

DCR's Back Bay Fens Crosswalk Improvements



DCR Public Meeting

**February 20, 2014, 6:30 p.m. – 8:00 p.m.
Museum of Fine Arts, Riley Seminar Room
465 Huntington Avenue, Boston, MA**



Commonwealth of Massachusetts

Governor

Deval L. Patrick

Energy and Environmental Secretary

Richard K. Sullivan, Jr.

Department of Conservation and Recreation Commissioner

John P. Murray



DCR Mission Statement

“To protect, promote and enhance our common wealth of natural, cultural and recreational resources for the well-being of all.”



Emerald Necklace Conservancy

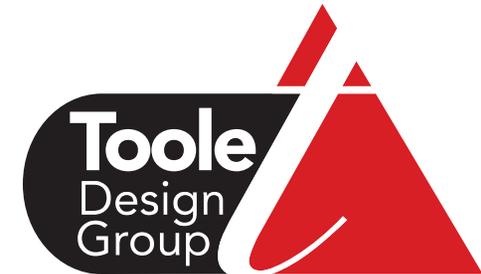
“To renew, enliven, and advocate for the Emerald Necklace park system.”

Crosswalk Improvements along the Fenway

Project Goals

- Increase safety of pedestrian and cyclists crossing the Fenway
- Improve access to and from the Back Bay Fens by eliminating awkwardly designed and indirect crossings
- Complete the Emerald Necklace segment of “Linking the Corridors” route
- Facilitate pedestrian and bike movement from the bike lane and shared use path on Forsyth Way into the Back Bay Fens
- Review “desire lines” and reconfigure connections to more closely mirror pedestrian and bicycling movement in the area
- Build on the Emerald Necklace Treatment Guidelines for Paths and Crosswalks

Toole Design Group's Mission Statement

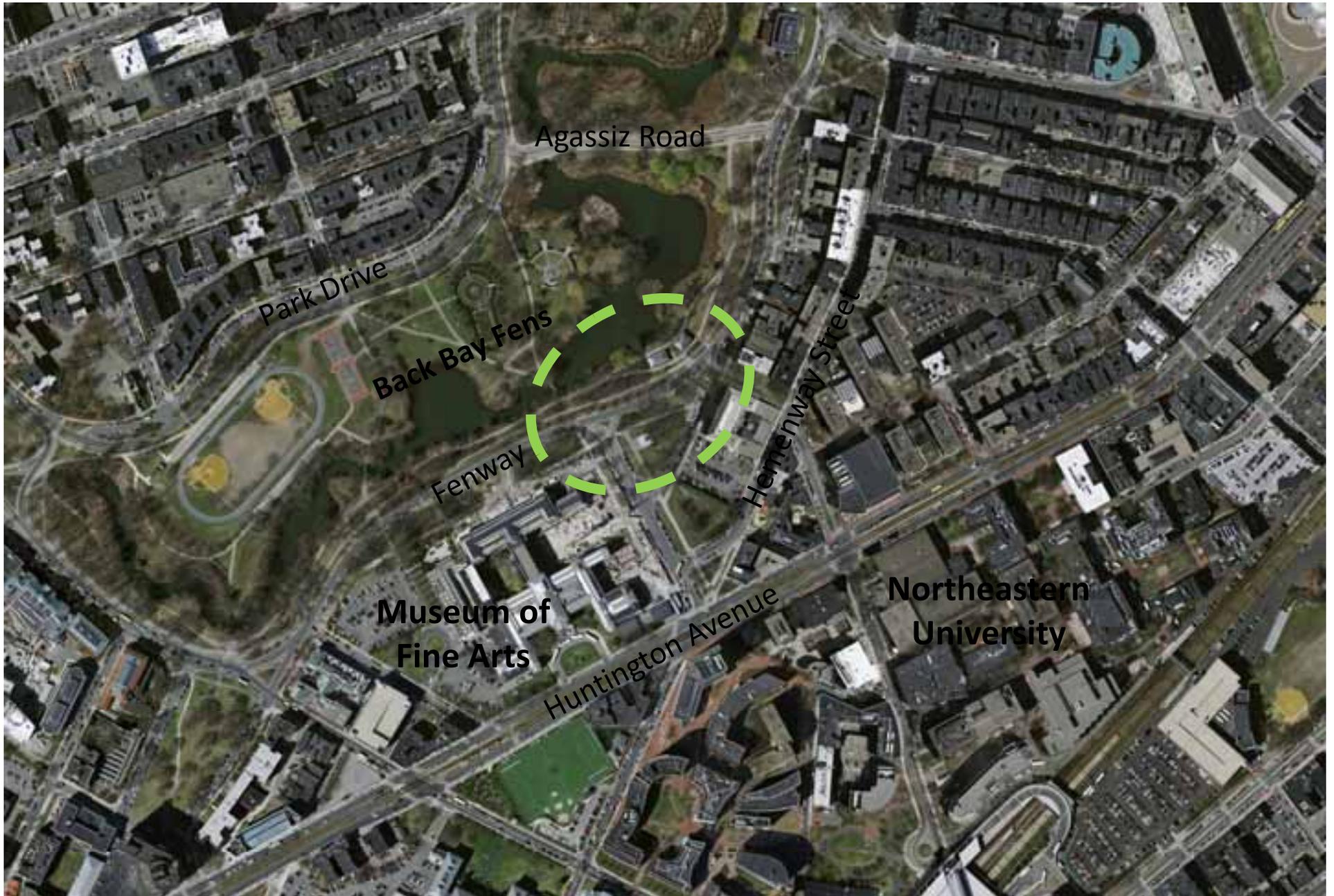


*“Making walking and biking possible
for every trip”*



Outline

- Study Area
- Existing Conditions Analysis & Findings
- Improvements & Alternatives
- Next Steps



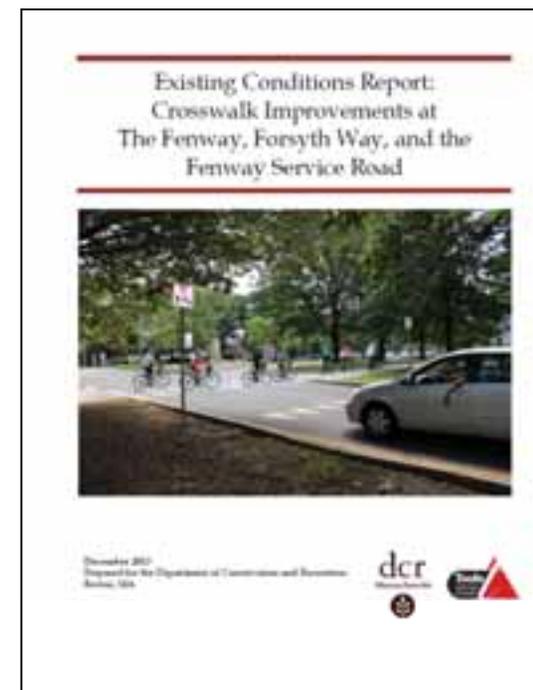
Locus Map



Study Area

Existing Conditions Analysis

- Geometric conditions
 - ADA compliance
 - Sight distance
- Intersection elements
 - Traffic control device
 - Pavement markings
 - Signs
 - Lighting
- Traffic data
 - Motor vehicle speeds
 - User volumes
 - Vehicle classifications
- Crash data
- Behavioral observations
 - User conflicts
 - Desire lines



Previous Planning Projects

- Crosswalk and Pathway Treatment Guidelines for the Emerald Necklace Parks (2012)
- Parkways Preservation Treatment Guidelines (2006)
- Emerald Necklace Master Plan (2001)
- Recommendations:
 - Raised crosswalk
or
 - On-demand pedestrian flashing signal

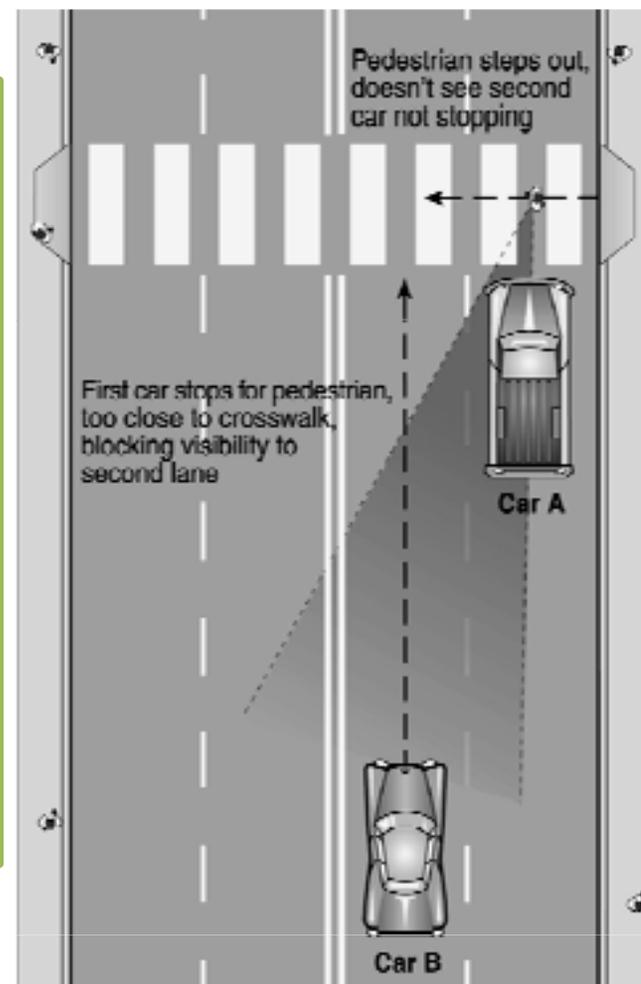
Existing Conditions Findings



Existing Conditions Findings



Existing Conditions Findings



Existing Conditions Findings

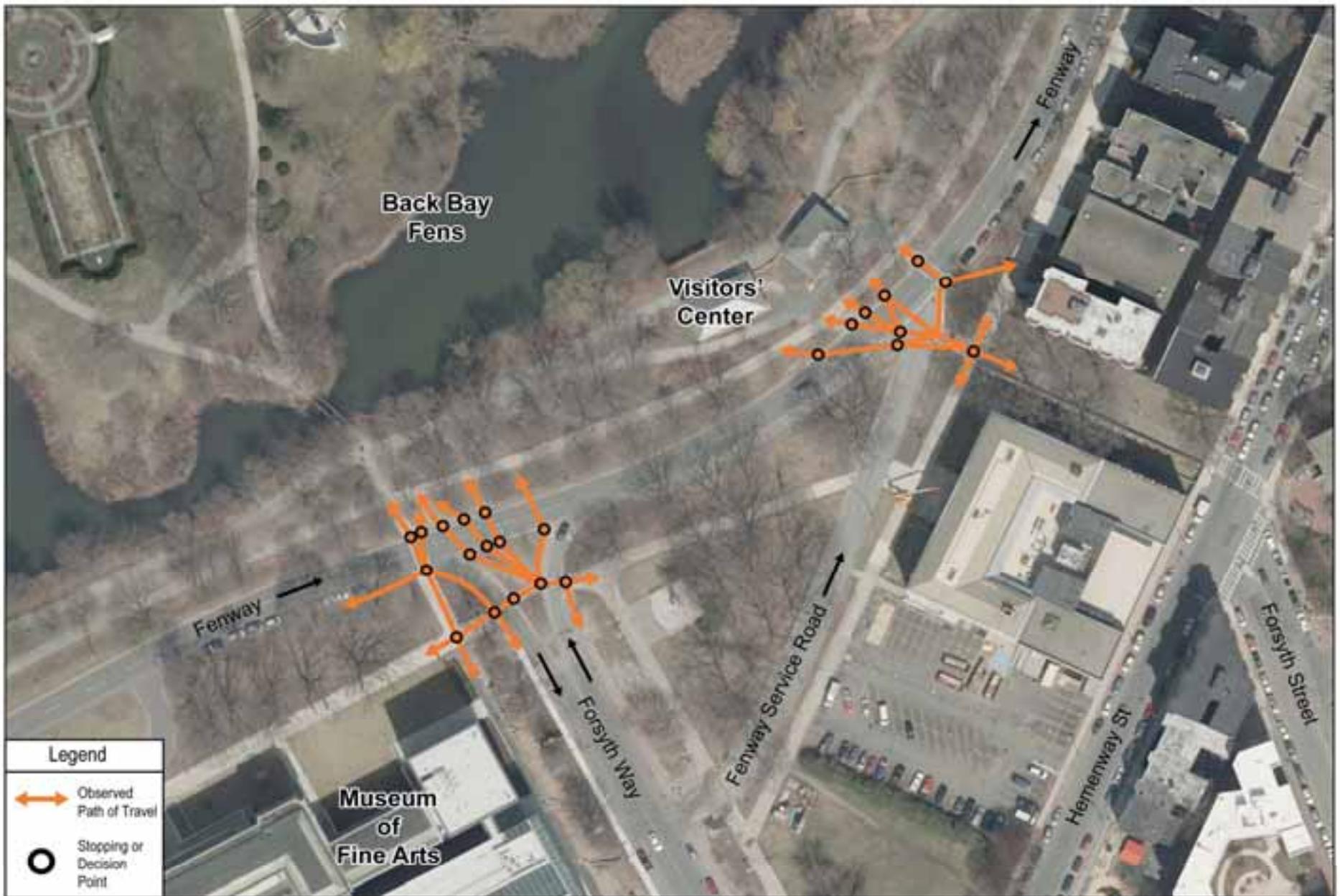


Existing Conditions Findings



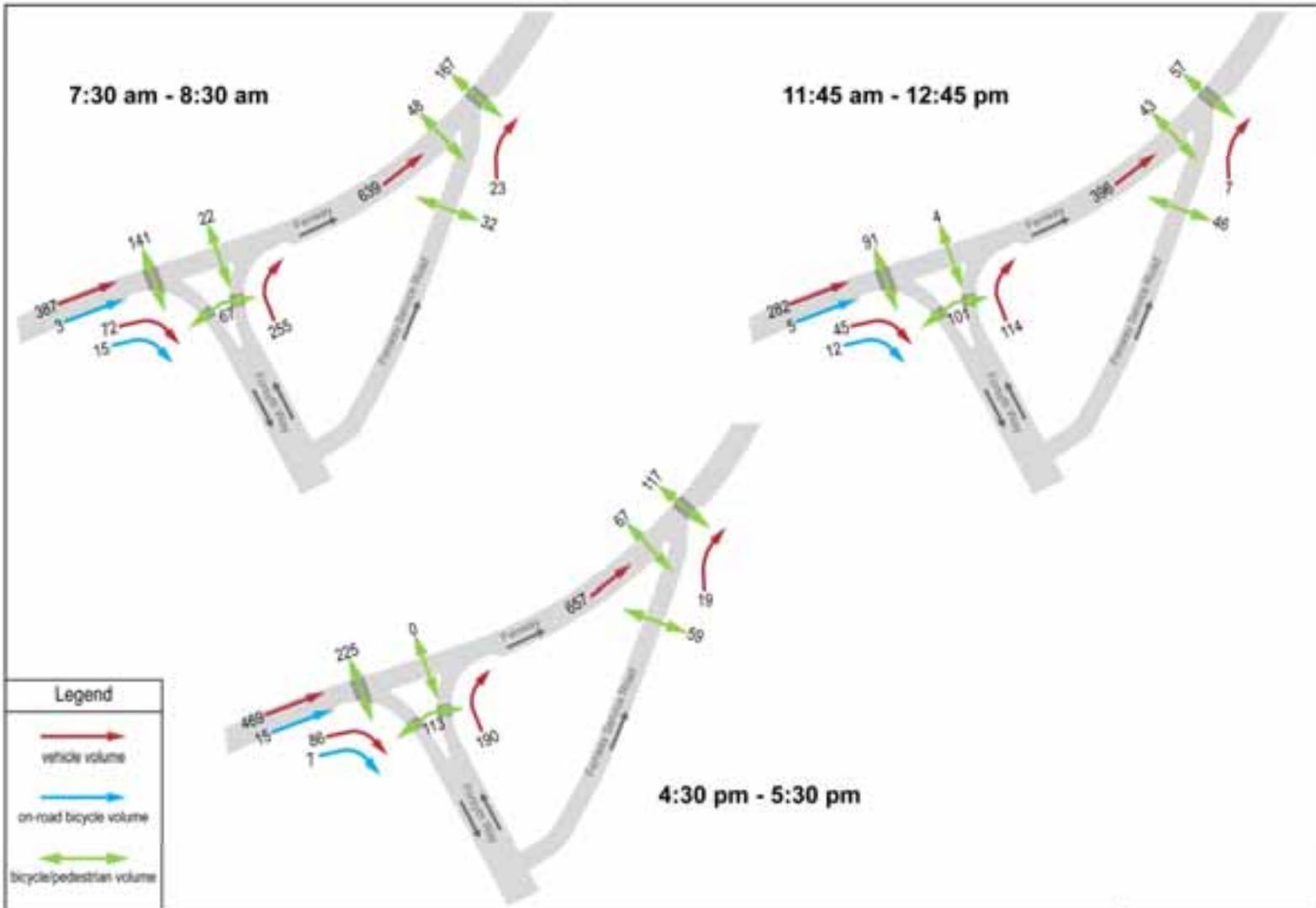
Existing Conditions Findings





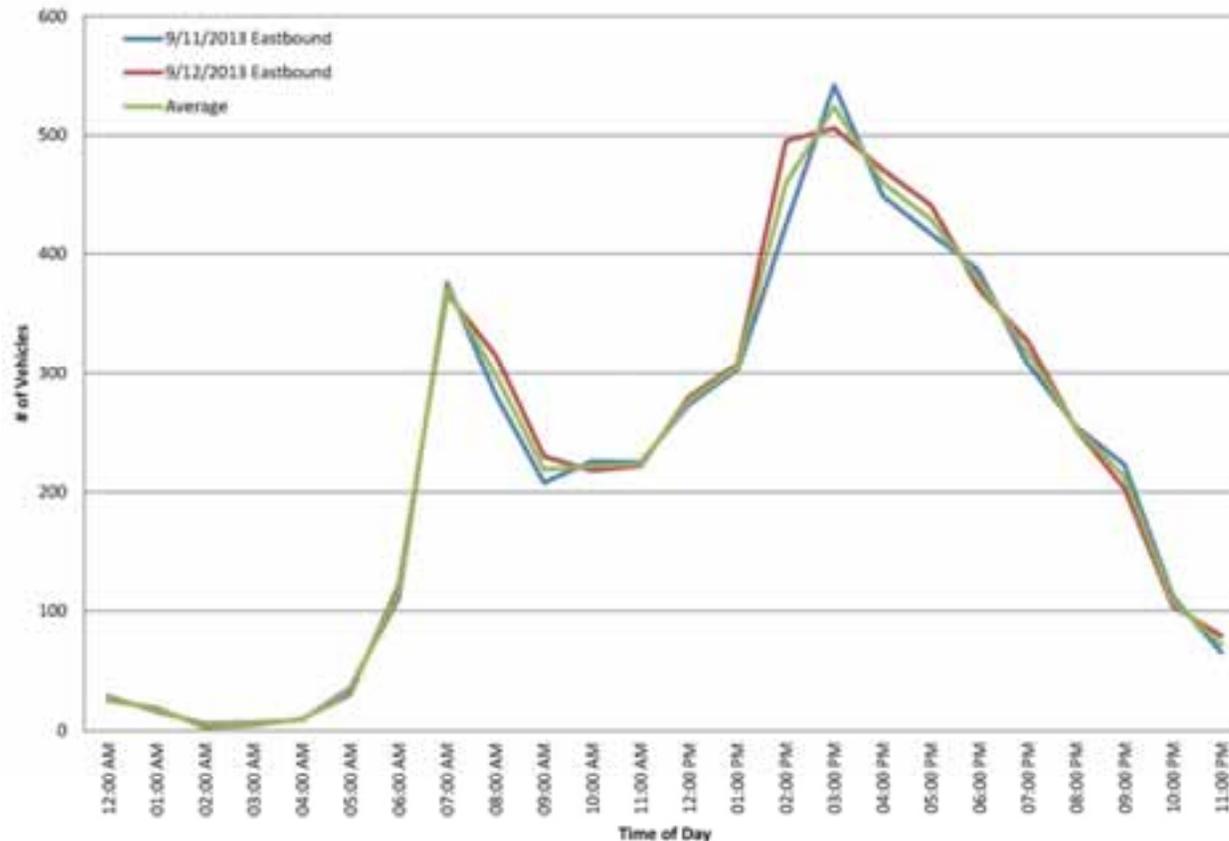
Pedestrian Observed Path of Travel

Traffic Data

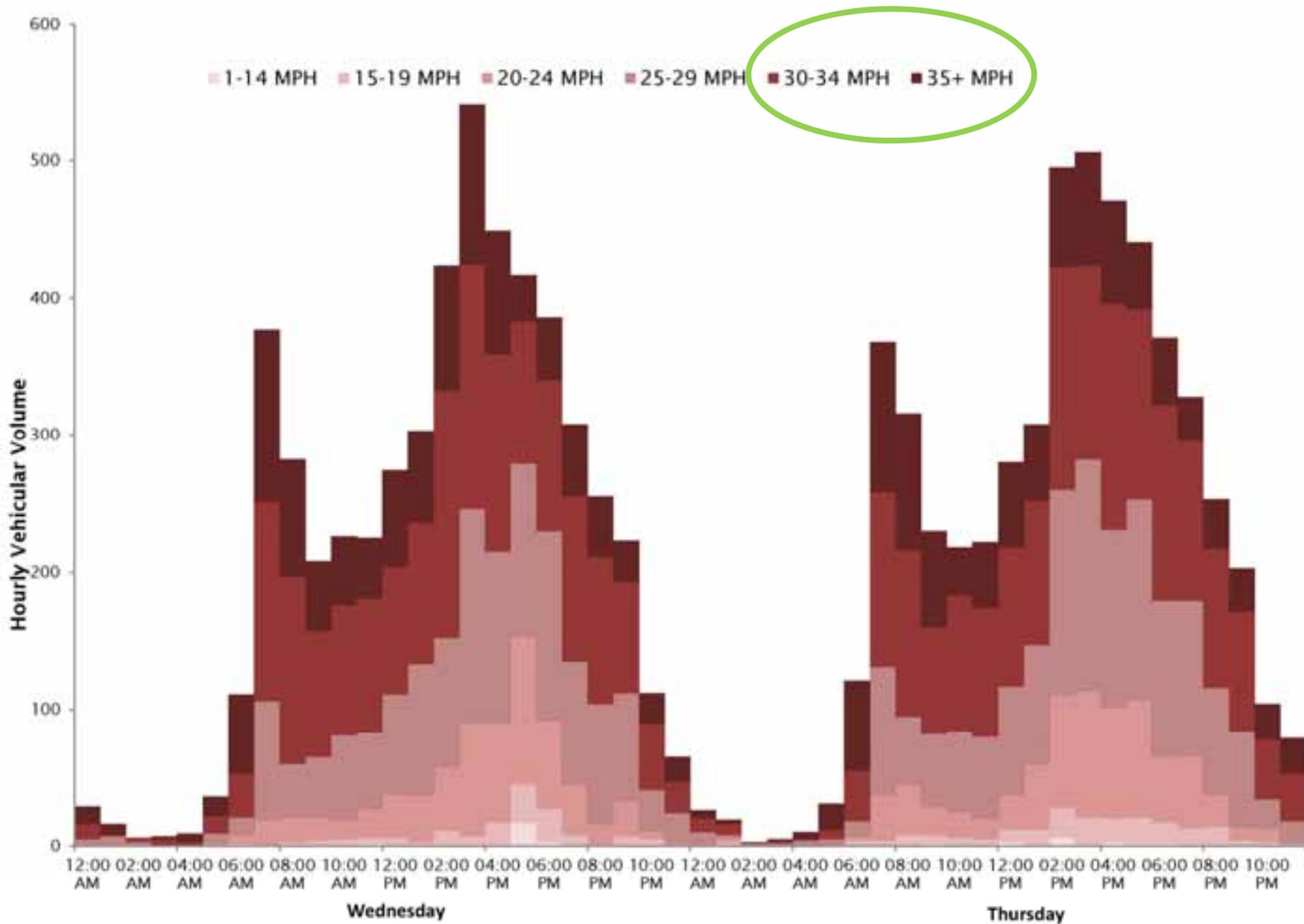


User Turning Movement Counts

Vehicular Traffic Data: Fenway



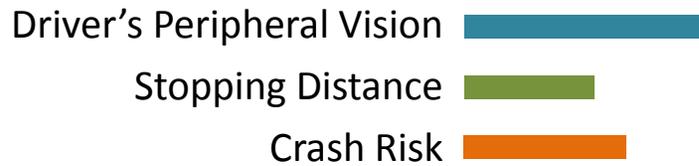
- Average Daily Traffic ~ 5,349 vehicles per day
- Approx. 2% of vehicles are trucks and/or buses



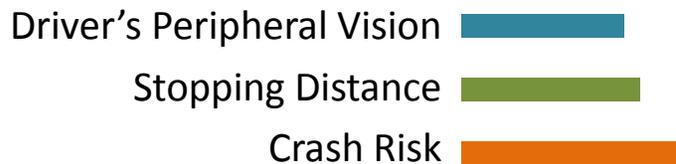
Fenway Volumes with Speed Breakdown

Effect of Speeding and Yielding

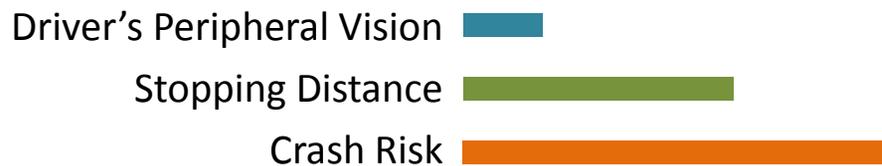
20 – 25 MPH



30 – 35 MPH



40 – 45 MPH



Source: NACTO Urban Street Design Guide

Crash Data Review

	Fenway/ Forsyth Way	Fenway/ Fenway Service Road
Reported Crashes between 2006-2010	1	4
Type of Crash	Sideswipe	Rear-end (2) Sideswipe (1) Vehicle & Pedestrian (1)
Severity of Crash	Personal Injury	Personal Injury (2) Unknown (2)
Weather	Cloudy	Clear (2) Rain (1) Unknown (1)

Source: MassDOT's Highway Division

Other Behavior Observations

- Motorists do not always yield to pedestrians
- When motorists do yield, they are yielding at crosswalk restricting sightlines
- Motorists are yielding rather than stopping at both intersections approaching Fenway

Key Findings

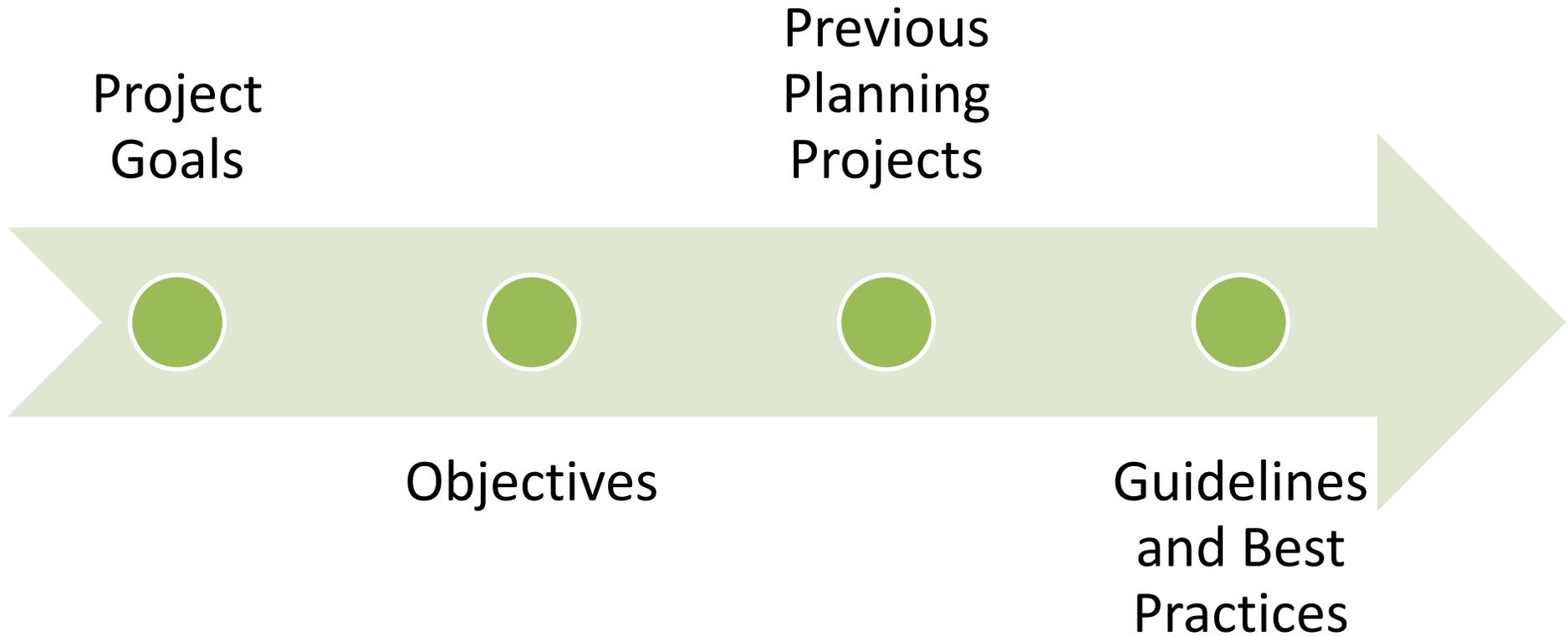
- Pedestrian travel most direct route
- Vehicles speeding on the Fenway
- Vehicles yielding at crosswalks
- Lack of curb walk
- Intersection control
- Restricted visibility
- Bicycle transitions



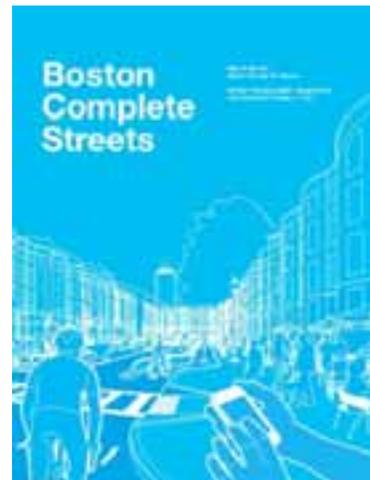
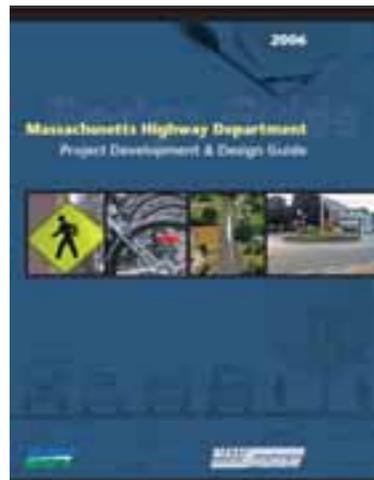
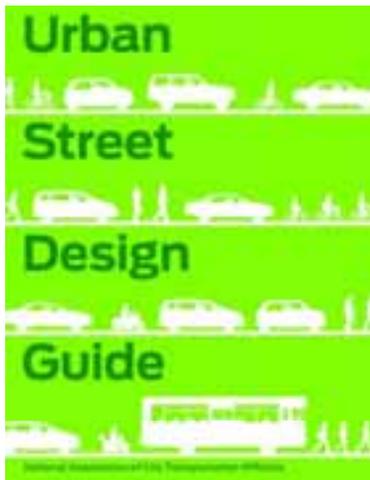
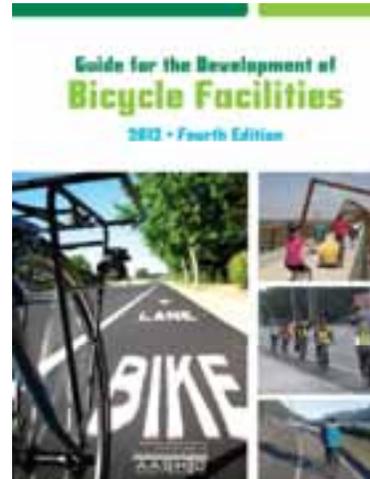
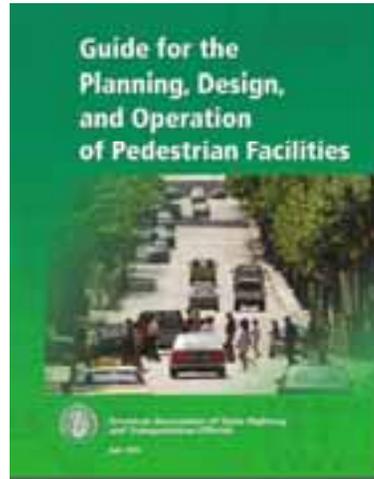
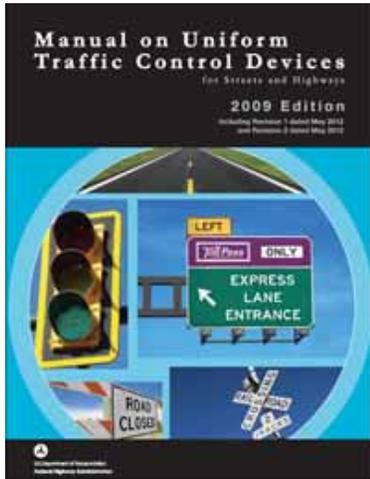
Objectives

- Reduce vehicular speed on the Fenway
- Address desire lines for non-motorized users
- Reduce conflicts between users
- Improve visibility between users
- Provide connections for bicyclists

Improvements Methodology



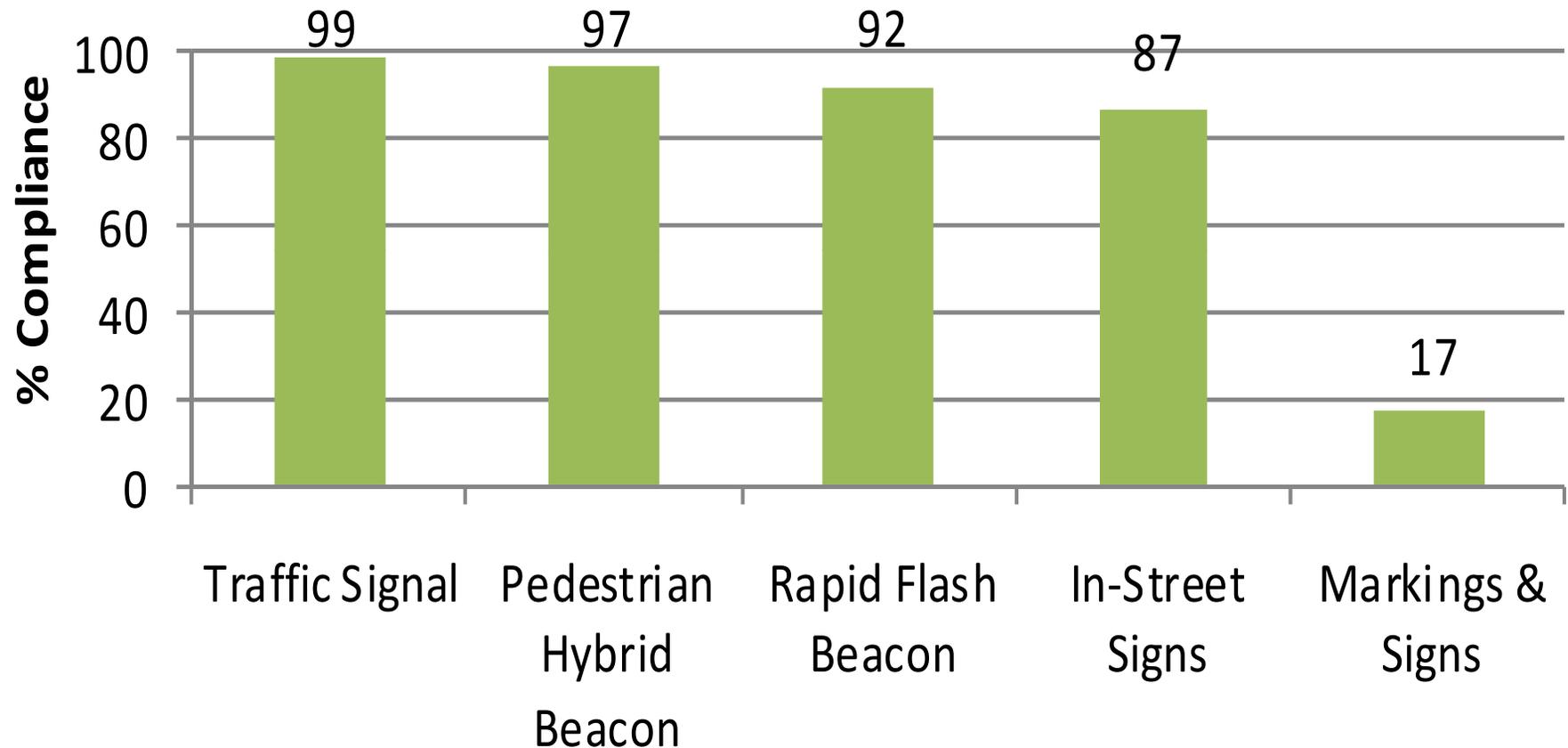
Guidelines and Best Practices



Considered Improvements

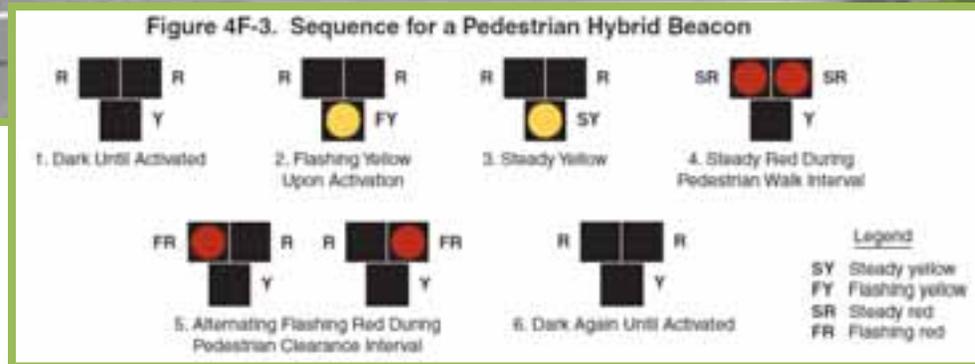
- Pavement Markings
 - High visibility crosswalk
 - Yield lines
 - Zig zag markings
- Signs
 - Warning signs
 - In-street crosswalk sign
 - Wayfinding signs
- Crossing Control
 - Signalize
 - Pedestrian beacon
 - Rapid flash beacon
- Address Jaywalking
 - Add fence or plantings
 - Move crosswalks
 - Add additional crosswalk
- Geometric
 - Realign intersection
 - ADA ramps
 - Add curb walk
 - Add bicycle jughandle
- Traffic Calming
 - Narrow travel lanes
 - Raised crosswalk
 - Curb extension
 - In pavement lights
 - Speed enforcement

Considered Improvements: Motorist Compliance vs. Crossing Treatments



Source: Federal Highway Administration

Pedestrian Hybrid Beacon



Rectangular Rapid Flash Beacon



Photo Credit: MUTCD

Raised Crosswalk





Control Evaluation: Fenway/Forsyth Way

- Reviewed to determine if a traffic signal is an acceptable control at this location

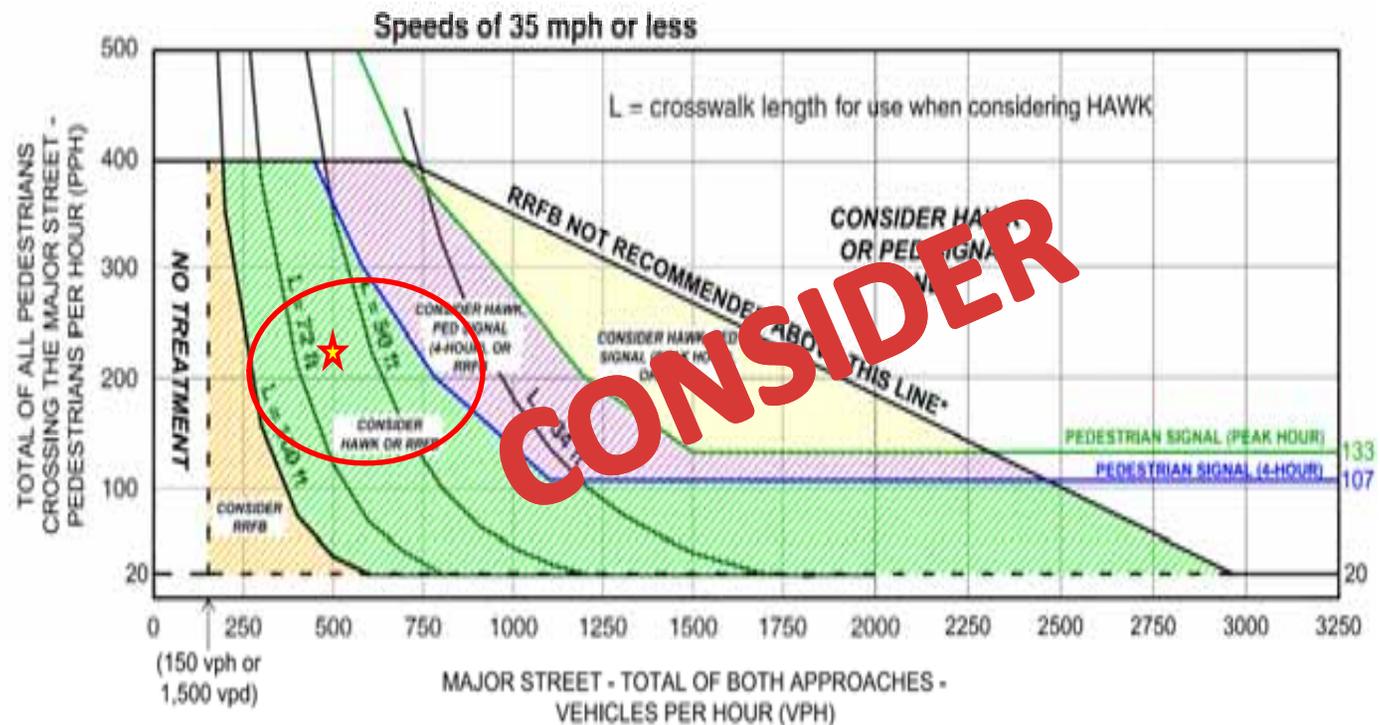
Figure 4C-7. Warrant 4, Pedestrian Peak Hour

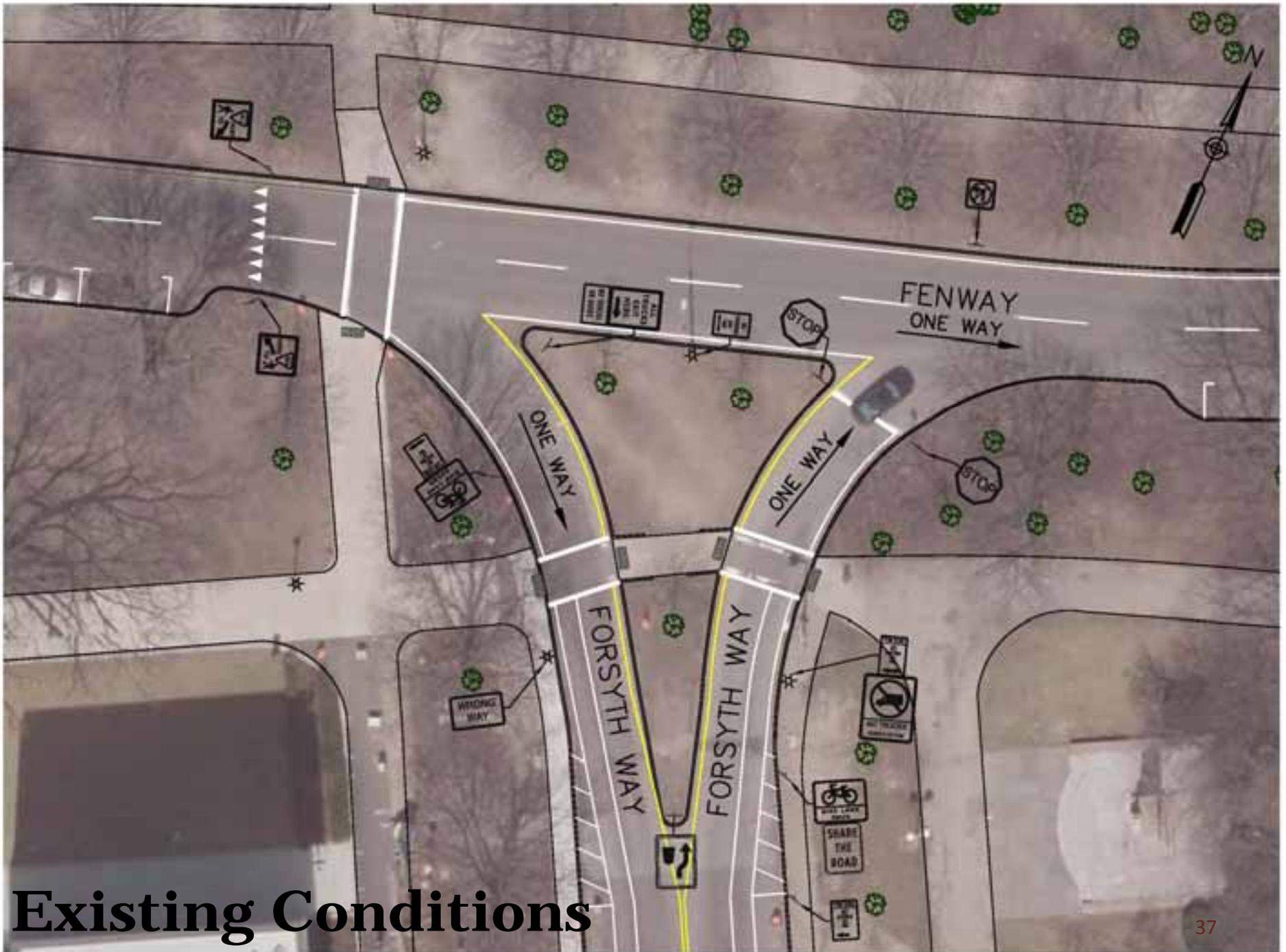


*Note: 133 pph applies as the lower threshold volume.

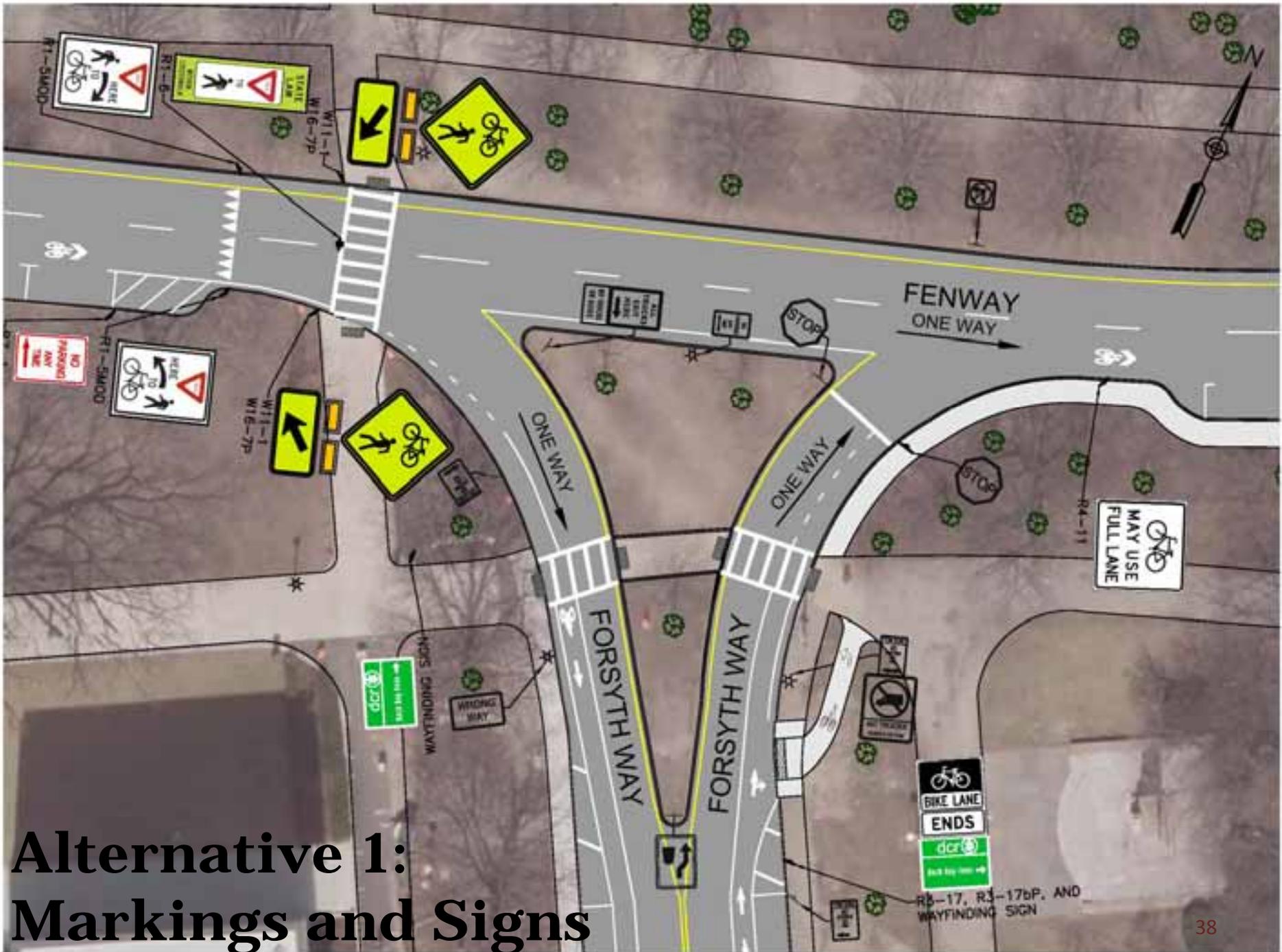
Control Evaluation: Fenway/Forsyth Way

- Reviewed to determine if a pedestrian hybrid beacon or rectangular rapid flash beacon is an acceptable control





Existing Conditions



Alternative 1: Markings and Signs

Summary of Alternatives Fenway/Forsyth Way

	Summary of Costs	Reduce vehicular speed	Address desire lines	Reduce conflicts	Improve visibility	Provide connections for bicyclists
Alternative 1: Markings and Signs	\$				✓	✓
Alternative 2: Raised Crosswalk	\$\$\$	✓			✓	✓
Alternative 3: Geometric Modifications	\$\$\$	✓	✓	✓	✓	✓



Control Evaluation: Fenway/Fenway Service Road

- Reviewed to determine if a traffic signal is an acceptable control at this location

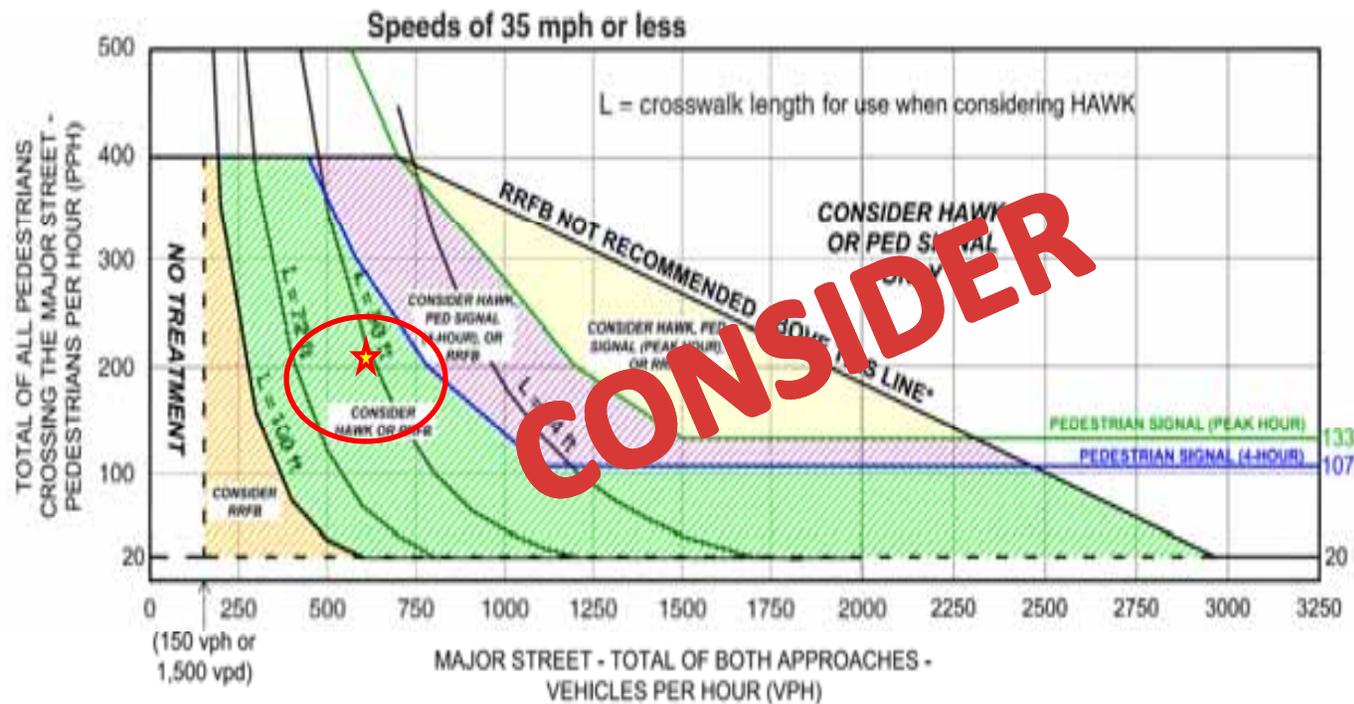
Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

Control Evaluation: Fenway/Fenway Service Road

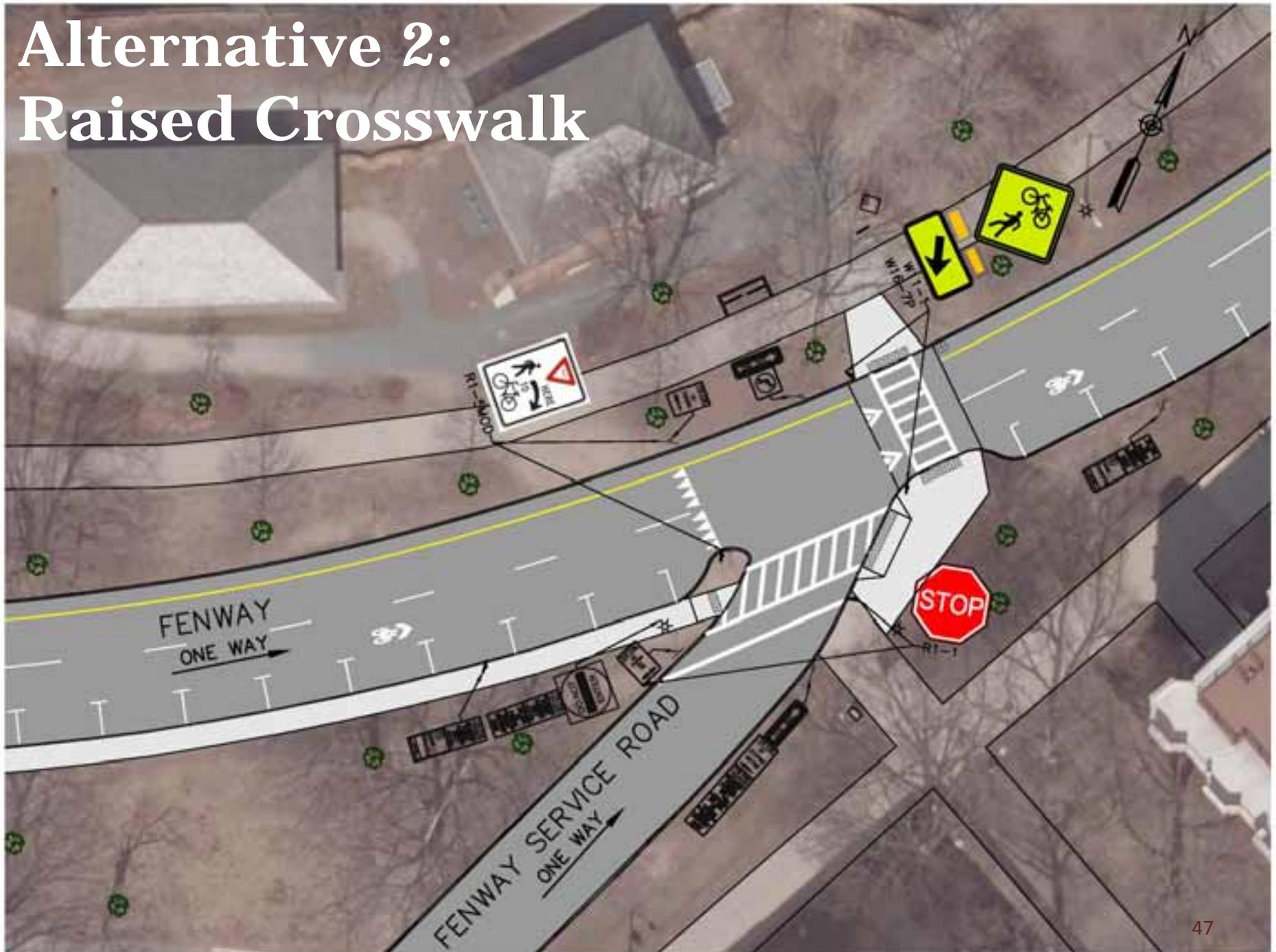
- Reviewed to determine if a pedestrian hybrid beacon or rectangular rapid flash beacon is an acceptable control



Existing Conditions



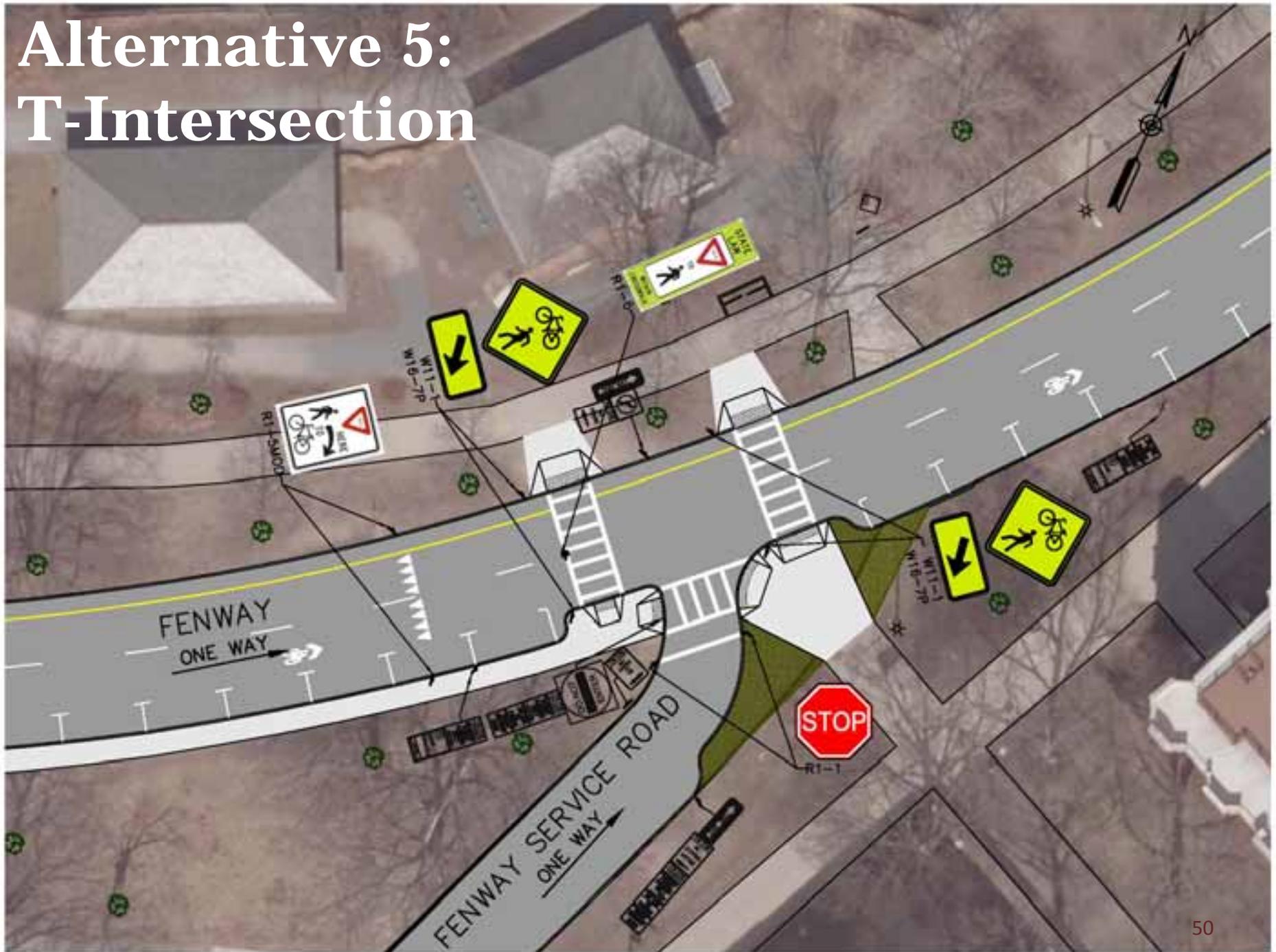
Alternative 2: Raised Crosswalk



Alternative 3: Sidewalk Modifications



Alternative 5: T-Intersection



Summary of Alternatives Fenway/Fenway Service Road

	Summary of Costs	Reduce vehicular speed	Address desire lines	Reduce conflicts	Improve visibility	Provide connections for bicyclists
Alternative 1: Markings & Signs	\$				✓	✓
Alternative 2: Raised Crosswalk	\$\$	✓			✓	✓
Alternative 3: Sidewalk Modifications	\$		✓	✓	✓	✓
Alternative 4: Additional Crosswalk	\$\$		✓	✓	✓	✓
Alternative 5: T-Intersection	\$\$\$		✓	✓	✓	✓

Next Steps

- Public submit formal comments to DCR by March 13, 2014
- Select preferred alternatives
- Add historic landscape elements
- Prepare 25% design plans for preferred alternative
- Additional design and construction pending funding source

Additional Information

For more information:

- Web: <http://www.mass.gov/eea/agencies/dcr/public-outreach/public-meetings/>

If you have comments:

Email: dcr.updates@state.ma.us

Call: **617-626-4974**

Write: Department of Conservation and Recreation, Office of Public Outreach,
251 Causeway Street, Suite 600, Boston, MA 02114

Note: Public comments submitted to DCR by email or letter will be posted on the DCR website in their entirety, and no content, including personal information, will be redacted.

If you have questions or concerns or would like to be added to an email list to receive DCR general announcements:

Email: MassParks@state.ma.us

Call: **617-626-4973**