
To:	Andy Paul MassDOT Project Manager	Date:	July 23, 2019
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Subject:	Massachusetts Department of Transportation Charles River Dam Road (Craigie Bridge) Public Information Meeting Meeting Notes of May 1, 2019		

Overview

On Wednesday, May 1, 2019, the Massachusetts Department of Transportation (MassDOT) and the Department of Conservation and Recreation (DCR) held a public meeting concerning the design of bicycle accommodations on the Charles River Dam Road (Craigie Dam/Route 28).

The purpose of the meeting was to present to the public and solicit feedback on the changes that had been made to the design for implementing bicycle accommodations since the last public meeting on December 18, 2018 and the end of the associated public comment period on January 22, 2019. A short presentation delivered by MassDOT was followed by a question and answer session. After the project team answered questions, meeting attendees had the opportunity to view roll plans of the proposed design and provide additional feedback.

The questions and comments made at the meeting generally focused on specific details of the proposed design, including the location of flex posts, lane widths, intersection treatments, and the transitions from the limits of the project area to existing and planned bicycle facilities. The comments made by attendees were overwhelmingly positive and supportive of the design and of advancing implementation as quickly as possible.

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Detailed Meeting Minutes¹

Welcome & Opening Remarks

C: Andy Paul: Hi everyone. Thanks for coming to this meeting. My name is Andy Paul and I'm the MassDOT Project Manager. The purpose of tonight's meeting is to review what has occurred since our last meeting, present our recommendations for improvements, discuss the implementation plan, and get your feedback.

Current Conditions

We'll start by going over the current condition. This slide shows the project area. There are currently no dedicated bike facilities. People bike in either the general travel lanes or on the sidewalks. There are sidewalks on both sides, six travel lanes, and currently no defined turn lane into the Museum of Science. On the segment between Land Boulevard and Leverett Circle, the posted speed limit is 25 MPH. The pavement width is 64 feet. The average daily traffic is 37,500 vehicles, as of September 2018. On this stretch there are two bridges with set widths, the Craigie Drawbridge and the Charles River Dam. Also worth noting is that approximately 150 school buses access the Museum of Science each day.

What Has Been Happening?

Since the first public meeting on December 18, we've conducted a Road Safety Audit, held a coordination meeting with Cambridge Crossing, held two design review meetings with MassDOT District 6, conducted a site walkthrough and held a jurisdictional coordination meeting.

In the feedback we received at the last meeting and during the public comment period that followed, we heard that there are safety concerns for people walking and biking along the

¹ Herein "C" stands for comment, "Q" for question and "A" for answer. For a list of attendees, please see Appendix 1.

corridor, there is support for separated bicycle lanes, requests for traffic calming measures, and a desire for improved bicycle connections to nearby paths.

The recommendations that came out of our Road Safety Audit in January include repainting faded pavement markings to improve visibility, installing dashed guide lines for left-turn vehicular movements, evaluating the feasibility of adding separated bike facilities, ensuring sidewalks meet ADA requirements, installing advanced lane assignment signage on all approaches, and evaluating phasing modification to eliminate user conflicts.

Design Overview

Now I'll move on to the proposed design. We'll go over it in three sections from west to east. The first section includes the approach to the intersection of Charles River Dam Road and Land Boulevard. There is a separated bike lane on the eastern side on this block, and you can see on this approach we'll be adding a left turn lane to turn from Charles River Dam Road onto Museum Way. The left turn will be controlled with a traffic signal. The through movement is going with the bike lane. Bike signals will be installed on the near and far side of the intersection. The bike lane will have a red phase while vehicles turn right onto the Gilmore Bridge so there won't be a conflict. We will be modifying the left turn lane that goes on to Land Boulevard from Charles River Dam Road from a double left to a single left turn lane to adjust for the time needed to clear the box from the Land Boulevard section to Museum Way. In close proximity to this intersection is the Museum Way intersection. At this location we'll still have the left turn lane into Museum Way and that phase will run concurrent with the movement onto Charles River Dam Road towards Boston. That phase will be followed by a phase that allows the traffic to go towards Cambridge on Charles River Dam Road. Museum Way will be reduced in this proposal to a single lane to allow a buffer between the travel lane and the bike lane. It allows for better visibility, drivers and bicyclists can better see each other and drivers can also see pedestrians crossing at that intersection.

This proposal is still conceptual. This is a change that we are making based on the feedback we received from the road safety audit. We are working with other stakeholders to make sure that this achieves the goal of safety, and we are looking for feedback from the folks here tonight. In addition to the striping modifications that you see here, we'll also be introducing a flashing yellow arrow. When you are coming out of Museum Way onto Charles River Dam Road, there is a green indication that is concurrent with the pedestrian phase. As you are coming out of Museum Way, similar to other intersections in the concurrent pedestrian/vehicle phase, you have a green light. What this flashing yellow arrow will indicate is there is priority for the pedestrians in the

crosswalk. We will be adding signs on that approach to say, "Turning Vehicles: Yield to Pedestrians." So those will be there as well as the flashing indications to reinforce that at this location.

Continuing down the corridor, in front of the Museum of Science, we'll have two lanes fed by the Museum Way intersection. Those two lanes will continue in front of the Museum of Science. These white dots are flex posts. Those will start at the Museum Way intersection and they will also continue on the other side in this direction. The flex posts and cross-section are indicative of what you saw in the cross-section here.

As you can see there are a handful of signs that are shown on this plan. If you've been out there you've probably seen a lot of different signs out there for bikes, either on the sidewalk or on the road or they are for vehicles. We're hoping to go out and clean up what's out there today and just have what's on the plan.

Continuing past the Museum of Science, towards Leverett Circle, there is a transition on these plans where it will open to a right turn lane onto Storrow Drive Westbound. That's where the cross-section starts to narrow out as you approach the bridge, so you lose the flex posts in this area as you transition over the bridge and get towards Leverett Circle. There is a tighter cross-section in this area so we went as narrow as we could with ten-foot lanes for these three lanes as you approach Leverett Circle. There is a median over the bridge as well. The bike lanes go down to about four feet in this area, so the travel lanes also narrow. The vehicle speeds at turn lanes are slower than you usually see at a straight away section so we're anticipating a bigger benefit from getting that separated facility along the straight away part of the corridor away from the intersections. So, we transition here to no flex posts and an on-street bike lane. Continuing in the direction of Leverett Circle, we're going to clean up some of the sign clutter that you see out here and we'll start with a clean slate. As you approach Leverett Circle, we'll continue the bike lane on road into Leverett Circle and then connect it up to Martha Road. That will require a similar treatment to what we did at Land Boulevard, where you separate the turning phase from the through phase. So, what will happen in this location is the vehicles sign in the through lanes will be green, the bike signal will be green. Bikes will be allowed to go through with through traffic and there will be a red arrow for vehicles in the right lane. That will be concurrent with the pedestrian phase. This is different than what is there today. As the pedestrians and bikes clear, the red indication will go up for bicyclists and the drivers will be allowed to take the right turn with a right turn arrow.

In the opposite direction, coming out of Leverett Circle, you can see heading towards the Museum, there is a separated bike lane with flex posts and paint markings. That lane has a 6.5 feet width heading over the bridge then continuing towards Land Boulevard.

Implementation Plan

Our implementation plan is to do this as soon as possible. We would like to begin work in June of this year following on other work that is in the area. We'll be starting with the mill and overlay, paving, striping, signs and flex posts. Then we will follow that with the signal improvements at the intersection. There may be some detours or rerouting. There are other area improvements that we will try to coordinate this work with. The Gilmore Bridge is currently under construction for utility work that is ongoing. We'll start our work following that work which is scheduled to wrap up at the end of May. There are Green Line viaduct repairs and Green Line Extension work in this area as well. There are also planned improvements from Land Boulevard towards Lechmere Station along Route 28. In addition to that, DCR is going to be resurfacing Land Boulevard. That will start this year and go into next year.

Coordinating with all those efforts, going back to this image, on the western side of the Charles River Dam Road between Land Boulevard and Museum Way, this is just striped as shoulder, going into the corridor. That is intended to be a raised facility in the future as part of the ongoing mitigation process for Cambridge Crossing. We held a meeting with them back in March just to make sure that we are coordinating with some of the work that they're doing. In the interim it would be an on-road facility as a shoulder, and then in the future, the curb will be moved to make this a raised bike facility between Land Boulevard and Museum Way. That captures a lot of the off-road path users. It will also tie into facilities that we are proposing along this corridor at O'Brien Highway that is indicated here in orange.

The Green Line Extension work, in addition to work on the viaduct, will be happening along this corridor to Lechmere Station. The MBTA will dispatched about 20 buses during the peak hour that will be using this corridor starting in May 2020 to April 2021. Accommodating those transit users is important. It is part of this process and we are coordinating very closely with the MBTA to accommodate busses using this corridor during next year's diversion of the Green Line. That diversion is North Station to Lechmere. There will be more public process ongoing for that project as well. Certainly, this is not your last opportunity to weigh in on that, but we just wanted to give you a heads up that we are coordinating with that work going forward.

With that, we'll open it up to questions and comments. This will not be your only opportunity to comment. We'll stick around afterwards as well to get your feedback. There is a microphone up here. Please limit comments to 30 seconds or a minute because there are a lot of people in the room. If you would like to speak just let Jeff or someone else from the project team know.

Discussion

Q: Wane Roush: My name is Wane Roush and I am a Museum Way resident. The schedule is complicated. At the meeting at MIT in December you had said that you would be starting this work in the spring, now its June, which is more like summer. How does that get elongated and what further delays might be expected? What's involved in the scheduling?

A: Andy Paul: I did not intentionally leave off how long this is going to take us. I should have put that in this presentation. Our goal is to have the pavement markings, pavement work and signage done by the end of June, about a month's time. The signal equipment may take longer. The signals that we are proposing need to be ordered months in advance, and we've done that, but there could still be some challenges with testing and implementation. We can't commit to having all the signal work done by the end of June.

Q: Wane Roush: It sounds like it's just a matter of coordinating lots of different agencies and different aspects of the project?

A: Andy Paul: Yes. I think that we are maybe three or four weeks off schedule from where we thought we would be back in December. That was trying to do coordination work with other agencies in the state before we got to tonight.

Q: Wane Roush: If you go out there now at any given moment you will see a dozen cars blocking the box at Museum Way and Route 28. I'm wondering, during your audit, did you learn how to address that?

A: Andy Paul: I would not say that we found any specific way to address it in the audit, but we know it is an issue and a challenge. We have been working with stakeholders, including the Museum of Science, and they have mentioned it. We will be painting new markings as part of this project, but that only goes so far in terms of solving that problem. But that's something we're hoping to address.

Q: No Name Given: Cars along this stretch go a lot faster than 25 miles per hour. Reducing the lanes may help, but what else can you do to keep cars from speeding?

A: Andy Paul: One other aspect of the project, in addition to the lane reduction, is that we are narrowing the lanes. That can help control speeds. Also including that vertical element, the flex posts adjacent to the bike lane, which will be in close proximity to the driver—closer than say, a telephone pole, helps slow them down.

Q: No Name Given (cont'd): Has there been any thought to extending the raised cycle track further down?

A: Andy Paul: This won't preclude that. There have been other corridors in the city, such as in the North End, where facilities have evolved from on-street bike lanes or separated bike lanes, to raised bike lanes.

Q: Pell Osborn: I saw on one of the slides that 37,000 vehicles use Charles River Dam Road. What is going to happen when the Cambridge Crossing, a 75-acre development, is finished? How many vehicles will you add to the road then and is that going to affect the width of Museum Way, which is already pretty crowded at rush hour?

A: Andy Paul: We coordinated with them when we developed this plan. When we analyzed the signals, it included the growth from that development. Look, this area doesn't look pretty when you are out there now. By taking away a lane and making people slow down, I'm not going to say that it's going to get any better for those driving along the corridor, but what we are hoping to achieve is a safer facility for those who are walking and biking in this area.

Q: Pell Osborn Do you have any idea how many more people will be driving on that stretch of road when the development is finished?

A: Andy Paul: I don't remember the delta between the forecast with and without the development.

Q: No Name Given: I have a concern about the right turn onto Storrow Drive. Right now, many people are turning right from the center lane, not just the right turn lane. Especially with the separation for the cyclists and the center lane, is there any plan to mitigate that?

A: Andy Paul: That issue was raised. We're changing the signal operations so that right turn lane will have a red arrow, and there will be No Turn On Red. No one will be making that movement when the bikes and pedestrians are using that movement. They'll then get a green arrow. So, if a car is making a right turn from the middle lane to go around, they will have to run the red arrow light to do that. We're hoping to address it through that.

Q: Alan Greene: My name is Alan Greene and I am an East Cambridge resident. My concern is everything is painted, but paint fades. How often does it get repainted?

A: Andy Paul: That is a good question. In addition to the paint, we'll have the flex posts. But we will certainly need to refresh the markings. We are installing the flex posts in this cross-section so that we can go back out with a paint machine and get access to the area to restripe. For the materials we are using, that would usually be a bi-annual process to reapply, but certainly in a corridor with this much volume and the safety outcome, this is certainly something we would pay close attention to and we could do it faster if necessary.

Q: Alan Greene: For the pedestrian situation, you have the opportunity to add a pedestrian bridge on the other side of the Museum of Science. Are you talking to the Museum of Science about that? Also, have you looked at the possibility of having a pedestrian walkway under the Green Line viaduct?

A: Andy Paul: In going through this process we have identified targeted safety improvements that we could do on the scale of this year. We're not precluding anything, such as a path under the viaduct, from happening. We have engaged stakeholders from Cambridge, Boston and the Museum of Science in this discussion.

C: Alan Greene: I would just encourage you to talk to the Museum of Science about it. It is a chance to redevelop this area.

C: Andy Paul: You are right. It really is. It's a great opportunity.

Q: No Name Given: This is a great first step and it is really exciting to see this. It is going to be an improvement over what is out there now. I have a general comment and then a more specific question. I hope that it is connected on either side by the City of Cambridge. Is Martha Road MassDOT property or is it City of Boston?

A: Andy Paul: It's the City of Boston but we have been in coordination with them as well on these efforts.

Q: No Name Given (cont'd): Martha Road is a speedway. It would be amazing if we could connect this through Martha Road to get into the protected path by North Station. I'd actually be able to bike to work in a protected way, which would be great, assuming you could get this on the Cambridge side of course. That right turn lane where it's separated, I'm kind of concerned about

it. When you watch cars operating there now, knowing how motorists deal with paint, they're going to end up blocking that. Are you going to put something around it?

A: Andy Paul: We had some discussions about it and the posts would end up just narrowing both of the lanes there. We did end up moving the stop bar that is at the signalized intersection back a little bit further so hopefully people biking and driving don't block the intersection. Obviously, that is not a foolproof solution and people may ignore it. But it was kind of just a first step. If we see we need posts elsewhere we may be able to install them. This was somewhat of a compromise but one that I think, by separating the phases, still accomplishes our safety goals.

C: No Name Given (cont'd): Thank you. I just hope this is monitored while it's in place.

C: Andy Paul: Thank you.

Q: No Name Given: First off, I'd like to thank you. One of the concerns I have regarding maintenance is that there are a lot of bike lanes where the posts are put in, but then in winter they are removed. What's the snow removal plan?

A: Andy Paul: This is relatively new to our operations folks. As a state DOT we don't own and operate a lot of separated bike facilities where posts are employed. We are working with our municipal partners to learn from their experiences. The biggest challenge here, which is similar to the Longfellow Bridge, is with a narrower cross-section you can't get even a pickup truck in there. We are going through the process of procuring more equipment to maintain both the Longfellow Bridge as well as the Craigie Dam Bridge. We did benefit from lessons learned over the winter: based on clearing for the Longfellow Bridge, I think that the biggest challenge would be an 18-inch or 24-inch storm.

C: Carolina Aberelo: My name is Carolina Aberelo and I commute through this area. Unfortunately, last year I was hit by a car at Museum Way. I was in the crosswalk going through to Museum Way when someone went through a red light and hit me. It was very painful but I'm very lucky. I can still walk and talk and ride my bike. I fear that while this plan is making progress, it's not enough to keep people like me safe, even those walking on the crosswalk at the right time. I think what happened in my case was that the lights at the bridge were confusing because there is the other set of lights at Museum Way. People see the green light at the bridge and they just assume that the next set is also green. Maybe I missed the part where you were talking about it. But that's what happened in my case. While I see that there have been some improvements, I fear that you are going to see another horrible accident, like mine.

A: Andy Paul: Thank you. While we are making improvements for other movements through the intersection, running a red light isn't something that we're able to change much. We are hoping to control speeds better by narrowing the lanes, reducing the lanes and introducing the flex posts adjacent to the travel lane. So that at least if a crash were to occur, it will be happening at a slower speed.

Q: Cheetiri Smith: My name is Cheetiri Smith. Since this is a proposal, what's the likelihood this will actually be implemented when the plan is finished?

A: Andy Paul: I am 99% confident that this will be implemented along the corridor. Some changes could be made on Museum Way because there are challenges from the perspective that it is so close to the Museum. So, you could see some changes to it, but it will be implemented.

Q: Cheetiri Smith: What do you see as being the challenges to getting this proposal moving forward?

A: Andy Paul: It depends on the feedback we get from those present this evening. That's really the biggest hurdle. As I mentioned earlier, we've been with the City of Boston and the City of Cambridge, stakeholders, advocacy organizations. We're prepared to start the work as soon as we can, provided we get out of our own way with some of the work that we are doing, but we need the public process.

C: Cheetiri Smith: Thank you for this great start.

C: Andy Paul: Thank you.

Q: Malinda McPherson: My name is Melinda McPherson and I am a West End resident. I use this bridge every day to commute. It seems like the bike lanes going into Boston are well connected to the Charles River bike lanes. My biggest concern getting to work is going through Boston into Cambridge and not having a way to get onto that bike lane except for going all the way around Martha Road which people have said is dangerous or, more importantly to get off into Cambridge. There is no way to take a left turn. Is there any remedy for that?

A: Andy Paul: Thank you for your feedback. We could potentially do a 2-stage left turn at the Gilmore Bridge.

C: Malinda McPherson: Some way to get on to the bike path would be great but it would even be a help just to be able to get to that other lane. You're just stranded there.

A: Andy Paul: That is a good point. In terms of Nashua Street, that is really outside of this proposal. But we would be open to discussing that with the city. Thank you for your feedback.

C: Matt Carty: My name is Matt Carty. This looks pretty good with the lane narrowing and dropping the lane and I applaud you for that. I'd like to say though with the closure of the North Washington Street Bridge, getting this done as soon as possible will definitely improve safety. There are very few options for someone who takes that bridge. Would you pull up slide 12, please? The section where it starts to branch out, that entire section should have flex posts because as soon as those two through lanes queue people are going to take a right through that bike lane. You need flex posts at that triangle, at least a little way right up to that sign, otherwise people will drive in the bike lane. Would you please pull up slide 13? I would hope that during that construction MassDOT would maintain that sidewalk with jersey barriers so that people who are walking and biking have a safe haven during that construction. My final comment is I've been driving in Massachusetts for longer than I can say, and I've never been retested. What does that flashing yellow mean? You told everyone in this room but no one out there knows what that stuff means. I know you can't change that, but I hope everyone here is listening and will contact their representatives saying that in Massachusetts we need to have something online every two to three years where you take a test, pay a fee and get a new license. Thank you for your time.

C: Andy Paul: Thank you for your comments.

Q: Alex Frieden: My name is Alex Frieden and I live in Union Square in Somerville. First of all, this is a vast improvement. It's too bad that we had this fatality here but that's just how these things tend to roll.

Right here on Museum Way and Craigie Dam Bridge, it seems like there is enough room for a protected right from Museum Way onto Craigie Bridge. Has that been considered? That would be great. I didn't see any raised crosswalks which increase visibility and slow down vehicles. I appreciate you putting the GLX work on here, but I don't see any bus lanes. There are thousands of people who travel through here. I see it and it is grid lock. When you talk about equity here, people who need to get from the Boston side to Lechmere, what is the response for bus lanes?

A: Andy Paul: On the last question, we met with the MBTA to talk about this cross-section and the Green Line Extension. In going through this, we thought there was some urgency with getting these out there and underway and the MBTA did not want to hold up MassDOT. We did discuss the potential for using the cross-section as it is today in the future for a bus bike lane, but with that being a year off from now, we wanted to get this done now.

Q: Alex Frieden: Is there a plan for putting the bus lane in for that 11 months?

A: Andy Paul: The challenge with an additional lane in each direction after removing a lane for bike lanes is even more impacts outside of this immediate corridor, especially with the North Washington Street Bridge under construction, on traffic. There are priority treatments we're looking at. Thank you.

Q: Kiorll Sklorsky: My name is Kiorll Sklorsky and I live on Dorchester Avenue in Cambridge. I don't use this bridge much because we call it the "death bridge" so I am hoping with these improvements to use it more. This is a great start. What are the design speeds?

A: Andy Paul: The design speeds are 25 miles per hour.

Q: Kiorll Sklorsky: Speeds on this bridge are really a concern. Have you given any thought to a raised crosswalk both here and at the other end of the project?

A: Andy Paul: That is a good comment, we'll take that into consideration. Other opportunities that we saw here were the lane reduction, lane narrowing, as well as introducing that vertical element to control speed. If we need more than that we can consider it. Thank you.

Q: No Name Given: Thank you for being here tonight. I am very excited for the changes we're seeing so far. I have a couple points. On this slide for bike traffic going towards Boston, is the stop line necessary if there's no conflict?

A: Andy Paul: We did discuss that that: once the raised crossing comes in we could maybe remove it. We thought it would be a lot easier from an operations perspective, but for now there are pedestrian phases that would conflict.

Q: No Name Given (cont'd): With the right turns to and from Museum Way, I know it's a little bit crowded. Is it possible to have a protected intersection with maybe some bollards to encourage a wide right turn, particularly for large trucks, since there was a death there?

A: Andy Paul: We can look into that.

Q: No Name Given (cont'd): What is the cross-section width here?

A: Andy Paul: Those are all ten-foot lanes, four-foot bike lanes. It's about one-foot offset from the center barrier.

Q: No Name Given: Is there any potential for protection once you get into Leverett Circle?

A: Andy Paul: We looked at that. The bollard would have to be located on the line and it's actually wider than the line, so you are narrowing the lane even more. But we could potentially do it on that stretch there where there is more width.

Q: No Name Given (cont'd): Where are the nearest BlueBike stations on this side of the bridge?

A: Andy Paul: There is one located here at the Museum of Science.

Q: No Name Given (cont'd): Could BlueBikes be made free between those two stations for those of us stuck in traffic due to the Green Line Extension Project?

A: Andy Paul: That would be a question for the MBTA.

C: Gavin Lund: Looking at the cross-sections here, it looks like there are varying lane widths. For example, on this slide down below you said that it is 10-foot lane widths whereas up above it has to be about 12 feet.

A: Andy Paul: Of these five lanes, four of them are 10 feet. The only one that is 11 feet is the inside lane and that is to accommodate the bus. As you get a little further down the corridor, we may take 11 foot outside lanes and 10-foot turn lanes.

C: Gavin Lund: The protected bike lanes, although they are fantastic and I appreciate you coming back with that, looks very similar to what is on the Longfellow Bridge, which I know there were concerns about snow removal and things like that.

A: Andy Paul: We worked through this winter with several people in the room here to come up with an observational period which we thought was successful. We didn't have any formal outcomes or recommendations. But really what I think the biggest challenges will be is a substantial amount of snow that cleaning it will take more time. But in doing that we're going to coordinate with the same operations staff that will be clearing the Longfellow Bridge.

Q: Gavin Lund: It seems like where possible, having a buffer would both help with snow removal and protect the bike lane, so I would encourage that. I have a detailed comment on Slide 13. Today when pedestrians cross towards Boston, when they have a light, there is a "No Turn on Red" light. When their phase ends and the light crossing the bridge turns on and the "No Turn on Red" light goes off, this creates a conflict both for people walking and biking because cars get confused. I'm just wondering if that's going to always be "No Turn on Red"?

A: Andy Paul: With this solution that signs goes away and it's going to be "No Turn on Red" all the time.

C: Gavin Lund: Today there is a great solution to go into Cambridge, which is to use the underpass under Land Boulevard. I heard that because it goes through DCR property that it could be removed, and I just want to encourage anyone here tonight that has a say please don't do that. It is such a crucial connection for people who live in East Cambridge and it provides a safe, convenient, separated way to get across without having to go through Land Boulevard.

C: Andy Paul: Thank you for your comment.

Q: Luis Mejias: My name is Luis Mejias and I am a resident of East Cambridge. I have been walking, biking and driving across this area for almost 20 years. It is interesting to see the change in confidence of people who bike. The number of bicyclists have increased substantially, in particular the number of winter bikers is amazing. I'm not one of them because I'm a chicken. Because of that I believe that keeping those flex posts up during the winter is important.

Also, the issue with space on slide 13 going onto Storrow Drive, I know that the property just before that is State Police property. Is that right?

A: Andy Paul: I believe that is DCR property.

Q: Luis Mejias: There is so much space there, if it's a matter of a couple of feet to extend the sidewalk to incorporate the bike lane for the entire length, there's got to be a way to work with DCR and the Museum of Science to get the space required to create that facility. This corridor is so critical. People need this connection. I know there's talk of pedestrian bridges, but this is needed.

I also have a comment of people being able to judge which light is green and which light is red further to the west. I think that there are ways that the street lights can be designed so people can't see them from very far away.

Finally, going back to the Green Line Extension, a shuttle between Kendall Square and Lechmere Station would help a lot in getting people to make that commute.

A: Andy Paul: Thank you for your comments.

Q: Ian Schneider: I am Ian Schneider from Somerville. Thank you so much for these updates and for coming tonight. I have a question about the Boston side of the bridge. What's the situation with the bike lane at the river crossing?

A: Andy Paul: The bike lane is adjacent to three vehicle lanes and the right turn lane. The width through this median here to the curb is about 35 feet. There are three ten-foot lanes, set one foot off from the median and then a four-foot bike lane. There will be no flex posts here because in this area they would take up too much room. But the bike lane does continue across the bridge.

Q: Ian Schneider: On the other side of the bridge, children ride in the parks off Museum Way. If you ride with kids, how do you get to here from the parks? Are your options to ride on the sidewalk, use the crosswalk, or to cross over two lanes of traffic and then try to take the left turn while cars are turning right.

A: Andy Paul: I would use the paths and stay on the sidewalks and then the crosswalk, if it were me and my kids. There are opportunities for connections further down Museum Way where you can transition to the separated facility on the other side of the road. Certainly, we can coordinate with the City of Cambridge on that effort as well.

C: Ian Schneider: I guess that my concern is that when I use this crosswalk, I never expect cars to stop for me. I don't think people feel obligated to stop. I think some additional treatments are necessary.

A: Andy Paul: We are introducing the flashing yellow arrow and the "Left Turn Yield on Green" indicator sign which will help.

Q: Caleb Young: My name is Caleb and I work in Inman Square. A lot of people are very concerned about speeding. This is a wide, straight road. Has there been any through to putting speed limit signs on the bridge?

A: Andy Paul: We didn't introduce those at this location, but we could consider that.

C: Caleb Young: It seems like a cheap way to encourage traffic to slow down.

C: Andy Paul: Thank you for your comment.

C: Becca Wolfson: Hi there, my name is Becca Wolfson. Thank you to MassDOT for coming up with a much better plan than what we were looking at several months ago that had four-foot bike lanes with no separation. This is a big improvement. Thanks to everyone for showing up

and for giving really good feedback. I hope that you can take it all into account. I was also going to mention speed feedback signs. You've been hearing from a lot of people that speed is a problem here and actually at the last meeting the Highway Administrator, Jonathan Gulliver, said we could have them here and on the Mass Ave Bridge. I wanted to check on that and make sure that is still happening.

A: Andy Paul: I'll talk to him.

Q: Becca Wolfson: Thank you. MassDOT stepped in to help DCR come up with a more innovative solution here and I appreciate that. Also, thinking about other unsafe corridors, I hope that you will be able to step in and help at Park and Brookline as well. That's another dangerous corridor where someone was recently killed. Thank you for making the improvements.

A: Amy Getchell: I just texted the Administrator and he says yes to the feedback signs.

C: State Representative Mike Connolly: I wanted to introduce myself to everyone. I am State Representative Mike Connolly. I would like to thank you and thank MassDOT and DCR. It shouldn't have taken a fatal crash for this to happen, but I am grateful for the response and thankful that we are taking these steps forward. Thanks also to the residents for their feedback.

C: Andy Paul: Thank you, Representative. Your support has helped things move along on our side to expedite this process.

C: Katie Theodoros: I would like to thank you. What you have planned looks a lot better than what is out there now. This should be part of my commute and it used to be, but I actively avoid the area and I am looking forward to using it again. I wanted to second a few things. The speeds still do concern me. People are flying off of the highway and onto the highway, they're still going highway speed. I am concerned about your crews and the amount of flex posts they are going to have to replace. I'd also like to second the need for raised crossings here. This might not happen as much now that the bicycle lane is going in, but right now many cyclists come inbound and turn left on Museum Way. They do it by pulling up onto the sidewalk and crossing with pedestrians to get over to the North Point Bridge. I'm not sure if a jug handle would help.

A: Andy Paul: We are hoping with the additional construction that follows this, that connection can be thought about more.

Q: Galen Mook: Thanks, Andy, for fast-tracking this. I'm Galen Mook with the Massachusetts Bicycle Coalition. I want to put this in a regional framing context as well, this is also part of the

Paul Dudley White Pathway. It is one of the most important off-street multiuse bike paths in our entire region. It is also a crucial connection for the East Coast Greenway, which is 3,000 miles from the tip of Florida which cuts right through this intersection. With that in mind I want to mention that these are wonderful improvements for on-street facilities, but this is not a separate pathway. I want to keep pushing for that. This is good emergency treatment for daily commuters who are comfortable with connecting through this dangerous stretch. Do whatever you can to really make this everything it is supposed to be which is a gem to connect Cambridge and Boston. Just keep that in the forefront of the conversation. Thanks for the bollards. They are amazingly helpful for the comfort level out there. They are so helpful on the Longfellow Bridge and I want to thank you and your team for that. I know it took a lot to do that and I think we can do it here. Are you spacing the bollards out far enough for passing?

A: Andy Paul: We spaced these at 20 feet as opposed to 40 feet. We know it's a challenge on the Longfellow Bridge with cyclists passing mid-lane as opposed to continuing in the separated facility. Grades here are flat so there is less speed differential. We are optimistic that there will be less i- lane passing in this facility.

Q: Galen Mook: My main push is just to do whatever you can do to separate traffic. I am concerned once you get towards the Boston area that you narrow the bike lane to four feet. You shouldn't even call it a bike lane at that point. Also removing the vertical separation is a concern. You're at 80%, but we need the rest. Without that 20% it doesn't feel safe. It's great that you got this. But just keep this in mind. Focus on this length to do whatever you can because that is a crucial connection right there. Does it make sense to have the stop line so far ahead at the edge of Storrow Drive considering you have the block-the-box concern? Would you consider moving that stop line further back for the Storrow Drive, Boston bound traffic?

A: Andy Paul: We did discuss that. Some of the challenges were that you'd have to have the bike lane also stop back there or bikes will continue through. There is still that vulnerable area where vehicles might be going faster. So, there were some challenges that we saw and what it comes down to is people won't obey it that far back. This was not a compromise.

Q: Galen Mook: Lastly, you mentioned that DCR is doing the Land Boulevard restriping. Do you have an idea of how it will look? Right now, it's not safe. What are they doing?

A: Andy Paul: The discussions that we had with them were about improving off-road facilities that can connect in. Those are still in the early discussion stages. Hopefully more information will be available soon.

Q: Galen Mook: Will that be a DCR design? Will MassDOT be collaborating?

A: Andy Paul: Certainly, on this end we'll be collaborating with them. But as far as information on the intersection and how far back it extends, I am not sure.

C: Galen Mook: Thanks, Andy. I appreciate it.

C: Steve Miller: Hi, I'm Steve Miller from LivableStreets Alliance. First, I'd like to echo the thank yous: this is so much better. But it's even more amazing than that, because one of the ways that LivableStreets Alliance got its initial kick was in this room when years ago DCR presented a disgusting set of proposals for what they were going to do on their bridges. This room was full of bicyclists, pedestrians, and drivers and everyone gave them so much grief that it precipitated a whole rethinking, and responsibility for those bridges were transferred to MassDOT. So, it is really incredibly satisfying to see something that is so far removed now.

I have two quick points. I want to add a vote to the need for raised crosswalks. Having some good lights will help control some of that flow of traffic, but we've already heard that people get confused about which light to look at and I think having the bumps would help that process. I would urge you to also consider putting in a speed bump where the museum driveway exit is, perhaps on the Boston side. I brought my kids and now I bring my grandkids there and that is a really scary turn. Without a policeman standing in front of the exit from the Museum of Science garage, you just get very nervous.

Finally, down on the Boston end, somebody already mentioned the difficulty getting from the Charles River Apartments to here. But I think the problem is even bigger than that. People who come from the Boston Garden area are coming through this way and there is no comfortable way around the circle, through the circle or under the circle. Maybe not as part of this project, but as you go forward, you should think about more seamlessly connecting this improved area with what is on the other side. Thank you for as far as you've come. We'll keep pushing to keep you moving forward.

C: Andy Paul: Thank you, Steve, and thank you for the hard work that you do.

Q: No Name Given: For those who are concerned about speed, I have two thoughts about that. Is it possible to coordinate the traffic lights at all three sections of the road so that they are coordinated to 25 miles per hour?

A: Andy Paul: Yes.

C: No Name Given: Also, no one mentioned speed enforcement to deal with some of those issues. That could help if people got used to it being enforced.

A: Andy Paul: Thank you very much. The speed feedback signs provide data so that will help on the enforcement side. Coordinating the signals is possible and would require a little more effort because we would have to connect each of the signals. But that is something we can look at.

Q: Travis Wojcik: My name is Travis Wojcik. I am a Peabody resident. I rode all the way down here, and I did not come out Museum Way this time. But what you did over there by the box and the buffered bike lane that needs to stay. It is very important. You can take a left turn and a right turn, no problem, from a single lane so I don't think that is an issue for any driver coming out of there. Have you done pedestrian counts of how many people are walking across the bridge every day as well as how many people are biking across it?

A: Andy Paul: We do have some data, but I don't know how recent it is. It is something that we are looking into right now. Michelle?

A: Michelle Danila: We started this in the winter, and we wanted to wait until spring to collect the data. That is something we will be doing before this happens.

A: Andy Paul: We will be collecting data soon.

Q: Travis Wojcik: I know on the North Washington Street Bridge Project the lanes are 10.5 feet for the bus lanes. Is there any chance that we could have that extra half foot for a buffer?

A: Andy Paul: We can look at that. On the outside if you do have a 10.5-foot lane, there is a situation where the bus will straddle both lanes and that's not good for the bus or the cars in the other lane. That's where we end up with the 11. Originally, we had two 10.5-foot lanes with 21 feet, and we decided to compromise.

Q: No Name Given: In crossing Land Boulevard, is one phase of the light is timed to make sure you can cross safely?

A: Andy Paul: Yes.

Q: No Name Given (cont'd): Have you considered armadillo separators instead of flex posts? They won't constrict the bike lane as much.

A: Andy Paul: We haven't done armadillos here in Massachusetts yet. With the flex posts, the vertical element can provide that visual feedback to the driver about how fast they are going and that helps with speed. But we are looking at the connection of the posts that might be better for cyclists. Right now, Longfellow Bridge has a wider base, so we were talking with them earlier today about a different kind of connection than just having them flush to the pavement.

C: No Name Given (cont'd): I was talking about where there are no posts.

A: Andy Paul: You'd need some width for even armadillos. They are basically as wide as the flex posts. You don't really save any horizontal space.

Q: No Name Given (cont'd): If it's the same with as the paint, I assume you're not riding on the paint, from the bike perspective I'd be nervous about hitting my handlebar on the posts. What if you install it on top of the paint?

A: Andy Paul: If you put it right on the line, absolutely. But the challenge with that is when you go out to restripe you have to take all of those out, restripe and then put them back. With the two-inch offset it's much easier to restripe.

C: No Name Given: I think having something is better than nothing.

C: Andy Paul: We are looking for ideas.

Q: Brendan Kearney: My name is Brendan Kearney from WalkBoston. Thank you so much for advancing this to this point. Did you do a Road Safety Audit in January?

A: Andy Paul: Yes, we did.

Q: Brendan Kearney: Thanks for doing that, we really appreciate it. Can you tell us about the signal phasing at that intersection going towards the bridge and how it will work for pedestrians?

A: Andy Paul: There is one change for pedestrians but otherwise it's similar to today. The one change is on this side of the intersection. We are adding a leading pedestrian interval crossing for pedestrians to get out. There is some obstruction from the viaduct overhead where a driver making that turn can't actually see pedestrians standing across the Craigie Dam Bridge in the crosswalks. So, we will be adding a pedestrian phase in that location. Otherwise with the movement from O'Brien Highway going through, that will have a pedestrian phase on the closing

side there will be a red turn indication for this movement when this is going. There will also be a pedestrian phase here

Q: Brendan Kearney: I would just encourage you to make sure that the walk signal and the clearance just lasts the entire light cycle for people going in that direction. Thank you.

I also want to reiterate Steve's comment about raised crosswalks at Museum Way. That would be fantastic. Maybe it could be coordinated with the Cambridge Common construction, so all construction is happening at once. That will also help reduce box blocking.

My last point is about the armadillos. The City of Boston has been testing a bunch of separators. I know Becca mentioned the single screw posts but at the Tontine Crescent on Franklin Street they have been using a bunch of different things and I believe they have some sort of armadillo-type thing with the posts attached to them as well.

Thank you.

Q: No Name Given: I had a suggestion to add. How wide is the barrier? Could you shift all of the traffic lights and that would give more room for the bike lane?

A: Andy Paul: I think there might be equipment. But there is a median. It could be moved.

Q: Debbie Gerbles: My name is Debbie Gerbles and I live in Cambridge. I rode my bike here this evening. I didn't ride over the bridge, but I did ride by the Galleria. There are a lot of conflicts with pedestrians in that area and you have to ride slowly, which is fine with me. This is great, it's a great improvement. But to the West or North, whatever that direction is, there is still nothing. To drivers and cyclists, the roads will feel different. Are they wider on the left side of that?

A: Andy Paul: I think we are using a similar cross-section as what will be there. There is what is existing there today and then what is proposed as part of the mitigation for the Cambridge Commons project. We are coordinating with them to align their cross-section with ours.

Q: Debbie Gerbles: Will there be a bike lane there as well?

A: Andy Paul: I can't remember the specific facilities. There is a path over here. I can't remember if it is on-road or bike facilities. There are bike facilities. I apologize for not knowing the answer.

Q: Debbie Gerbles: I know there are bike facilities in the back, but these are great.

A: Andy Paul: In working with them we are working to continue bike facilities.

A: Jeff Dietrich: Andy, I'll double check the plans, but my recollection is that it's curb-separated bike lanes on both sides.

Q: Debbie Gerbles: And what is the time frame of that?

A: Jeff Dietrich: 2021.

Q: Debbie Gerbles: So not ten years, but maybe a few.

A: Jeff Dietrich: Yes.

C: Debbie Gerbles: Thank you.

A: Jeff Dietrich: I think that those plans are finalized and public. I don't know where they are, but I know they can be found.

A: Cara Seiderman: That project has already started.

Q: Jeff Ferris: My name is Jeffrey Ferris. I live in Jamaica Plain. Overall it looks like a great plan. I have a couple of questions. Do you know if they are going to install any bike lanes on the Gilmore bridge?

A: Andy Paul: Our district office is working on a structural project on the Gilmore Bridge which is wrapping up. As part of the Cambridge Commons development, they did a study as part of the mitigation, for concepts of bike connections on the Bridge. MassDOT is reviewing that. We have not finalized our review, but we are taking into review the outcomes of their study. That being said, we didn't have anything to present tonight for that. It is pretty narrow and there is barrier on both sides of that road so introducing something similar to what we are presenting here tonight wouldn't work. Something different would be needed. The cross-section and the connections are also quite different there. We don't have anything to present tonight but it is certainly something we are talking about.

Q: Jeff Ferris: I biked over the bridge today. Even an unprotected bike lane is better than nothing. There are phases where bikes are stopped and the right turn moves. Doesn't that create a risk of right hooks, particularly from trucks?

A: Andy Paul: There will be posts at the stop bar, paint, as well as the bike lane itself.

Q: Jeff Ferris: So, truck drivers should be aware?

A: Andy Paul: Yes. It is similar to treatments that we have at other facilities.

Q: Jeff Ferris Crossing the bridge westbound and getting on Charles River path, you are on the upper side of Museum Way getting across. You have crosswalks on two sides, but there is no crosswalk right there. Does that indicate that you want to make it a turn from Museum Way to get down into the Charles River Pass and Cambridge?

A: Andy Paul: What we are proposing is a two-stage queue box so they can come to the far side of the intersection and then continue through.

Q: Jeff Ferris: But isn't there a desire to cross in these crosswalks? You have two-way bike traffic on it, which is probably what is happening right now. You need some indication that this is a two-way facility. At the very start you said that there are two bridges. Where is the second bridge?

A: Andy Paul: Here is the drawbridge. You see that dark line here? There is actually a dam bridge here as well that goes under a parking garage and underneath the roadway.

Q: Jeff Ferris: What is the No Trucks sign?

A: Andy Paul: That is advanced warning to prevent trucks from turning right onto Storrow Drive.

C: Jeff Ferris: Thank you. Overall this is great, and it is great to have so many people here tonight.

C: Andy Paul: Thank you for your feedback.

C: Conrad Crawford: Good evening. My name is Conrad Crawford. I am an East Cambridge resident. I have three kids under five years old that cross at Museum Way two to three times a week. I would like to say thank you very much for these improvements and I look forward to it. My first request is that you please continue to audit this intersection. I have heard different circulation patterns, so please keep a close eye on it.

On the operations side, transportation demand management is important. Education First is hiring people. So, I recommend talking to more property owners about moving people on shuttles. Please look at that. Also, with this project and the Green Line Extension Project,

Hubway bicycles are a good way to get around. I also think that offering free Hubway service during the viaduct construction would be beneficial. Thank you.

C: Andy Paul: Thank you very much.

Q: Ryn Marchese: My name is Ryn Marchese and I live in Somerville. I wanted to go back to your comment on the statistics on how much it would cost to clear the lanes with the flex posts. I was wondering what that is in comparison to clearing lanes at Western Avenue where the bike lanes extend over the sidewalk? Is it more expensive to maintain these sidewalks for these bike lanes with flex posts than it is on Western Avenue?

A: Andy Paul: I was more saying that having the post on the line would be a problem because you have to remove the flex posts when you are striping. So, from an operational perspective we'll have a line adjacent to the posts so the striping equipment can just come in and redo the line. Otherwise, you have to move the posts. I would say it's less about cost and more about the number of hours it would take to do it.

C: Ryn Marchese: I was talking about snow removal, not maintenance of the lines.

A: Andy Paul: Here, because of the width of the lanes, we need different equipment to do that maintenance.

C: Ryn Marchese: I'm still not sure if it would be easier to extend the sidewalk.

A: Andy Paul: It would be easier to plow, but much harder to implement. It would be removing and resetting the curb. There are catch basins that are used for drainage. Obviously the two bridge structures would mean that the curb line would have to be moved in. Then there is the lighting all up and down the corridor so there are light posts, signs, etc. The cost and magnitude of that effort I don't know off the top of my head, but it would certainly take a few years to design, procure and then execute. That doesn't mean it won't happen in the future. But as others have said, this is a great first step.

C: Ryn Marchese: Thank you.

Q: Emmanuell DeBarros: My name is Emmanuell DeBarros and I am with the Boston Cyclists Union. I live in Charlestown and this is how I commute to work every day. With construction starting next year, will there be police details or crossing guards?

A: Andy Paul: For our timeline, this project will begin in June of this year. Lechmere bus diversions start next year in relation to the Green Line Extension Project. We're certainly going to be observing this corridor between now and when the bus diversions start. If there some type of police detail intervention needed at the intersection to make sure traffic is clearing it, it is certainly something we have considered on other projects, the MBTA is managing that project so it is something that we could coordinate with them.

C: Emmanuell DeBarros: Thank you.

C: Andy Paul: Thank you.

Q: Jeff Ferris: Most bike lanes are 5' with a 1.5' buffer for a total of 6.5' of bicycle lane. When it drops down to 4', is there any buffer or is it just the line?

A: Andy Paul: It is just the line.

Q: Jeff Ferris: Do you lose the buffer anywhere else?

A: Andy Paul: The only other portion is this, which will be reconstructed by Cambridge Crossing.

Q: Jeff Ferris: So right now, that first stretch up to the crosswalk is buffer up to the corner?

A: Andy Paul: Yes.

Q: Jeff Ferris: But at the bottom of the screen there is no buffer?

A: Andy Paul: This right here will be reconstructed. This will really be shoulder.

Q: Jeff Ferris: How wide is the shoulder?

A: Andy Paul: It's that same 4'; it's narrow through here.

C: Jeff Ferris: Thank you for clarifying.

C: Andy Paul: If there are no further comments or questions, we will post the presentation that you have seen this evening online. We have also been taking down your comments and feedback. This is something that we want to implement in the very near future. We'll be notifying you about the construction schedule and if there are any revisions to the plans. Those will also be posted online. Thank you all for coming. I know that this is something that has been in the works for a very long time, so thank you very much for your feedback.

Next Steps

MassDOT is reviewing the comments and feedback provided at the meeting and during the comment period following the meeting and will move forward with revising the design before implementation begins in Summer 2019.

Appendix 1: Meeting Attendees

First Name	Last Name	Affiliation
Carolina	Aberelo	
Louise	Ambler Osborn	
Dan Ezra	Aurian-Blajeni	
Joe	Barr	
Mark	Boswell	
Sam	Burgess	
Allison	Burson	
Kathryn	Carlson	
Matt	Carty	
Juliana	Cherston	
Max	Cohen	
Rep. Mike	Connolly	State Representative
Tom	Connors	
Conrad	Crawford	CRA
Donny	Dailey	MassDOT Government Affairs
Ross	Daly	
Michelle	Danila	MassDOT
Norman	Daoust	
Emmanuel	DeBarros	BCU
Jackie	DeWolfe	MassDOT
Matthew	Donovan	
Teague	Dyer	MGH
Marie	Eisenberg	

First Name	Last Name	Affiliation
Jeffrey	Ferris	Ferris Wheels Bike Shop
Nate	Fillmore	
Tom	Francis	MassBike
Alex	Frieden	
Debby	Galef	
Amy	Getchell	MassDOT
Debbie	Gerbels	
John	Goodman	
Alan	Greene	East Cambridge Planning Team Board member
Aaron	Greiner	
Kris	Guyot	
Charles	Hinds	ECPT
Jacqueline	Johnson	CRC
Louise	Johnson	
Brendan	Kearney	WalkBoston
Kolby	Lemrise	MassDOT
Rep. Jay	Livingstone	State Representative
Gavin	Lund	Cambridge Bike Safety
Ryn	Marchese	
Matt	Martin	MassDOT
Colin	McCarthy	
Michael	McNeley	
Malinda	McPherson	
Luis	Mejias	
Steve	Miller	LSA
Christian	Milneil	Streetsblog Mass
Stacey	Moisuh	
John	Monacelli	
Galen	Mook	MassBike
Dan	Murphy	Beacon Hill Times

First Name	Last Name	Affiliation
Thomas	Nally	
Patrick	Neal	
Andrew	Olsen	
Pell	Osborn	
Joe	Pasquale	Developer
Andy	Paul	MassDOT
Chris	Porter	
Andrew	Richardson	
Sky	Rose	
Ware	Roush	
Emanuel	Russel	MassDOT
Frank	Saviano	
Erin	Scheffler	
George	Schneeloch	Cambridge Bicycle Safety
Ian	Schneider	
Kiorll	Scklorsky	
Cara	Seiderman	Cambridge
Cheetiri	Smith	
Eric	Sofen	
Katie	Theodoros	
Peter	van Galen	
Kamila	Widulinski	
Alison	Williams	
Travis	Wojcik	
Becca	Wolfson	
Courtney	Worhunsky	MassDOT District 6
Donnie	Worth	
Caleb	Young	
Zhang	Zhang	