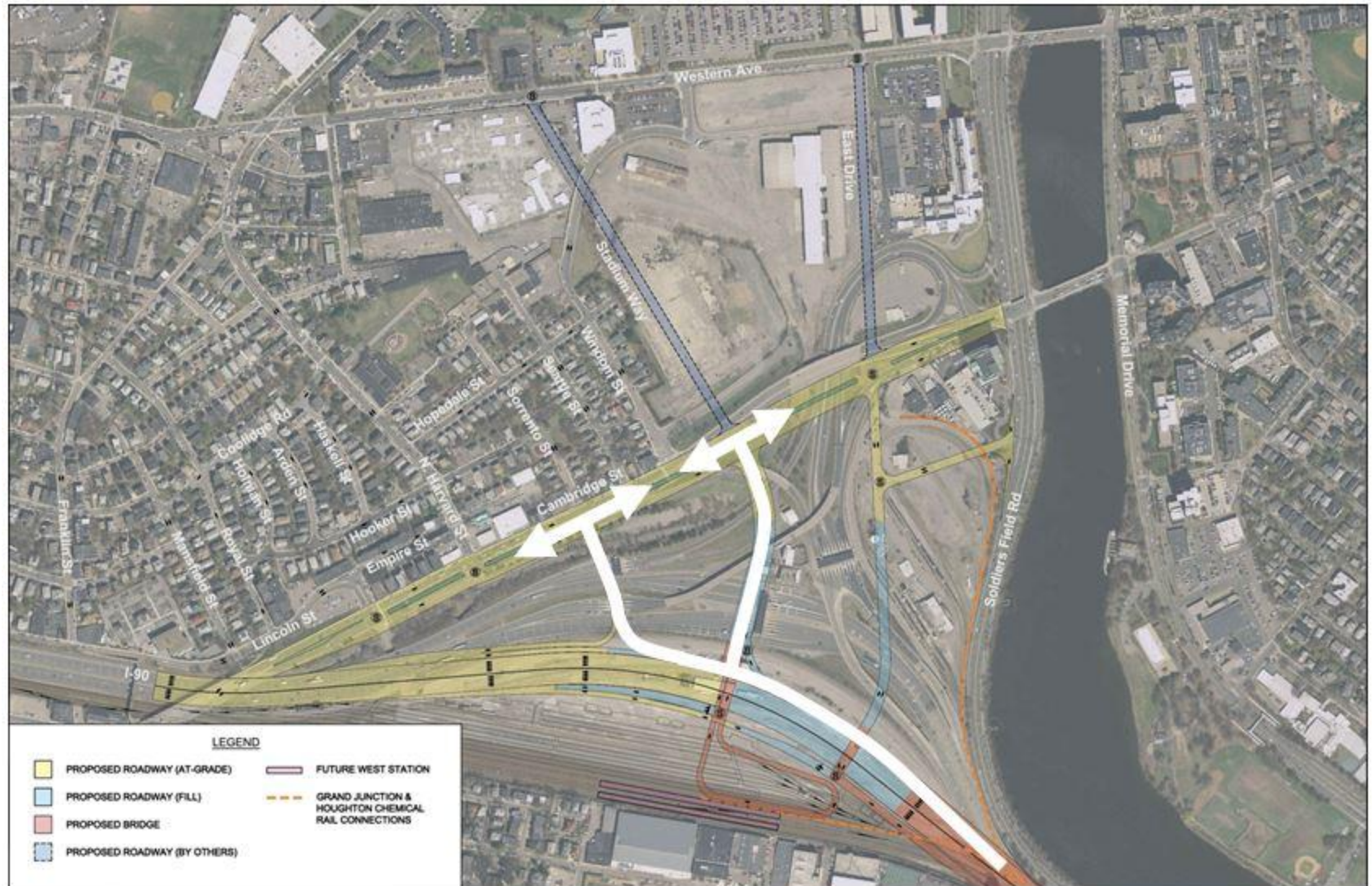
Option 3G-1: I-90 Access

EB Off-Ramp



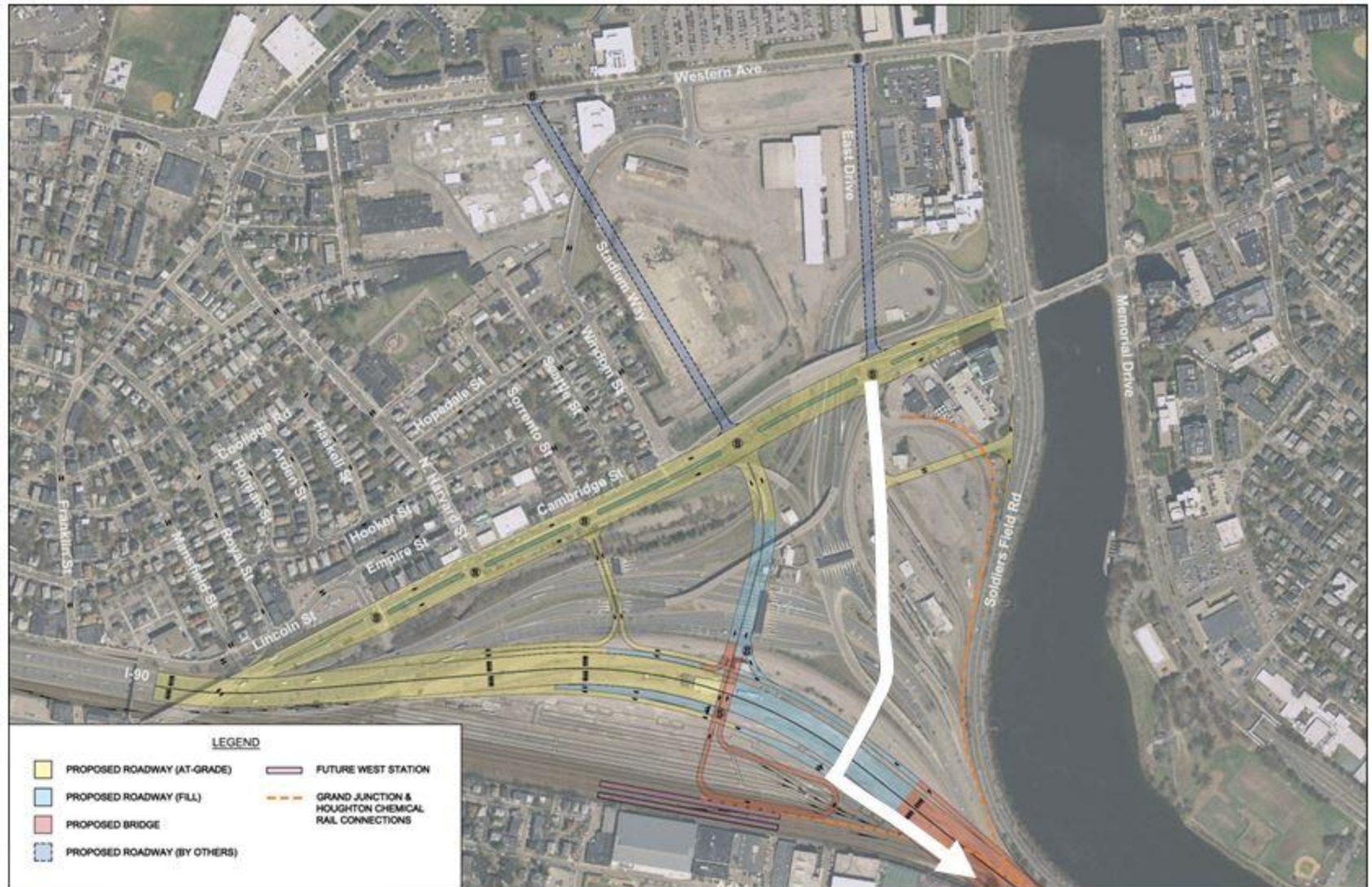
Option 3G-1: I-90 Access

WB Off-Ramp



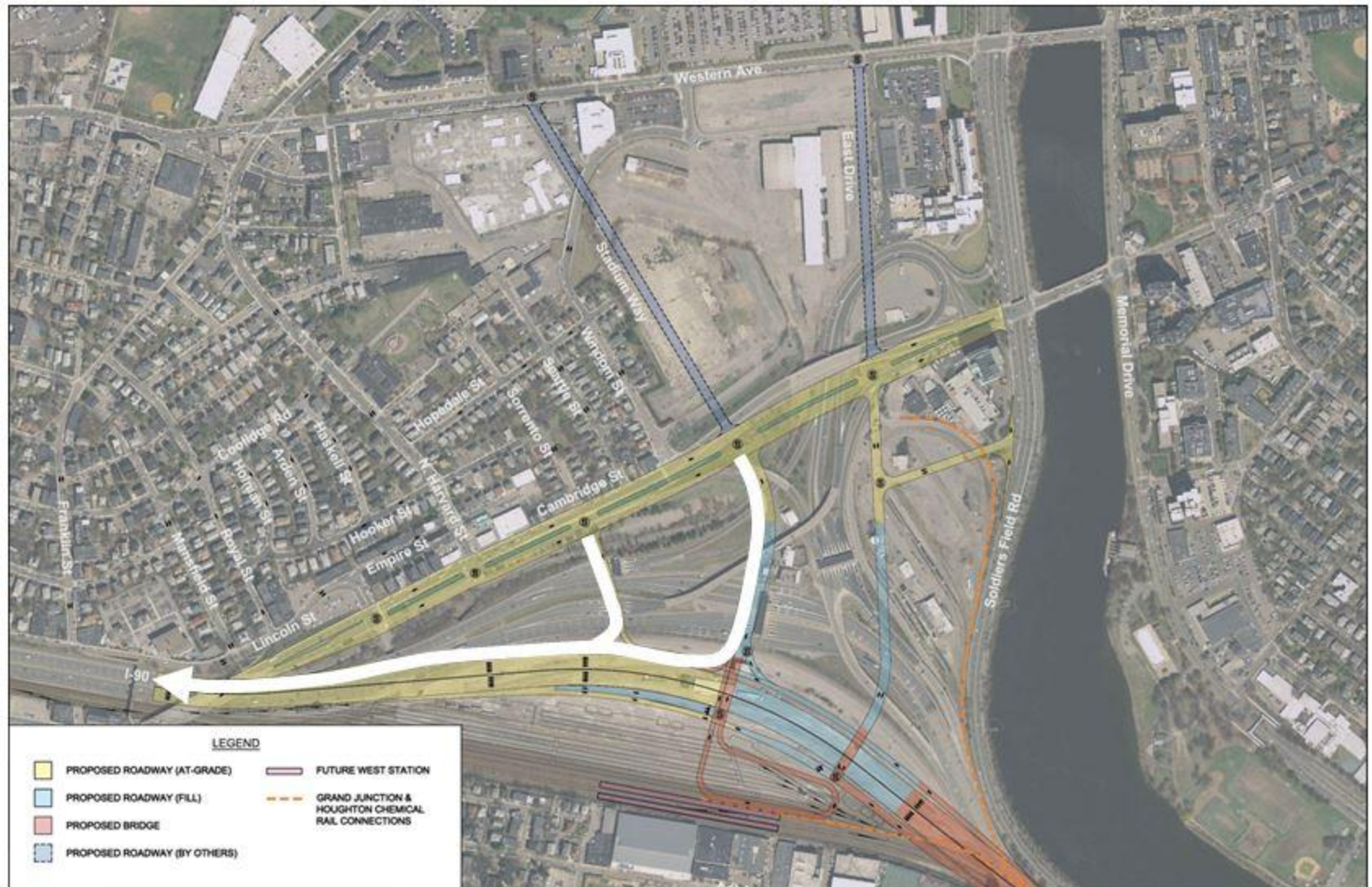
Option 3G-1: I-90 Access

EB On-Ramp



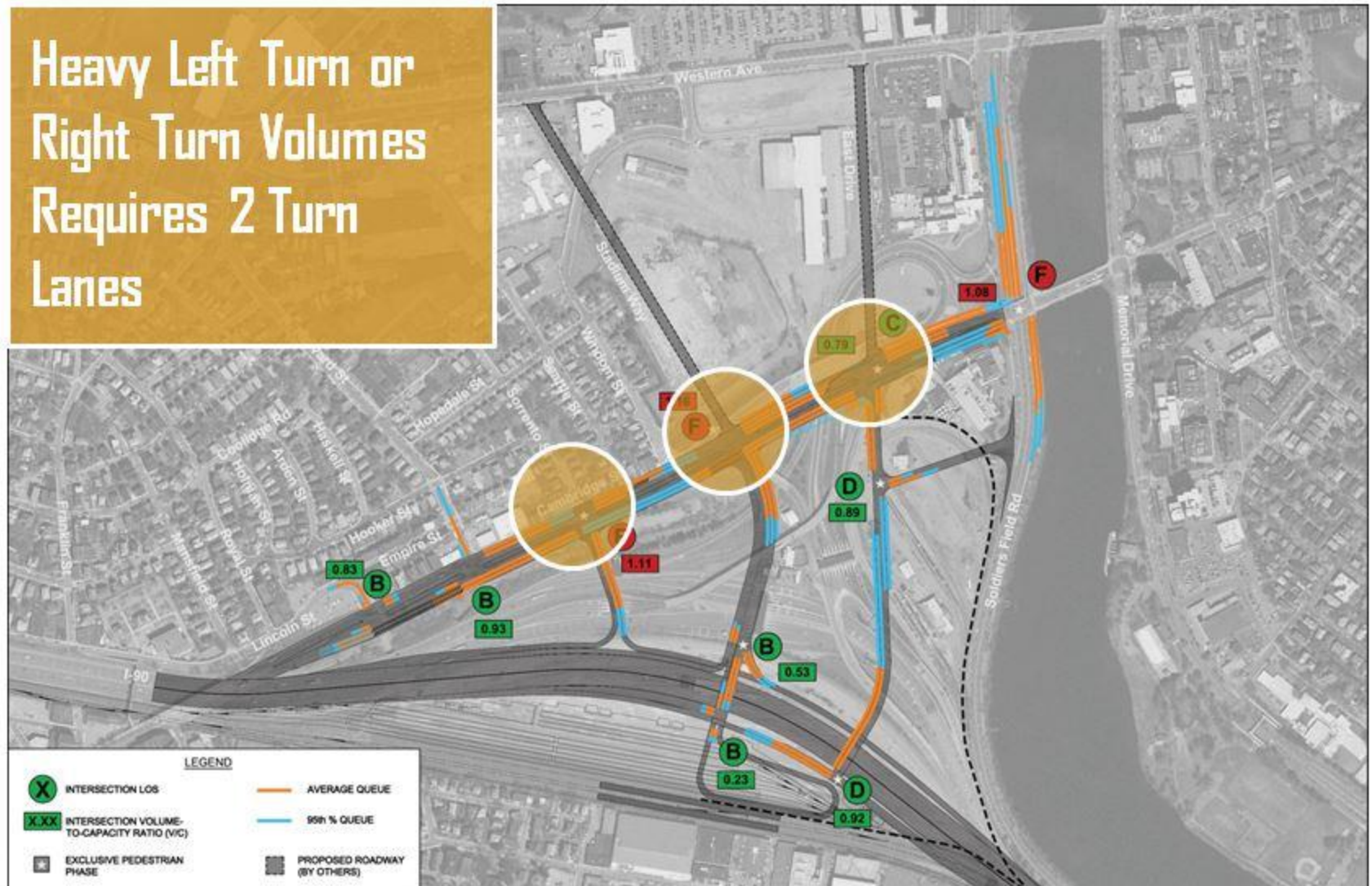
Option 3G-1: I-90 Access

WB On-Ramp



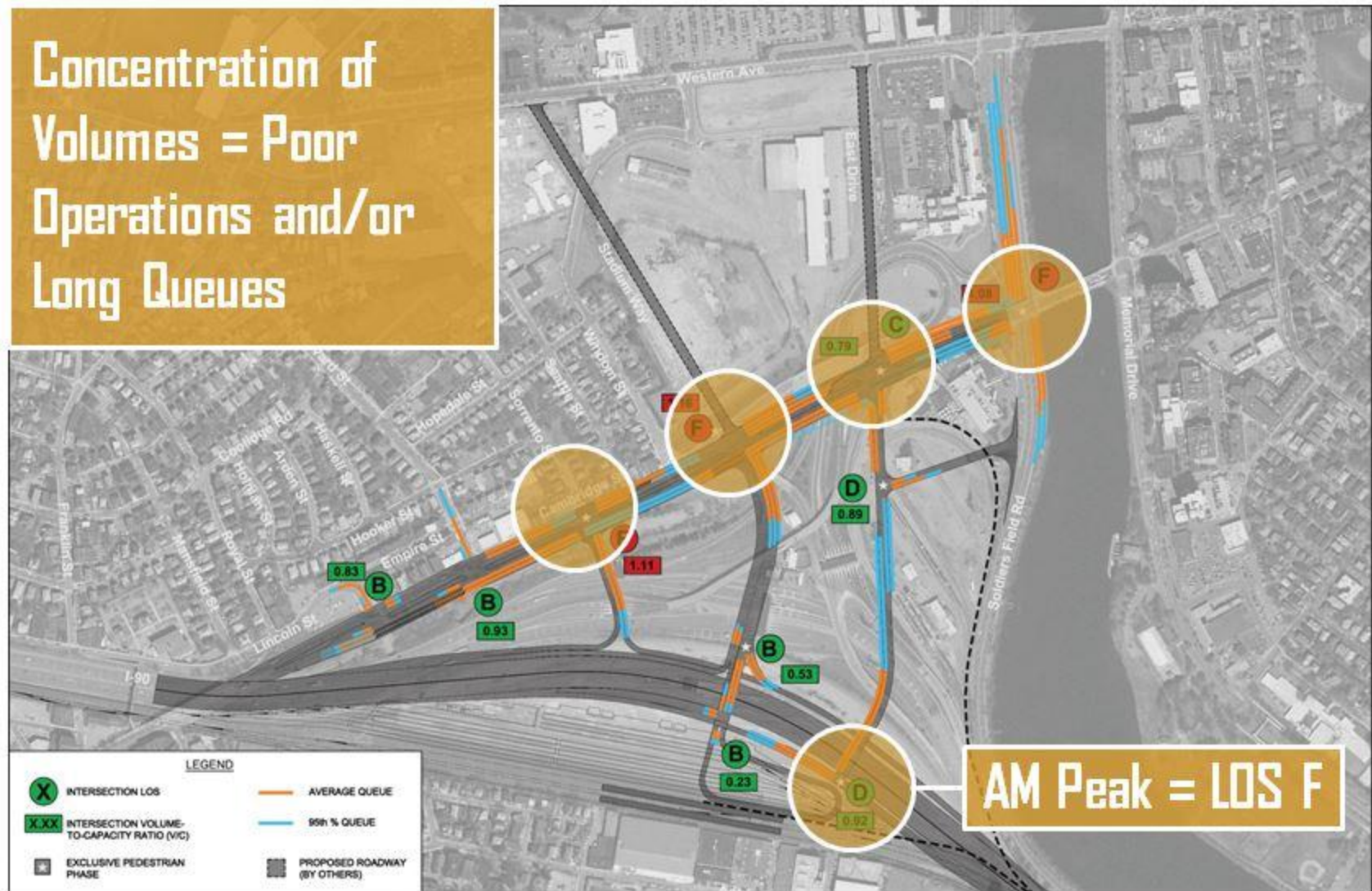
Option 3G-1: Traffic Operations - 1

Heavy Left Turn or
Right Turn Volumes
Requires 2 Turn
Lanes



Option 3G-1: Traffic Operations - 2

Concentration of
Volumes = Poor
Operations and/or
Long Queues



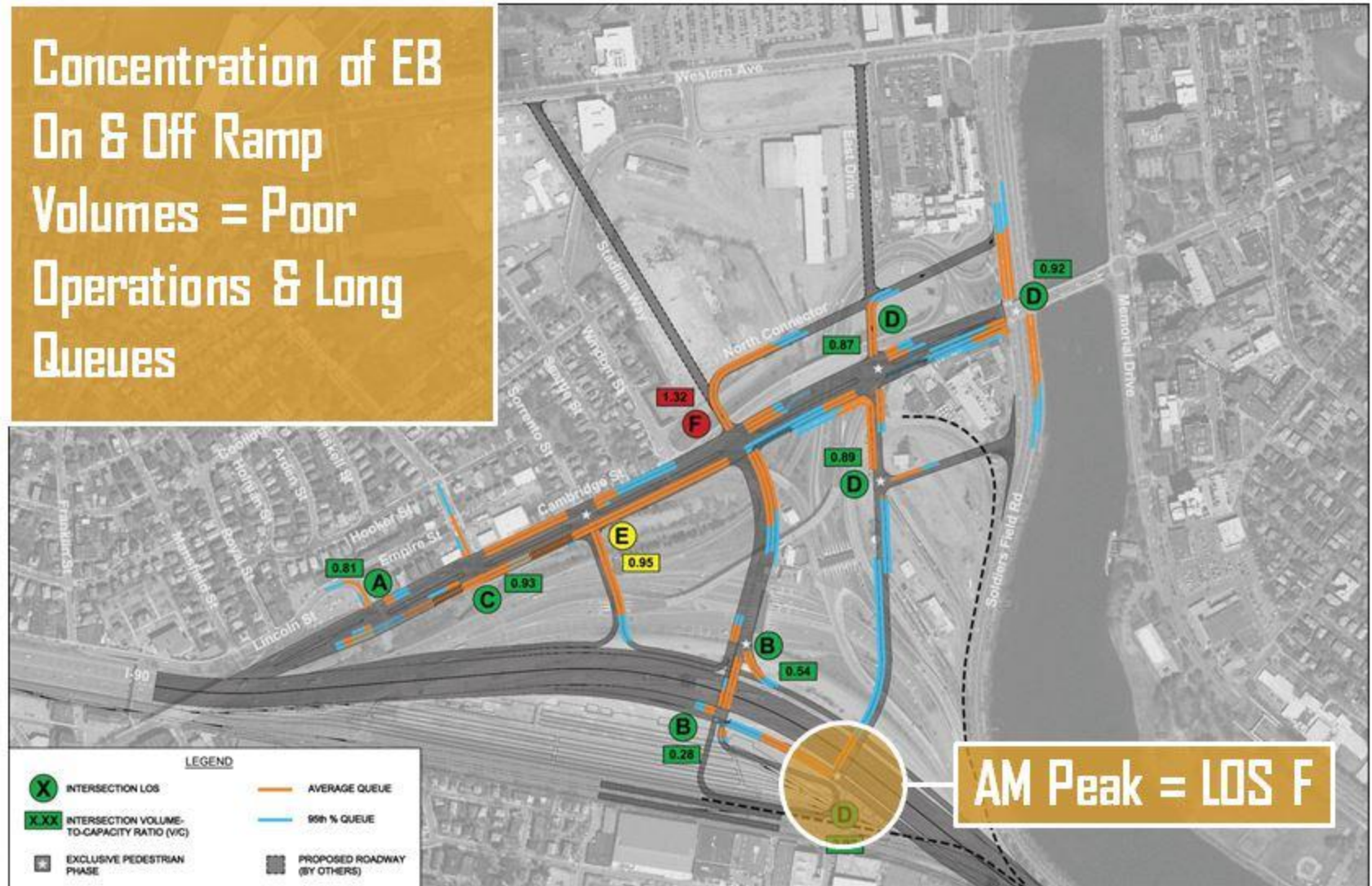
Option 3G-2: Traffic Operations - 3

Concentration of WB
On/Off & EB Off
Ramp Volumes =
Poor Operations &
Long Queues



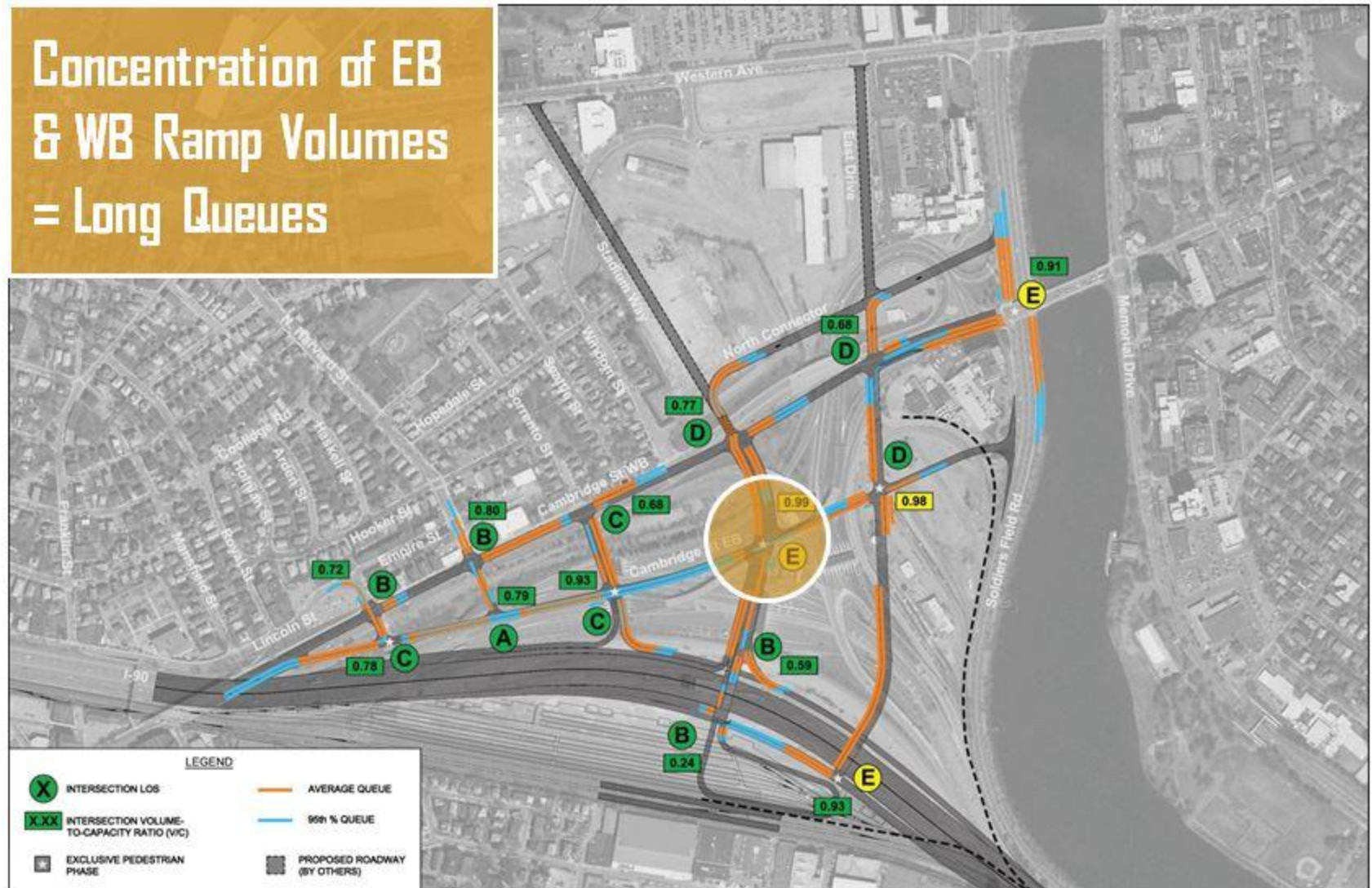
Option 3G-2: Traffic Operations - 4

Concentration of EB
On & Off Ramp
Volumes = Poor
Operations & Long
Queues



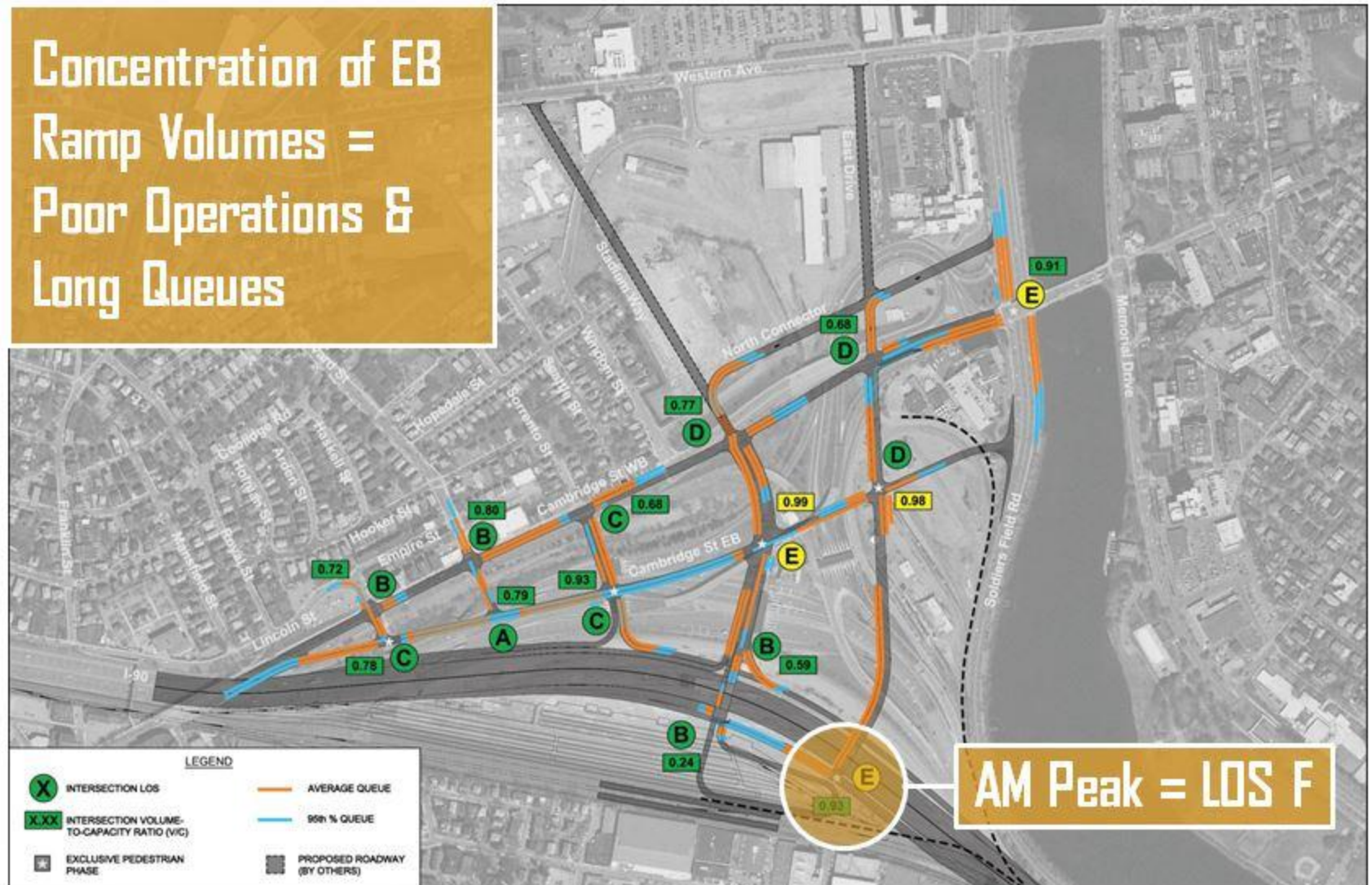
Option 3G-3: Traffic Operations - 5

Concentration of EB
& WB Ramp Volumes
= Long Queues

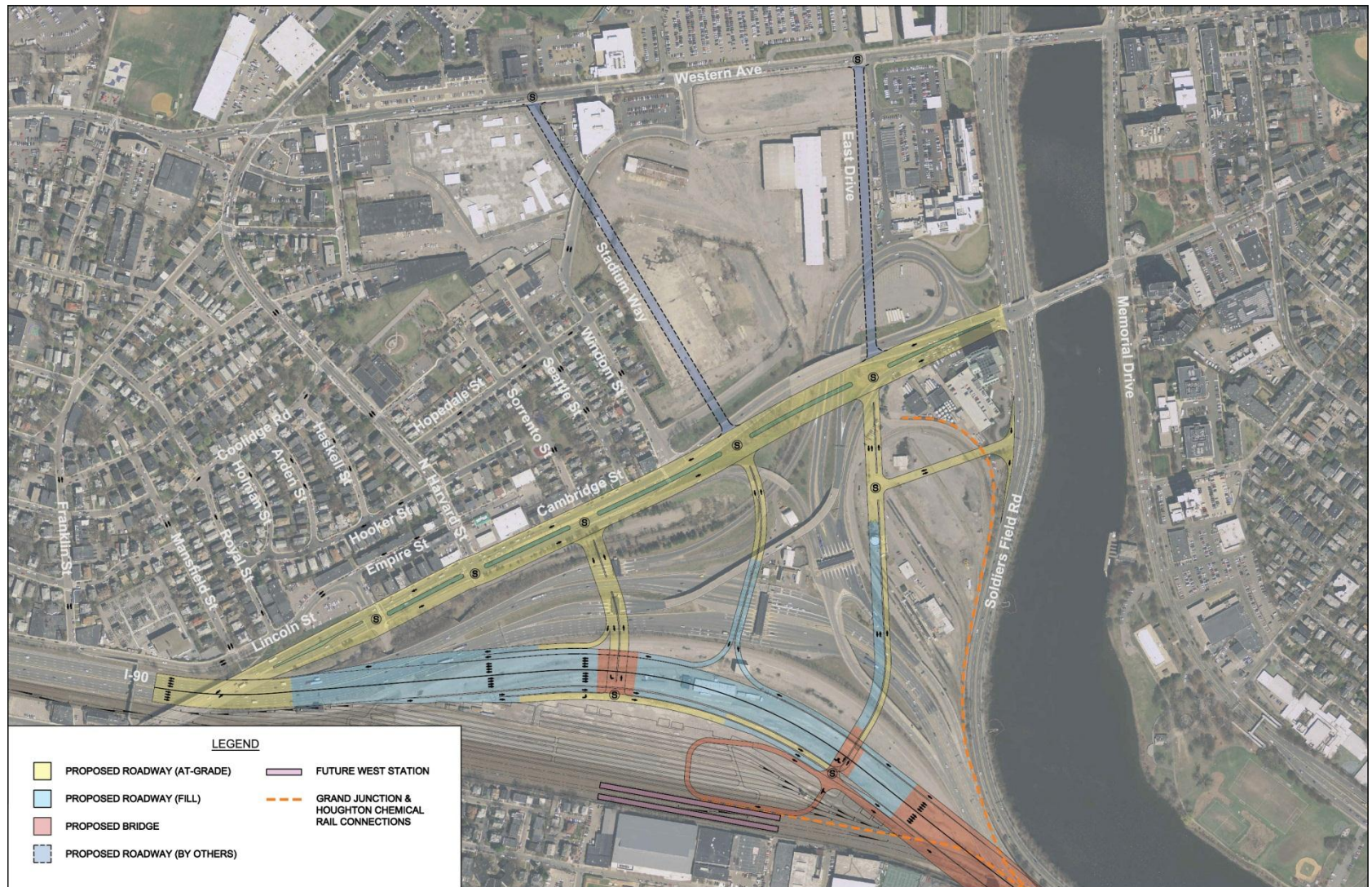


Option 3G-3: Traffic Operations - 6

Concentration of EB
Ramp Volumes =
Poor Operations &
Long Queues



Option 3H-1



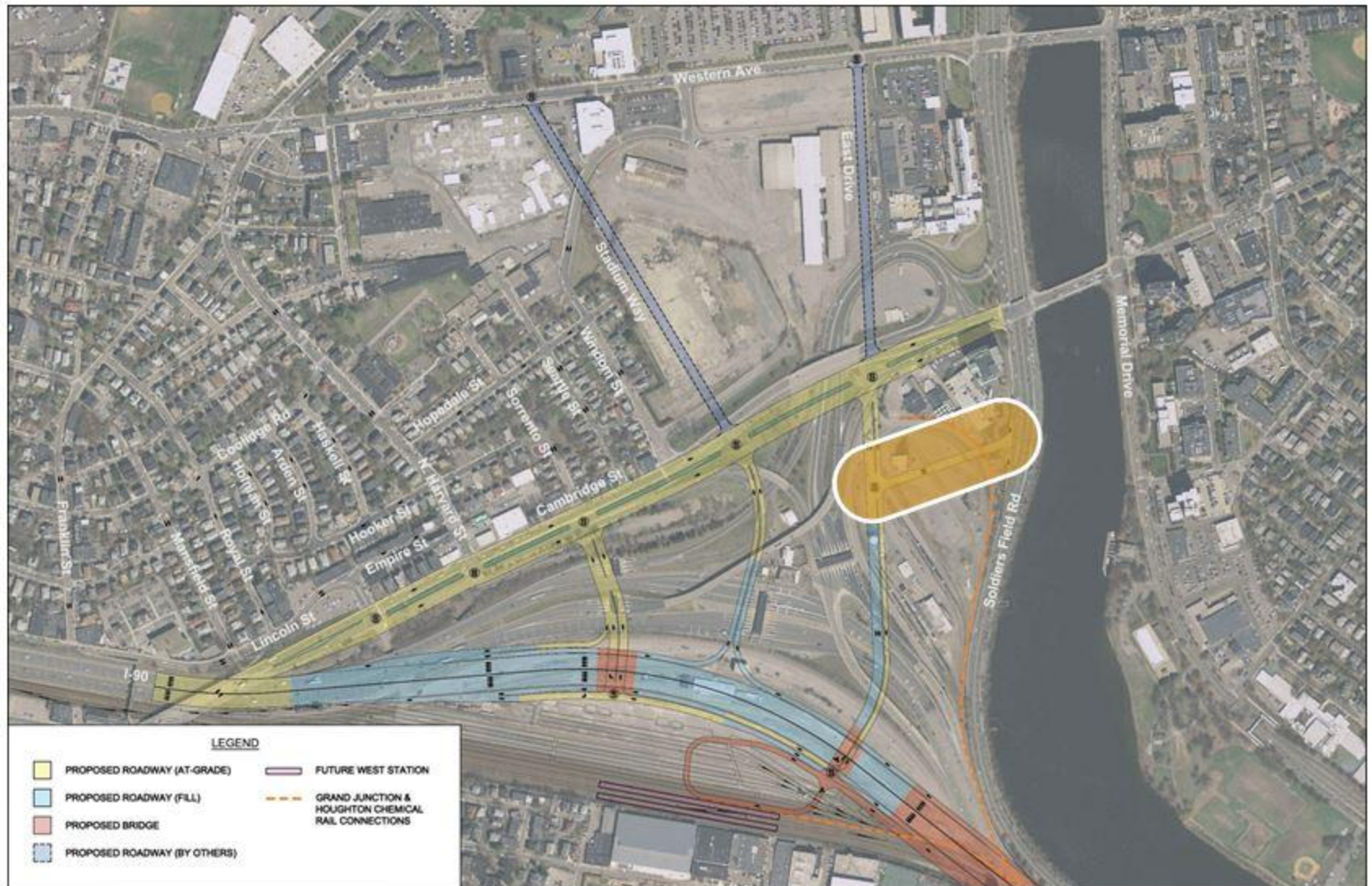
Option 3H-1: Key Design Features

Cambridge St Connectivity



Option 3H-1: Key Design Features

New Connection to Soldiers Field Rd



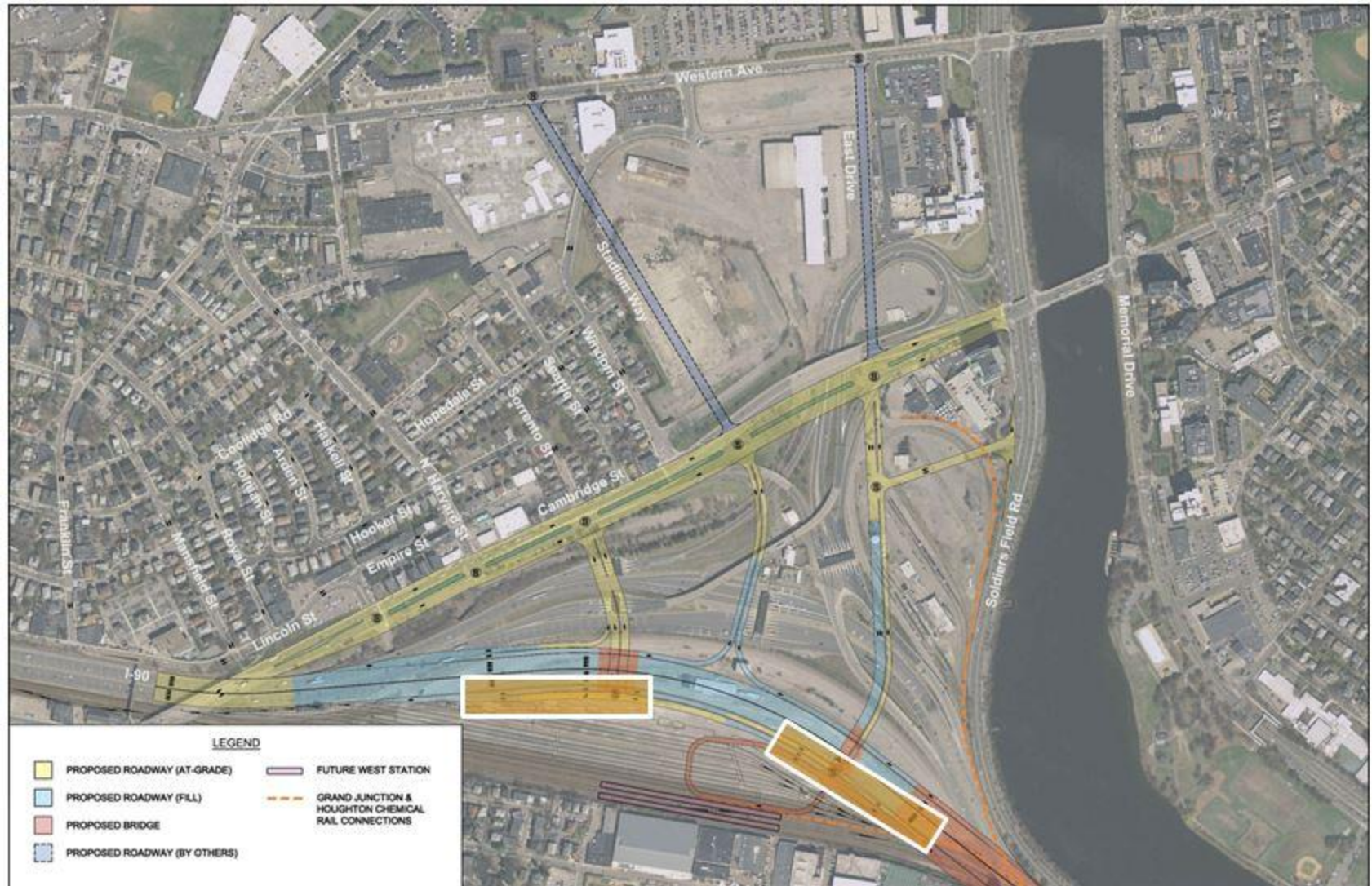
Option 3H-1: Key Design Features

Grade Separation of EB & WB Ramps



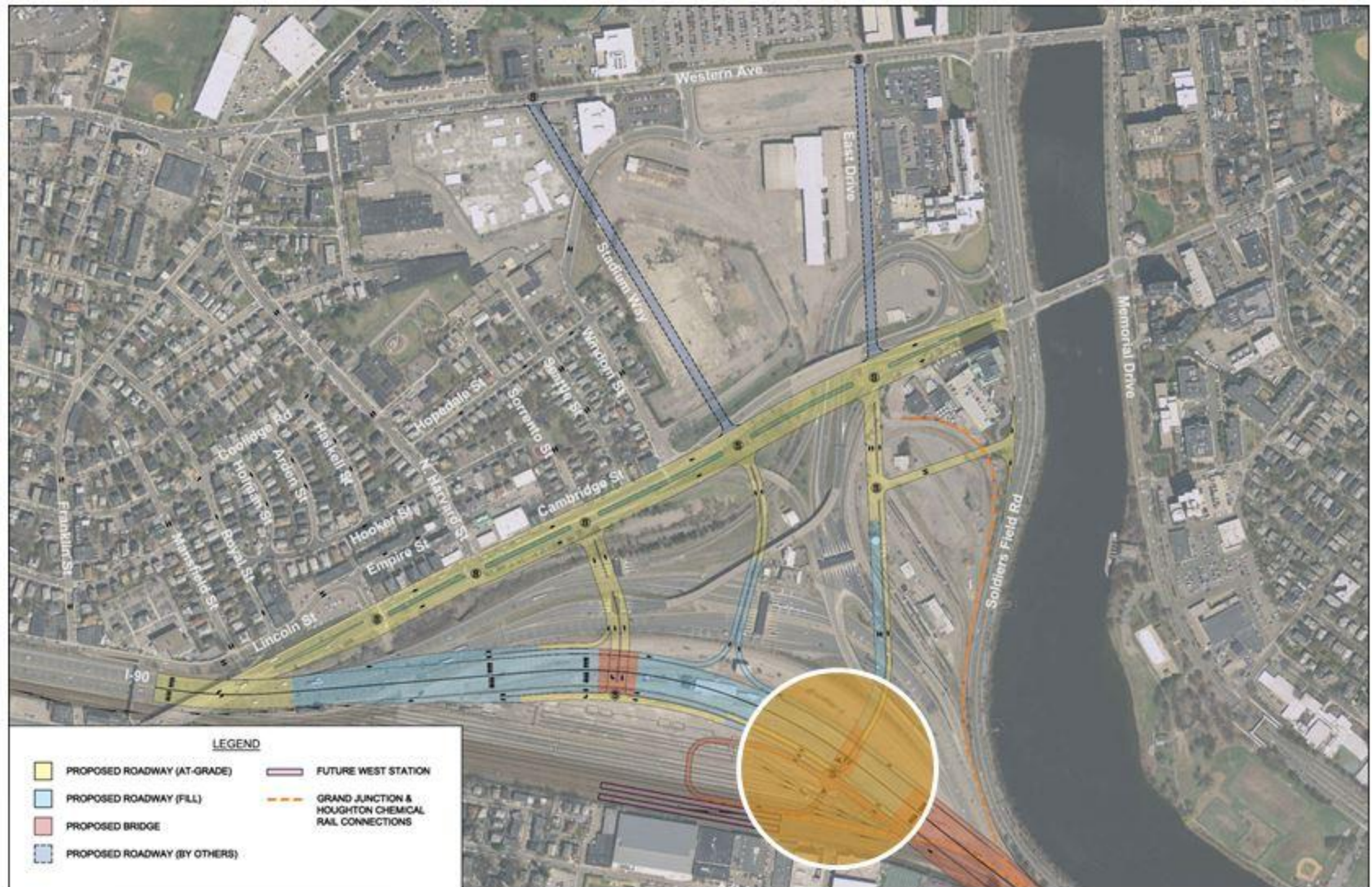
Option 3H-1: Key Design Features

EB & WB Ramp Traffic is Split



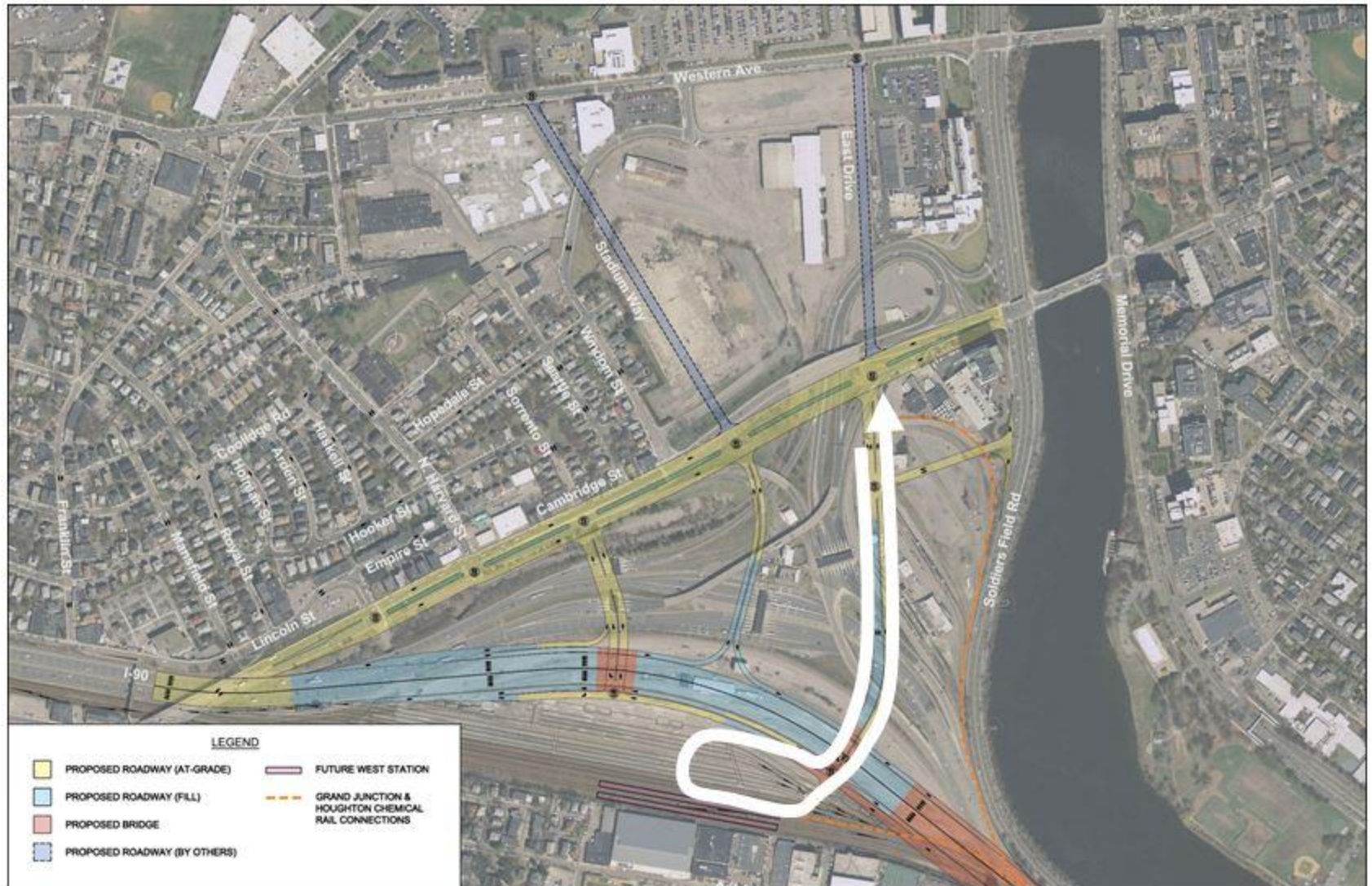
Option 3H-1: Key Design Features

3 Level Interchange at EB Ramps/West Station Access



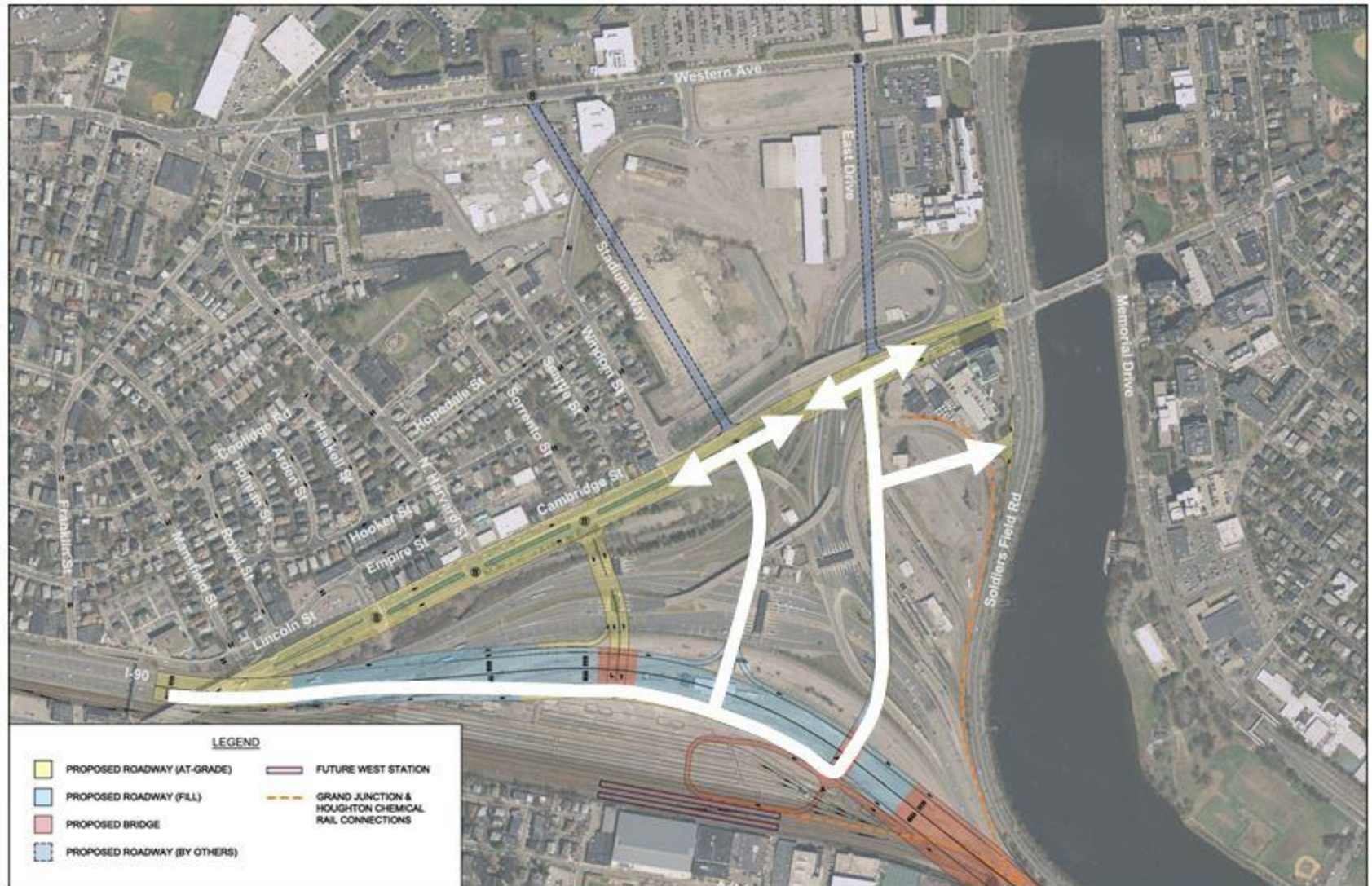
Option 3H-1: Key Design Features

Connection to West Station



Option 3H-1: I-90 Access

EB Off-Ramp

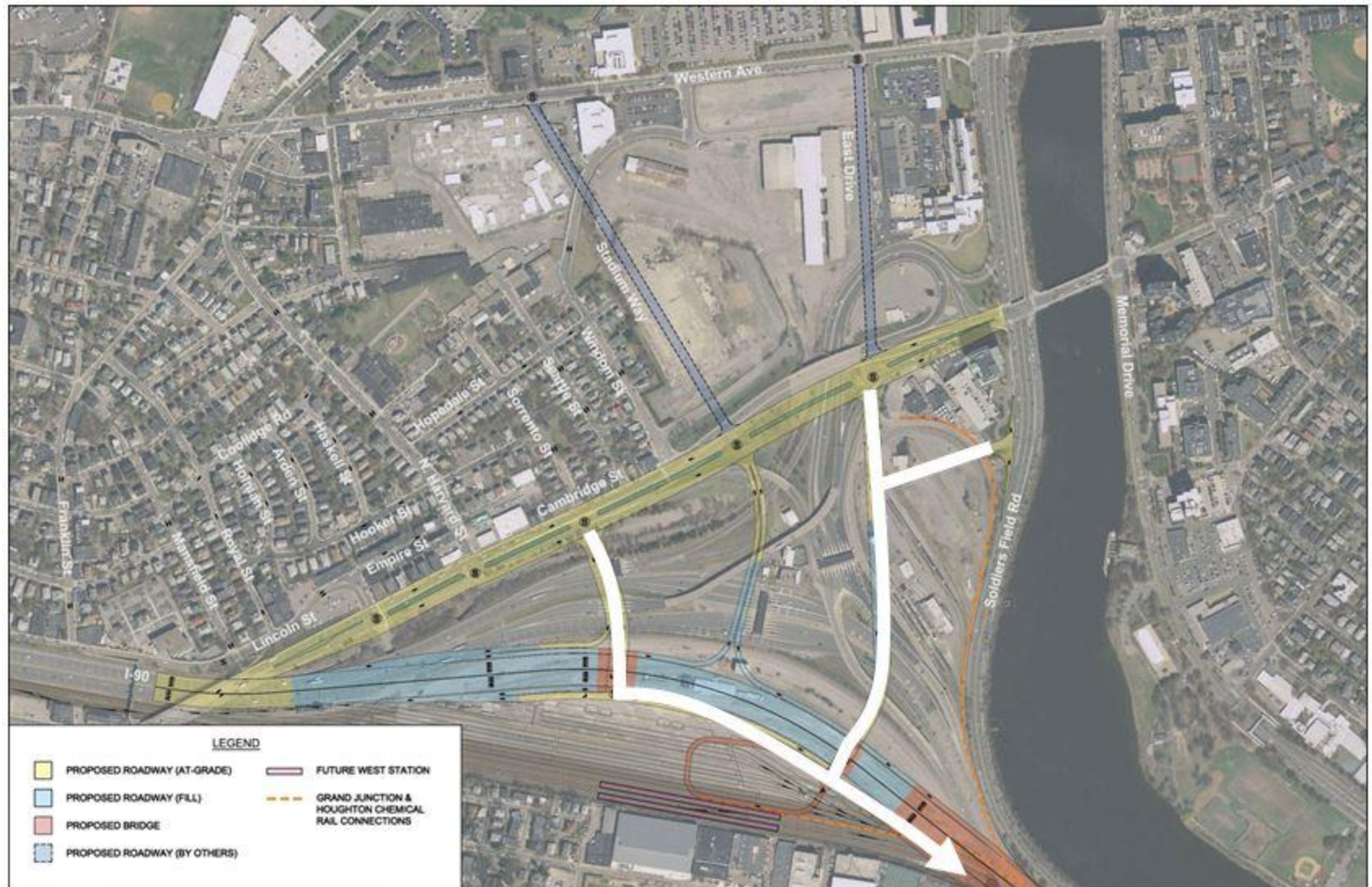


LEGEND

- PROPOSED ROADWAY (AT-GRADE)
- PROPOSED ROADWAY (FILL)
- PROPOSED BRIDGE
- PROPOSED ROADWAY (BY OTHERS)
- FUTURE WEST STATION
- GRAND JUNCTION & HOUGHTON CHEMICAL RAIL CONNECTIONS

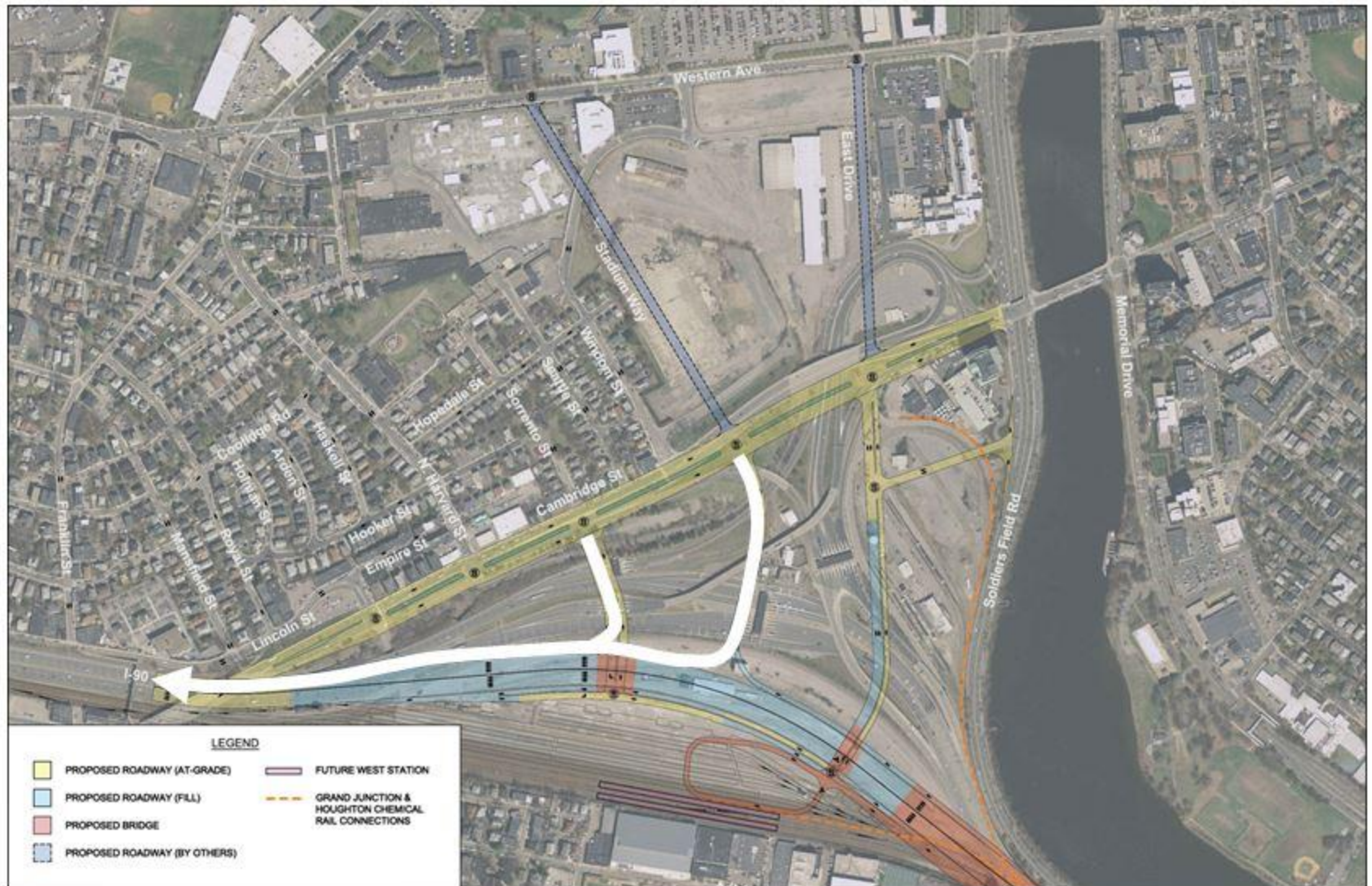
Option 3H-1: I-90 Access

EB On-Ramp



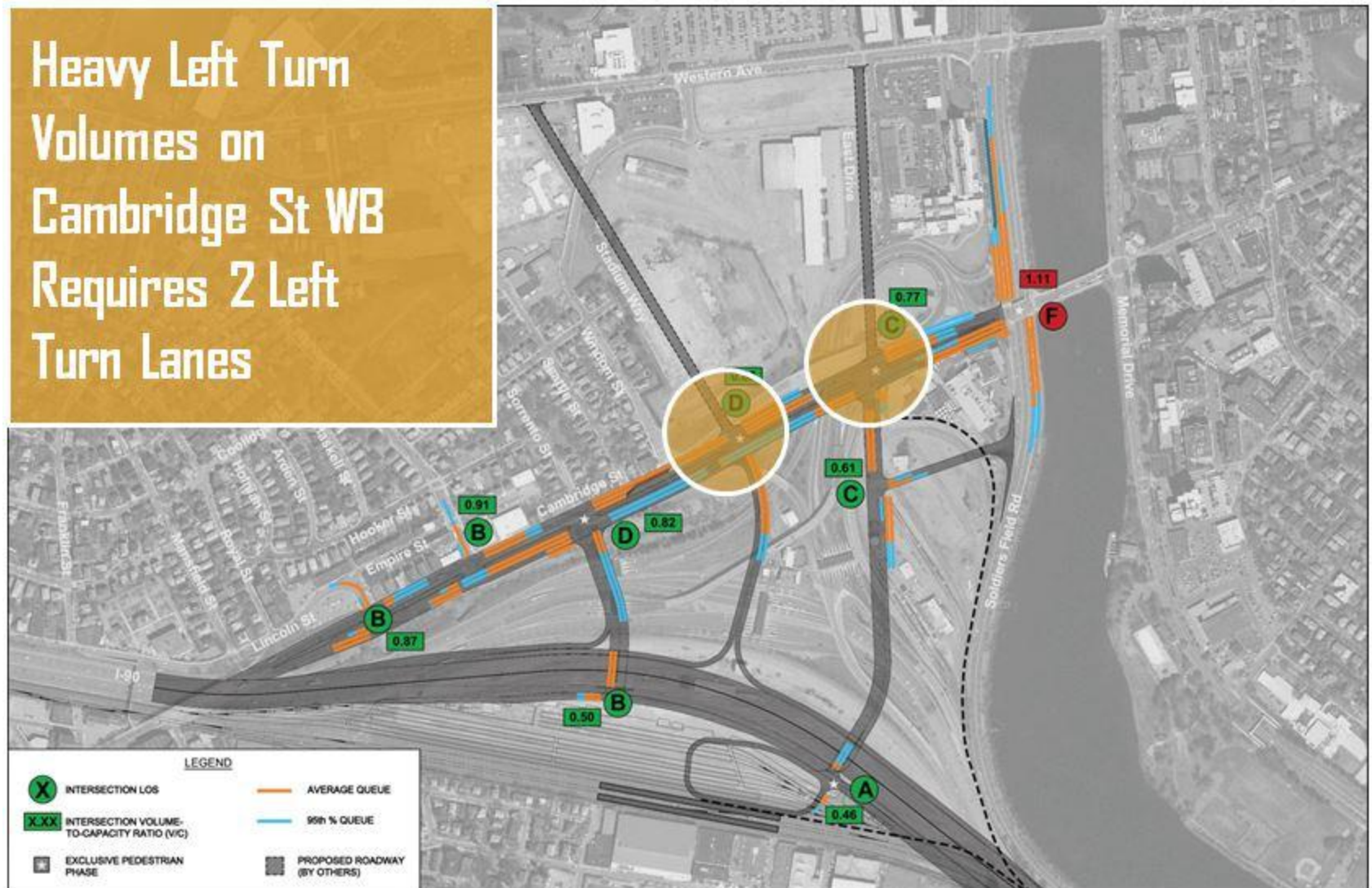
Option 3H-1: I-90 Access

WB On-Ramp



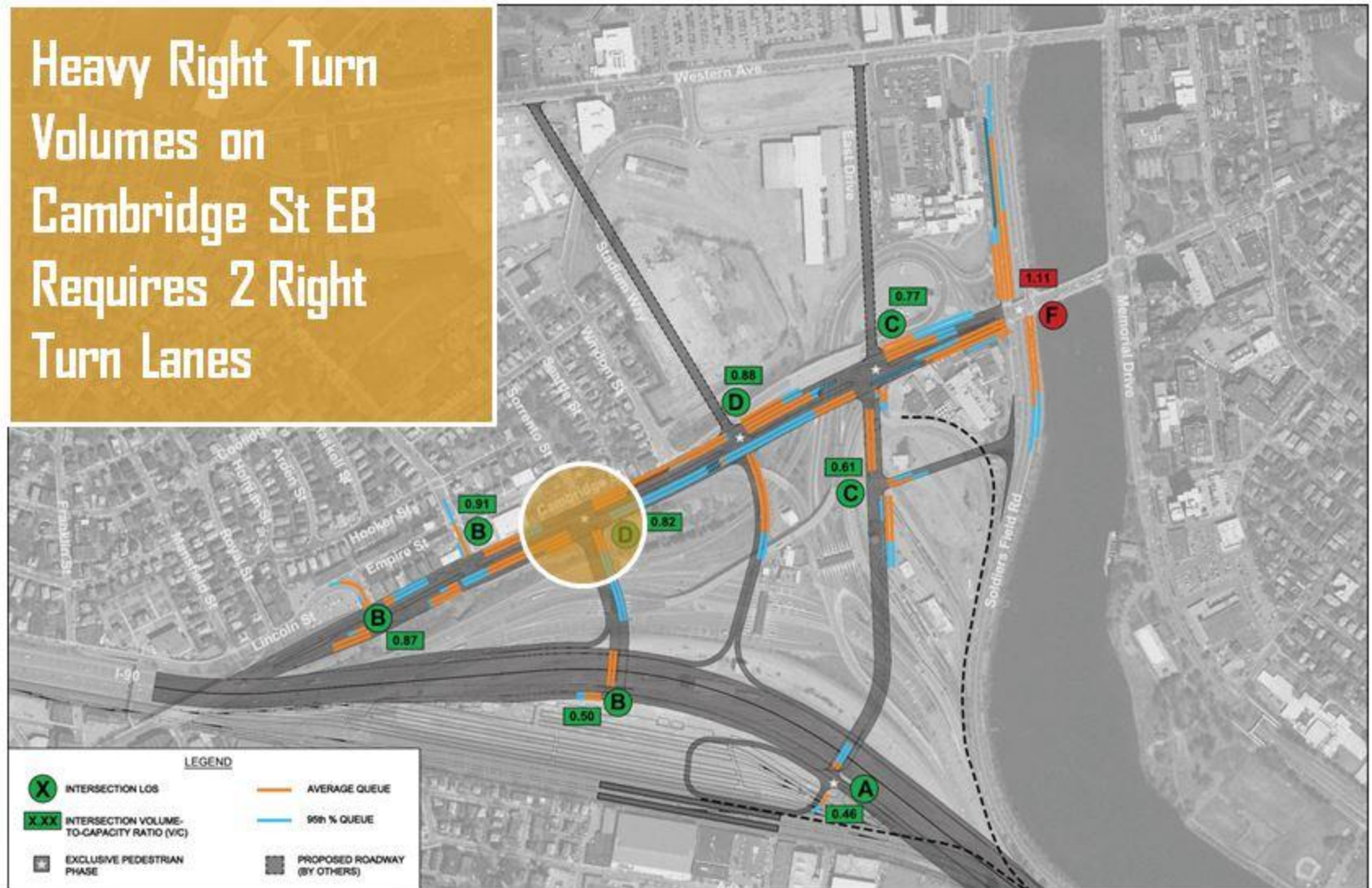
Option 3H-1: Traffic Operations

Heavy Left Turn
Volumes on
Cambridge St WB
Requires 2 Left
Turn Lanes



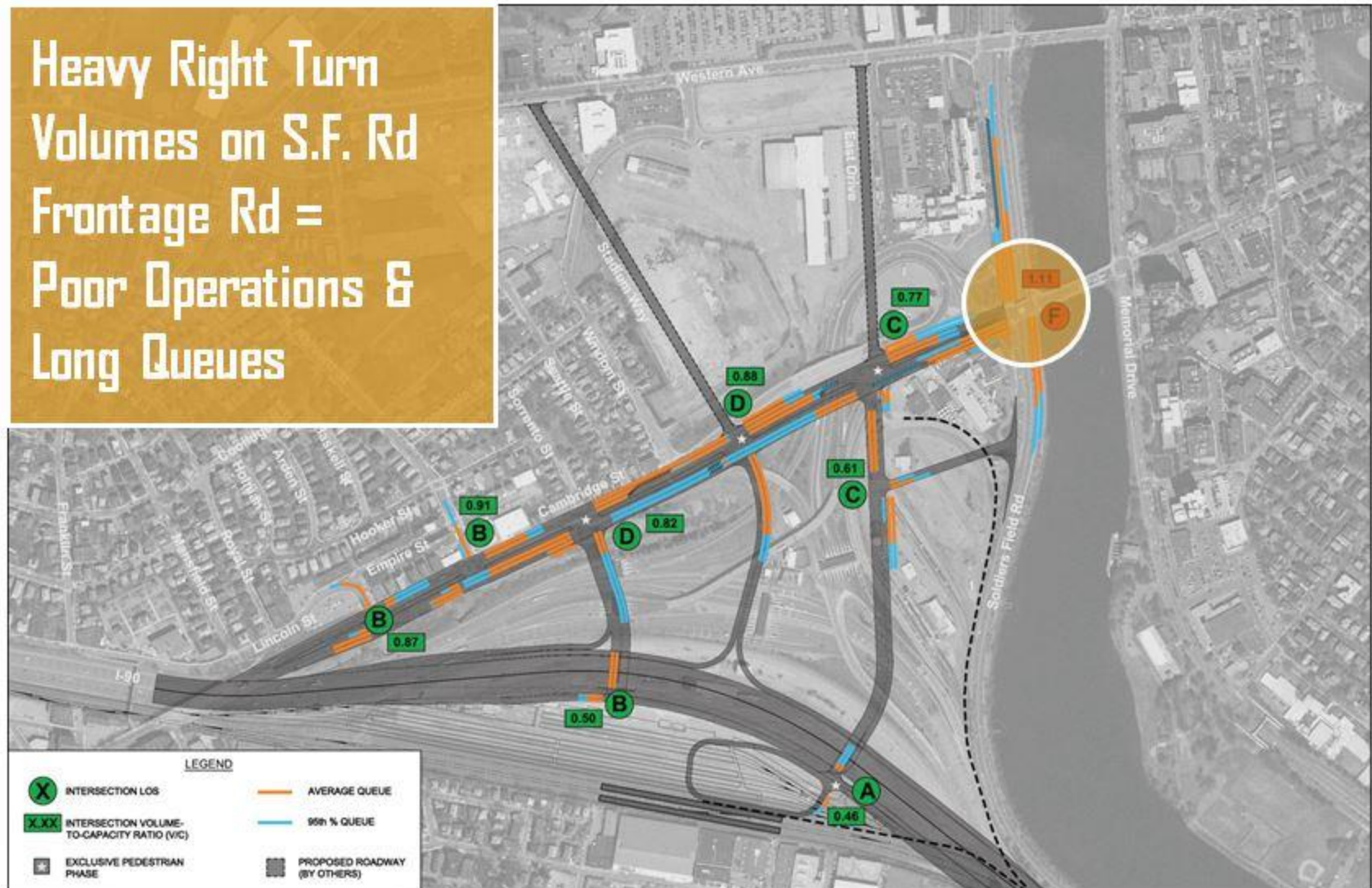
Option 3H-1: Traffic Operations - 1

Heavy Right Turn
Volumes on
Cambridge St EB
Requires 2 Right
Turn Lanes



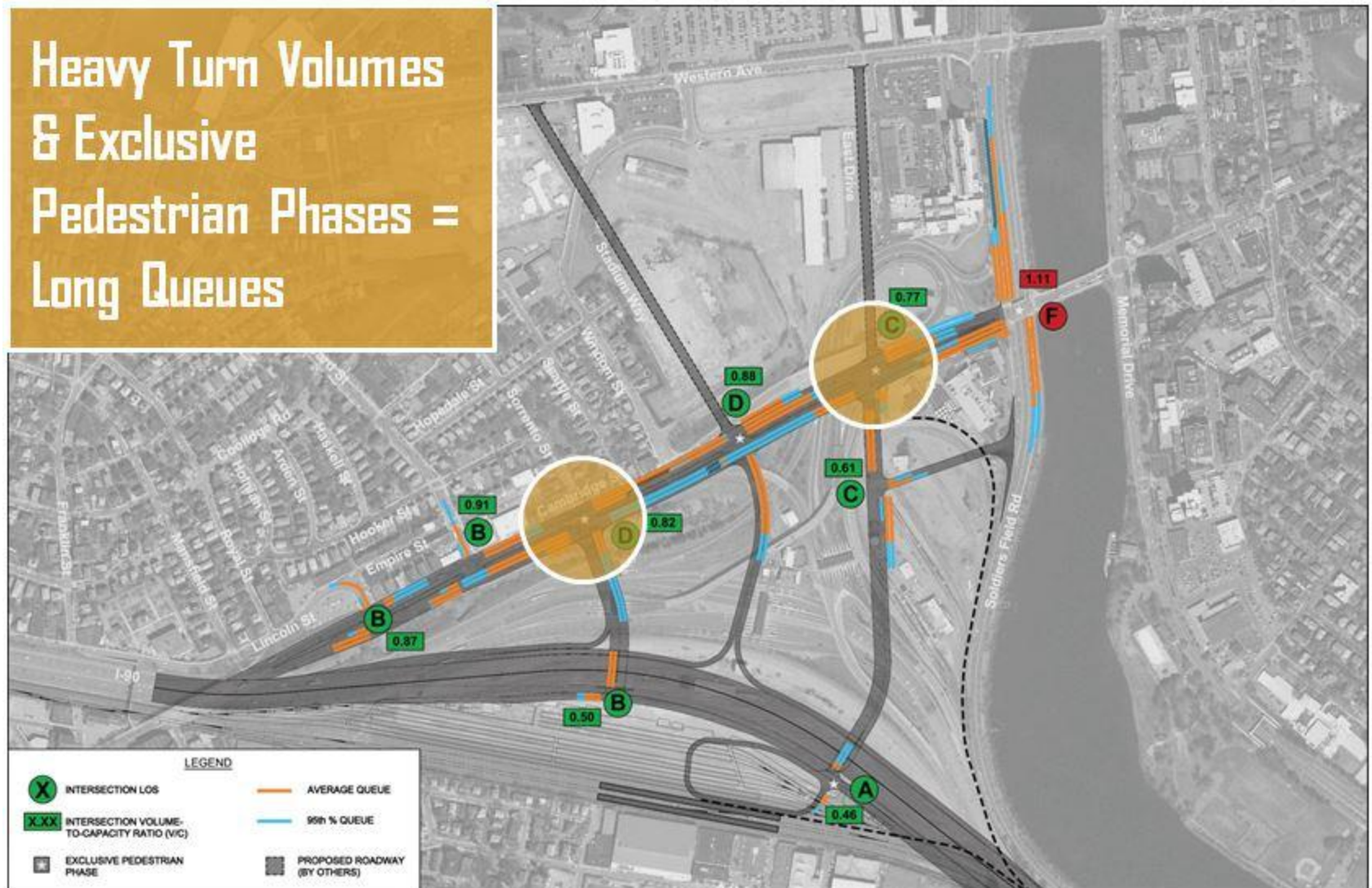
Option 3H-1: Traffic Operations - 2

Heavy Right Turn
Volumes on S.F. Rd
Frontage Rd =
Poor Operations &
Long Queues



Option 3H-1: Traffic Operations - 3

Heavy Turn Volumes
& Exclusive
Pedestrian Phases =
Long Queues



Option 3H-2: Traffic Operations - 4

Concentration of WB On/Off Ramp Volumes & Separate Phases for NB & SB Approaches = Poor Operations & Long Queues

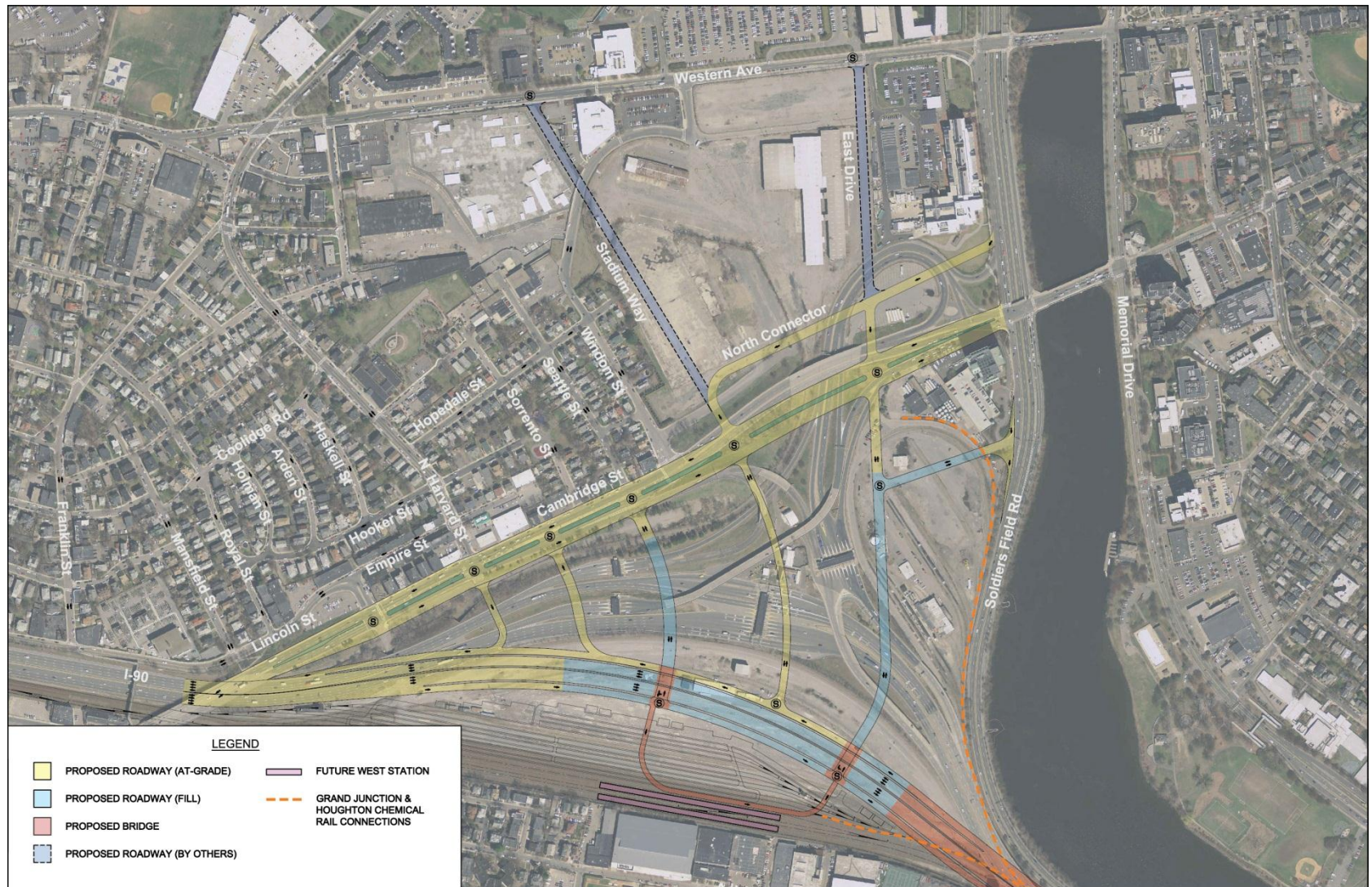


Option 3H-3: Traffic Operations

Operations =
LOS D or Better.
Some Queuing on
Cambridge St WB
in PM Peak



Option 31-1



Option 3I-1: Key Design Features

Split WB On and Off-Ramps at North Harvard St.



Option 3I-1: Key Design Features

Connectivity to Cambridge Street



Option 3I-1: Key Design Features

New Connection to Soldiers Field Rd



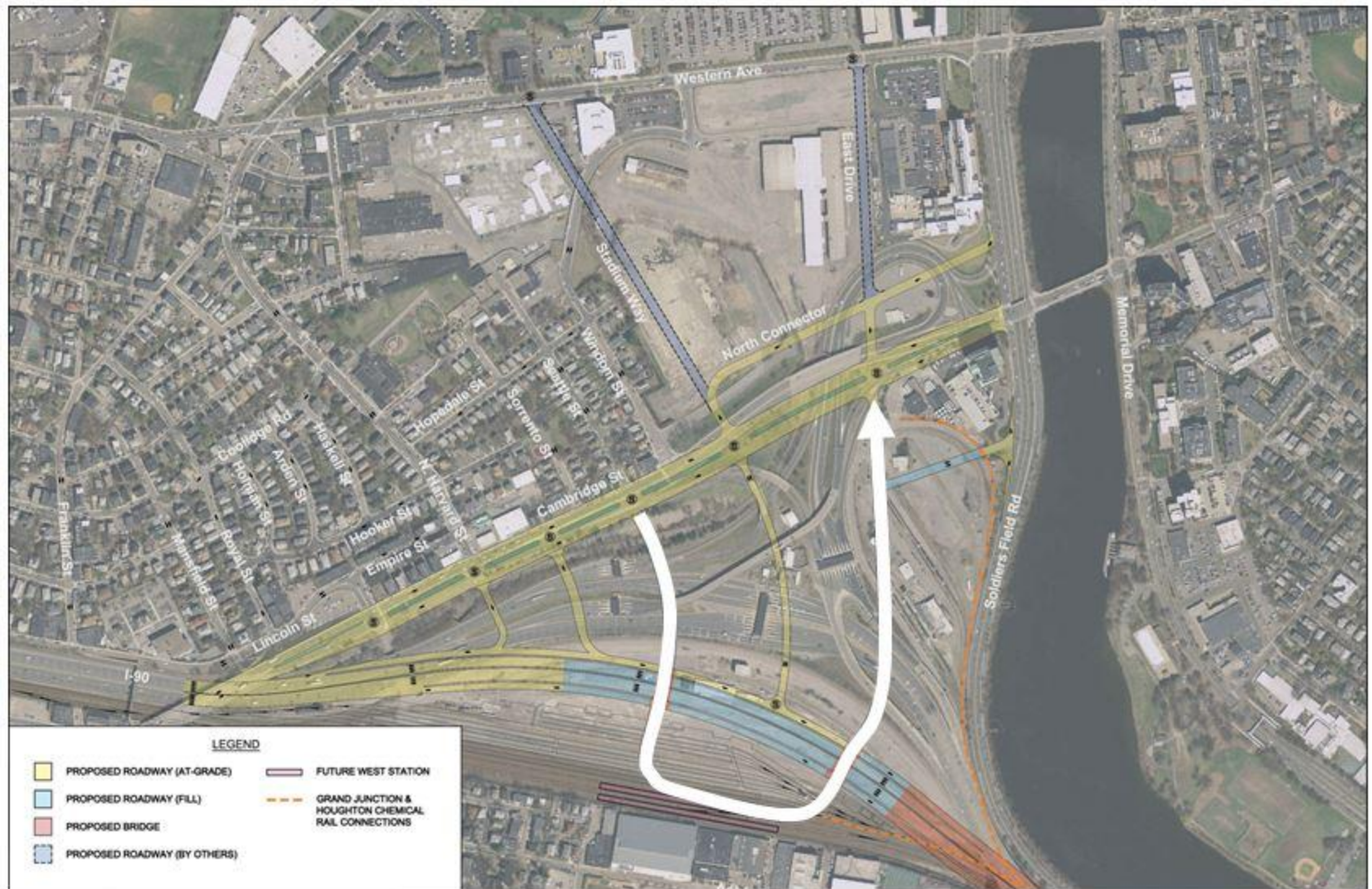
Option 3I-1: Key Design Features

Grade Separation of EB & WB Ramps



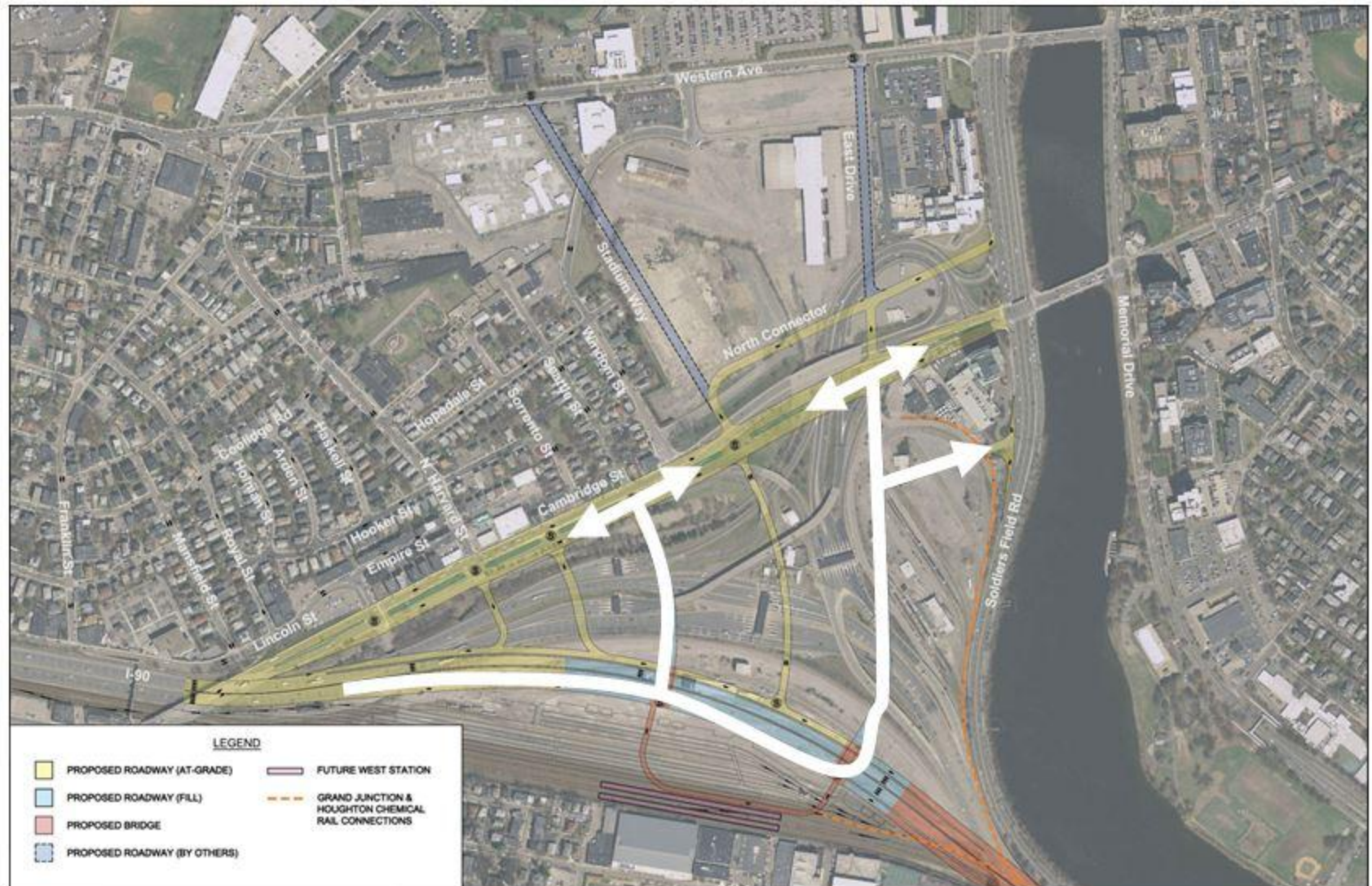
Option 3I-1: Key Design Features

Vehicular Connectivity to West Station



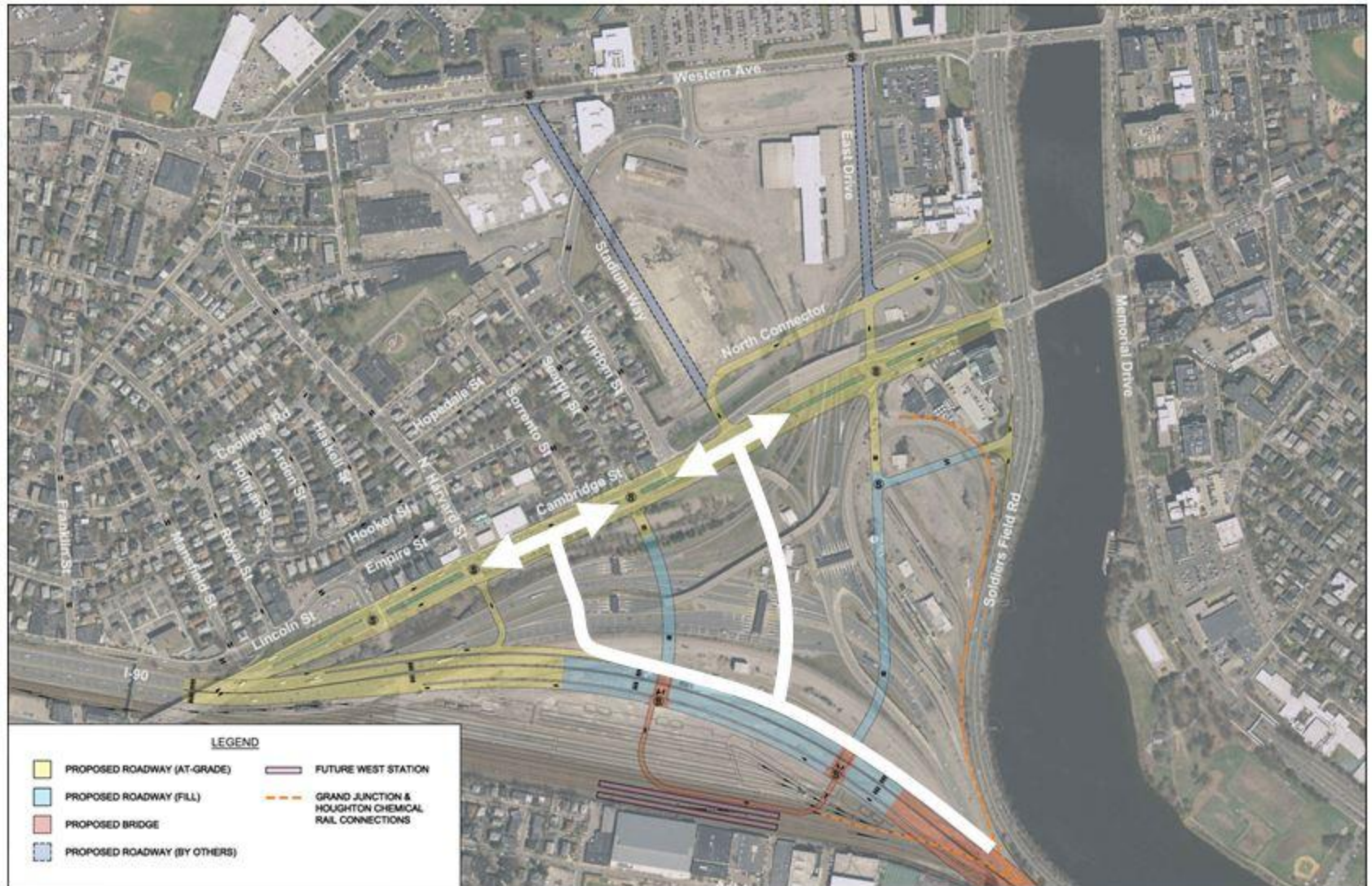
Option 3I-1: I-90 Access

EB Off-Ramp



Option 3I-1: I-90 Access

WB Off-Ramp



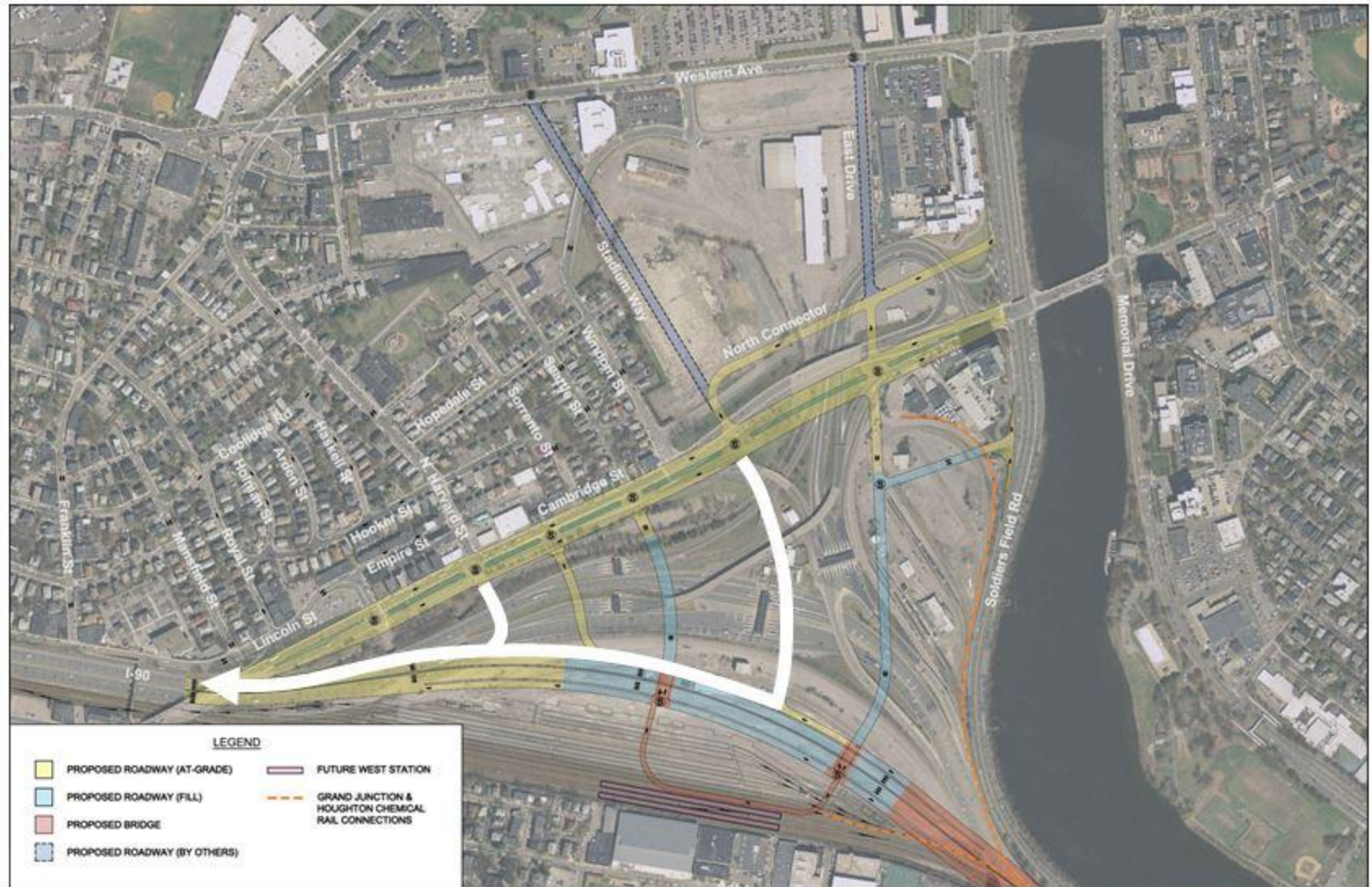
Option 3I-1: I-90 Access - 1

EB On-Ramp



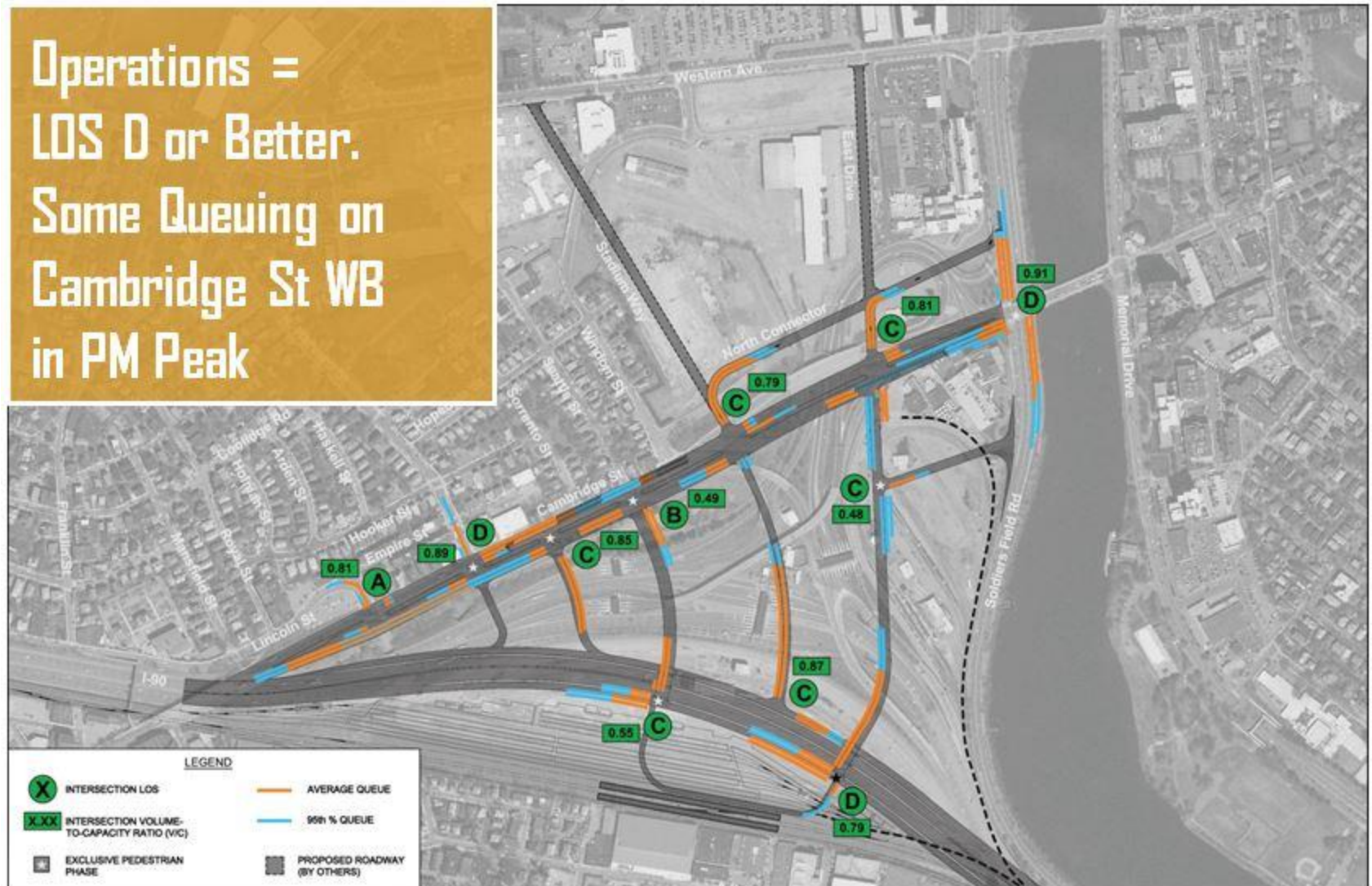
Option 3F-1: I-90 Access - 2

WB On-Ramp



Option 3I-1: Traffic Operations

Operations =
LOS D or Better.
Some Queuing on
Cambridge St WB
in PM Peak

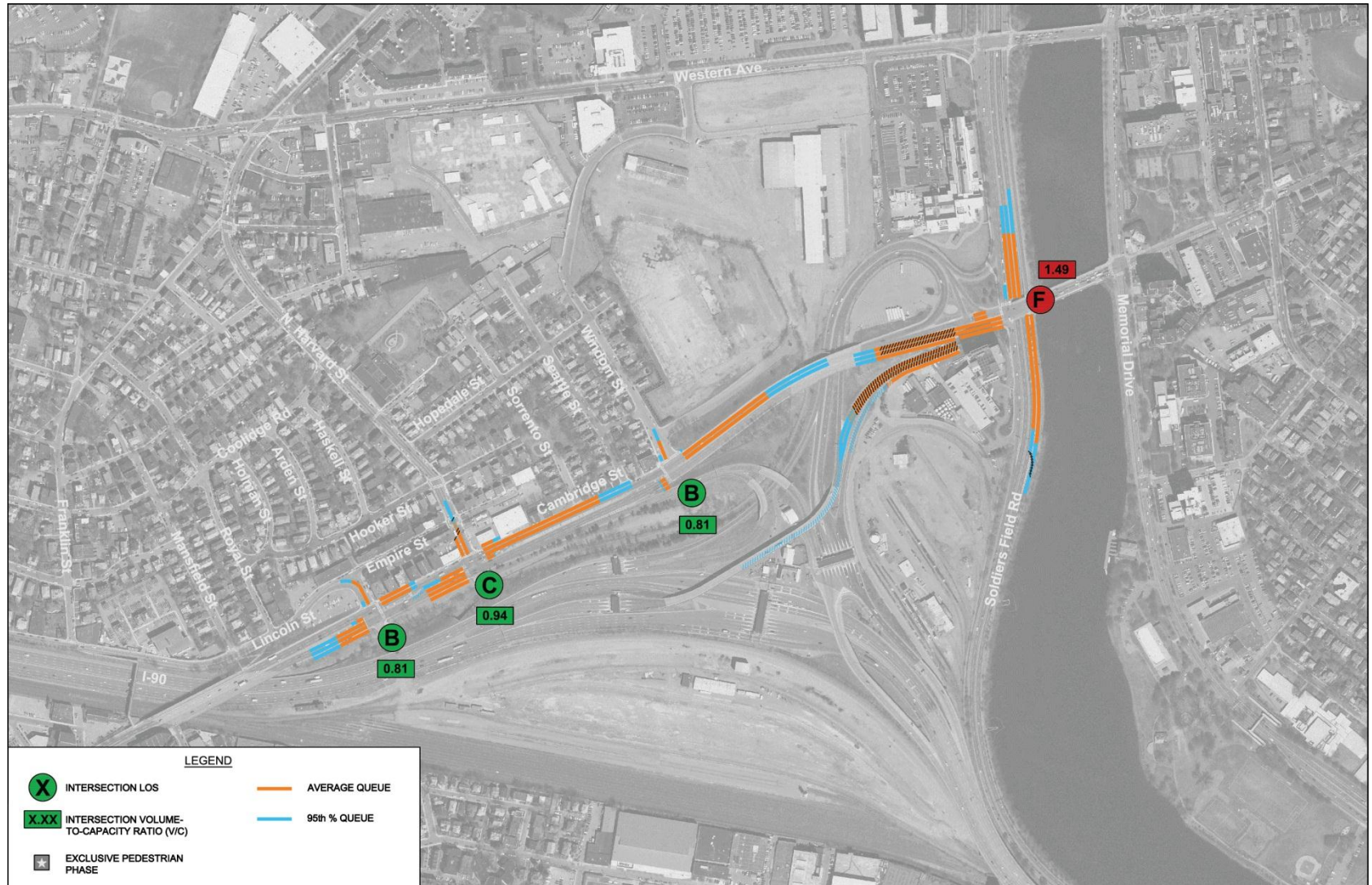


Option 31-2: Traffic Operations

Operations =
LOS D or Better.
Some Queuing on
Cambridge St WB
in PM Peak



Existing Conditions



Traffic Summary Matrix

	OPTION 3F-1	OPTION 3F-2	OPTION 3F-3	OPTION 3G-1	OPTION 3G-2	OPTION 3G-3	OPTION 3H-1	OPTION 3H-2	OPTION 3H-3	OPTION 3I-1	OPTION 3I-2
Ramp Operations (intersections)	○	○	○	⊖	⊖	⊖	⊕	⊕	⊕	○	○
Ramp Operations (impacts on mainline I-90)	⊕	⊕	⊕	⊕	⊕	⊕	○	○	○	⊕	⊕
Operations at Cambridge/S. F. Rd	⊖	⊖	⊕	⊖	⊕	⊕	⊖	⊕	⊕	⊕	⊕
Operations at Cambridge/North Harvard	⊖	○	⊖	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Operations at Cambridge/Stadium	○	⊕	⊕	⊖	⊖	⊖	○	⊖	⊕	⊕	⊕
Queues into residential areas	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Need for Exclusive Pedestrian Phases	⊖	○	○	⊖	○	○	⊖	○	⊕	○	○
Connectivity to West Station	⊕	⊕	⊕	⊕	⊕	⊕	○	○	○	⊕	⊕
Cambridge Street Cross Section (width)	⊖	○	⊕	⊖	○	⊕	⊖	○	⊕	○	⊕
Impact on Pedestrian and Bicycle Environment	⊖	⊖	⊕	⊖	⊖	⊕	⊖	⊖	⊕	⊖	⊕

Positive ⊕

Neutral ○

Negative ⊖

Revised Selection Criteria

Discussion

Next Meeting:

October 1, 2014 – Fiorentino Community Center