



Union Square Utility and Streetscape Improvements Study and Design

April 13, 2015



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DESIGN

**PARSONS
BRINCKERHOFF**

Agenda

- ▶ 6:30-6:40 Introduction
 - Jennifer Molina, *Transportation Planner, City of Somerville*
- ▶ 6:40-6:50 Overview and Project Update
 - Rachel Burckardt, PE, *Parsons Brinckerhoff*
- ▶ 6:50-7:20 Early Action Plan: Interim Design
 - Utilities - Rachel Burckardt, PE, *Parsons Brinckerhoff*
 - Traffic - Kristen Torrance Clarke, PE, PTOE, *Parsons Brinckerhoff*
 - Q&A/Discussion
- ▶ 7:20-8:00 Small Group Discussion
 - Q&A/Discussion



City of Somerville Team

- ▶ Mayor Joseph A. Curtatone
- ▶ Ward 2 Alderman Maryann M. Heuston
- ▶ Ward 3 Alderman Robert McWatters
- ▶ Department of Public Works City Engineering
- ▶ Office of Strategic Planning & Development
Michael Glavin, Executive Director
Jennifer Molina, Transportation and Infrastructure
Brad Rawson, Senior Planner, Planning Division
Traffic and Parking Department



Civic Advisory Committee

- ▶ Wig Zamore, Chairman
- ▶ Joe Beckmann
- ▶ Angelica Bennatti
- ▶ Jennifer Blundell
- ▶ Susan Callahan
- ▶ Pokye Casserly
- ▶ Robyn Champion
- ▶ Fr. Richard Curran
- ▶ Mike Dacey
- ▶ Erik Fellingner
- ▶ Irma Flores
- ▶ Gregore Jenkins
- ▶ Angelina Jockovich
- ▶ Shaina Korman-Houston
- ▶ Chris Mancini
- ▶ Pat McCormick
- ▶ Erik Neu
- ▶ Philip Parsons
- ▶ Emily Reichert
- ▶ Kat Rutkin
- ▶ Rebecca Schrumm
- ▶ Shu Talun
- ▶ Anne Tate
- ▶ Gordon Wong



The PB Team

Parsons Brinckerhoff	Project Management Civil, Structural & Traffic Engineering Public Outreach
Team Better Block	Experiential Community Engagement
Crosby Schlessinger Smallridge, Inc.....	Streetscape & Urban Design
Toole Design Group, Inc.	Bicycle & Pedestrian Facilities
Bryant Associates, Inc.	Surveying
PEER Consultants, Inc.	LSP Services



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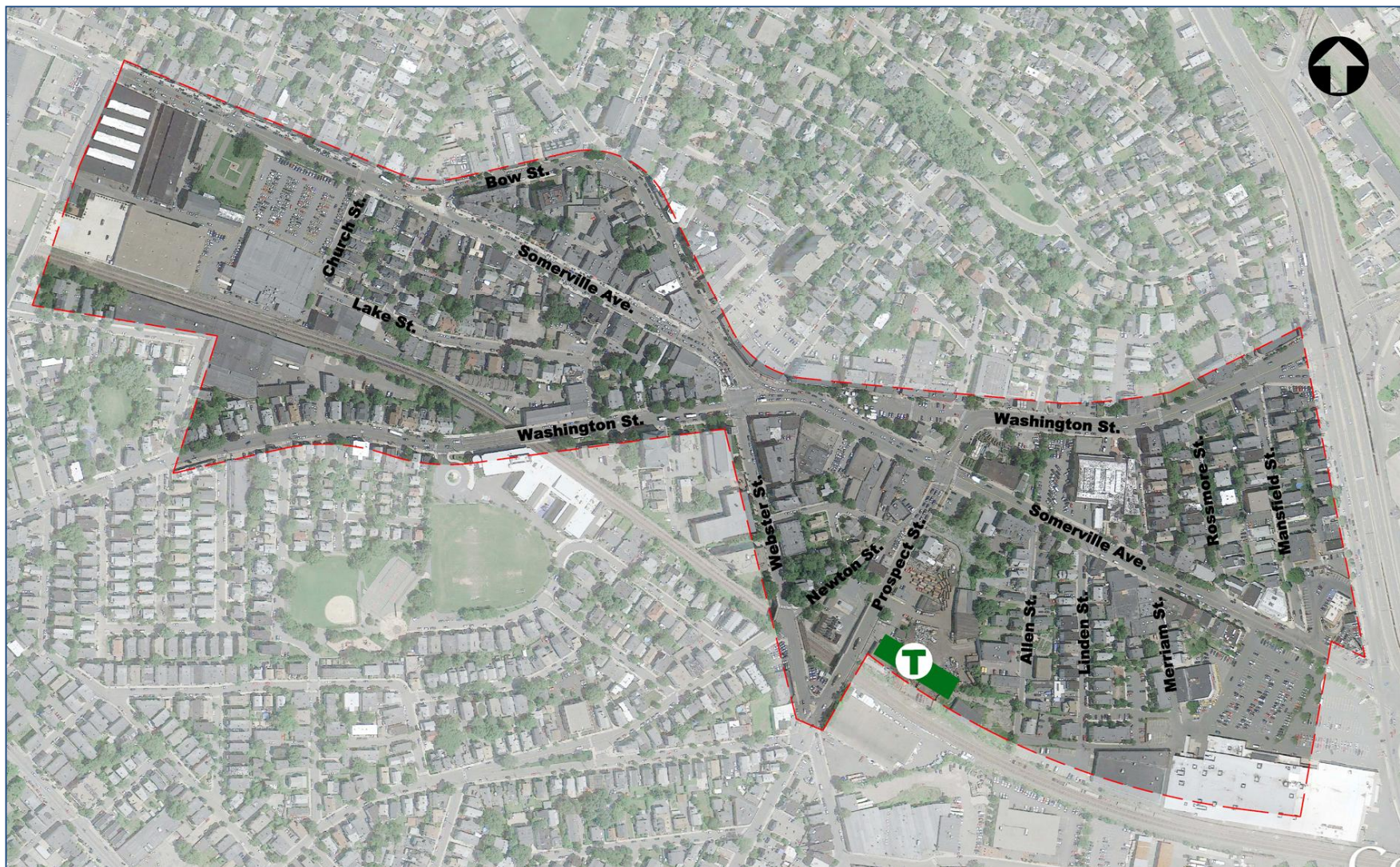
Project Overview and Update



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Study Area



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Project Objectives

- ▶ Recognize the unique history of Union Square
- ▶ Build on foundation of previous work
- ▶ Coordinate with ongoing and future projects
- ▶ Develop utility and transportation solutions
- ▶ Integrate all modes of transportation (pedestrians, bicyclists, transit, vehicles)
- ▶ Design for improvements that can be built



Scope

- ▶ Utilities
- ▶ Transportation
- ▶ Public Space
- ▶ Development Impacts
- ▶ Public Outreach



Public Outreach

Preliminary Streetscape Design

Nov 2013

Spring 2015

- Meeting #1: Nov. 18, 2013
- Meeting #2- Jan. 29, 2014
- Meeting #3- March 25, 2014
- Team Better Block Demonstration-May 30, 2014
- Meeting #4-Oct. 20, 2014
- Meeting #5- Jan. 8, 2015
- Meeting #6- Apr. 13, 2015

Ongoing Advisory Committee Meetings/Coordination



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Somerville by Design Survey

- ▶ 72% of Respondents Stated that Being Able to Safely Bicycle Through the Square was “very important”
- ▶ 81% of Respondents Stated that Being Able to Safely Walk Through the Square was “very important”
- ▶ These sentiments are reflected in the ideas presented in this presentation

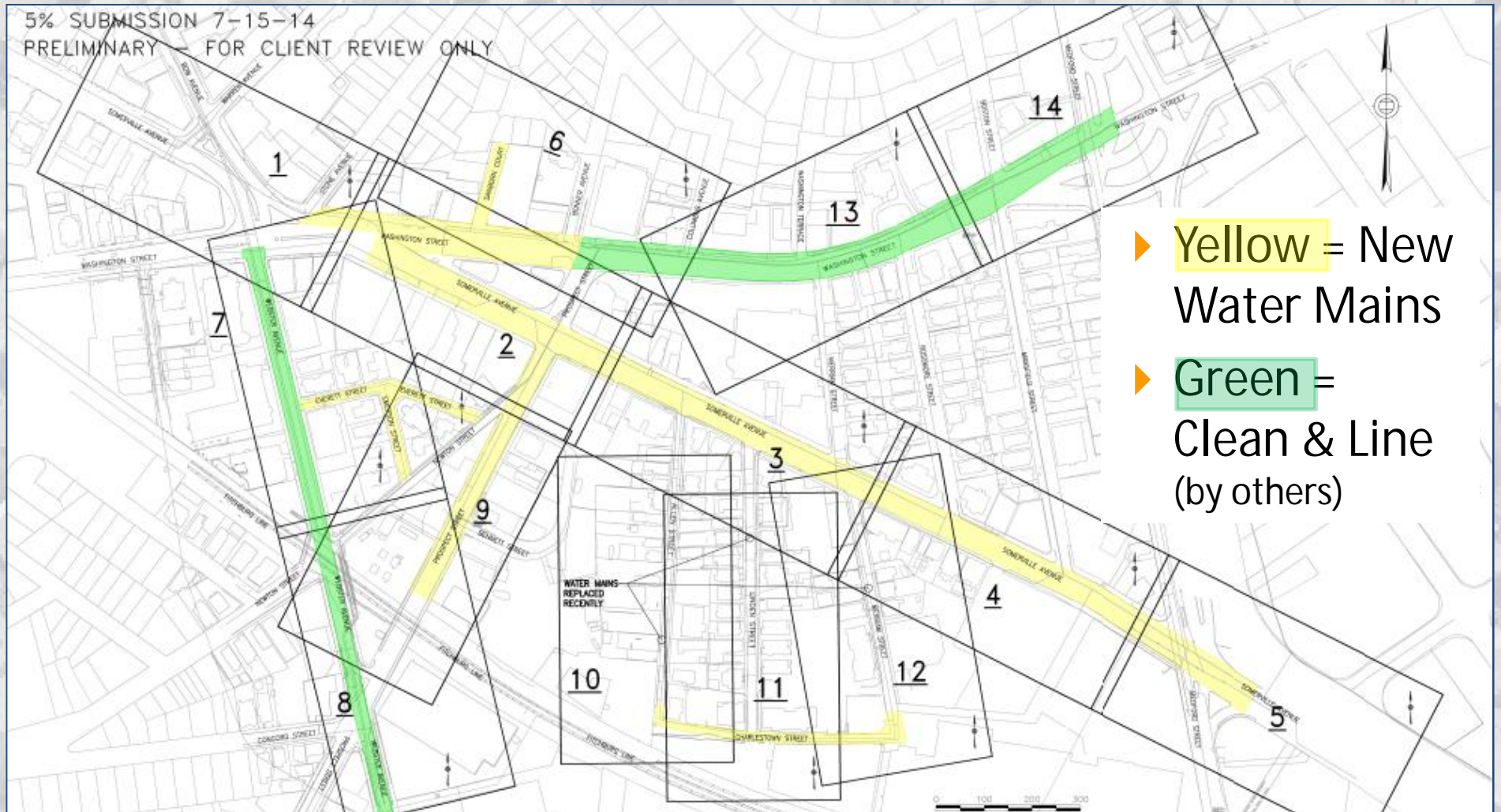


Project Update

- ▶ Survey – Complete
- ▶ Soils Investigation – Fieldwork done; draft report prepared
- ▶ Traffic counts and data – Complete
- ▶ Water System Improvements – Concept complete
- ▶ Sewer/Storm Drain Improvements – Concept developed; modeling underway
- ▶ Coordination with US2 – Ongoing
- ▶ Interim Improvements: 25% Plans Winter 2015
- ▶ Interim Improvements: Final Design- Spring 2015



Water System Improvements



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Sanitary/Storm System Improvements



- ▶ Sewer separation
- ▶ Added capacity & off-line storage: Union Sq. to CMI via Somerville Ave.



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Early Action Plan: Interim Improvements



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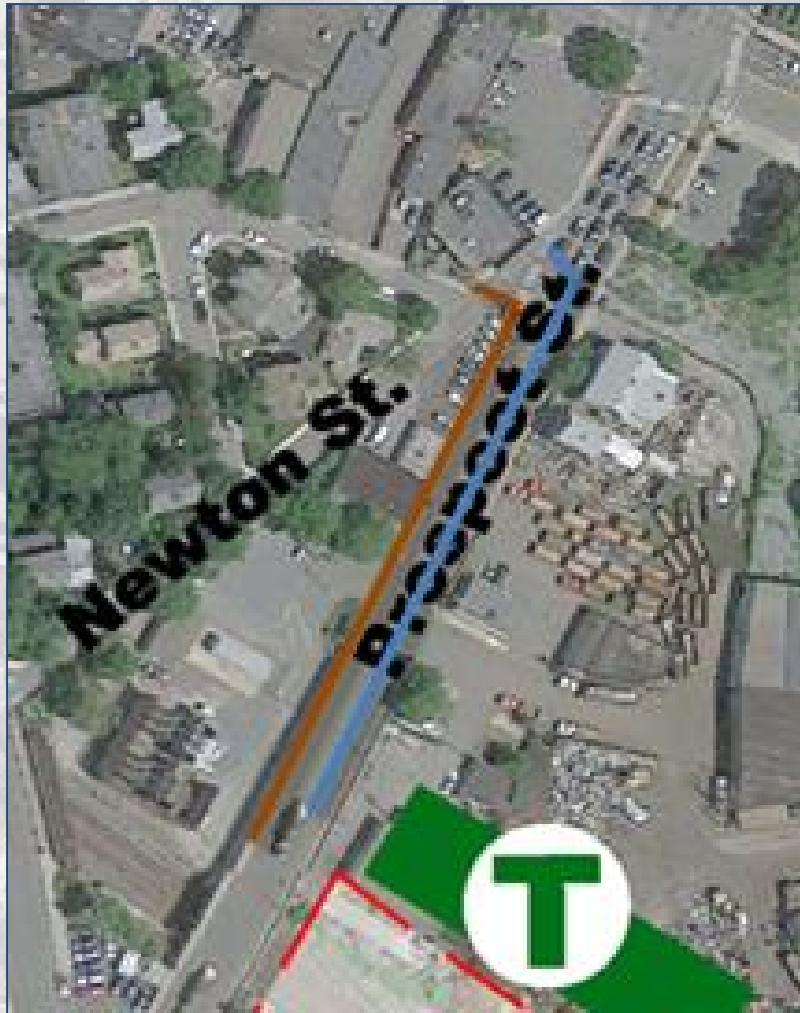
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Early Action - Interim Improvements

- ▶ Goal: Identify short-term roadway improvements that could be accommodated within the existing curb lines
- ▶ Design Completion: Spring 2015
- ▶ Estimated Construction Period: July December 2015
- ▶ Include utility work in Prospect Street



Prospect Street: Sewer & Water



- ▶ New sewer and water main to serve MBTA station and D2 development
- ▶ New fire hydrants



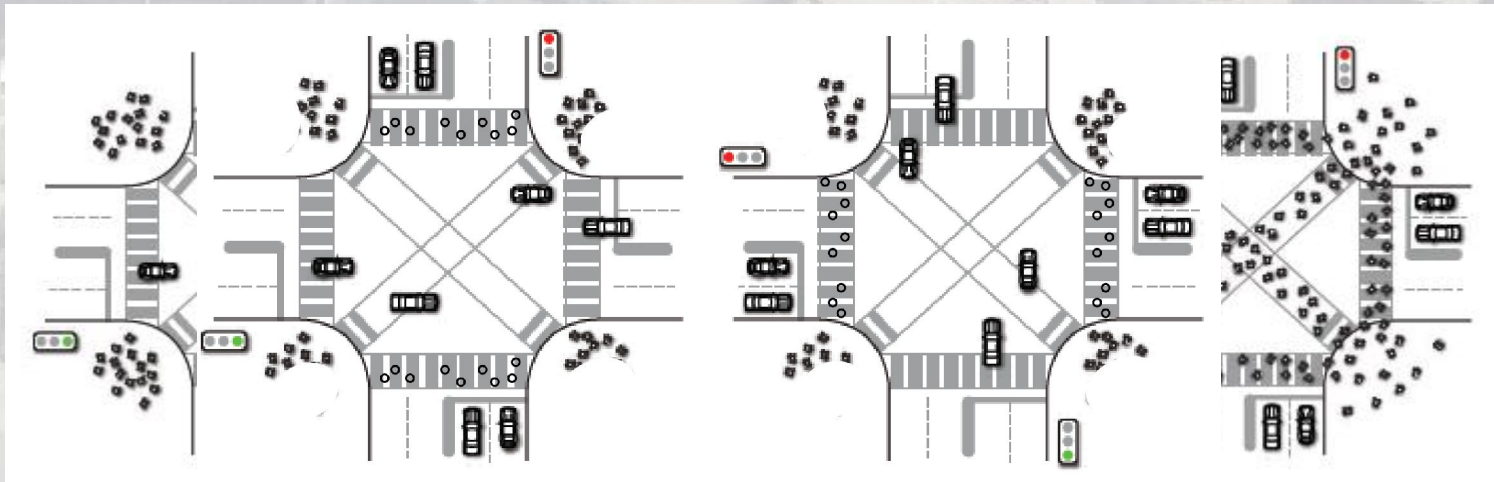
Goals of Interim Transportation Improvements

- ▶ Improve Traffic Flow & Safety at Signalized Intersections
 - Reduce Overall Intersection Delay
 - Reduce Circuitous Traffic Movements
 - One-Way vs. Two-Way Webster + Prospect
 - Evaluate Turn Lanes at Intersections



Goals of Interim Transportation Improvements

- ▶ Improve Pedestrian Connectivity
 - Signal Timing/Phasing
 - Exclusive vs. Concurrent Phasing
 - Leading Pedestrian Interval



Goals of Interim Transportation Improvements

► Improve Pedestrian Connectivity

■ Crosswalk Locations

- Shorten Crosswalk Locations where Possible
 - Modify Alignment
 - Adding Bump-out
- Add any Missing Pedestrian Links



Goals of Interim Transportation Improvements

► Improve Bicycle Connectivity

- Painted Bicycle Lanes
- Bike Boxes
 - Increase Visibility of Cyclist
 - Reduces Signal Delay
 - Facilitates Left Turn Position
 - Helps Prevent Left Hook Conflicts



Goals of Interim Transportation Improvements

► Improve Bicycle Connectivity

■ Two Stage Turn Queue Box

- Left Turn Safety
- Formal Queue Space
- Reduces Turning conflicts
- Separates Turning & Thru Bicyclists



Prospect/Somerville/Washington Recommendations from 25% Design

- ▶ Add bicycle boxes on all approaches
- ▶ Add bicycle lane on Washington St NB
- ▶ Bicycle striping thru the intersection
- ▶ Crosswalk Striping
- ▶ Sharrows on Prospect SB
- ▶ 'Do Not Block' Intersection Striping on Washington Street at Municipal Lot
- ▶ Modify Turn Radius on NW Corner
- ▶ Increase Leading Pedestrian Interval from 3 to 5 seconds



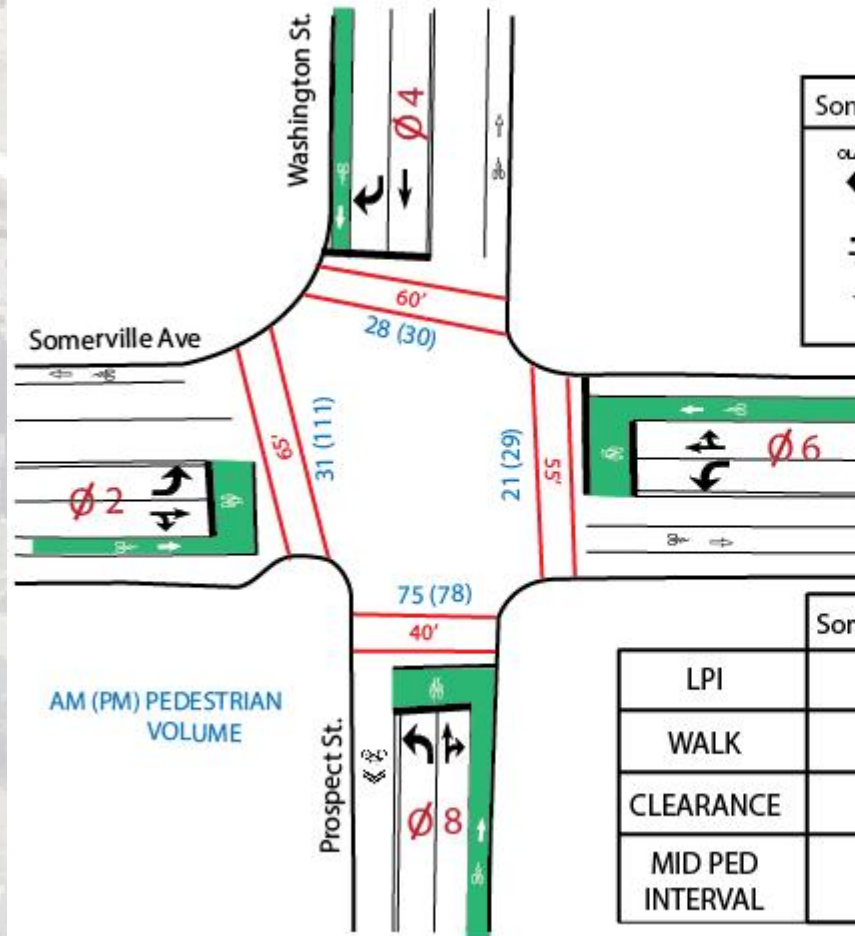
Prospect/Somerville/Washington Concept



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Prospect/Somerville/Washington Signal Operations



SIGNAL PHASING

Somerville EB	Somerville WB	Prospect NB Wash Thru	Prospect NB Wash Th/Right
OLA ↙ ↘ ↔	↔ ↙ ↘	↕ ↕ ↕ ↕	↙ ↘ ↕ ↕

PEDESTRIAN INTERVALS

	Somerville EB	Somerville WB	Prospect NB Wash Thru	Prospect NB Wash Th/Right
LPI	5	5	5	-
WALK	4	4	4	-
CLEARANCE	12	17	19	-
MID PED INTERVAL	21	26	28	-

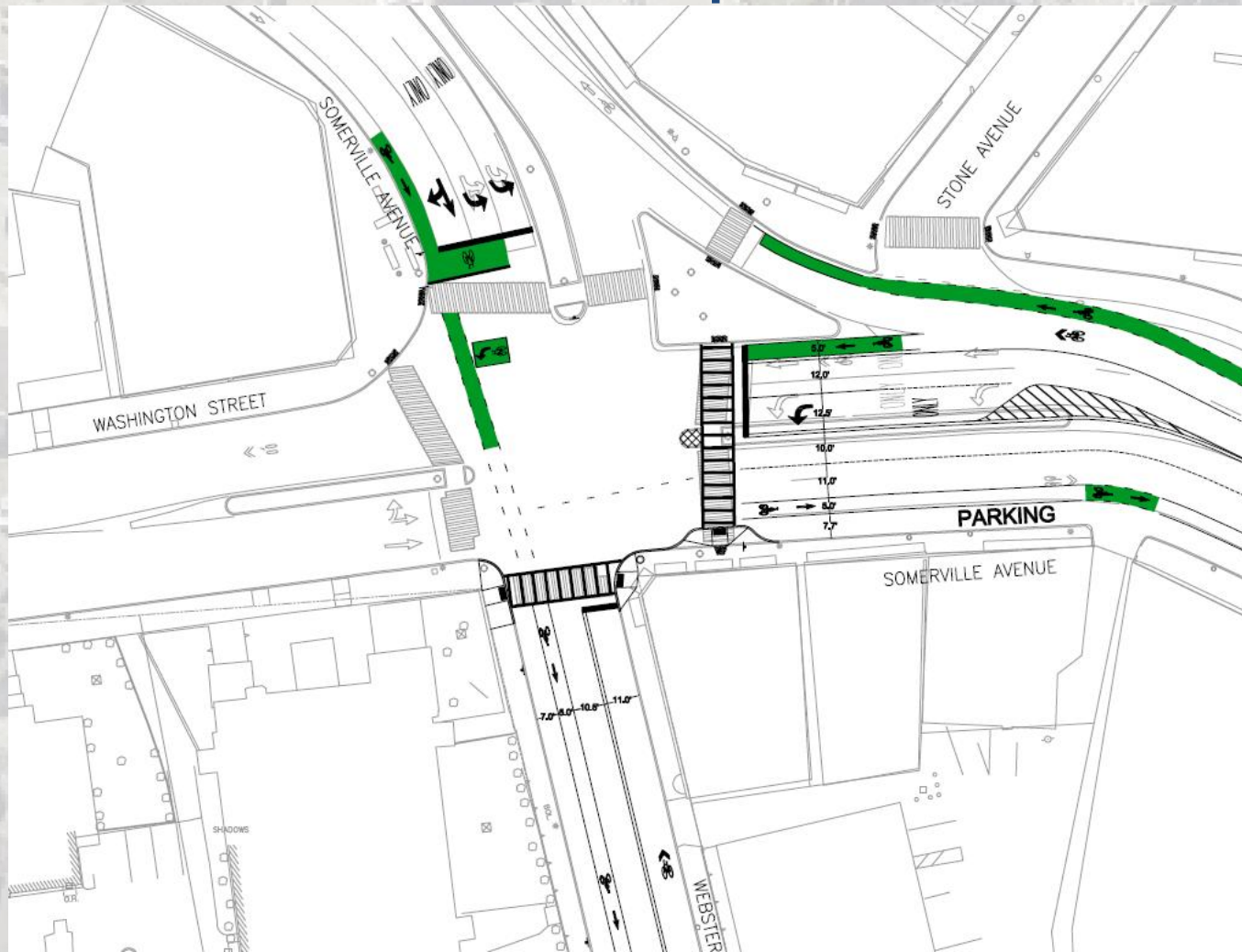


Webster/Somerville/Washington Recommendations from 25% Design

- ▶ Eliminate Webster NB left turn lane to allow full bicycle lane SB thru intersection
- ▶ Add bicycle boxes on all approaches
- ▶ Bicycle lane on Somerville Avenue WB approaching the intersection
- ▶ Sharrows on Webster Avenue SB
- ▶ Crosswalk Striping
- ▶ Modify lane alignment on Somerville Avenue WB to create left turn pocket with thru and right turn lanes
- ▶ Shorten crosswalk distance on east side of intersection
- ▶ Increase Leading Pedestrian Interval from 3 to 5 seconds



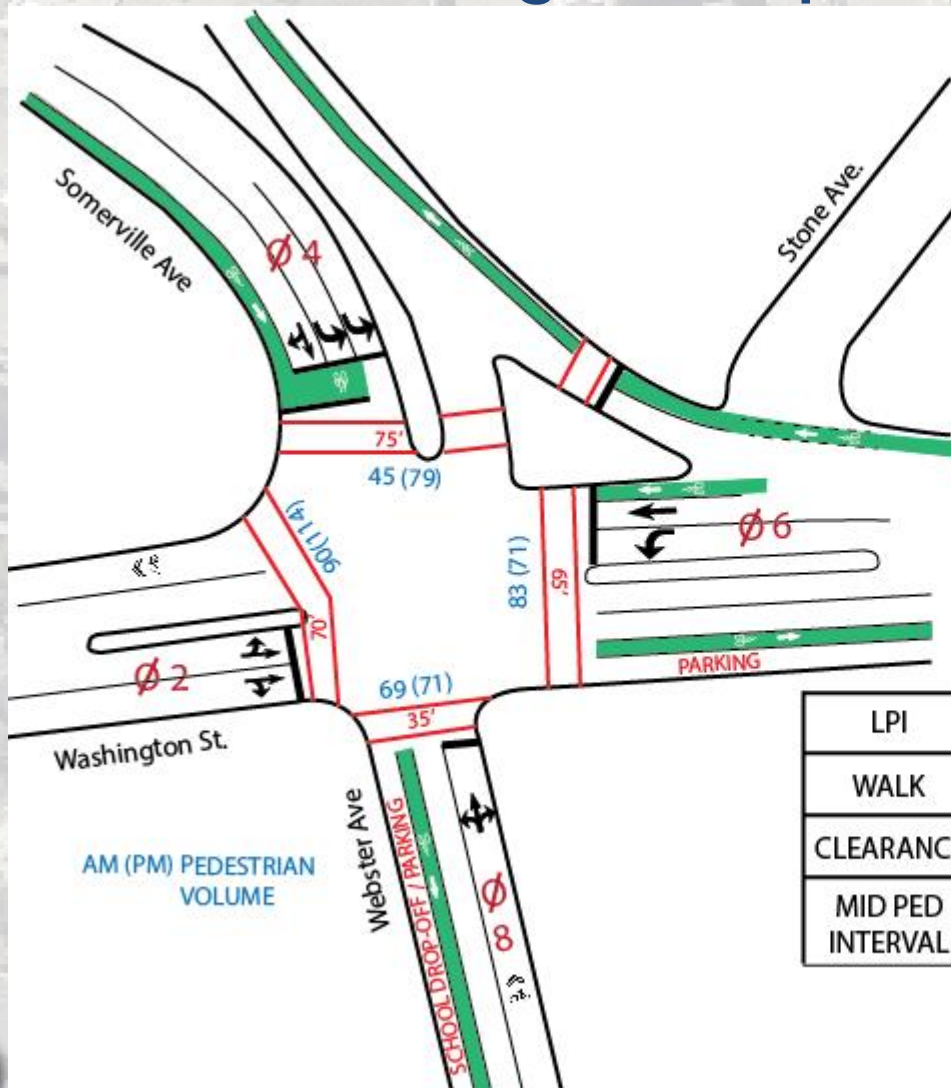
Webster/Somerville/Washington Concept



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Webster/Somerville/Washington Signal Operations



SIGNAL PHASING

Somerville WB Washington EB	Somerville SB	Webster NB

PEDESTRIAN INTERVALS

	Somerville WB Washington EB	Somerville SB	Prospect NB
LPI	5	5	5
WALK	4	4	4
CLEARANCE	22	20	19
MID PED INTERVAL	31	29	28



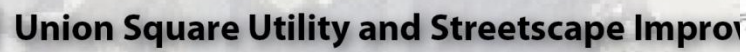
Webster/Prospect

Recommendations from 25% Design

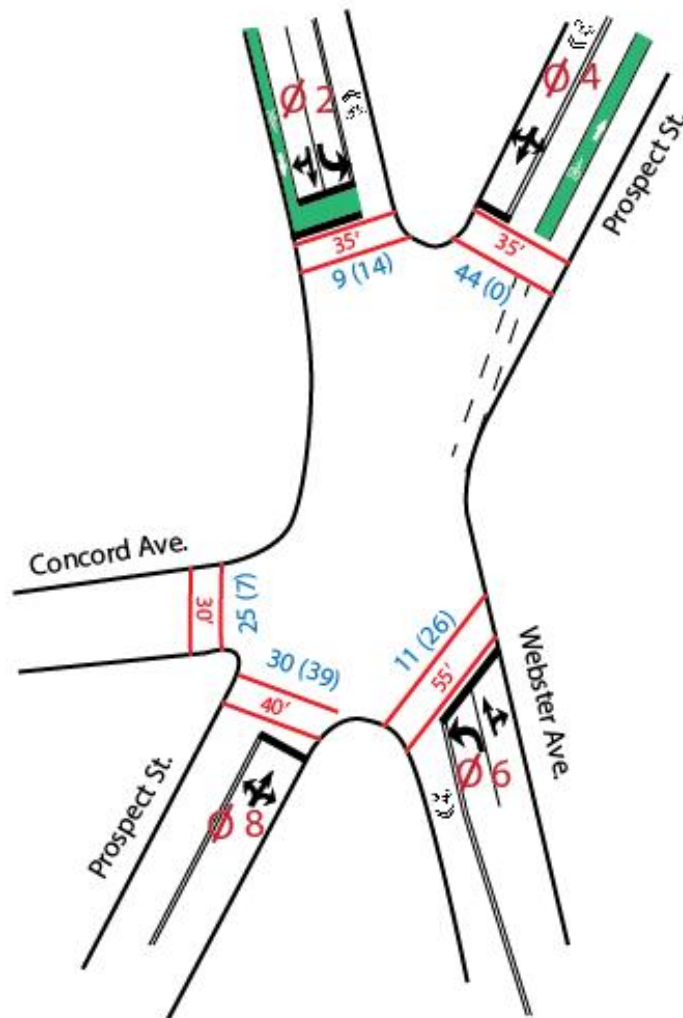
- ▶ Add bicycle box on Webster Ave SB
- ▶ Add sharrows on Webster Ave NB and Prospect SB
- ▶ Add bicycle facilities south of intersection
- ▶ Update phasing to have an exclusive phase when crossing the north side of Prospect Street
- ▶ Extend Prospect St bicycle striping into intersection



An aerial photograph of Union Square in Providence, Rhode Island, showing the intersection of Webster Avenue and Prospect Street. Overlaid on the photograph is a technical street plan. The plan shows Webster Avenue running diagonally from the top left to the bottom right, and Prospect Street running diagonally from the top right to the bottom left. A green highlighted area is located on Webster Avenue, just south of the intersection, indicating a specific project area. The plan includes various lane markings, including a green-paved area with a white arrow pointing south, and a black-paved area with a white arrow pointing north. Dimensions are provided for various sections of the streets. The text "Webster/Prospect Concept" is overlaid in the top left in a large, blue, serif font. The text "Union Square Utility and Streetscape Improvements" is overlaid in the bottom left in a smaller, black, sans-serif font. A small circular logo for the City of Providence is located in the bottom left corner.



Webster/Prospect Signal Operations



SIGNAL PHASING

Webster	Prospect	Ped*

PEDESTRIAN INTERVALS

	Webster	Prospect	Ped*
LPI	5	5	N/A
WALK	4	4	7
CLEARANCE	12	16	16
MID PED INTERVAL	25	25	23

*Exclusive Ped Called Only by Push Buttons crossing North side of Prospect



Additional Recommendations from 25% Design

- ▶ Reduce cut thru traffic on Newton Street
- ▶ Two-way bicycle traffic on Newton Street
- ▶ Provide additional safety measures for midblock crosswalk on Somerville Avenue
- ▶ Improve sight lines for pedestrian crosswalk on Webster Street at Newton Street



Discussion

- Utilities
- Prospect St. & Webster Ave.
- Bicycle accommodations
- Pedestrian crossings
- Connection with Green Line Station
- Bus stop relocations



Next Steps

- ▶ Utility improvements:
 - Advance concept plans & modeling for sewer separation
- ▶ Early Action – Interim Improvements:
 - Finish design
 - Advertise for bids
- ▶ Street improvements– Refine concept plans
 - Bicycle accommodations
 - Improved pedestrian crossings
 - Connection with Green Line station
 - Bus stop relocations
- ▶ Streetscape Design:
 - Plaza alternatives
 - Streetscape concepts
- ▶ Explore Federal Funding- 2015 TIGER Grant

Contact Us

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