dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Arborway Parkways Improvement Project

DCR Public Meeting

Thursday, November 21, 2019 – 6:30pm - 8:00pm
Brigham and Women's Faulkner Hospital
1153 Centre Street, Jamaica Plain, MA 02130

Commonwealth of Massachusetts

Governor

Charles D. Baker

Lieutenant Governor

Karyn E. Polito

Energy and Environmental Secretary

Kathleen A. Theoharides

Department of Conservation and Recreation Acting Commissioner

Jim Montgomery

dcr
Massachusetts

DCR Mission Statement

To protect, promote and enhance our common wealth of natural, cultural and recreational resources for the well-being of all.

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Meeting Agenda

- Project Goals, Context, and People
- Road Safety Audit – Summary
- Short-Term Improvements Overview
- Design Phase Process
- Q & A

Project Goals

- Improve safety and accessibility for all users along the Arborway
- Improve access to open spaces such as the Arnold Arboretum and Jamaica Pond
- Create a continuous and comfortable bicycle and pedestrian connection between the Arboretum and Jamaica Pond

Project Context

- Several Previous Studies
- Casey-Arborway Improvement Project

Project People

- Patrice Kish, Chief, Design and Engineering
- Jeffrey R. Parenti, PE, PTOE, PTP, ENV SP
  - Deputy Chief Engineer (Program Manager)
- Jason Santos, PE
  - Director of Transportation (Technical Advisor)
- Mark MacLean, PE
  - Section Head, Parkways (Project Manager)
- Jenny Norwood
  - Director of External Affairs and Partnerships
- Anne Fiesinger
  - Director of Public Outreach

Meeting Agenda

- Project Goals, Context, and People
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Road Safety Audit Process

- A MassDOT process

  "A Road Safety Audit (RSA) is a formal safety review of an existing, or planned road or intersection. During the audit, an independent, multidisciplinary team identifies potential safety issues and opportunities for safety improvements."

- All RSAs follow the same standard regardless of who owns the roadway.

Road Safety Audit Process

- RSA conducted by independent transportation engineering firm (Howard Stein Hudson)
- Participants include
  - DCR, MassDOT (District and Safety), City of Boston Transportation, Boston Police, State Police, Boston Fire, EMS, BPDA, CTPS, MAPC, FHWA
  - Advocacy Groups (Arborway Coalition, Boston Cyclists Union, Emerald Necklace Conservancy, Livable Streets, WalkBoston)
  - Arnold Arboretum

Road Safety Audit Components

- Meeting and Site Walk
  - Discussion of safety issues
    - Crash history
    - Existing geometric conditions
  - Site walk
    - Observe on-the-ground conditions
  - Discussion of potential safety enhancements
- Report (using the MassDOT template)
  - Draft report
  - Final report

Road Safety Audit Report Sections

- Crash Data
- Safety Issues
- Potential Enhancements

The Report reflects the comments of all participants

Road Safety Audit

- An RSA does not address:
  - Some Traffic Study scope items
    - Traffic counts
    - Operational analysis
  - Conceptual design
    - Long-term reconstruction
  - Improvements that DCR is committing to
    - (or that DOT requires)
  - Arborway Parkways Improvement Project
    - (although it will inform the design)

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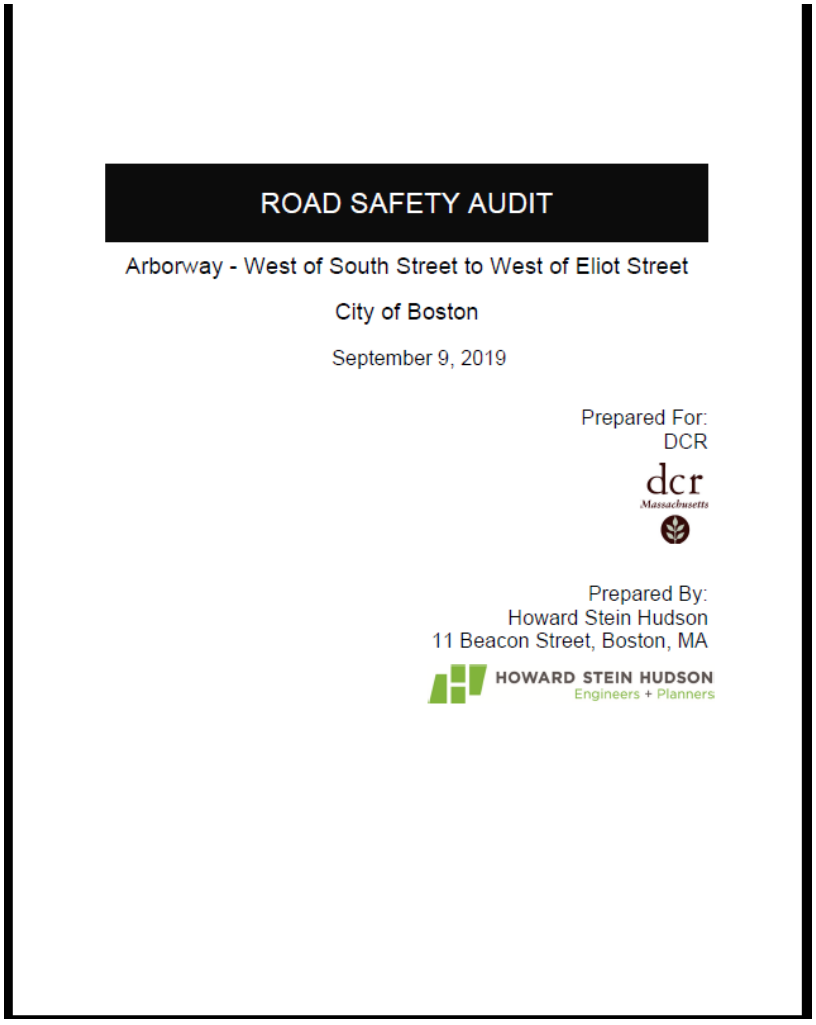
Arborway
Road Safety Audit Study Area

- Site Walk Conducted April 22
- Published September 9
- South Street to Eliot Street
- Includes Upper Arborway and Carriage Roads



ROAD SAFETY AUDIT

Arborway - West of South Street to West of Eliot Street

City of Boston

September 9, 2019

Prepared For:
DCR

dcr Massachusetts

Prepared By:
Howard Stein Hudson
11 Beacon Street, Boston, MA

HOWARD STEIN HUDSON
Engineers + Planners

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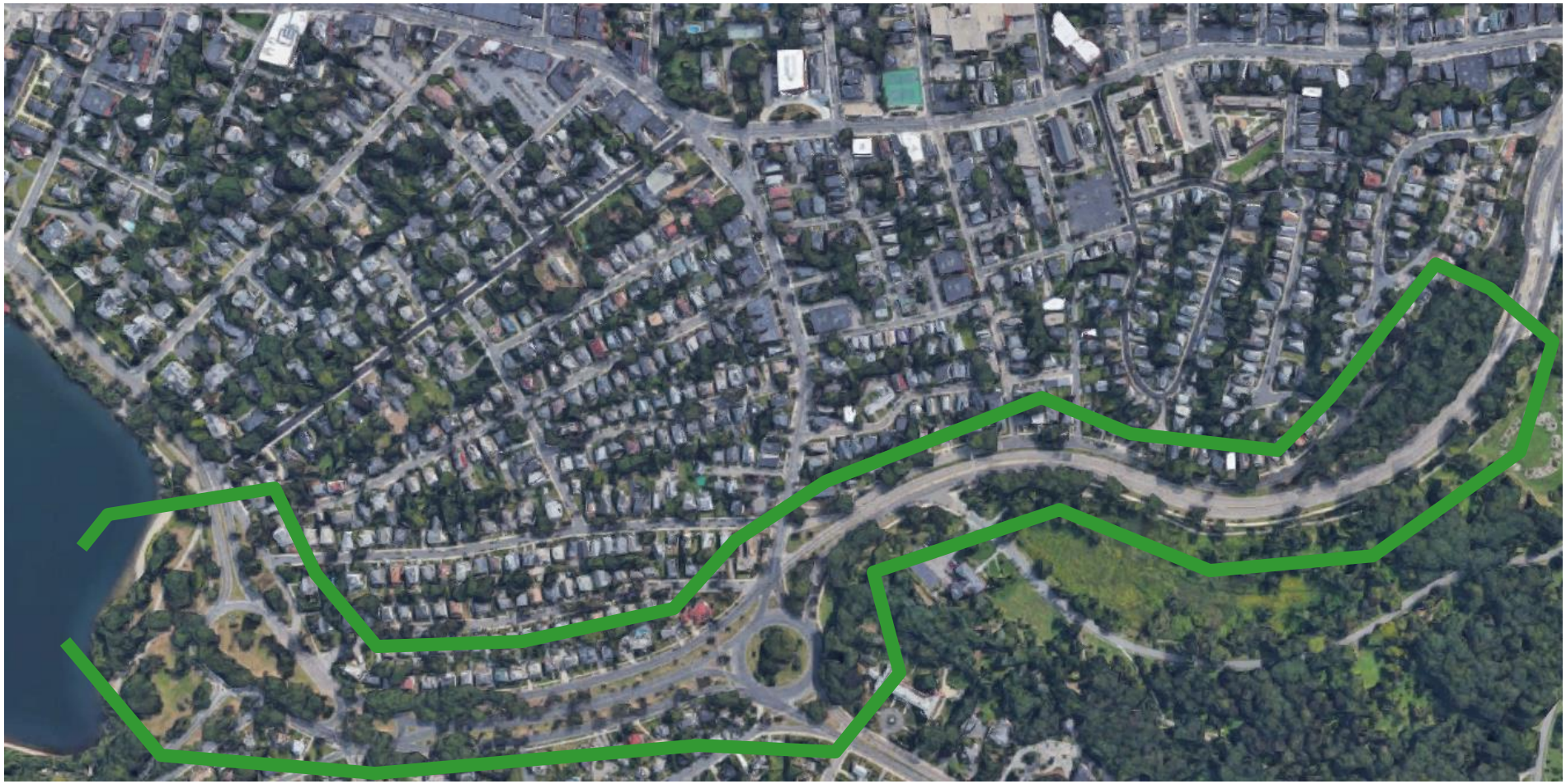
Study Area



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Road Safety Audit
Sample Pages

The Arborway – Between Murray Circle and South Street

Existing roadway geometry, unclear pavement marking and signage, and the lack of pedestrian, bicycle, and ADA accommodations were safety issues that were identified for the area and are discussed in more detail in the following sections.

Figure 5: Section Between Murray Circle and South Street

Safety Issue #1: Geometry

Issues

While traveling northbound, the land use surrounding the Arborway shifts from parkland to residential; however, the geometry of the roadway does not change to accommodate the change in land use with two lanes in each direction separated by a median. Although the speed limit within the study area is posted at 25 mph, audit attendees discussed that the traffic flow travels much faster than 25 mph along the roadway. Some attendees were unfamiliar with the low speed limit as it is in conflict with the roadway geometry, which includes a median separating the northbound and southbound traffic. The lanes along this section of the Arborway vary between approximately 11-16 feet.

Road Safety Audit—Arborway – West of South Street to Eliot Street, Boston
Prepared by Howard Stein Hudson
FINAL

Four of the 27 crashes were reported as exceeding the authorized speed limit or driving too fast for conditions. All four crashes were single-vehicle crashes, all vehicles involved in these crashes were traveling northbound, and three crashed along the horizontal curve approaching the signalized pedestrian crossing approximately 400 feet south of the Arnold Arboretum driveway. Northbound vehicles may not have adequate sight distance to the midblock pedestrian crossing signal due to roadway geometry. This, combined with the high speeds vehicles travel along the roadway, may have led to the seven crashes involving the midblock pedestrian crossing. All seven crashes either involved pedestrians or vehicles stopping for pedestrians.

Vehicles crash into fence dividing the Arborway from the Upper Arborway road.

One of the seven crashes occurred at the unsignalized crossing along the Upper Arborway adjacent to the signalized crossing. It should be noted that this crash occurred in 2016. In 2018, a raised crossing was implemented across the Upper Arborway, replacing a painted crosswalk that was in its place.

During the site walk, attendees observed that the grade and curvature on the Upper Arborway northbound at St. Rose Street may reduce the available sight distance. Two crashes, or 7%, occurred at the intersection, and one of the two involved a cyclist.

Vehicles are shown parked over the edge line of the shoulder, and doors extend into the lane when opened.

Audit members also discussed the unclear parking regulations along the shoulders along the Arborway. There is nowhere to patrol or pull over vehicles along the roadway except in the wide shoulder used as a parking lane. The shoulder provides signage implying the shoulder is a parking lane but the lane appears to be of inadequate width, also negatively affects the sight distance of vehicles traveling southbound toward the signalized pedestrian crossing. Three crashes, or 11%, involved a parked car or vehicle exiting the shoulder.

Potential Enhancements:

1. Evaluate traffic calming measures along the Arborway to encourage motorists to travel at or below the speed limit, including reduced lane widths to an 11' maximum width, reducing to a single lane in each direction, and rumble strips approaching crossings.
2. Evaluate shoulder width to formalize a parking lane and restrict parking where width is inadequate and additional width cannot be taken from travel lanes.
3. Consider restricting parking in close proximity to pedestrian crossings to improve sight distance for approaching vehicles.

Road Safety Audit
Sample Pages

Table 7: Potential Safety Enhancement Summary – Kelley Circle and Eliot Street

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Responsible Agency
Geometry	Evaluate the need for warning signage around the northern curve of the circle.	Medium	Short-Term	Low	DCR
Geometry	Provide adequate warning signage for merges approaching the circle, yield signage at approaches, and one-way/wrong way signage through the rotary, as well as markings for guidance.	Medium	Short-Term	Low	DCR
Geometry	Provide reflectors on shoulders, retroreflective backplates on the signals, and retroreflective pavement markings.	Low	Short-Term	Low	DCR
Geometry	Consider consolidating the two U-turn segments at the southern end of the circle.	Medium	Long-Term	High	DCR
Geometry	Conduct origin-destination counts to determine the need for the right-turn only lane from Pond Street to Francis Parkman Drive and the overall lane usage through the rotary and restripe as necessary.	Medium	Mid-Term	Medium	DCR
Geometry	Provide advanced wayfinding and guide signage for entering and circulating vehicles to inform motorists on lane usage and destinations at exits of the rotary.	Medium	Short-Term	Low	DCR
Geometry	Consider reconstructing the legs to the rotary to provide more deflection, especially at the Arborway northbound approach, and help reduce vehicle speeds, improve sight lines, and provide a safer crossing for pedestrians and cyclists.	High	Long-Term	High	DCR
Geometry	Provide merge signage for the Carriage Road northbound approach.	Low	Short-Term	Low	DCR
Geometry	Evaluate alternatives for full intersection reconstruction including, but not limited to, decreasing the width of the rotary, converting the rotary into a modern roundabout, or converting into one or multiple signalized intersections.	High	Long-Term	High	DCR
Geometry	Determine right-of-way at the northbound entrance to the rotary. Provide yield signs at the U-turn or a flashing yellow light at the Arborway northbound approach, depending on the resolution.	Medium	Mid-Term	Medium	DCR

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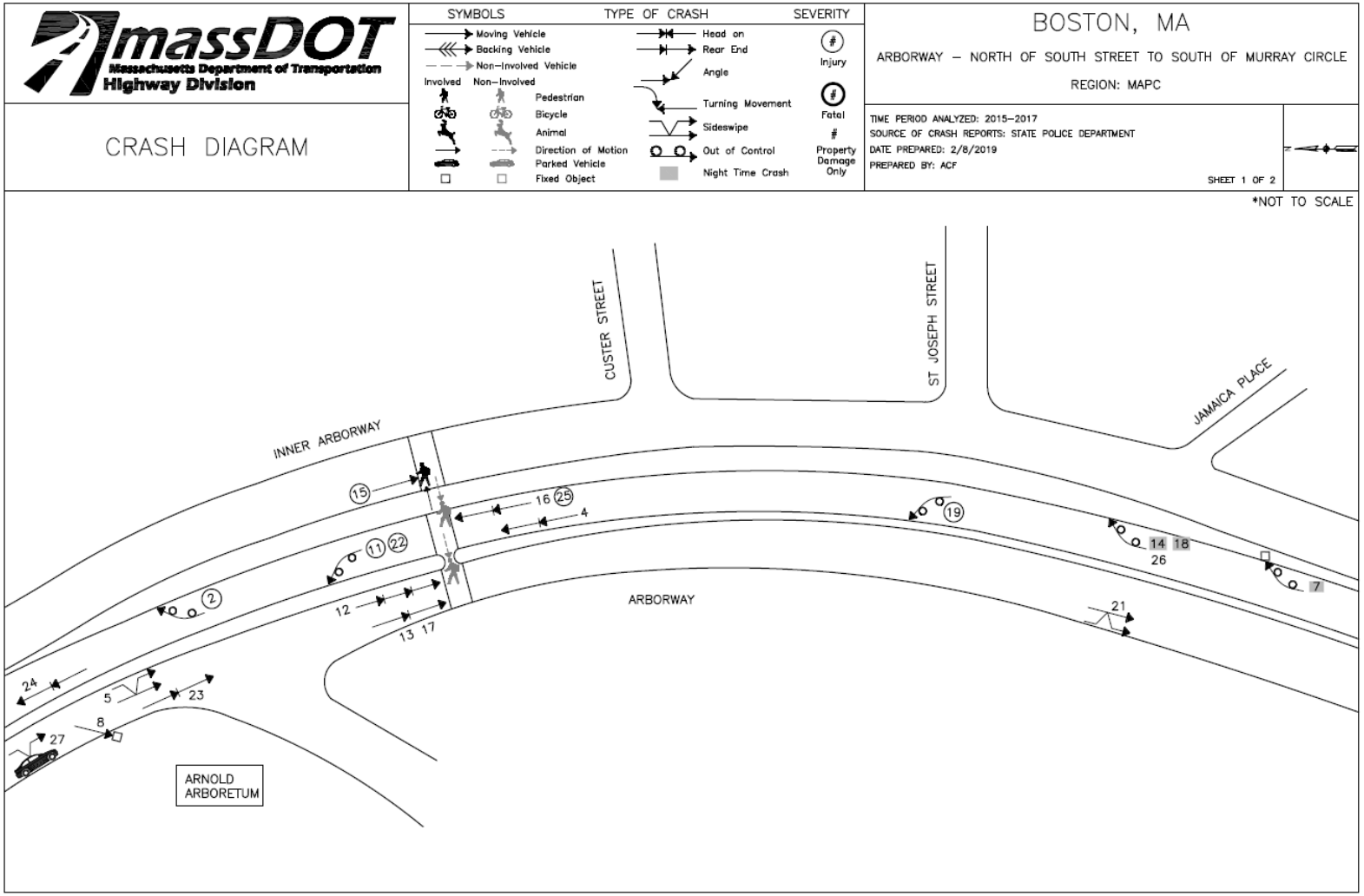
Road Safety Audit
Sample Pages



Road Safety Audit
Major Findings

- Crashes: 107 in the period 2015-2017
  - Murray Circle/Center Street (44)
  - Kelley Circle/Pond Street (31)
  - Between Murray Circle and South Street (27)
  - Between Murray and Kelley (5)

Road Safety Audit
Major Findings

- Issues
  - Speeding
  - Poor/missing pedestrian, bicycle, ADA accommodations
  - Insufficient lighting
  - Poor roadway and intersection geometry
  - Poor/missing signs
  - Traffic signal operation

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Short-Term Improvements

- Signs
  - Replace faded, missing, obsolete, ambiguous
  - Replace rusted poles
- Pavement Markings
  - Create new bike lanes
  - Reduce travel lanes
    - Reduce speeding somewhat
- Curb and Sidewalk
  - Reset curb
  - Repair sidewalk
  - Repair ramps

Short-Term Improvements

Warning signs installed (November)

Missing wheelchair ramps

Short-Term Improvements

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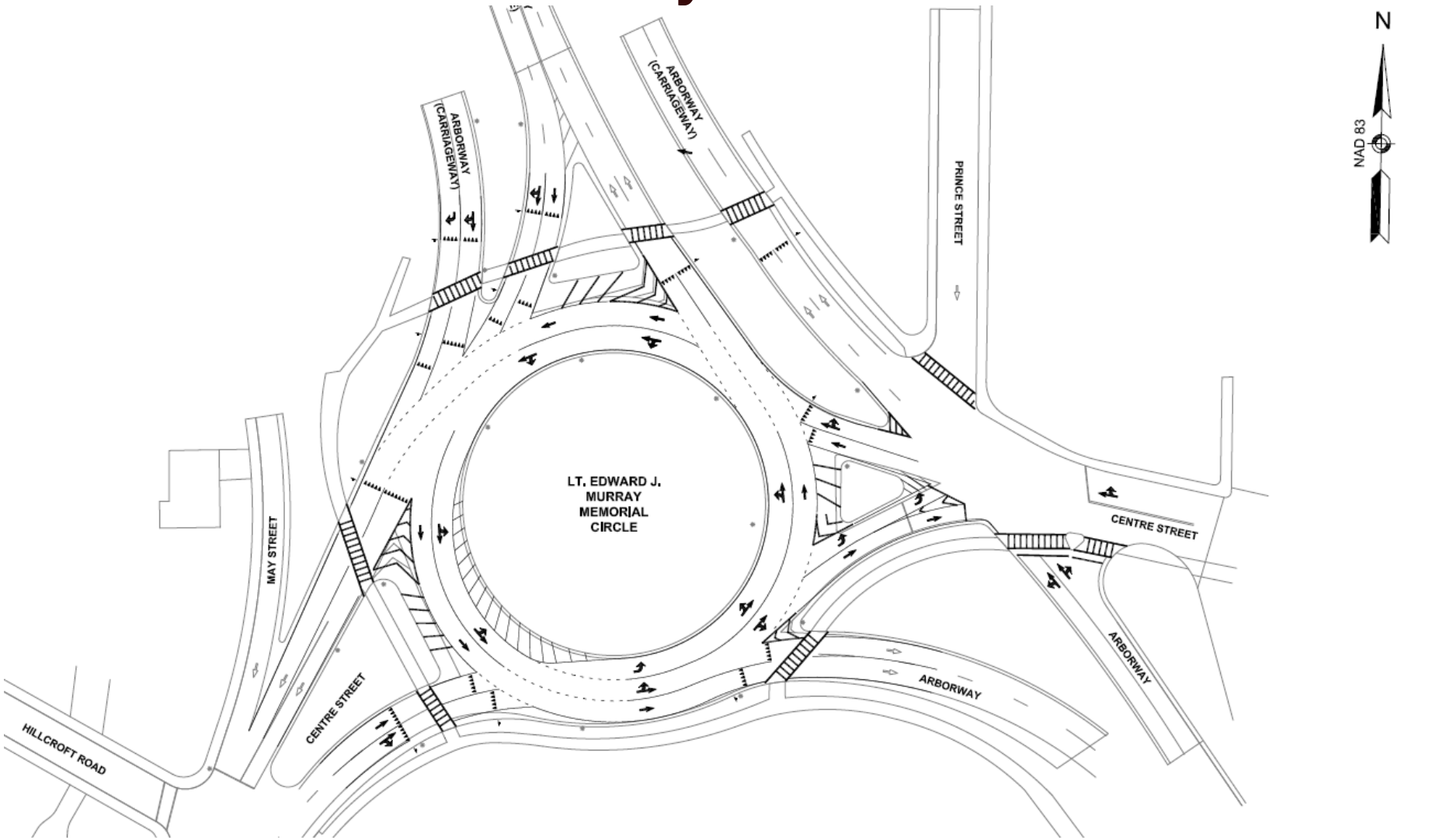
Short-Term Improvements
Murray Circle



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Project Development Overview

- Planning
- Scope of Work for Design
- Designer Proposals (submitted)
- Select and Hire Designer (December)
- Land Survey and Traffic Counts (weather dependent)
- Conceptual Design – Public Meetings
- Design Development – Public Meetings
- Bid Documents

Design Process
Extent of Work

- Design and Reconstruction of Arborway
  - Forest Hills gate to Eliot Street
  - Build new bicycle and pedestrian infrastructure
  - Possible reduction of travel lanes
  - Rebuild intersections
- Full Traffic Study
  - Traffic Operations

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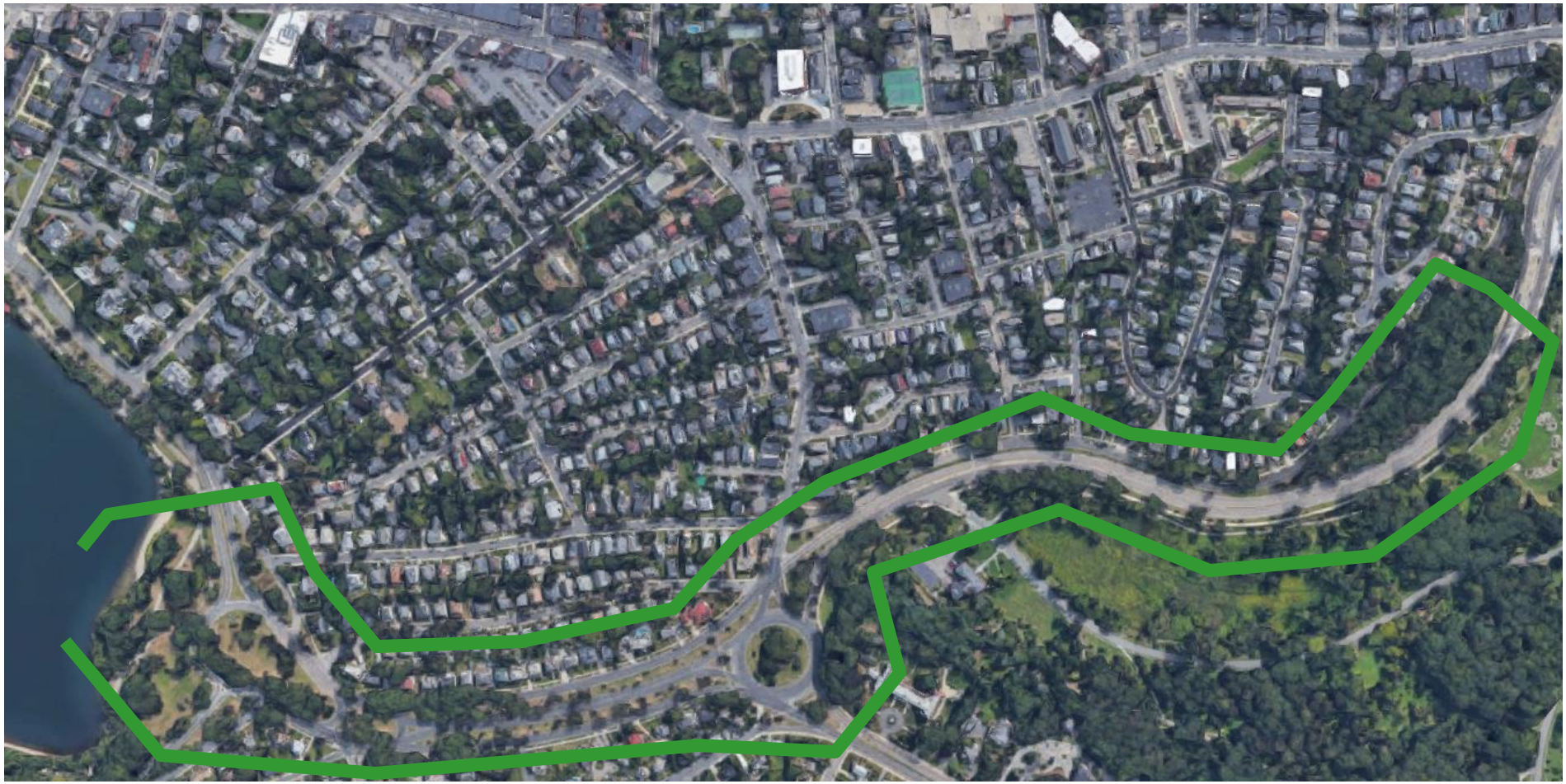
Study Area



Design Process
Design Team

- Multidisciplinary consulting firm
  - Probably several sub-consultants
- Disciplines will include
  - Civil Engineering
    - Traffic and Transportation Engineering
  - Landscape Architecture
  - Environmental Permitting
  - Lighting Design
  - Land Surveying
  - Public Involvement Specialist
- DCR Staff

Conceptual Design Overview

- Concepts are simple two-dimensional sketches that don't require survey data.
- Used to choose a Preferred Alternative
  - Input from public and design team
- 25% Design submission

Design Development Overview

- Design consultant creates plan sheets
  - Submittals: 75%, 100%
  - Public meetings continue
- Cost Estimate
- Permitting
- Specifications
- Construction Documents for Bid

Design Development
How Can I be Involved?

- Project Web Site
- Public Meetings – Workshops and Public Comment
- Project Update E-mails

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Q&A – Discussion

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Additional Information

For more information:
https://www.mass.gov/service-details/arborway-parkways-improvement-project
https://www.mass.gov/dcr-public-meetings-information/events/past?_page=1

If you have comments or suggestions on the short-term improvements and design process for this project:
Submit online: www.mass.gov/dcr/public-comment
Write: Department of Conservation and Recreation
Office of Public Outreach
251 Causeway Street, Suite 600
Boston, MA 02114
Deadline: December 16, 2019
Note: Public comments submitted to DCR may be posted on the DCR website in their entirety, and no information, including contact information, will be redacted.

If you wish to subscribe to a DCR general information or project-related listserv: contact DCR's Office of Community Relations at 617-626-4973 or Mass.Parks@mass.gov.