HARVARD
Planning & Project Management

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# Soldiers Field Road Crossing Study: Summary of Findings

July 8, 2015

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## 1. Purpose

The purpose of this study is to support Harvard University's commitment as part of its 2014 Institutional Master Plan (IMP) Cooperation Agreement to evaluate improvements to pedestrian and bicycle access between the Charles River Reservation and adjacent residential neighborhoods.

- Document existing conditions
- Evaluate the feasibility of crossing locations and options

## 2. Cooperation Agreement

*"The Applicant shall participate in the evaluation of improving pedestrian and bicycle access between the Charles River Reservation and adjacent residential neighborhoods through crossings of Soldiers Field Road. This task will include an initial study phase to be conducted in 2014 followed by an implementation phase.*

*In the feasibility study phase, Harvard University will work with the Department of Conservation and Recreation ("DCR") and the City of Boston to develop a scope and implement a study of pedestrian and bicycle crossings along Soldiers Field Road between Market Street and the Eliot Bridge. The study will describe existing conditions and evaluate the feasibility of providing at-grade crossings at up to three locations. The findings of the study will be reviewed by DCR, the City of Boston, the Task Force, and the community.*

*For the implementation phase, the steps will be determined based on the review by and recommendations of the City of Boston and the Task Force, and will be decided by DCR which owns and operates the roadway system and adjacent parkland.*

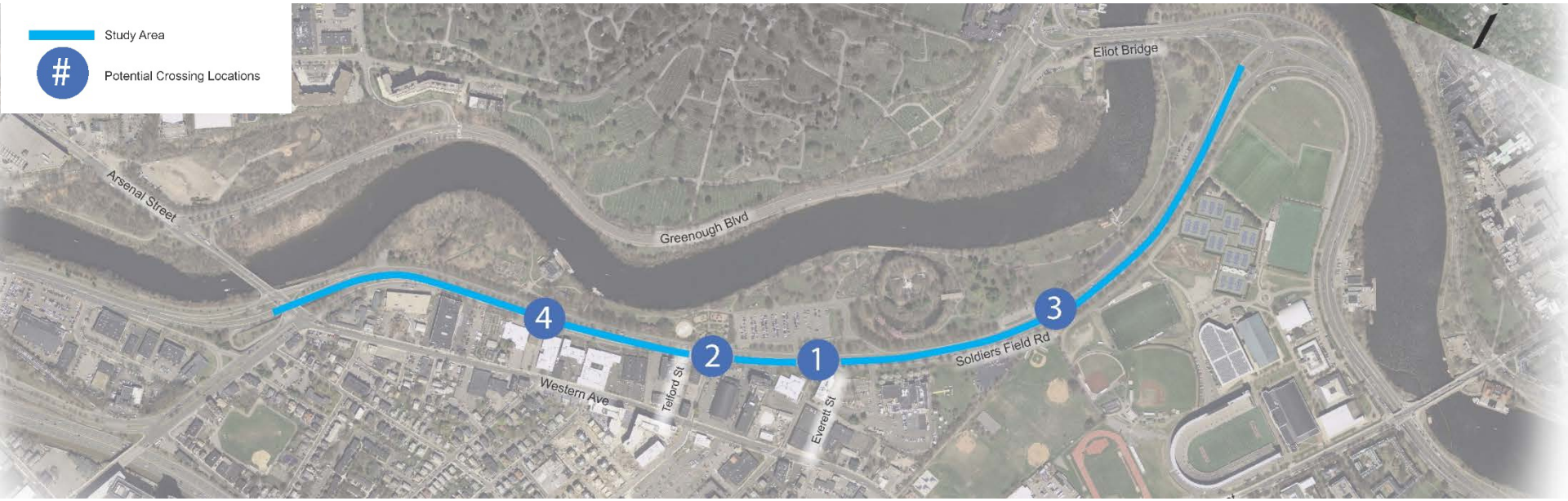
*The Applicant will contribute $150,000 for the feasibility study and up to $3,350,000 for the design and implementation of the recommended improvements, for a total of up to $3,500,000 towards this task. In the event that the implementation costs less than the estimated amount, the Applicant and the Authority will determine, in consultation with the Harvard Allston Task Force and the broader community, how to reallocate the unused funding."*

# 3. Summary

Four locations on Soldiers Field Road were evaluated for potential at-grade crossings:

1. **Everett Street Intersection:** The analysis indicates that an at-grade crossing is currently feasible with signal modification and other intersection improvements.
2. **Telford Street Pedestrian Bridge:** Improvements are possible to the ramps and bridge deck to make this crossing ADA-compliant. An at-grade crossing is not recommended at this location.
3. **Smith Field:** An at-grade crossing may be warranted in the future depending on the recommendations of the Smith Field Master Plan and potential future access options to Harvard's Athletics Complex.
4. **West of Telford Street:** An at-grade crossing is not currently warranted and would require significant modification to the Soldiers Field Road Eastbound Ramp and adjacent properties.

The analysis concluded that improvements could be made at Telford Street and Everett Street within the allocated budget of $3.35 million.



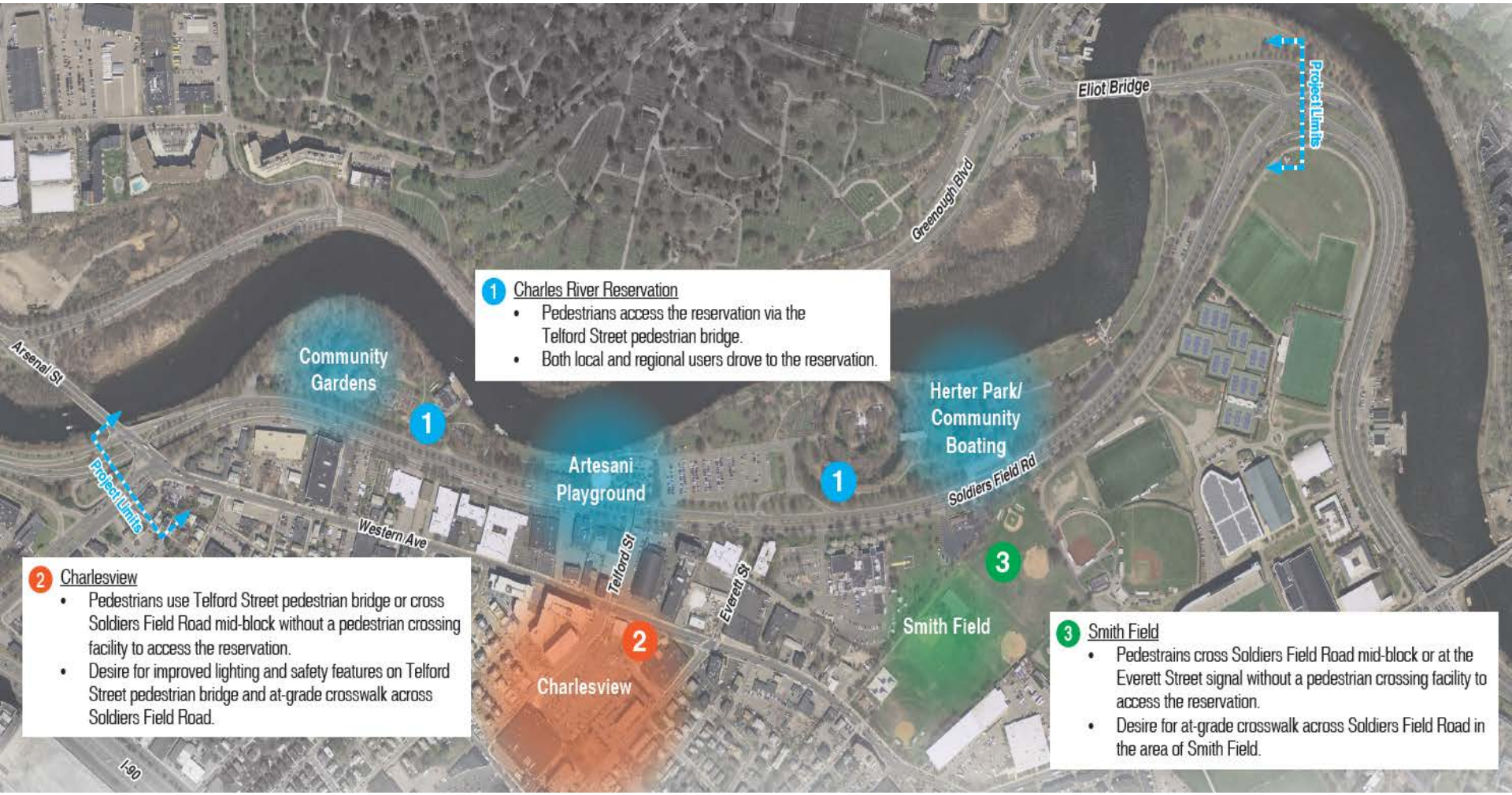
# 4. Study Area

The Study Area included Soldiers Field Road between Arsenal Street/Western Avenue and the Eliot Bridge. Research included a review of the following completed and ongoing studies with the study area:

- Charles River Basin Pedestrian and Bicycle Connectivity Study (DCR)
- Smith Field Master Plan (Upcoming by Boston Parks and Recreation)

# 5. Existing Activity Generators

Activity nodes along the corridor and within the adjacent neighborhood generate non-motorized (pedestrian and bicycle) demands. Soldiers Field Road presents a barrier between recreational opportunities within the Charles River Reservation and the residential, institutional, and recreational land uses in Allston.



# 6. Transportation Conditions

Multimodal (pedestrian, bicycle, and vehicular) transportation demands and conditions within the study area were reviewed.

In addition, planned and proposed access improvements were also considered.

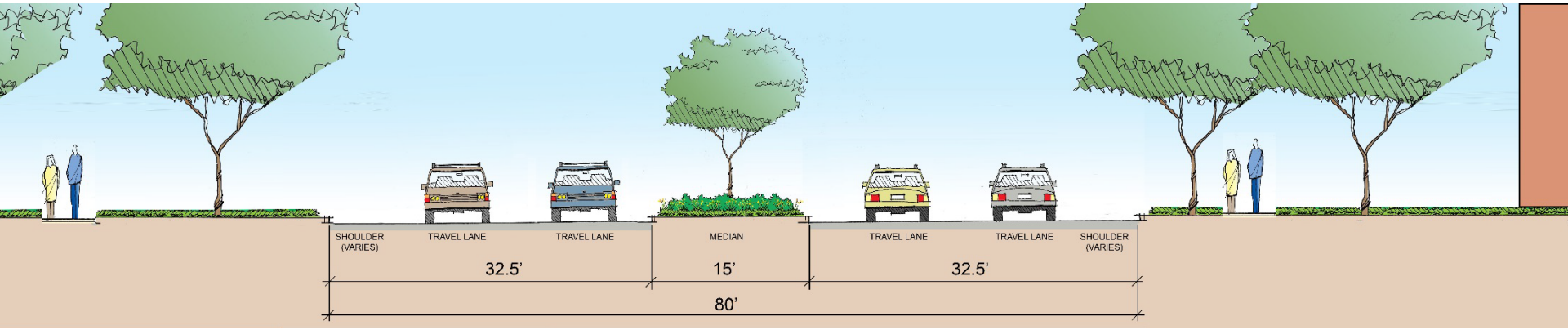
These evaluations framed the development and review of improvement options.


# 6.1 Pedestrian and Bicycle Conditions

- Existing Conditions
  - SFR presents barrier between Charles River Reservation and neighborhood
  - Field interviews indicate majority who cross SFR use pedestrian overpass
  - Non-compliant crossings at Everett Street occur with some regularity
  - Non-compliant crossings at in the vicinity of Smith Field occur periodically
- Telford Street Overpass
  - Some pedestrian bridge upgrades required for code compliance
  - Visual review of bridge structure indicated it is in generally good condition

## 6.2 Vehicular Conditions

- Traffic volumes
  - Over 33,000 vehicles per day on weekdays
    - over 51,000 vehicles per day on weekdays east of Eliot Bridge
  - Nearly 26,000 vehicles per day on Saturdays
- Travel speeds over posted speed limit and inconsistent with desired character of the corridor
  - Posted speed limit = 35 mph
  - 85th percentile speed = 45 mph

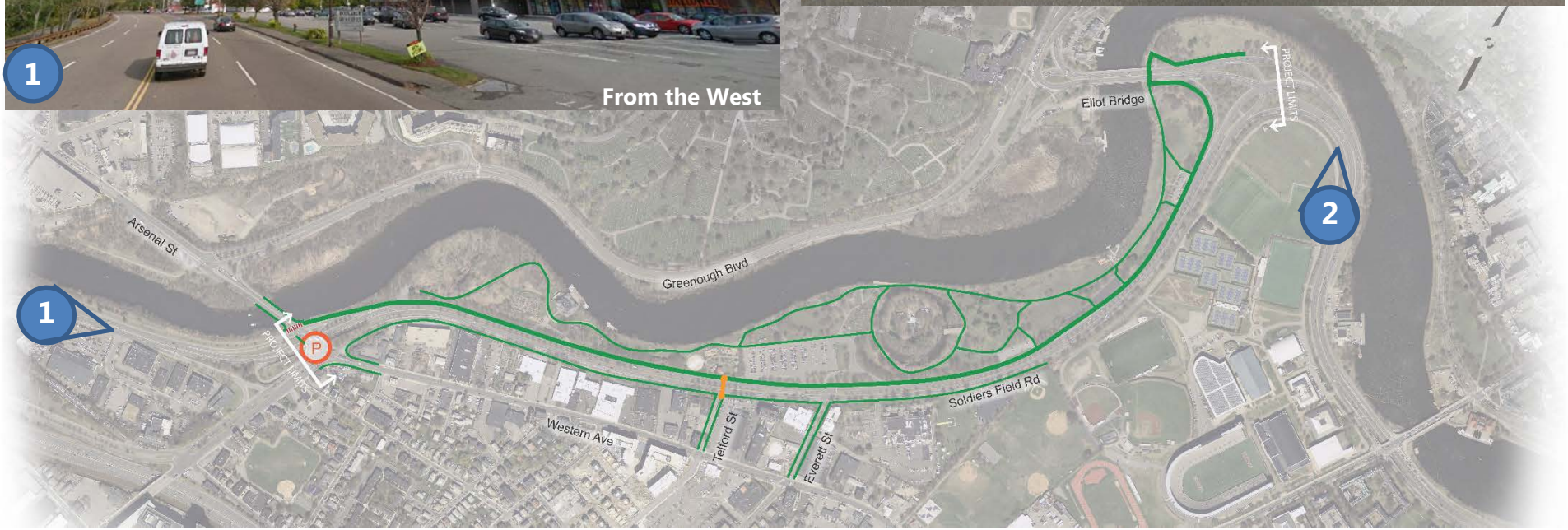


## 6.3 Planned and Proposed Access Improvements

- Telford Street
  - Charlesview Project between Western Avenue and Holton Street
  - Charlesview Project Phase 2 between Soldiers Field Road and Western Avenue
  - Reconstruction adjacent to proposed new Skating Club of Boston (SCOB) site at 176 Lincoln Street and design north of new site (to Holton Street)
- Everett Street
  - Boston Public Works Department project between Western Avenue and Lincoln Street

# 7. Urban Design Context






Boundary conditions:

- Coming from the West – Mix of small box and strip commercial with narrow road width; no median.
- Coming from the East – Larger University parcels, limited curb cuts, wider roadway width with median

## West of Telford Street

- SFR Eastbound On-Ramp/Frontage Road – access to SFR eastbound and connection to adjacent parcels
- Mix of office and commercial land uses with on-site parking
- Within the Public Right-Of-Way – grass strip with mature trees, street lighting, and deteriorating non-compliant sidewalk

## West of Everett Street

- Continued development pattern – mix of office and commercial land uses with on-site parking
- Within the Public Right-Of-Way – grass strip with mature trees, lighting, improved yet non-compliant sidewalk

## East of Everett Street

- Development grain continues through media site
- Parcel type and size changes to reframe urban edge condition
- Within the Public Right-Of-Way – larger grass strip with mature trees, lighting continues, sidewalk ends

# 8. Case Studies and Lessons Learned

Key findings from three comparable DCR roadways with at-grade crossings:

- **Travel Speeds:** Slower travel speeds more consistent with the character of the parkways (33 to 36 mph).
- **Traffic Volumes:** Range from 31,000 to 37,000 vpd on weekdays.
- **Pedestrian Crossing Locations:** Connect recreational facilities with dense commercial/residential land uses at intuitive locations for pedestrians.
- **Crossing Treatments:** Most successful crossing elements include:
  - High-visibility crosswalk treatments
  - Advanced warning signage
  - Elements to direct pedestrians to the crosswalk
  - Connections to adjacent sidewalk/pathway systems



# 9. Alternatives


Four potential crossing locations were considered and evaluated:

1. Everett Street
2. Telford Street
3. Smith Field
4. West of Telford Street

## 9.1 Everett Street Intersection

- An at-grade crossing is feasible with improvements to the intersection to ensure safe and visible crossings:
  - New signal equipment
  - New crosswalks/re-striping of existing crosswalks
  - Right-of-way acquisition (approximately 3.5 ksf to 5.0 ksf of Harvard property) to create a multi-use path
  - Landscape improvements

- Future analysis should assess:
  - Pedestrian signal phasing (half crossing vs. full crossing)
  - Potential need for an Everett Street northbound left-turn lane
  - Landscape and urban design improvements including connectivity to the DCR path network

## 9.1 Everett Street Intersection: Potential Pedestrian/Bicycle Improvements


1. New Pedestrian Level Lighting
2. New Colorful Banners
3. New Imprint Crosswalks
4. New Pedestrian Plaza
5. Pedestrian Signals
6. Accessible Ramp Upgrades

## 9.1 Everett Street Intersection: Potential Vehicular Modifications

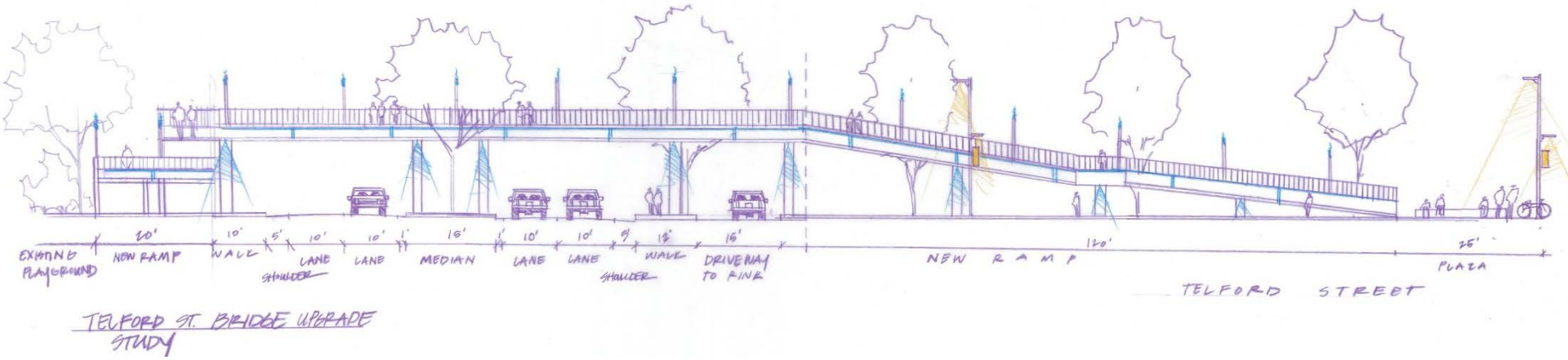

1. Striping Modifications
2. Maintain Overhead Lighting
3. New Signal Equipment
4. New Lane Configuration

## 9.2 Telford Street Pedestrian Bridge Options

- Remove and replace existing bridge

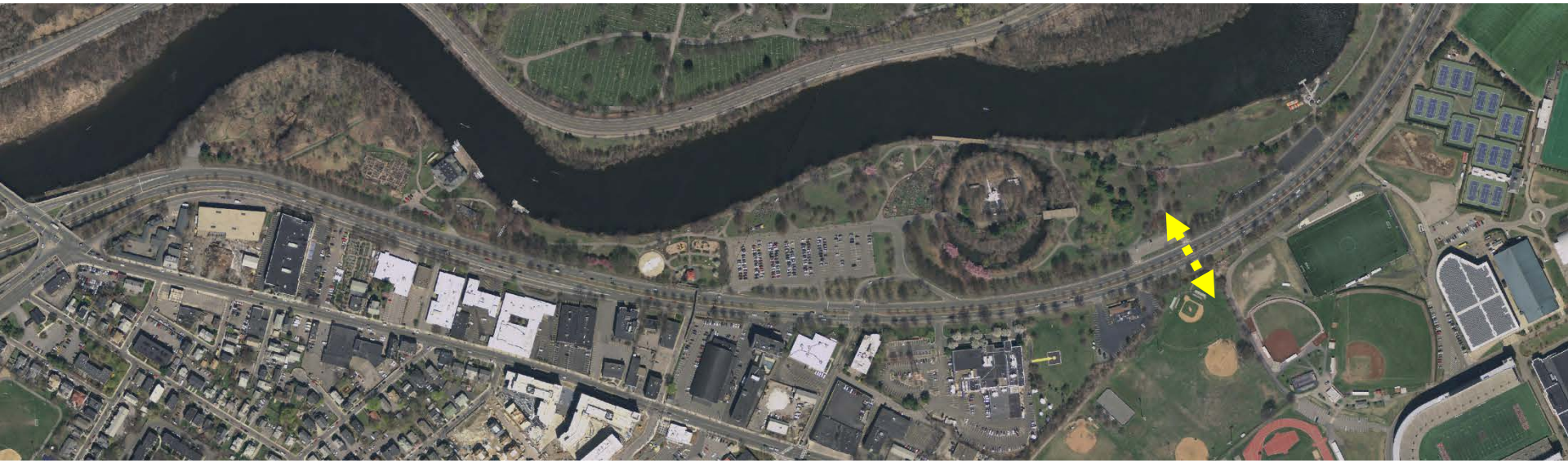
- Remove existing bridge and provide at-grade crossing
  - Several options considered
  - Requires reconfiguration of SFR EB On-Ramp
  - High speed without active traffic control not recommended

- Rehabilitate existing bridge structure **(PREFERRED)**
  - Bridge structure in generally good condition based on visual inspections
  - Ramp options with varying costs:
    1. Maintain the existing ramp configuration with improved surface and ground transitions
    2. Reconfigure the south-side ramp parallel to SFR
    3. Straighten the south-side ramp towards Western Avenue and reconfigure the north-side ramp into a helical design
    4. Straighten the south-side ramp towards Western Avenue with pedestrian plaza at ramp landing **(PREFERRED)**



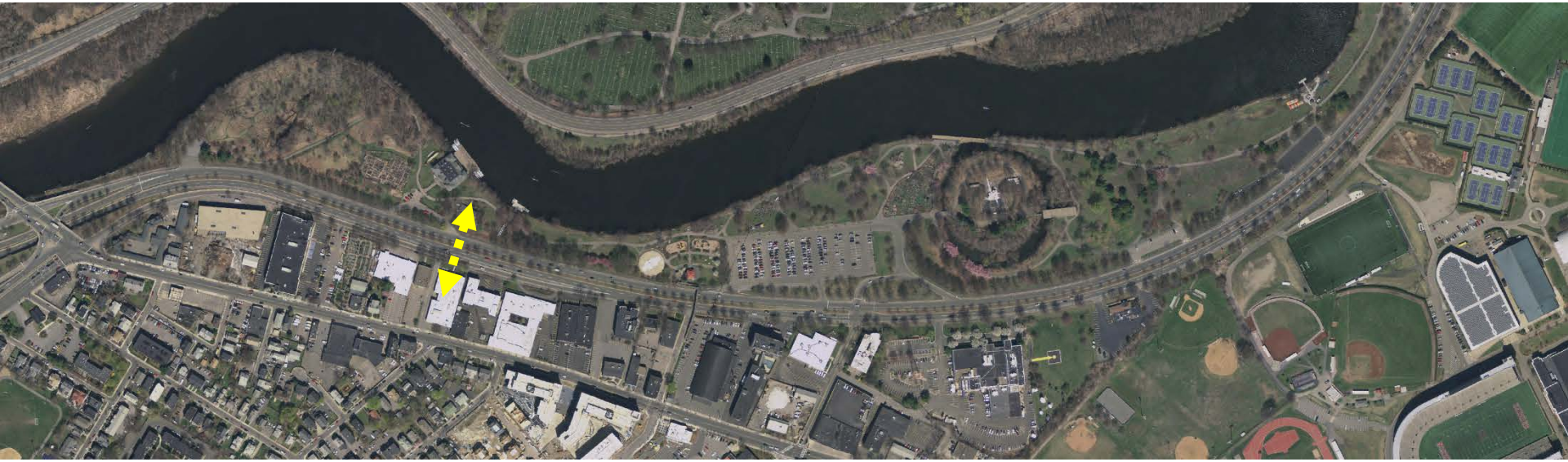
## 9.3 Smith Field

- Signalized at-grade crossing not currently warranted
- Opportunity for crossing should be reviewed as part of the Smith Field Master Plan
- Site of crossing should be coordinated with potential future enhancements to Harvard Athletics Complex



## 9.4 West of Telford Street

- Signalized at-grade crossing not currently warranted
- Further consideration of an at-grade crossing requires resolution of potential significant modifications to Soldiers Field Road, including the reconfiguration of the Eastbound On-Ramp and access to adjacent properties



## 10. Next Steps

- Outreach and analysis revision
- Agency review
- Refinement of cost estimates
- Development of implementation strategy