



**River Street Reconstruction
Working Group Meeting #8**



**Tuesday, December 17, 2019
6:00 PM – 8:00 PM
Manning Apartments 1st Floor
237 Franklin Street – Community Room**

ATTENDEES

Working Group Members	City Staff	Public
Patrick Barrett	Patrick Baxter – TP&T	John Attanucci
Daniel Beaulieu	Bill Deignan - CDD	Red T Mitchell
Sam Gebru	Jerry Friedman - DPW	Robert Winters
Gabriel Cira	Wendell Joseph - CDD	
Kai Long	Andy Reker - CDD	
Saul Tannenbaum	Rachel Tanenhaus - CCPD	
Randy Stern		
Christopher Tassone	Consultants	
Oliver Turner	Christi Apicella	
	Arthur Bonney	
Not here:	Rich Houghton	
Sienna Berry	Rick Plenge	
Sai Boddupalli	Natalie Raffol	
Valerie Bonds	Cynthia Smith	
Matthew Ciborowski	Peter Stidman	
Abby Duker		
Melissa Greene		
Andrew Tarsy		
Annie Tuan		

Key:
CCPD = Cambridge Commission for Persons with Disabilities
CPD = Cambridge Police Department
CDD = Community Development Department
DPW = Public Works
TP&T = Traffic Parking & Transportation

MEETING SUMMARY

The following is a meeting summary of the Working Group Meeting #8 for the City of Cambridge's River Street Reconstruction. For more information see Cambridgema.gov/riverstreet.

1. Welcome and Overview

The meeting was initiated by Bill Deignan, Transportation Program Manager with the City of Cambridge. There were two goals for the meeting: to confirm the direction for the design approach from Memorial Drive to Auburn Street and to discuss two potential design approaches between Auburn Street and Massachusetts Avenue (including the Carl Barron Plaza and MBTA bus way). Bill briefly reviewed the shared design goals developed for the project.

2. Memorial Drive to Auburn Street

Recap of Public Meeting and Working Group Input

Bill reviewed the sticky-note comments generated at the previous Working Group meeting (October 22, 2019) and at the second public meeting (November 19, 2019). Common feedback included support for a separated bike lane, a Bluebikes station, new crosswalks and pedestrian safety features, new trees, and preservation of existing trees. There were mixed opinions regarding providing a single travel lane with a bus lane, the balance of uses in the flex zone, and an option for Tubman Square. In general, there was also support for new crossings and curb extensions at crosswalks as well as a wide variety of urban design suggestions such as food trucks, rocks to climb on, trash receptacles and additional benches.

Bill continued by explaining in further detail certain themes and conversations that were seen in the sticky-note comments:

Single Lane Plus Bus Lane

Providing a bus lane on River Street accomplishes many of the project goals, including contributing to slower traffic speeds along the corridor. Charts of existing traffic speeds on River Street were shown, with the number of vehicles going over the speed limit in orange and red. The charts showed that speeding on River Street was very prevalent near the Pleasant Street intersection. The bus lane would place general purpose traffic into a single travel lane that is adjacent to parked cars. The provision of a single general purpose travel lane will help curb speeding by allowing drivers to travel only as fast as the vehicle in front of them. The adjacent parking lane should also provide additional "friction" and help support lower travel speeds. The slower traffic combined with the single general purpose travel and bus lane will also help reduce "multiple threat" crashes where in the current conditions a vehicle in the first lane stops for a pedestrian in a crosswalk and obscures the visibility of the pedestrian by an approaching driver in the adjacent travel lane. The bus lane also provides an added buffer between the general traffic lane and people walking and biking on the right-hand side of River Street leading to a quieter and more comfortable travel experience.

The current number of people traveling on River Street today by travel mode was shown for the AM and PM peak hours. The number of bus passengers does not include corporate

shuttles for Alexandria and MASCO, school buses, or tour buses. The City is currently coordinating with the MBTA on the re-routing of Route 64 from Magazine Street to River Street, which would increase the number of people traveling by bus from 22% in the AM peak to 31%. The bus lane provides opportunity for reduced travel time, which is needed because of current transit delay at both ends of River Street at Memorial Drive and towards Central Square, as is shown on slide 17.

Bill also explained that providing the bus lane is not at the expense of vehicle delay. With projected signal timing improvements at the Putnam Avenue intersection, including adding concurrent pedestrian/vehicular signal phasing and improving coordination with the signals at Memorial Drive, delay is likely to shorten from 34 seconds to 18 seconds at Putnam Avenue and from 14 seconds to 7 seconds at Howard Street/Kelly Road.

A Working Group member asked: What if traffic increases? **Bill responded** that traffic queues may increase, but that does not mean delay will worsen. A shorter cycle length could allow vehicles to get through the intersection in less time even with longer queues. With concurrent signal phasing at Putnam Avenue, queues are projected to be a little shorter in both the AM and PM peak hours, with queues at Howard Street/Kelly Road roughly the same as today. Dedicated bus lanes on Broadway in Somerville and South Massachusetts Avenue in Cambridge were referenced as local bus lane examples with adjacent bicycle facilities. In general these are working well and the region is trying to do more for travel time savings for buses.

A bus/truck lane is not something the City is likely to support. The purpose of a bus lane is to move many people, which is not accomplished by giving priority to trucks. This type of lane would also put trucks close to cyclists and pedestrians and may send a message that trucks can stop in the bus lane for deliveries. Keeping trucks in the general travel lane helps control speed and avoids visibility issues.

Several questions and comments were raised by Working Group members:

- *What does the City think about the enforcement of bus lanes?* **Bill responded** that the City will work with police on enforcement and educate drivers through variable message boards, announcing changes, and printed materials on how to interact with the bus lane. In the beginning enforcement will be especially important.
- *Is there a way to use long lasting red paint in the bus lane?* **Patrick Baxter, Engineering Manager with the City of Cambridge, responded** that paint used in other bus lanes, such as Mt. Auburn Street, a bus lane pilot, was used knowing it was going to fade. This type of paint can be used at first and a more permanent material used once it is known that the lane works. **Bill added** that they have not seen red paint mixed into concrete in the U.S., though something like that was used in front of the Water Department when Fresh Pond Parkway was redone; however, it is not very visible because the aggregate shows its darker color. **Cynthia Smith of the project team added** that they will use the same product as the bus lanes on Beacon Street in Somerville and on South Massachusetts Avenue
- *Would there be a trial period for the bus lane? The main concern is at Putnam Avenue, and even the back-up into Allston is pretty major.* **Bill responded** that the City has not

determined that yet. When the signal is changed at Putnam Avenue it will have to be coordinated with Memorial Drive through the Department of Recreation and Conservation (DCR).

- *Would the bus lane be a pilot?* **Bill responded** that it is not a pilot, but the City will be looking at options. The current plan is to move ahead with the bus lane, but a pilot implementation could be discussed if there is a need for it.
- *Will there be coordination with Boston, on Western Avenue for example?* **Bill responded** that the City has talked to Boston and MassDOT about providing bus priority over bridges. This has been initiated, but the River Street/Western Avenue bridge projects are currently on hold. **Wes Edwards from the MBTA** added that the MBTA is in conversations with MassDOT and DCR about a bus lane on Soldier's Field Road on the west side of the Charles River, as well as having a dedicated transit signal at Cambridge Street/River Street intersection. Boston has implemented six new bus lanes in the last year, and enforcement is a top priority, along with an awareness campaign for the whole region. The City of Boston has also installed an all-day bus lane on Brighton Avenue in both directions, and is planning one on Cambridge Street for the Route 64. The MBTA is advocating for MassDOT to move ahead with repairing bridges and incorporating bus priority over the Charles River connecting to River Street and Western Avenue.

Flex Zone

Bill continued by explaining that there were many requests for variety of uses for the flex zone. Right now the space is used by areas for crosswalks, unused asphalt, and metered and unregulated parking. In the future the flex zone could be used for activation space, more green areas/landscaping features, improved bus stops, or bike lanes. The City anticipates retaining a significant percentage of the space for parking, loading, and drop-off/pick-up uses, and has yet to determine what regulation those parking areas would have.

Tubman Square

There were many comments relating to Tubman Square, and some that took a position on which street redesign approach would be preferred. Six comments were in favor of the Kinnaird Street Closed approach, and four were against the Limited Access Pleasant Street approach. Bill said that in previous conversations the city had with the Executive Director of the Women's Center on Pleasant Street, she expressed the need to maintain parking and loading in front of their building, and was excited by the opportunity of having a park nearby.

Bill also noted that the outcomes of closing Kinnaird Street are currently being experienced with the street segment being closed for construction staging between Pleasant and River Streets. Bill reviewed a slide showing a comparison of both design approaches, and concluded that the Kinnaird Street Closed approach appears to be the option to move forward with. He noted that it reduces the number of conflict points for pedestrians and cyclists, provides more usable space, and provides potential for more activation space next to adjacent buildings. Traffic will have to travel in a slightly more circuitous pattern and 4-7 parking spaces will need

to be relocated (fewer than the 8 parking spaces that would be removed with the Limited Access Pleasant Street approach).

A Working Group member commented in support of closing Kinnaird Street and asked if there would be traffic calming on Pleasant Street to slow cars down in this option. **Jerry Friedman, Supervising Engineering with the City of Cambridge, commented** that geometric changes will shorten the crossing distances, which will result in traffic calming. **Bill added** that the City can look at additional traffic calming elements in this location.

A Working Group member asked if there would be an access issue for the new office building (housing an architectural firm) if Kinnaird Street was closed. Others present responded that the building in question (the former Keezer's at Kinnaird and River Streets) has its own parking lot and even if Kinnaird Street is closed, it would maintain street access on two sides of the building (River Street and Pleasant Street).

Bill wrapped up the discussion on the Memorial Drive to Auburn Street section by reviewing on-going design notes, including coordinating the location of a Bluebikes station with a bus stop location near Blackstone Street, determining the need for a bike lane "wobble" to minimize tree impacts and integrate pedestrian curb ramps, and improving the pedestrian and bike connection to Hoyt Field and Riverside Press Park from River Street.

3. Auburn Street to Massachusetts Avenue Progress Report

Andy Reker, Transportation Planner with City of Cambridge, provided an update on bus operations and opportunities for increasing the public realm on River Street from Auburn Street to Massachusetts Avenue, including the Carl Barron Plaza and MBTA busway area. He described the key challenges that designers faced:

- (1) The busway at Central Square is overcapacity today, with layovers occupying bus stops, buses choosing to stop where there is available space, confined sidewalks, pedestrian crowding, and generally substandard conditions for bus operations.
- (2) There is currently a great deal of congestion and confusion at the Green Street, Magazine Street, and River Street intersection. Several traffic flows come together at this location, and due to the short length of Green Street between Magazine and River Streets, there is a lot of confusion and resulting traffic congestion. Drivers tend to ignore the stop sign on Green Street at Pleasant Street when there is a green signal ahead, causing a safety issue for pedestrians. Right turning vehicles coming from Magazine and Green Streets sometimes block the intersection for through and left turning traffic. And vehicles queued at the Massachusetts Avenue signal on River Street sometimes back-up past Green Street, causing more congestion and competition between modes.

- (3) Fitting in a separated bike lane along with the sidewalk is challenging due to a few pinch points, such as near the planters in front of the First Baptist Church and the sidewalk/plaza near the Amazon Store. Also, the team needed to fit bus stops in along River Street. It was a challenge to fit everything together and increase the public space.
- (4) There has been a long-standing desire, expressed by community members and business owners in several planning studies, to increase public space in Central Square. The evolution of Central Square has shown this as well. The area at Massachusetts Avenue and River Street went from a large open street in the 1920s, to six lanes on Massachusetts Avenue in the 1970s, to larger sidewalks and public areas in the 1990s, which has continued into the 2010s with more greenery and the development of the Holmes Building.

Andy then reviewed the shared design goals for the Carl Barron Plaza area, which informed the development of two design approaches. In general, transit has a significant role in public space alternatives.

- (1) Island Approach: This approach minimizes changes to transit routes in the Carl Barron Plaza area. Only the Route 47 is changed, and the layovers for the 83/91 are moved to Magazine Street but still retain one of the two busways that cut through the plaza today.
- (2) Butterfly Approach: This approach emphasizes relocating bus operations out of the busway onto the periphery of the plaza, creating more public space and more room for future MBTA service expansion (more bus stops can be created along Green Street). Route 83/91 layovers and the Route 64 path of travel are moved to River Street. The Route 47 is also changed just as it is in the Island Approach. Additional coordination and engagement with the MBTA, its passengers and abutting property owners would be necessary as part of the River Street Reconstruction process prior to proceeding with these changes.

Andy reviewed what a bus layover looks like in terms of the amount of time buses are expected to occupy the space. For example, Route 83 occupies its layover space 2-3 times an hour for an average of 6 minutes per time. In general, layover times are likely to be longer during midday periods when there are fewer passengers and less bus delay, and shorter during rush hour when traffic causes more delay. Route 91 currently occupies its layover space 2 times per hour for an average of 4 minutes per time. When relocating layovers, the City and the MBTA are anticipating increases in bus service in the future, which may require more layover space.

The existing layover locations for Routes 83/91 make operations challenging and take up a lot of space in an area with a high volume of pedestrians and transit users. The Route 47 layover location on Massachusetts Avenue is also problematic for Route 1 operations and other curbside uses. Andy addressed how each design approach could address these challenges:

Island Approach

This option minimizes bus route changes, but the proposed Route 47 change is still preferred by the city in this approach because it helps to increase plaza space and make room for the separated bike lane in the pinch point near the Amazon Store. Layovers for Routes 83/91 are located outside of the bus terminal area on Magazine Street in front of the Church Corner Apartments, which would eliminate other types of parking here. An overview of the Island Approach is shown on slide 41, with required elements shown in orange and optional elements related to having a bus only lane on Green Street between Magazine and River Streets shown in blue.

Required elements include signaling Franklin Street at River Street and Western Avenue and incorporating a separated bikeway through the area. The modifications to the roadway geometry provide opportunities for a new activation space near India Pavilion (potentially outdoor seating) along Western Avenue.

The blue callouts show what is required for the option to convert the section of Green Street between Magazine Street and River Street to a short bus only lane. This would divert traffic off Green Street and away from the intersection with River Street which is contributing to the congestion in the area today. Different types of signals will be used for the River Street approach to Massachusetts Avenue so that buses will have priority to go through or make right turns from the bus lane.

Several questions and comments were raised by Working Group members:

- *Would traffic from Green Street have to go to Magazine Street if Green Street is made bus only?* **Andy responded** that general traffic on Green Street would make a left turn onto Magazine Street and could then take a right on Franklin Street (which would be made into a two-way street) to get to Western Avenue or other destinations. It was also clarified that some parking may have to be eliminated on Franklin Street to make it two-way, likely near corners, so that trucks could make the turns.
- *In the Island Approach, would buses coming down River Street stop at the island to serve Central Square?* **Andy responded** that Route 70 would stop at the island to serve Central Square, but would continue onto Massachusetts Avenue. **Pete Stidman of the project team added** that the stop could also be used for Route 64 if the MBTA chose to move that route to River Street in the future. Sometimes in the current condition, when traffic is heavy, the Route 70 lets passengers off at the plaza, which is not an official stop. A transit priority signal will be used at the intersection with Massachusetts Avenue to get buses through the intersection faster, which might help reduce the need for that informal practice to occur.
- *There needs to be more than what is at the bus terminal area today – it is called a bus terminal but is really only sidewalks, paint, and a shack.* The City is having conversations with the MBTA about urban design in the area, to make it clear that it is a transit space. Wayfinding signage will also be important in this project.
- *Adding signals at Franklin Street is concerning (Sidney Street changes were referenced)* **Patrick Baxter responded** that a clearance phase would be integrated

within the proposed Franklin Street signals between River Street and Western Avenue to help reduce the potential for vehicles to queue between the streets and potential restrict the westbound Western Avenue left turn movement onto Franklin Street that buses will be making. The team will be doing additional traffic analysis to ensure details like this are well-designed.

- *What would it look like if we didn't do bus only on Green Street?* **Patrick responded** that it is an independent design choice so it could be removed; however, the proximity of the two intersections on Green Street (at Magazine Street and at River Street) has been identified as one of the design challenges referenced earlier in the presentation. Relocating vehicular traffic further from Massachusetts Avenue will allow the signals to work better.

Andy continued the presentation by showing a rendering (slide 42) illustrating what could be expected in terms of size and scale with the Island Approach. The City still needs to consider placemaking elements and details of urban design. The triangular island is located behind the bus shown in the image and the bus layover locations cannot be seen in this image as they are on Magazine Street, not in the busway shown.

Butterfly Approach

This approach relocates the Route 83/91 layovers onto River Street between Franklin Street and Green Street, reroutes Route 64 onto River Street, and changes Route 47 as well. The shifting of transit operations results in a butterfly shaped public space, with more space in the busway area devoted to pedestrians and transit riders. It also makes room for an additional bus stop on Green Street to alleviate crowding and provide an in-stop layover for Route 47, which increases the potential for future MBTA service expansion. Signalizing Franklin Street at River Street and Western Avenue is also required in this option. Similar to the Island Approach option, the Butterfly Approach also provides the option for having a bus-only lane on Green Street between Magazine and River Streets, as well as the related need to establish a one-way westbound orientation on Magazine Street and a two-way orientation on Franklin Street. These elements are summarized in slide 44.

The next step is to move forward with traffic simulations and analysis to understand how the circulation changes all work together, for example, how incorporating transit signal priority into the Massachusetts Avenue signal will improve the intersection.

Several questions and comments were raised by Working Group members:

- *Is Magazine Street converted to one-way in both options?* **Andy responded** yes, but this is an independent option, this is required in either option if Green Street is made bus only.
- *Is Magazine Street one-way only for the block between Franklin and Green Street?* **Andy responded** yes for general traffic, but there is a bus only lane on Magazine Street in the Island Approach.
- *Is the one-way Magazine Street needed for bus route changes?* **Andy responded** that the busway on Green Street requires a one-way Magazine Street, but the busway itself

is not required by either option. It does however provide benefits with improved traffic operations on River Street. He explained that the Route 47 bus will turn left from Green Street to Magazine Street, so parking at corners will have to be examined. **Pete added** that another option is to have Route 47 turn left on Western Avenue and then left at Franklin Street. **Patrick added** that if cars did go eastbound on Magazine Street there would be nowhere for them to go if the bus only lane on Green Street was implemented.

- *Was there an option in the Butterfly Approach where Green Street (between Magazine and River Streets) would not be a road? It only serves one bus route.* **Andy responded** that the route it serves, Route 70, is a very important, and heavily used that eventually goes into Waltham. The bus also has an important stop on the northwest corner of Western Avenue and Green Street, serving several social service providers and other land uses in the area. Another option was looked at for Route 70, but it was not as efficient. **Patrick added** that having Green Street available for emergency vehicles is also important. The Fire Department would likely have a negative reaction to the closure.
- *Is the Route 70 often delayed today?* **Andy responded** that Route 70 is a long route, which means there are a lot of opportunities for it to be delayed, including in Central Square and University Park. **Pete added** that in this approach there would be two bus stops along Green Street, and today there is just one. Providing two stops helps the MBTA look towards future bus service expansion. The MBTA wants the potential for more service here.
- *What is Route 64's route today?* **Andy explained** that today it goes from Oak Square in Brighton to Kendall Square during peak periods and University Park off-peak, but starting next week (December 22) every trip will go to Kendall Square.

Andy then showed a rendering (slide 46) of what the Butterfly Approach could look like in terms of size and scale. There is more public space, providing a single space for people to wait for the bus. The City still needs to consider placemaking elements and details of urban design. The layover locations are behind where the bus is shown.

Bus Layover Location Review

Andy reviewed the rules for finding layover locations, relating to both design approaches. The rules are that there can be no significant route changes and they must be between the first and the last stop. The location of the Route 83/91 layover for the Butterfly Approach reduces the public space at the sidewalk in front of the First Baptist Church, but there is only one option for these layovers for this approach to work and gain much more public space in the bus terminal area. Renderings (slides 49 and 50) were shown to illustrate the cross section of the sidewalk, bike lane, bus layover, and bus lane on River Street if the layovers were located there. The design would use features like benches, planters and trees to separate people walking and biking, and the only person using the bus at this location would be the driver on his or her break between trips.

In the Island Approach, the layovers for Routes 83/91 would be on Magazine Street, as Franklin Street is too narrow for bus layovers and two-way traffic together. Both options might

have parking reductions on select parts of Franklin Street to accommodate the turning path of buses and larger vehicles. The island created in this approach would be bigger than the existing island with a wider sidewalk, but there would not be a contiguous space as in the Butterfly Approach. The City spoke to the Reverend at the First Baptist Church about the layover space and alternative on Magazine Street. He recognizes the benefits of locating the layovers on River Street to avoid parking impacts on Magazine Street, as parishioners use that area to park.

Jerry added that the City also considered the concerns over the area alongside the church on River Street serving as a gateway into Central Square. The City feels the Butterfly Approach can create this gateway even with less space, and it's important to keep in mind that the bus layovers will not be consistently occupied.

A Working Group member asked if the City has spoken to Andala Café, as the short term parking in front of it is heavily used. **Andy responded** that the parking there is important and the City will have to determine how it would be impacted.

Andy continued the presentation by showing the space that would be occupied by the layover on Magazine Street next to the apartment building (slide 53). All layover options for Routes 83/91 were considered, and there are three potential locations, including the current layover. Only two options work given physical constraints and layover requirements, layovers can either be located on River Street or on Magazine Street, between Franklin and Green Streets.

Several questions and comments were raised by Working Group members:

- *Is it a requirement that there are two bus layovers?* **Andy responded** yes, there are two bus routes that need to operate independently.
- *I really like the Butterfly Approach better. There is more contiguous space that is more usable. It will be really important to separate pedestrian and cyclist activity. Make sure there are conscious choices about details for how the space works given the bus stop in the island and amount of activity.*
- *In the Butterfly Approach, why can't buses loop around the church (take a right from River Street to Franklin Street) and layover on Magazine Street (as shown in the Island Approach)?* **Andy responded** that in this approach Magazine Street is one-way westbound, whereas the bus would need to travel eastbound. **Patrick and Jerry added** that it would not be possible for buses to make the right turn from Green Street back to River Street without cutting into the edge of the plaza space, resulting in a loss of public space. The advantage of the bus stop as shown is that buses enter it straight from River Street, reducing the amount of curb space needed for the stop. **Pete added** that it would also be less advantages for walkers and bikers, because as shown there is a shortened crosswalk and bike crossing across Green Street. There are also many pinch points in this location.
- *I am impressed by the presentation. There is a lot going on here and I'm surprised that I can easily understand it all. It is great that people can understand the concepts and I am excited to by the extent that the Butterfly Approach checks so many boxes. I like the renderings to see what it would look like.*

- *Do all of the traffic lights (like shown at Franklin Street) have to be traffic lights? Were other options considered?* **Patrick responded** that these do have to be signals to control all of the traffic and make sure people stop when they should. Adding signals does not mean delay will increase. The signal at Franklin Street will have the potential to meter traffic that is reaching the signal at Massachusetts Avenue to avoid traffic backing-up through the Green Street intersection. The amount of delay will be similar, with the location of stored vehicles changing. The project team is currently working on a traffic model that will show how cars, trucks, bikes, pedestrians and buses move through the signal based on volumes and signal timings.
- *Will bike signals be considered?* **Bill responded** yes, but the City is not at that level of design yet to know how they will work.
- *Were layover locations on Western Avenue after the last stop considered?* **Bill responded** yes, but due to driveways, including at 5 Western Avenue, there is not enough curbside space for a layover. The City looked at other locations, but all violated the rules for not extending a bus route. Additionally, the bus would have to go from the right side of Western Avenue to the left lane to turn left on Franklin Street to loop around. This movement would present a safety challenge for cyclists as well. Several buses stop here including Routes 64, 70, 91, and 83; so it is important to reserve the space for stops rather than layovers.

Relocating Route 47 Layover

Andy continued the presentation by reviewing the Route 47 route and layover changes. The proposed changes (slide 56) would relocate the first and last stop on the Route 47 off Massachusetts Avenue to Green Street. The City understands there are concerns regarding increasing the walking distance from bus stops to the MBTA Red Line. The City will meet with the MBTA Systemwide Accessibility Division on this issue. With the proposed Route 47 bus re-routing, layovers would be on Green Street, making the route a little shorter and putting buses on one block of Franklin Street where they do not operate today. There may need to be curbside changes at intersection corners to make turns feasible for buses. The existing stop on Pearl Street near Franklin Street would also be eliminated, but there are two bus stops for the 47 Route that are approximately 600 feet away.

Several questions and comments were raised by Working Group members:

- *The stop on Pearl Street is nice because the library overhang provides shelter.* **Bill responded** that the hope is that the shorter route and new shelters at the first and last stops (both within short walking distance of the removed stop) are an improvement for riders.
- *How will people figure out all of the route and stop changes? There is no continuity in terms of where things are.* **Bill responded** that the Butterfly Approach concentrates many of the existing transit stops into one central location where there is also a more comfortable public space. The City will also use wayfinding and signage to direct riders.

- *The City has heard about wayfinding needs since the Central Square Advisory Committee, but still nothing has been done. This is a very real concern for transit riders. It is important to stay focused on people not familiar with the bus routes. The City should test out whether people can figure out the bus stops and transfers.* **Rachel Tanenhaus, ADA coordinator for the City of Cambridge, added** that she is attending these meetings to advocate for that purpose. **Andy added** that wayfinding relates to urban design and this can be discussed with the Transit Advisory Committee. **Bill added** that a commitment to wayfinding for bus stops is part of this project.
- *I like how the Butterfly Approach puts transit in a single location, and agree that wayfinding is important. I like that the tough part of the project will be cemented into the infrastructure.*
- *How is the Route 47 incorporated into the Butterfly Approach?* **Bill responded** that the bus stop on Green Street would be visually linked by the sidewalk to the plaza space. The Route 70 stop is located ahead on Green Street. Two stops are needed because of the frequency of Route 70 and the need for a layover space for Route 47.
- *This puts three bus stops in one corner. For people who are not regular bus riders there needs to be a way to communicate which buses are at which corners. There are many new people here all the time. The City needs to reach out to them.* **The City added** that on Western Avenue there are stops for Routes 83, 91, 70, and 64. The Route 47 could potentially go down Western Avenue and stop there also.

Route 47 Transfer Distances

Andy continued the presentation by reviewing the changes to transfer distances with the Route 47 changes. Most transfer distances would be reduced between buses and the Red Line or bus to bus. The transfers that are increased are Route 47 to either the Red Line or Route 83/91.

Andy showed an image depicting the location of the existing Red Line elevators (#1 and #2 on slide 58) and two proposed Red Line elevators (#3 and #4). The addition of new elevators would change transfer distances and access locations.

Slide 59 in the presentation illustrates the transfer paths for longer trips, between Route 47 and the Red Line. This includes the path from the Red Line inbound to Route 47 inbound and Route 47 outbound to Red Line outbound. Slide 60 illustrates transfer paths between Route 47 and Route 83/91 inbound to inbound and outbound to outbound. These transfers are longer with the Butterfly Approach, but the Route 47 change is required to create the public space.

A Working Group member commented that Pearl Street (which would be used for the Route 47 outbound to Red Line outbound transfer) is a terrible environment for pedestrians due to loading docks on one side and poor snow clearance on the other. The City will have additional opportunities to provide insight into this topic.

Andy concluded the presentation by providing a comparison between the Island and Butterfly Approaches. In summary:

- The Island Approach has impacts to parking, has less room for future expanded bus service than the Butterfly Approach, keeps bus routes as they are except for the change to Route 47, and has a higher number of bike and pedestrian crossings. The public space contiguous with Carl Barron Plaza is expanded by 7%, and the smaller public space near the First Baptist Church near the church is reduced by 10% to make way for the separated bike lane.
- The Butterfly Approach retains parking on Magazine Street, has more room for future expanded bus service, has fewer bike and pedestrian crossings, changes a number of bus routes (which will be addressed in future meetings). The public space contiguous with Carl Barron Plaza is expanded by 41%, and the smaller public space near the First Baptist Church Public space is reduced by 37% to make way for the separated bike lane and layover space for the Routes 83 and 91.

4. Next Steps

Bill concluded the meeting by confirming that the City is headed in the right direction in terms of the corridor. The next step is to complete more analysis on how it all works together to help determine details of the design concepts. There was general agreement on the Butterfly Approach, so the project team will advance this concept. The next Working Group meeting will be held Tuesday February 25th, 2020, and an agenda will be sent out in advance. There is no Working Group meeting scheduled for January.