



Longfellow Bridge  
Final Design and Added Improvements FAQ  
June 19, 2018

### Flex Posts

- “Why do the flex post end before the end of the bridge?”
  - Inbound flex posts
    - begin just past the Memorial Drive on-ramp to allow proper clearance for vehicles turning right from Memorial Drive on to Longfellow Bridge.
    - end at the beginning of the transition to the 3-lane approach into Charles Circle. The flex posts do not extend beyond the stairway tower due to this being the point where the bike lane is at its most narrow width at 5-feet (referred to as one of the “pinch points” during the NEPA process). Installation of flex posts at this location would make the bike lane narrower. At this point, the high visibility green inlay begins, extending through to the bike box at the Charles Circle signals.
  - Outbound flex posts
    - begin at the beginning of the buffer for the protected bike lane.
    - end at the ending of the protected bike lane to allow proper clearance for vehicles turning right off of Longfellow Bridge on to Memorial Drive.

### Counters

- “What type of counter will be installed? What is the expected date?”
  - Video analytics automatic counters are begin used to collect data.
  - The counters were installed on May 31<sup>st</sup>.
- Additional information on the counters.
  - The counters are not tied to BTM or MassDOT.
  - The counters are not equipped with a modem and data will have to be downloaded manually.
  - Data will be retrieved every 30 days.
  - Data will be retrieved by the contractor and provided to MassDOT’s consultant for review and analysis.
  - Data will be posted on MassDOT’s public-facing interactive traffic data website, MS2, at periodic intervals as it becomes available.
    - <http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod>

### Speed Readers

- “Are the speed boards tracking/recording speeds (not just displaying them)?”
  - The speed readers have been capturing the speed data and storing it internally since they were installed and the bridge was reopened to the traveling public.
- “Is that info able to be remotely accessed? (As we understand it Boston has to go out to speed boards to download data) If someone has to go out to download it – what is the plan to do that?”

- The speed readers are not equipped with a modem and data will have to be downloaded manually.
  - Data will be retrieved every 30 days.
  - Data will be retrieved by the contractor and provided to MassDOT’s consultant for review and analysis.
- “Do you have a plan for sharing the speed information?”
    - Data will be posted on MassDOT’s public-facing interactive traffic data website, MS2, at periodic intervals as it becomes available.
      - <http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod>

**Snow Removal**

- DCR is currently responsible for the removal of snow on the Longfellow Bridge.
- Vehicle travel lanes will be cleared of snow during storm events.
- Snow removal on the bike lanes will not take place until after post-storm cleanup of vehicle travel lanes is completed.
- The flex posts will remain installed during the winter months.

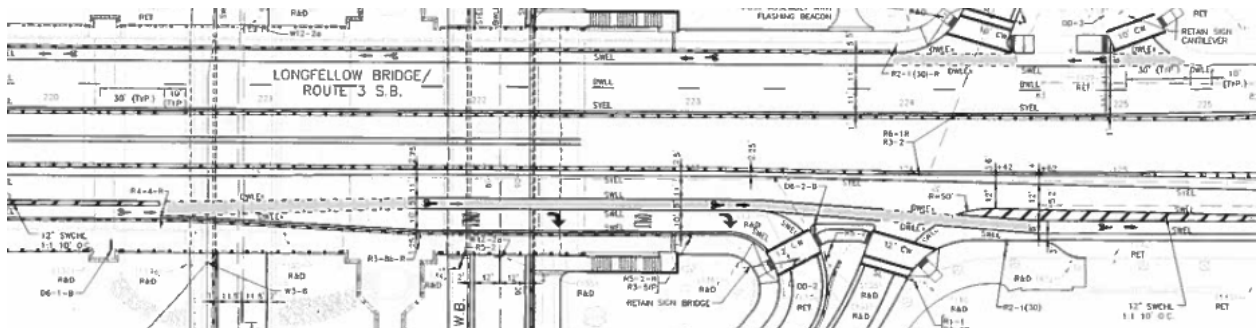
**Bike Lane Transition off the Bridge into Cambridge**

Local advocates have expressed concern related to the bike lane as it transitions off the bridge, passes the Memorial Drive on- and off-ramps and enters into Cambridge. Concerns include:

- “Bicyclist riding downhill may not see the island and will hit the curb and crash.”
- “The island and the zig-zag are very unusual and unexpected.”
- “The design unnecessarily punishes the vulnerable road user.”
- “The design does not make it clear who has the right of way.”
- “The design sends bicyclist directly towards cars in the travel lane continuing towards Kendall Square.”
- “Bicyclists have to focus so much on avoiding the island and maneuvering along the zig zag that they cannot also look for cars going to or from the ramp.”

MassDOT has reviewed the concerns and provides the following history of the design decisions and responses to concerns raised by the advocates:

- The original design of the bicycle facility was to have a very long bicycle lane between a straight motor vehicle through lane and a turn lane that would require crossing of high speed traffic and put bicyclists between two motor vehicle lanes for an extended period of time. Feedback identified this design as not meeting the design for an all ages and ability network.



- In 2012, the City of Cambridge requested Toole Design Group (TDG) evaluate the existing and proposed bicycling condition along Main Street between the Memorial Drive ramps and Third Street.
  - At the time, TDG recommended a deceleration lane and separate right turn lane be provided on this approach to promote motorists slowing and yielding.
- In early 2015, the City of Cambridge requested that MassDOT revise the Longfellow Bridge design plans to incorporate the latest guidelines and best practices for intersection treatments with separated bike lanes.
  - TDG revised the conceptual plan to include a vehicular right turn lane, a separated bike lane, raised bike crossings and crosswalks, and associated signs and pavement markings.
- In June 2015, MassDOT contracted with TDG to further the design and incorporate the modifications into the construction documents as a design change order for the rehabilitation of the Longfellow bridge project.
- In September 2015, TDG began the design change order project. During the design process, several design challenges were identified:
  - Necessary clearance height for the traffic barrier along the bridge, from the roadway surface to the top of the barrier, is required to maintain the correct dimensions in which the barrier system was crash tested in order to meet the crashworthiness criteria of the National Cooperative Highway Research Program (NCHRP). Due to this the elevation of the bike lane along the barrier cannot be raised.
  - Inability to relocate crash barrier built between the on- and off-ramp because of the extreme grade changes in this area. The barrier acts similar to a retaining wall between the Memorial Drive ramps which are at different elevations.
  - Inability to relocate the overhead sign structure.
  - Inability to impact the existing telephone vault within roadway.
  - Concern with the profile of the raised crosswalk and the down slope of the on- and off-ramps.
  - Inability to maintain ADA compliant slopes and cross slopes on the crosswalks, median sidewalk, and on the sidewalk on the northwest corner in Cambridge if the crossing was raised even a slight amount or moved any closer to the adjacent sidewalks.
  - Inability to remain within the public roadway layout on the northwest corner in Cambridge.
- Due to the challenges identified, MassDOT asked TDG to re-evaluate the preferred design and in January 2017, TDG revised the design to modify the sidewalk and curb on the northwest corner on the intersection.
  - Due to the significant grading and right of way restrictions, in lieu of a raised crossing as a traffic calming measure for both vehicles and bicyclists, additional traffic calming measures were added. These included narrowing of the vehicle travel lanes, adding the island to square off the right turn traffic lane at the corner (preventing cars from pulling into the bike lane before they turn), and increasing the buffering of the bicycle facility.
  - The revised design had no impact to the median island, crash barrier, or sidewalk on the northwest corner of Cambridge.
  - The revised design maintains the original project goals of reducing pedestrian and bicycle exposure, clarifying motorist expectations at the crossing, and maximizing the comfort and safety of bicyclist and pedestrians.
- In late January 2017, MassDOT decided to move forward with TDG's revised design.
- Throughout the design process, reviews were completed by MassDOT, DCR, FHWA, and City of Cambridge.

MassDOT responses to concerns raised by advocates:

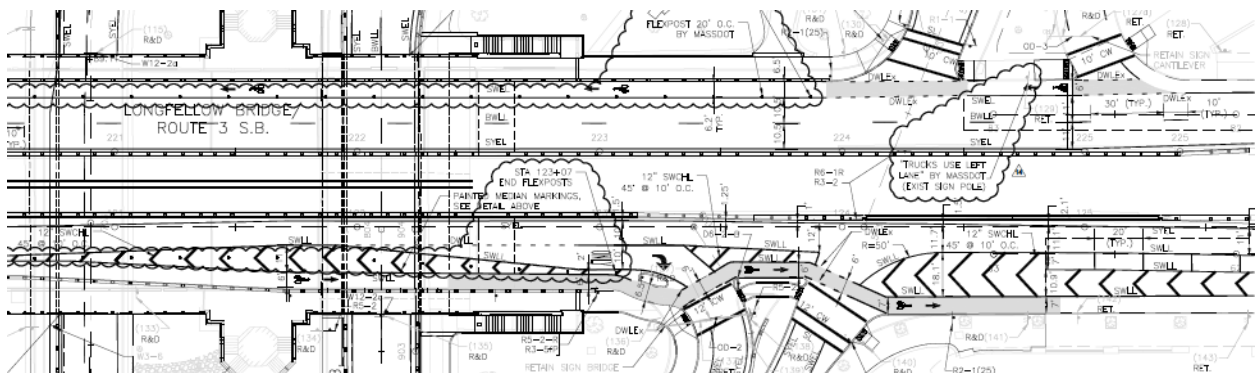
- The bike lane, just after the Memorial Drive underpass, will receive a high visibility green inlay.
- The island was installed as a traffic calming measure to slow down vehicles as they turn right onto Memorial Drive.
- Bending the bike lane away from the travel lane to provide more yielding distance between right turning vehicles and bicyclists traveling straight is consistent with Chapter 4 of the *MassDOT Separated Bike Lane Planning and Design Guide*, as well as practice in other countries with separated bicycle infrastructure.
- In this design, bicyclists are considered to be making a through movement, and therefore right turning vehicles are expected to yield to bicycles, per MGL Chapter 90, Section 14.
- The resulting zigzag nature of the bicycle facility is to continue providing traffic calming of the bicyclists' speed, while also locating the bike lane, cross walks, and median sidewalk in locations that still allow for ADA compliant slopes in an area with extreme existing grading and right of way limitations.
- An OM1-1, yellow warning sign, has been installed at the island.



- An R10-15 warning sign has been installed at the beginning of the right-turn lane to notify vehicles of the bicycle and pedestrian crossing.



- Below is a plan showing the final design of the travel lane, right turn lane and bike lane.



\*Please Note:

- The line striping contractor will return in 2 to 3 weeks to complete the installation of the high visibility green inlay within the bike lane, when additional material is made available. Areas to complete include outbound at Main Street in Cambridge and inbound at Charles Circle in Boston.

**Striping for Charles River Dam Road (Craigie)**

- “What are the plans for Craigie and when will they be implemented?”
  - Striping is currently scheduled for the week of July 17<sup>th</sup>. This date is subject to change and is contingent upon weather and events at TD Garden and Fenway Park.
  - Striping plans are below.

