Today’s Agenda

- Welcome and Overview 5 minutes
- Review of Public Input 10 minutes
- Conceptual Design Development 50 minutes
  - Review of “givens” and constraints
  - Idea Exploration
  - Concept walkthrough
- Options / Iterations 10 minutes
- Discussion 20 minutes
- Detailed Comments on Draft Concept 20 minutes
- Next Steps 5 minutes
Welcome and Overview
Summer & Early Fall schedule complete!

New Working Group Schedule

- Working Group #4 Tues. 5/28
- Working Group #5 Wed. 7/17
- Working Group #6 Tues. 9/24

Other Summer and Fall Activities

- Mobility/Safety Walk: Tues. 5/14
- Outreach at Riverfest: Sat. 6/1
- Carl Barron Existing Conditions: Open House on Wed. 6/5 and outdoors on Sat. 6/8
- Urban Design Public Walk: Tues. 6/11
  - Second stage of Carl Barron Plaza input to be rescheduled
NEW Expected Timeline

- **Issues & Opportunities, Existing Conditions**
- **Conceptual Design**
- **25% Design**

2019:
- **Carl Barron Plaza Engagement**

2020:
- **Carl Barron Plaza Engagement v2**
- **Public Meeting #1**
- **Public Meeting #2**
- **Public Meeting #3**

**Working Group**
- Public Walks
- Today
Expected Timeline

- 75% Design
- 100% Design
- Construction Bids

2020
- J
- A
- S
- O
- N
- D

2021
- J
- F
- M
- A
- M
- J
- J
- A
- S
- O

Construction Process (2020-2022)

- Public Meeting #4
Working Group Meeting Agendas

- Working Group #6 Tues., 9/24
  - Draft Conceptual Design Alternative Progress – Memorial Drive to Auburn Street

- Working Group #7 Tues., 10/22
  - Draft Conceptual Design Alternative Progress – Auburn Street to Massachusetts Avenue, including Carl Barron Plaza
Ground Rules

• Phones off
• Keep an open mind
• Respect other opinions
• Speak, and let others be heard
• Read agenda and materials before the meeting
• Request agenda changes prior to meeting
• Help us stay on schedule
• Public comments during public comment periods
Entering the Iterative Design Stage

IDENTIFY ISSUES

Define and analyze challenges and opportunities through perceptions and data

ESTABLISH VISION

What are our goals, in the context of existing planning & policies?

ITERATIVE DESIGN

Discuss and evaluate concept alternatives
Develop the final concept

IMPLEMENTATION
Review of Public Input
Public Meeting #1 – 81 Attendees
Online Public Input – 93 Commenters

Comment: This crosswalk across River Street in front of Riverside Pizza feels unsafe (even with walk sign) because it angles away from Putnam. Many a time we have been crossing River (with walk sign) and a car turning right from Putnam onto River turns without seeing pedestrians. Especially at night.
5 Working Group Mtgs
Other outreach...

- River Street pre-construction survey (83 respondents so far)
- Cambridge Winter Farmers Market (3/23/19)
- Mobility Walk (5/14/19)
- River Festival (6/1/19)
- Urban Design Walk (6/11/19)
- Parking Day (9/20/19)
- Business focus group outreach (first breakfast in August)
- Ongoing coordination with Department of Human Service Programs and Cambridge Police Department
- Carl Barron outreach (full exploration of Carl Barron outreach scheduled for Working Group #7 October 22, 2019)
Sorting Comments

Location-Specific Comment Map

Shared Design Goals
Guidance for Our Designers: Shared Design Goals

• Safe
• Inclusive
• Human Scale
• Ecological
• Multimodal
• Activated
• Resilient

Western Avenue
Guidance for Our Designers: Location-Specific Comment Map

- Add greenery in front of business
- Request to replace parking with wider sidewalk
- Request to have parking spaces marked
- Cyclists riding against traffic
- Crosswalk requested
- Keep pedestrian scramble
- Benches requested
- Poor visibility of pedestrians for NB-EB right turns reported
- Request for separated bike lane
- Request for more trees and LID features
- Bus bump out requested
- Remove billboard here
- Sightline issues at crosswalk. Cars don't stop. Children cross here to access MLK School.
The Street Design Exercise

Things we noticed on working group members’ layouts of a generic street with the same width as River Street and sample land uses:

- Every group debated reducing the street width to one lane of travel - some wanted it, others were concerned about traffic/queueing impacts
- Most groups alternated green space with parking along the curbside
- Two out of three groups included a one-way bikeway (the third debated it)
- Two out of three groups included a bus lane (the third debated it)
Conceptual Design Development: Givens and Constraints
Givens

- Address flooding & drainage capacity
- Upgrade aging public and private utility infrastructure
- Protect significant utilities which cannot feasibly be relocated
- Preserve healthy trees
- Maximize future trees & improve soil conditions
- Maintain emergency vehicle access (16 to 18 feet)
- Maintain flexibility when routine maintenance or unexpected incidents block part of road

- Include separated bicycle facility (per Cambridge's "Cycling Safety Ordinance")
- Regulate parking to allow us to use curbside space more efficiently
- Maintain regional freight & hazardous materials truck route
- Raise non-signalized side-street crossings
- Improve intersection geometry (slow turns, improve sightlines) while accommodating buses and trucks
Example of Sidewalk Constraint

Occasionally, sidewalk narrows to 4.5’

Existing trees
Example of Utility Constraint

- Existing tree pits
- Gas mains
Conceptual Design Development: Idea Exploration
Many Ideas from the Public Process to Explore, Including:

**Separated Bicycle Facilities**
- Left side cycle track
- Two-way cycle track
- One lane cycle track

**Pedestrian Facilities**
- Safer and additional pedestrian crossings

**Traffic Operations**
- Reduce travel lanes to one lane
- Signal timing changes
- Bus only lane

**Placemaking and Green Infrastructure**
- Gateway treatments
- Repurposing curb space for green infrastructure, seating for businesses, etc.
- Creating places to be
A Few Ideas Were Tough to Implement

<table>
<thead>
<tr>
<th>Separated Bicycle Facilities</th>
<th>Pedestrian Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Left side cycle track</td>
<td>• Safer and additional pedestrian crossings</td>
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<tr>
<td>• Two-way cycle track</td>
<td></td>
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One-lane between Putnam Avenue and Fire Station
### One-lane between Putnam Avenue and Fire Station

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<tr>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>• 4’ to 6’ more for activation/buffer on north side</td>
<td>• Requires raised cycle track to be mountable (emergency vehicle access) which could exacerbate illegal parking/stopping/loading</td>
</tr>
<tr>
<td>• Shorter pedestrian crossings</td>
<td></td>
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<tr>
<td>• Easier bicycle facility maintenance</td>
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</tbody>
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Early rendering of Beacon Street cycle track (Somerville)
# One-lane between Putnam Avenue and Fire Station

## Pros
- 4’ to 6’ more for activation/buffer on north side
- Shorter pedestrian crossings
- Wider bicycle facility/wider buffer
- Easier bicycle facility maintenance

## Cons
- Requires raised cycle track to be mountable (emergency vehicle access) which could exacerbate illegal parking/stopping/loading
- Maintaining clear width and mountable feature would be challenging during and after snow events
- Buses experience same congestion as general vehicles
- Street/utility repairs would block entire street
- Routine operations including trash collection and street sweeping would block street
Left-side Cycle Track
Left-side Cycle Track

<table>
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</thead>
<tbody>
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<td>• Reduces number of potential bus stop conflicts</td>
<td>• Cyclists would cross more conflict points/travel lanes</td>
</tr>
<tr>
<td>• Sunny side of the street (melts ice quicker)</td>
<td>• Transitions at each end of corridor would cause more delay for cyclists</td>
</tr>
<tr>
<td>• Fewer major driveway conflicts</td>
<td>• Uncommon design</td>
</tr>
<tr>
<td></td>
<td>• Adjacent to general travel lane (as opposed to a bus lane, which has fewer vehicles and trucks)</td>
</tr>
</tbody>
</table>
Two-way Cycle Track
# Two-way Cycle Track

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<tbody>
<tr>
<td>• Allows for two-way travel and accommodates desire line to/from Allston neighborhood</td>
<td>• Retaining two travel lanes requires removal of most curbside uses, including commercial loading and disabled parking</td>
</tr>
<tr>
<td>• Creates a wider buffer between pedestrians and street</td>
<td>• Reduces opportunity to provide activation spaces for local businesses</td>
</tr>
<tr>
<td></td>
<td>• Significant conflict points for cyclists who are travelling contraflow to traffic</td>
</tr>
</tbody>
</table>
Concept Walkthrough
Memorial Drive to Putnam Ave

- Two travel lanes
- Potential BlueBikes Locations
- New trees & landscaping for “neighborhood feel”
- Bus lane begins at bus stop, reducing amount of traffic adjacent to cycle track
- Note, private property – feasibility TBD
- Alternative bus stop location
- Combined turn lane & bus lane
Memorial Drive to Putnam Ave

Two travel lanes

Potential BlueBikes Locations

Question: Will reducing to one lane for general travel cause traffic congestion, similar to when a lane is closed now?

Bus lane begins at bus stop, reducing amount of traffic adjacent to cycle track

New trees & landscaping for “neighborhood feel”

Alternative bus stop location

Combined turn lane & bus lane

Working Group #6, September 24, 2019 – Slide 38
The impact of signal timing

• Signals control how many people can get through an intersection

• Today, there is an "all stop" pedestrian crossing phase, which forces pedestrians to wait two phases to cross (73 seconds)

• "Concurrent" pedestrian phasing can help move everyone (people walking, biking, taking the bus, and driving) through the intersection with less delay

Based on field measurements of vehicle queues
Today's signal timing at Putnam limits all users of River St.

- 3-phase signal, total 100 second cycle time
- The all stop or exclusive pedestrian phase forces everyone to wait longer to cross and limits how many vehicles can get through during the green time.
Concurrent phasing at Putnam Avenue could open the valve

- 2-phase signal can be more efficient for everyone

- **What about safety??**
  - Concurrent (pedestrians cross with parallel traffic) with Leading Pedestrian Interval (LPI)
  - Safety can be improved with shorter crossing distances and better sightlines

Pedestrians cross concurrently with traffic in an intersection with a safer geometry
Intersection with Putnam Avenue

- Shorter pedestrian crossings & leading pedestrian interval (pedestrian head start)
- Mountable truck apron to slow turning cars & allow truck turns
- Narrower street west of Putnam and presence of people indicates pedestrians/neighborhood to drivers, calming traffic

Protected Intersection Elements (and head start) for bikes
Mountable Turn Apron

General purpose lane
Transit lane + right turn lane
Extending the Neighborhood Feel

New planting areas/Blue Bikes locations
River Street Today
Putnam Avenue to Kelly/Howard Streets

Activation zones supporting local businesses

Vehicle storage in flex space also provides friction to calm traffic

One bus stop could be removed (26 people per day, 2-3.5 min walk to next stop)

Enhanced entrance to Hoyt Field (in development)

Activation zone on Kelly/Howard intersection’s south side (with bus stop)
East of Putnam Avenue to Franklin Street – No Signals

- One general use lane handles existing traffic (encouraging slower speeds)
- No queuing/spill back from Howard Street signal
- Transit lane – improves bus reliability and reduces delay
- The bus lane provides flexibility when there is construction, maintenance, trash operations, etc.
East of Putnam Avenue to Franklin Street – Intersection

Curb extensions and cycle track improve sightlines

Raised side street crossings & better geometry calm traffic
Coast Café Area

Opportunity to provide flexible parking (resident and commercial?)

Crosswalk moved to allow for sidewalk cafe

Cycle track bends out at intersections for raised ped & bike crossings
Coast Café Area Today
BUMP OUT AT CROSSWALK & COAST CAFE (BEYOND) ACTIVATION AREA

50'-0" R.O.W.

VARIES
5'-0"
3'-0"
7'-0"
10'-6"
11'-0"

6" CURB

FLEX ZONE (CURB EXTENSIONS) VARIES

TRAVEL LANE

BUS LANE

5'-0"

CYCLE

5'-6"

SIDEWALK

BUFFER

EXISTING GAS TRANSMISSION LINE

(* SIDEWALK IS 5'-0" IN MOST LOCATIONS)
At Howard Street/Kelly Road

Existing signal not warranted based on traffic volumes, but signal serves other uses:

• Provides signalized pedestrian crossing on the Amigos School’s designated Safe Route to School

• Stops traffic for Fire Department

• Could help mitigate other implications of the design: traffic volumes could increase with one of two Tubman options
Kelly/Howard to Auburn Street

- Mountable area for fire truck movements
- Activation zones supporting local businesses
- Safer intersection geometry
- New pedestrian crossings
“Flatiron” building area

Safe turning radius & raised crossing

Places people can sit and eat

Two local restaurants
“Flatiron” Building Area Today
At Pleasant Street/Tubman Square

- Pleasant Street as shared street/local access only
- No traffic diversions
- Parking impacts
  - 7 unregulated
  - 1 accessible

- Street closure
- Raised side street crossing
At Pleasant Street/Tubman Square

- Close Kinnaird Street
- Traffic calming on Pleasant Street
- Traffic diverted through Howard/Kelly street intersection
- Parking impacts
  - 2 unregulated Street closure
  - Raised side street crossing
Summary of Pedestrian Safety and Comfort Features

- Raises all side-street crossings
- Narrows turning radii on most intersections to slow down turns
- Improves visibility at intersections
- Increases vertical elements (trees)
- Moves general traffic in a single lane
- Adds two new crosswalks

- Provides an increased buffer between traffic and people walking and biking (except buses and right-hand turns)
- Simplifies ADA compliant crossings
- Provides more space for people to sit, providing a more neighborhood feeling
Design Goals – How are we doing?

- Safe
- Inclusive
- Human Scale
- Ecological
- Multimodal
- Activated
- Resilient
Better Buffers?

Maintains activation spaces, access & loading for local businesses

Eliminates or significantly reduces personal car storage on River Street

Adds 4’ to landscape buffer on north side in some locations

Adds 3’ buffer to cycle track in some locations
Provide one travel lane between Putnam Avenue and Auburn Street that is between 16’ and 18’ wide (adding between 3.5’ and 5.5’ to the buffers)

**Pros**

- Avoids the need to have a mountable curb for the cycle track
- Allows for flexibility for emergency vehicles, trash pickup, and construction/maintenance
- Wider buffers
- More landscaping opportunities

**Cons**

- Likely to encourage speeding, particularly when traffic is light (lanes would be more highway-scale)
- Technically 18' might allow vehicles to use one lane as two in certain locations (intersections, to pass people making turns, etc.)
- Buses are in the same conditions as the rest of traffic
Detailed Comments on Draft Concept
Ask questions and use sticky notes to tell us what you like/don’t like about the draft concept

Please fix this!

I like this!

Share additional ideas that you think are still missing
Next Steps
Complete and Share the Pre-Construction Survey!!

• Still live at cambridgema.gov/riverstreet!

• Will become the “before” survey for the River Street Reconstruction

• When the post-construction survey is complete, the two will help the City evaluate the project

• Please help us distribute to your neighbors!
Next Meetings

• **Working Group #7 Meeting**: Tuesday, October 22, 6-8pm at Manning Apartments
  • Concept plans – Auburn Street to Massachusetts Avenue (including Carl Barron Plaza, MBTA bus terminal area, and Green Street)

• **Public Meeting #2**: Tuesday, November 19, TBD
  • Full Concept Design Introduction
  • Public Feedback
River Street Reconstruction

Take our survey and tell us how River Street works for you today!

The River Street Reconstruction project will upgrade the sanitary sewer, stormwater, and water subsurface infrastructure while developing a new surface design for River Street, the bus terminal area at River and Magazine Streets near Central Square, and Carl Barron Plaza. The project aims to create a streetscape design that meets the needs of all the various users and in a way that engages the local community, contributes to overall enhancement of the neighborhood, and meets the City's goals related to infrastructure, transportation, and urban design.

The concurrent design of Carl Barron Plaza, the significant open space at the heart of Central Square will include consideration of public art, fixed and/or unfixed furniture, access, plantings, and landscaping. The design must also consider the complexity of transportation needs related to the bus bays adjacent to the Plaza and people moving through the plaza.

The community outreach and design processes will occur throughout 2019 and into early 2020. Construction is anticipated to begin in Spring 2020.

Click here to sign up for email updates on this project.

Click here to provide general comments and feedback.

The Public Input Map is now closed, but you can still access it through the link to see what input was provided on issues and opportunities along River Street and in Carl Barron Plaza. Soon we will be posting a survey to understand how you use River Street today so that we can use that input in the design and also compare to a similar survey after the construction is complete.
THANK YOU!

riverstreet@cambridgema.gov
“Flatiron” Building Area