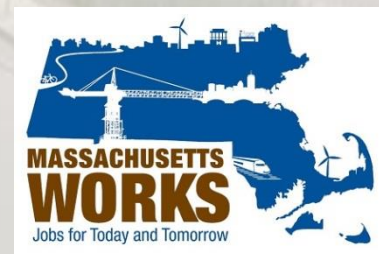




# **City of Salem Public Meeting & Discussion:**

## **Bridge Street “Complete Streets” Improvements**

**September 7, 2017  
Salem Moose Family Center Function Hall**



# Agenda

1. Current Conditions
2. NRCC Master Plan
3. Complete Streets
4. MassWorks Funding
5. Progress / Schedule
6. Design Elements
7. Discussion

# Current Conditions



Intersection of Boston, Bridge, and Goodhue Street



# Current Conditions



Goodhue Street



Unfinished Path Behind Public Storage



# Current Conditions



View looking toward Flint Street



View looking toward Boston Street

# Current Conditions



Flint Street Intersection



# NRCC Transportation Plan (2012)



*The critical NRCC Salem gateway intersection of Boston and Bridge Streets needs to be simplified so it can serve pedestrians and bikes more effectively while allowing general motor vehicle traffic to flow through it acceptably (Section 5.1, Pg. 62).*

Transportation Plan

## North River Canal Corridor City of Salem, Massachusetts

Mayor Kimberley Driscoll

Office of Planning and Community Development

*Design and install traffic, bicycle and pedestrian friendly enhancements to compress the intersection of Boston, Bridge, Goodhue, and Proctor Streets consistent with NRCC Master plan objectives (Section 5.1, Pg.70 – Priority 2.2).*



*Priority 2-6 – [Create] Goodhue-Bridge Street Connector (Section 5.2, Pg. 74)*

*Right now, with 2-foot shoulders, bicycle traffic is not encouraged to use the wide segment of Bridge Street, let alone its narrower segment (Section 5.2, Pg. 81).*

ENGINEERS

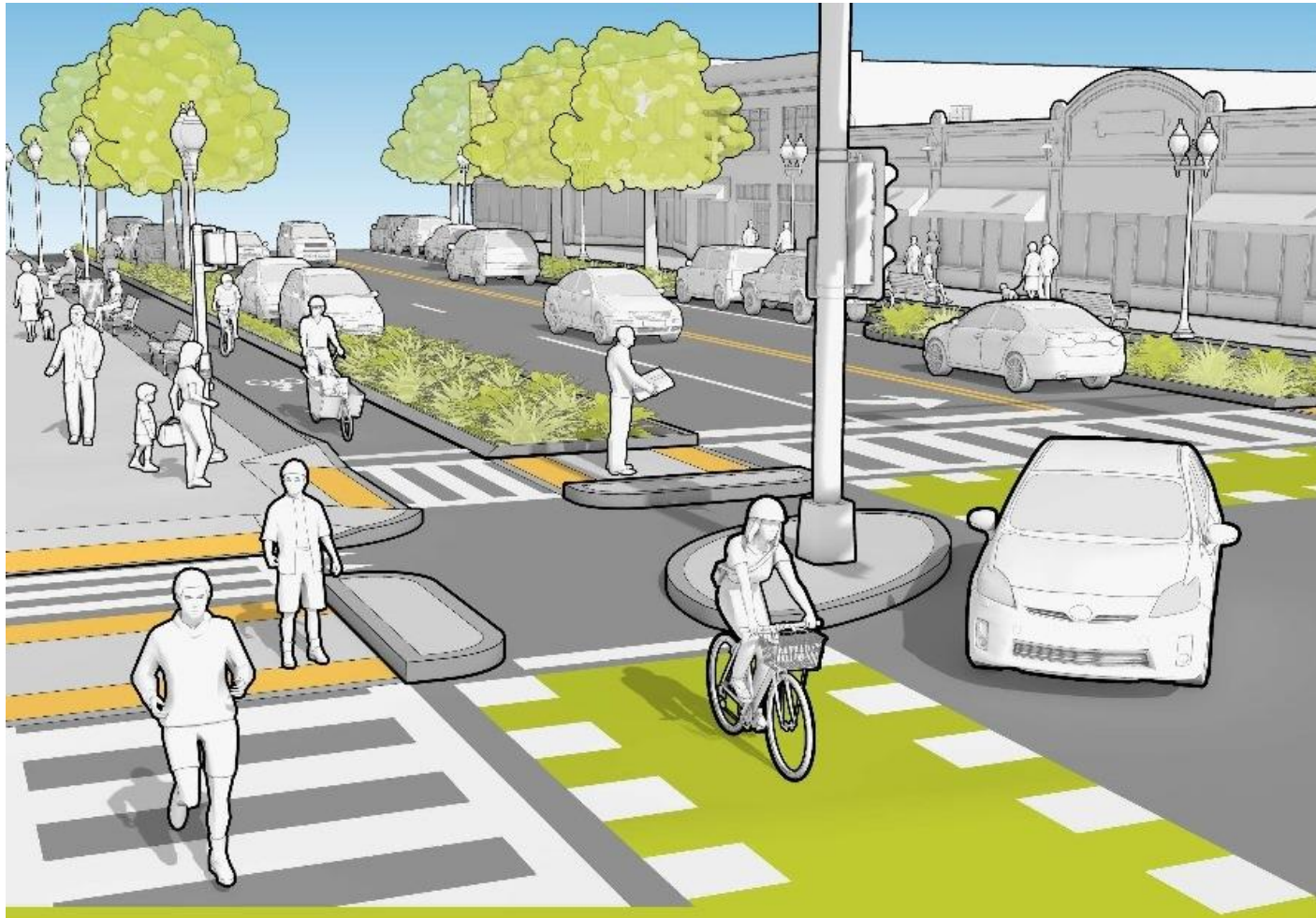
**FST**  
Since 1914

FAY, SPOFFORD & THORNDIKE  
June 2012



*With a potential three lane cross-section, the future Gateway Center development will attract new left turn movement demands from Bridge Street to the east (Section 5.2, Pg. 81).*

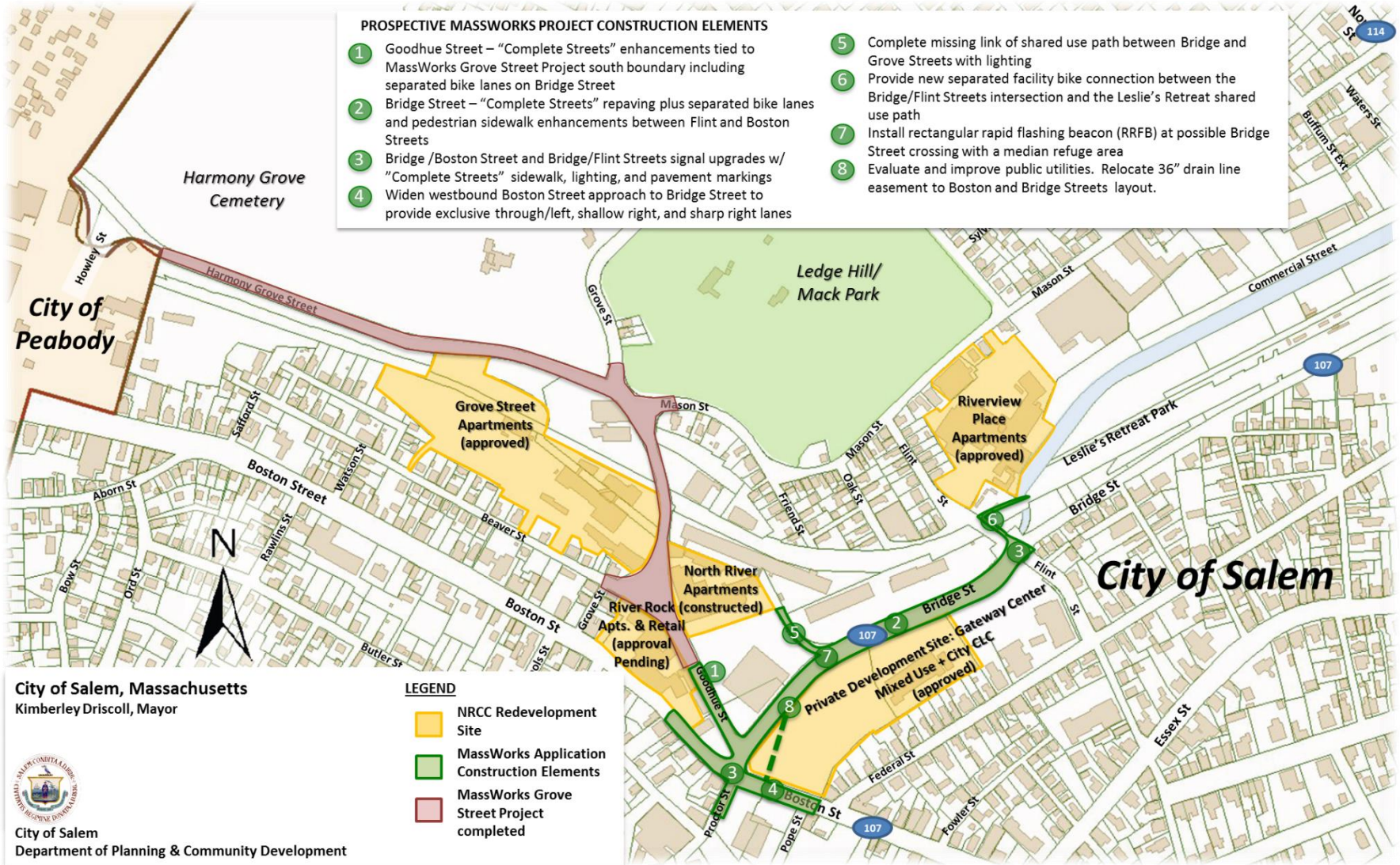
# Complete Streets



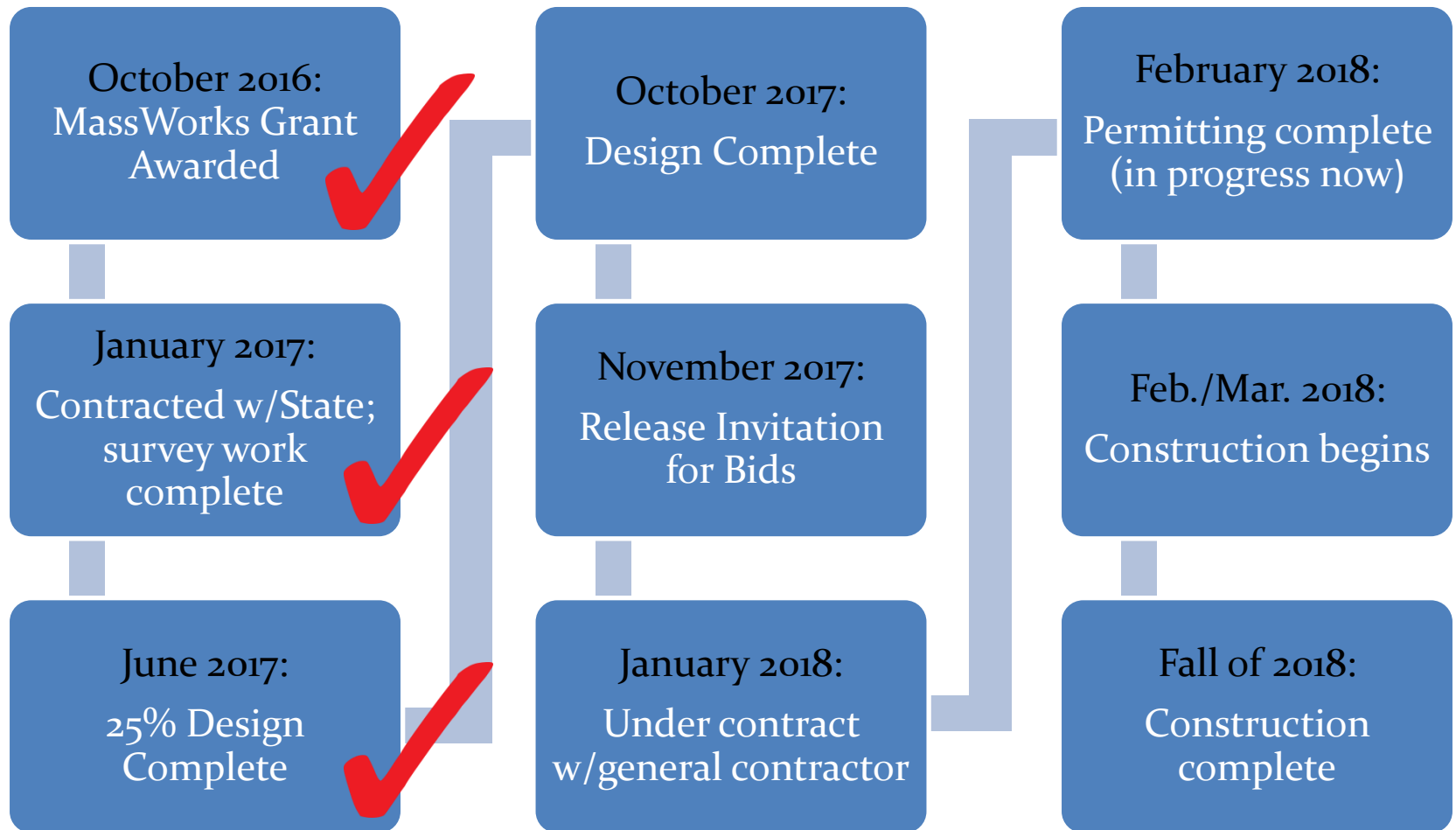
A Complete Street is one that provides safe and accessible options for all travel modes – walking, biking, transit and vehicles – for people of all ages and abilities. Complete Streets improvements may be large scale, such as corridor wide improvements, or focused on the needs of a single mode.



# MassWorks



# Progress / Schedule

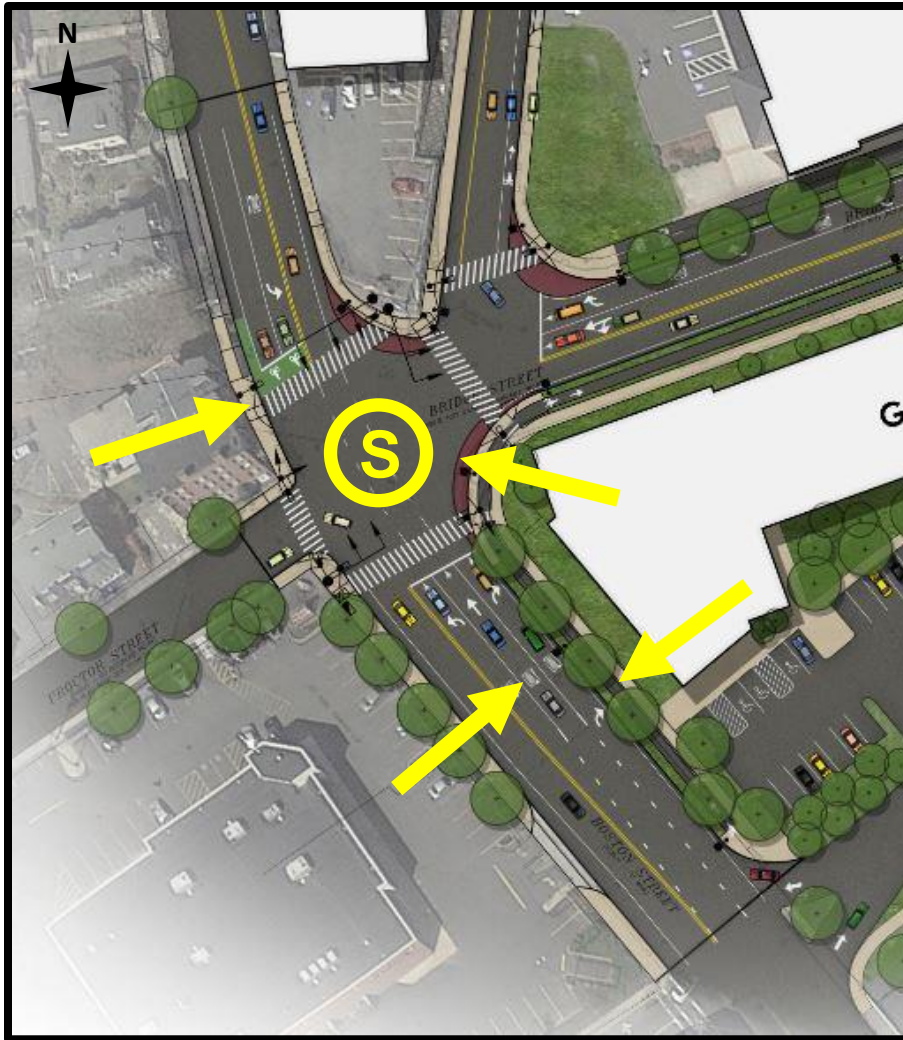




# Design Elements - Overview



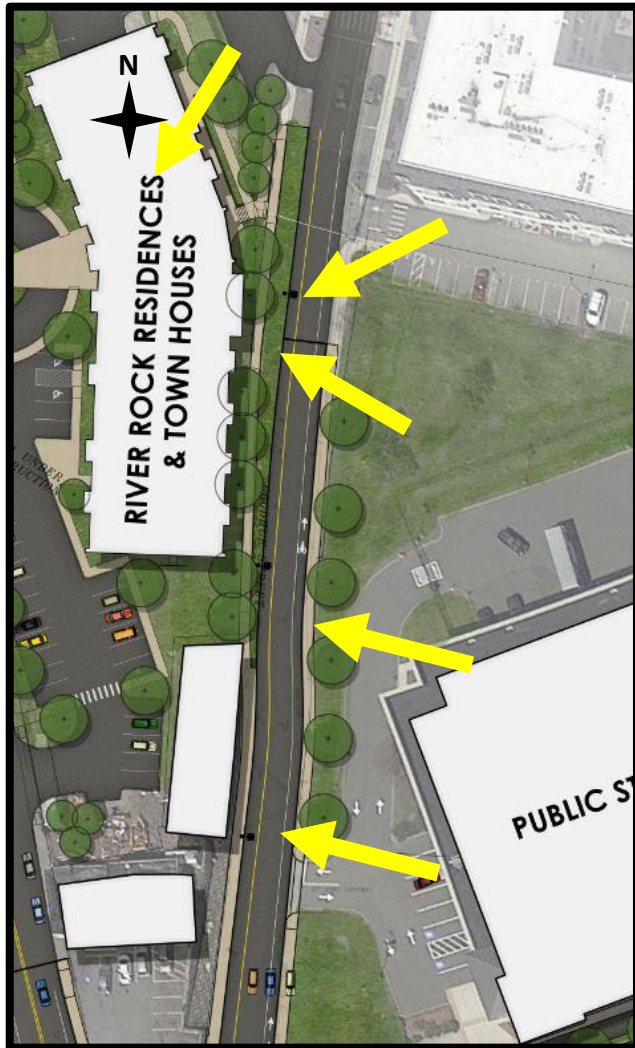
# Design Elements – Boston Street



- Signal Upgrades
- Mill and Overlay
- Reconstruct Sidewalks
- New Separated Bike Lane
- Add Truck Aprons



# Design Elements – Goodhue Street



- Add Pavement
- Reconstruct Sidewalk
- New Sidewalk/Landscape Strip
- Coordinate with Development
- Continue Lighting Improvements



# Design Elements – Goodhue Street



BEFORE

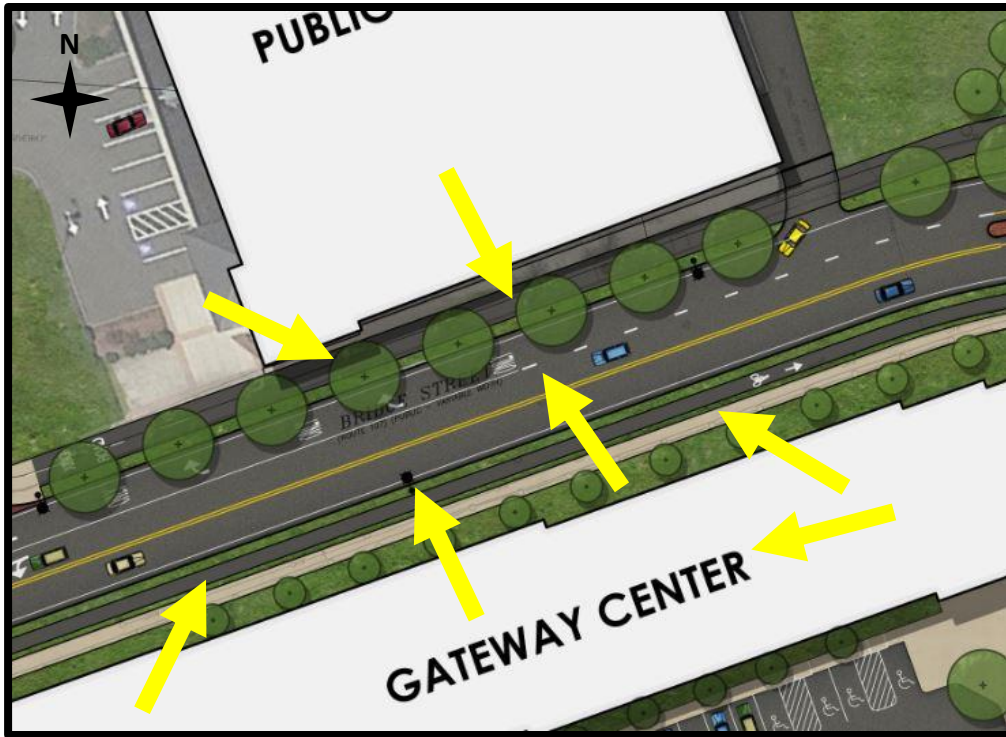
AFTER



Looking North



# Design Elements – Bridge Street



- Reduced Cross Section
- New Shared Use Path
- Reconstruct Sidewalk
- New Separated Bike Lane
- Street Trees and Lighting
- Coordinate w/Development & National Grid

# Design Elements – Bridge Street



BEFORE

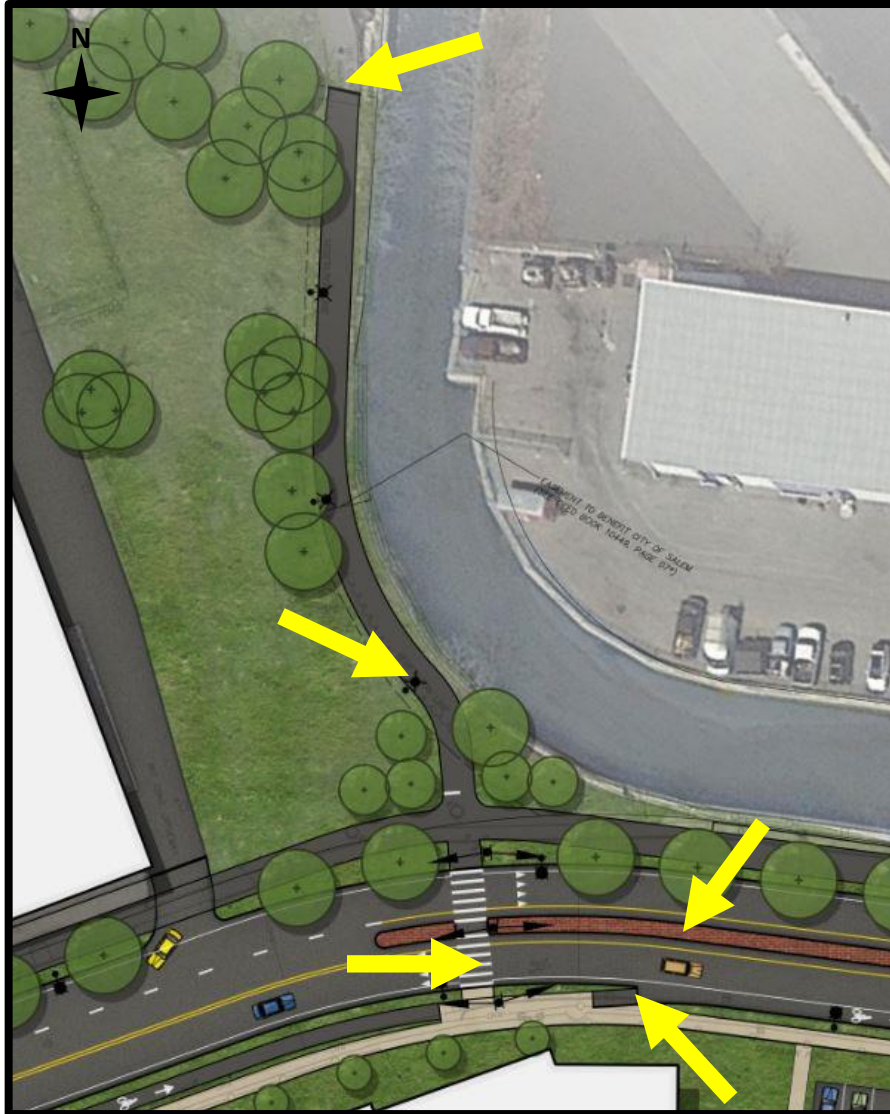
AFTER



Looking East



# Design Elements – Bridge Street



- New Crosswalk/RRFB
- Median
- Bike Lane Transition
- Trail Connection
- Trail Lighting



# Design Elements – Bridge Street



BEFORE

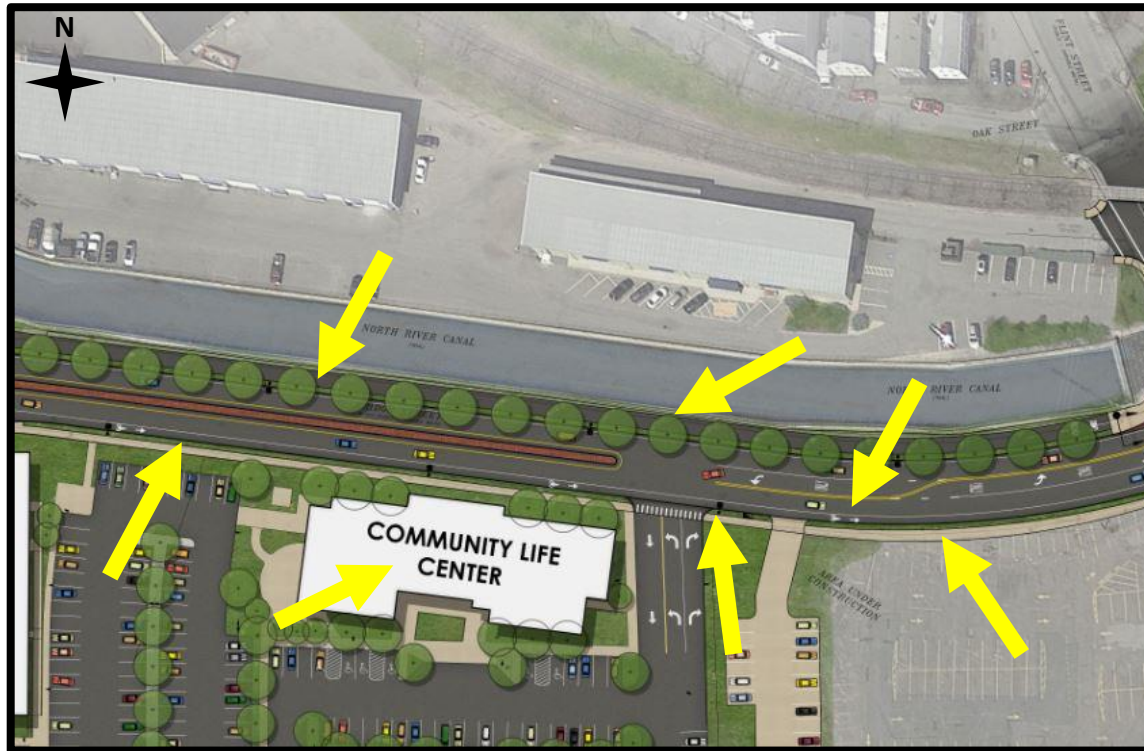
AFTER



Looking North



# Design Elements – Bridge Street



- New Shared Use Path
- Reconstruct Sidewalk
- Landscape Strips
- On Road Bike Lane
- Street Trees and Lighting
- Coordinate with Development and National Grid

# Design Elements – Bridge Street



BEFORE

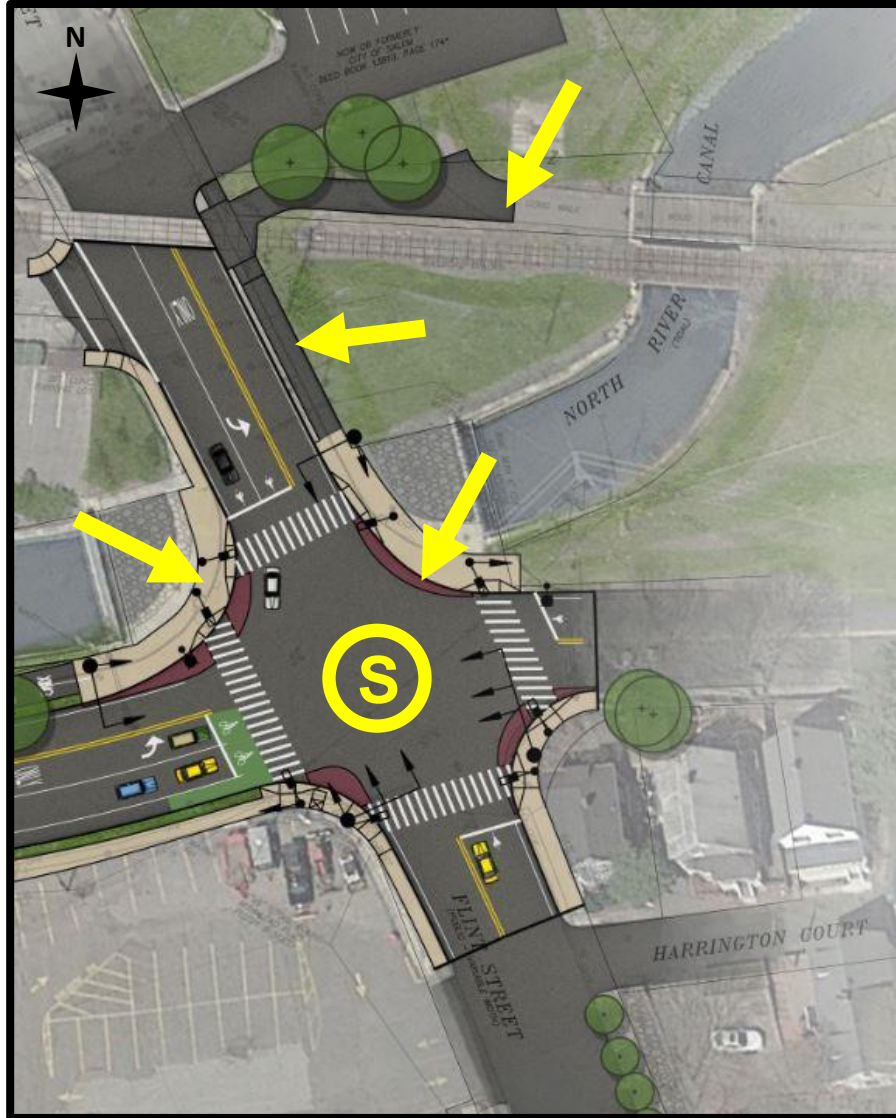
AFTER



Looking East



# Design Elements – Flint Street



- Signal Upgrades
- Reconstruct Wide Sidewalks
- Add Truck Aprons
- New Shared Use Path
- New Trail Connection



# Design Elements – Flint Street



BEFORE

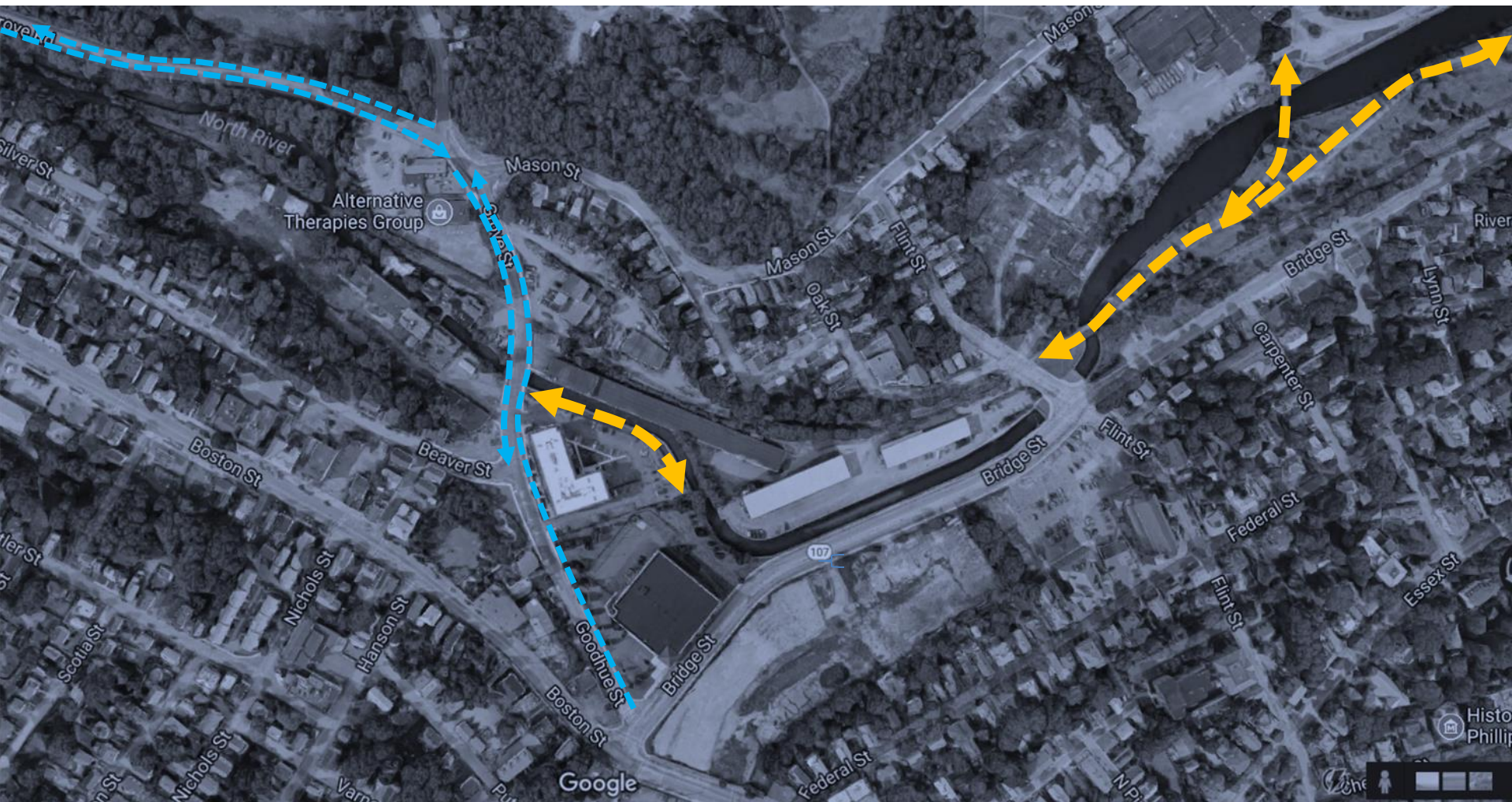
AFTER



Looking North



# Expands Bike Network for all Abilities



Existing

- On Road Bike Lanes
- Separated Bike Lanes
- Shared Use Paths



# Expands Bike Network for all Abilities



Existing Proposed

- |     |   |                      |
|-----|---|----------------------|
| --- | — | On Road Bike Lanes   |
| --- | — | Separated Bike Lanes |
| --- | — | Shared Use Paths     |



# Facility Type Comfort Level

## Interested but Concerned



### Who are they?

A mother and daughter in Western Mass. who enjoy Saturday rides to the library along the trail that runs near their house. The need to cross a busy road prevents them from riding together to elementary school during the week.

A 45-year-old father of two on the South Coast who was just diagnosed with pre-diabetes. His doctor encouraged him to be more active. He doesn't think he has time to go to the gym, so he's been thinking about commuting to work by bike. As a motorist he feels uncomfortable passing bicyclists, so he isn't sure he'd feel comfortable as a bicyclist sharing the road with cars.

A Boston-area resident who just moved to the US. He's used Hubway bike share a few times to ride home from the train station. He enjoys riding as long as he stays on quiet streets or the sidewalk. He'd like to be able to ride to the grocery store, but there are busy roads and intersections along the way.

## Casual and Somewhat Confident



### Who are they?

A woman on the North Shore who rides her bike downtown every morning to her job at the hospital. She prefers to ride on neighborhood streets, but doesn't mind riding the last few blocks on a busy street since there's a bike lane.

A lower-income Cape resident who rides a bicycle to save money for other household expenses. He's comfortable riding on Main Street without a conventional bike lane because it's a two-lane road and motorists usually don't pass him.

## Experienced and Confident



### Who are they?

A 60-year-old, life-long, daily-commuting bicyclist. He prefers direct routes to his destinations to save time. He is confident riding in mixed traffic and knows to be wary of opening car doors and turning trucks. He enjoys riding on shared use paths, but typically avoids them during congested periods.



LOWER STRESS  
TOLERANCE

HIGHER STRESS  
TOLERANCE

# Bike Lanes

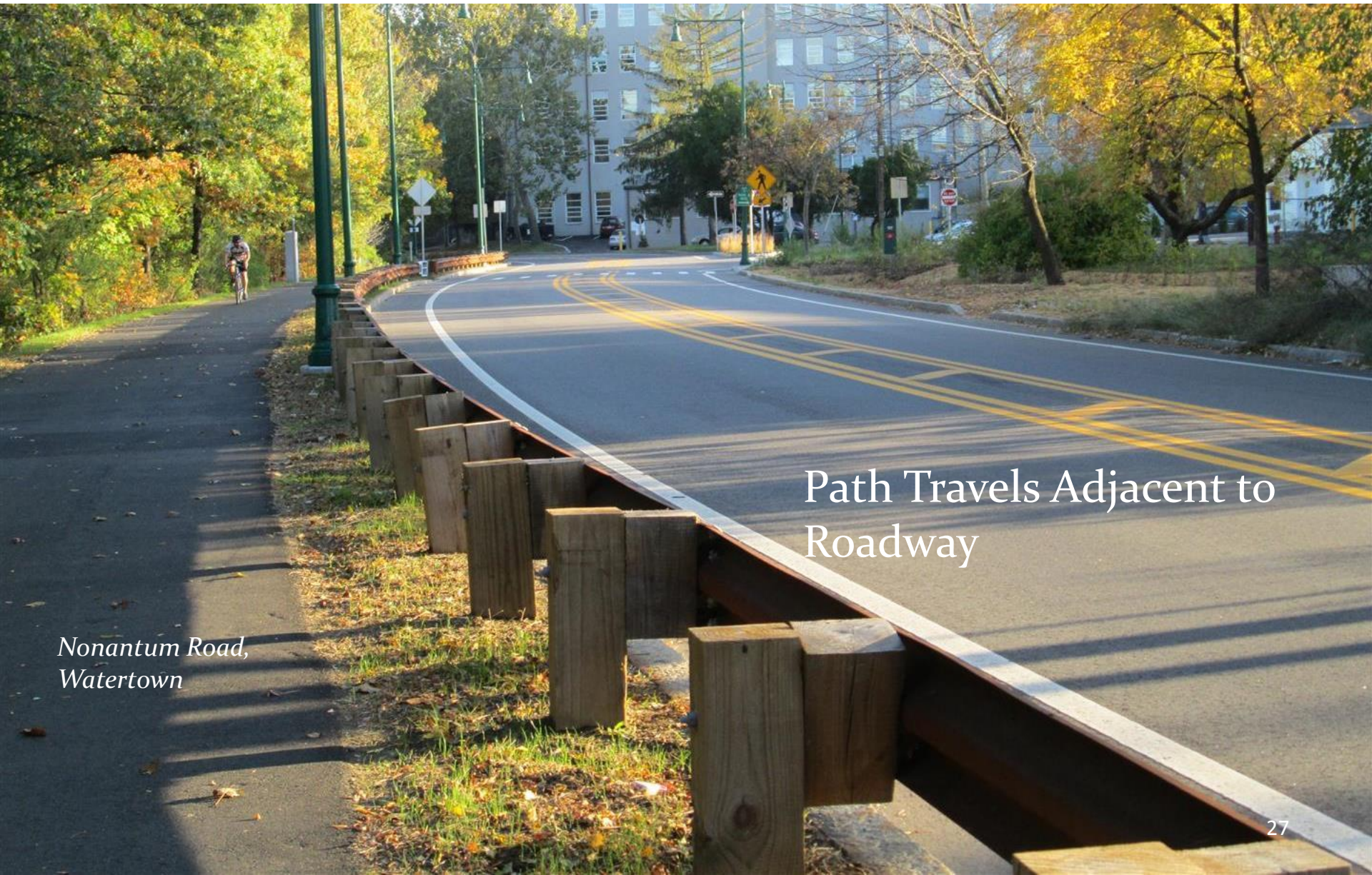


## Benefits:

Drivers, Bicyclists, and  
Pedestrians



# Shared Use Paths - Side paths



Path Travels Adjacent to  
Roadway

*Nonantum Road,  
Watertown*



# Separated Bike Lanes

## Research has shown:

- Attracts more people to bicycling
- Improves safety for all road users
- Preferred by motorists and bicyclists over on-road facilities

*Vassar Street, Cambridge*  
NACTO



# Pedestrian Crossing Island

- Reduces pedestrian crashes by 46% (FHWA)
- Allows pedestrians a safe place to stop
- Enhances visibility of the crossing

*Nonantum Road, Newton*



# Rectangular Rapid Flashing Beacon

- For midblock locations
- Motorist yielding rates increased:
  - 18.2% to 81.2% for 2 beacons and
  - to 87.8% for 4 beacons (TRB)
- Pedestrian activated (pushbutton or passive)
- Warning device
- Interim approval from FHWA, July 2008
- Can be solar powered or hard wired

Salem Street, Lowell



# Accessible Pedestrian Signals (APS) and Countdown Signals

- For visually-impaired pedestrians
- Signal information both audible and vibrotactile
- Extra information benefits all pedestrians
- Required for new construction



# Questions? / Discussion

Contact:

**Andrew Shapiro**

Economic Development Planner

Department of Planning & Community Development

978-619-5685

[ashapiro@salem.com](mailto:ashapiro@salem.com)

Thank you! Go Pats!



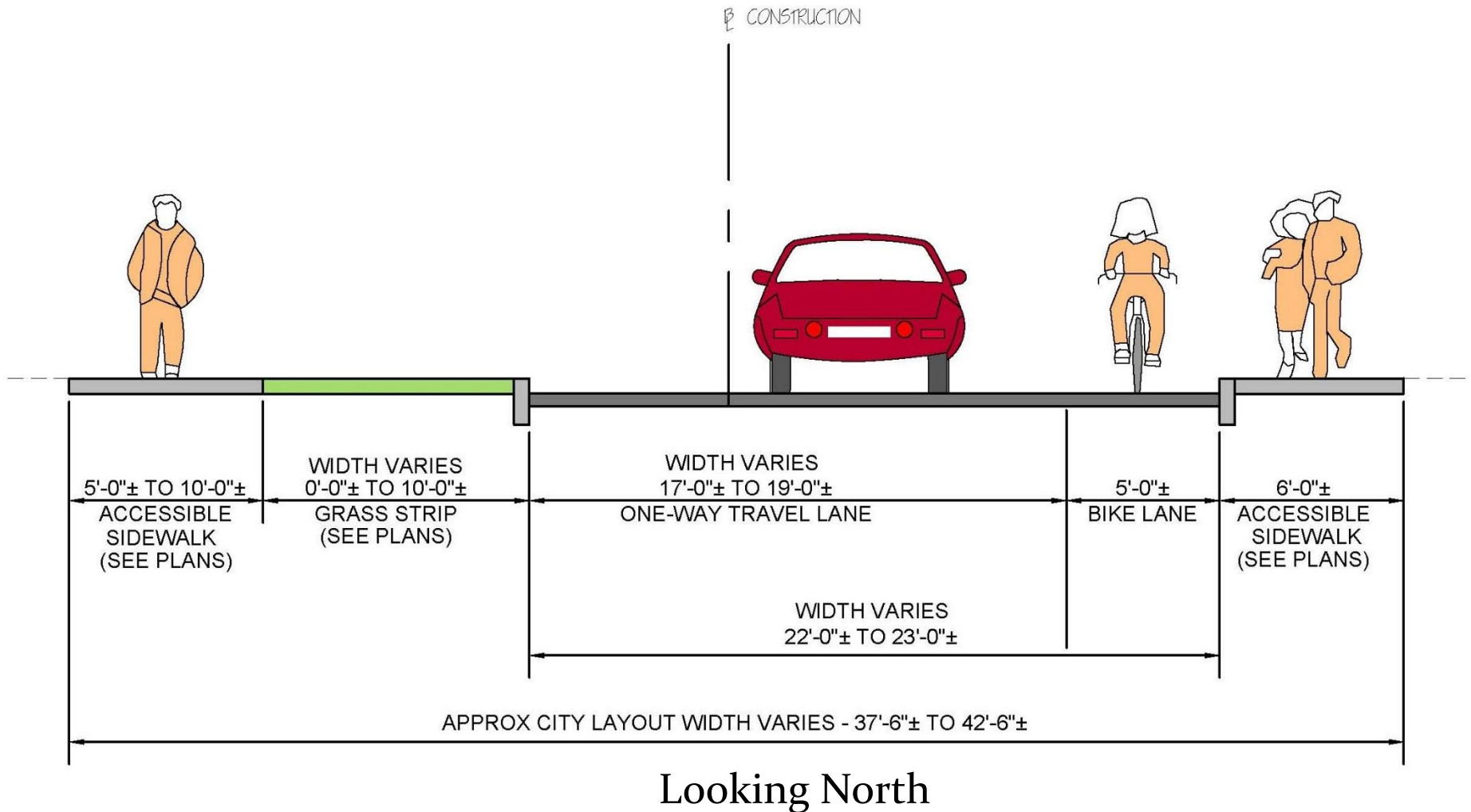


Diagram illustrating a cross-section of a city street layout, showing various lanes and their widths:

- Left Side (City Lane):**
  - 8'-0" Sidewalk
  - 5'-0" Bike Lane
  - 16'-0" Travel Lane
  - 11'-0" Left-Turn Lane
  - 11'-0" Slight Right-Turn Lane
  - 11'-0" Right-Turn Lane
- Right Side (Bicycle Lane):**
  - 8'-0" Landscaped Area
  - 5'-0" Bike Lane
  - 8'-0" Sidewalk
- Other Features:**
  - Tree (8'-0" wide)
  - 55' Wall (by others)
  - 10'-0" Buffer
  - 25'-0" Total Width

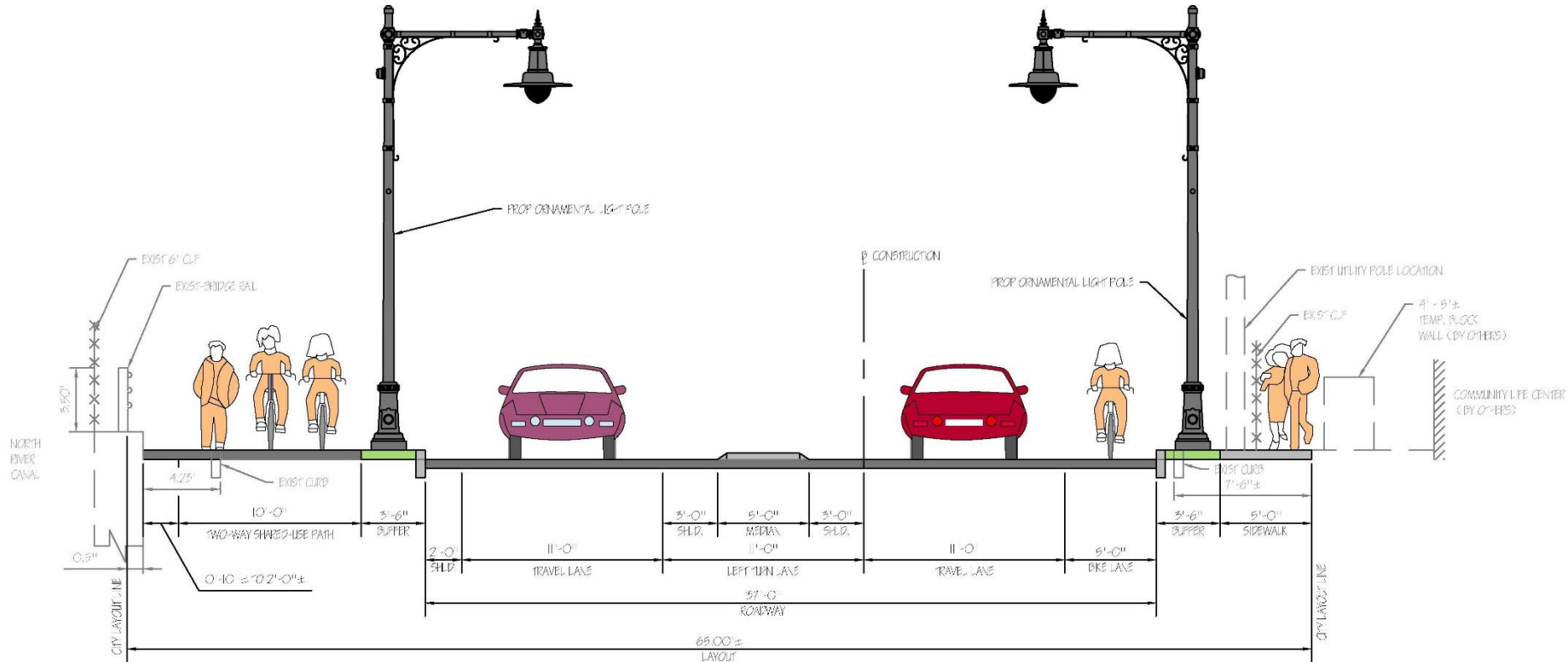
# Looking North

# Typical Section – Goodhue Street



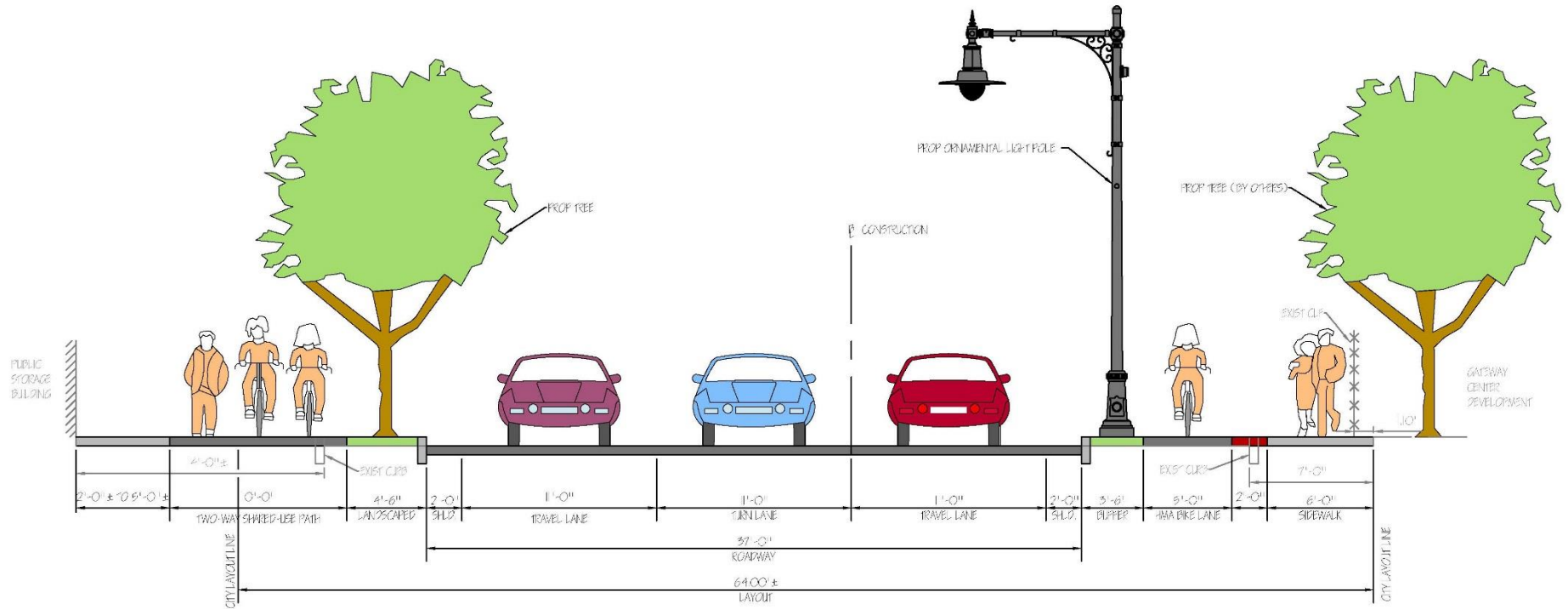


# Typical Section – Bridge Street



## Looking East

# Typical Section – Bridge Street



## Looking East



[illegible]

# Looking South