

CYCLING SAFETY ORDINANCE MASS AVE PARTIAL CONSTRUCTION AND MASS AVE HARVARD SQUARE, FORMERLY THE MASSAVE4 PROGRAM: YEAR 4 UPDATE



The Cycling Safety Ordinance identified four segments of Massachusetts Avenue where installing separated bike lanes would be challenging due to unique complicating factors which include significant underground utilities, major bus stops, a center median, and the MBTA's overhead trolley bus wires.

These four segments were collectively referred to as the MassAve4 in the ordinance. With the expanded limits of the projects, there are no longer four unique segments. The names of the projects were changed in 2023 as described below.

- Mass Ave Partial Construction (Waterhouse Street to Alewife Brook Parkway), formerly MassAve4 Segments A and B
- Mass Ave Improvements - Harvard Square, formerly MassAve4 Segments C and D

In April 2022, the City submitted a report to the City Council with recommended approaches and timelines for the installation of separated bike lanes in these four segments. The full report can be found [here](#).

The City's recommended approaches for the four segments are summarized below:

- A **partial construction approach** was recommended for Segments A and B. This approach allows the center median to be removed except at key locations for pedestrian crossings, traffic signals, and traffic control. Separated bike lanes will be implemented using

flex posts or pre-cast concrete curb separation. During the last year, the MBTA removed the overhead catenary wires and is committed to working with the City to remove the catenary poles. Removal of this above ground infrastructure will provide significantly more design flexibility for curbside uses.

- A **full construction approach** was recommended for Segments C and D. Due to heavy bus stop activity and the need for bus layovers, full construction would be needed to implement separated bike lanes at the bus stop locations. The recommended project limits were Mass Ave from Plympton Street to Garden Street.

The City Council approved these recommendations, and the Mass Ave Partial Construction and Mass Ave Harvard Square Projects are now included in the City's Five-Year Capital Plan.

Cycling Safety Ordinance Year 4 Progress Update

During Year 4 of the Cycling Safety Ordinance, City staff and the City's engineering consultants conducted detailed analyses, evaluated the condition of the City's utilities, and coordinated with private utility companies, the MBTA, Harvard University, the Cambridge Historical Commission, and held several virtual and in-person public meetings and events. Year 4 activities and activities planned for Year 5 are described in more detail in the following sections.

MASS AVE PARTIAL CONSTRUCTION: WATERHOUSE TO ALEWIFE BROOK

In 2022, the project limits were extended as described in the Year 3 update to include two segments where Quick-Build separated bike lanes were previously installed. These two segments, the section of Mass Ave near Porter Square and the section north of Dudley Street, are adjacent to Segments A and B. These extended project limits comprise a contiguous two-mile multimodal corridor bustling with retail shops, offices, restaurants and other uses and activities. Due to the project's two-mile length, construction along Mass Ave is currently planned to be implemented in three phases. Still, the concept and detailed engineering designs are being developed as one project. The phases are as follows:

- **Phase 1** – Mass Ave from Waterhouse Street to Linnaean Street
- **Phase 2** – Mass Ave from Linnaean Street to Dudley Street
- **Phase 3** – Mass Ave from Dudley Street to Alewife Brook Parkway

During Year 4 of the Cycling Safety Ordinance, the City has been evaluating the existing surface and subsurface infrastructure, conducting traffic analyses, and identifying potential improvements.

Summary of Year 4 Activities

- Kicked off a 14-member Mass Ave Partial Construction Working Group. Four working group meetings were held and three site walks were conducted which allowed collaboration with the working group including on-boarding the committee, providing background information and diving into the details of the corridor.
- Held meetings with Cambridge committees, the public, various City departments and stakeholders.

- Conducted traffic analyses.
- Developed design concepts and detailed designs.
- Developed a phased construction approach along the two-mile project:
 - **Phase 1** – The recommended concept is progressing from concept to detailed engineering design. Construction activities to support the Phase 1 implementation will begin in late 2024. Activities through late 2025 will include median removal between Waterhouse Street and Roseland Street and upgrades to affected utilities. The existing median will be replaced by a painted median which will allow more flexibility to manage traffic around construction work zones. Concurrently, the street design will be progressing through the detail design process. In late 2025, construction activities will transition to surface reconstruction.
 - **Phase 2** – Concept development is in progress and will transition to detailed design in 2024.
 - **Phase 3** – Concept development will begin in 2024.
- Researched record drawings and documentation for existing infrastructure.
- Coordinated with private utility companies to determine if there were utility repairs and/or upgrades needed along Mass Ave.
- Performed various field activities (surveys, assessed existing condition of utilities and infrastructure, conducted traffic counts, reviewed locations of existing trees, and performed additional test pits) to document and verify surface and subsurface conditions.
- Conducted and reviewed sewer and stormwater collection system inspections and identified necessary repairs.
- Worked closely with the Cambridge Water Department in conjunction with concept and design development to identify affected water mains and water services.
- Assisted the Cambridge Water Department with conducting lead and copper surveys of water infrastructure.
- Monitored progress on other construction activities within the project limits (MBTA, Eversource).
- Coordinated with the MBTA regarding bus operations, ridership, removal of the electric trolley bus infrastructure and the renovation of the North Cambridge Bus Facility.

Planned Year 5 Activities

While continuing with many of the Year 4 activities, the following activities are planned for Year 5:

- Continue to meet and collaborate with the working group to advance the corridor design.
- Continue to hold meetings with Cambridge committees, the public, various City departments and stakeholders.
- Continue to develop design concepts and advance the design phases.
- Continue to evaluate sewer and stormwater collection system inspections and identify necessary repairs.
- Continue to evaluate the condition of the water distribution system and coordinate with Cambridge Water to determine the extent of upgrades needed to address affected water infrastructure.

- Continue to refine the phased construction approach along the two-mile project.
- Continue to monitor progress on other construction activities within the project limits (MBTA, Eversource).
- Prepare construction contract documents for a public construction bid.
- Start Phase 1a construction in late 2024.

HARVARD SQUARE

The concept to 50 percent design phase had identified the need to upgrade public utilities, including water, stormwater and lighting infrastructure, in addition to optimizing traffic signals to improve safety and accessibility for pedestrians, cyclists, and public transit users in this historically significant area of Cambridge. During Year 4, additional field investigations were conducted, and detailed designs of public utilities were advanced. TPT is coordinating reviews of proposed street design changes with Cambridge public safety departments.

Summary of Year 4 Activities

- Performed sewer and stormwater pipe inspections.
- Performed Ground Penetration Radar (GPR) survey to locate critical underground infrastructure.
- Obtained an MWRA permit to excavate test pits to field verify the location of MWRA's infrastructure.
- Collected samples of the pavement and subbase to evaluate existing conditions.
- Developed design documents for an MBTA license agreement application. The application was submitted in June 2023.
- Developed 50 percent lighting design.
- Coordinated with Cambridge public safety and other City departments to review the 50 percent design.
- Coordinated with Harvard University's Transportation, Engineering and Utility Departments.
- Coordinated with the MBTA regarding bus operations, ridership, and Red Line infrastructure.
- Coordinated with the City's kiosk and plaza construction projects.
- Coordinated with Eversource regarding necessary upgrades to gas infrastructure.

Planned Year 5 Activities

While continuing with many of the Year 4 activities, the following activities are planned for Year 5:

- Hold meetings with Cambridge committees, the public, various City departments, and stakeholders.
- Continue to coordinate with Cambridge public safety departments to review the 50 percent design.
- Complete roadway and pedestrian scale lighting designs to ensure adequate street lighting for the proposed streetscape and to replace inadequate and deteriorating streetlights and electrical connections.
- Develop 90 percent design phase that includes construction drawings and specifications

for all engineering disciplines.

- Coordinate with the MBTA for a license to perform construction activities above and/or in the vicinity of the Red Line infrastructure. An application was submitted in June 2023.
- Obtain a permit from the MWRA for construction near its water infrastructure.
- Monitor progress on other construction activities within the project limits (kiosk and plaza construction, Eversource).

Year 5 Plans for the Mass Ave Partial Construction and Mass Ave Harvard Square Projects

These projects have a significant amount of work planned for Year 5. The project teams will continue advancing the designs, tracking critical path items and activities, refining construction cost estimates and construction schedules, hosting community engagement events, and developing strategies for bidding the work and implementing the construction.