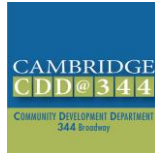


City of Cambridge
Transit Advisory Committee

River Street Updates

February 5, 2020





Street and plaza area design approaches

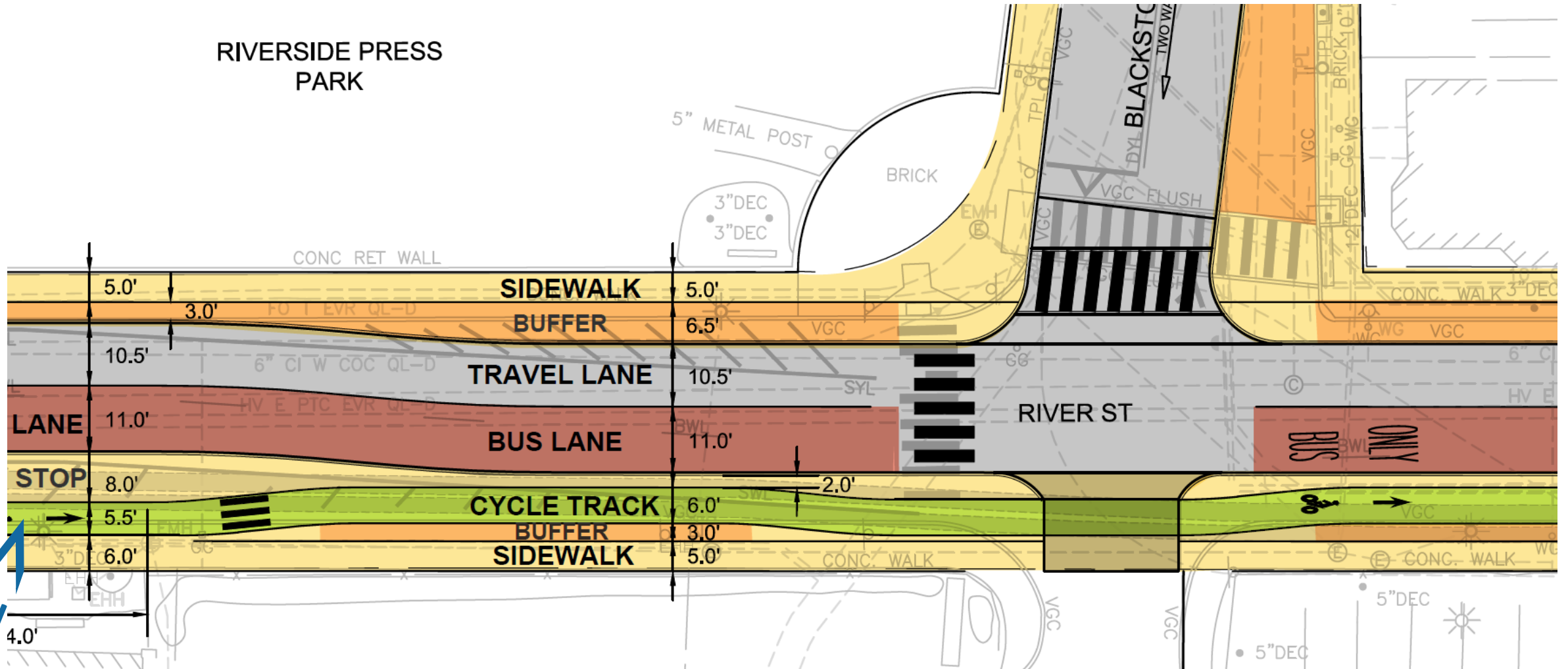
River Street Reconstruction project updates



River Street design approach

- Design and engineering team is moving forward with a conceptual design approach for River Street with:
 - Reconstructed sidewalks and sidewalk buffer/tree pits
 - General travel lane and a bus-only lane
 - Separated bike lane, as a given
 - “Floating”-style bus stop areas, as possible

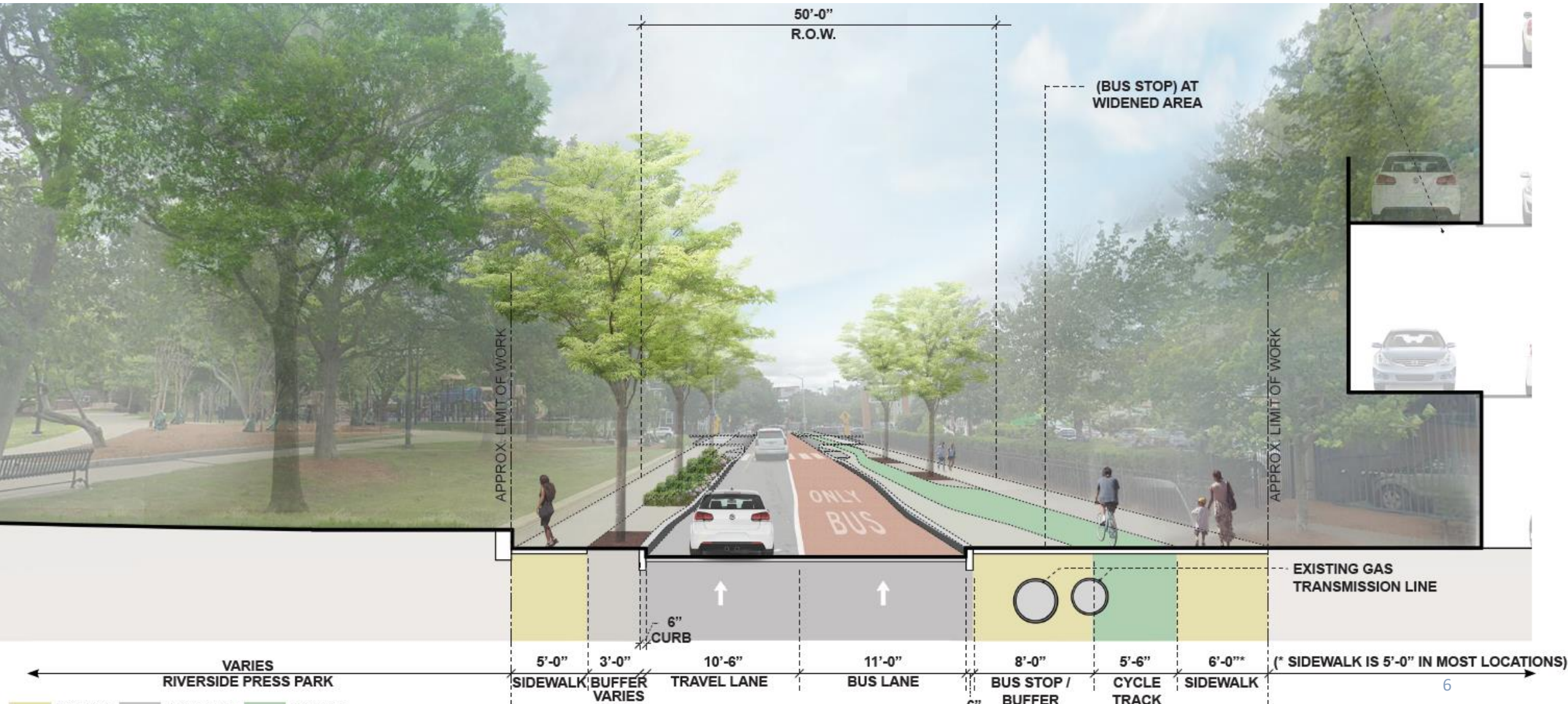
Current design approach



River Street today



River Street conceptual design approach

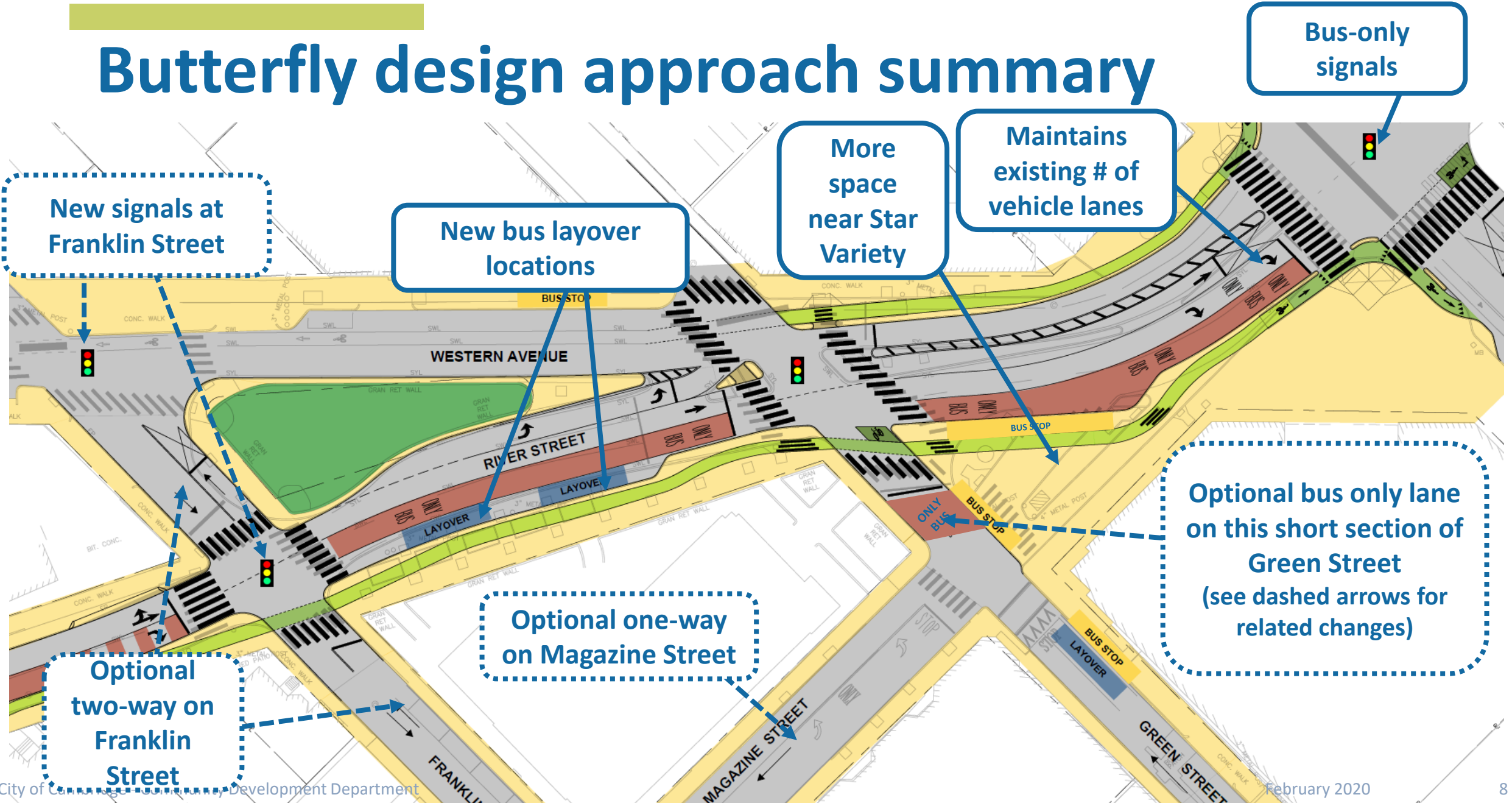




Bus terminal area

- Design and engineering team is leaning toward a “butterfly” design for the Carl Barron Plaza and bus terminal area
 - Greatest potential for more space for pedestrians and transit riders
- Requires changes to **bus routing and stop locations** on Routes 47 and 64
- Other operational changes for Routes 83 and 91

Butterfly design approach summary



Butterfly design approach

- Bicycle lane behind bus stop waiting area
- Continue to develop design
 - Interactions between cyclists + bus riders, pedestrians
 - Space requirements for boarding areas
 - MBTA request for operations staff booth





River Street dedicated bus layover area

- Bicycle lane between layover area and public space with potential seating and trees



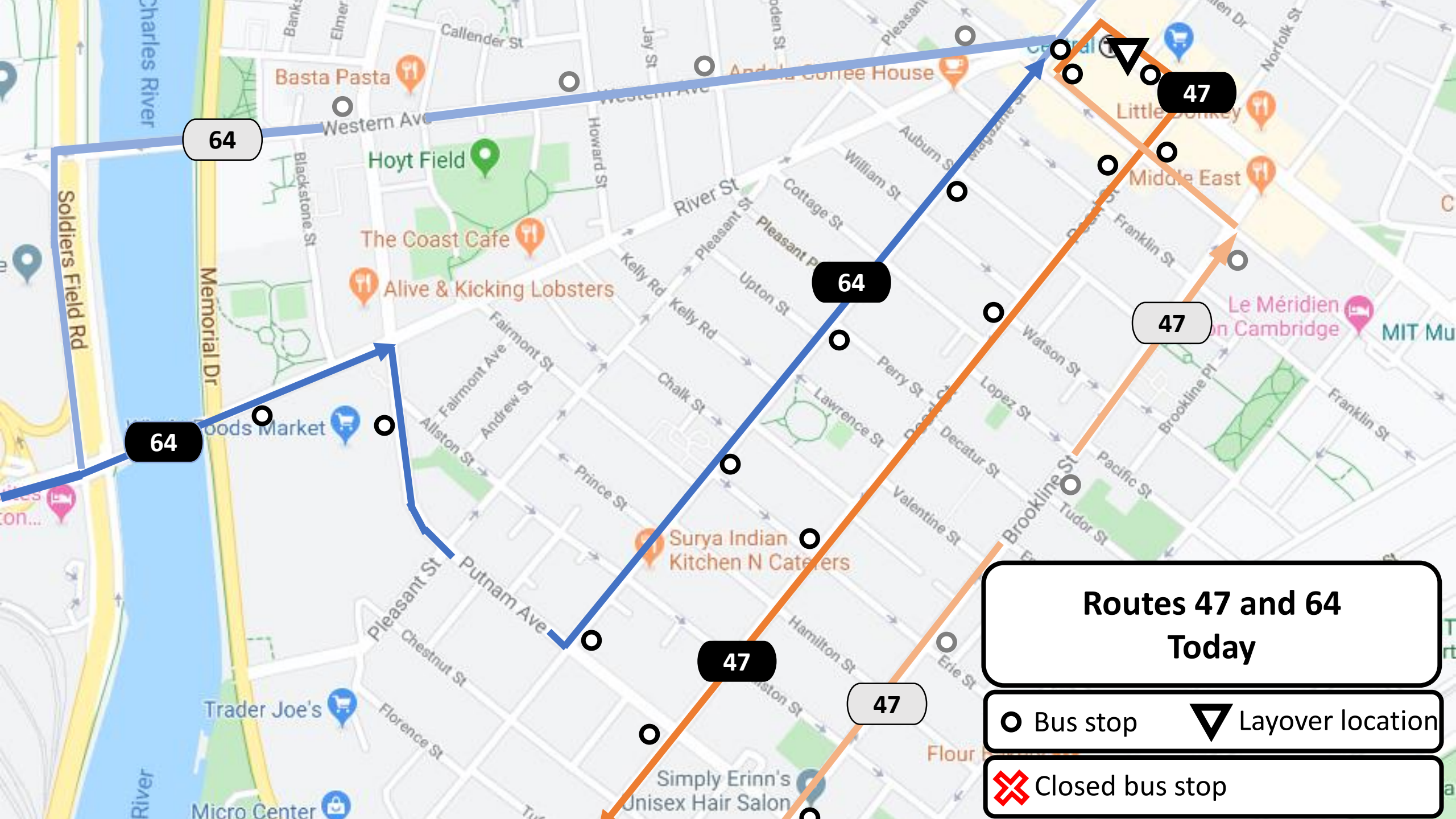
Impacts to MBTA bus route and stop locations

River Street Reconstruction project updates



How are we doing?

- For tonight's meeting, we want to hear from you:
 - **What do you think?** Are we looking at the potential impacts that you think are most important?
 - **What do you feel?** Are we setting up the conversation in a way that sets us up for success with the broader public?
 - **What would you do?** Are we approaching these conversations in a way that is meaningful?



64

64

47

47

64

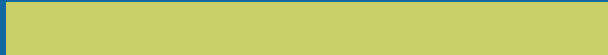
47

47

Routes 47 and 64 Today

○ Bus stop ▽ Layover location

✘ Closed bus stop

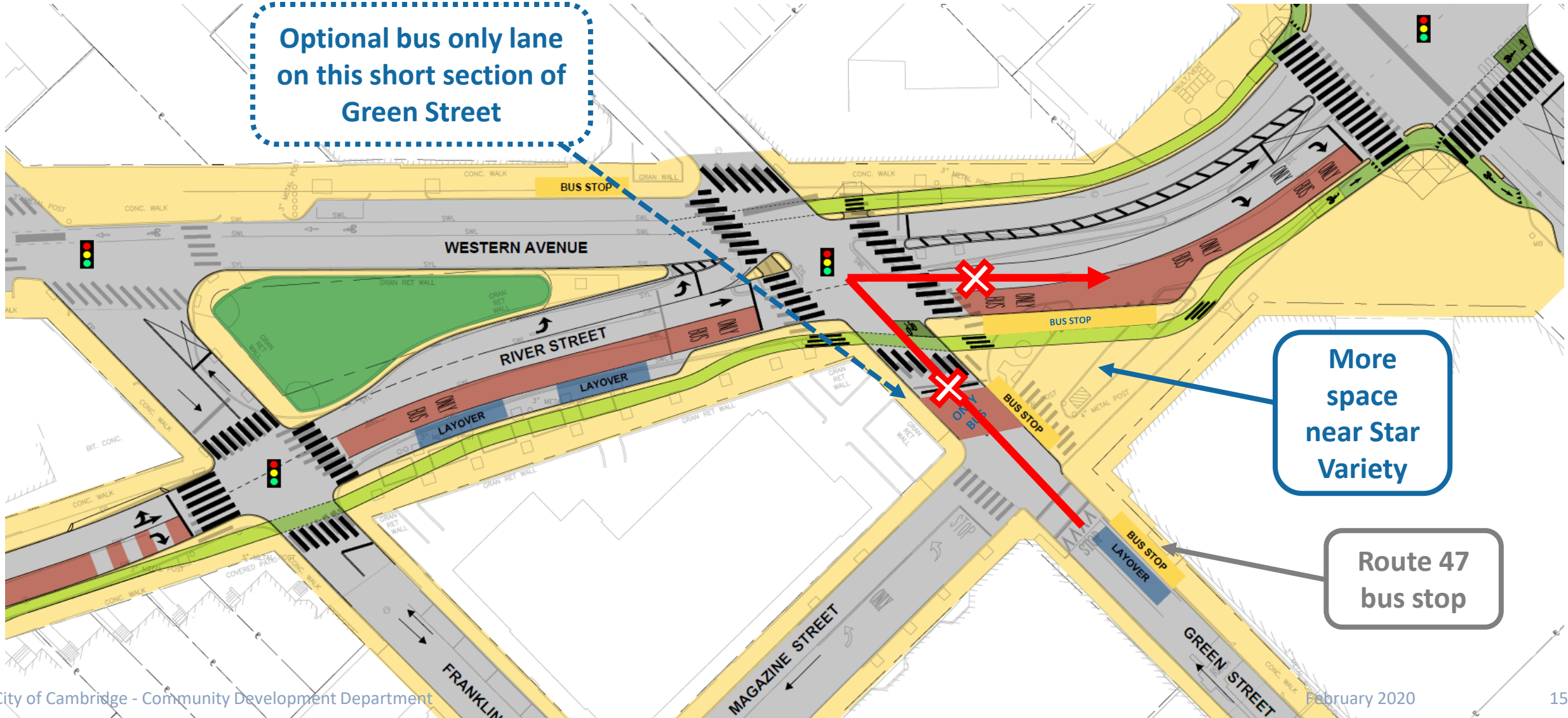


Route 47 changes to routing and stops

River Street Reconstruction project updates

Butterfly design and Route 47

Optional bus only lane on this short section of Green Street



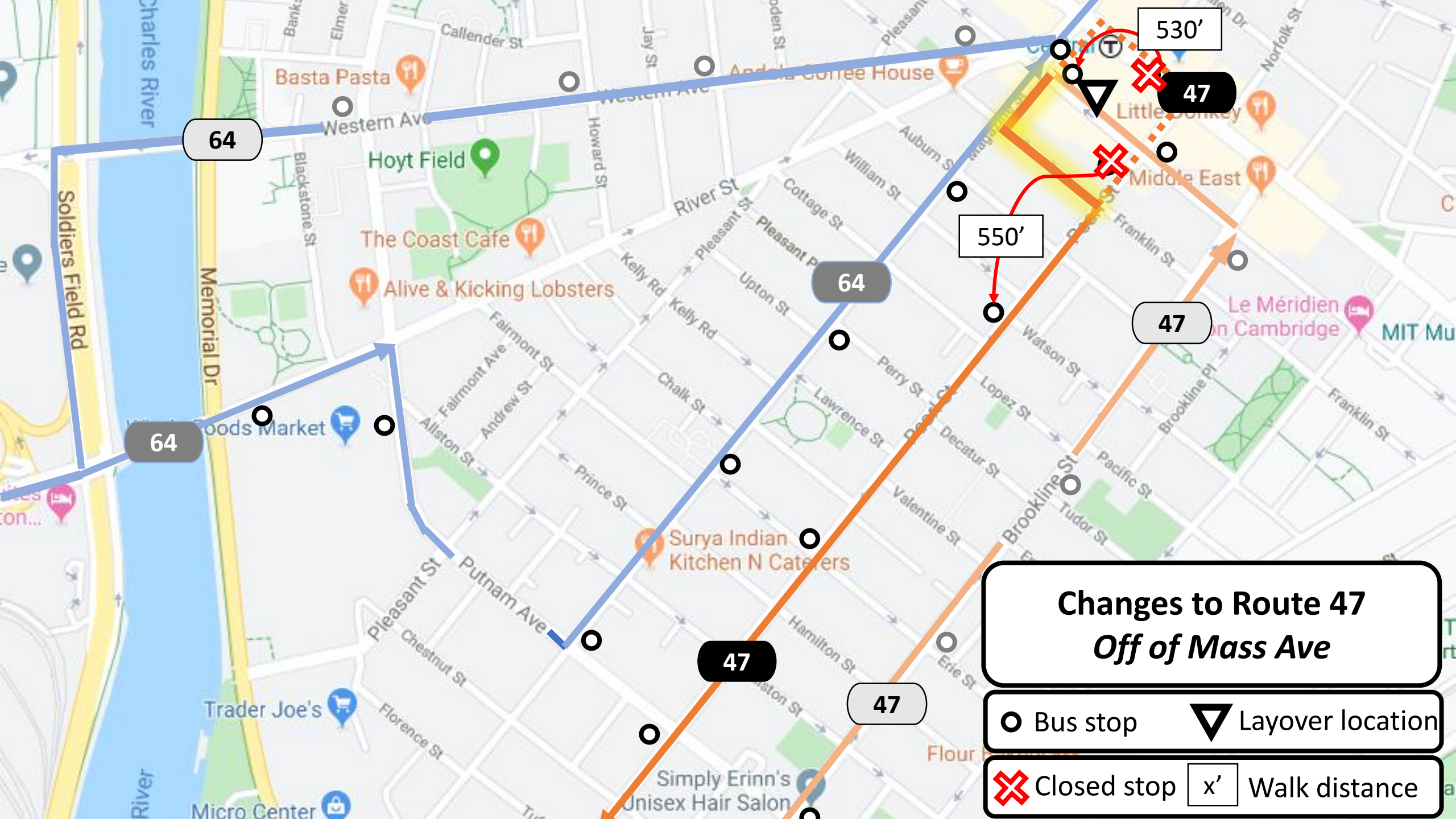
More space near Star Variety

Route 47 bus stop

Laying over on Massachusetts Avenue results in difficulties for other routes

Today, Route 47 lays over (waits to start next trip) in the Mass Ave at Pearl bus stop. Laying over here makes it difficult for bus riders from other routes (Route 1 and Route 70) who stop here and for cyclists on Massachusetts Avenue approaching Pearl Street.





Changes to Route 47 *Off of Mass Ave*

○ Bus stop ▽ Layover location

✘ Closed stop x' Walk distance



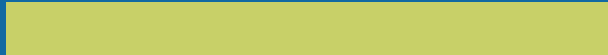
Moving Route 47 off Mass Ave

- Challenges
 - Walking distance increases for riders connecting to Route 47 from Route 1, Red Line (toward Boston), and Red Line (toward Alewife)
 - Walking distance decreases for riders connecting to Route 47 from Route 64, 70, 83, and 91



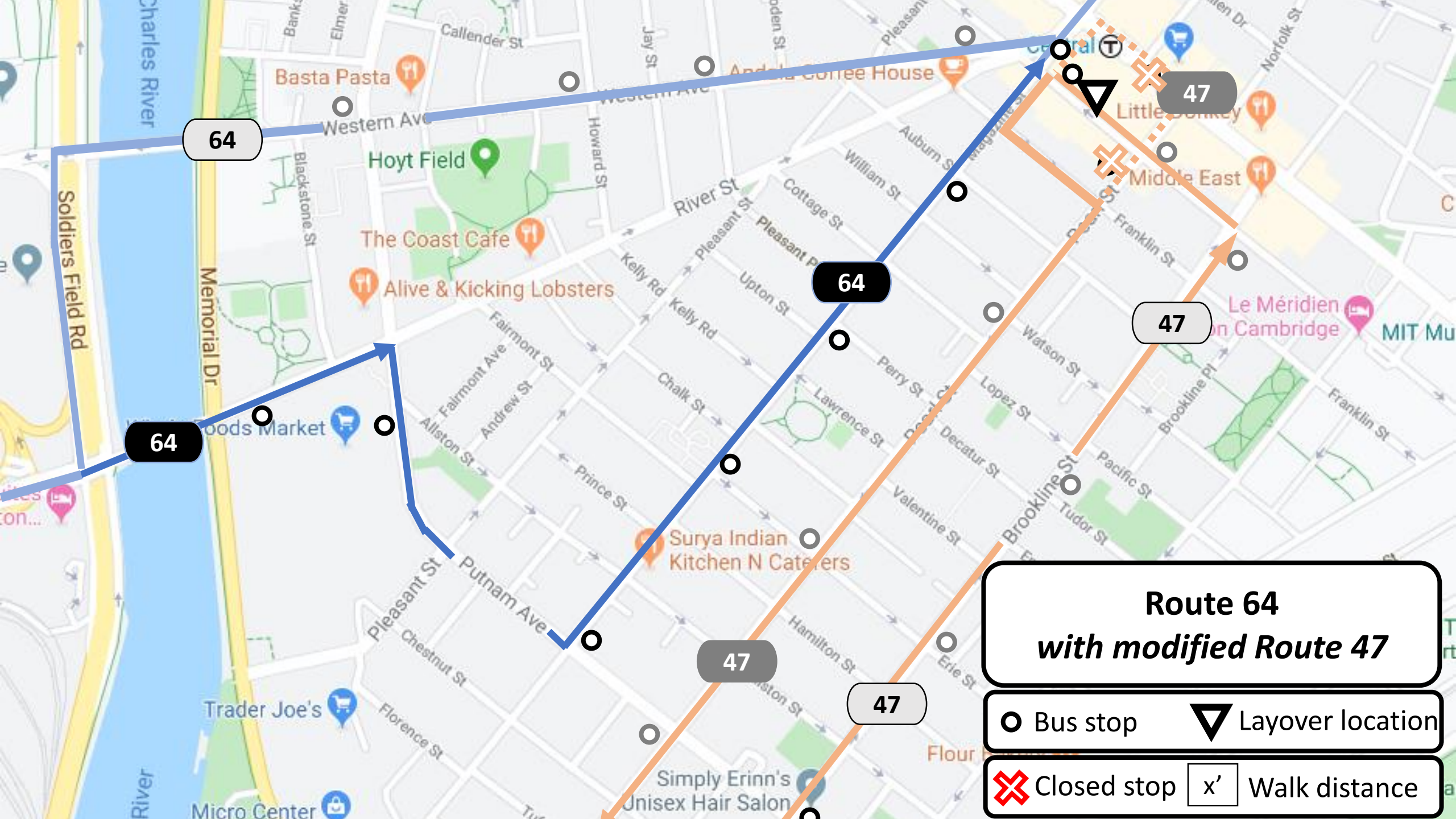
Top transfer flows between buses (weekday riders)

1. 70 to 1
2. 1 to 70
3. **47 to 70 (44)**
4. **70 to 47 (44)**
5. **83 to 47 (24)**
6. 1 to 83
7. **47 to 83 (21)**
8. 83 to 1



Route 64 changes to routing and stops

River Street Reconstruction project updates



64

64

64

47

47

47

47

Route 64
with modified Route 47

○ Bus stop ▽ Layover location

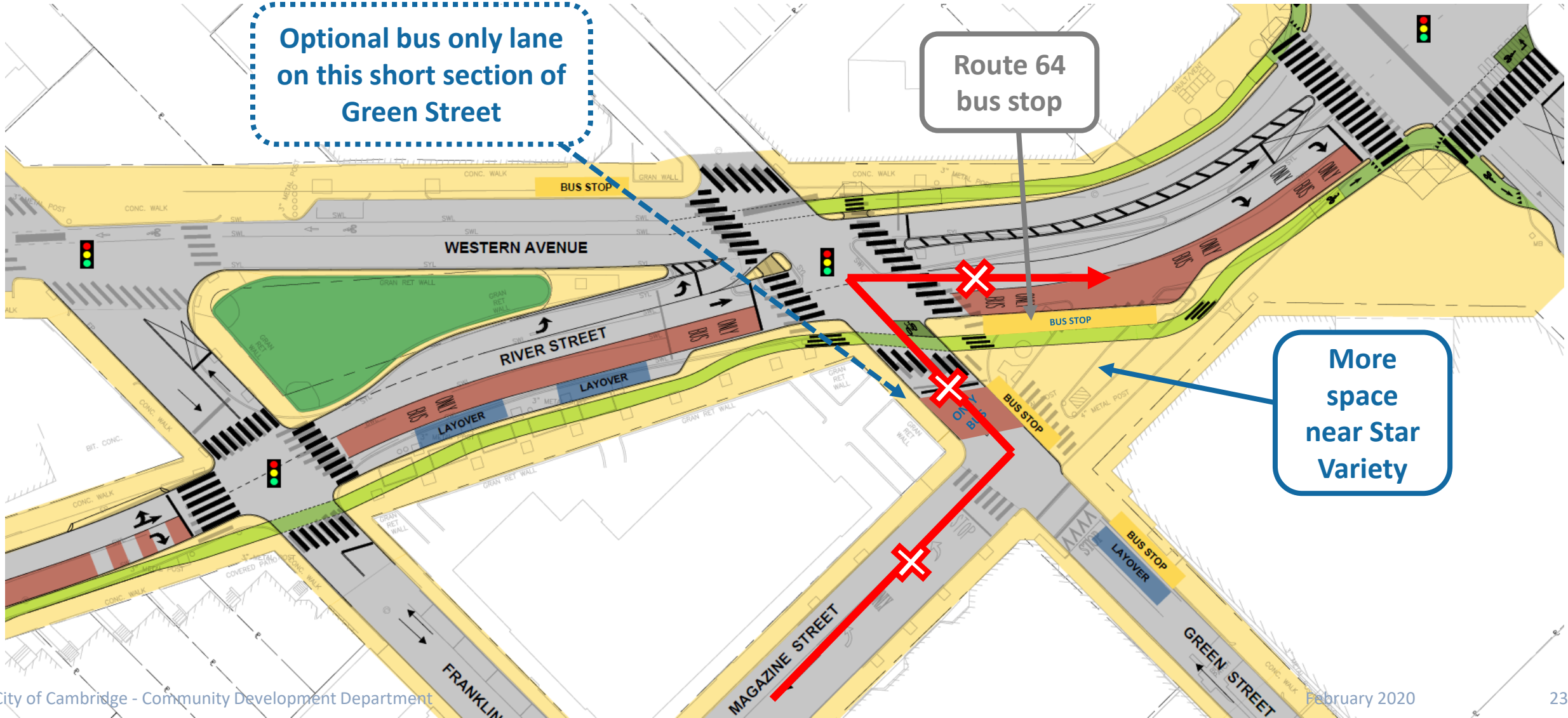
⊗ Closed stop x' Walk distance

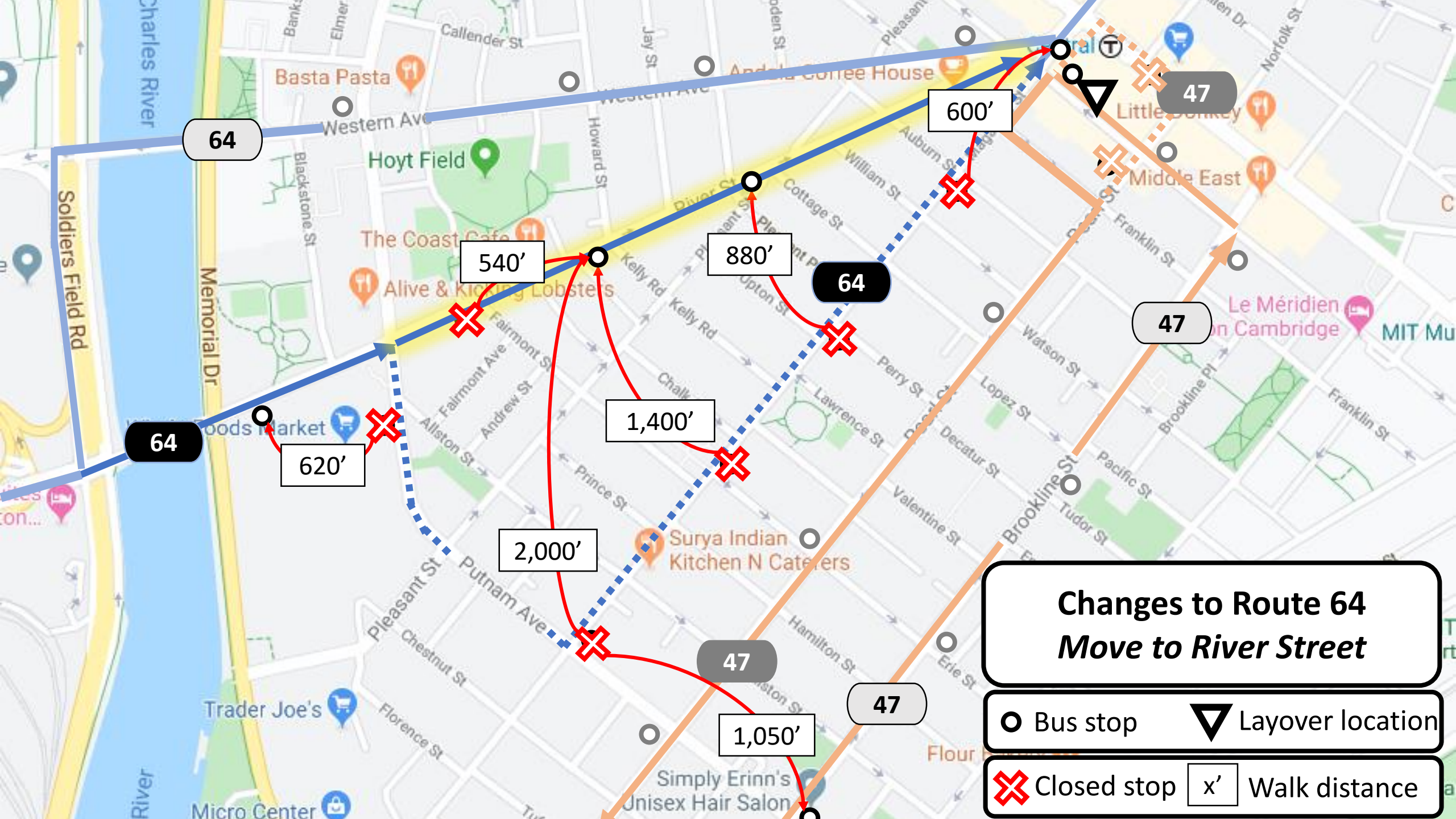
Butterfly design and Route 64

Optional bus only lane on this short section of Green Street

Route 64 bus stop

More space near Star Variety





Changes to Route 64
Move to River Street

○ Bus stop ▼ Layover location

✘ Closed stop x' Walk distance

64

64

540'

620'

1,400'

2,000'

47

1,050'

600'

64

47

47

47

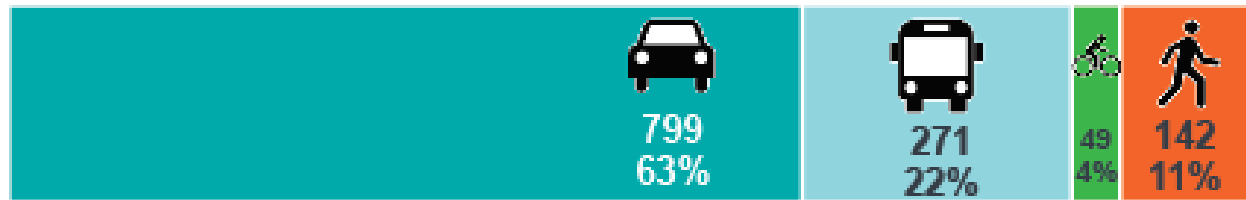


Moving Route 47 off Mass Ave

- Challenges
 - Walking distance to new stops
- Benefits
 - Slightly shorter route
 - Use bus lane and improved bus stops in corridor design
 - Move buses off Magazine Street (narrow width)

People on River Street during rush hour, today

AM



PM

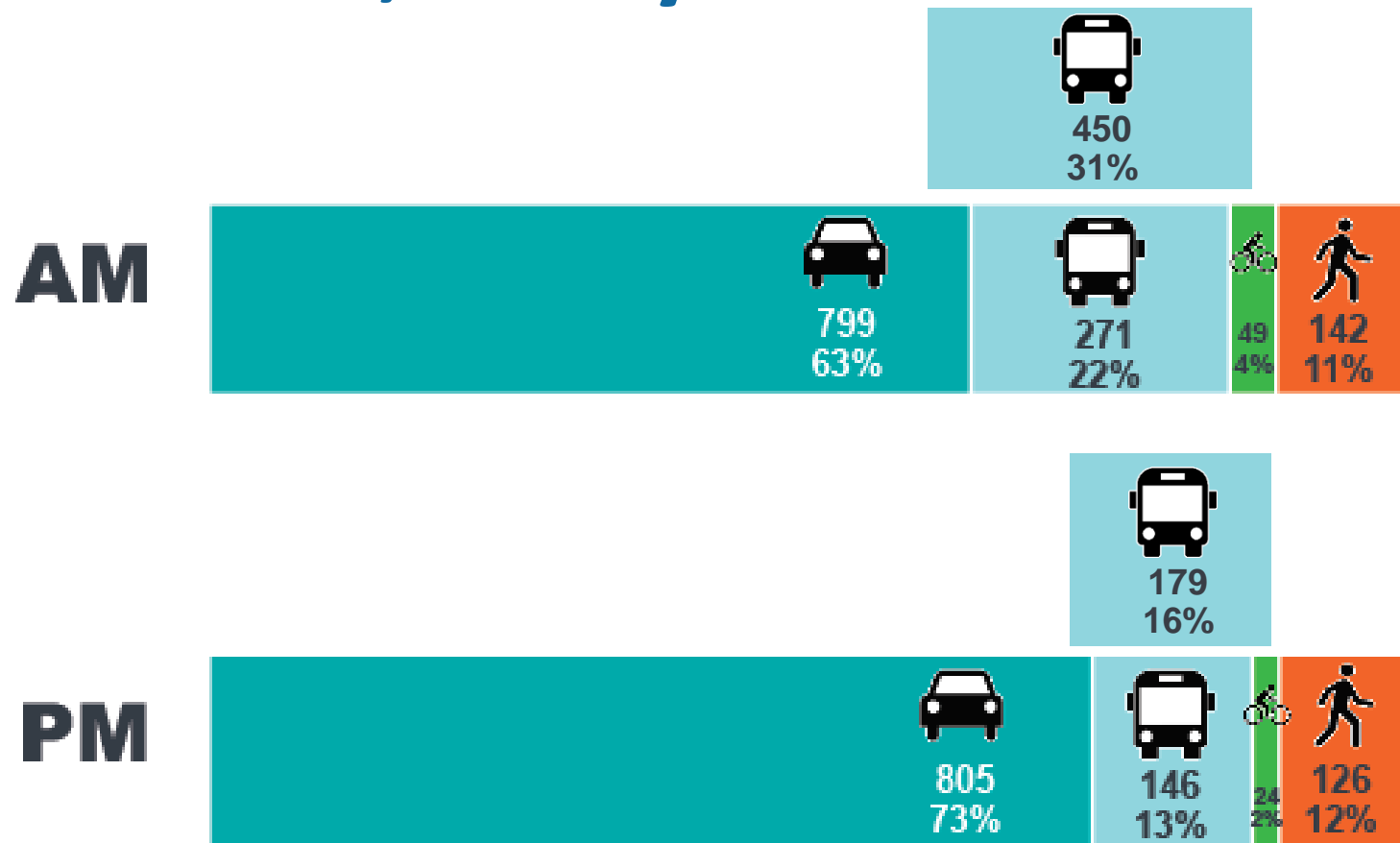


Additional passengers not calculated (if known, estimated rush hour ridership):

- Private shuttles - corporate or employer:
 - Alexandria (approx. 40 riders at peak hour)
 - MASCO
- School buses
- Tour buses

Based on traffic counts taken on River Street at the Kelly Street/Howard Street intersection.

People on River Street with Route 64 rerouted, today



If Route 64 shifted to River Street from Magazine:

- 31% of people on River Street in AM rush are on the bus
- 16% of people on River Street in PM rush are on the bus

Based on traffic counts taken on River Street at the Kelly Street/Howard Street intersection.



City outreach plan for bus stop and route changes

River Street Reconstruction project updates



Outreach plan is focused on meeting people at stops

- Online surveys to riders
 - Where they're going, opinions on changes, demographics
- Flyers at affected bus stops with information on benefits & challenges and link to survey
- Street teams at bus stops
 - Route 47 – Mass at Pearl in PM Rush
 - Route 64 – Magazine Street stops



Outreach plan also has meeting components

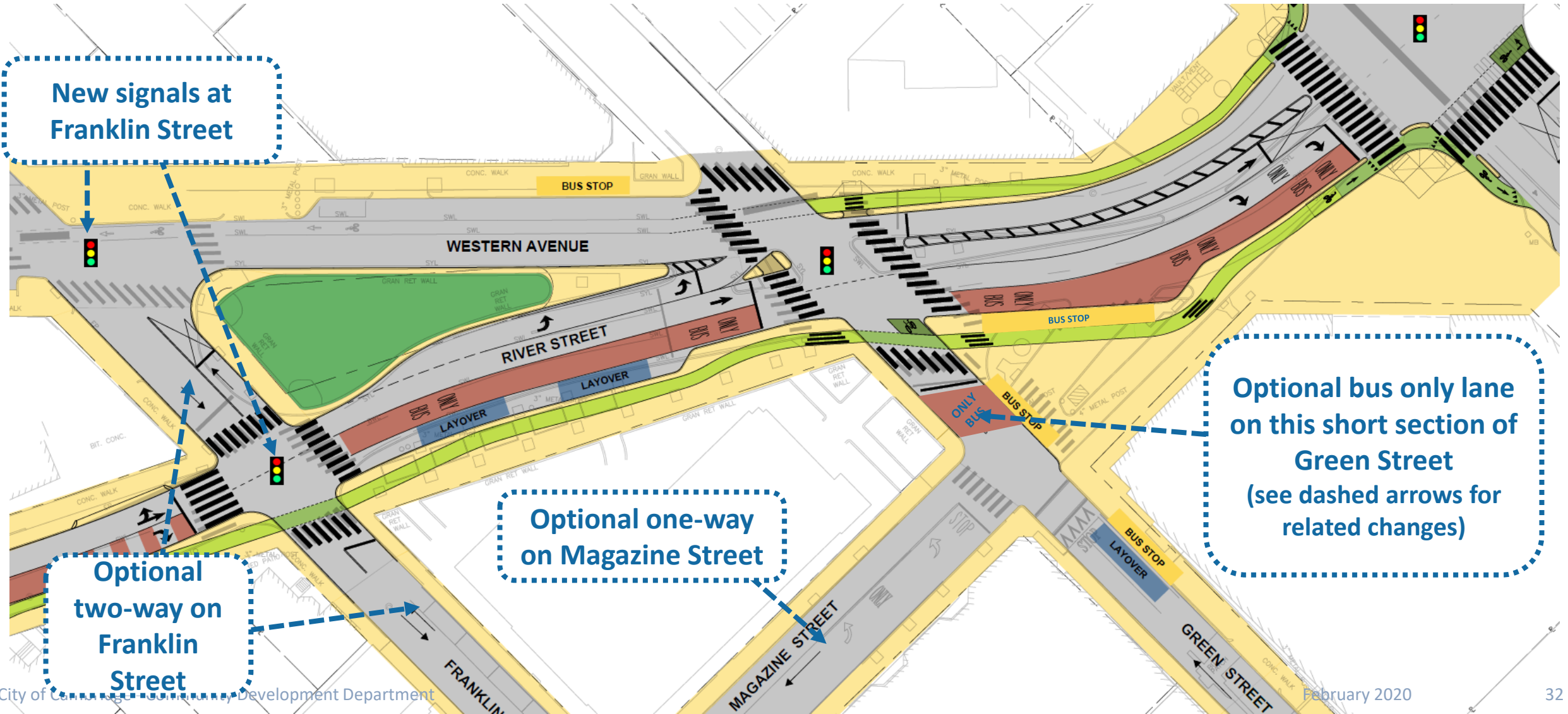
- Presentations at City meetings
- Attending community-based, neighborhood, parent-teacher groups
- Working group and community meetings scheduled until spring



Independent option to enhance traffic network

River Street Reconstruction project updates

Butterfly design and street network



New signals at Franklin Street

Optional one-way on Magazine Street

Optional two-way on Franklin Street

Optional bus only lane on this short section of Green Street (see dashed arrows for related changes)



Things we've heard about River @ Green

- Pedestrians very uncomfortable with traffic turning to Western and River
- Pedestrians struggle with crossing Green Street at Magazine when motorists ignore stop sign for green signal
- Buses heavily impacted by traffic on Green
- Motorist backups block River/Green and Green/Magazine

We know that Green Street has a specific function in street network for general traffic

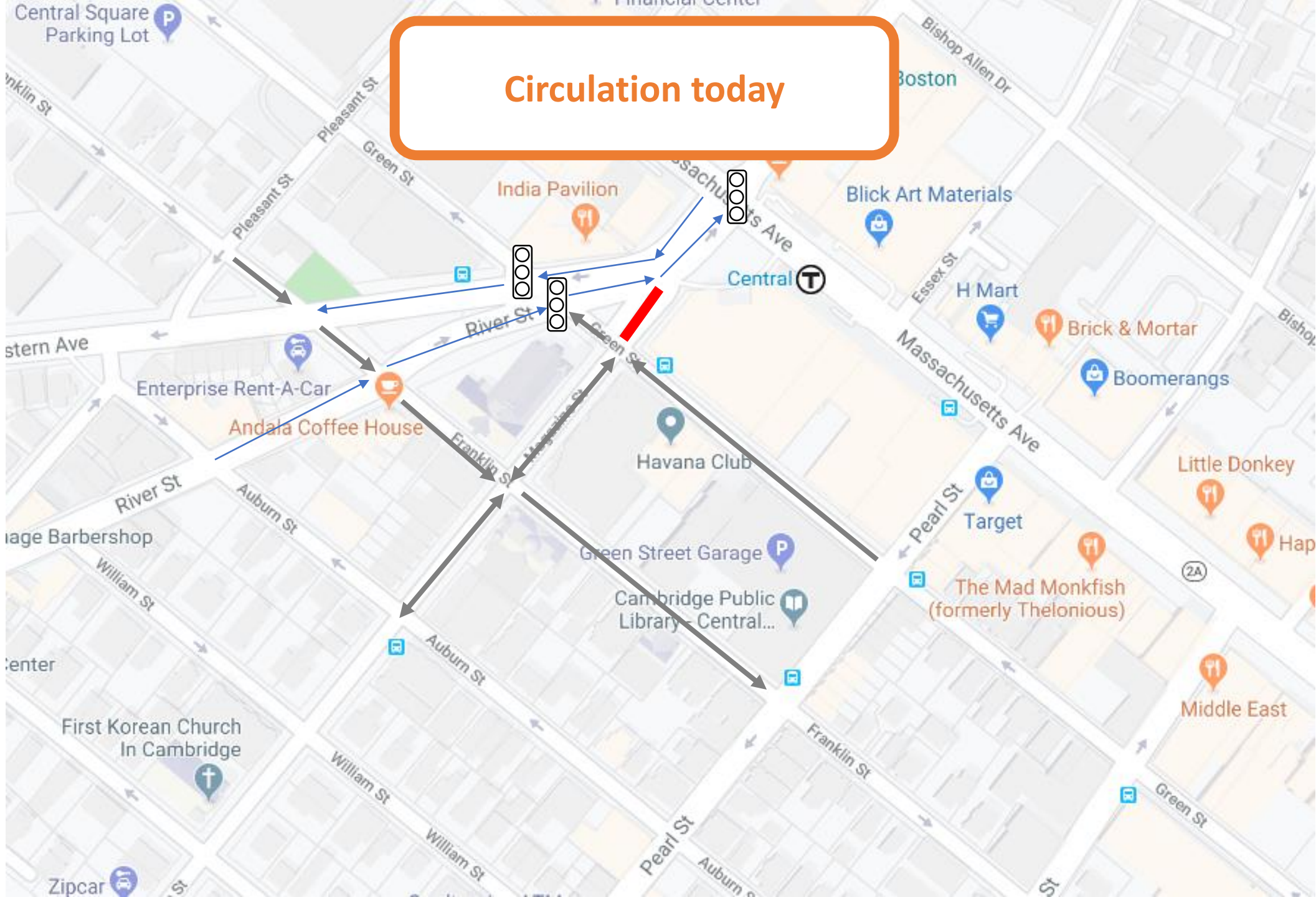
- Keeps local traffic off of Mass Ave around Central Sq
 - “Upper” Cambridgeport to Harvard, north and west of Harvard
- One route for regional traffic from Massachusetts Avenue to Western Avenue
 - *Mass Ave – Pearl Street – Green Street – Western Ave*
 - *Mass Ave – Pleasant Street – Western Avenue*



Project team is evaluating traffic impacts

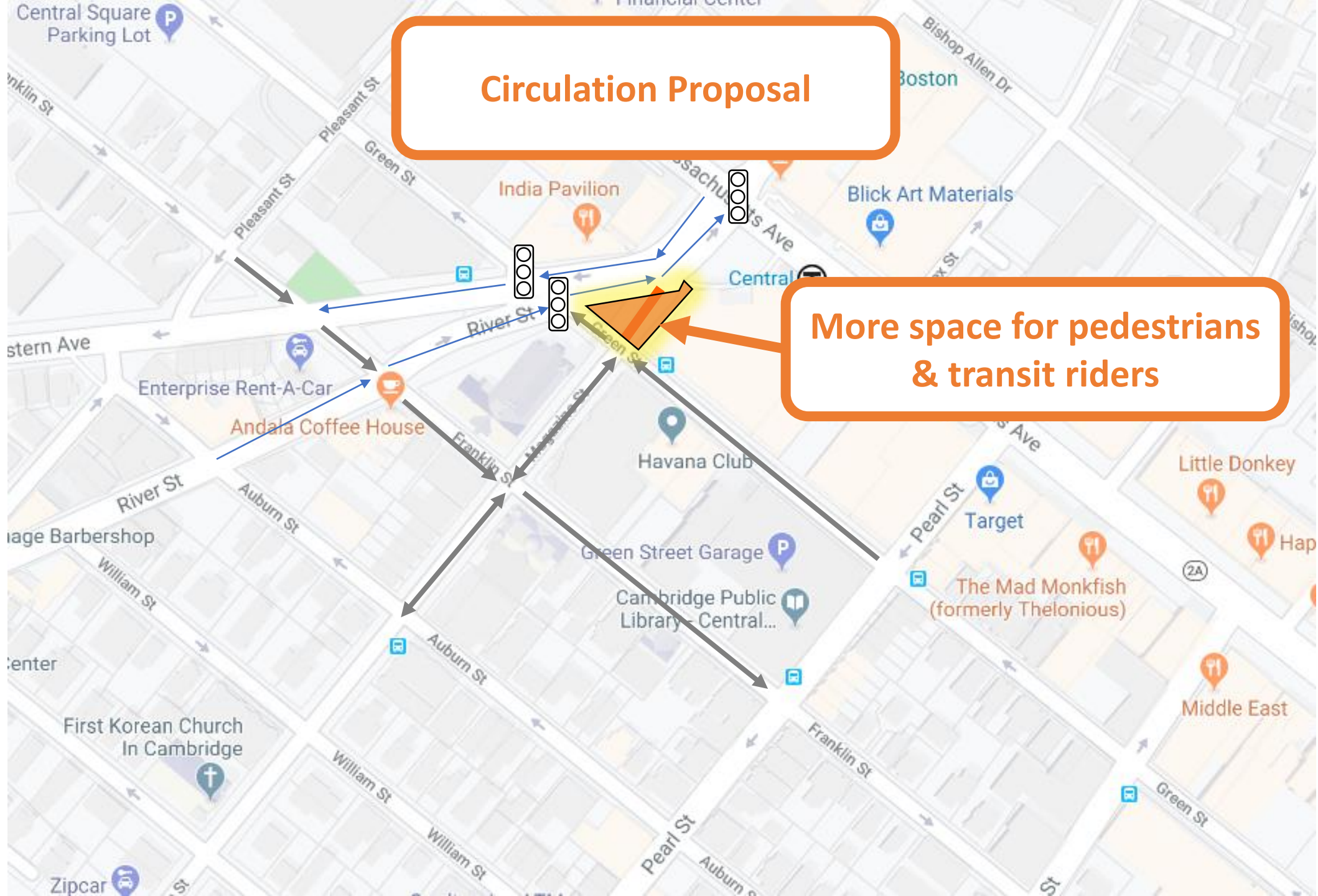
- River Street Reconstruction team is evaluating these changes using a street network model (VISSIM)
 - Models street user behavior and interactions – bike-car, transit-car, car-car, pedestrian-car
- Evaluating impacts from addition of dedicated bus lanes, separated bicycle facilities and changes to signals, intersections, street network, among others

Circulation today



Circulation Proposal

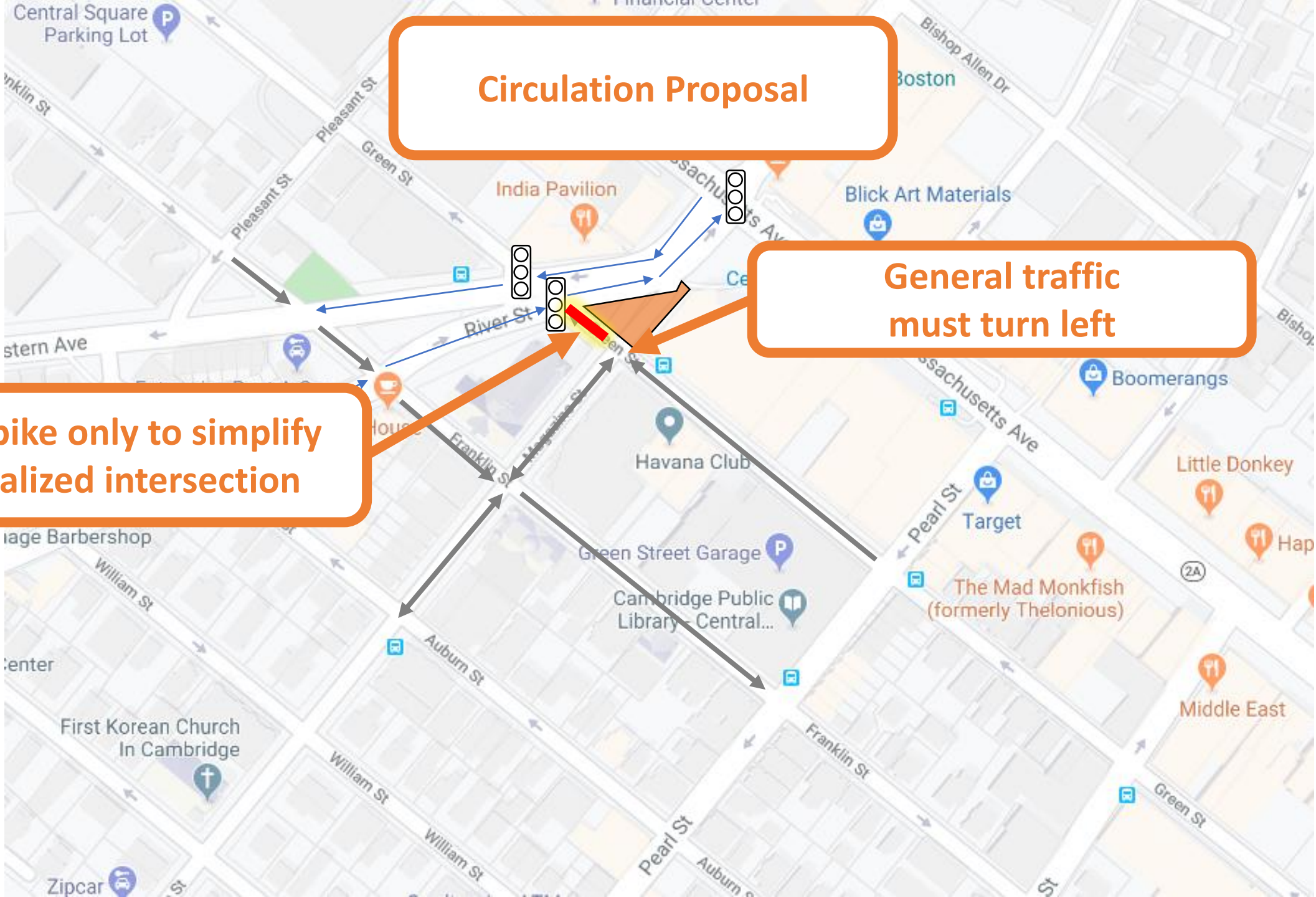
More space for pedestrians
& transit riders



Circulation Proposal

General traffic must turn left

Bus/bike only to simplify signaled intersection

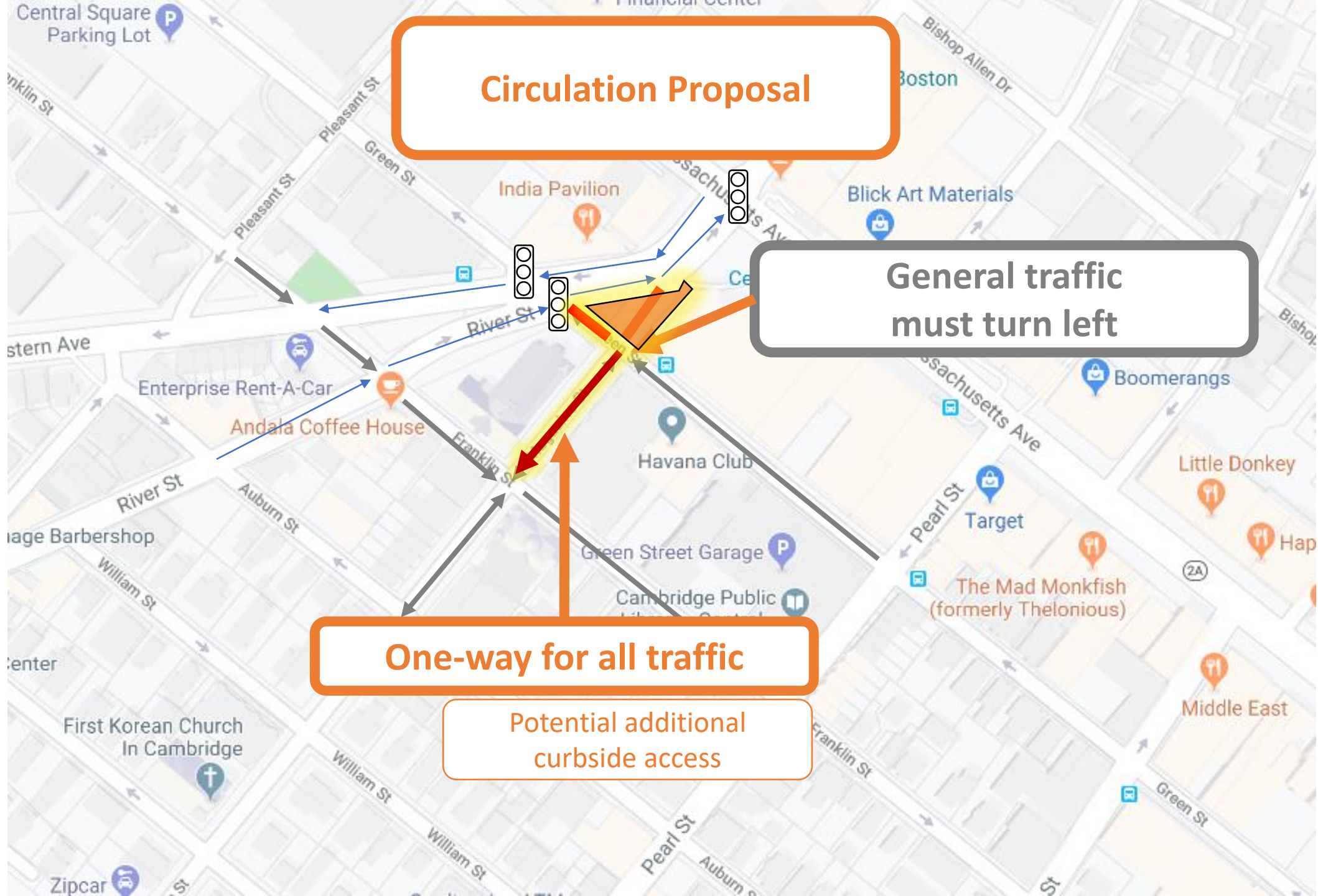


Circulation Proposal

General traffic must turn left

One-way for all traffic

Potential additional curbside access

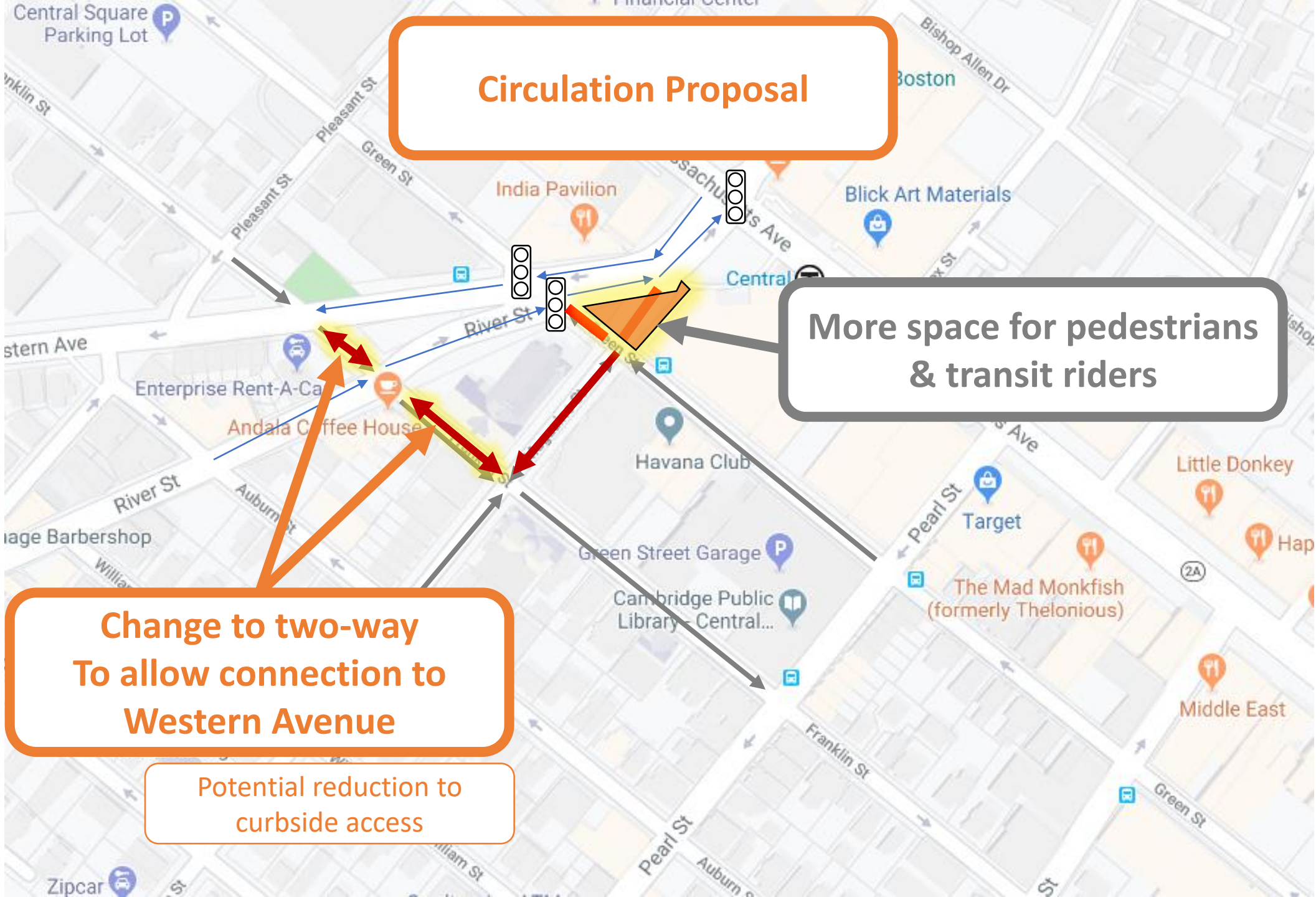


Circulation Proposal

More space for pedestrians & transit riders

Change to two-way
To allow connection to
Western Avenue

Potential reduction to
curbside access



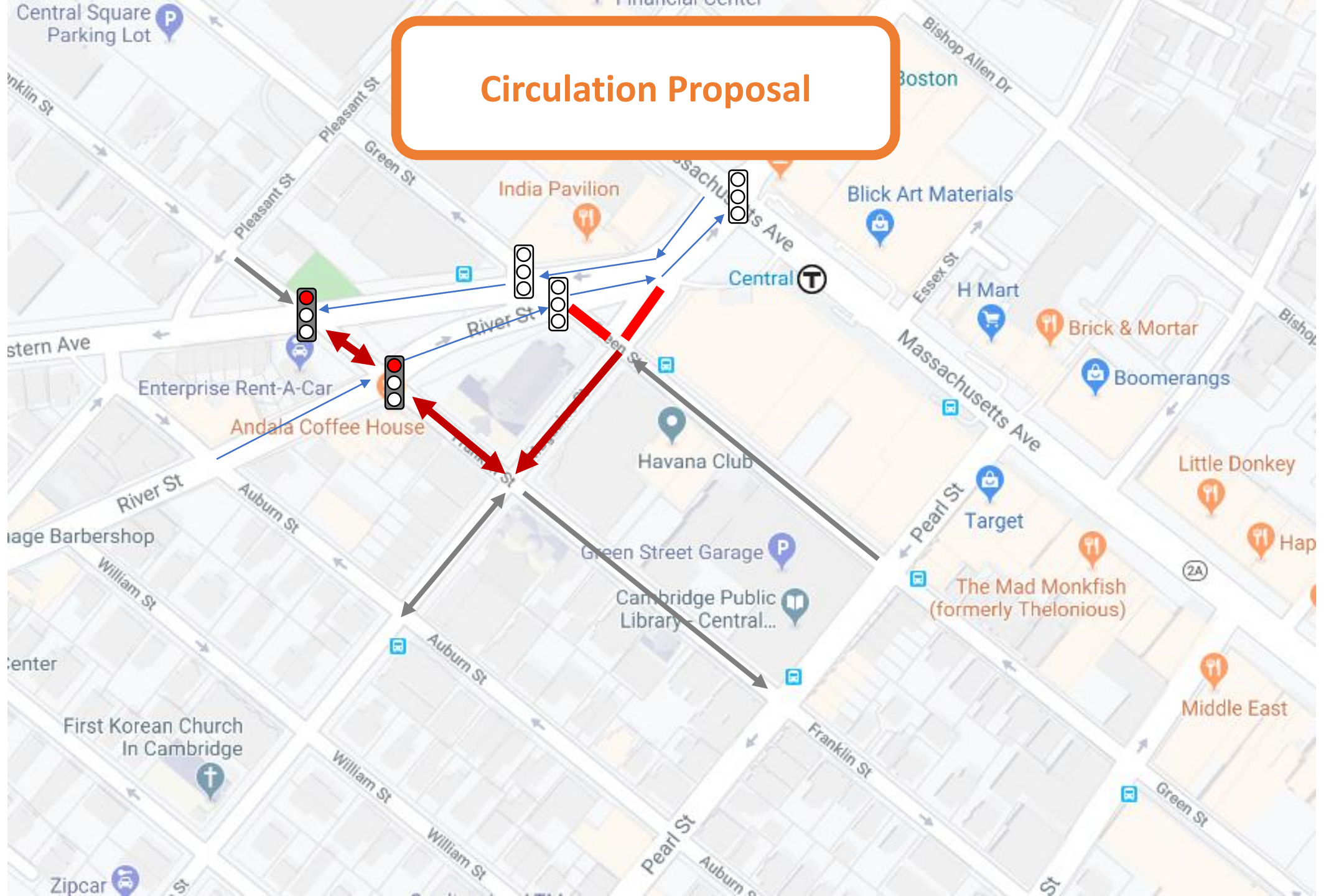
Circulation Proposal

Change signal operations to allow for smoother traffic flows on River to Mass Ave

Add signals to manage safe operations at and between River and Western



Circulation Proposal





Benefits overall

- Reducing traffic from Green Street is helpful for pedestrians walking along River, Magazine, Green
- A signal on River Street at Franklin helps to manage traffic flows leading to Mass Ave
 - Green Street, with less cross traffic, helps to keep flow moving up to Mass Ave
- Direct route preserved for pedestrians, cyclists, and transit riders from Green to Western



Outreach

- Modeling is ongoing and modelers are still building out this area in the traffic model
- Project team expects to show model results at public meeting and initial results at working group meeting