

Huron Avenue

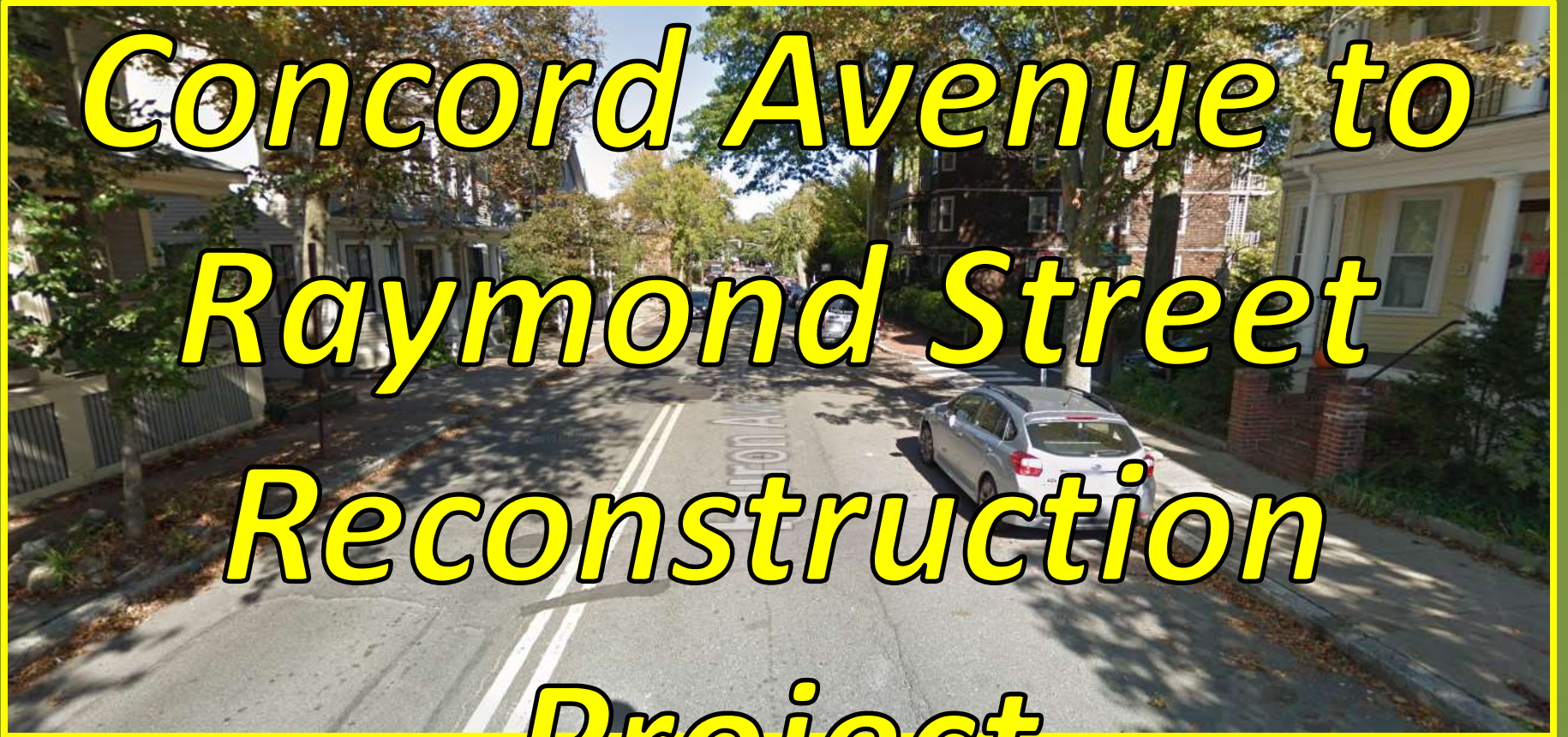
Concord Avenue to

Raymond Street

Reconstruction

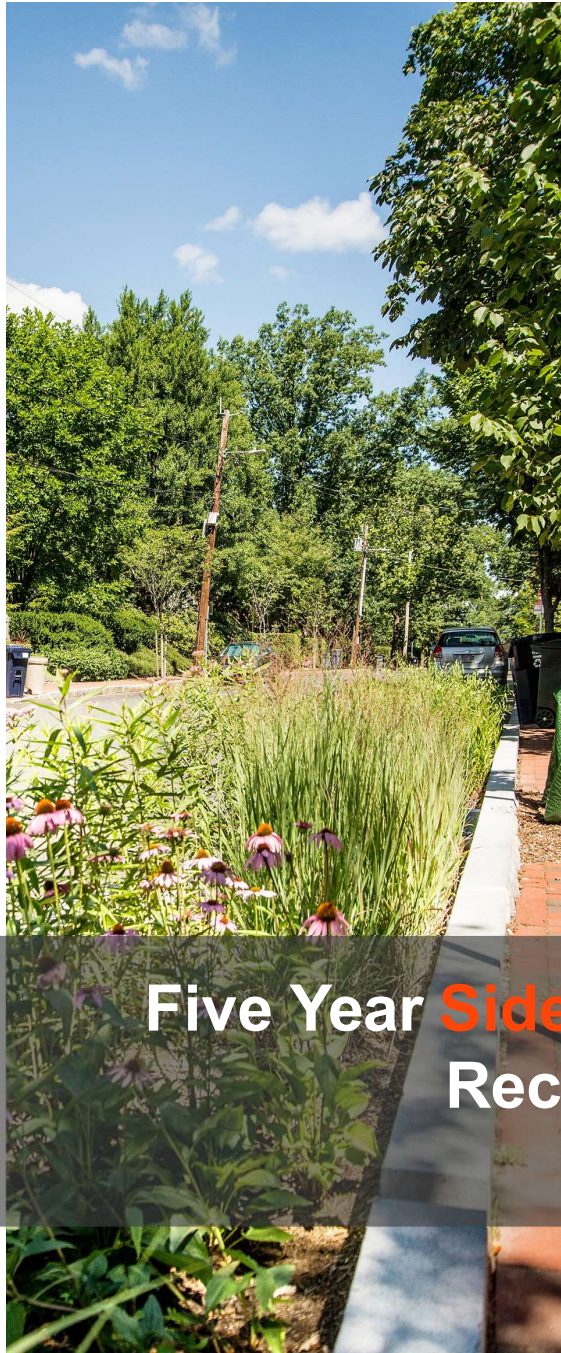
Project

September 25, 2018



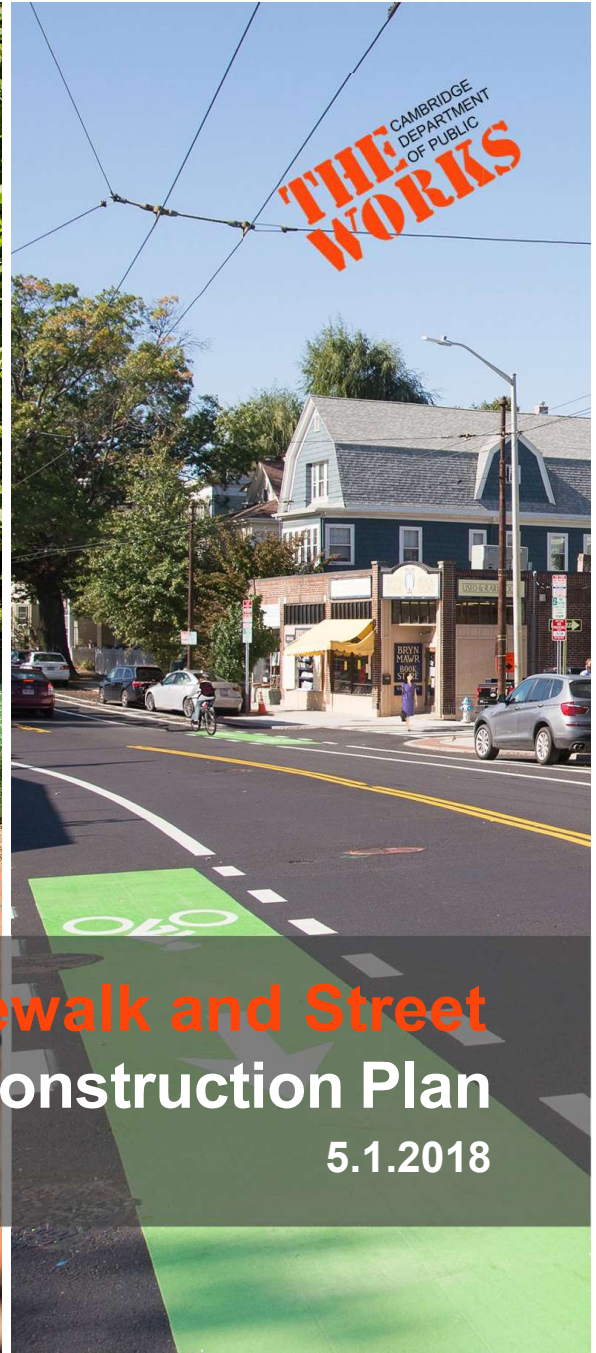


City of Cambridge
Department of Public Works



Five Year **Sidewalk and Street** Reconstruction Plan

5.1.2018



CAMBRIDGE
DEPARTMENT
OF PUBLIC
**THE
WORKS**

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

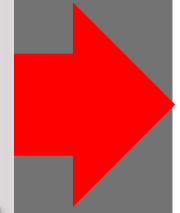
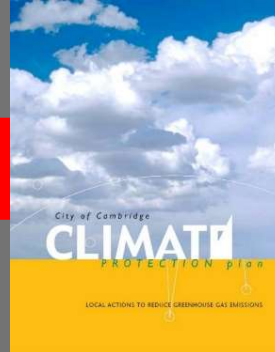
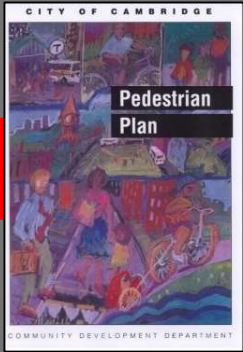
On March 21, 2016, the Cambridge City Council unanimously passed resolutions put forth by the City Manager to formally adopt Complete Streets and Vision Zero policies, showing that the City of Cambridge is committed to achieving these goals, assuring safe access for all users.

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.

PROGRAMS | STREET & SIDEWALK

Street and sidewalk contracts are funded locally and by the state. These contracts are managed by the Department of Public Works. Construction generally includes surface enhancements such as:

- Paving
- Sidewalk and pedestrian ramps
- Traffic calming
- Street trees
- Stormwater management and green infrastructure
- Bike and transit improvements

Toolbox Design Elements



DESIGN | SIDEWALKS AND ACCESSIBILITY

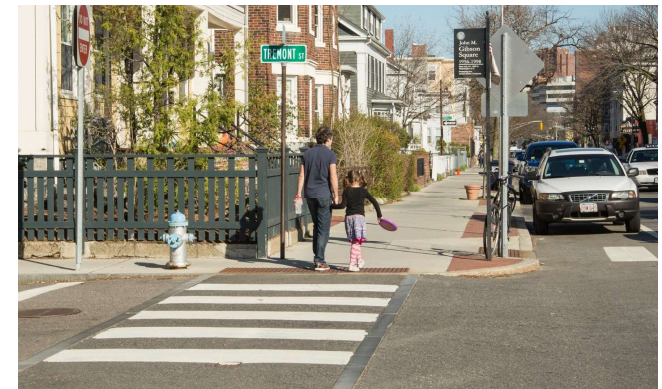


Photo Credit:
Christian Phillips Photography and Klopfer Martin Design Group



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

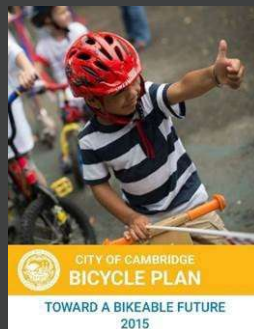
- All new sidewalks and pedestrian ramps will meet ADA /AAB requirements.
- Sidewalk widths vary by the type of street. Typically 5' sidewalk is required, but wider sidewalks are required on busier commercial streets and arterials.
- 4' min is required at new driveways and street trees. 3' min is allowable 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 | BICYCLE FACILITIES

Bicycle Facilities

- Improvements for bicycling will be considered in all projects undertaken in the City and will be guided by the Bicycle Plan.
- The Bicycle Plan lays out a vision for where we as a City want to be. The fundamental guiding principle for this plan is to enable people of all ages and abilities to bicycle safely and comfortably throughout the City. The Bicycle Plan provides the framework for developing a network of Complete Streets and supporting programs and policies that will help meet this goal.



DESIGN | TRANSIT

A sustainable and efficient mode of transportation that moves people safely compared to driving in private automobiles.

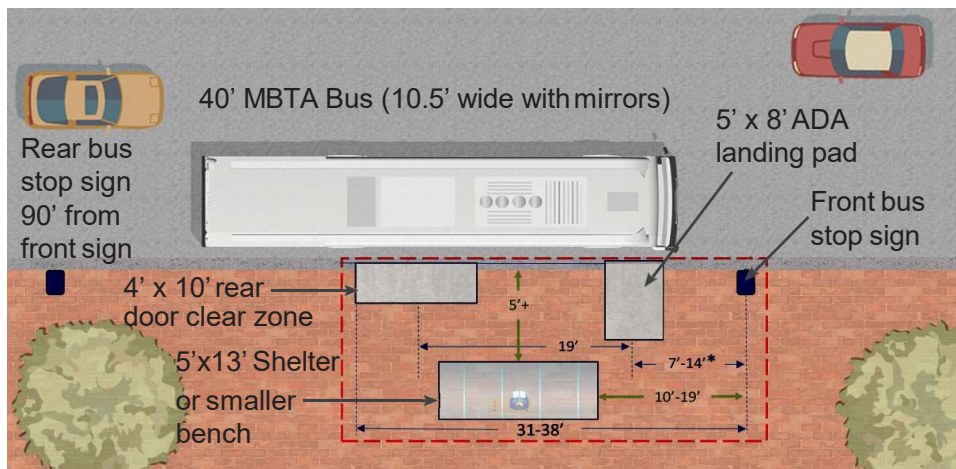
Transit considerations include:

Accessibility

Ensure that bus stops are accessible and provide amenities when appropriate.

Priority

City performed a bus delay and reliability assessment so that we can explore options for transit priority (e.g. dedicated lanes) in roadway projects where there are expected benefits.



SCOPE | 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.

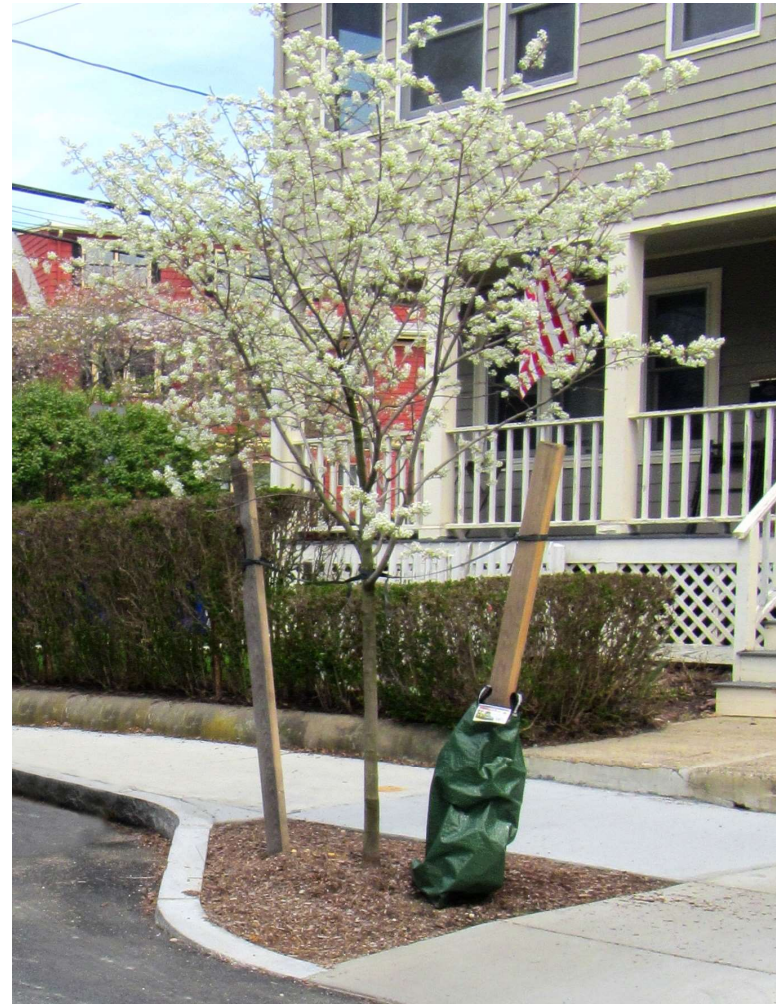
New Tree Plantings

The City Arborist will review each street and sidewalk project to determine tree planting opportunities; evaluating the location of overhead and underground utilities, proximity to intersections, site lines, building setbacks, locations of entrances, etc.

- 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**.

SCOPE | GREEN INFRASTRUCTURE

The City is incorporating green infrastructure on projects, as conditions and space allow.

Goals

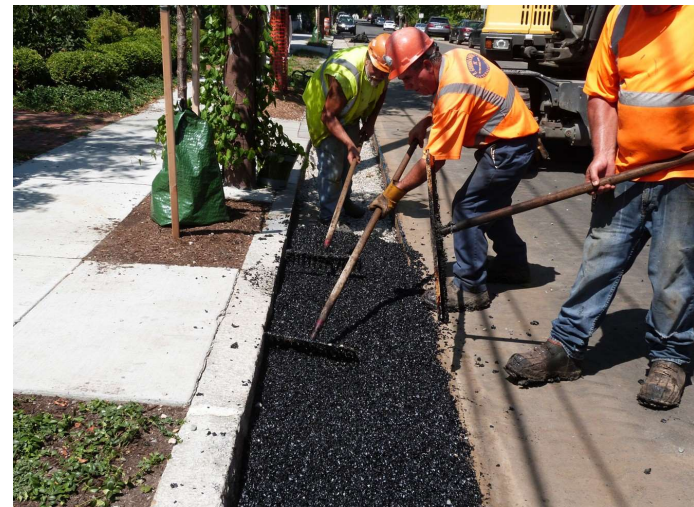
- Stormwater discharges are contributing to at least 55% of impairments to Massachusetts' assessed waters.
- Goal: **improve the water quality** of stormwater before discharging to outfalls at the Alewife Brook and Charles River.

Types of Improvements

- Porous asphalt
- Infiltrating catch basins
- Rain gardens/bio basins

Siting Evaluation

- Soil conditions
- Groundwater
- Space constraints
- Maintenance



SCOPE | Construction

The City is committed to working with residents and businesses throughout the construction process.

Construction Coordination

- Project Manager and Community Relations Manager assigned to every project.
- Manage contractor and coordinate construction activities and community notifications.
- Standard Work Hours: Mon – Fri 7 am – 4 pm
- Maintain safe and effective traffic management plans to assist pedestrians, cyclists, drivers and buses travelling through project area.



Construction Project Scope

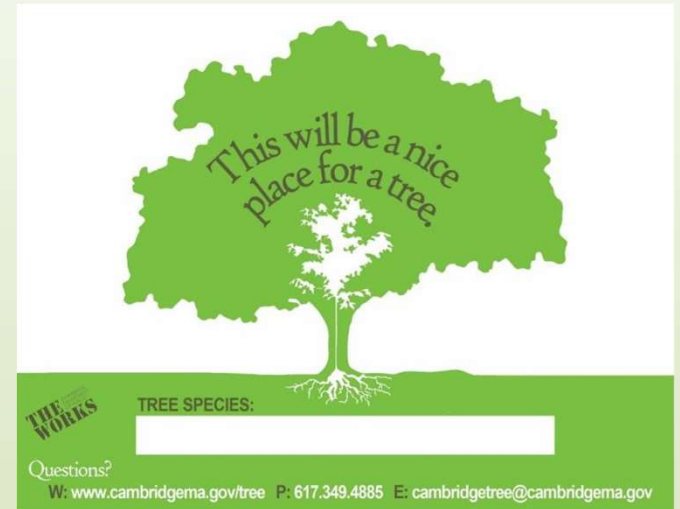
- Reconstruct/repave street
- Reconstruct sidewalks and curb ramps
- New crosswalks, pavement markings
- Evaluation and updating utilities

Project Objectives

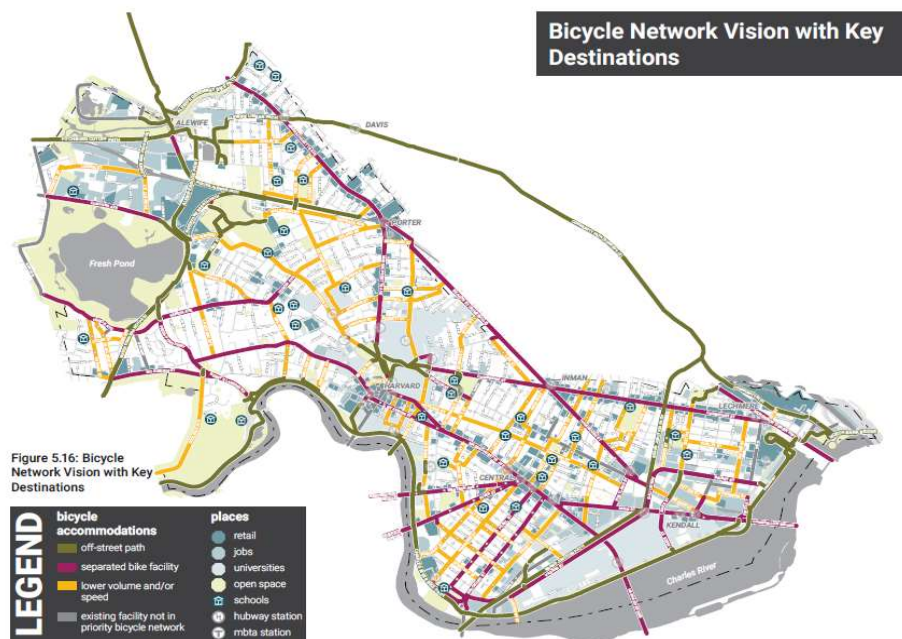
- Meet access codes
- Improve safety for all users
- Enhance appearance of the neighborhood
- Enhance green areas/new trees

Meetings April 23rd and June 14th

- Vehicles speeding
- Congestion due to signal timing – Huron Avenue at Garden Street
- Pedestrian safety –intersection of Huron and Raymond
- Additional crosswalk – at Holly Avenue
- Evaluation of existing trees and possible new trees
- Bike Facilities
 - Agreement on shared facilities (from Garden to Raymond) – Based on the bicycle vision plan
 - Discussion about bike facilities (from Concord to Garden)



Bike Facilities:



- Project discussed with Bicycle, Pedestrian and Transit Committees at a meeting on May 14, 2018
 - We were reminded that the Bicycle Network Vision Plan was a guidance document with specific designs developed as projects developed.
 - **Results of Meeting:** Reviewing both the network and the specific conditions on this stretch of Huron Avenue, the recommendation was that the portion of Huron Avenue between Concord Avenue and Garden Street be treated similarly to that section from Garden to Raymond Street, with traffic calming elements and strong green-back SLM markings. The project will connect to other streets with lower speeds/volumes, traffic calming elements, and bicycle priority designations.

- Protected bike lanes 6'-10'-10'-6': Too narrow and significant issue for fire department. Removes all parking. Not viable option.
- Bike lanes 5'-11'-11'-5': Fire department ok with this option. Removes 23 parking spaces. Not recommended by City or Bike Committee.
- **City Recommendation at June 14th meeting:** Shared lane / traffic calming: Supported at May 14th Bike / Ped / Transit Committee discussion. Fire Department ok with this option. Maintains all parking.



Protected Bike Lane



Bike Lane



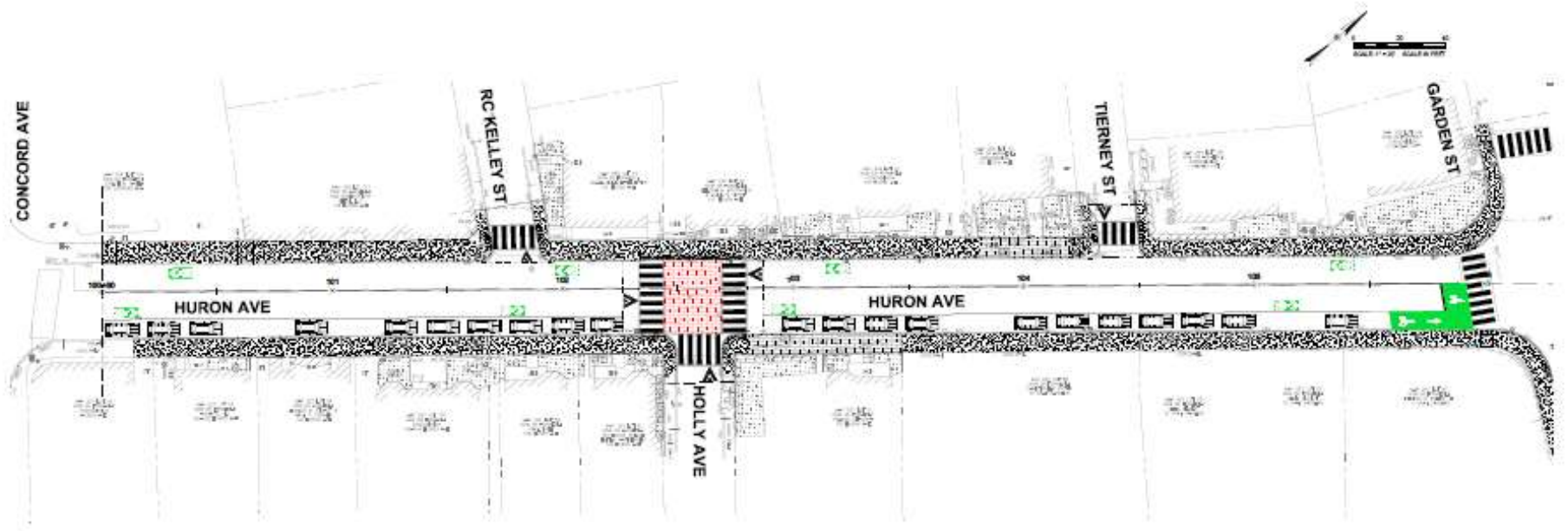
**Low – Volume /
Low-Speed / Traffic
Calming**

At the June 14th Meeting

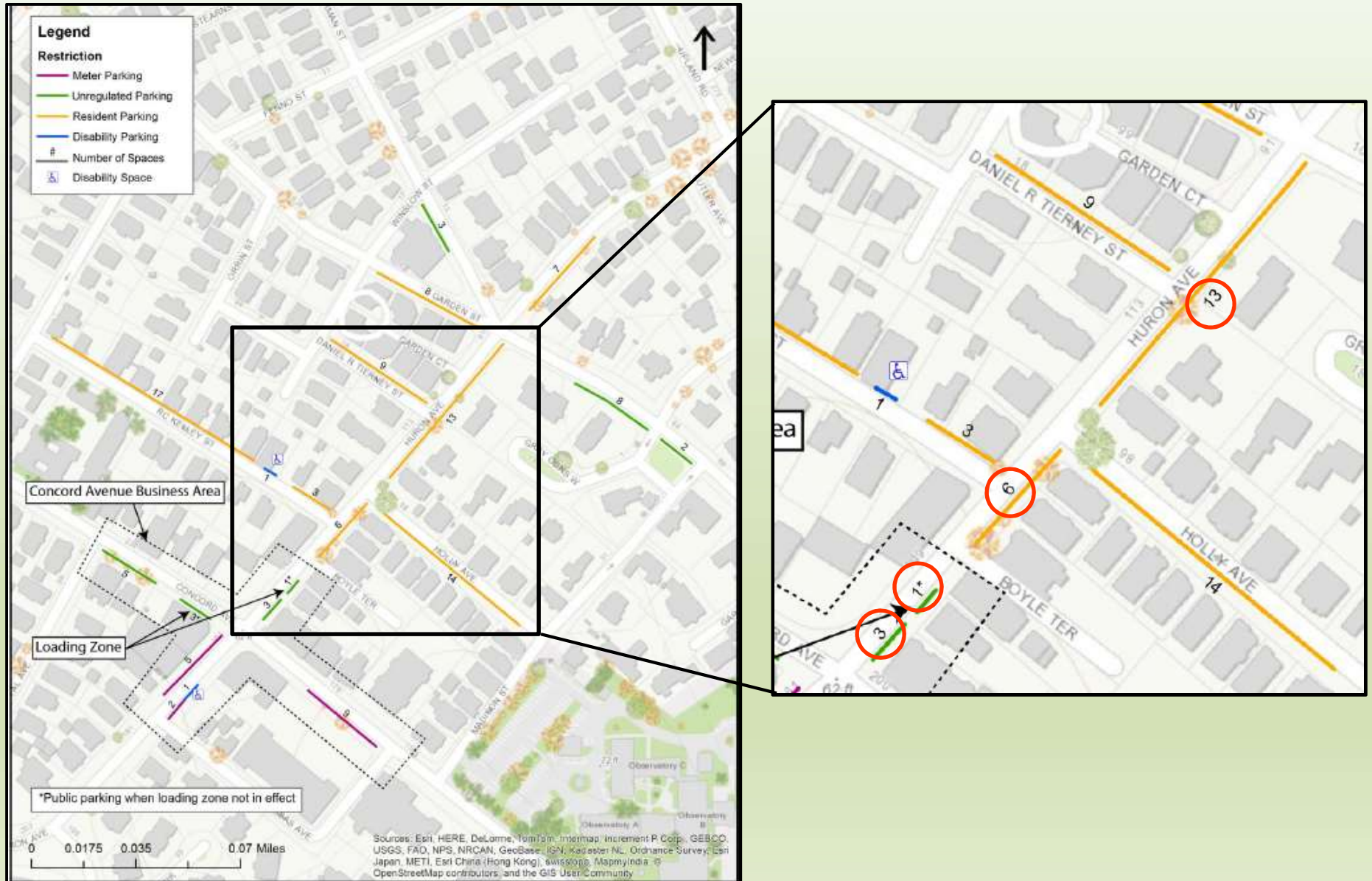
- Support for traffic calming improvements
- Concerns about biking along Huron Avenue between Concord and Garden.
- Concerns about biking along queued vehicles as you approach signalized intersections.
- Interest in exploring better bike facilities than the shared lane markings.
- Request for parking study to understand impacts of options.



Shared Lane Markings with Traffic Calming



Curbside Inventory and Project Limits



Types of Parking

- Commercial Uses – Loading zones for adjacent small businesses, general commercial activity.
- Residential

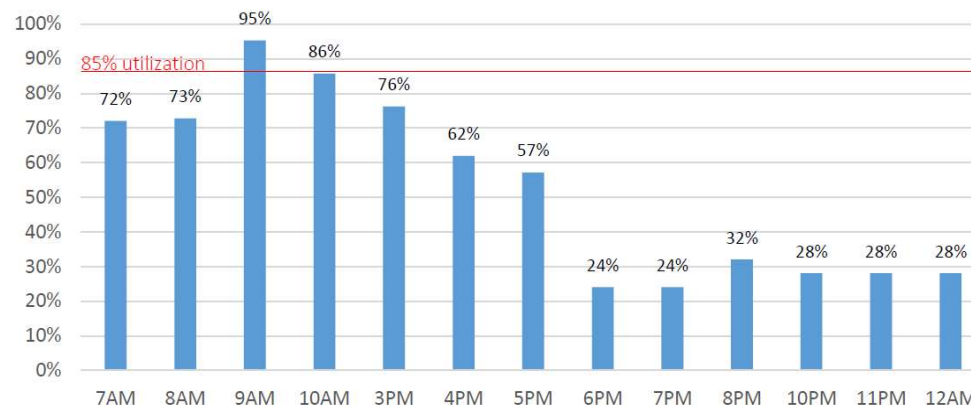


Study Area Parking Utilization

Parking Utilization Trends

Parking occupancy of 85% is considered the “effective capacity” for parking systems. At 85% occupancy, some parking (about 1 in 8 spaces) is available, so that drivers can reasonably find a space and turnover can be accommodated. However, at 85% occupancy of an overall parking study area, some drivers struggle to find remaining spaces and will leave an area, or circulate to find a space, increasing traffic.¹ Parking utilization is analyzed in the following sections for the overall study area, by type of parking, by comparing utilization on Huron Avenue to utilization on side streets, and in the Concord Avenue Business Area.

Figure 6: Unregulated Parking Utilization



Conclusion

- With the removal of 23 spaces on Huron Avenue between Concord Avenue and Garden Street, utilization for the study area overall will increase to 87% at the 7:00 AM peak.
- The parking supply on Huron Avenue provides key operational support for adjacent small businesses.

Since the Meeting Parking Study & Petition

- Thursday June 21st, 7 am – midnight
- Parking Usage Data
 - Huron Ave – highest use 4 pm (71%)
 - Side Streets – highest use 7 am (76%)
 - Concord Ave Business – highest use – 3 pm (76%)
- Concern about amount of parking loss (increases usage to over 85%) and also loading zones, access to businesses.
- City evaluated options to address the concerns about cyclists being squeezed between parked cars and queued vehicles.

IF YOU SUPPORT MAKING HURON AVE SAFER FOR PEOPLE OF ALL AGES AND ABILITIES BETWEEN CONCORD AVE AND RAYMOND ST, CONSIDER SIGNING THIS CAMBRIDGE BIKE SAFETY PETITION AT:

<https://goo.gl/2aVoaS>

BACKGROUND

Huron Ave is a critical pathway for people riding bikes to travel between North Cambridge/Porter Square and West Cambridge/the river.

The city is reconstructing Huron Ave between Concord Ave and Raymond St, and the city's bike plan designates this section as the only bike route in the area. The city bike plan also proposes protected bicycle lanes for the two blocks between Garden St and Concord Ave, as well as the implementation of traffic calming between Garden St and Raymond St. These proposals are based on high traffic volume and speeds between Garden St and Concord Ave.

During rush hour, when traffic is backed up, people riding bicycles have to squeeze between parked cars and gridlocked cars, which is dangerous design.

FOR PROPOSED DESIGNS FROM THE CITY'S 2015 BIKE PLAN, SEE THE REVERSE SIDE OF THIS FLYER.

PETITION TEXT

I support the installation of protected bicycle lanes on the two blocks of Huron Ave between Concord Ave and Garden St, as well as the implementation of additional traffic calming measures between Garden St and Raymond St. This infrastructure will ensure a safe and comfortable route for people of all ages and abilities traveling by bike, and will encourage the use of a sustainable mode of travel. I live on the street or in the area and understand parking may have to be removed in the two blocks of Huron Ave from Concord Ave to Garden St (from #95 to #158 Huron) in order to create a safe route.

QUESTIONS? INTERESTED IN HELPING? EMAIL US AT info@CambridgeBikeSafety.org

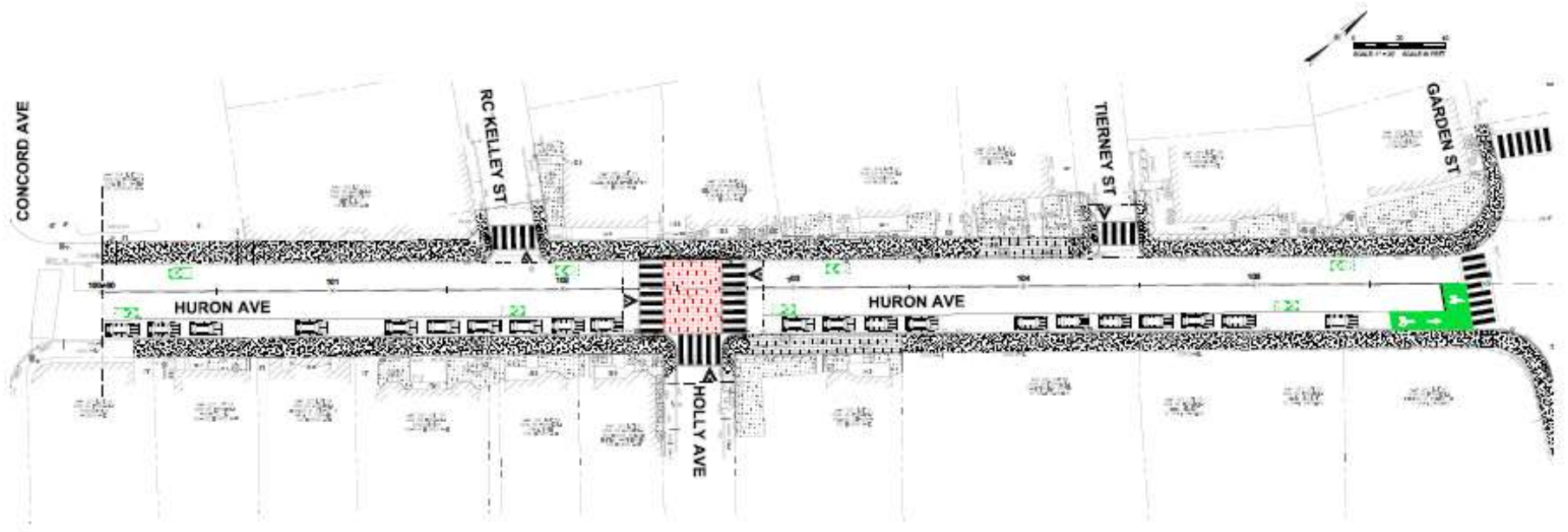
Working
Together for
Cambridge



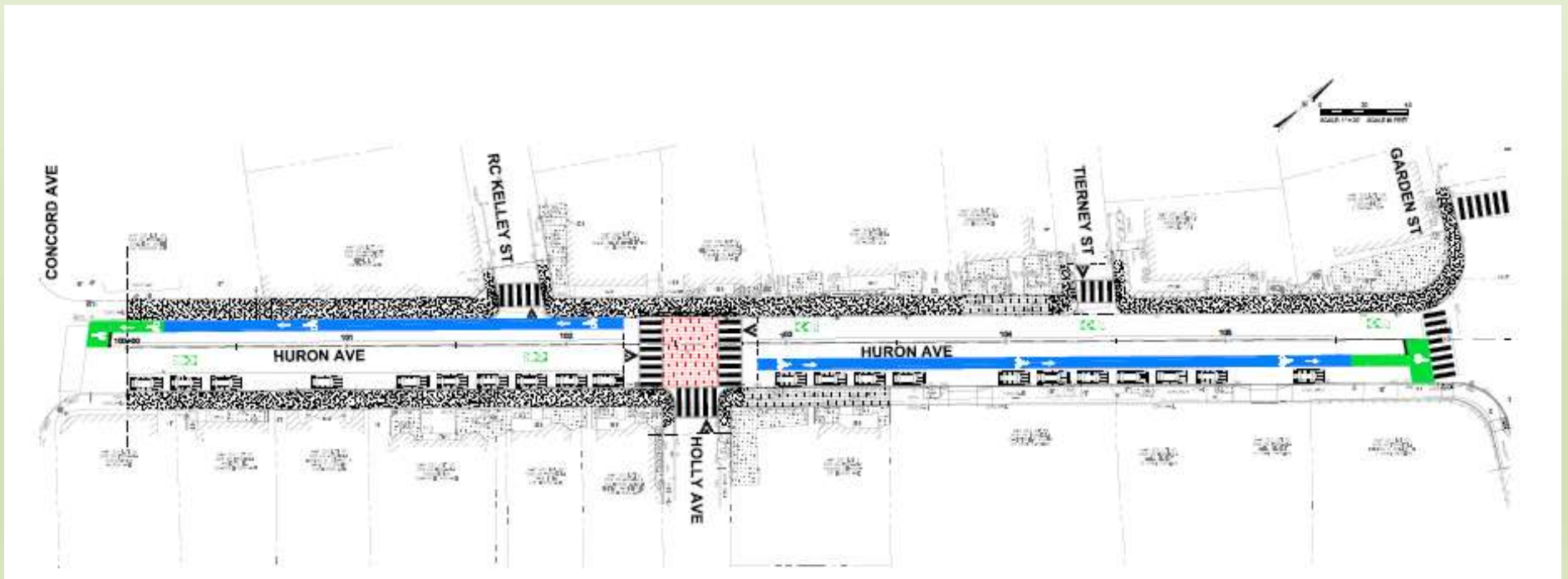


Biking Along Queued Vehicles

Shared Lane Markings with Traffic Calming



Bike lanes approaching the signalized intersections



Bike lane on approaches to signalized intersections

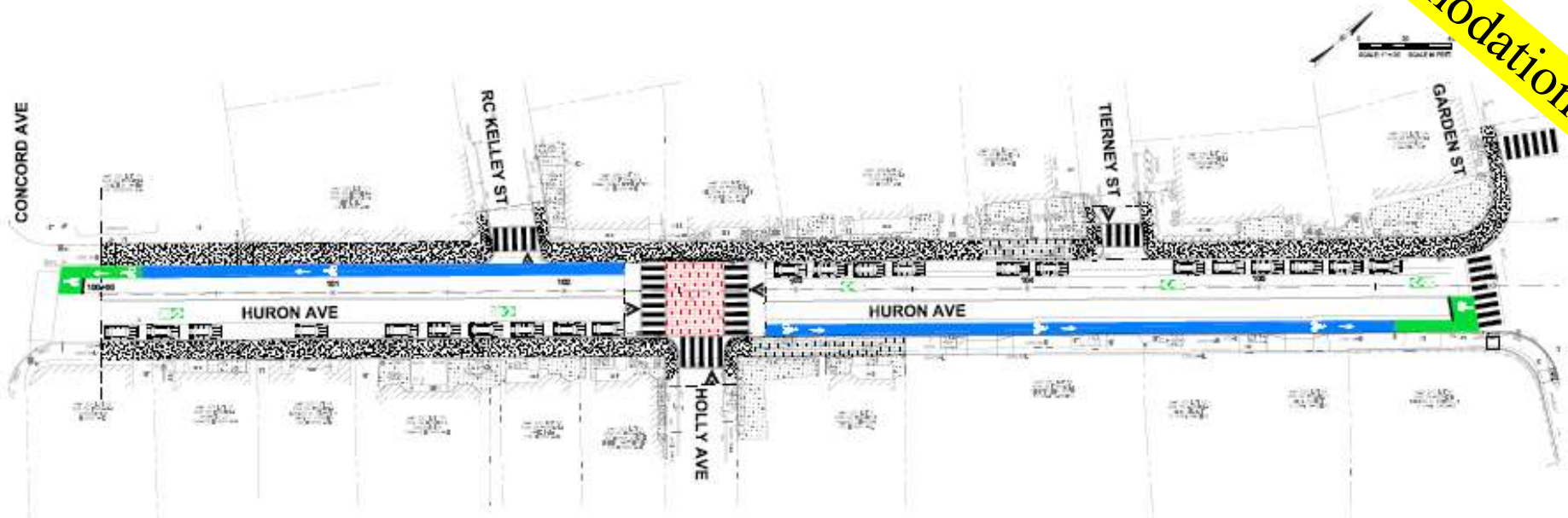
- Provides space for cyclists adjacent to queuing vehicles
- Narrows travel lanes
- Does not require loss of any parking



Broadway approaching Prospect St

Bike lanes approaching signalized intersections (relocating on-street parking)

Proposed Approach:
Improves bike accommodations
Maintains parking



- Provides space for cyclists adjacent to queuing vehicles
- Shifts parking in 1 block. Eliminates squeeze between parked cars and queued cars.

Bike Committee Meeting

Updated recommendations presented and discussed with Bicycle Committee at a meeting on September 13, 2018.

CONCLUSION:

The proposed recommendation addresses the more significant concerns while accommodating all users. Bike committee members supported the recommendation recognizing it is a compromise.

All Options have Traffic Calming



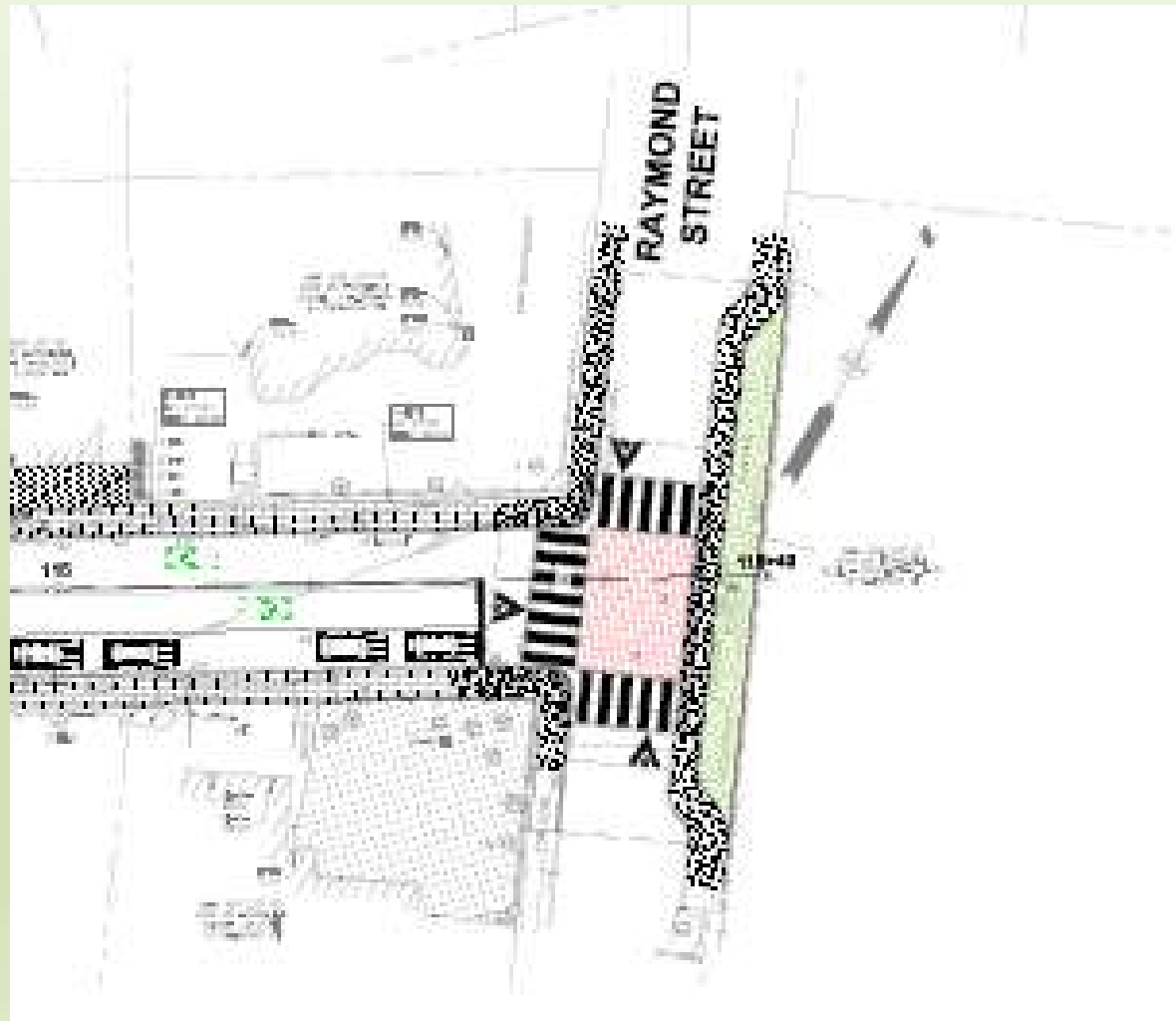
**Low – Volume /
Low-Speed / Traffic
Calming**

**Raised intersections reduce
vehicle speed, improves
accessibility
and improves visibility**

Huron Avenue Reconstruction Project (Garden St to Raymond Street)



Huron Avenue at Raymond Street



Discussion

Next Steps

Finalize Design

Bid project end of year

Construction 2019 / 2020