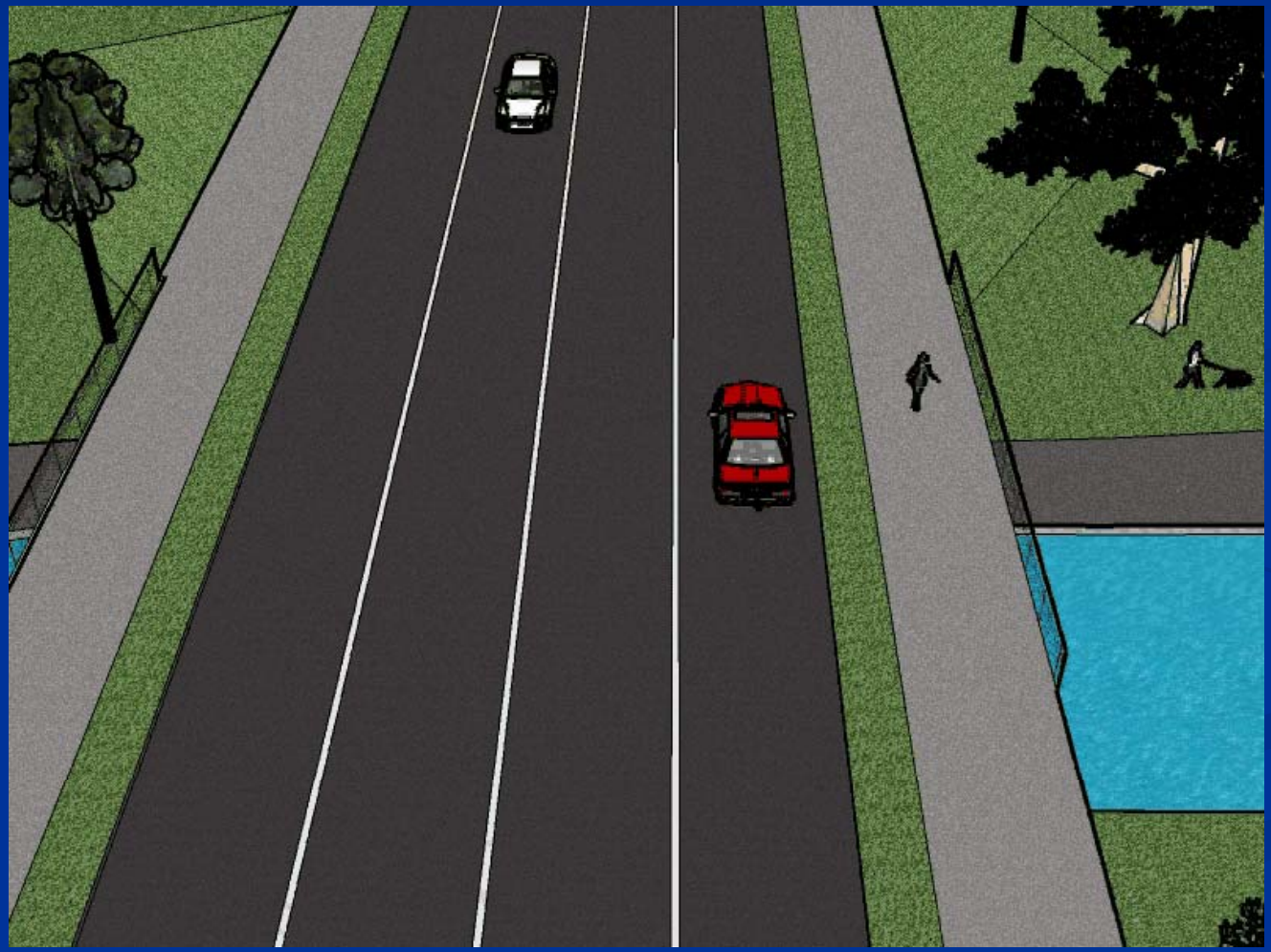
Making Pedestrian and Vehicular Improvements to the Landmark Center Rotary



Northeastern University

Team members:

PM: Will Miller

Nick Gaboury

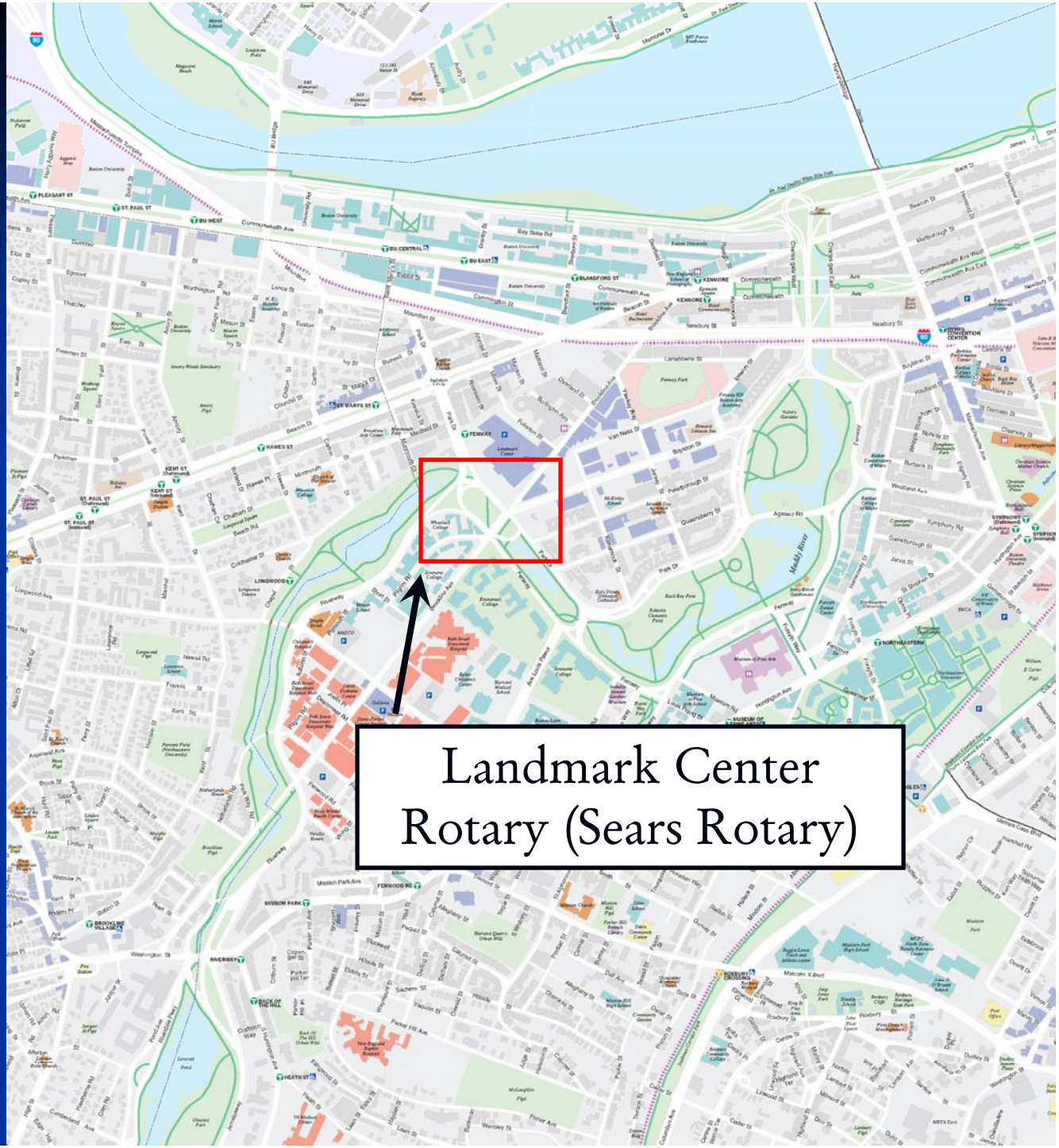
Jon Simmons

John Tamburrini

Jeff Haelle

Adviser: Peter Furth

Locus Map of the Fenway Area



Provided By The Emerald Necklace Conservatory

Two Projects in the Same Area

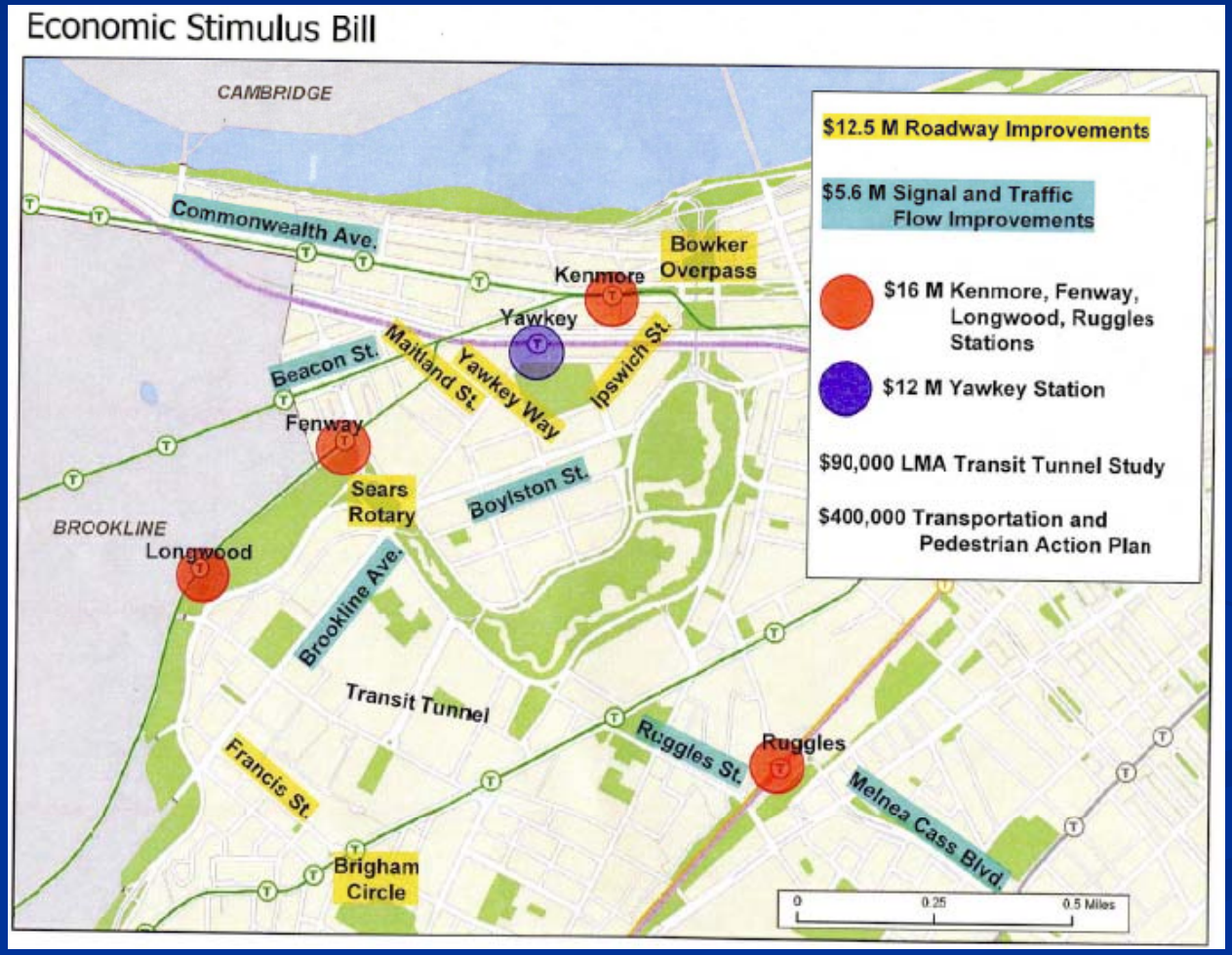
- Muddy River Restoration and Flood Control (Army Corps of Engineers)

- Road, Pedestrian, and Signal Improvement Projects in the Economic Stimulus Bill

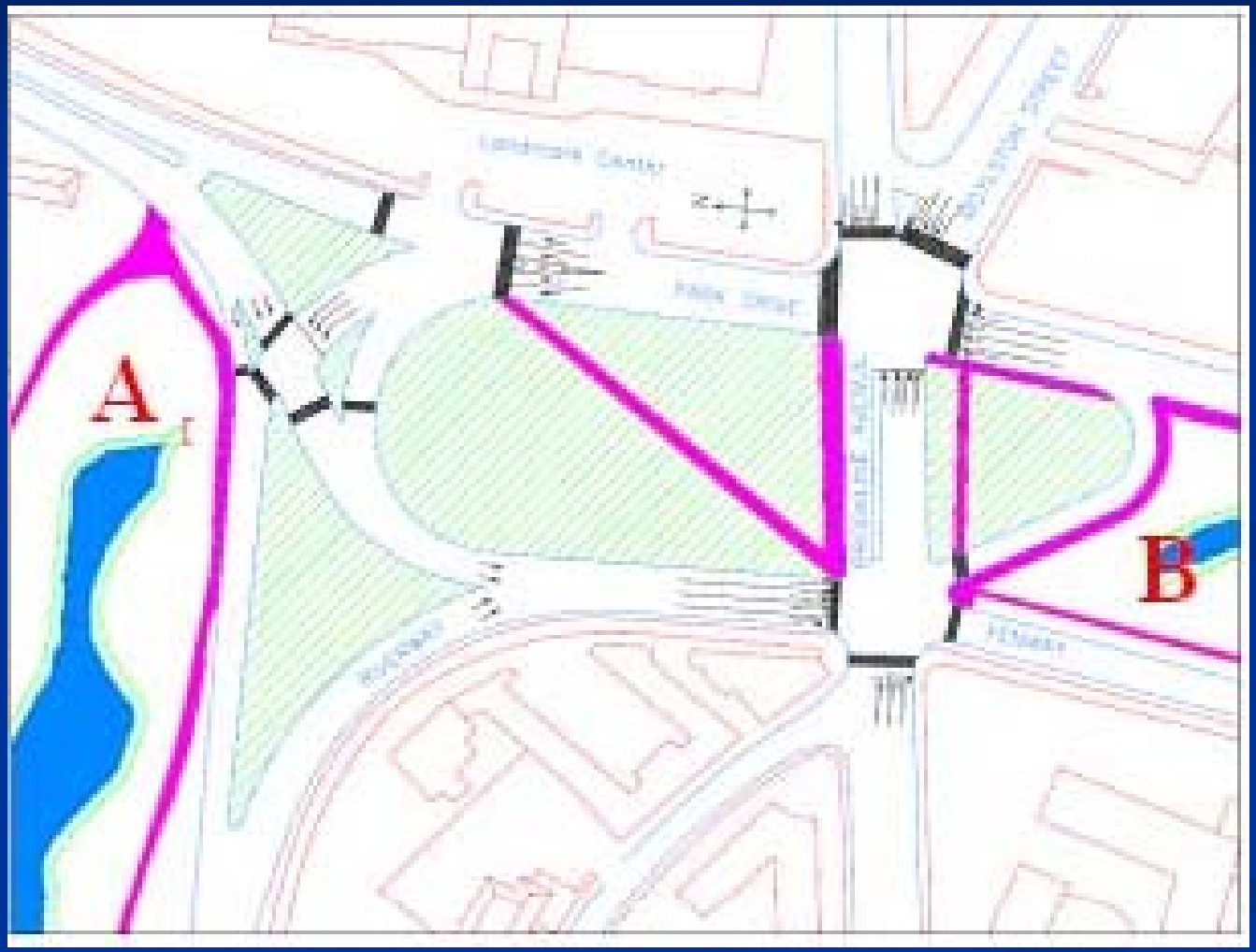
Muddy River Restoration and Flood Control

- Daylight the Muddy River in the Landmark Center Rotary (A, B)
- Bridges (C, D, E) will carry Riverway, Brookline Ave. and th

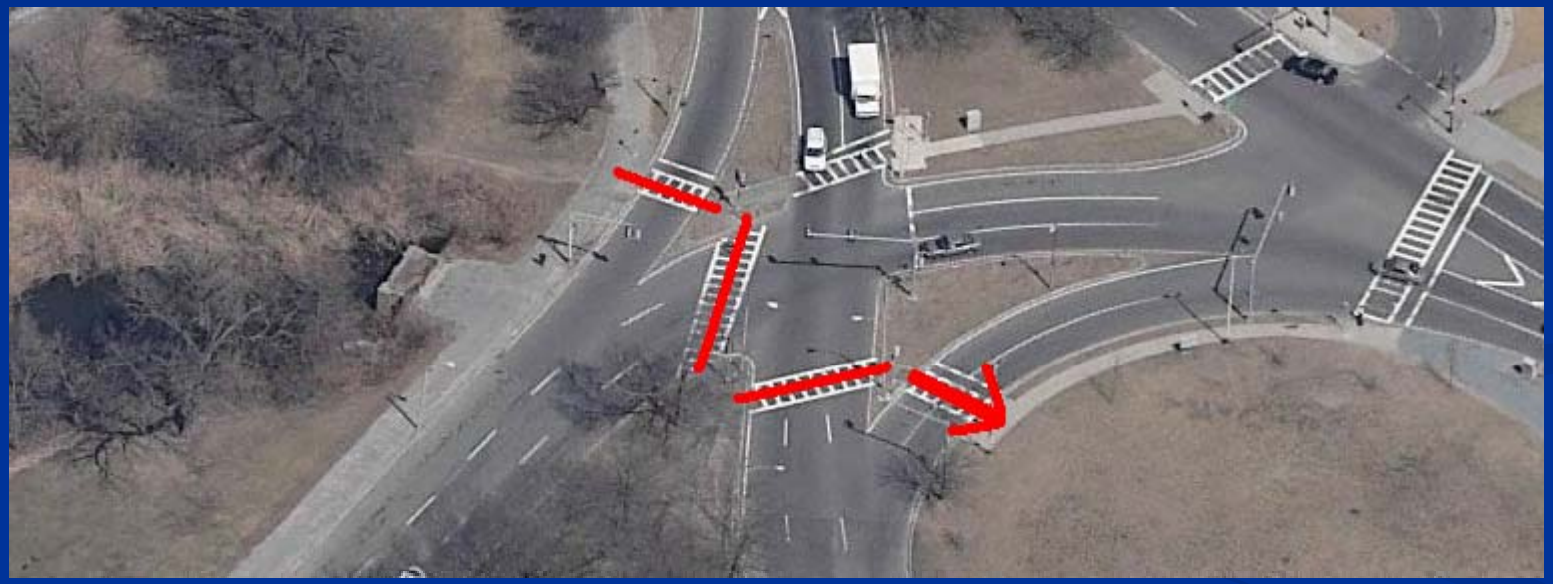
Transportation Projects in the $55 M Economic Stimulus Bill



Muddy River Path Disconnect

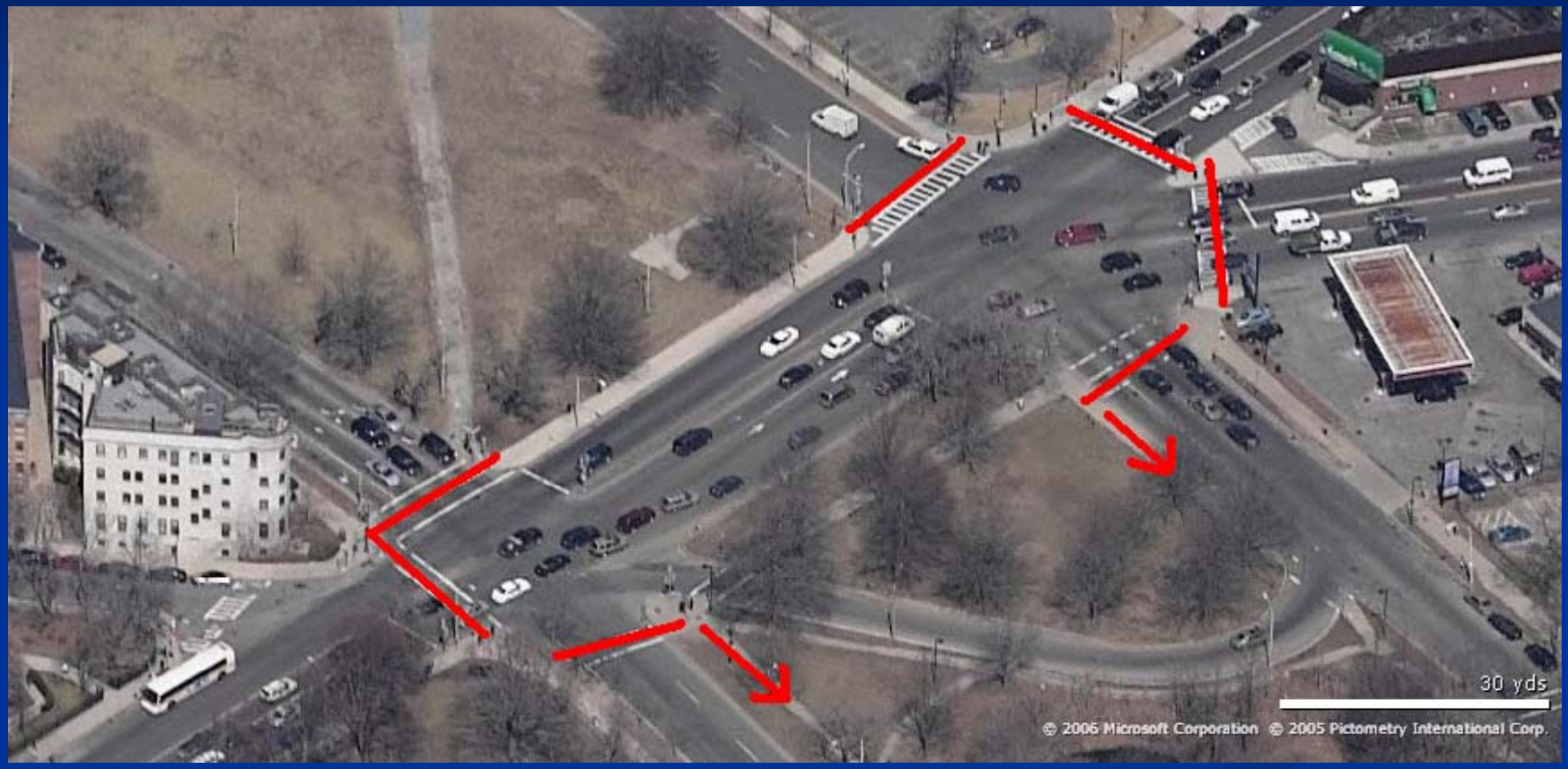


Riverway Crossing



4 stage crossing

Brookline Ave. Crossing



No “Interior” Crossings

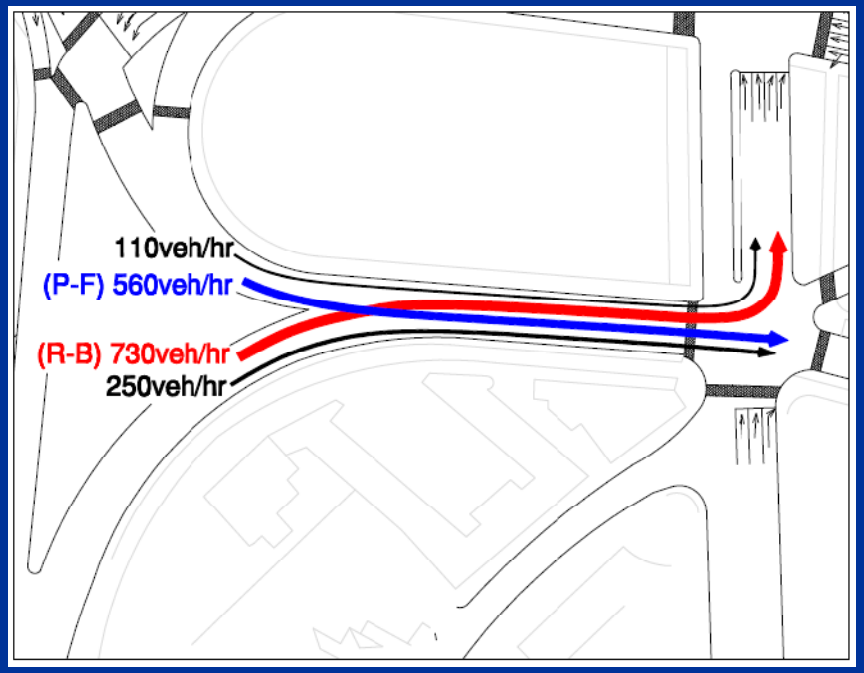
Other Pedestrian Movements

Near Wheelock College

Diagonal path connecting MBTA station to Simmons, Beth Israel

Riverway / Park Drive Merge

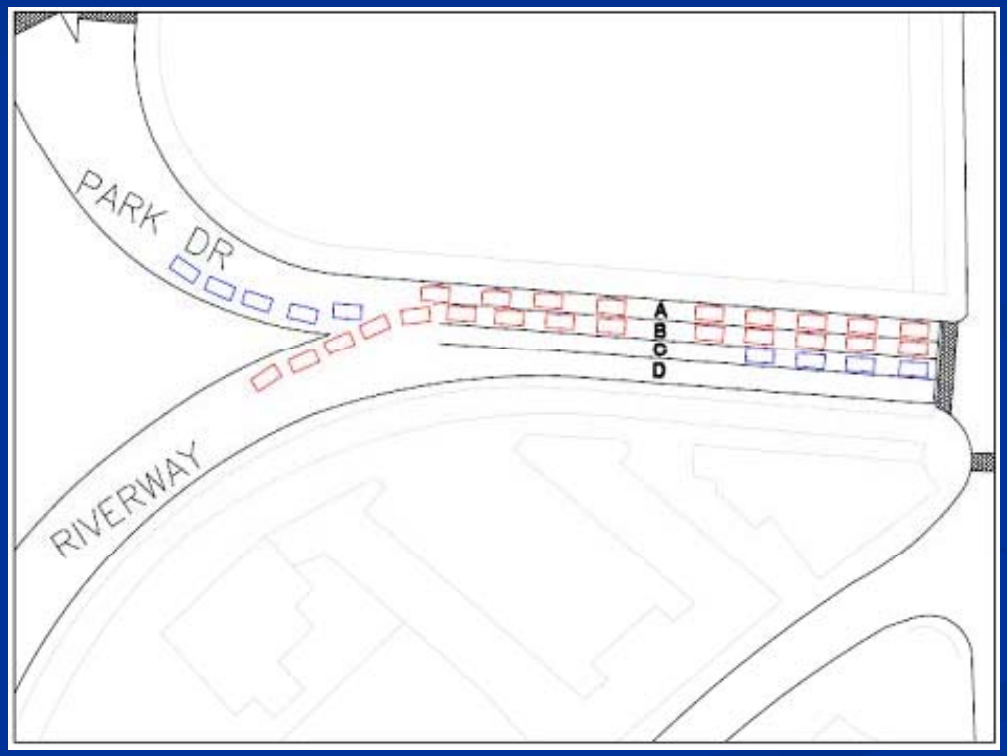
- Heavy weaving traffic movements



- Unsafe for Motorists and Pedestrians

Uncontrolled Weave Blocks Lanes, Reduces Road Capacity by 20%

- Park Drive Blocks Riverway Traffic
- Riverway Blocks Park Drive Traffic

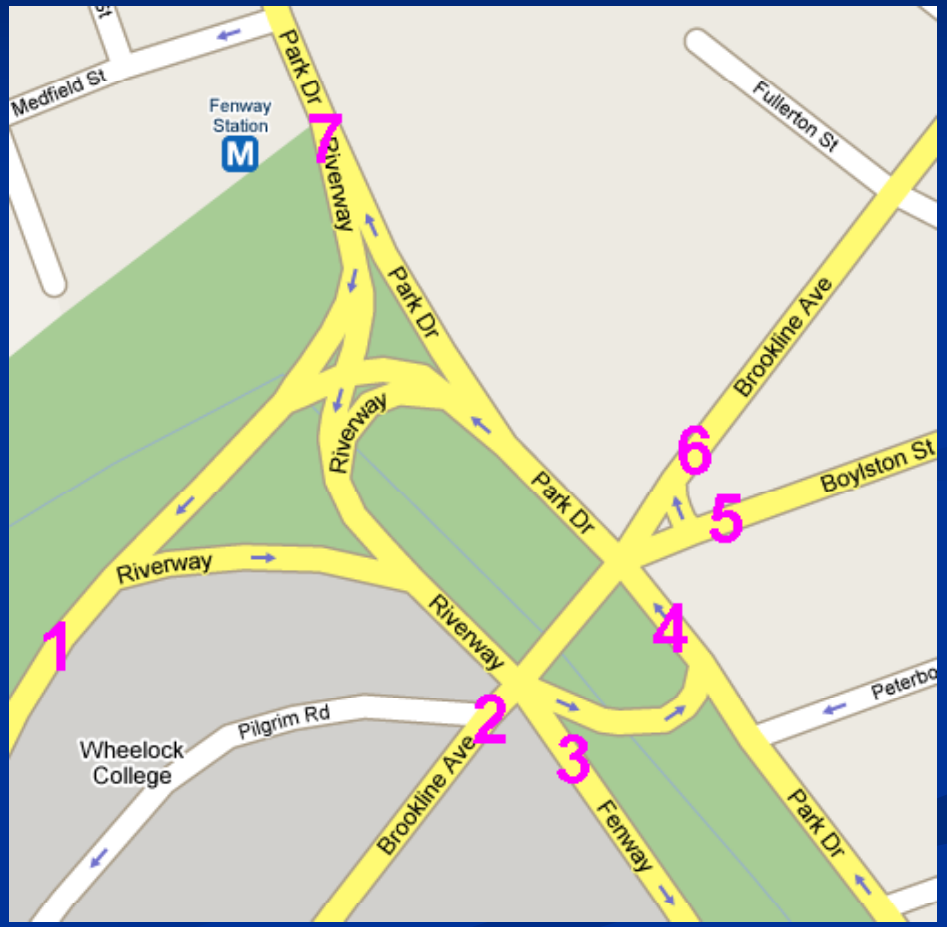


20% of road capacity is lost due to blockage

Brookline Ave Intersections are Bottlenecks

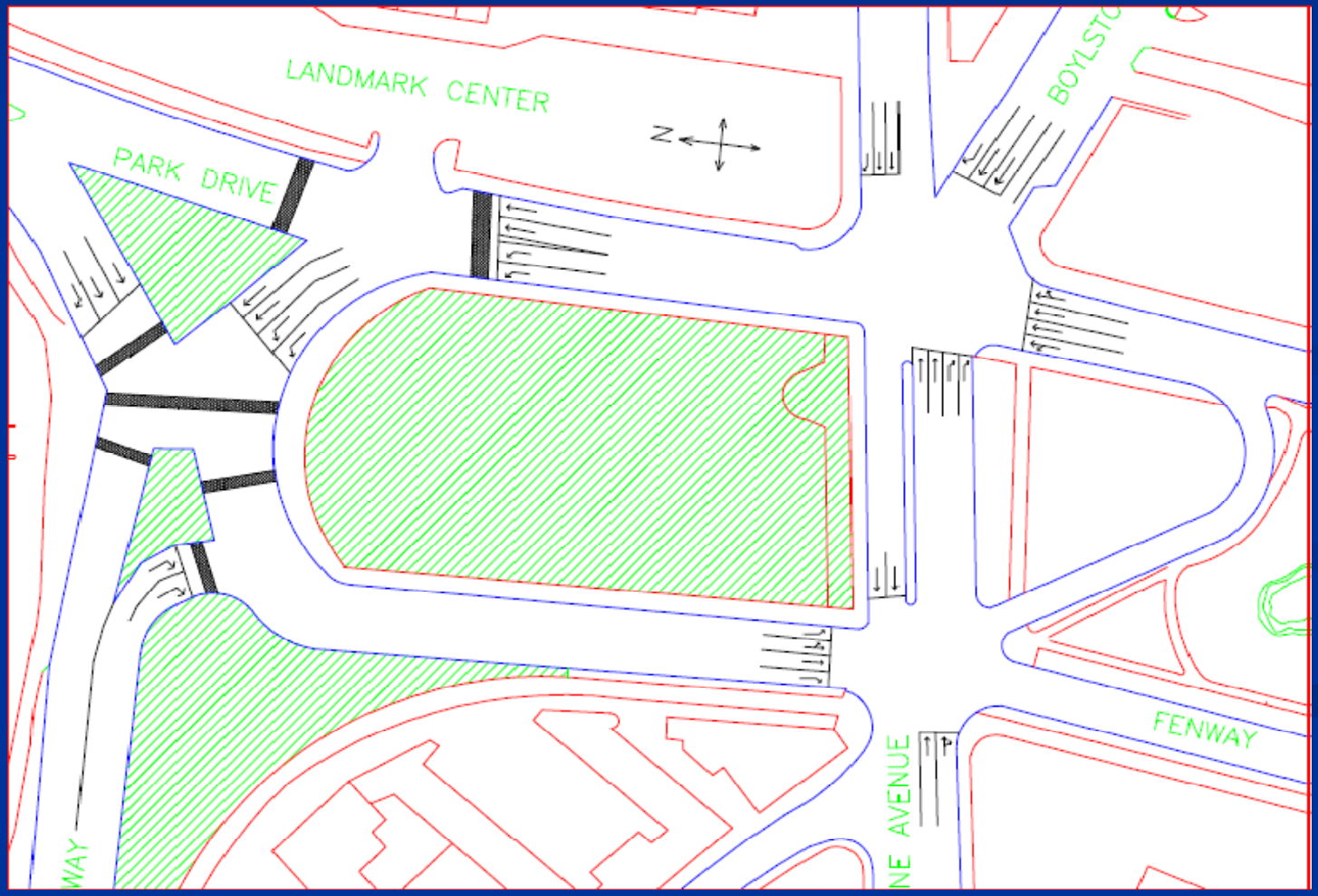
Origin – Destination Data

- A.m. and p.m. peak counts, Winter 2007
- 6 origins x 6 destinations
- New development traffic added, too



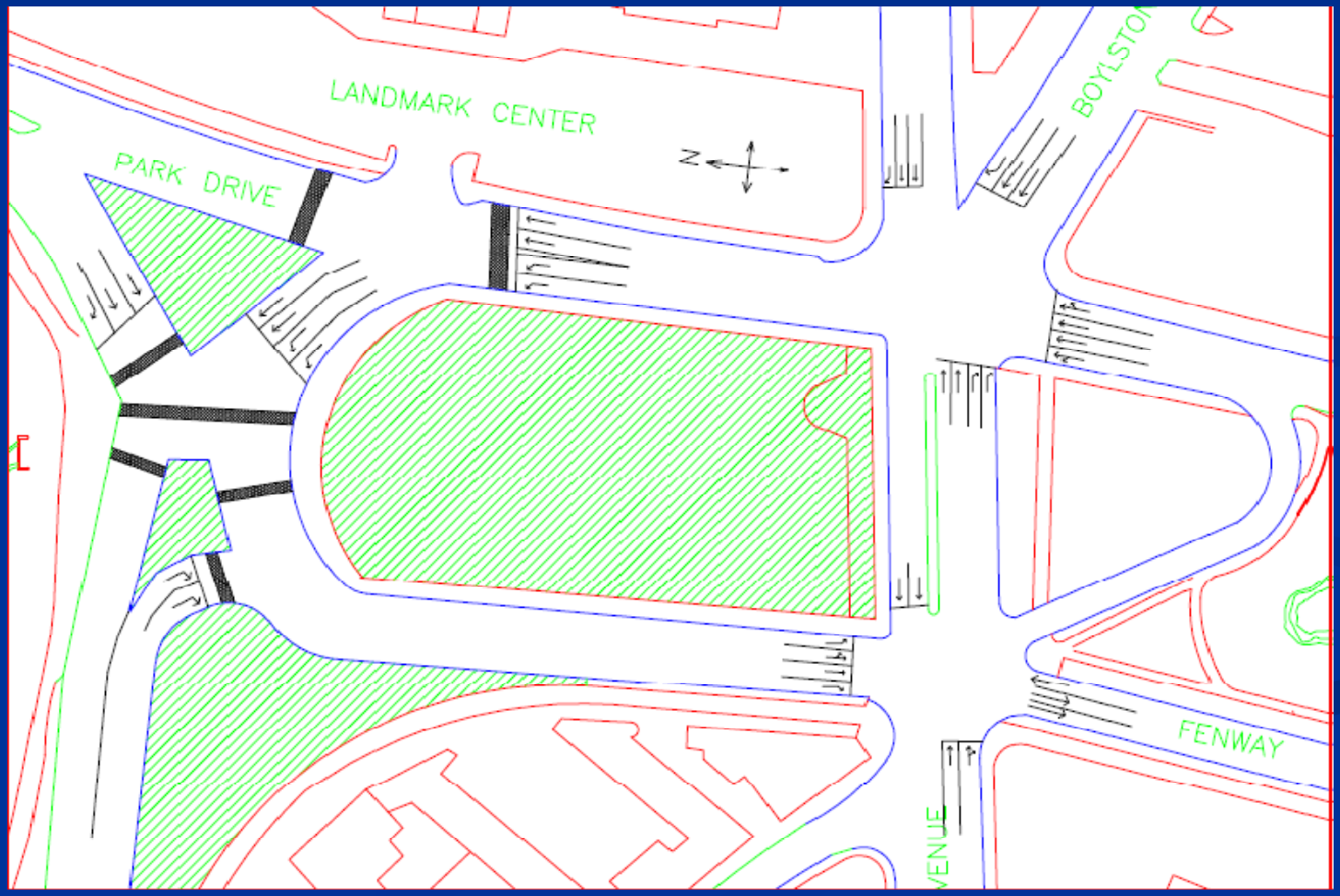
ISTEA Alternative, 1997

- Intermodal Surface Transportation Equity Act
- 1997 by Abbey Group for Landmark Center

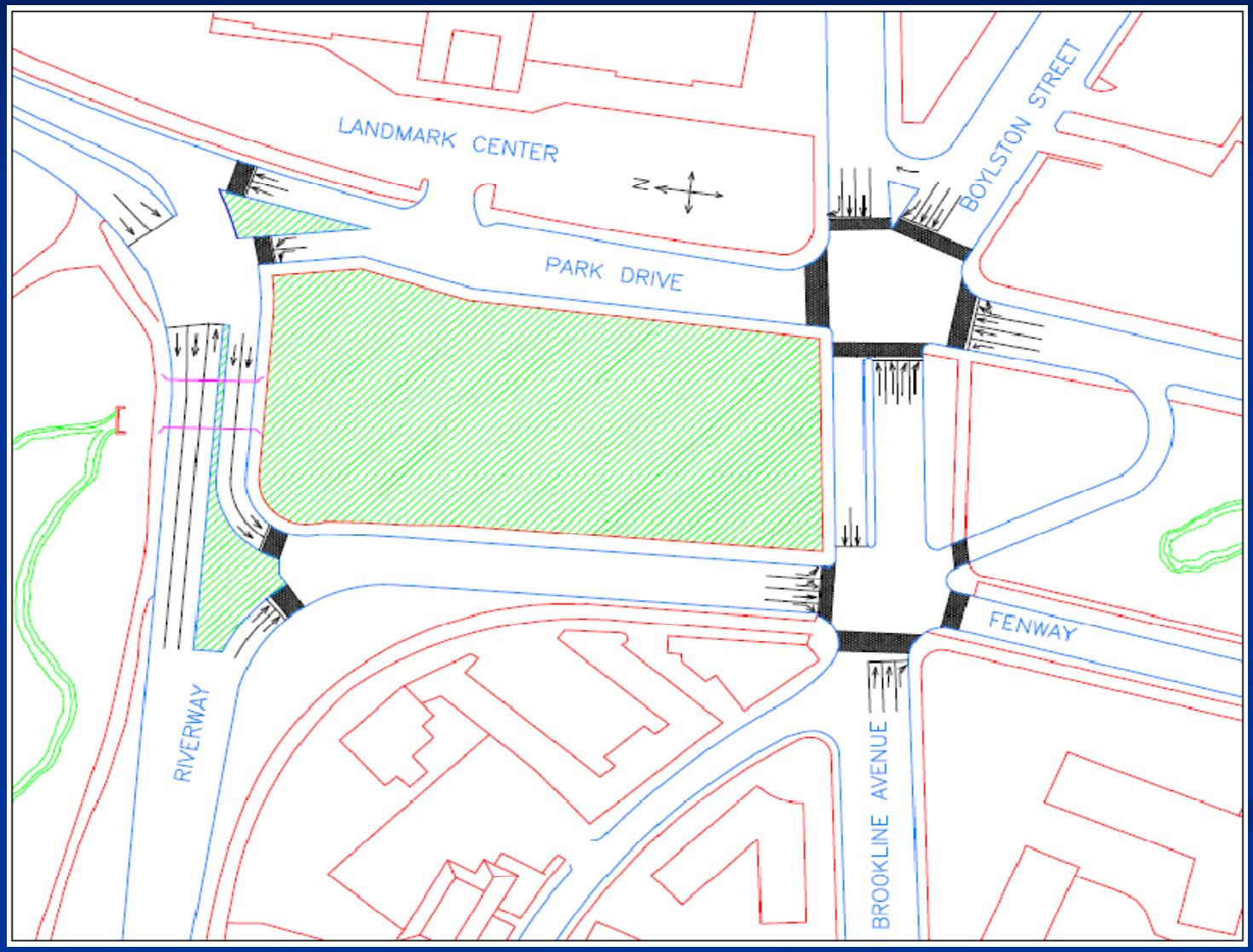


Fenway Bus Contraflow Lane (Urban Ring)

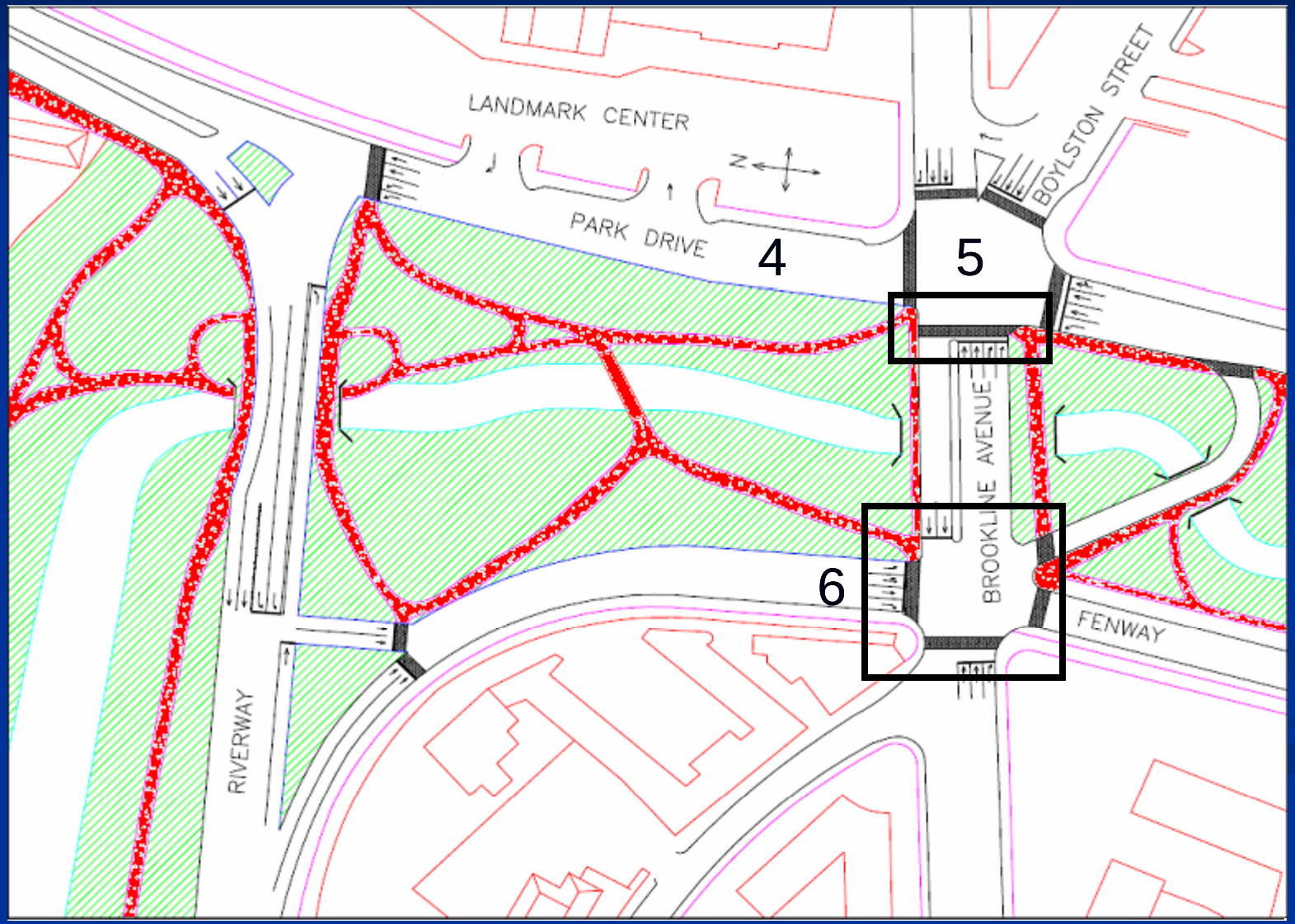
- Vollmer Associates LLP to BRA, BTD
- November 2001



LEMONADE

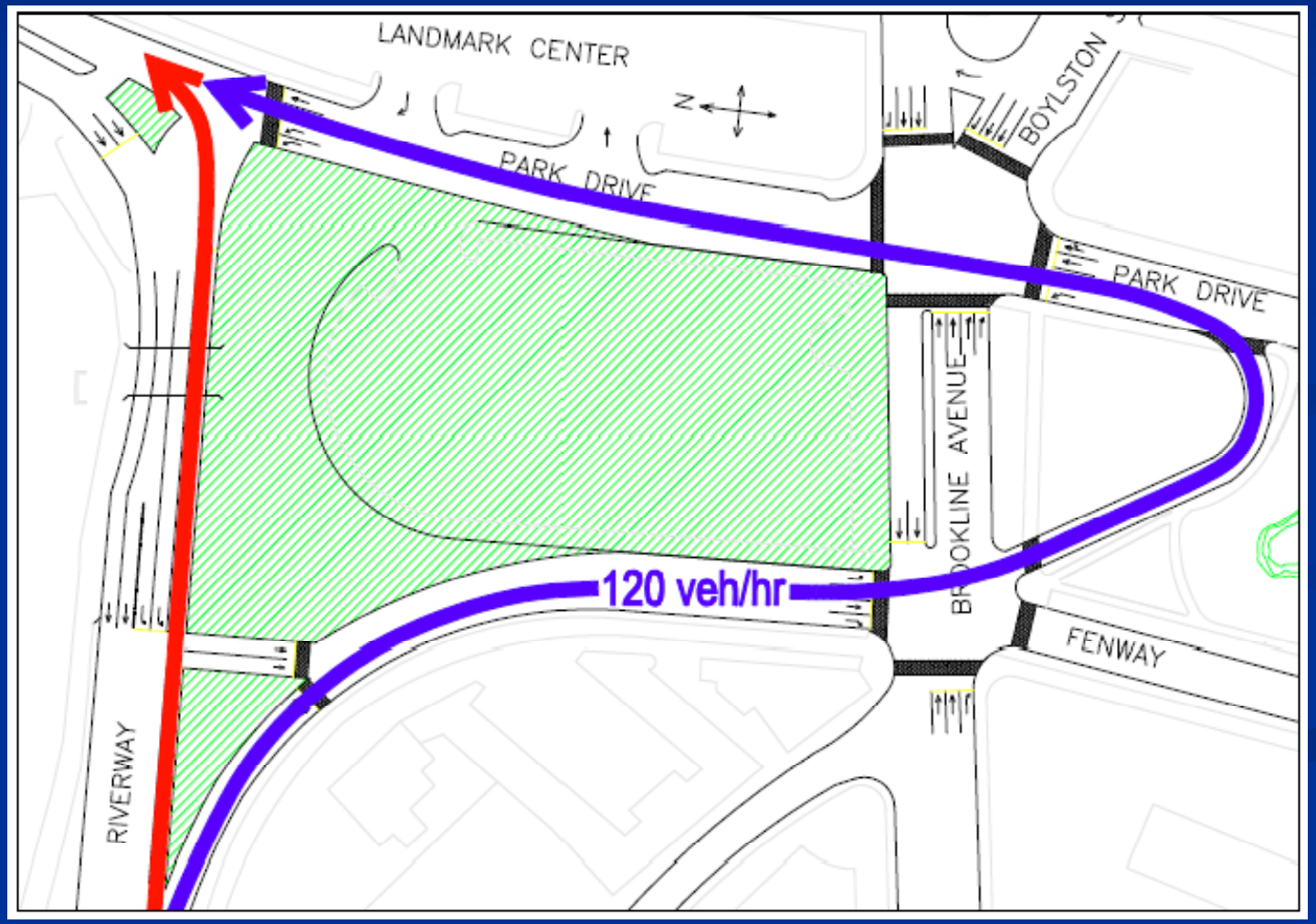

LANDMARK CENTER
PARK DRIVE
BOYLSTON STREET
FENWAY
RIVERWAY
BROOKLINE AVENUE

THE SANDAL

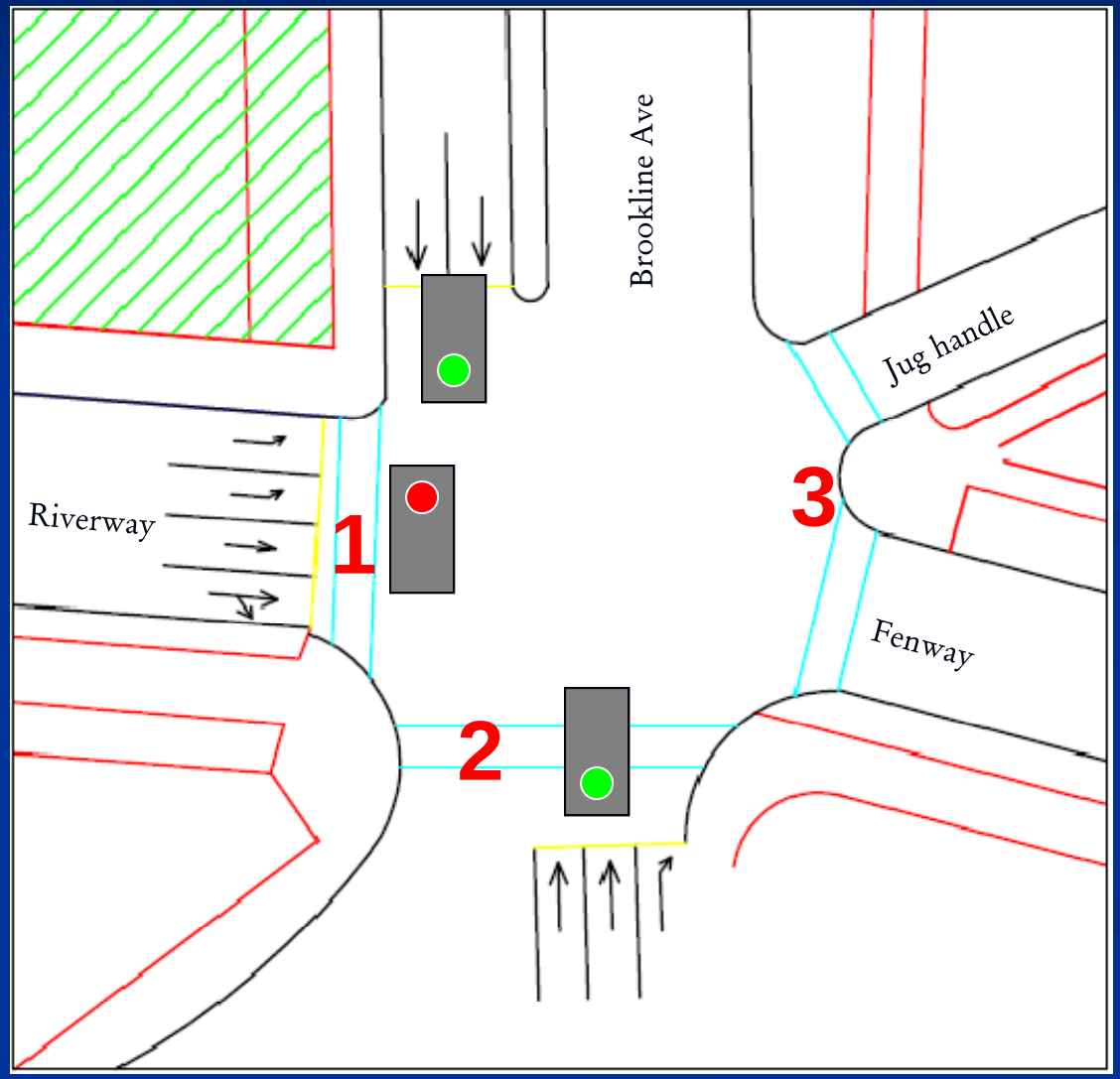

LANDMARK CENTER
PARK DRIVE
BOYLSTON STREET
BROOKLINE AVENUE
FENWAY
RIVERWAY
4
5
6

Riverway Improvements

- Two-Way Riverway Traffic



Removal of All-Ped Phase



Not Necessary For Effective Crossings:

1) Walk Concurrently with Brookline Green

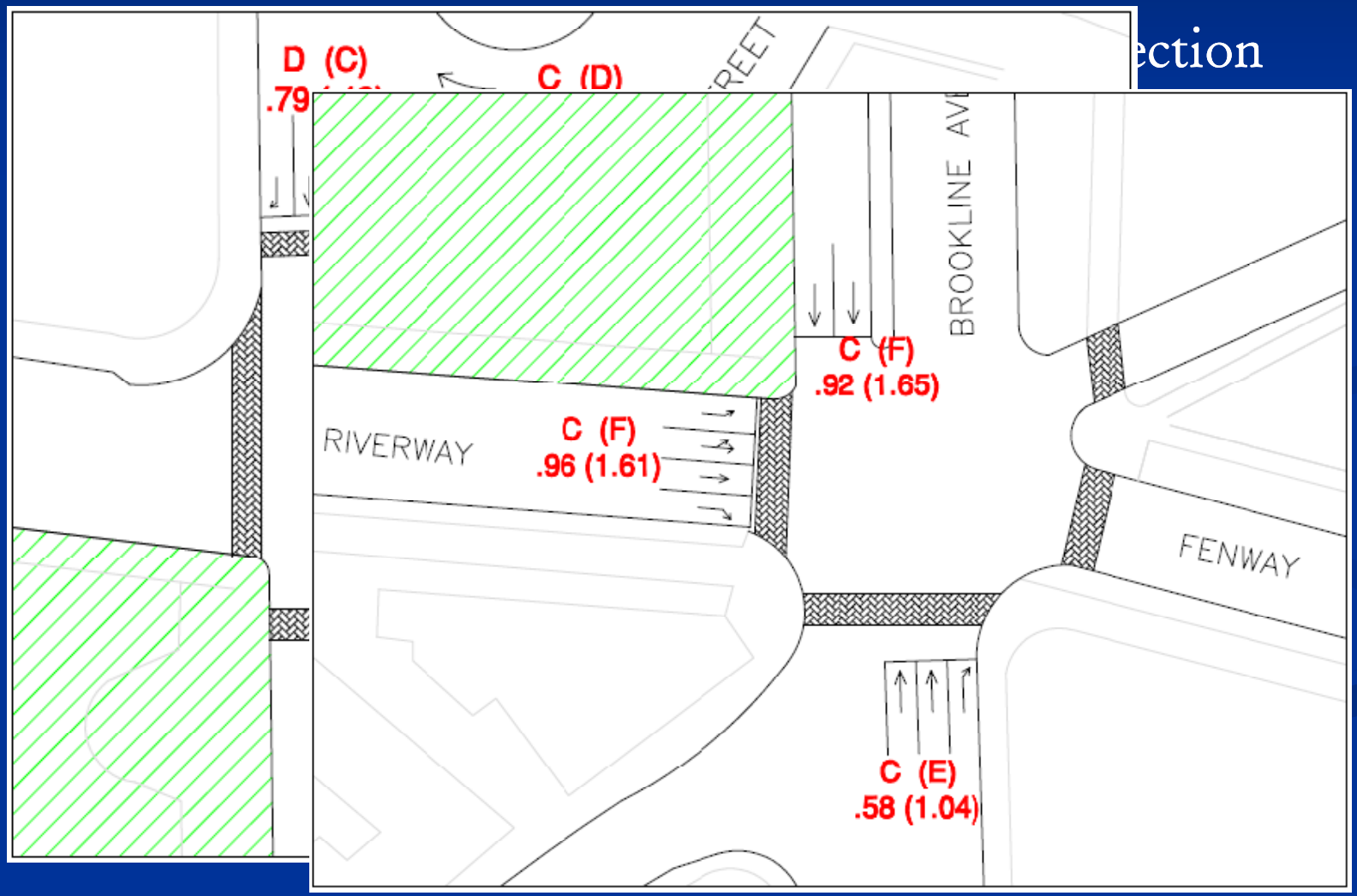
2) Walk with Riverway Green

3) Walk with 10 second Lead on Brookline Green

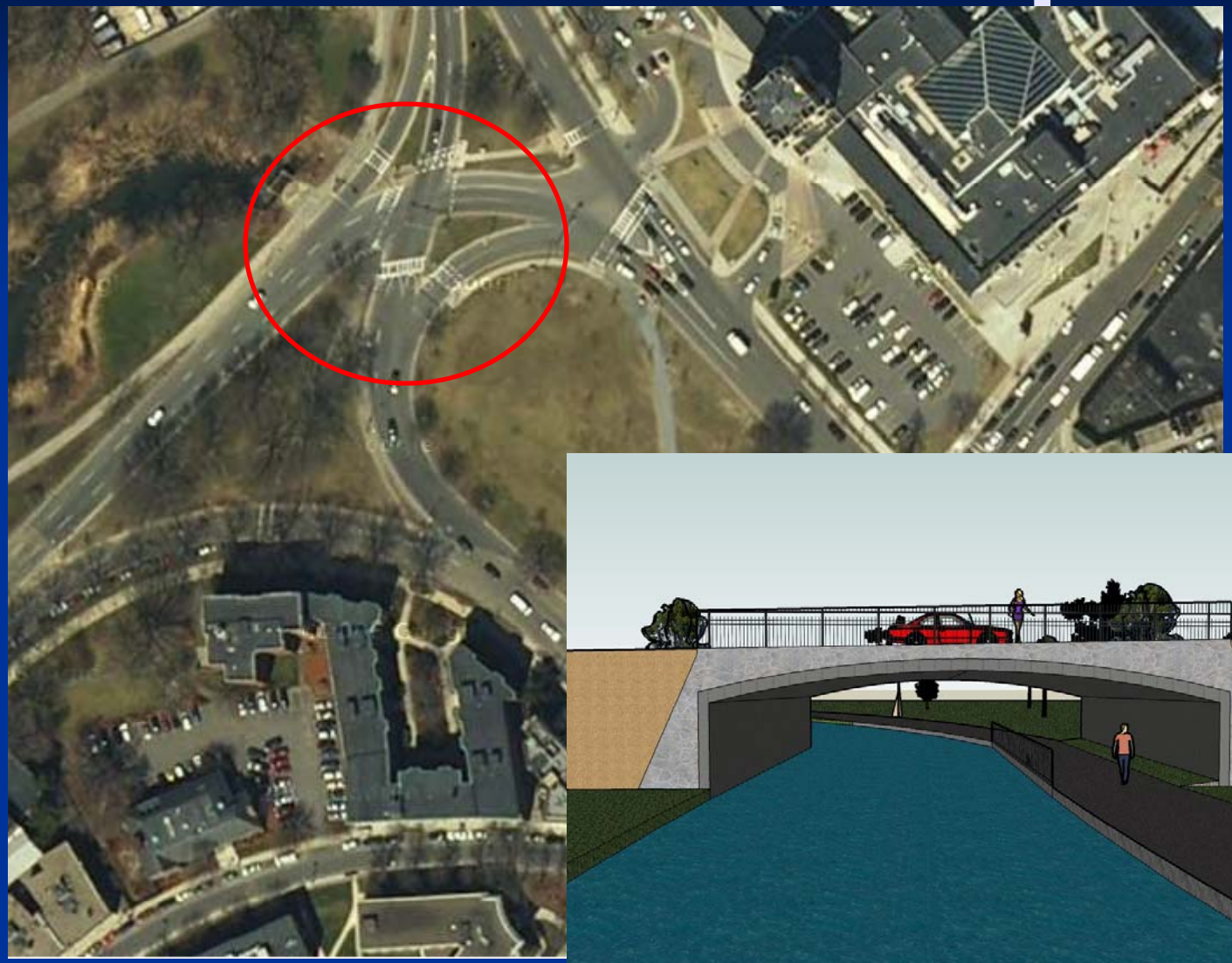
Removing all-ped adds 23% to Brookline Ave. capacity

Level of Service Analysis

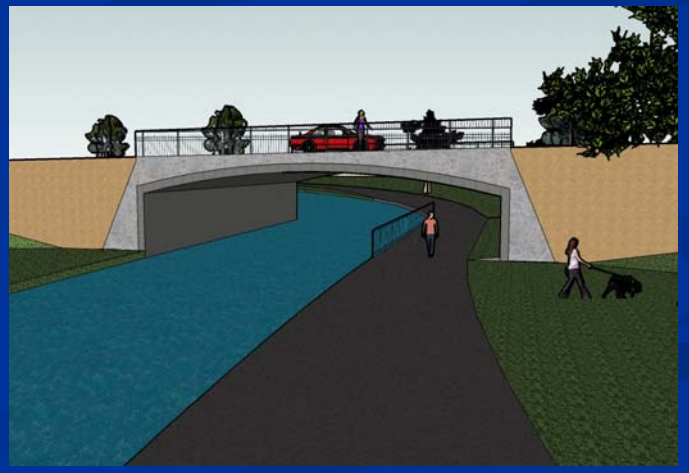
- Boylston/Park Drive Intersection (a.m. peak)



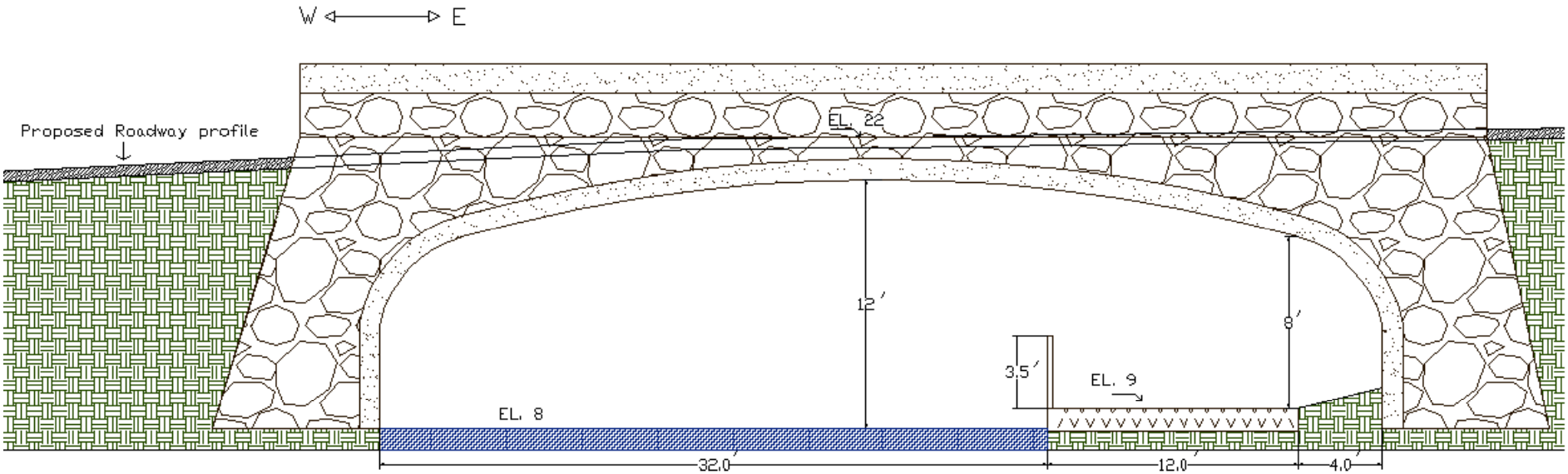
Pedestrian Underpass



- Safe, attractive route for cyclists and pedestrians
- Restores Emerald Necklace connectivity
- Benefits traffic flow



Proposed Cross Section:



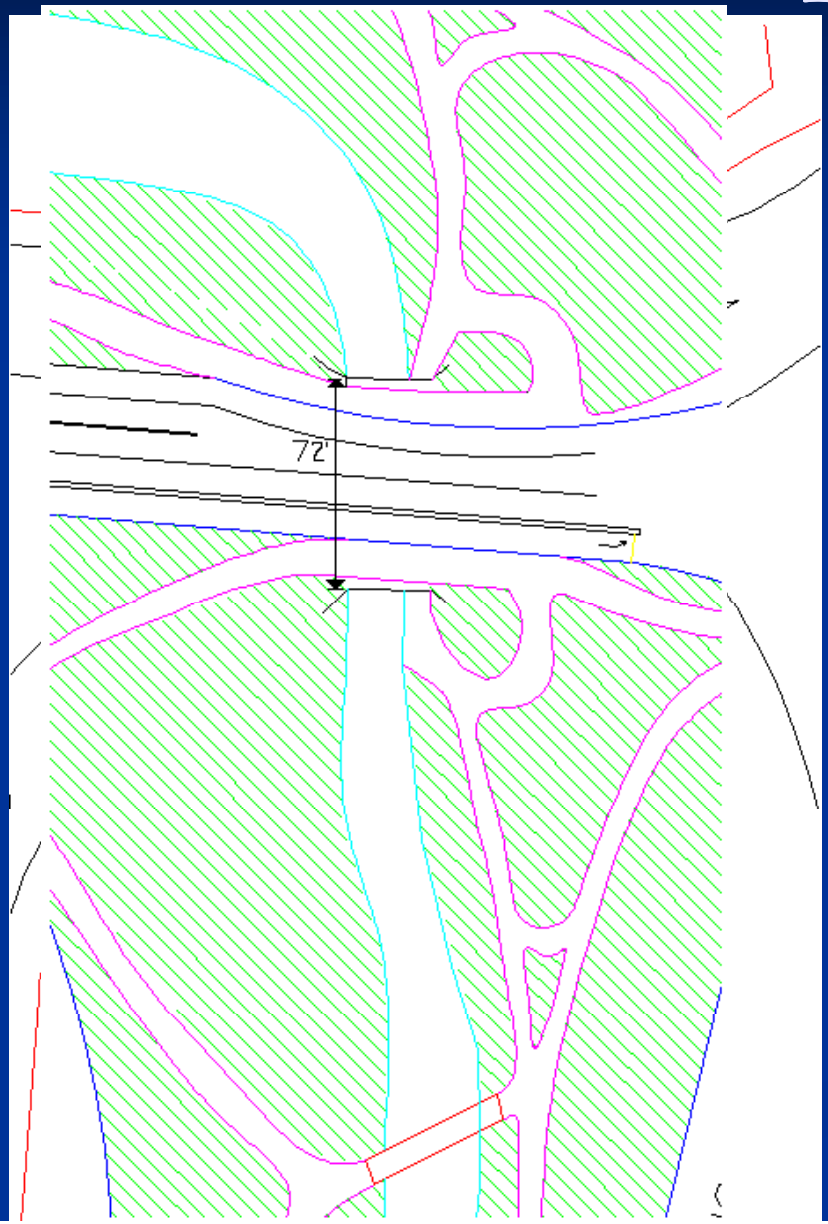
Similar Bridges

Northern Ave Bridge,
Fort Point Channel

Longwood Ave. Bridge

also ... Eliot Bridge Underpasses (Storrow Dr., Mem'l Dr.)

Underpass length



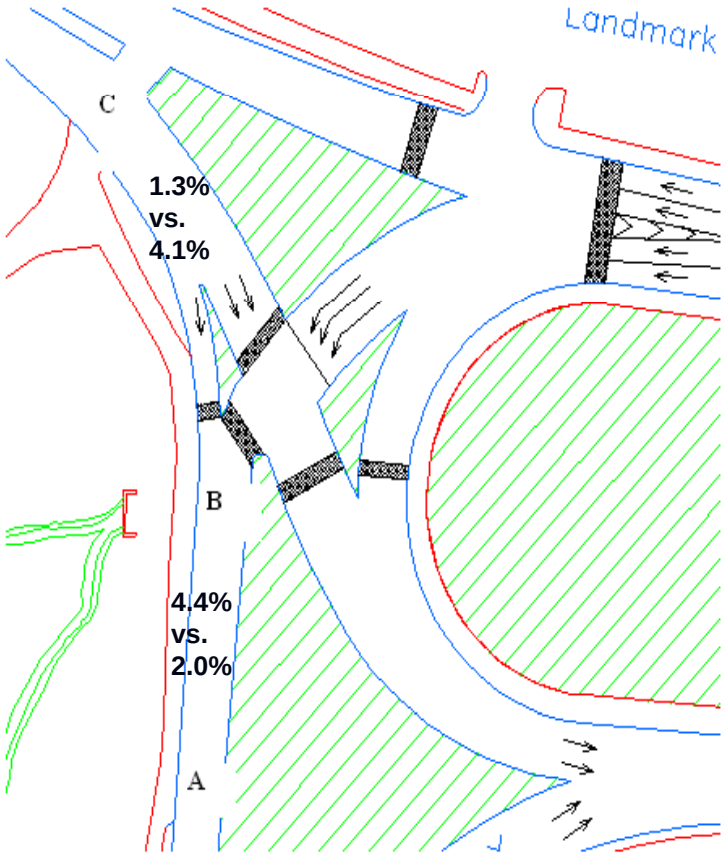
Current Underpass Length = 180 ft

Proposed Underpass length = 54 to 72 ft

- Lower cost
- Better for path users
- Benefits river ecology

Raising the Bridge 3 ft:

Minor effect on Riverway profile:



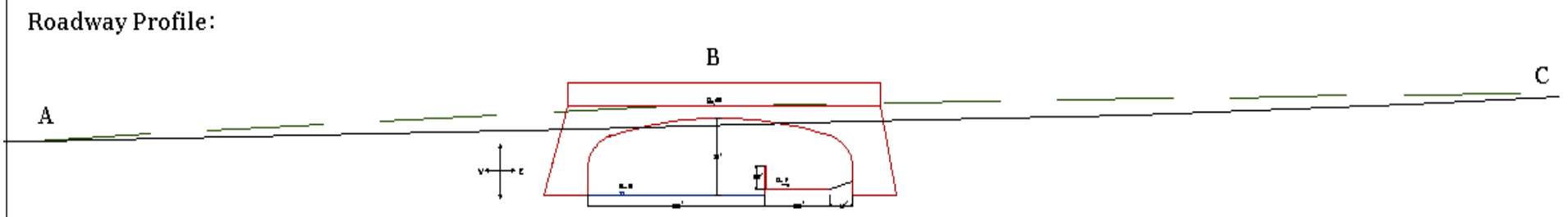
Elevations:

C – 24.4 ft

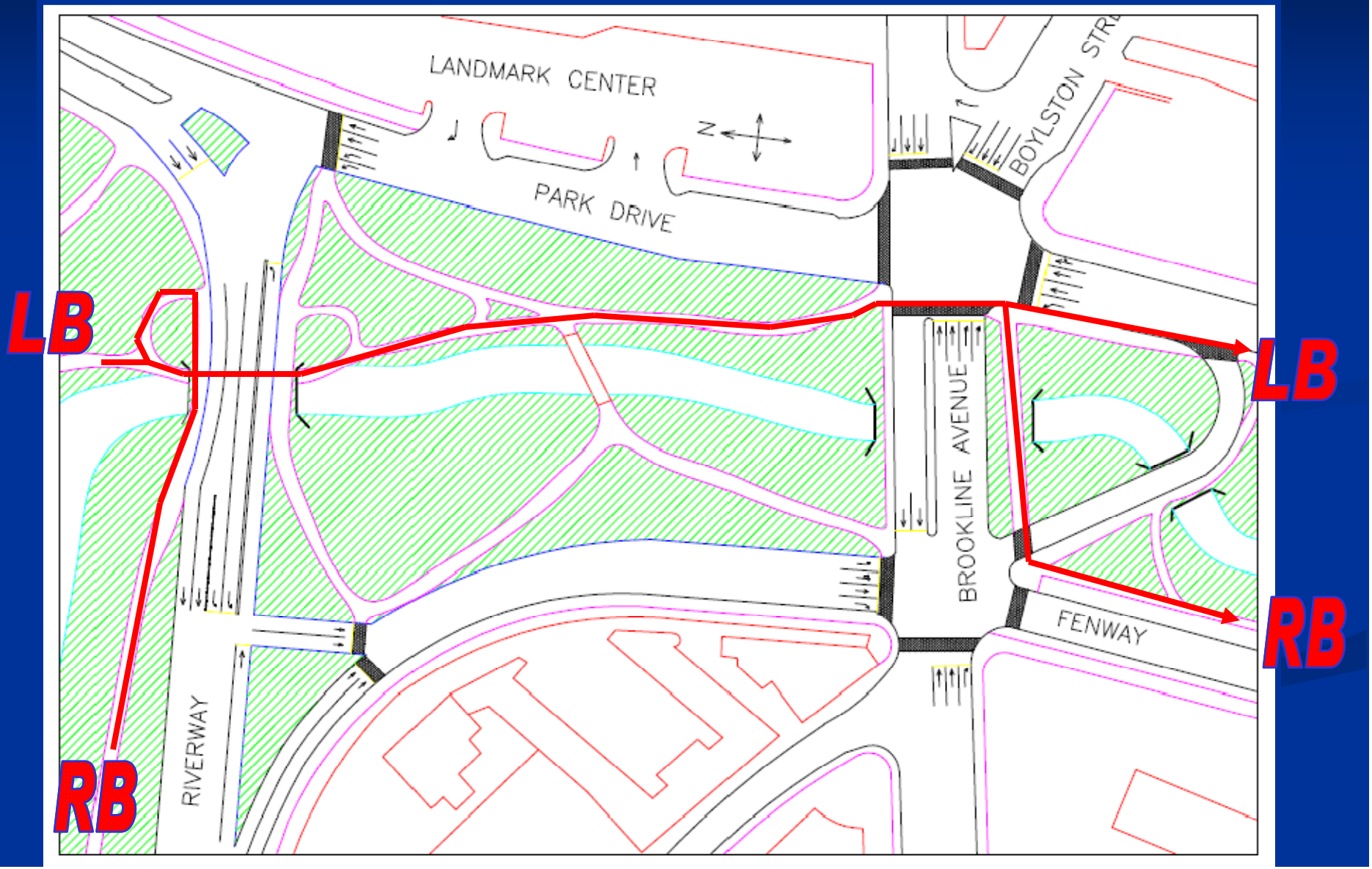
B – 22 ft

A – 16.5 ft

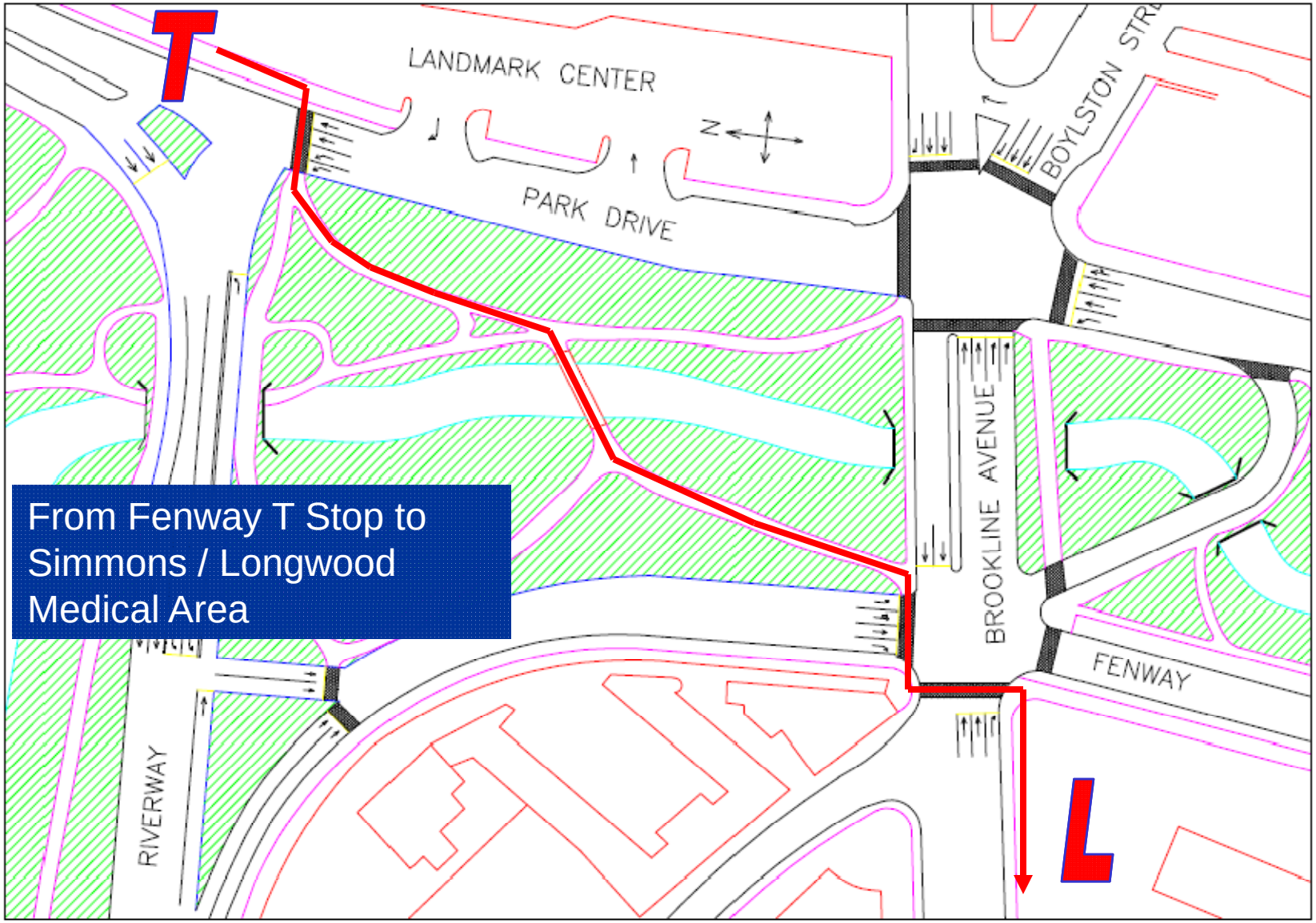
Maximum grade = 4.4%



Comprehensive Path Network

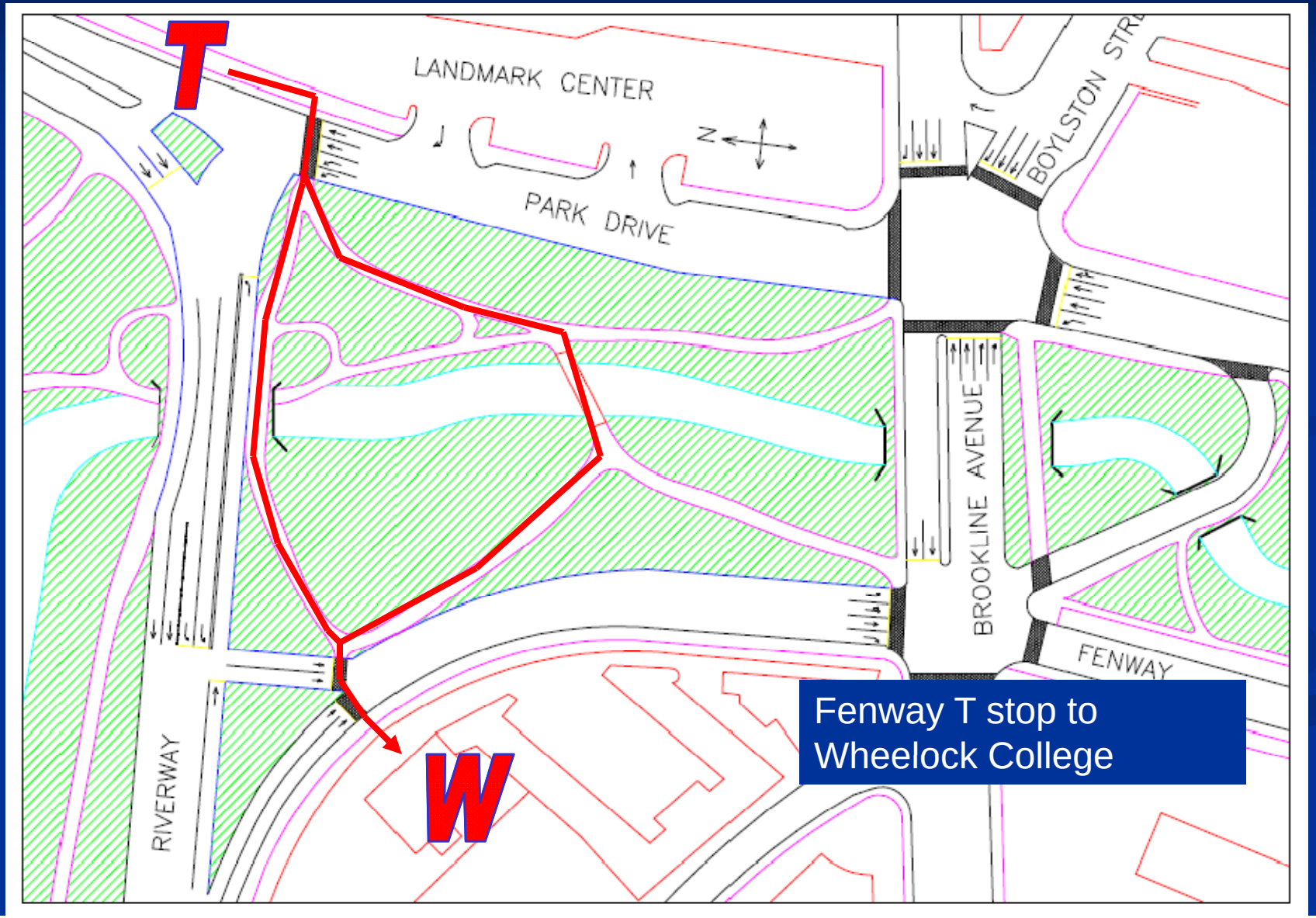


Cross-River Paths



Mid park bridge

Other Cross-River Paths



Cost Estimate
Road Reconstruction

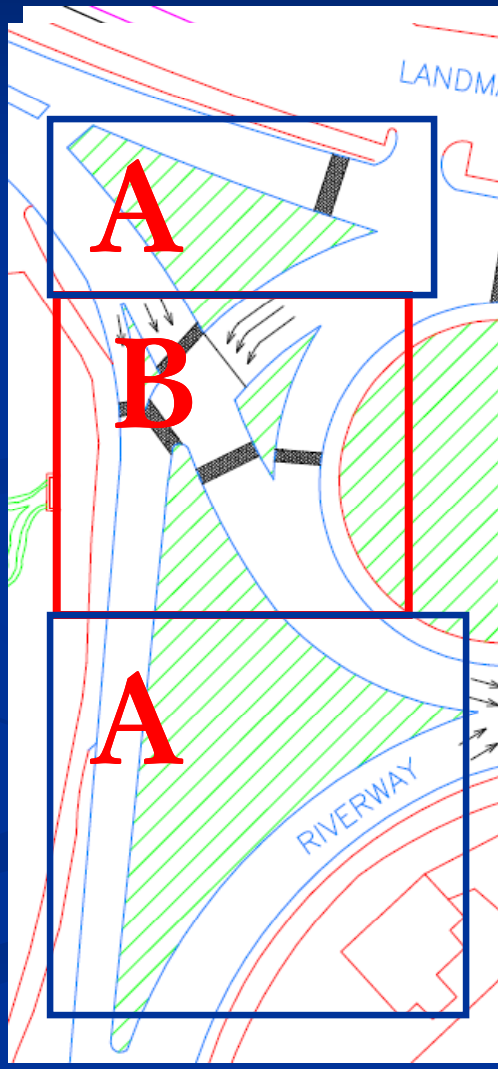
Much less road to rebuild compared to current design

Will have to reconstruct other sections of the Riverway

Section	A	B	C
Excavation	$7,250	$3,000	$5,750
Grading	$8,055	$3,500	$6,388
Paving	$32,222	$15,000	$25,555
Total (With 20% added for engineering and contingency)	$57,000	$26,000	$45,000

Difference: $38,000

C



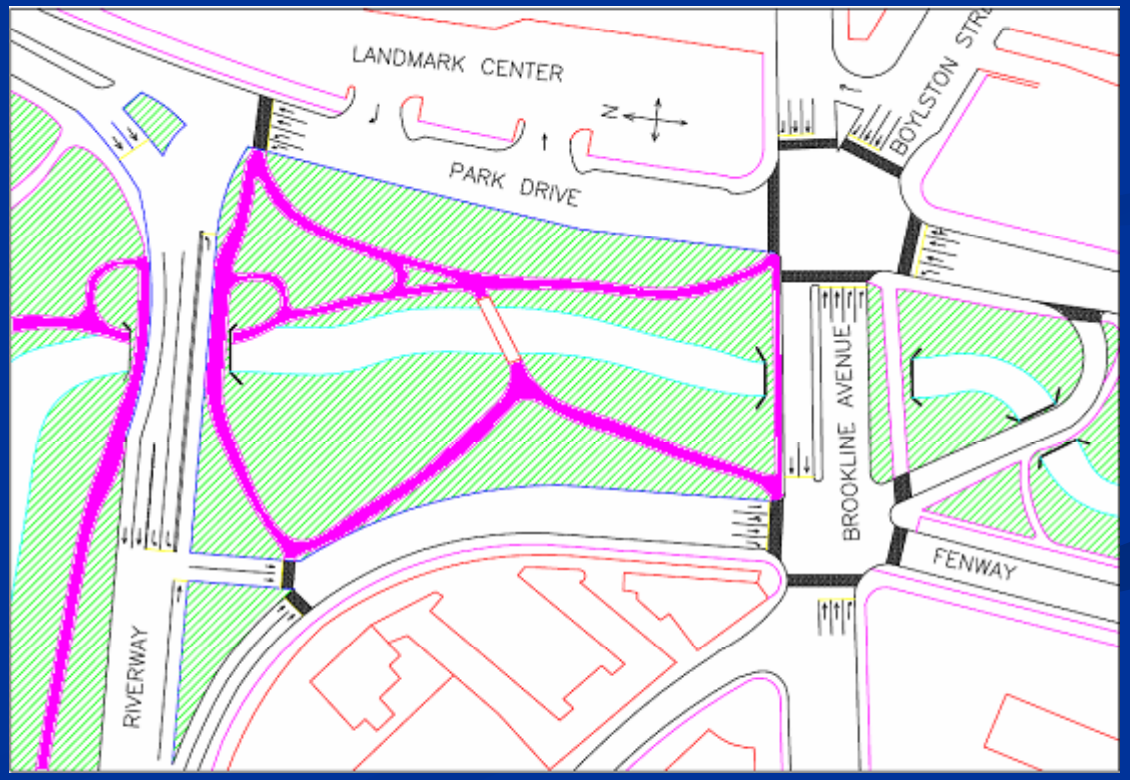
Cost Estimate
Park Paths

8 & 12 ft paths

3” thick asphalt at $12 / sq yd

23,280 sq ft

$31,000



Cost Estimate
Bridges

Riverway Bridge
Engineer's Estimate = $ 228,000
plus foundation work
(less expensive than Army Corp Bridge)

Mid Park Ped Bridge
Engineer's Estimate = $41,000
plus foundation work

Making Pedestrian and Vehicular Improvements to the Landmark Center Rotary

Conclusion

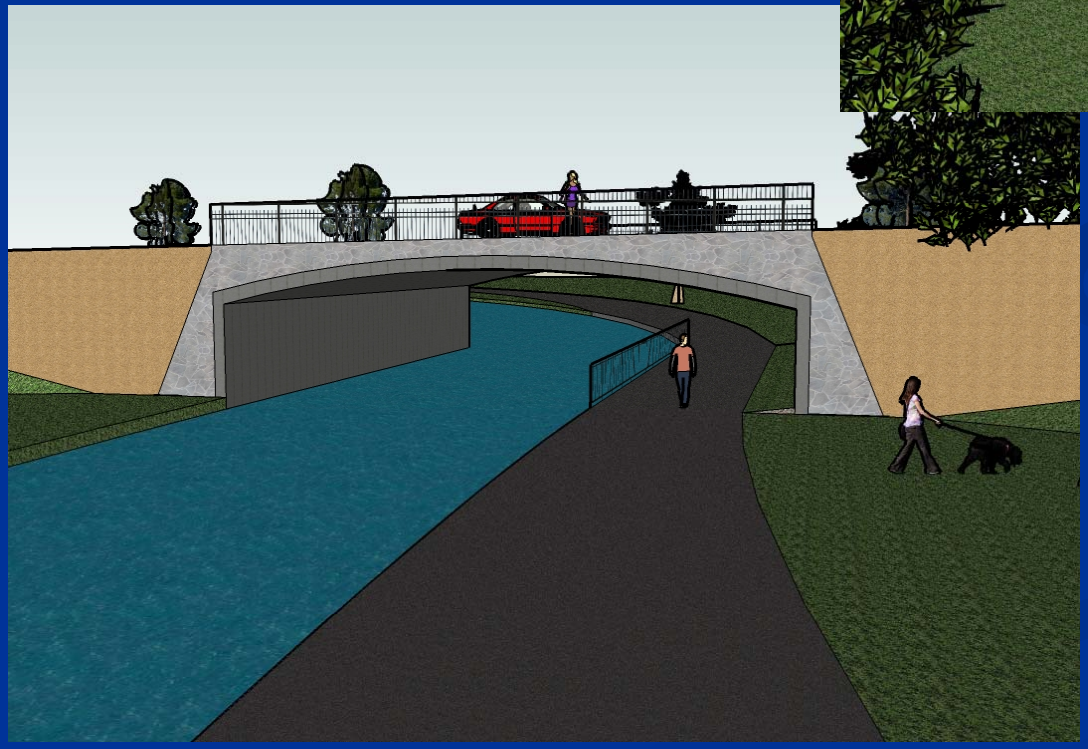
Vehicular Improvements

- Improved Safety
- Improved Capacity to accommodate development
- Direct Riverway to Park Drive connection

Pedestrian & Bicyclist Improvements

- Vastly improved access to and through the park
- Emerald Necklace greenway integrity restored
- Increased Park Area
- Improved Pedestrian Crossings

Don't let this opportunity float away



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