



Garden Street Safety Improvement Project Community Meeting #2

July 12, 2022 | 6 p.m. | Zoom

Garden Street Safety Improvement Project

Second Community Meeting

July 12, 2022 | City of Cambridge

Provide Feedback after the Presentation

- You will find information on how to give feedback at the end of the presentation

Cameras + Microphones

- Your camera is off
- We will enable your microphone only when you are speaking

We are Recording

- We will post the recording of tonight's meeting on the project page

cambridgema.gov/GardenStHuronMason

Agenda

- Planning Background: Policies + Ordinances
- Planning Background: Separated Bike Lanes and the Bike Plan
- Project Overview
- Layout Concepts
- Schedule / Next Steps
- Questions + Feedback

Project Schedule

Meetings/Timeline

May 24

Community Meeting 1

➔ Now

Community Meeting 2

August

Community Meeting 3

Fall 2022

Project Installation

Outreach

What we've done:

- Posters attached to signposts along street
- Individual notifications to major stakeholders including schools, houses of worship, etc.
- Update emails sent to city and project mailing lists
- Postcards mailed to all addresses within project area

What you can do:

- Sign up for the mailing list for the latest updates
- Sign up for the city's Daily Update emails
- Email or call the project manager directly
- Visit the project webpage below for the latest information

cambridgema.gov/GardenStHuronMason

Planning Background: Policies + Ordinances

What drives our street design?

We design for people of all ages and abilities.

This includes:

- People who may not have access to a car
- Safe and accessible facilities, including bike lanes, that can be used by a wide range of people

How we think about vehicle congestion and delay

- Moving people slowly is moving people safely
- We do not prioritize eliminating delay for people driving alone

Focus is on moving people and goods, not their vehicles

- Buses run less frequently than cars, but carry more people
- Cannot ignore access for trucks and local deliveries



Street Design – Enforcement – Education

Street Design

- A Safe System is a human-centered approach to street design, engineered to prevent errors as much as possible and lessen the impacts of errors when they do occur.
- Shifts away from individual blame
- Keep road users safe by designing for the most vulnerable (i.e. people not in cars)
- Crash prevention is more effective than crash mitigation

Enforcement and Education

- Enforcement and Education are supplemental to proper street design, not a replacement

Example:

A momentary distraction can mean a driver doesn't see a cyclist or vice versa.

Providing separation between people in cars and people on bikes decreases the chance that a momentary distraction leads to a deadly crash.

City Policies that Support Sustainable Transportation

- Vehicle Trip Reduction Ordinance
 - Parking & Transportation Demand Ordinance
 - Climate Protection Plan
 - School Wellness Policy
 - Envision Cambridge
- ▶ **Complete Streets**
 - ▶ **Vision Zero**
 - ▶ **Cycling Safety Ordinance**

Cycling Safety Ordinance Overview

2019: City Council Passed the Cycling Safety Ordinance

- Requires construction of separated bike lanes when streets are being reconstructed as a part of the City's "Five-Year Plan for Streets and Sidewalks" and when they have been designated for "Greater Separation" in the Bicycle Network Vision

2020: City Council Passed Amendments to the Ordinance

- The amendments set ambitious requirements for the installation of approximately 25 miles of separated bike lanes within the next five to seven years.
- The location of these facilities is informed by both the Cambridge Bicycle Network Vision and specific requirements in the Ordinance.



Image: A separated bike lane on Brattle St;
Credit: Kyle Klein

Cycling Safety Ordinance Overview - Continued

In general, the amendments to the Ordinance require the installation of separated bike lanes on:

- All of Massachusetts Ave;
- **Garden St, eastbound from Huron Ave to Berkeley St, and westbound from Mason St to Huron Ave;**
- Broadway from Quincy St to Hampshire St;
- Cambridge St from Oak St to Second St;
- Hampshire St from Amory St to Broadway; and
- 11.6 miles of separated bike lanes in other locations within the Bicycle Network Vision

Learn more at
cambridgema.gov/cycling-safety-ordinance

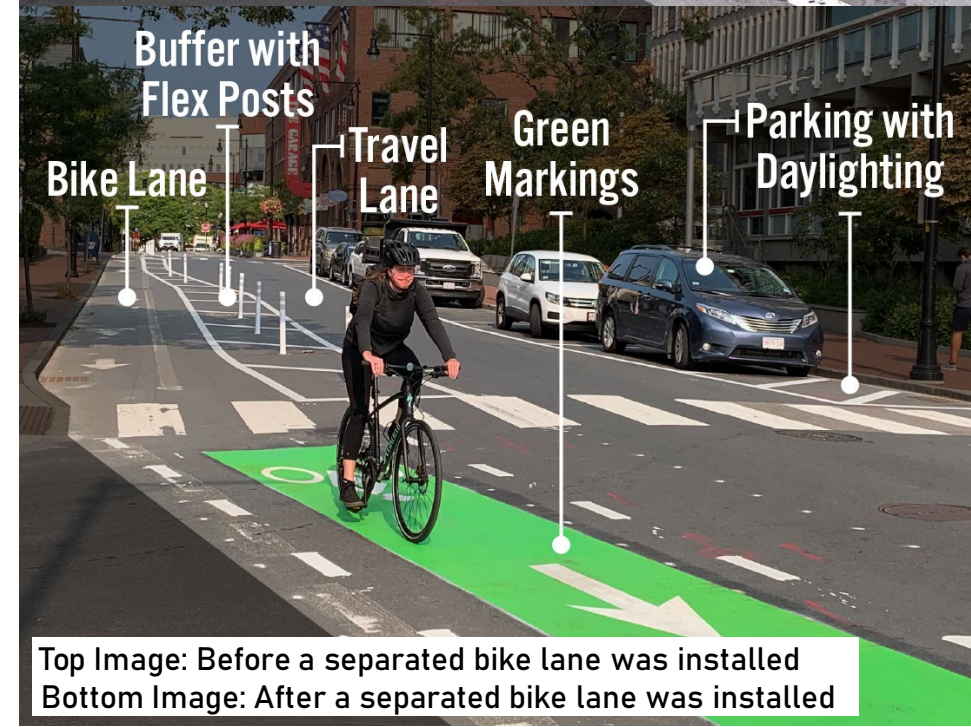


Image: A person riding a bicycle on Ames Street; Credit: Kyle Klein

Planning Background: Separated Bike Lanes and the Bike Plan

Separated Bike Lane Benefits

- Increases comfort and access for people of all ages and abilities
- Reduces crash and injury risk
- Eliminates threat of "dooring" from parked vehicles
- Reduces potential conflicts between vehicles and people biking
- Provides shorter crossing distance and increased separation from vehicles for people walking
- Encourages slower traffic speeds by visually narrowing the roadway width



Separated Bike Lane Benefits- Continued

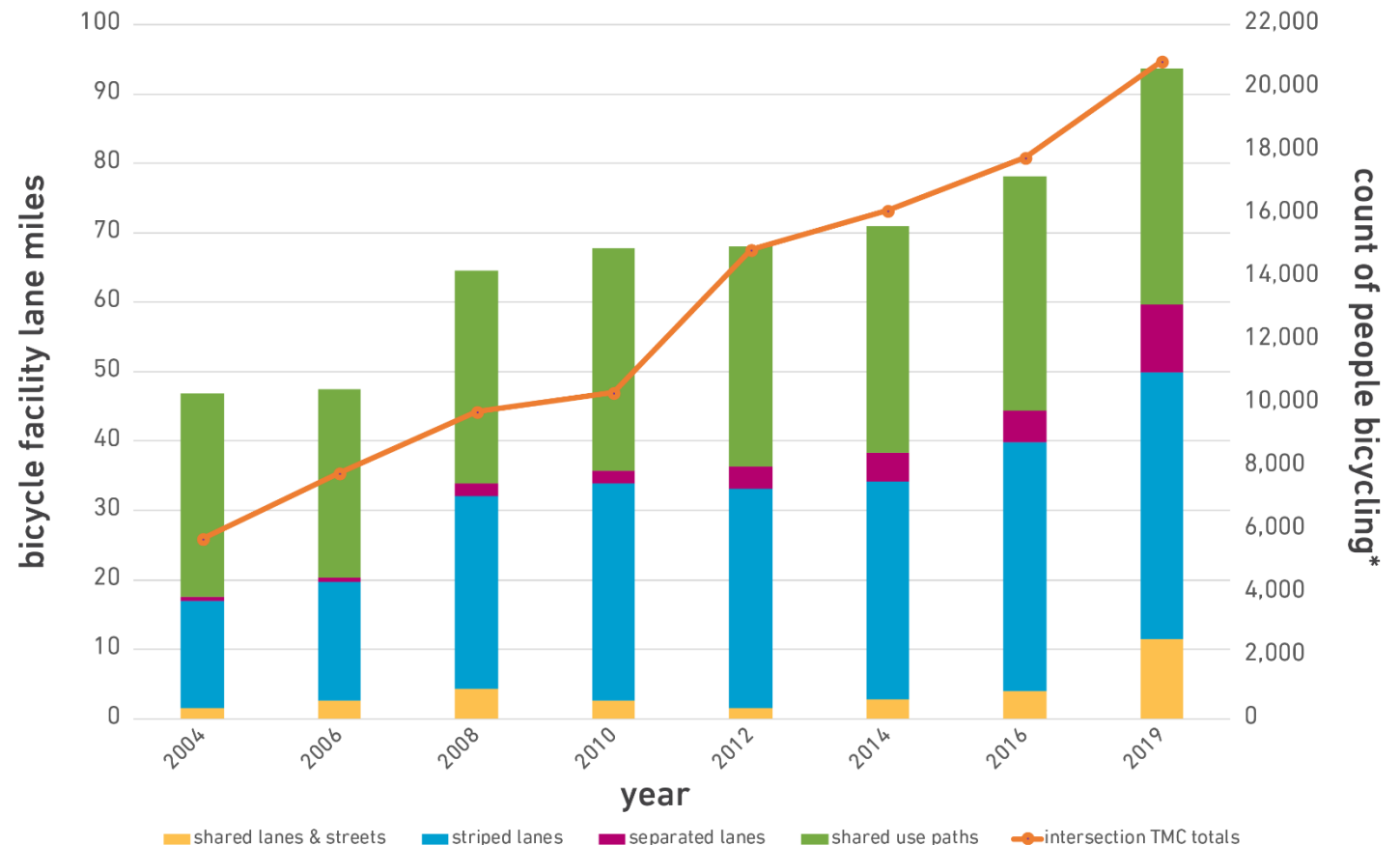
More people ride bicycles when we build more bicycle infrastructure.

A lack of safe and accessible routes and facilities for people of all ages and abilities prevents many people from biking.

As we've built more, we've enabled a wider variety of people to bike



BICYCLE FACILITY LANE MILES AND NUMBER OF PEOPLE BICYCLING (2004-2019)



Cambridge Bicycle Plan

Vision from the Cambridge Bicycle Plan:

Cambridge will be a place where bicycling is equally available to everyone, all destinations can be reached by bike, and streets are designed to accommodate bicycling for people of all ages, abilities and identities.

A variety of barriers make it harder for people to choose to bicycle, even though they would like to. Creating safe and comfortable streets is a necessary condition to enable everyone to have this choice. This reflects the philosophy that people are at the center of transportation planning and design.



Garden Street in the Bicycle Plan

Garden Street from Huron Avenue to Mason Street is designated for “greater separation” to support people biking safely and comfortably.

Garden Street is a priority:

- Key East-West corridor that avoids busier streets like Concord Avenue
- Connects CRLS (high school) with sports facilities at Danehy Park and Russell Field
- Key route to/from Radcliffe Quad
- Connects residents and visitors to retail, jobs, parks, and squares

Learn more: cambridgema.gov/2020bikeplanupdate

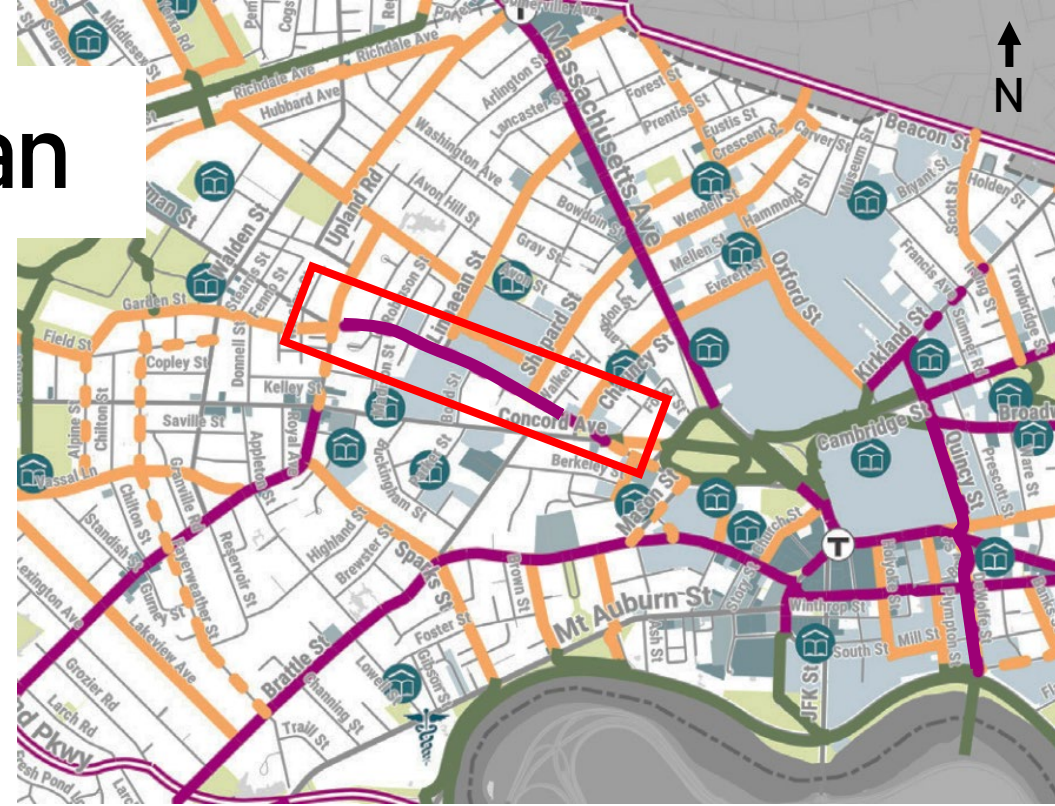
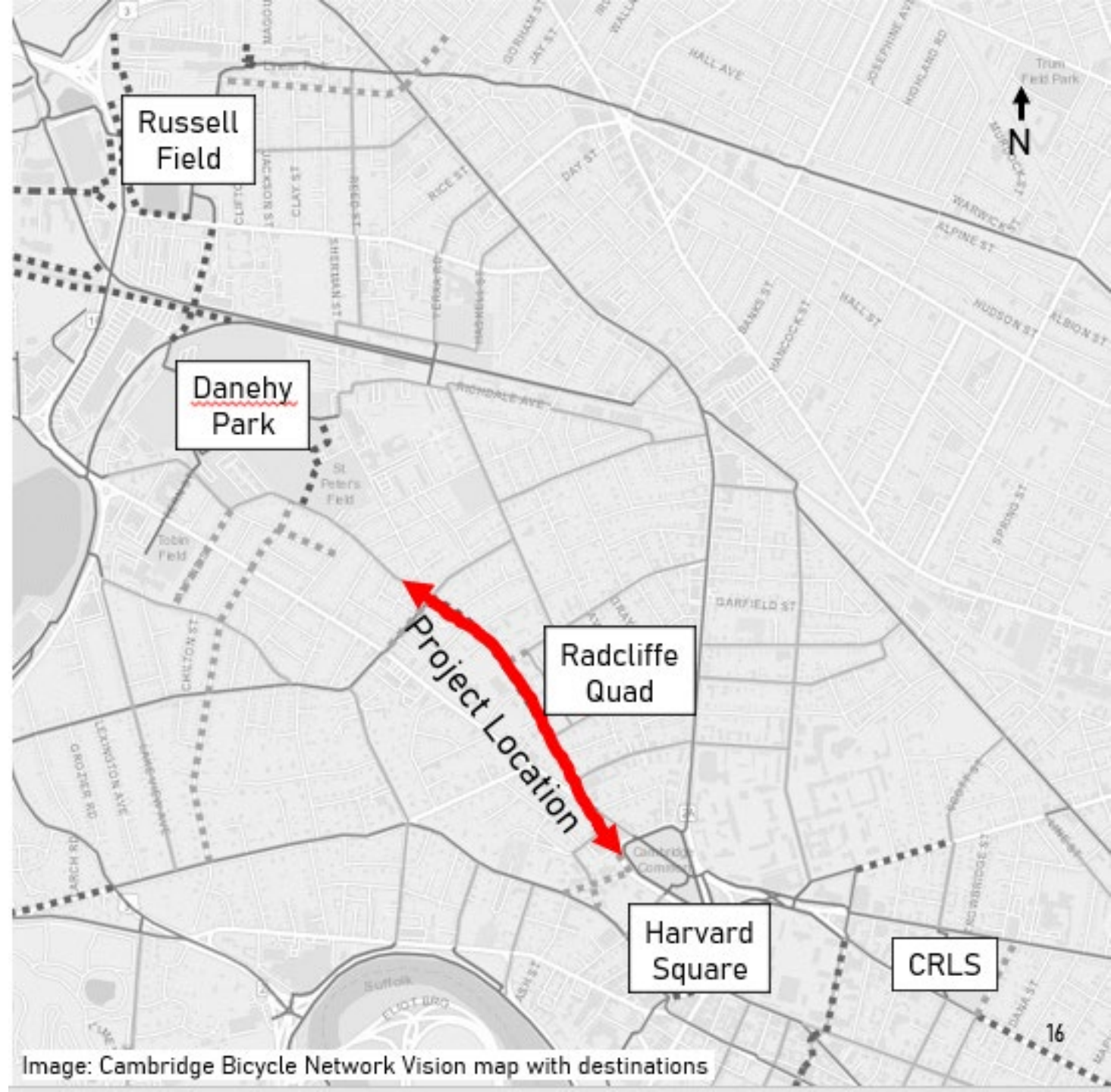


Image: Shuttle bus passing a person biking on Garden Street



Key Connections

- East-West corridor that avoids busier streets like Concord Avenue
- Connects CRLS (high school) with sports facilities at Danehy Park and Russell Field
- Key route to/from Radcliffe Quad
- Connects residents and visitors to retail, jobs, parks, and squares



Key Connections – Bicycle Routes



Chauncy St/Arsenal Sq
(towards Mass Ave)

"Little" Concord Avenue
(East-West travel)

Berkeley St, Phillips Pl,
and James St
(to Harvard Sq)

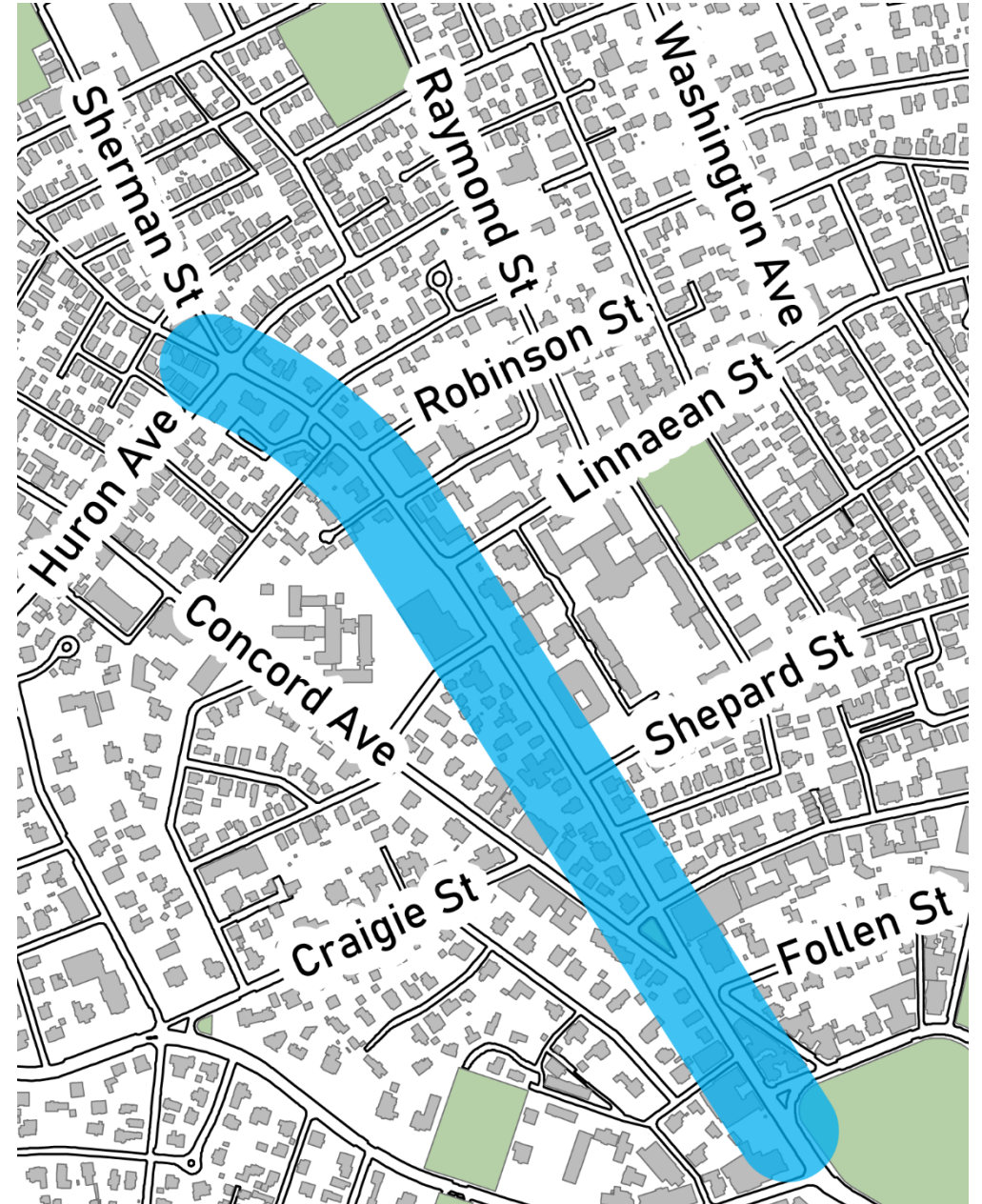


Project Overview

Project Area

Garden St 

Huron Avenue to Mason Street



Project Scope



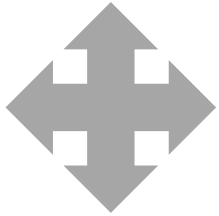
Install separated bike lanes



Improve crossing locations for people walking



Identify locations for curbside access (parking, loading)



Address safety at key intersections

What is a quick-build project?

Quick-build projects allow us to make safety improvements more rapidly

Our quick-build toolbox includes:

- Pavement marking changes
- Installation of flex posts
- Changes to signage
- Some modifications to signal timing



Image: Cambridge Street Separated Bike Lane (2017)

Layout Concepts

What We Heard

- Preference for one-way bike lanes on both sides instead of a two-way bike lane on one side
- Keep as much parking as possible
- Consider the needs of seniors
- Improve the crosswalks at Waterhouse Street (Sheraton) and at Shepard Street
- Consider making Garden Street a one-way to make space for parking
- Make the connection at Little Concord Avenue safer, including addressing visibility issues at Follen Street.
- Reduce cut through traffic
- Keep people on bikes off the sidewalks



Image: Garden Street at Concord Avenue

Design Considerations – Bike Lane Directionality

- Bike lane directionality (one-way vs two-way)
- Two-way bike lanes take up less roadway space, but aren't as intuitive as one-ways
- People driving expect people biking to be going in the same direction as them
- Switching between a two-way bike lane on one side and one-way bike lanes on both sides is easier at a traffic signal



Image: A two-way separated bike lane on Brattle Street (2017)



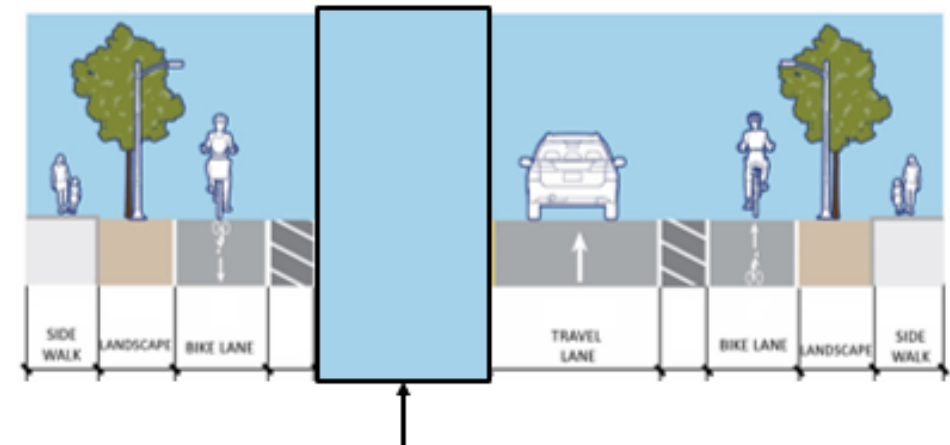
Image: A one-way separated bike lane on Mt Auburn Street (2020)

Design Considerations – Trade-offs

- Parking and loading
- Most buildings have driveways in the western end of the project near Huron Avenue
- There are many residents without driveways in the eastern end of project near Waterhouse Street
- The eastern end also has businesses, houses of worship, and schools that use short term parking

Street network (one-ways for vehicles)

- Making Garden Street a one-way can reduce cut through traffic
- Extra space could become parking
- Need to consider neighborhood circulation, including shuttles
- Impacts could extend beyond project area



Layout Concepts – Project Sections



Based on community feedback and the constraints of the roadway, we drew a preferred layout to discuss today.

We have two options for what happens in Section B (the middle section).

Section Key




- A. Huron Avenue to Linnaean Street —
- B. Linnaean Street to Concord Avenue —
- C. Concord Avenue to Mason Street —

Layout Concepts – Section A



We have one preferred layout for Section A

Section Key

- | | |
|--------------------------------------|---|
| A. Huron Avenue to Linnaean Street |  |
| B. Linnaean Street to Concord Avenue |  |
| C. Concord Avenue to Mason Street |  |

Layout Concepts – Section A

Huron Avenue to Linnaean Street



Community preference for one-way separated bike lanes on both sides of the street, however, only a two-way lane on one side fits in Section A

Why don't one-ways fit?

We require at least 7ft of space from the curb to a flex post, otherwise:

- Difficult to maintain, especially in Winter
- Does not accommodate larger bikes, including cargo, child carrier, and trailer
- Cannot pass slower riders

Separation is required

- One-way bike lanes without physical separation would not meet the goals of this project, including the Cycling Safety Ordinance.



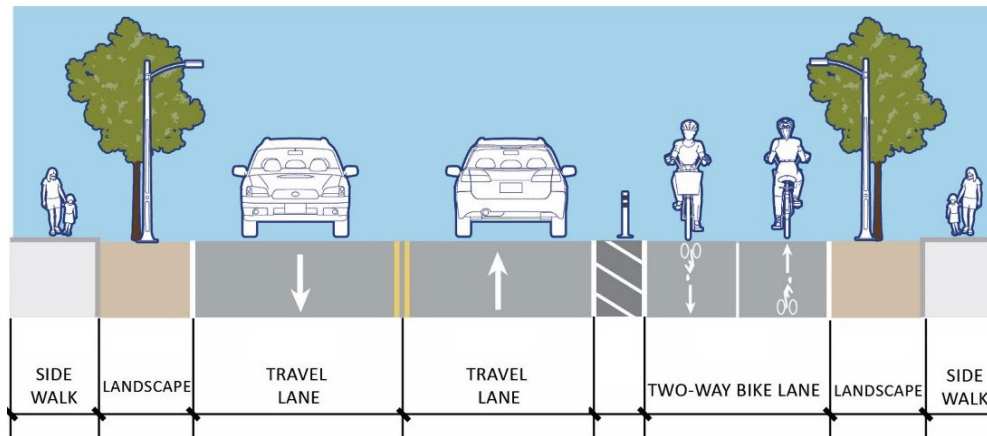
Layout Concepts – Section A

Huron Avenue to Linnaean Street



Preferred layout

- Two way separated bike lane on one side (south side)
- Fewer cross streets and driveways in this section, especially on the south side
- Safe, easy entry and exit at traffic signals at both the Huron Avenue and Linnaean Street ends of the section



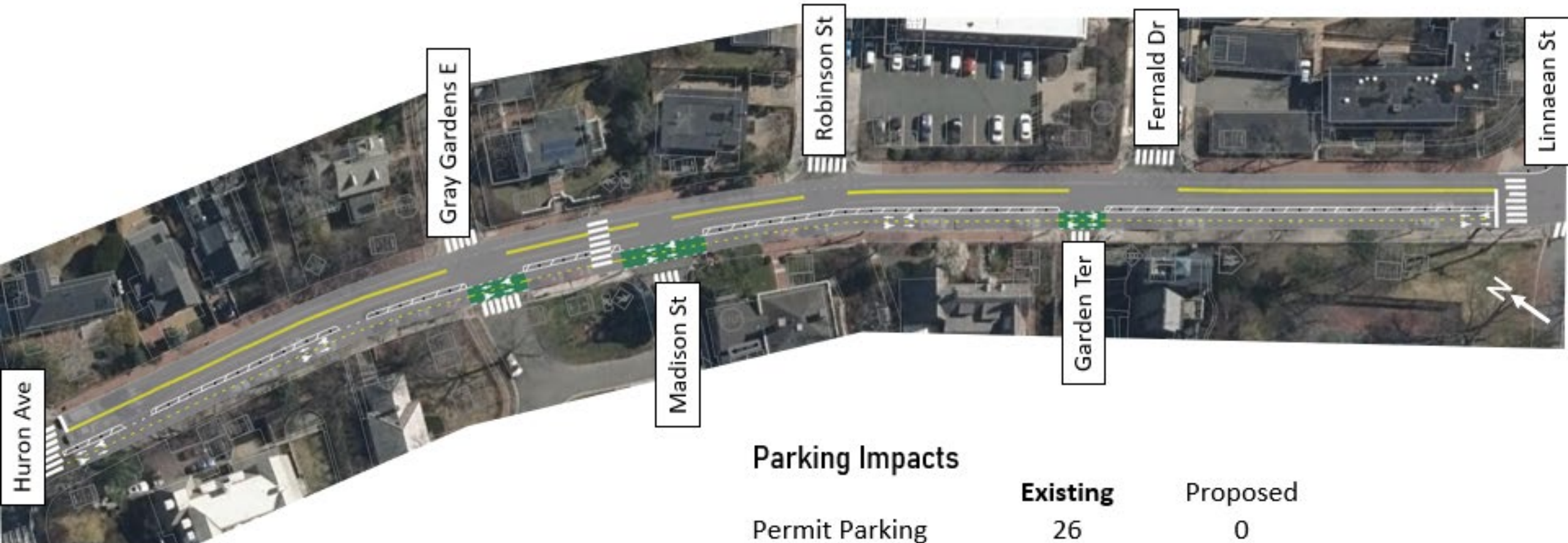
Preferred layout of Garden Street in Section A (looking eastbound)

Image: Ames Street two-way separated bike lane



Layout Concepts – Section A

Huron Avenue to Linnaean Street



Parking Impacts

	Existing	Proposed
Permit Parking	26	0
Total	26	0

Layout Concepts – Section B



We have two layout options for Section B.

This section also includes the connection to “Little” Concord Ave.

Section Key

- A. Huron Avenue to Linnaean Street —
- B. Linnaean Street to Concord Avenue —
- C. Concord Avenue to Mason Street —

Layout Concepts – Section B

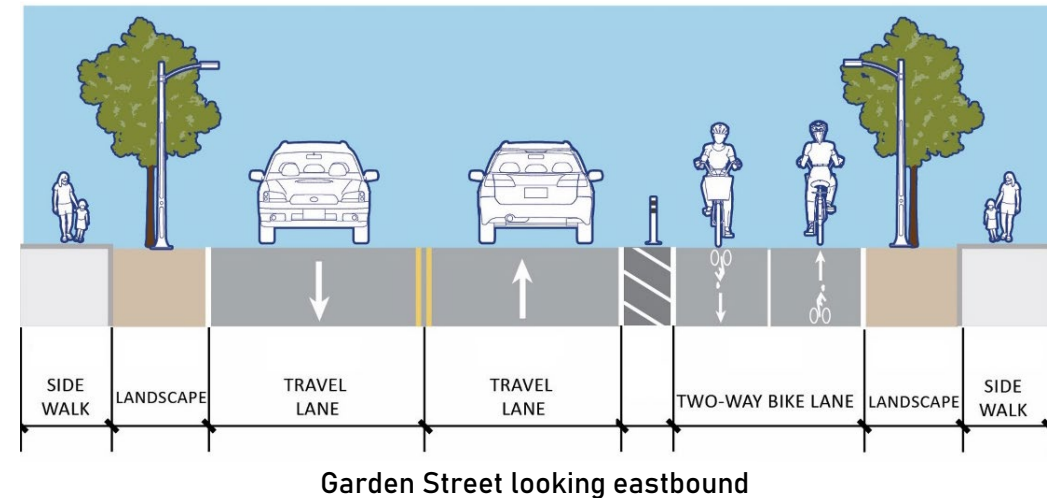
Linnaean Street to Concord Avenue



Option 1

Continues the two-way separated bike lane from Section A on the south side of the street

- Easy, predictable movements at Linnaean Street traffic signal- people biking continue straight
- Less direct access for people biking to destinations on the other side of the street
 - Most destinations on north side, but north side has more conflict points at side streets
- Drivers need to look in both directions before crossing two-way bike lanes
- The street remains two-way for both vehicle and bicycle traffic



Layout Concepts – Section B – Option 1

Linnaean Street to Concord Avenue



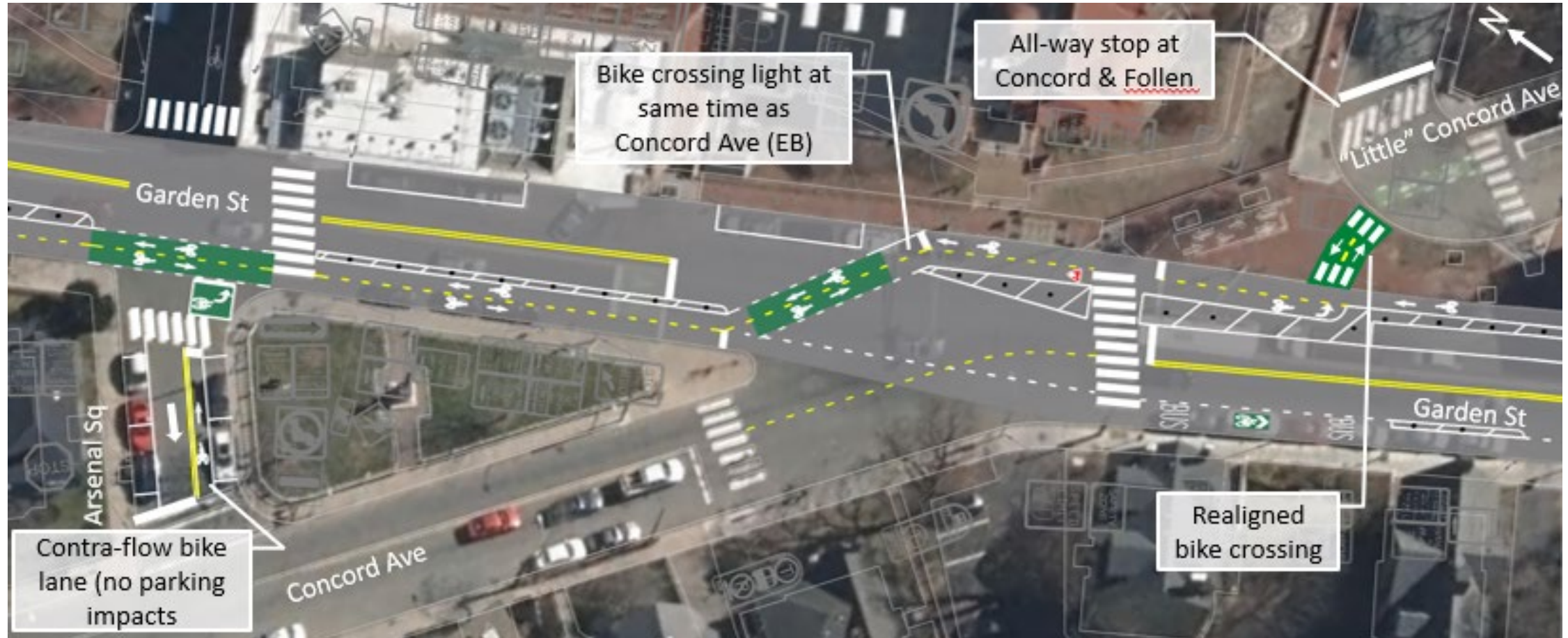
Parking Impacts

#		Existing	Option 1
	Permit Parking	67	8
	Loading Zone	1	0
	Unrestricted	5	0
	Total	73	8

Based on community feedback, we would make the 5 unrestricted spaces permit parking instead

Layout Concepts – Section B – Option 1

Intersection of Garden Street at Concord Avenue



Layout Concepts – Section B

Linnaean Street to Concord Avenue



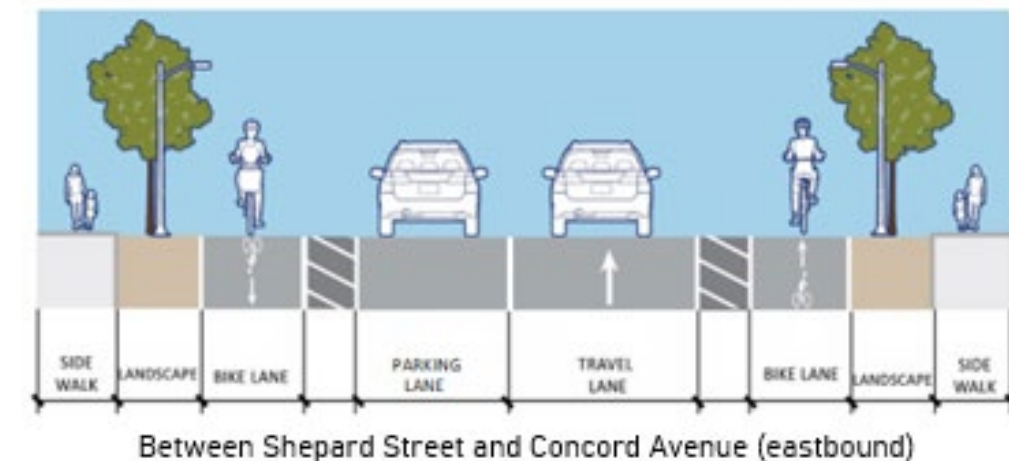
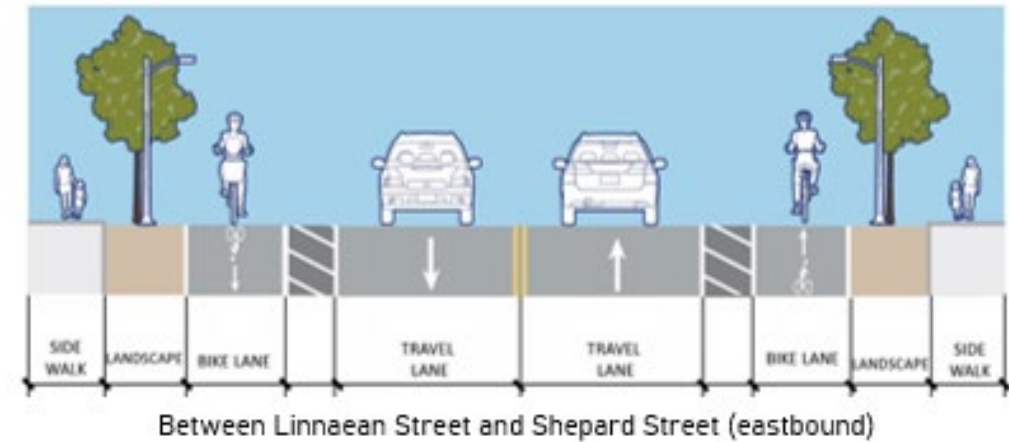
Option 2

Direction of travel

- One-way separated bike lanes on both sides of street
- Two-way for vehicles between Linnaean St and Shepard St
- One-way for vehicles from Shepard St to Concord Ave (EB)

Considerations

- Feedback indicated one-way bike lanes are preferred over a two-way bike lane on one side
- Safe transition at Linnaean St traffic signal for people biking
- Better access to destinations on both sides of the street
- Predictable interactions for people biking and driving at side streets and driveways
- Making the street a one-way for vehicles provides space for parking



Layout Concepts – Section B – Option 2

Linnaean Street to Shepard Street



Parking Impacts (Linnaean St to Shepard St)

	Existing	Option 2
Permit Parking	49	0
Loading Zone	1	0
Total	50	0

All parking and loading would need to be removed from this area of Section B.

This area of Section B would remain a two-way street for people driving

Layout Concepts – Section B – Option 2

Shepard Street to Concord Avenue



Parking Impacts (Shepard St to Concord Ave)

#		Existing	Option 2
	Permit Parking	18	23
	Loading Zone	1	0
	Unrestricted	5	0
	Total	24	23

Option 2 results in an increase in permit parking in this area of Section B.

This area of Section B would be a one-way street eastbound towards Harvard Square for people driving.

Layout Concepts – Section B – Option 2

Linnaean Street to Concord Avenue

Multiple community members asked for Garden Street to be a one-way eastbound for the full length of the project

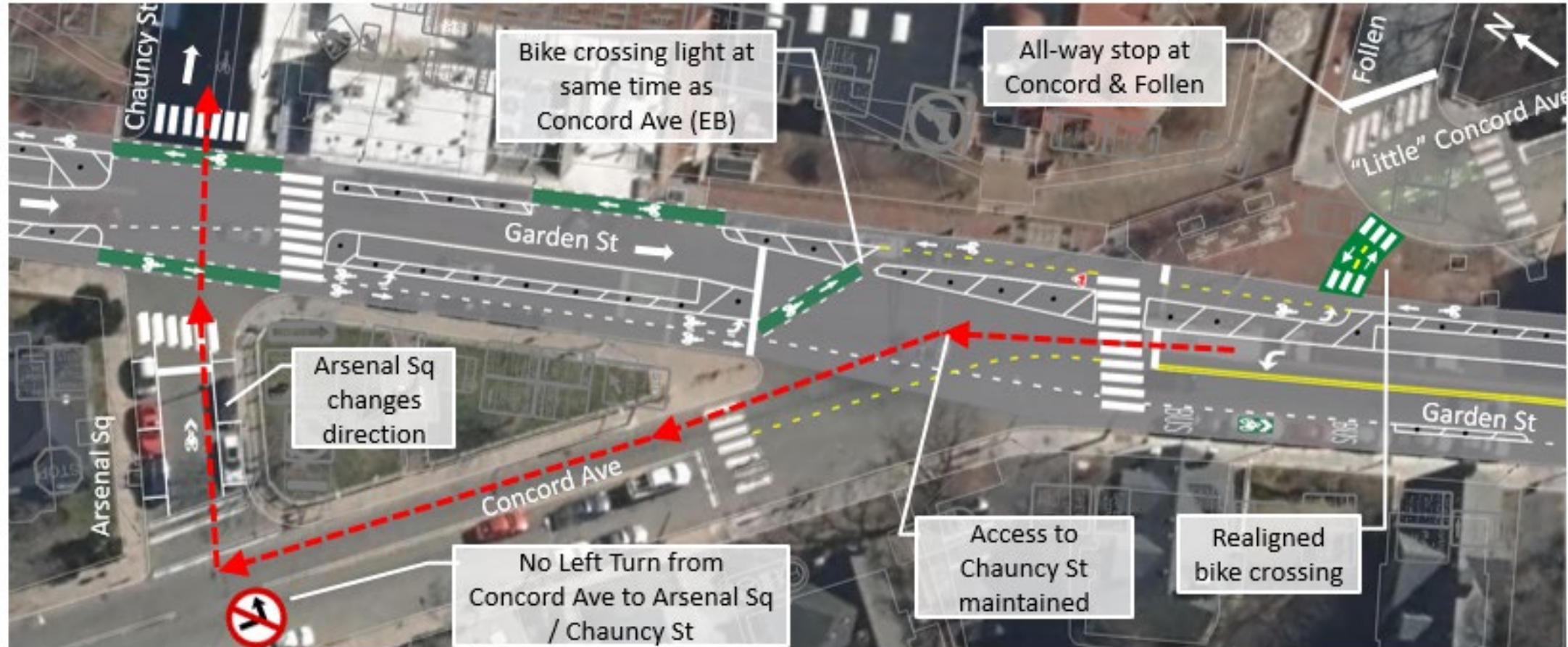
We're proposing the one-way only between Shepard Street and Concord Avenue because:

- Reduces the impact on surrounding streets
- Lowers the volume of cut through traffic while still allowing local circulation
 - Residents, visitors, and shuttle routes
- Prioritizes keeping parking in an area where many residents don't have driveways
- Addresses a pinch point that could have required a two-way bike lane on one side
- Note: Arsenal Sq changes direction to maintain access to Chauncy St



Layout Concepts – Section B – Option 2

Intersection of Garden Street at Concord Avenue



Layout Concepts – Section C



We have one preferred layout for Section C

Section Key

- A. Huron Avenue to Linnaean Street —
- B. Linnaean Street to Concord Avenue —
- C. Concord Avenue to Mason Street —

Layout Concepts – Section C

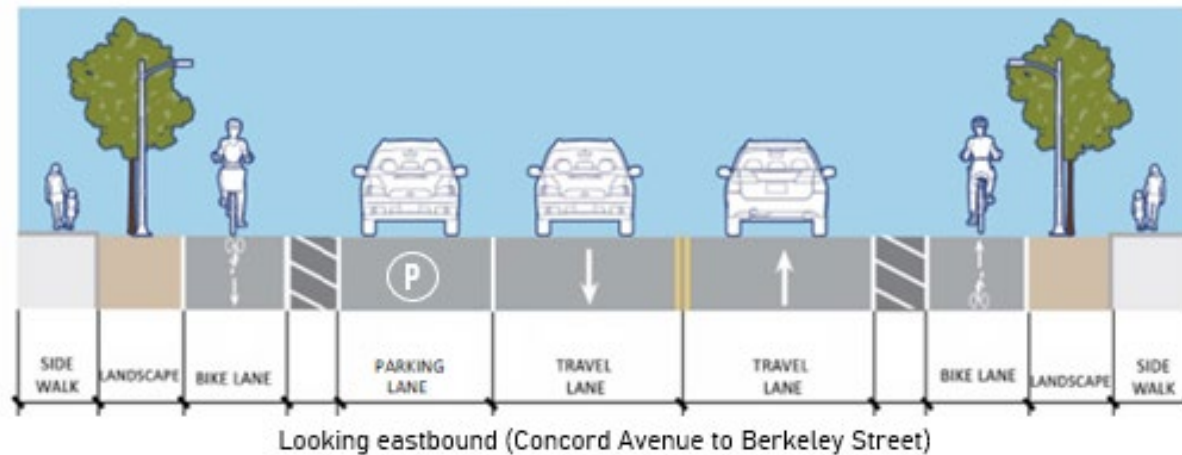
Concord Avenue to Mason Street



Preferred layout

One-way separated bike lanes on both sides of the street

- Westbound: Mason Street to Concord Avenue
- Eastbound: Concord Avenue to Berkeley Street

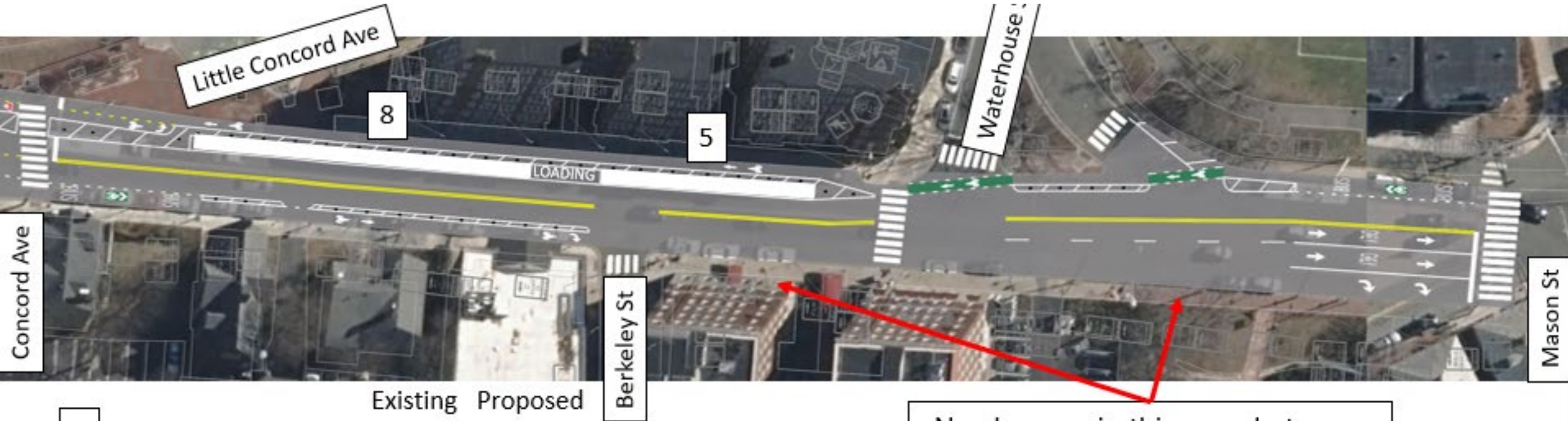


Key features

- Parking and loading areas kept on the north side of the street between Concord Avenue and Waterhouse Street
- No changes to parking and loading on the south side of the street between Berkeley Street and Mason Street
- Road markings at Waterhouse Street to slow right turns from Garden Street

Layout Concepts – Section C

Concord Avenue to Mason Street



#		Existing	Proposed
	Permit Parking	19	13
	Loading	1	1
	Pick up/drop off	3	3
	Accessible/Disability	3	5
	1 Hour	2	2
	Taxi	6	3

No changes in this area between Berkeley Street and Mason Street

Layout Concepts – Parking Impacts Summary

Permit Parking

	Section A Huron to Linnaean		Section B Linnaean to Concord		Section C Concord to Mason		Overall		
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Change
Option 1	26	0	67	8	19	13	112	21	-91
Option 2	26	0	67	23	19	13	112	36	-76

We are keeping permit parking on Garden Street in the area where there is the most need

	Shepard St to Waterhouse St		
	Existing	Proposed	Change
Option 1	37	18	-19
Option 2	37	36	-1



Layout Concepts – Parking Impacts Summary

Other Parking and Loading

- Both options increase the number of accessible/disability spaces in Section C from 3 to 5
 - 2 spaces kept at First Church in Cambridge
 - 1 space relocated to Berkeley Street at the accessible ramp to the building
 - 2 new spaces along the curb on the north side of Waterhouse Street at Garden Street
- No changes to parking and loading between Berkeley Street and Mason Street (Sheraton Hotel, First Church in Cambridge)
- No changes to side street parking, except the accessible/disability spaces

Layout Concepts – Travel Direction Summary

Separated Bicycle Facility Type by Section

	Section A Huron to Linnaean	Section B Linnaean to Concord	Section C Concord to Mason
Option 1	Two-way (south side)		One-way (both sides)
Option 2	Two-way (south side)	One-way (both sides)	

Vehicle Travel Direction by Section

	Section A Huron to Linnaean	Section B Linnaean to Shepard Shepard to Concord		Section C Concord to Mason
Option 1	Two-way travel			
Option 2	Two-way travel		One-way travel (EB)	Two-way travel

Improvements for People Walking



Waterhouse and Shepard Street crosswalks were most often mentioned as needing improvement

- At Waterhouse Street, we plan to install a rectangular rapid flashing beacon (RRFB) as part of this project.
- At Shepard Street, we plan to add the second crosswalk across Garden Street or move the crosswalk to the other corner to improve visibility as part of an upcoming DPW reconstruction project (FY23).
- At all crosswalks, we will be improving sightlines, shortening crossing distances, and making improvements to pedestrian signal phasing.



Photo: RRFB on Albany Street at Portland Street

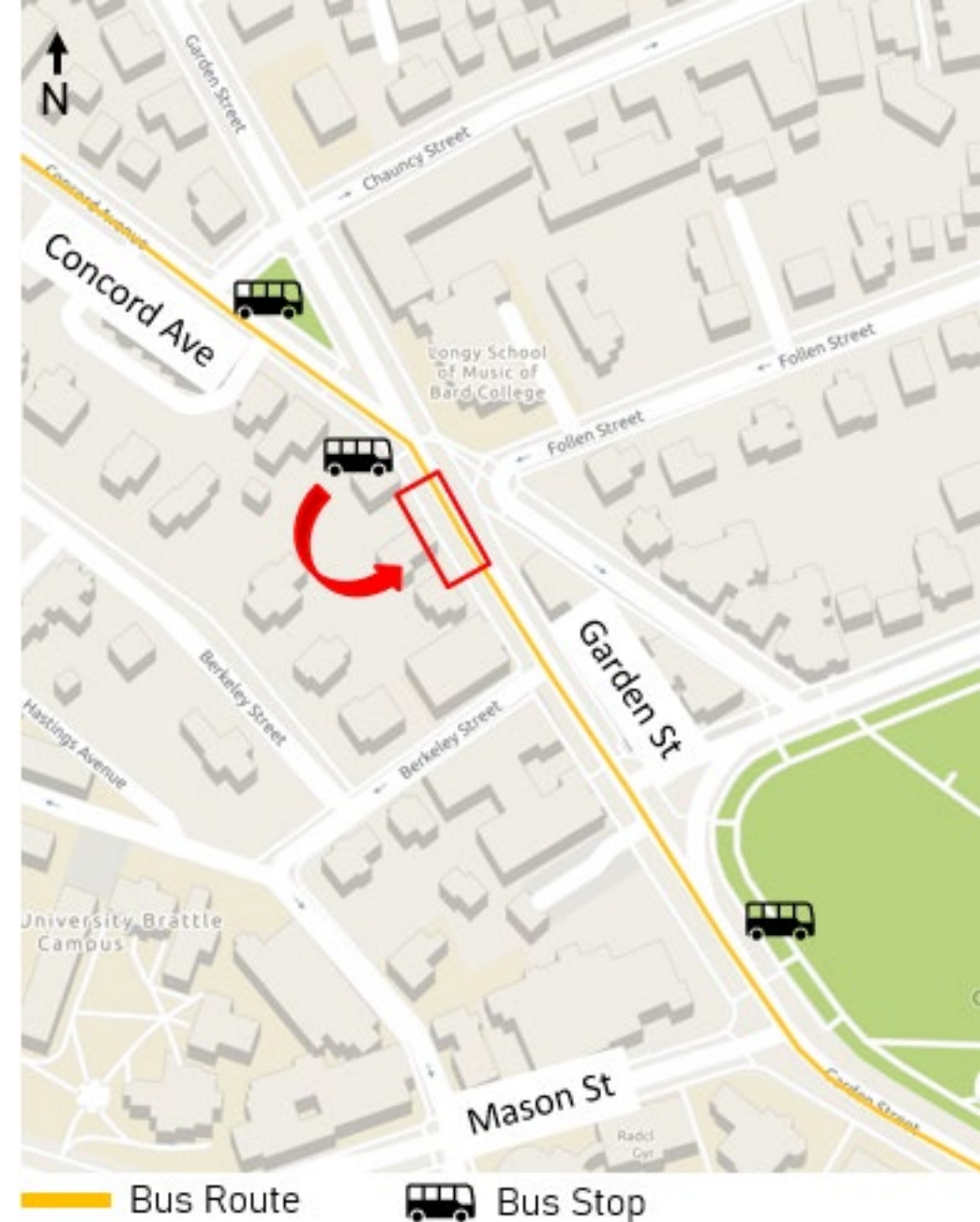
Improvements for Transit

MBTA routes

- Bus routes 74, 75, and 78 use Garden Street between Concord Avenue and Mason Street
- We propose to move the bus stop at Garden St and Concord Ave south of the crosswalk across Garden Street
 - The MBTA requested a new location for this stop to improve visibility for bus drivers
 - No additional parking impacts

Shuttle routes

- We are coordinating with both Harvard and Lesley about any potential changes to street directions



Schedule/Next Steps

Project Schedule

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Community Meeting 2

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Community Meeting 3

Fall 2022

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Questions + Feedback

Feedback

- We will take comment in the order hands are raised
 - If calling in, dial *9 to raise your hand / *6 to unmute
- Additional questions can be asked using the Q+A function
- In order to allow everyone to speak, please try to limit your time to 1 minute
- Approximately every 15 minutes, we will provide answers to questions
- The meeting is scheduled to end at 8:00 p.m.
- You may also contact the project manager directly to provide written or verbal feedback

Contact Information

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smeuse@cambridgema.gov

cambridgema.gov/GardenStHuronMason