



CAMBRIDGE
DEPARTMENT
OF PUBLIC
**THE
WORKS**

City of Cambridge
Department of Public Works

Gore Street and Rufo Road Surface Reconstruction Design Progress meeting

11-1-2018

Design Progress | Meeting Agenda

- **Introductions**
 - Kara Falise, Senior Engineer
- **Gore Street Utility Construction Update**
 - James Wilcox, Director of Engineering Services
 - DivCO West / CSL
- **94 Gore Street Tree Update**
 - Katherine Watkins, City Engineer
- **Gore Street and Rufo Road Design Discussion**
 - Kara Falise, Senior Engineer
 - Stephen Meuse, Traffic Engineer
- **Small Group Discussions**

GORE STREET UTILITY CONSTRUCTION | UPDATE

- **Eversource Gas Work**

- Gas main replacement expected complete by end of 2018

- **Cambridge Crossing Sewer Work**

- Up to 3 crews working on Sewer Installation
- Monday-Saturday
- Anticipated completion at end of February 2019

94 GORE STREET TREE | UPDATE

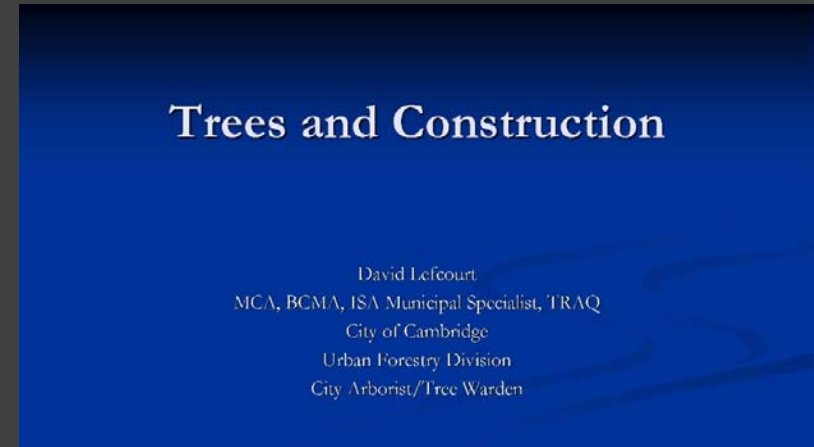
- On Tuesday, June 20th Contractor working for Eversource Gas Damaged Tree Roots at 94 Gore Street
- Arborists determined severity of damage required immediate removal of tree



94 GORE STREET TREE | ACTIONS

- **Immediate Actions**

- Contractor crew involved removed from Gore Street
- All Eversource Staff and their contractors attended mandatory training by City Arborist related to working around City Trees



- **Eversource Commitments**

- Contractor paid \$67,179.02 as restitution for value of lost mature tree and city costs
- Eversource will prepare report to review:
 - “Lessons Learned” from June 20th incident
 - Measures to prevent future breaches of City Permit Requirement
 - Additional specific procedures for working near trees with consultations with Arborist required.

- **City Commitments**

- Replanting lost tree
- Neighborhood tree plantings to the appraised value (\$61,000)
- Continued education and oversight of all permitted contractors

94 GORE STREET TREE | Neighborhood Plantings



This will be a nice place for a tree.

THE WORKS

Questions?

W: www.cambridgema.gov/tree P: 617.349.4885 E: cambridgetree@cambridgema.gov

TREE SPECIES:

As part of the project and other City Tree Planting Programs, the City will look to add additional trees to Public Rights of way, in the Neighborhood of the significant loss

GORE STREET and RUFO ROAD | **SCHEDULE**

- ~~Early Summer Design Kick-Off~~
 - ~~Community Meeting to understand Conditions~~
- **Fall 2018 (TONIGHT):** Survey and Design Concepts
 - Community meeting to evaluate concepts
- **Winter – Spring 2018-2019:** Design Finalization
 - Community meeting to review design
 - Traffic Data Collection
- **Summer 2019:** Bidding for Construction
- **Fall 2019:** Construction Commencement
 - Community Meeting to kick-off construction

5 YEAR PLAN | **PLANNED CONSTRUCTION**



Interactive construction map: www.cambridgema.gov/theworks/constructionmap



INTRODUCTION | COMPLETE STREETS

Complete Streets are **streets for everyone**. They are designed and operated to enable **safe access for all users**. Pedestrians, bicyclists, motorists, and public transportation (transit) users of all ages and abilities are able to safely move along and across a Complete Street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They help buses to run on time and make it safe for people to walk to and from train stations.

More sidewalks and bicycle facilities are included, which provides **increased accessibility for pedestrians and cyclists**.

During design and construction of Complete Streets, our goal is to communicate projects with neighborhoods, facilitate an integrated design process, minimize disruption to community life and provide reasonable access for all users during reconstruction.

INTRODUCTION | VISION ZERO

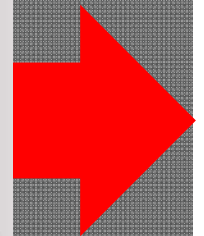
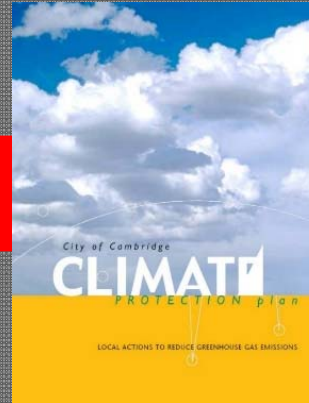
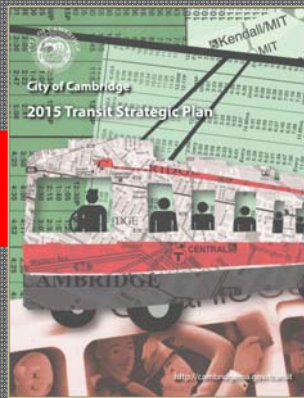
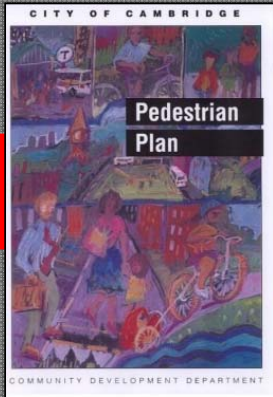
On March 21, 2016, the Cambridge City Council unanimously passed resolutions put forth by the City Manager to formally adopt Complete Streets and Vision Zero policies, showing that the City of Cambridge is committed to achieving these goals, assuring safe access for all users.

Vision Zero calls for the elimination of fatalities and serious injuries resulting from traffic crashes, and emphasizes that they can and should be prevented. The City of Cambridge is the 17th city in the U.S. to commit to a Vision Zero Policy.



INTRODUCTION | GUIDING PLANS AND POLICIES

In addition to Complete Streets and Vision Zero



Vehicle Trip Reduction Ordinance established programs to encourage alternatives to single-occupancy vehicle travel (1992).

Cambridge Growth Policy emphasizes sustainable modes of transportation such as walking, biking and using transit and low-emission vehicles, which promote livability and help to improve air quality and reduce greenhouse gas emissions (1993/2007).

5 YEAR PLAN | SCOPE OF WORK

Our approach emphasizes **streets designed and operated for everyone**. Pedestrians, bicyclists, motorists, and transit users of all ages and abilities will be able to safely move along and across **Complete Streets**.



Emphasis on accessibility – pedestrian ramps, sidewalks and universal design.



Vision Zero calls for the elimination of fatalities and serious injuries resulting from traffic crashes.



Transit improvements – accessibility of bus stops and transit priority, as feasible.



Network of bike facilities – support people of all ages and abilities to bike safely throughout the city.



Additional street trees and green infrastructure.



Maintain and improve city infrastructure, and coordinate with private utilities to facilitate upgrades.

GORE STREET and RUFO ROAD | DESIGN KICK-OFF



GORE STREET and RUFO ROAD | **SCOPE**

Proposed as part of City Surface Restoration Project:

- New water main and replacement of lead services.
- Sewer main rehabilitation and repairs
- Pavement profile restoration and repaving
- Accessible sidewalk reconstruction
- Tree plantings and improved drainage

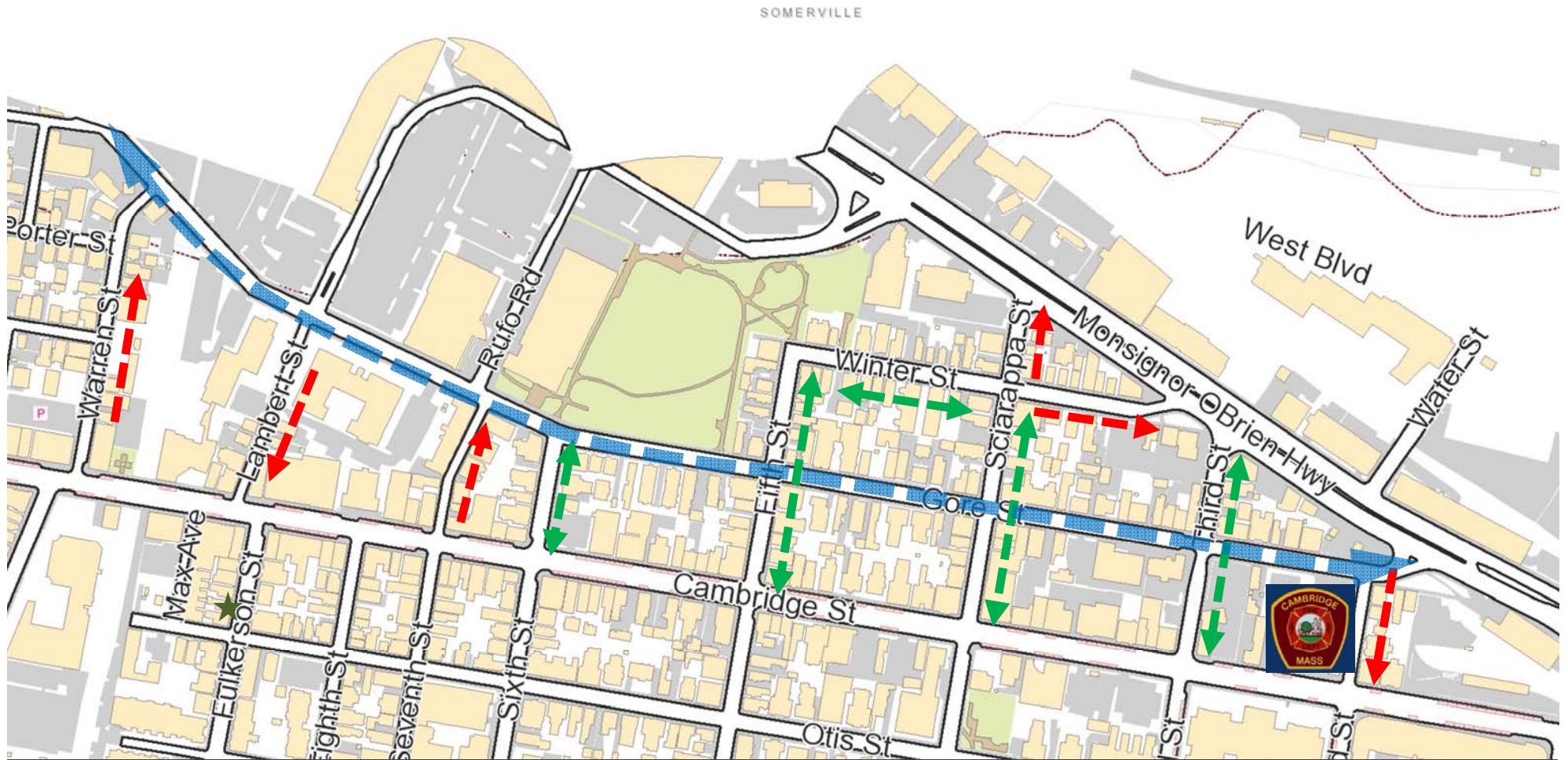
DESIGN | PLAN OVERVIEW



DESIGN | TRAFFIC DEPARTMENT

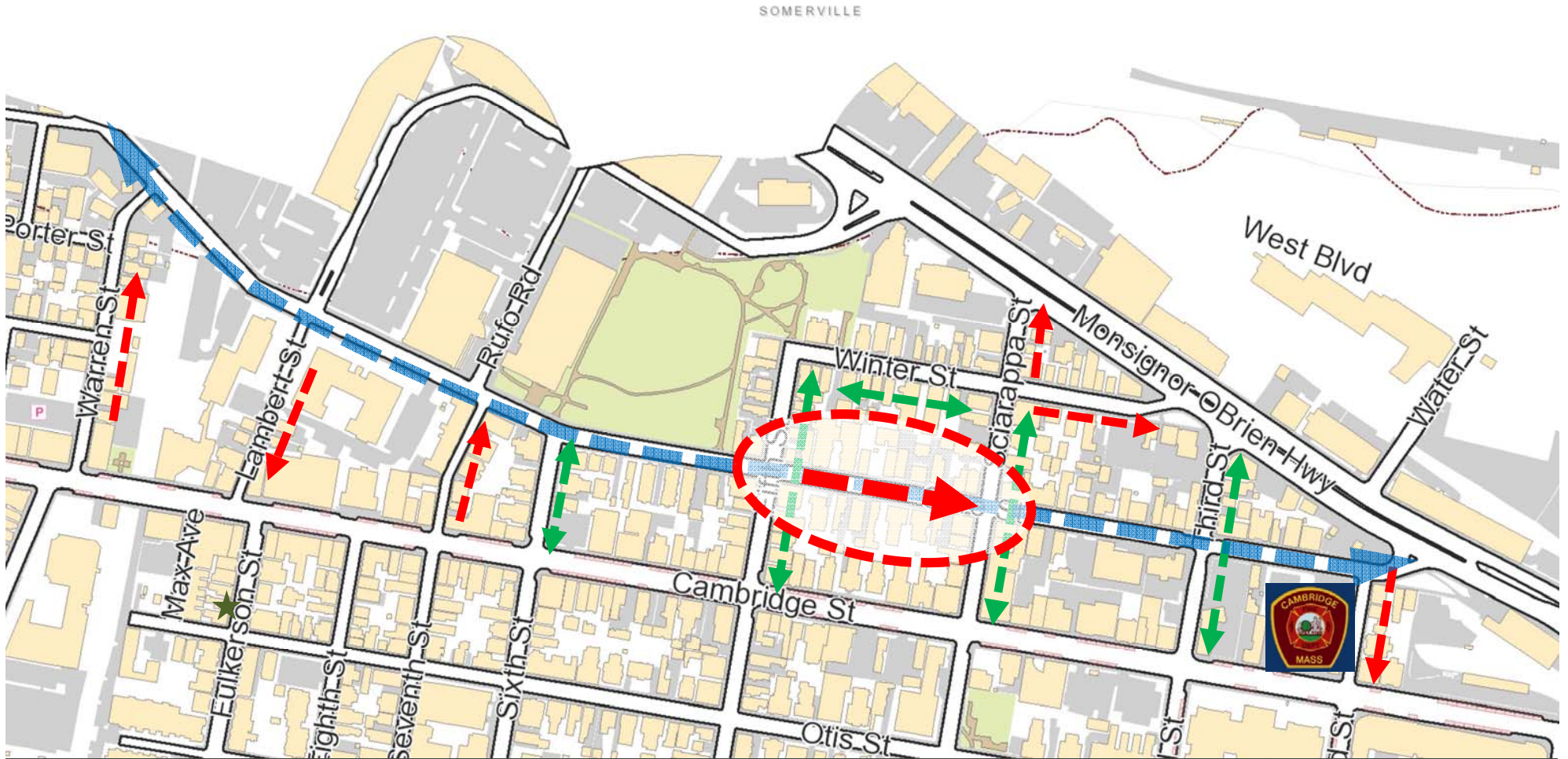


DESIGN | EXISTING ONE-WAY CIRCULATION



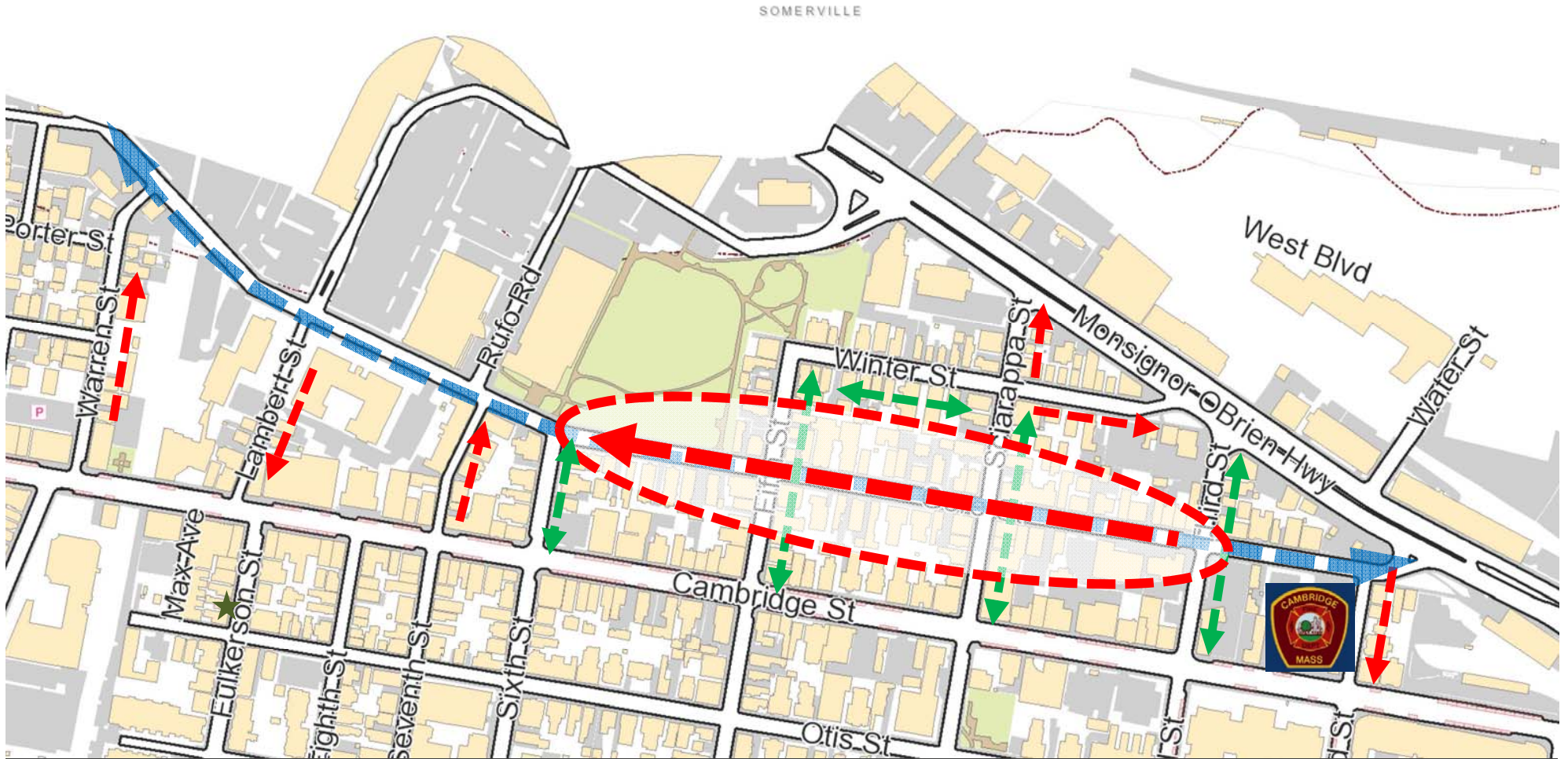
- Gore Street is two-way for the full length
- Major access points at Sixth Street, Lambert Street, and Warren Street
- Narrow width for two-way travel helps limit vehicle speeds
- Two-way access between Third and O'Brien is required for Fire Department Egress

DESIGN | ONE-WAY GORE STREET PETITION



- Proposal would convert Gore Street to one-way eastbound from Fifth Street to Sciarappa Street
- Short length of one-way street results in a confusing roadway network
- One-block of one-way creates incentive for wrong-way violations
- Reduces mobility for Cambridge Fire Department

DESIGN | ONE-WAY GORE STREET ALTERNATIVE



- Proposal would convert Gore Street to one-way westbound from Third Street to Sixth Street
- Maintains access to the neighborhood for Cambridge Fire Department
- Conversion from two-way to one-way is likely to result in increased travel speeds due to fewer conflicts
- **Department recommends maintaining two-way**

DESIGN | CRASH DATA

Crash Data 2015-2017

Crash Frequency

- Highest number of crashes at Third Street intersection
- Three injury crashes, zero fatalities
- Two crashes involving cyclists, one involving a pedestrian

Crash Patterns

- Most midblock crashes are sideswipes with parked cars
- Crash pattern at Third Street: Gore Street vehicles failing to yield to cross traffic

Location	# of Crashes
Gore Street at Lambert Street	6
Gore Street at Seventh Street/Rufo Road	3
Gore Street at Sixth Street	0
Gore Street at Fifth Street	1
Gore Street at Sciarappa Street	0
Gore Street at Third Street	19
Gore Street at Second Street	0
Mid-Block	8
Total	37

DESIGN | CONCEPTS



DESIGN | SIDEWALKS AND ACCESSIBILITY



Photo Credit:
Christian Phillips Photography and Klopfer Martin Design Group

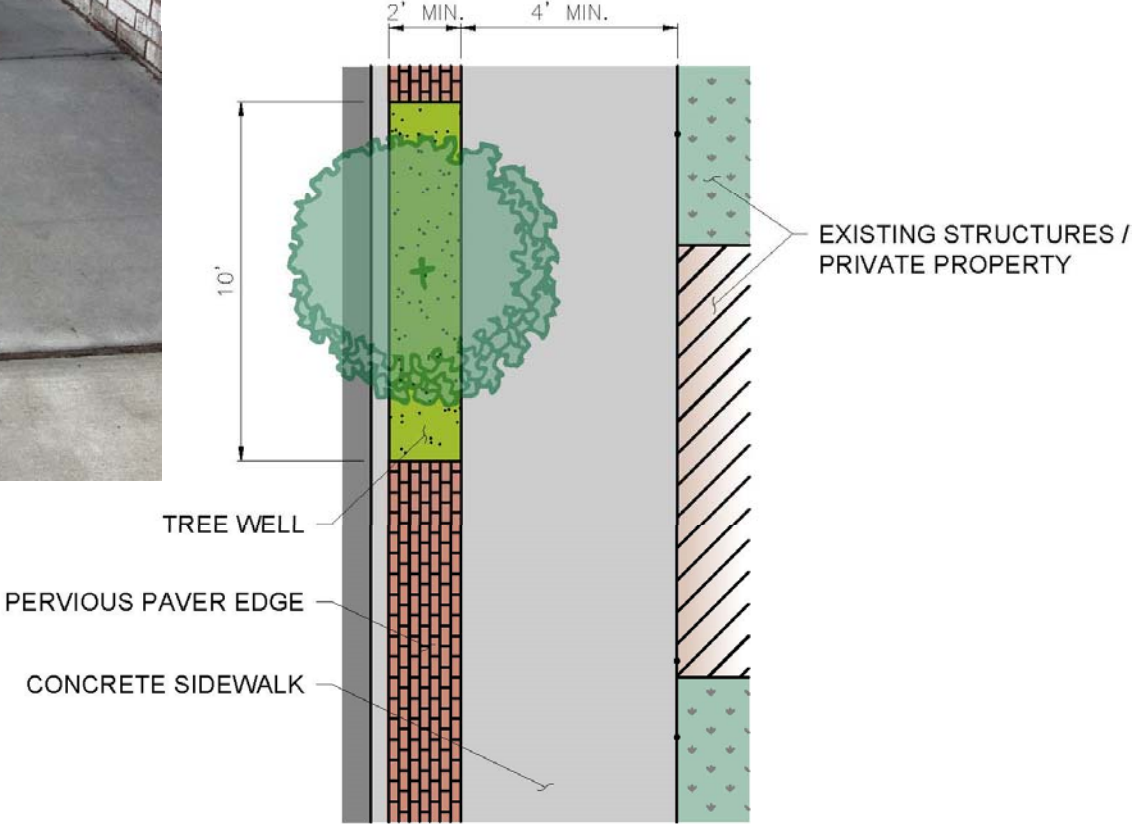


The City is committed to accessibility in all of our construction projects.

- All new sidewalks and pedestrian ramps will meet ADA /AAB requirements.
- Sidewalk widths vary by the type of street. Typically 5' sidewalk is required, but wider sidewalks are required on busier commercial streets and arterials.
- 4' min is required at new driveways and street trees. 3' min is allowable at existing street trees.
- Sidewalks will include a minimum 3' of sidewalk or accessible routes around existing trees.
- The best design for pedestrian crossings, particularly on narrow side streets, may be a modified raised crosswalk.



DESIGN | OPTIONS - SIDEWALK STANDARDS

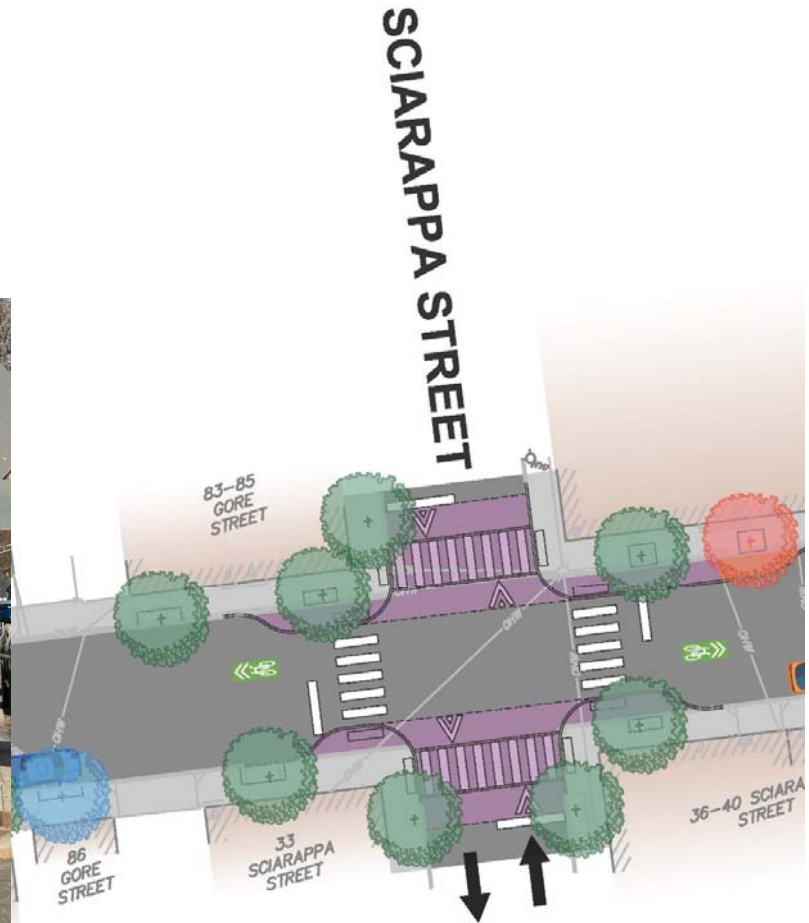
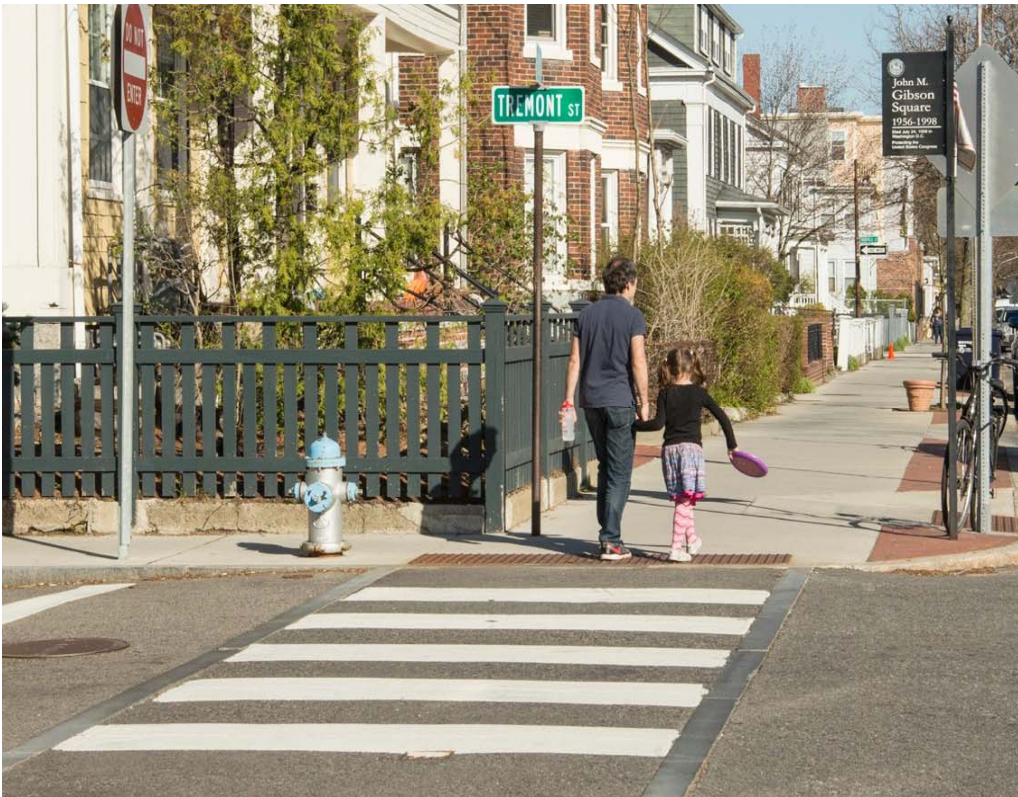


DESIGN | SIDEWALKS AND ACCESSIBILITY



- **3 existing Trees will likely require Curb Extensions for Accessibility.**
- **Some existing trees may require Flexi-pave installation to protect shallow tree roots while establishing stable walking surface.**

DESIGN | OPTIONS – SIDE STREET RAISED CROSSINGS



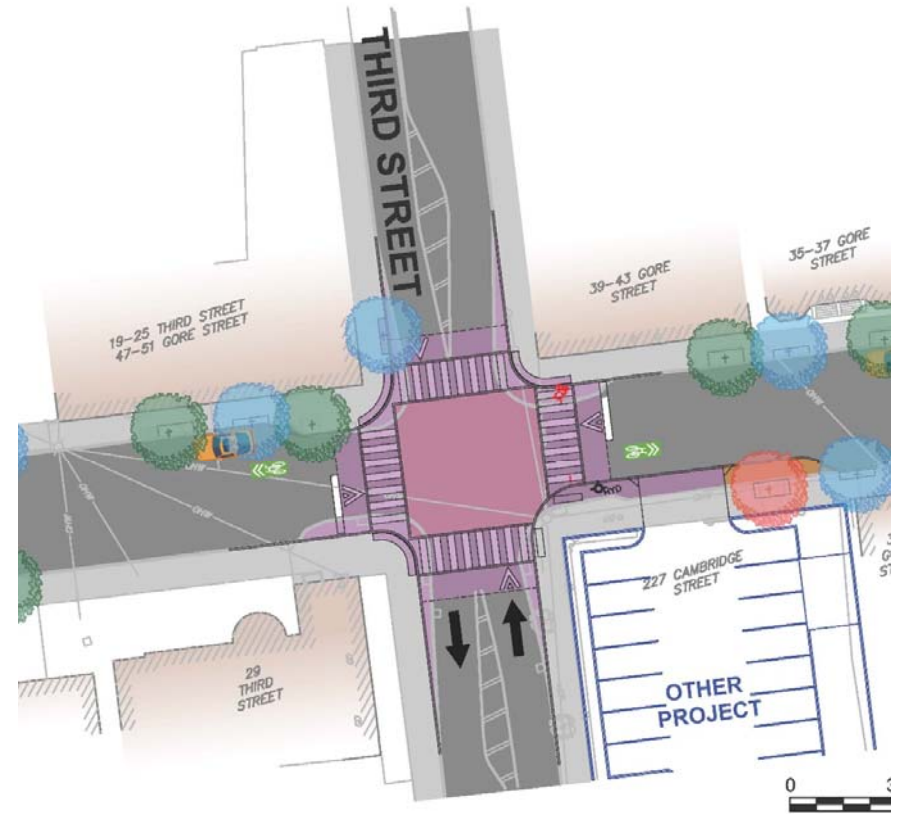
- Improved conditions for pedestrians
- Reduced vehicle speeds

DESIGN | OPTIONS – CURB EXTENSIONS AT CROSSINGS



- Improved conditions for pedestrians with shortened crossing and improved visibility

DESIGN | OPTIONS – RAISED INTERSECTIONS



Raised Intersections proposed at :

- Gore Street and 3rd Street
- Gore Street and 5th Street

Raised Intersections:

- Reduce vehicular speeds
- Increase visibility of crossings

DESIGN | **OPTIONS - STREET TREES**

Existing Street Trees

Existing street trees will be protected during construction and the sidewalks will be carefully evaluated to ensure adequate accessible routes through the neighborhood.

New Tree Plantings

- On **narrow sidewalks** (less than 8' wide), a minimum of 4' of sidewalk width will be retained adjacent to new trees.
- On **wider sidewalks** (8' wide or greater), a minimum of ½ of the overall sidewalk width will be retained for pedestrians.

Back of Sidewalk Trees

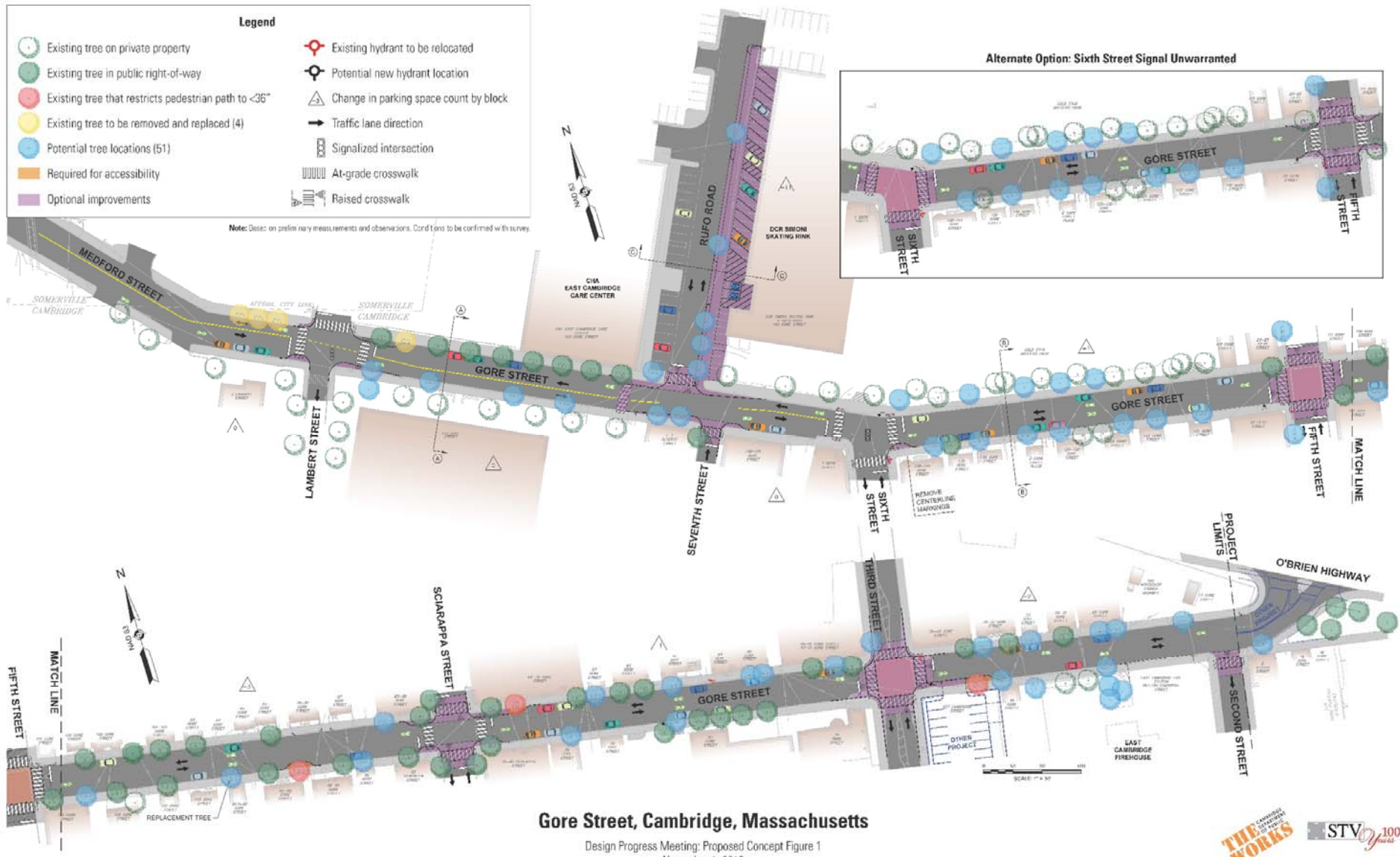
The Arborist will work with residents interested in back of sidewalk tree plantings.



GOALS

- **Protect existing** street trees during construction.
- Increase the number of street trees and maintain **accessible sidewalks**.

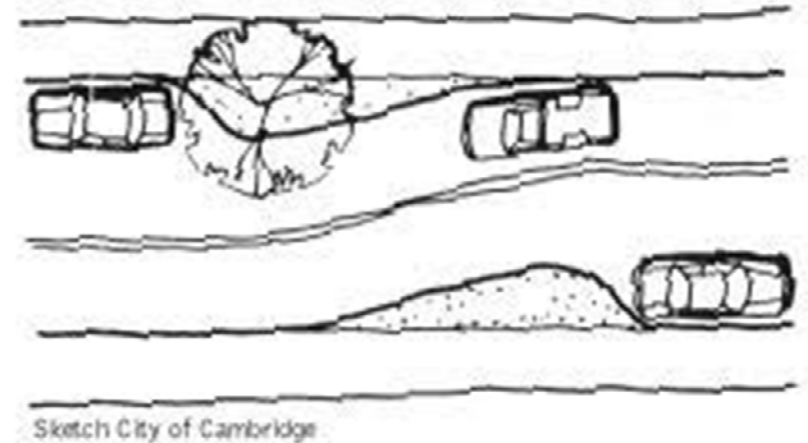
DESIGN | STREET TREES



51 identified potential locations for new tree plantings



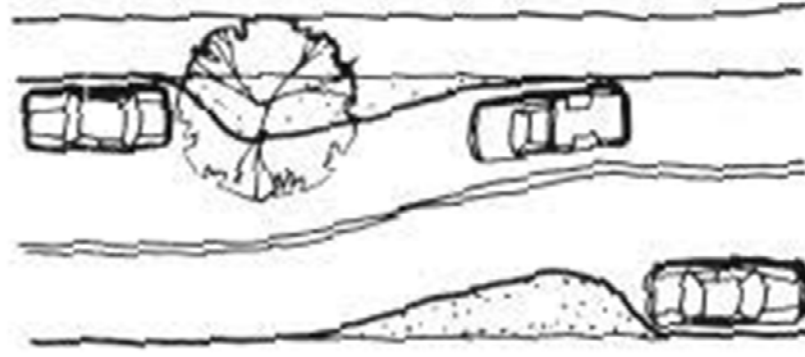
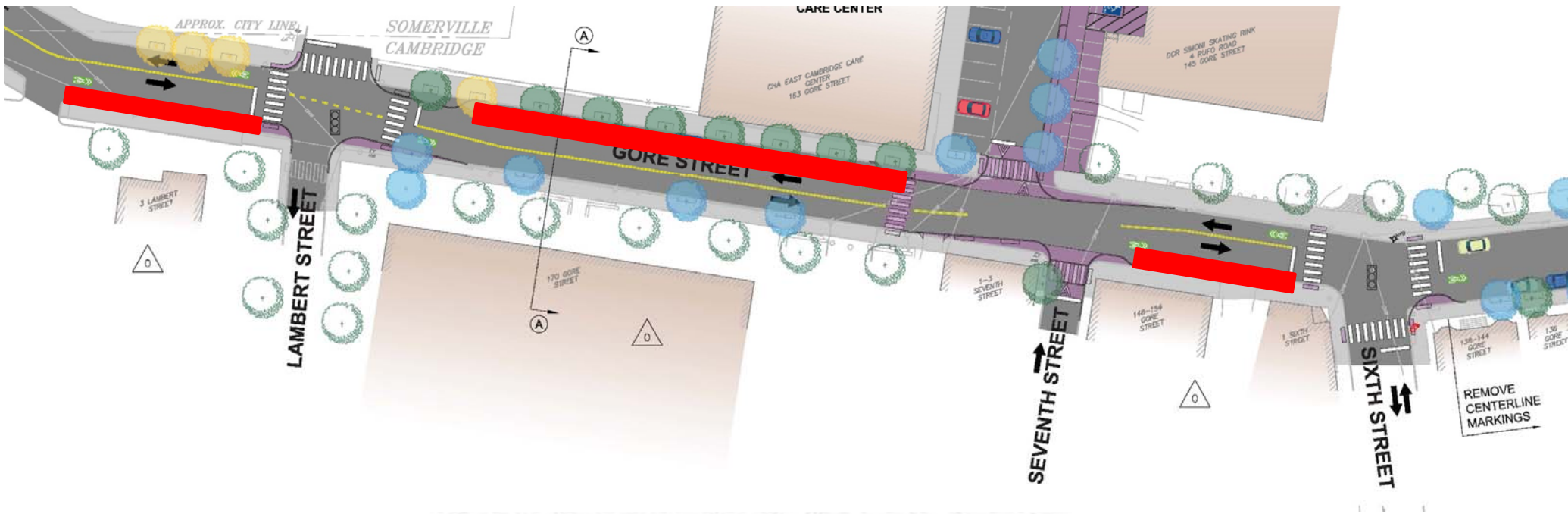
DESIGN | OPTIONS: CHICANES



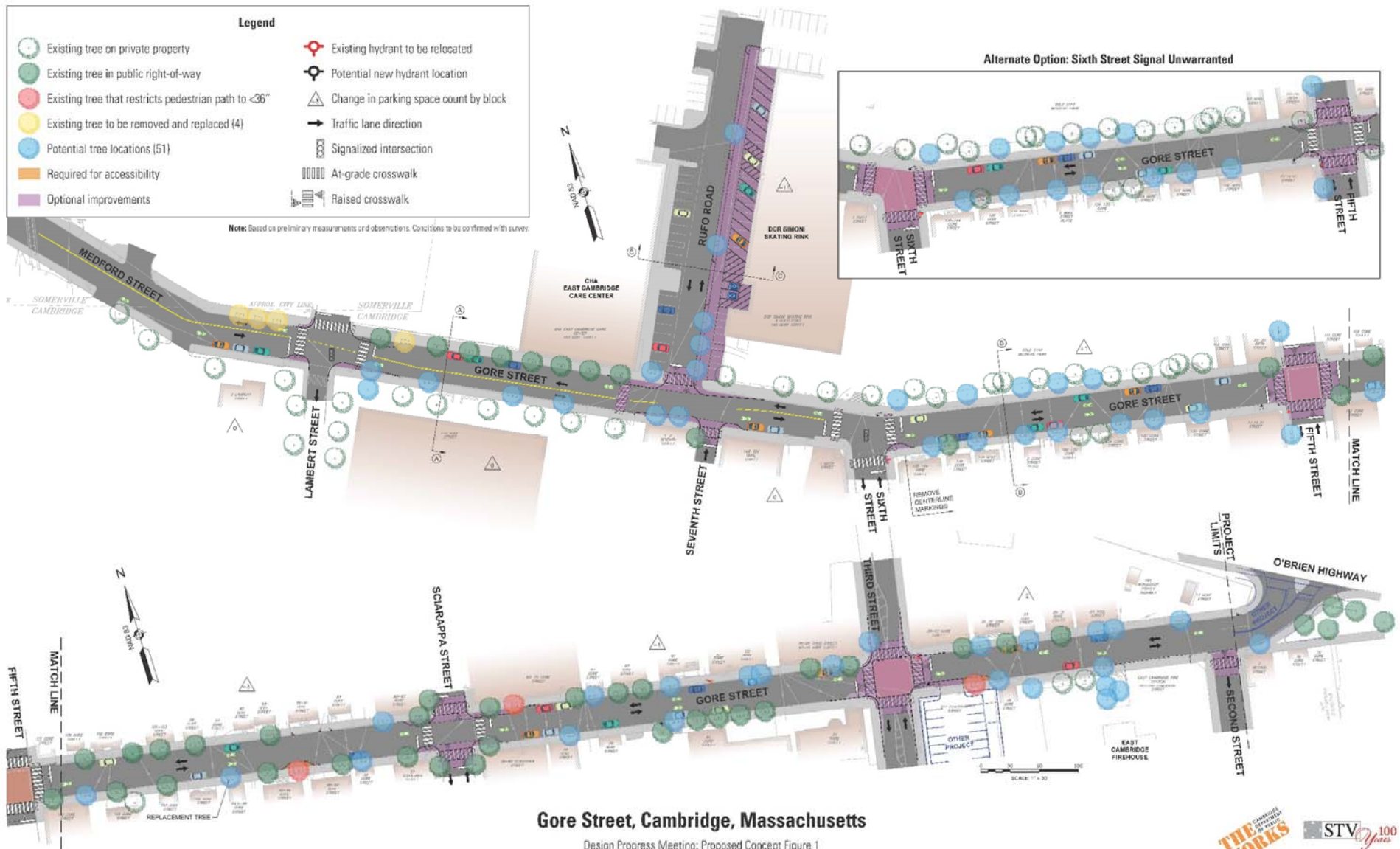
Chicanes:

- One side of parking alternated between sides of roadway
- Slow vehicular speeds by breaking up lengths of straightaways

DESIGN | OPTIONS: CHICANES



DESIGN | OPTIONS

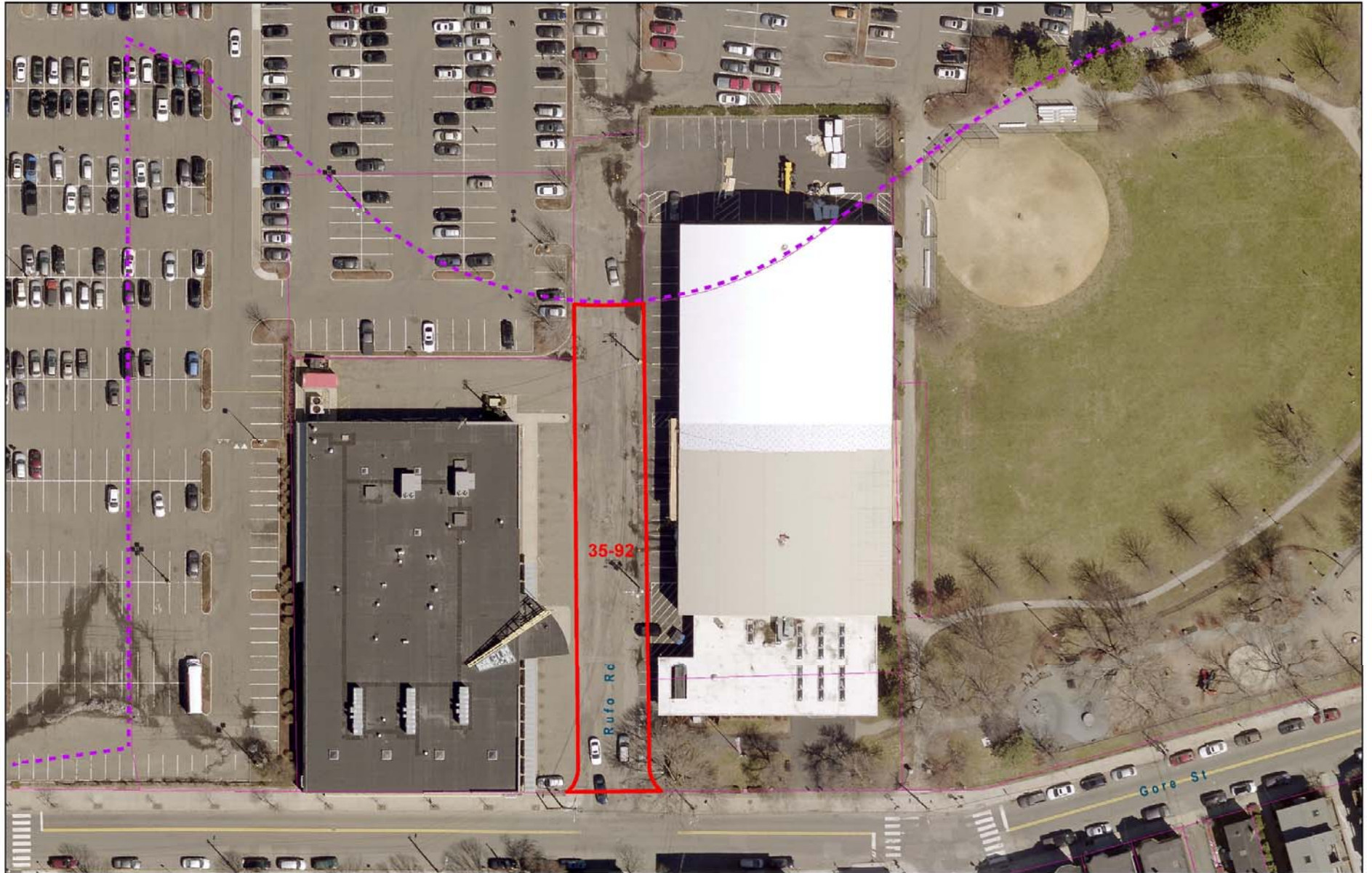


- Remove Centerline from 6th Street to Msgr O'Brien Highway
- Shared Lane Markings for Bicyclists

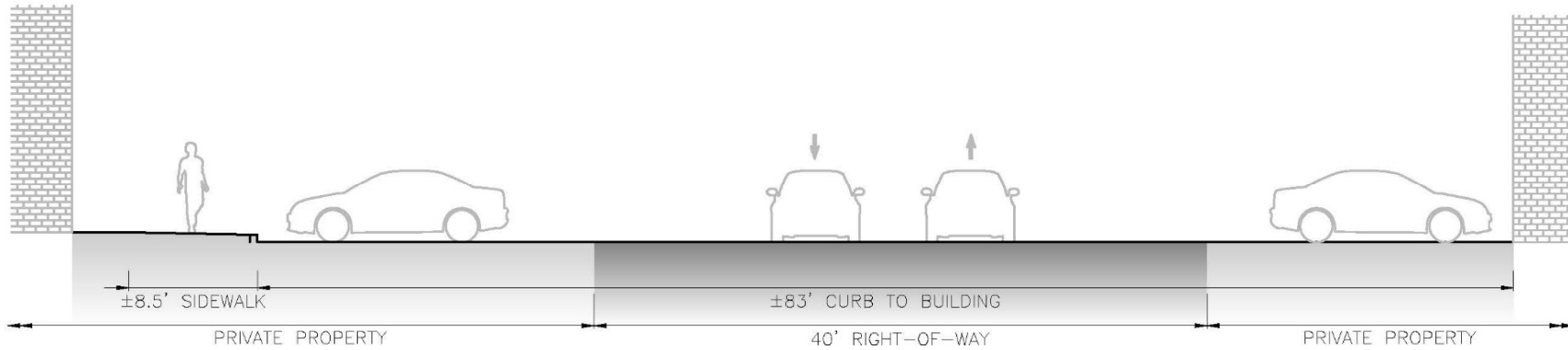
RUFO ROAD | EXISTING CONFIGURATION



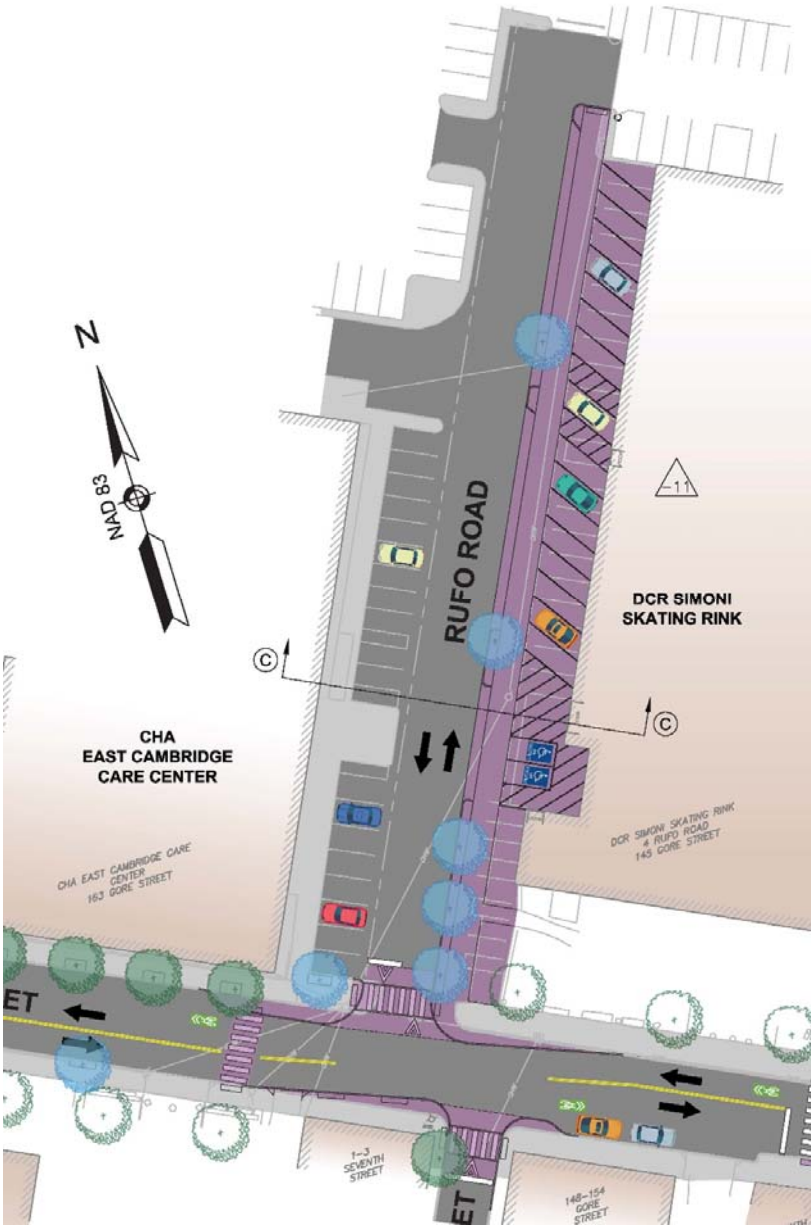
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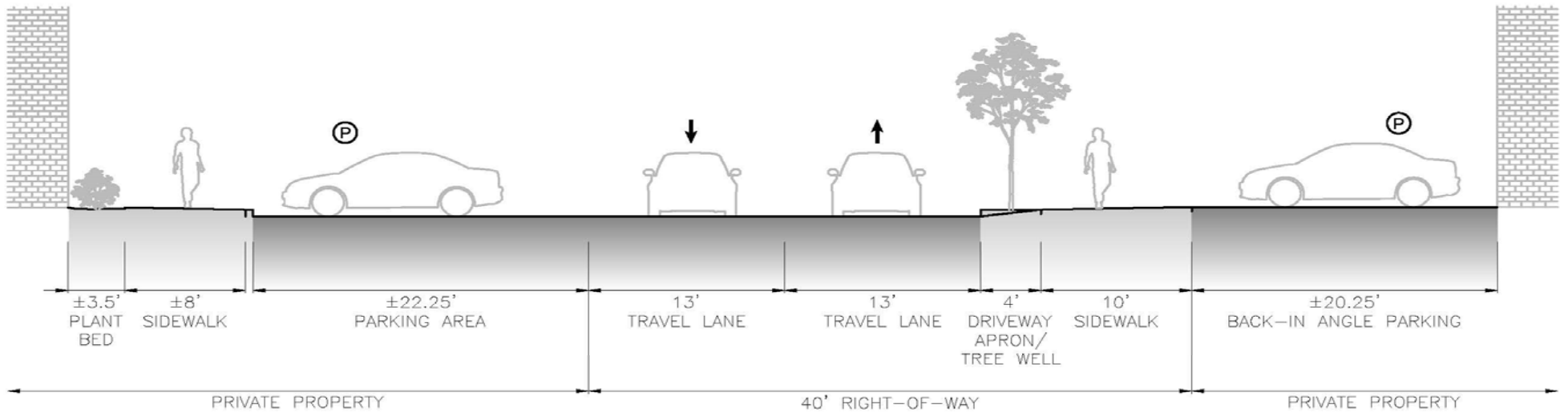
RUFO ROAD | EXISTING SECTION



RUFU ROAD | PROPOSED CONDITIONS



RUFO ROAD | PROPOSED CONDITIONS

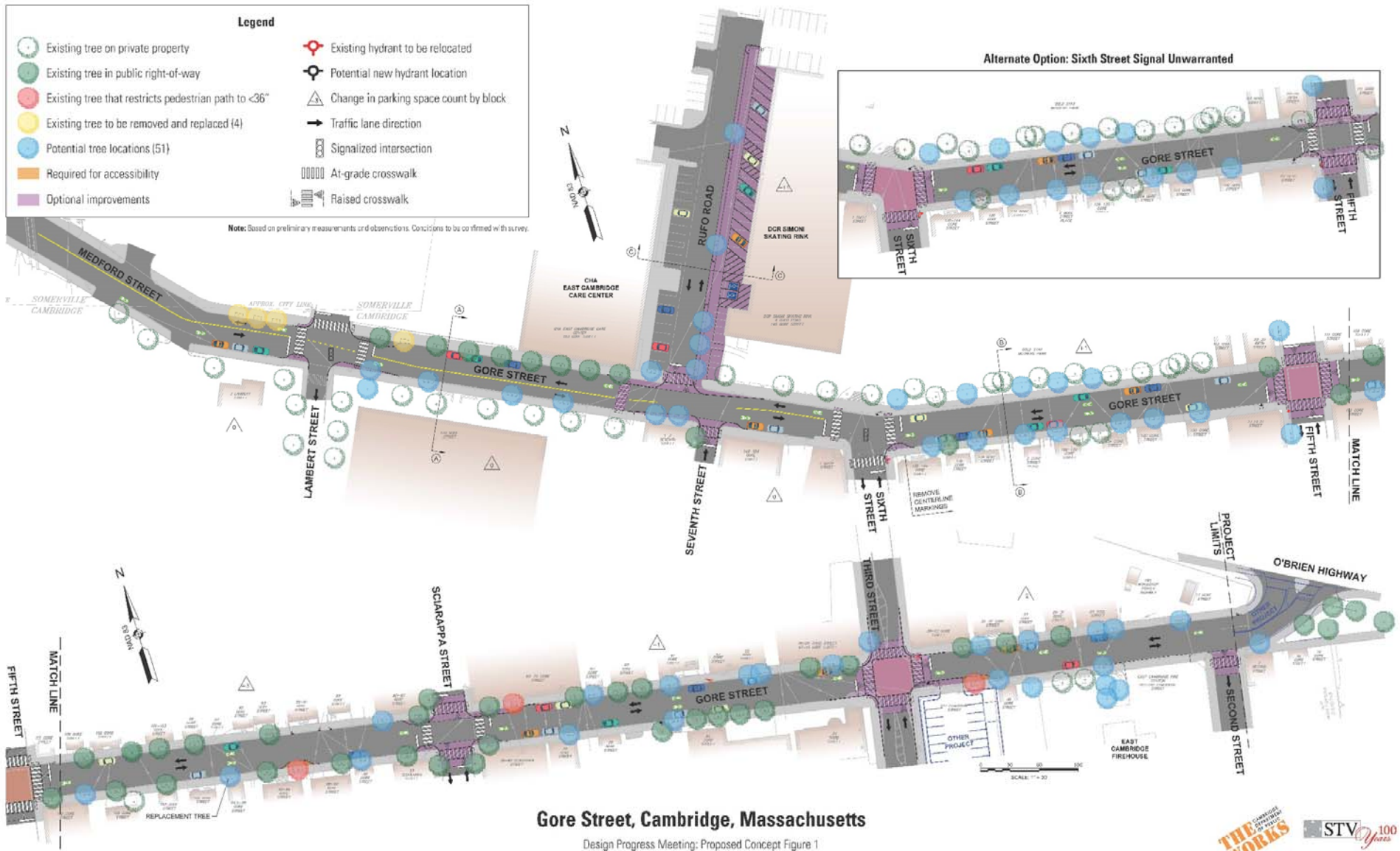


TYPICAL SECTION C - RUFO ROAD

GORE STREET and RUFO ROAD | **SCHEDULE**

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GORE STREET | SMALL GROUP DISCUSSION



Presentation and plan to be posted on Project Website: <http://bit.ly/GoreStRufoRd>