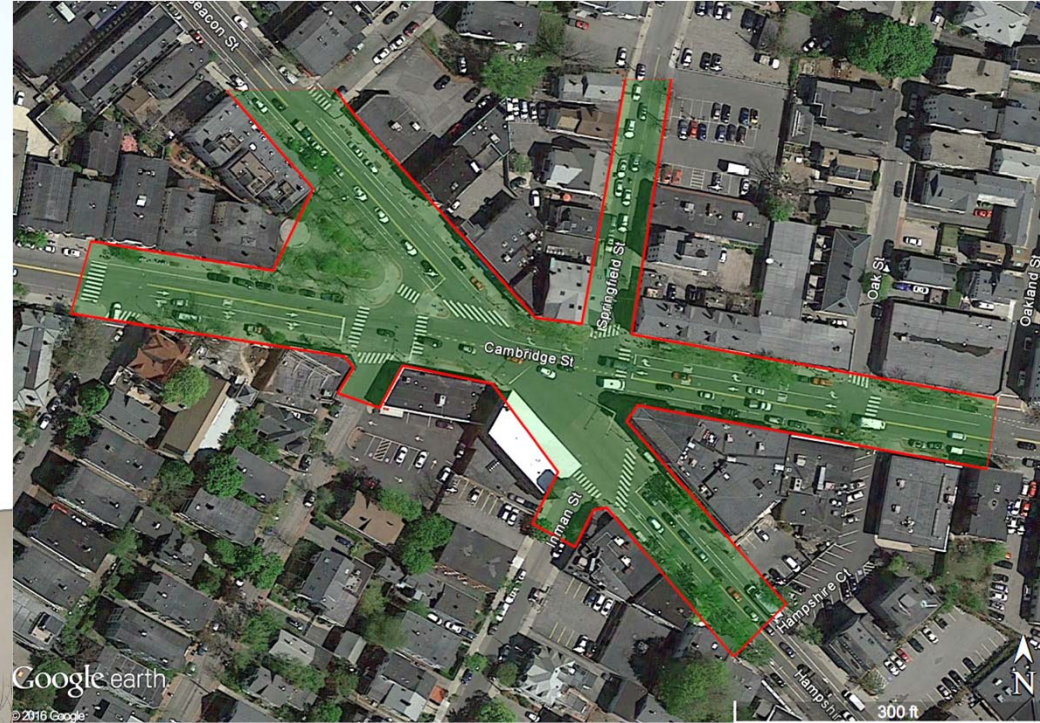


# INMAN SQUARE INTERSECTION SAFETY IMPROVEMENTS PROJECT



Community Meeting #4 | January 30, 2018



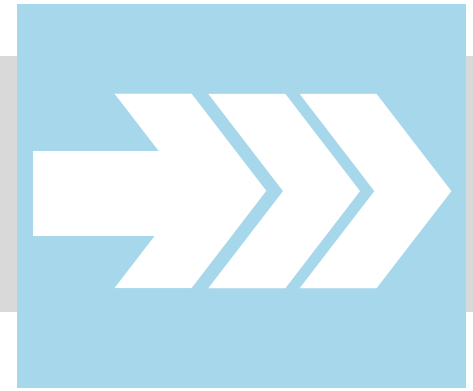
INMAN SQ PROJECT  
**Agenda**



**Project  
Background**



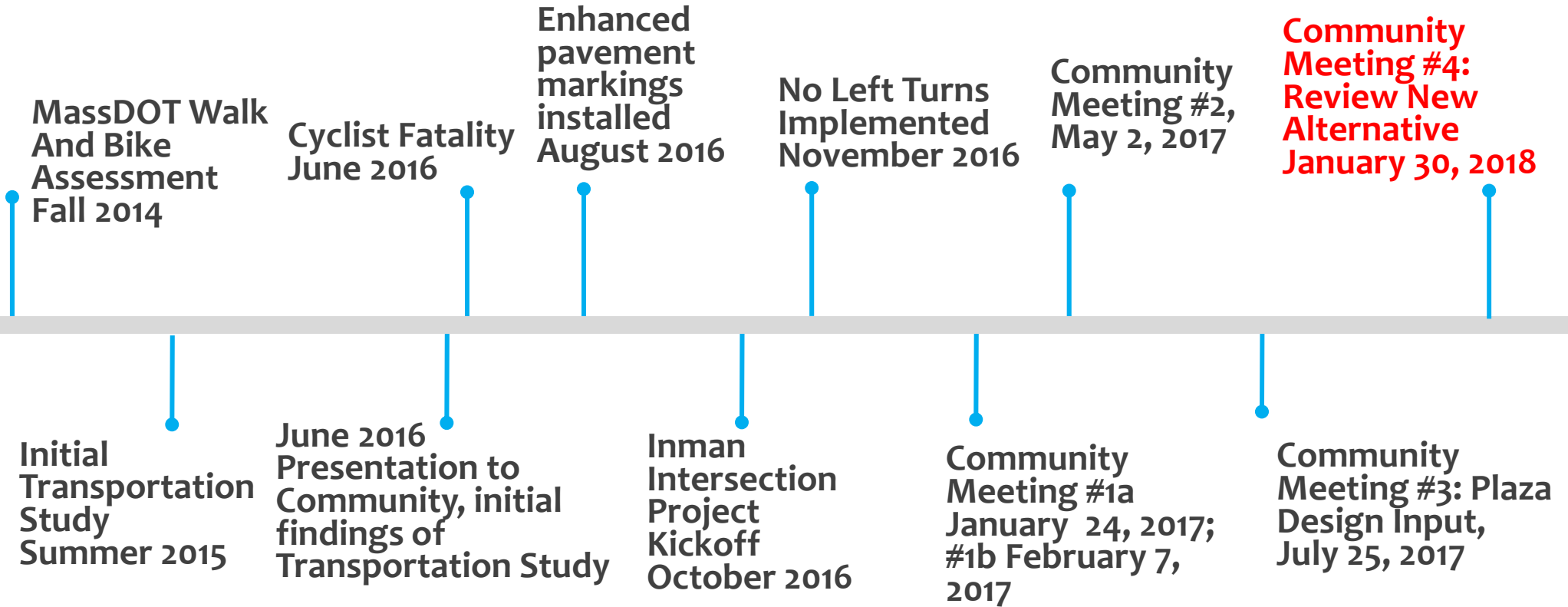
**Evaluation of  
Concepts**



**Next Steps**



# Project Timeline

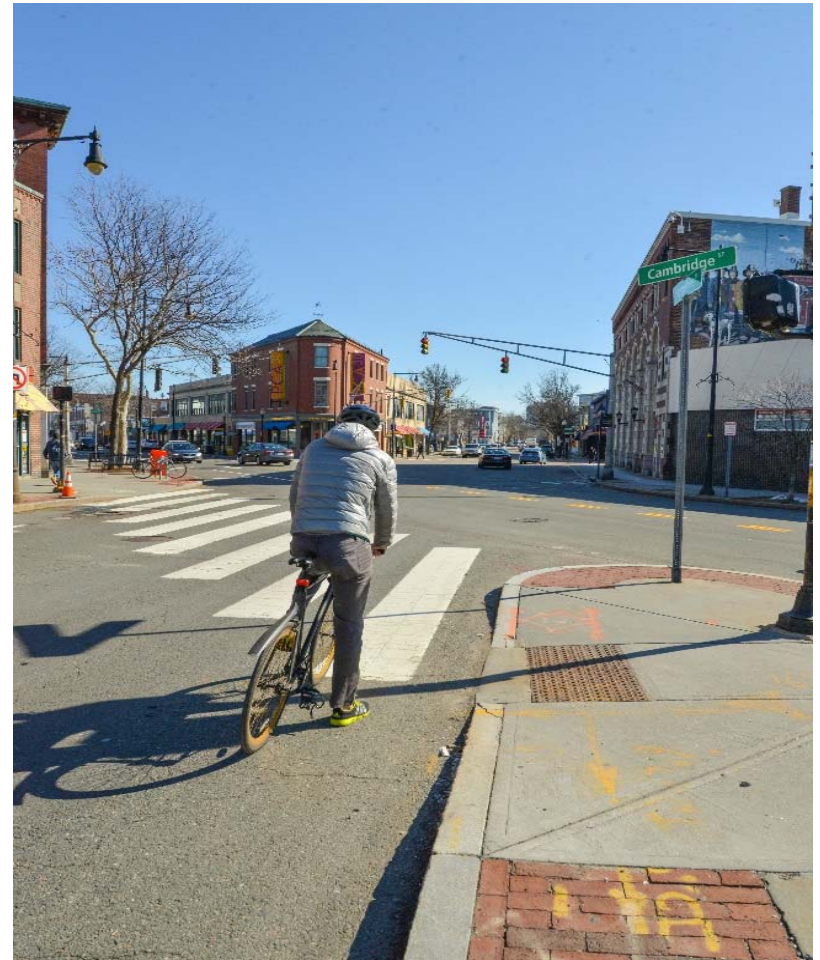


Note: Separate from the above noted community meetings, the City has met with various stakeholder groups

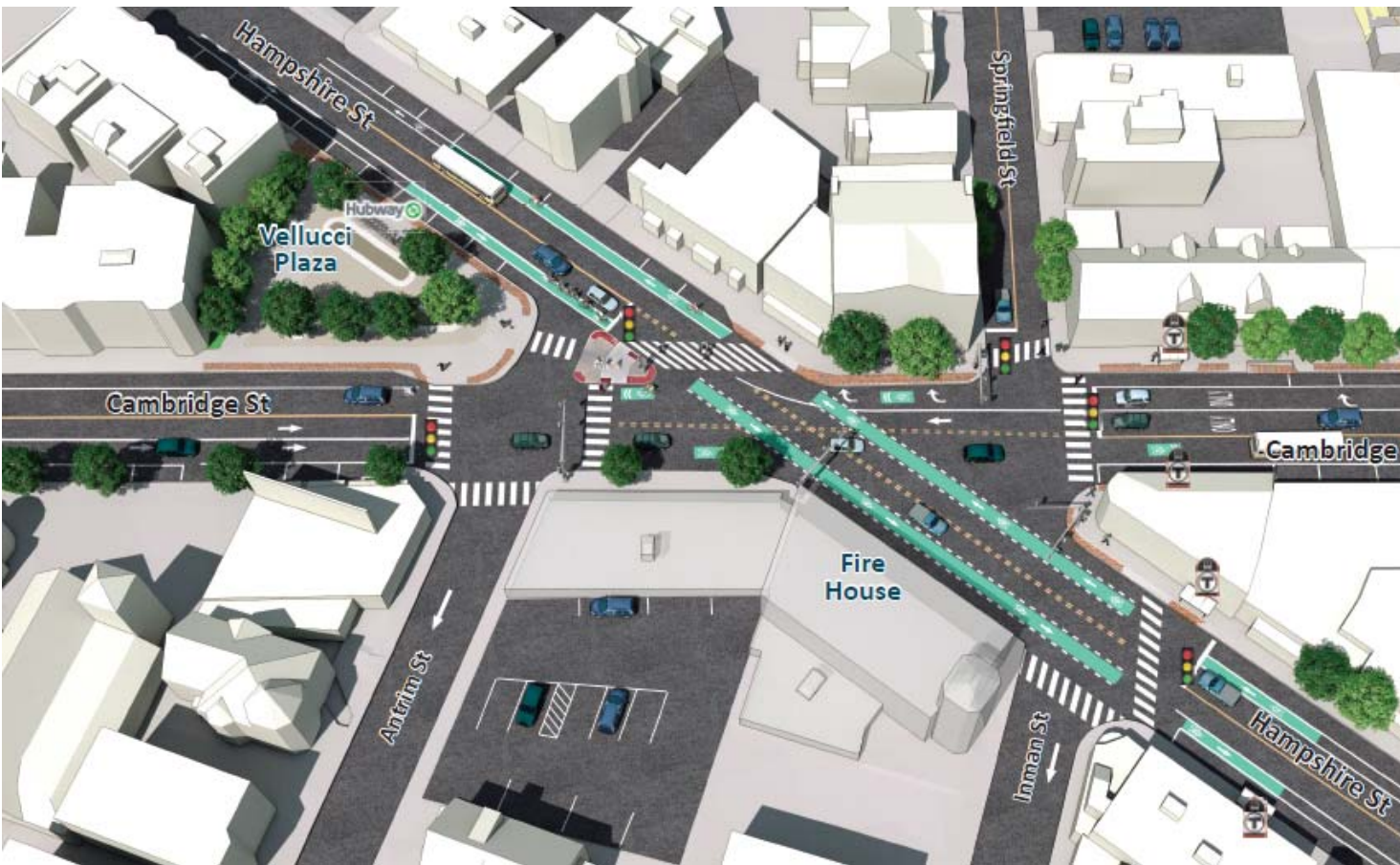


# Initial Transportation Study

- **Complaints of high delay for all modes of transportation**
  - Long signal cycle lengths
  - High volumes of bicyclists
- **Existing operational deficiencies**
  - Layout of crosswalks irregular
  - Large intersection for bicyclists and vehicles to traverse
- **Review of Crash Data 2008-2012**
  - 69 total crashes in 5 years (exceeds MassDOT avg Statewide crash rate)
  - Most frequent type of crash type – angle crash
  - 15 bicycle involved crashes, 5 pedestrian involved crashes



# Existing Conditions



1. Crosswalks outside of desire lines and some not signal controlled
2. Existing geometry results in long distance for pedestrians and bikes to travel
3. No signal control for Hampshire Street Southbound turn to Antrim Street
4. Issues with clearance time for all users
5. Unclear lane control on Cambridge Street

Project Background

# Primary Project Goal



***Provide a safer intersection for all modes of transportation***

# Desired Outcomes



- Reduce exposure through more compact intersection design
- Minimize conflicts with turning vehicles
- Provide separation from moving traffic and pedestrians



- Reduce length of crosswalks and signal wait times
- Provide more direct crosswalk routing
- Provide improved pedestrian environment through landscaping and enhanced amenities



- Reduce unnecessary vehicular delay
- Provide clear guidance and lane controls
- Increase efficiency through more compact intersection design
- Limit parking impacts



- Reduce bus/transit delay
- Improve location of and access to MBTA bus stops

# Desired Outcomes (continued)



- Maximize quality and experience of plaza space



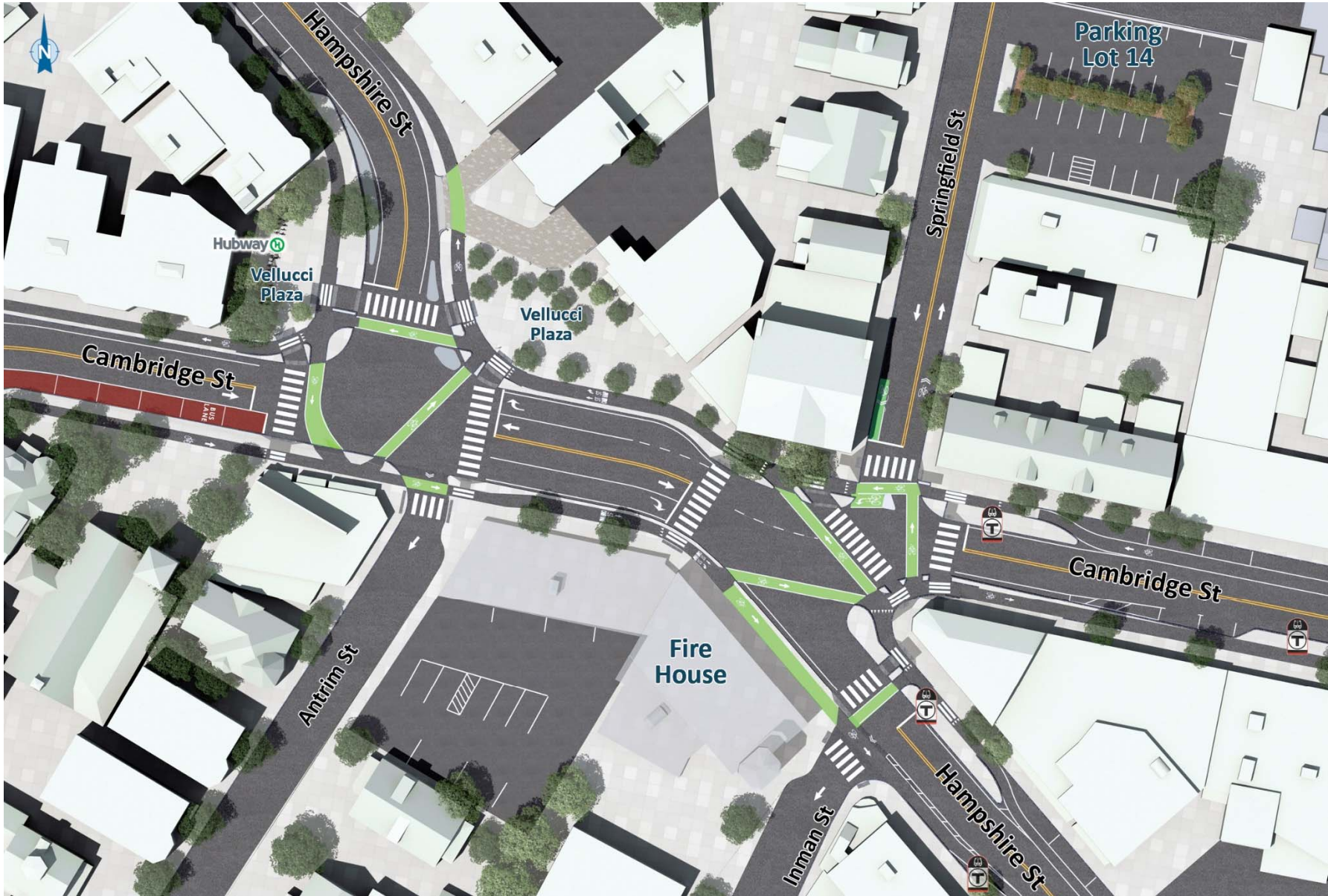
- Maintain truck access through intersection
- Provide business loading opportunities



- Maintain protected firehouse egress/access

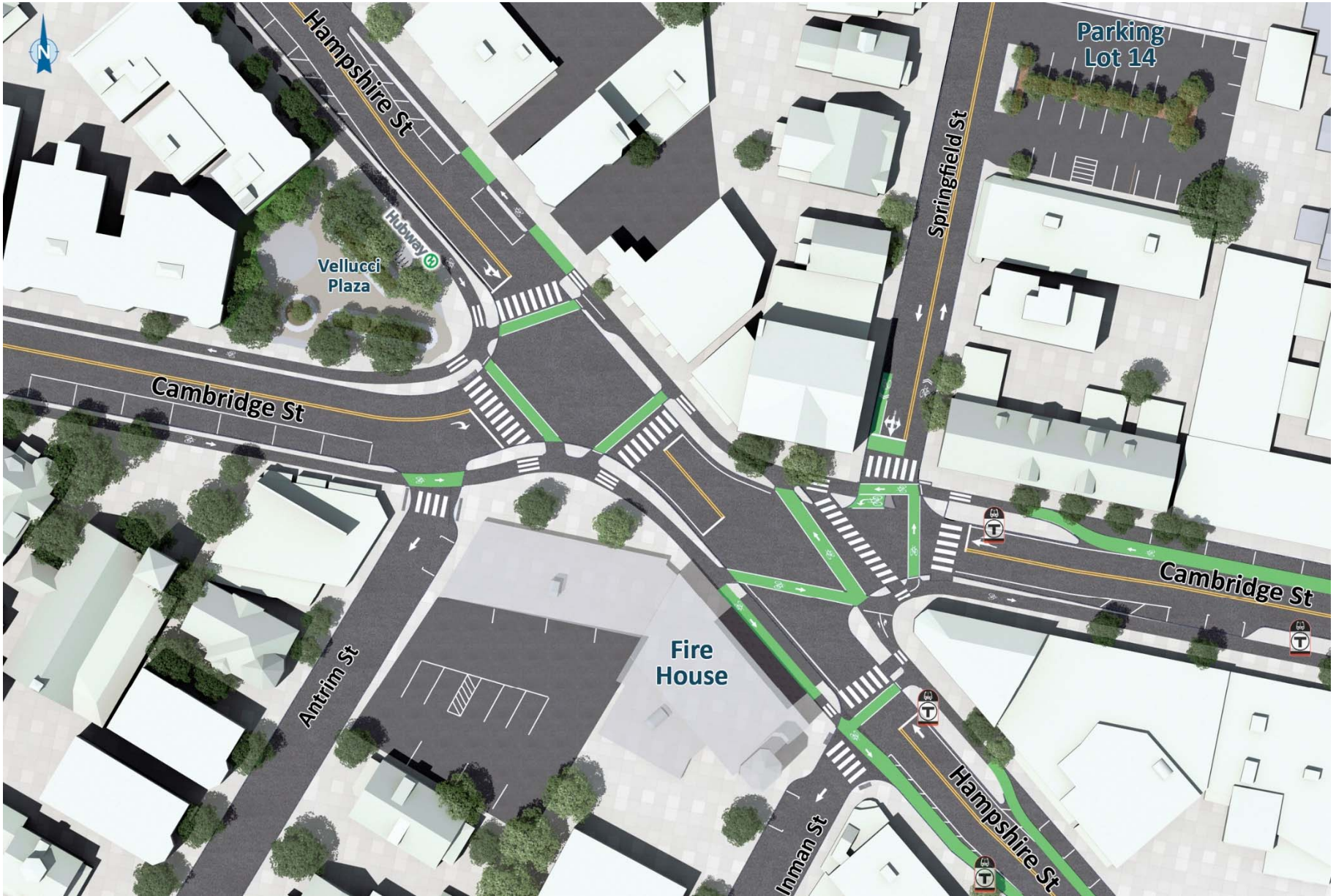


# Current Concept



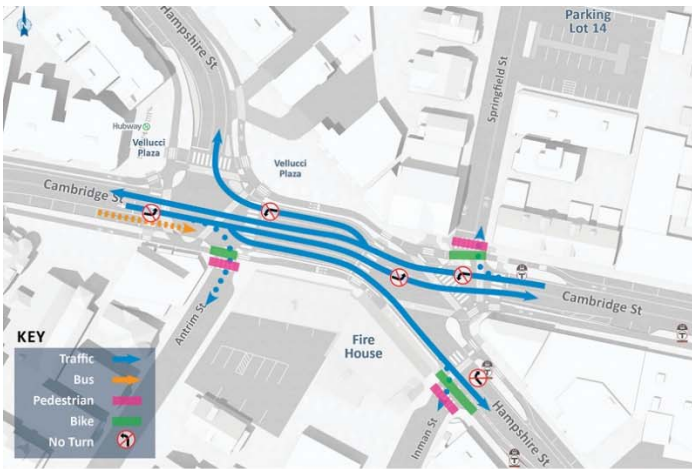


# Alternative Concept

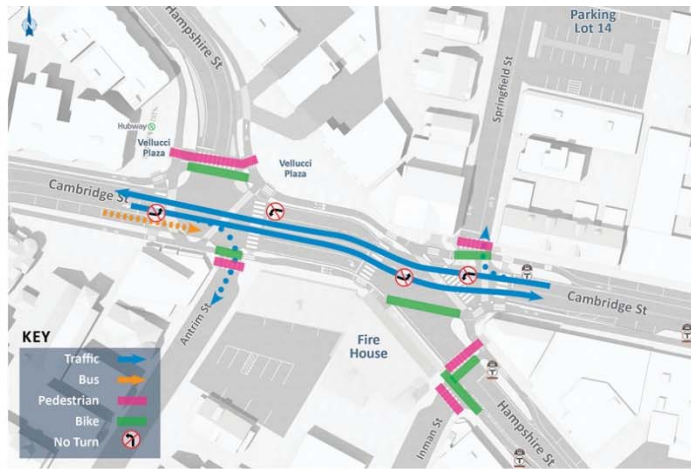




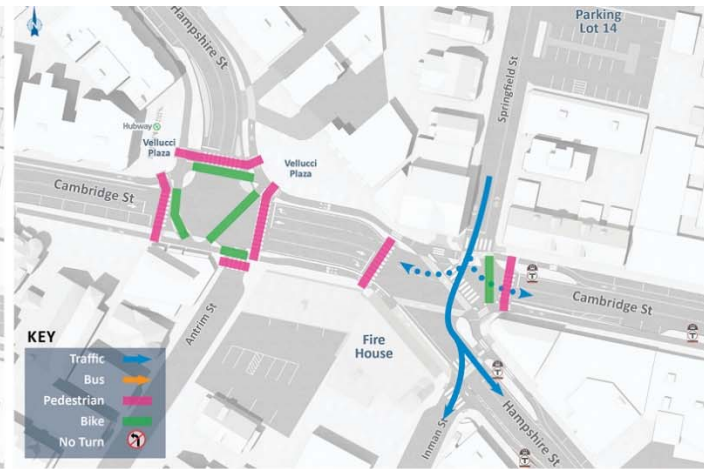
# Operations – Current Concept



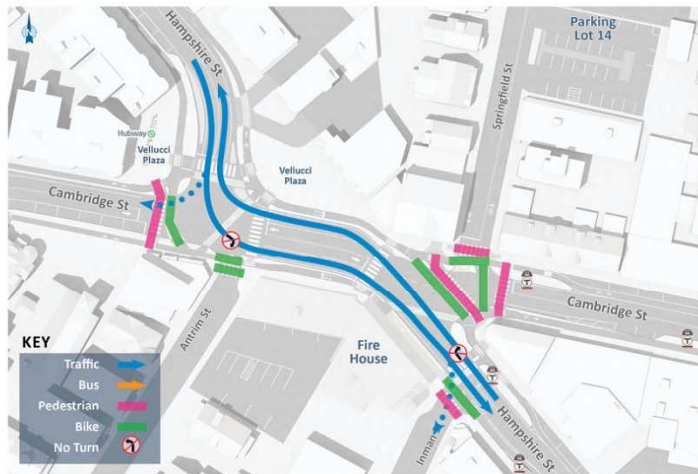
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PM: 20s



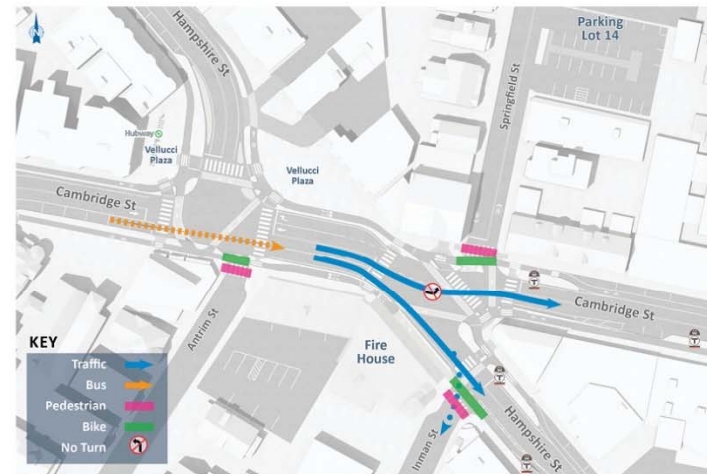
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PM: 18s



AM: 20s  
PM: 20s



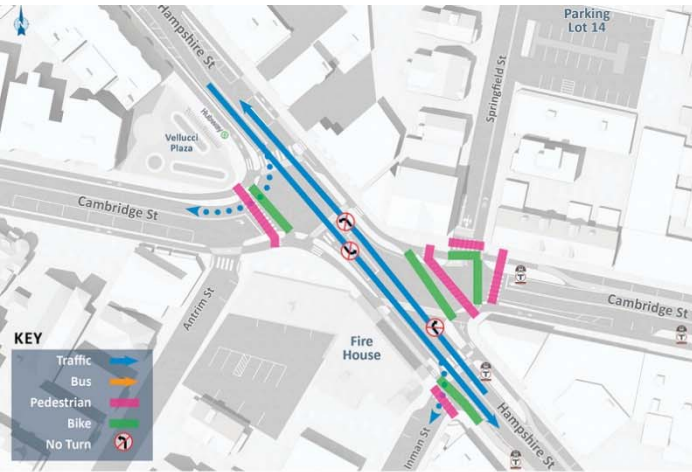
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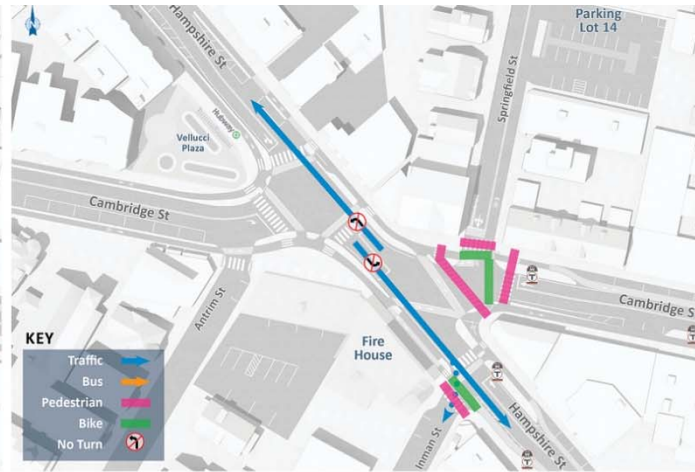
AM: 8s  
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Evaluation of Concepts

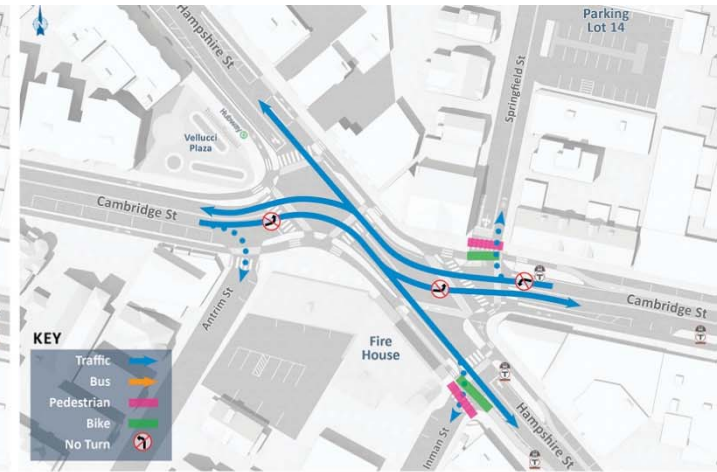
# Operations – Alternative Concept



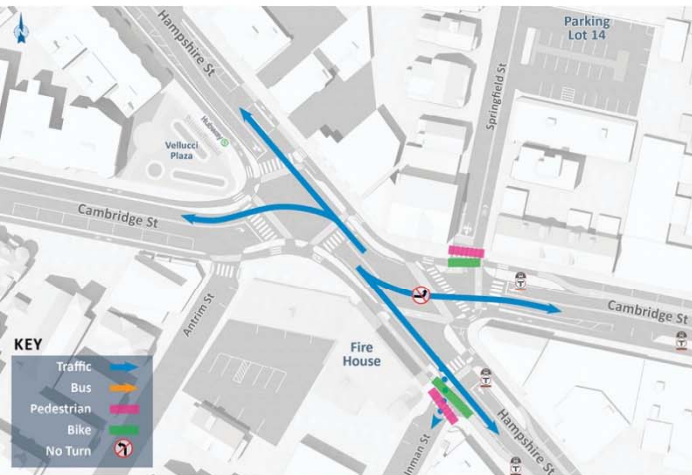
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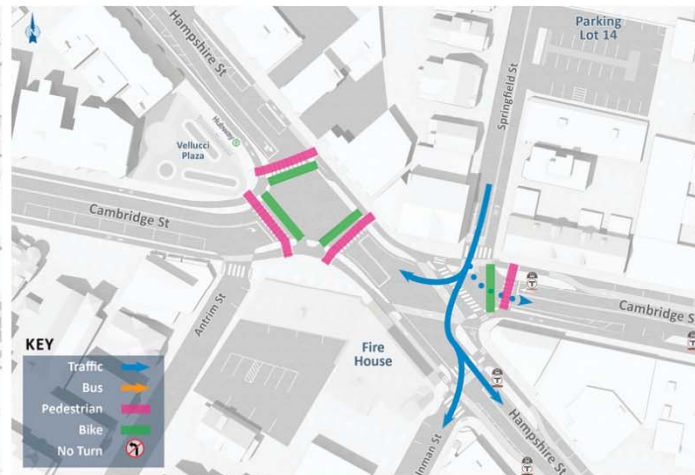
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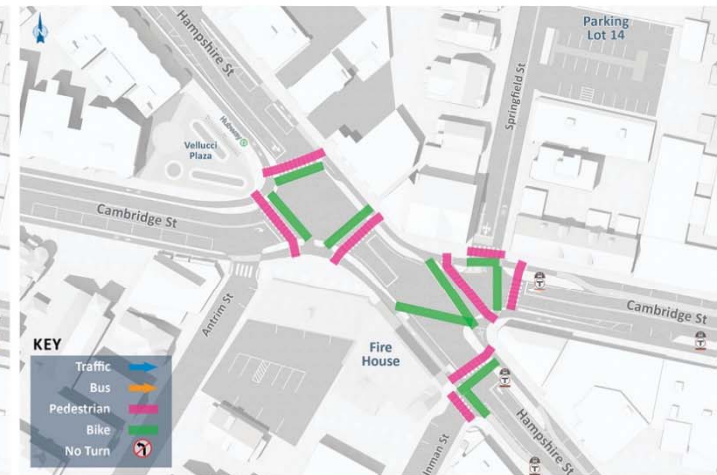
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AM: 6s  
PM: 6s



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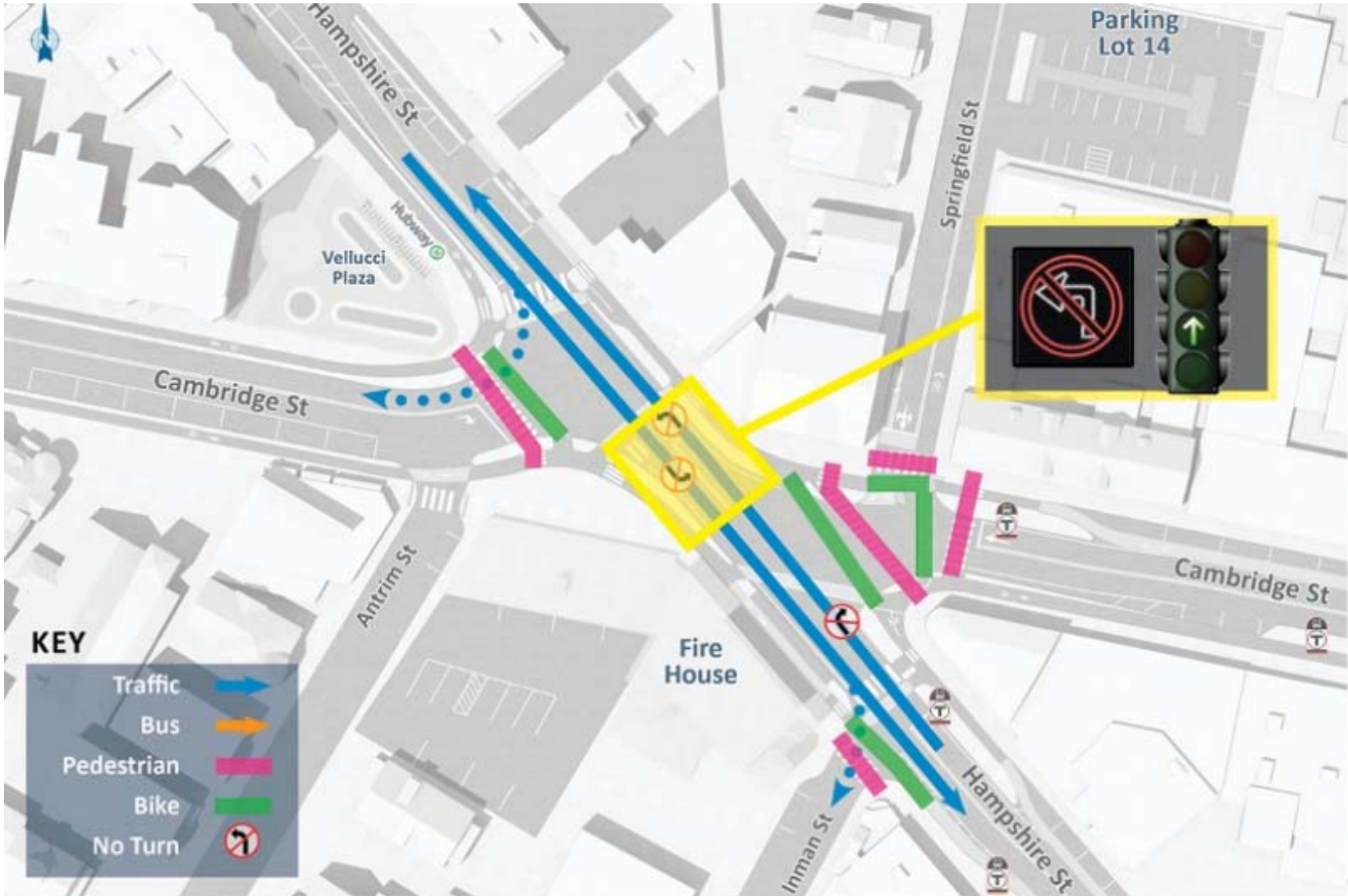


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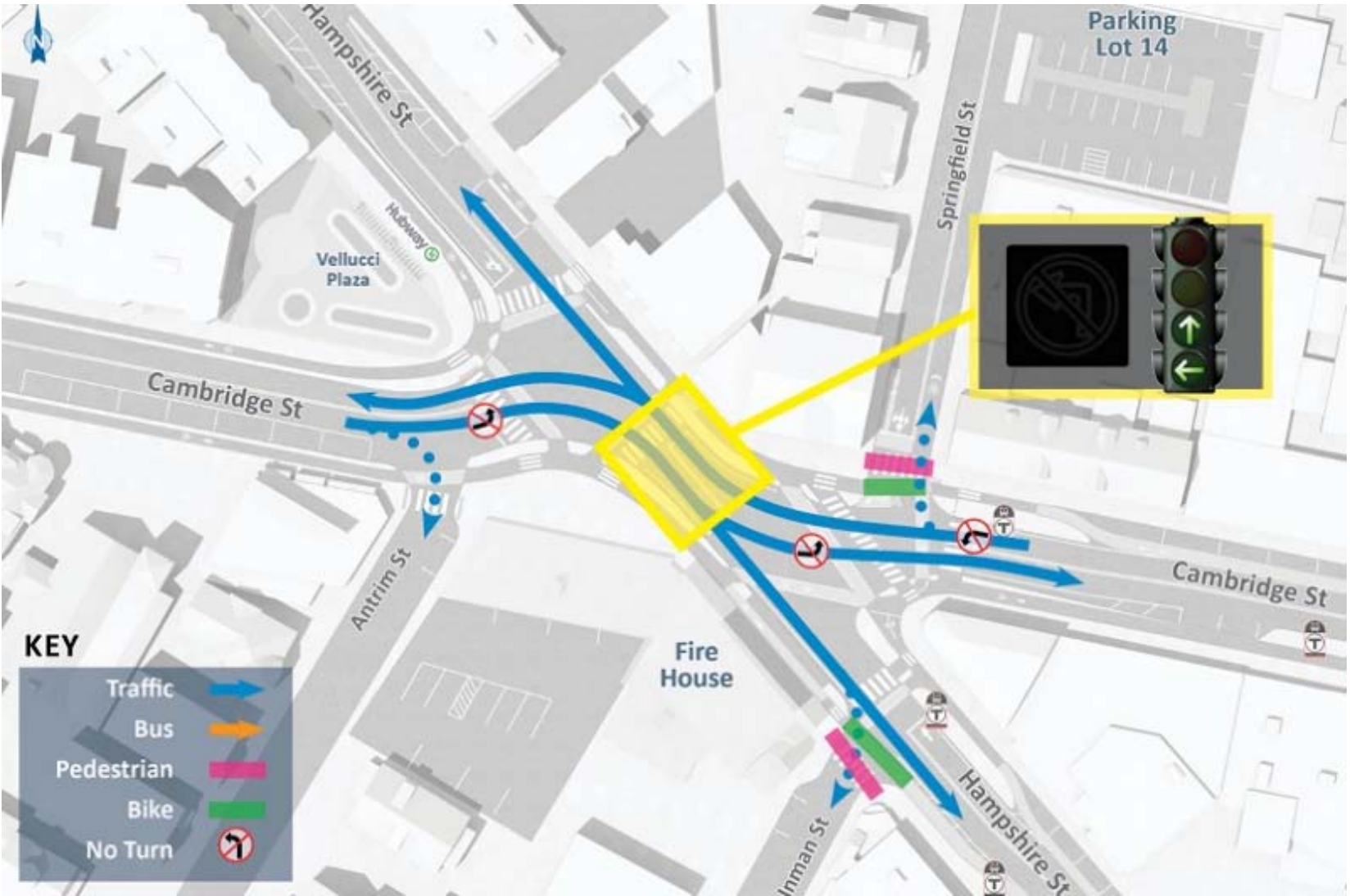
# Operations – Alternative Concept



Note: Signals represented for illustrative purposes only

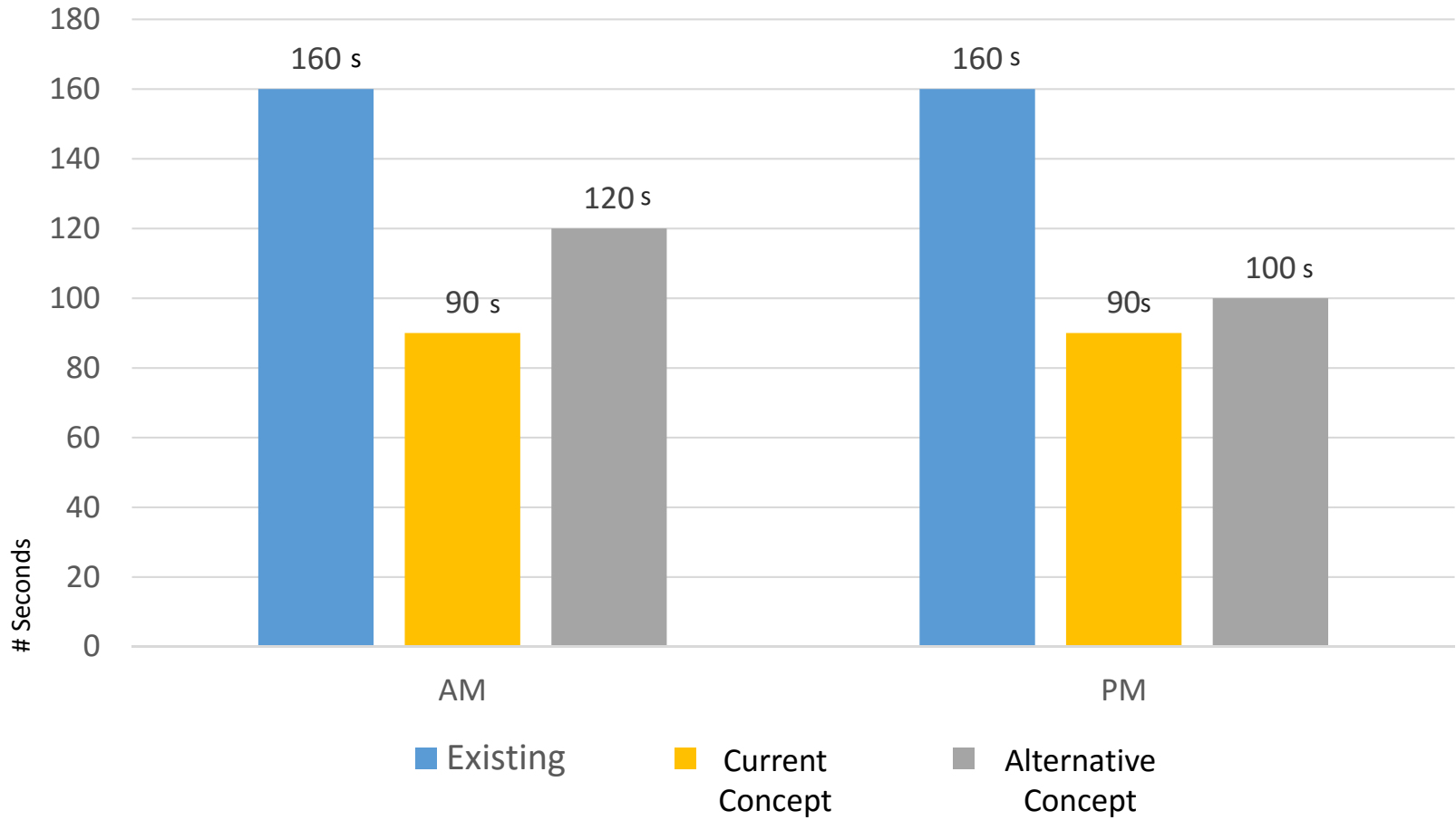


# Operations – Alternative Concept



Note: Signals represented for illustrative purposes only

## Traffic Signal Cycle



# Evaluation Criteria

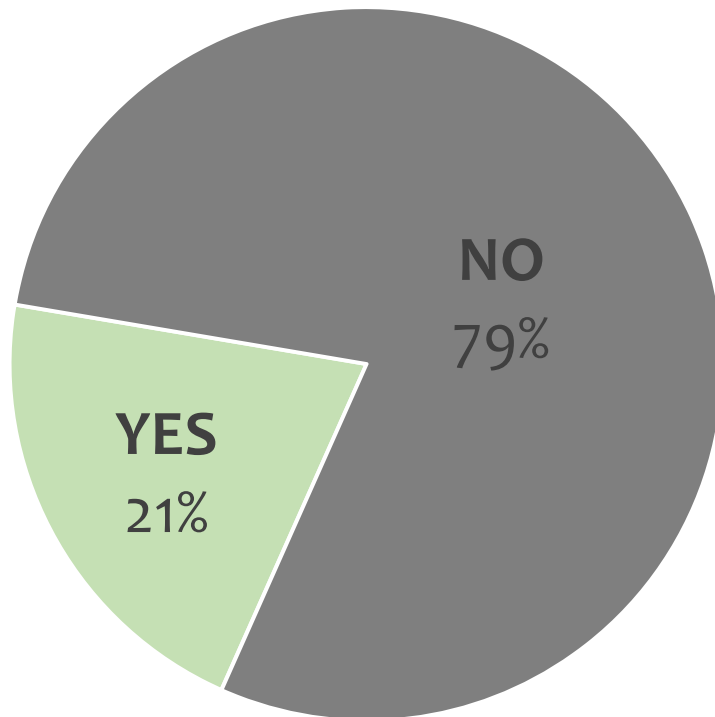
- **Plaza space**
- **Tree Canopy / Environmental Goals**
- **Safety/alignment with Vision Zero policy (#1 priority)**
- **Clear and intuitive for all users**
- **Travel delay (all modes)**
- **Transit improvement opportunities**
- **Curb Use (parking and loading)**



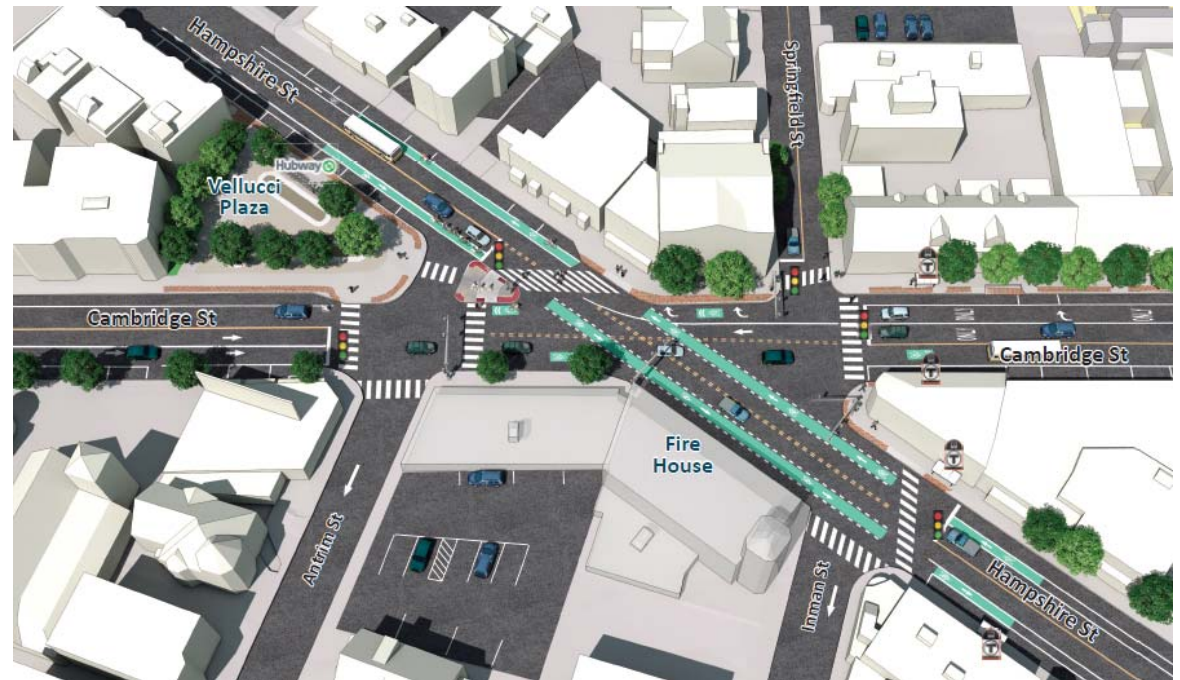
# Plaza Space

Do you think Vellucci Plaza  
should stay the way it is today?

(Question on January 2017 survey at beginning of project)



441 responses



Evaluation of Concepts

# Plaza Space





Square Dancing in Lafayette Square, Cambridge

- **Flexible**
- **Functional**
- **Green**
- **Inclusive**
- **Engaging Artists**
- **Distinctive**
- **Memorable**
- **Active Users**
- **Support Local Business**



Evaluation of Concepts



# Plaza Space

## Precedents and Vision



Block Party at One Kendall Square,  
Cambridge



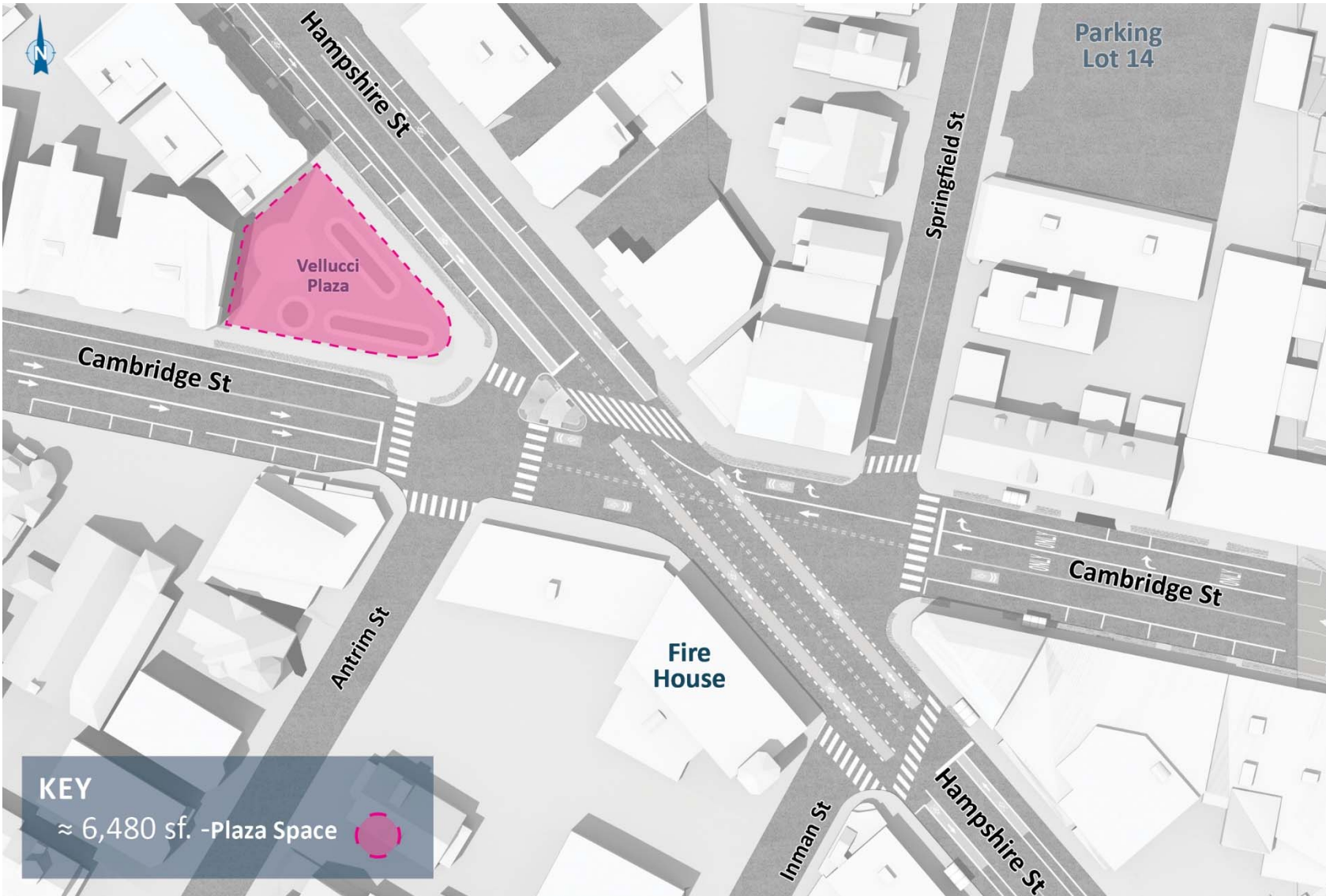
Music and Pigeons in Inman Square,  
Cambridge



Square Dancing in Lafayette  
Square, Cambridge



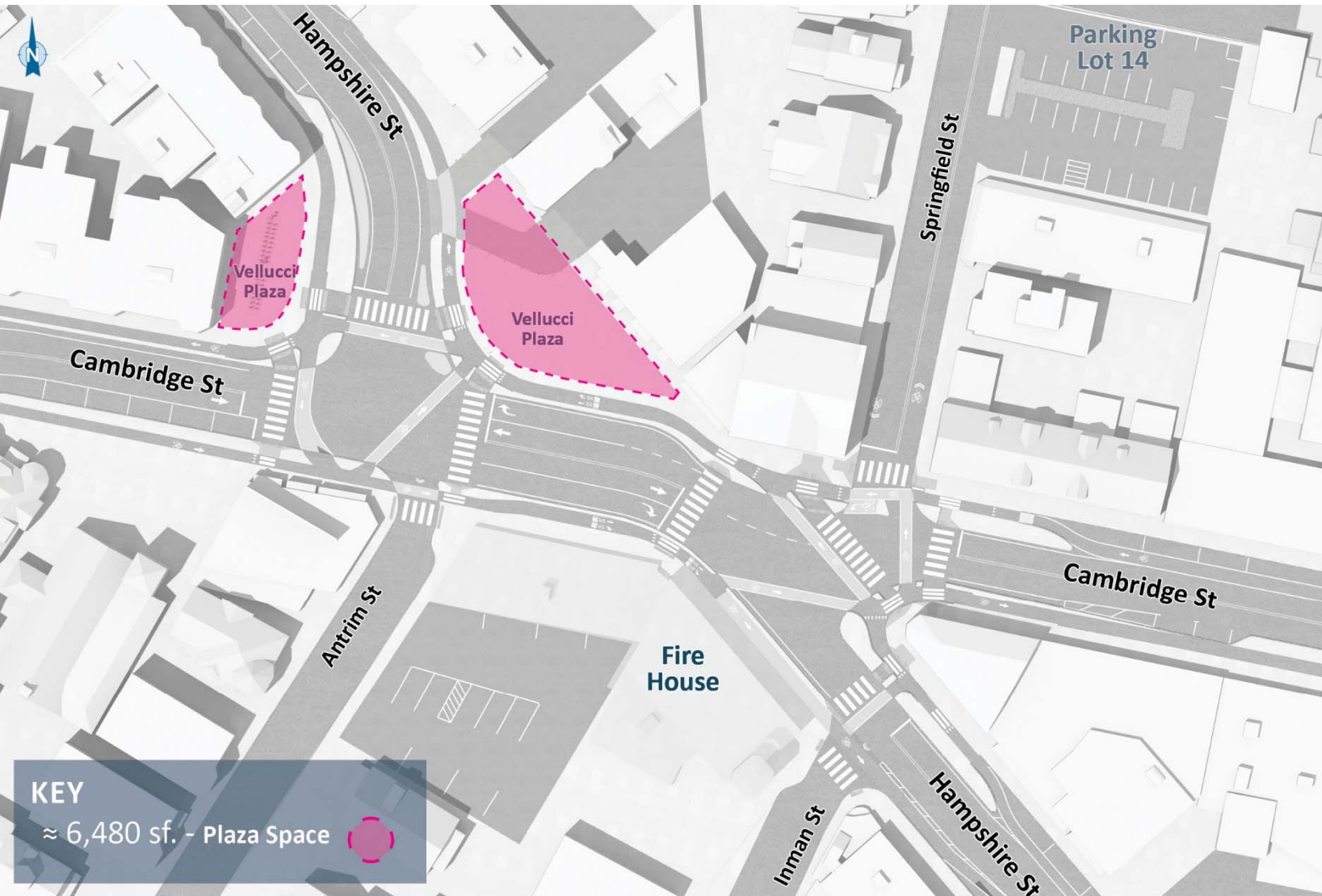
# Plaza Space - Existing



**KEY**  
≈ 6,480 sf. -Plaza Space

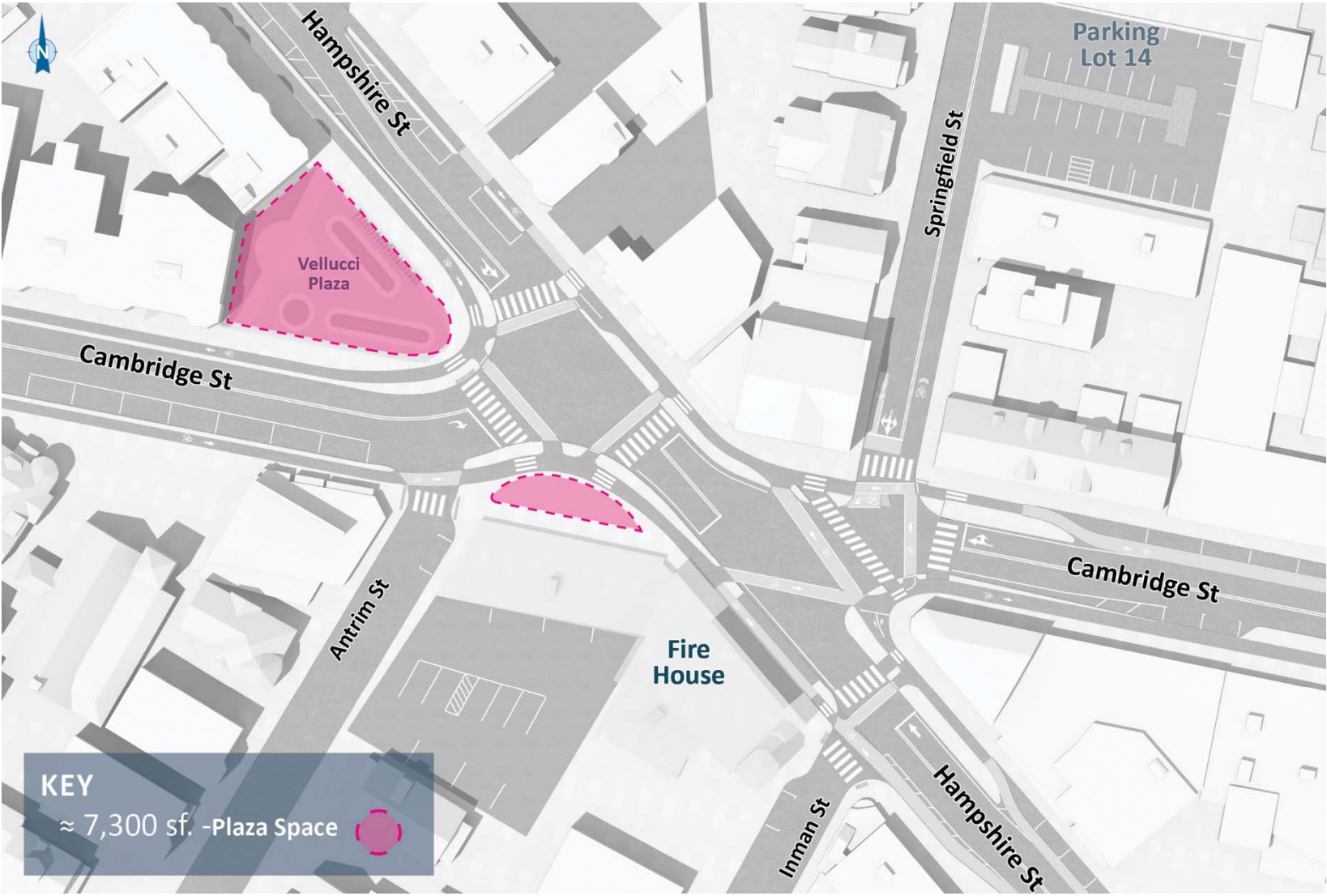
# Plaza Space

## Current Concept



Evaluation of Concepts

# Plaza Space Alternative Concept



**KEY**  
≈ 7,300 sf. -Plaza Space



Evaluation of Concepts

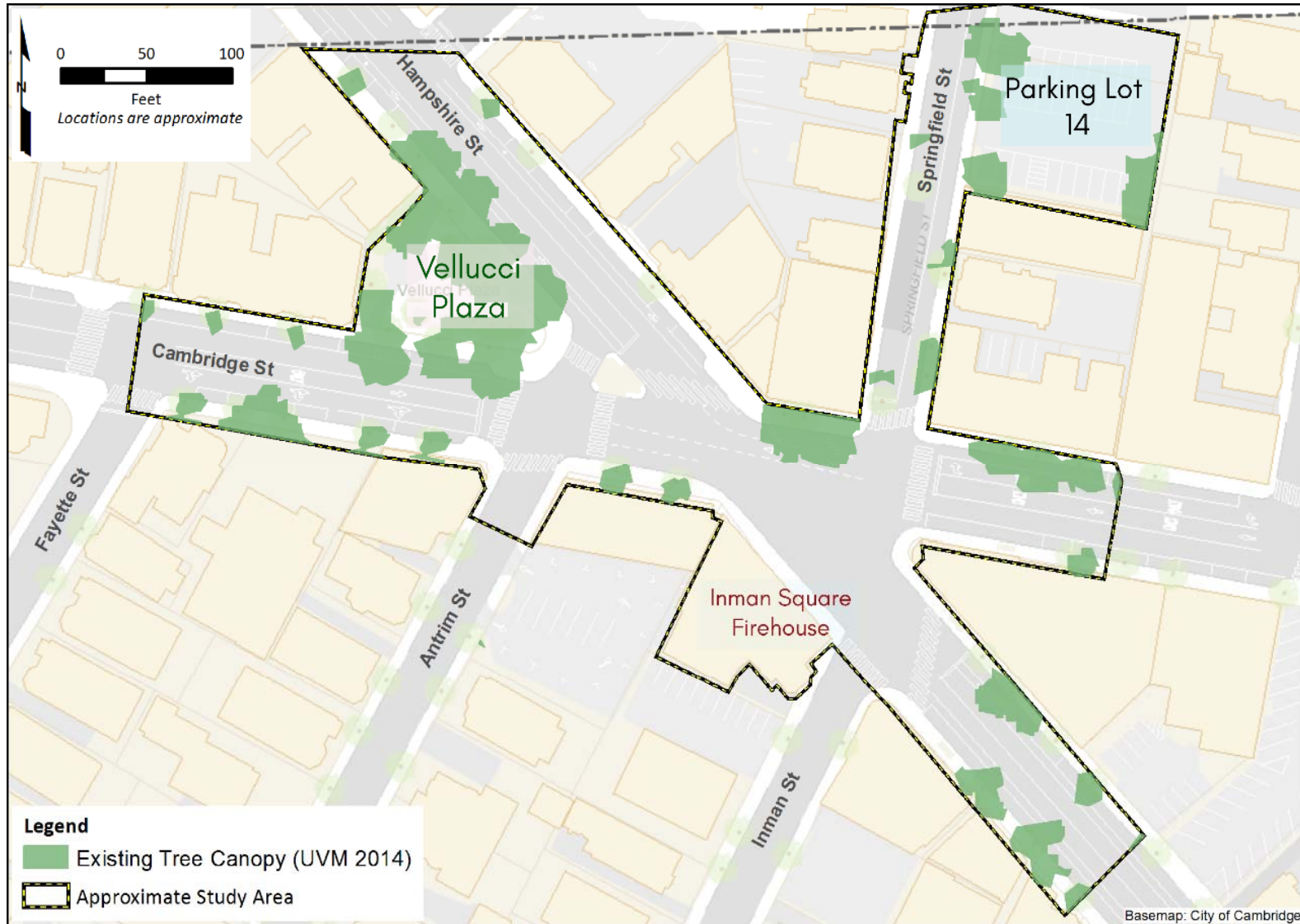
# Tree Canopy Existing Conditions



Source: Google Earth

# Tree Canopy

## Existing Conditions

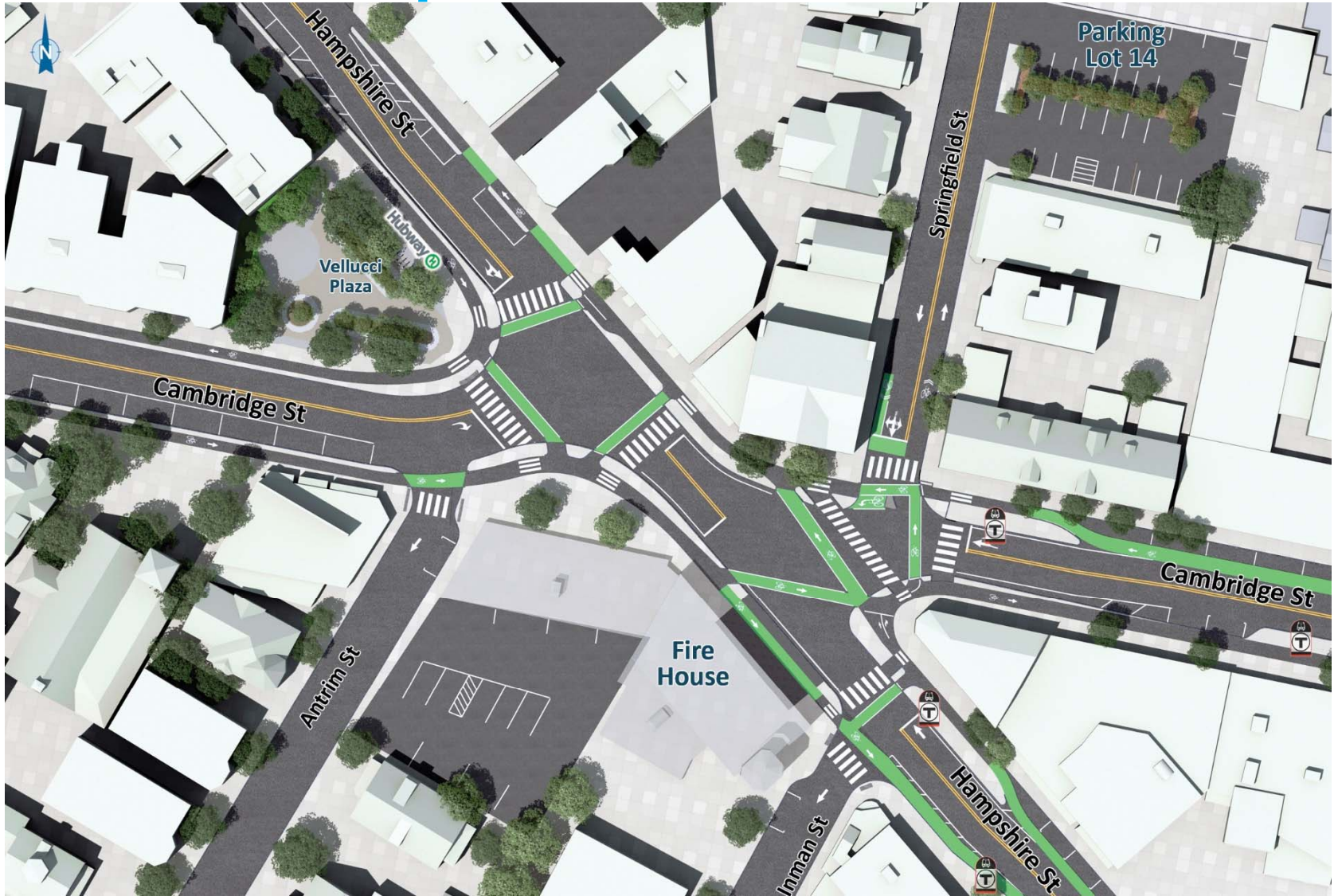




Evaluation of Concepts

# Tree Canopy

## Alternative Concept

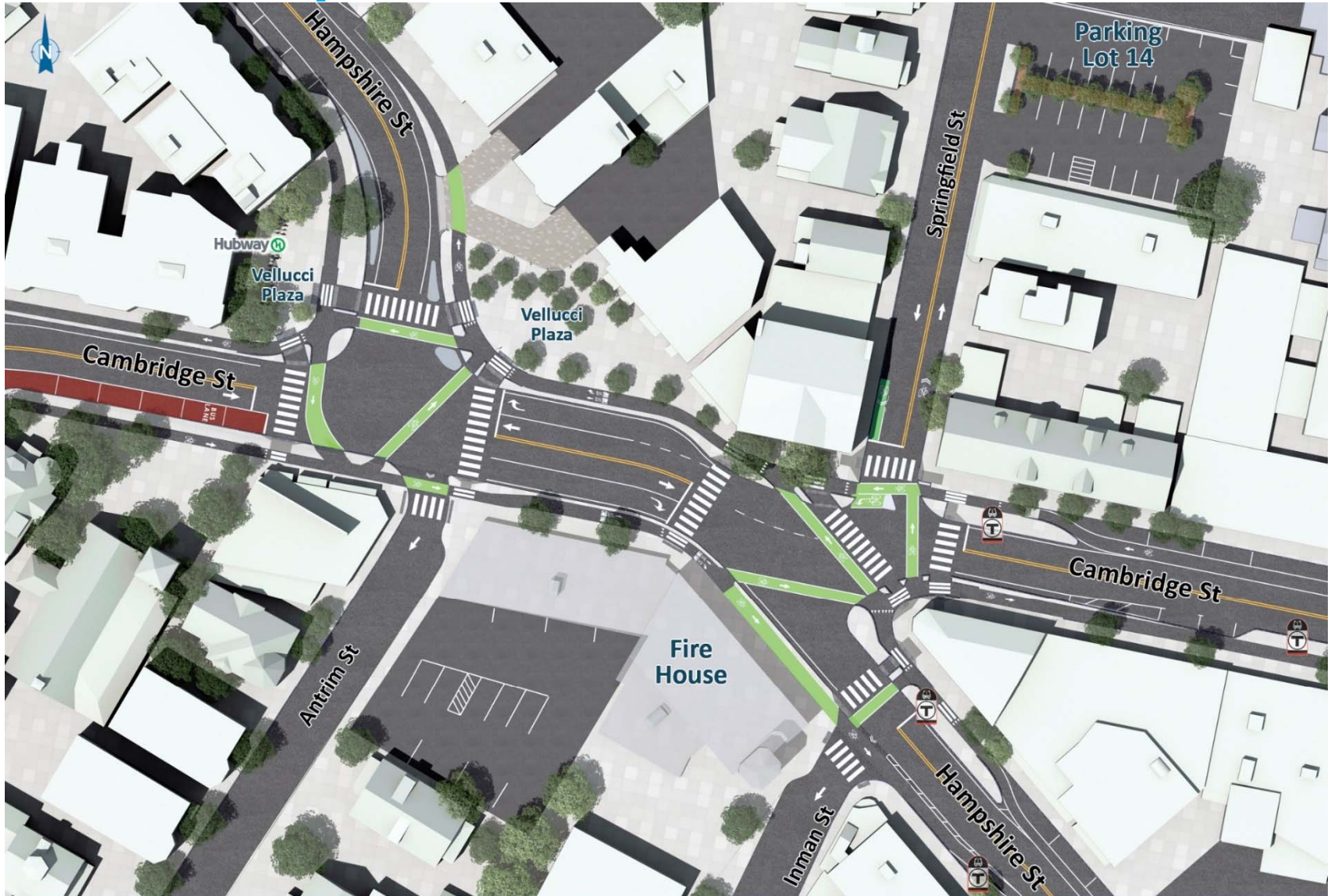




Evaluation of Concepts

# Tree Canopy

## Current Concept





# Tree Canopy

## Tree Preservation/Restoration Treatments

- Tree protection and pruning
- Air spading of roots
- Expanded tree pits
- Structural soil
- Water





Evaluation of Concepts

# Tree Canopy

## Trees Planted According to Updated Plaza Standards

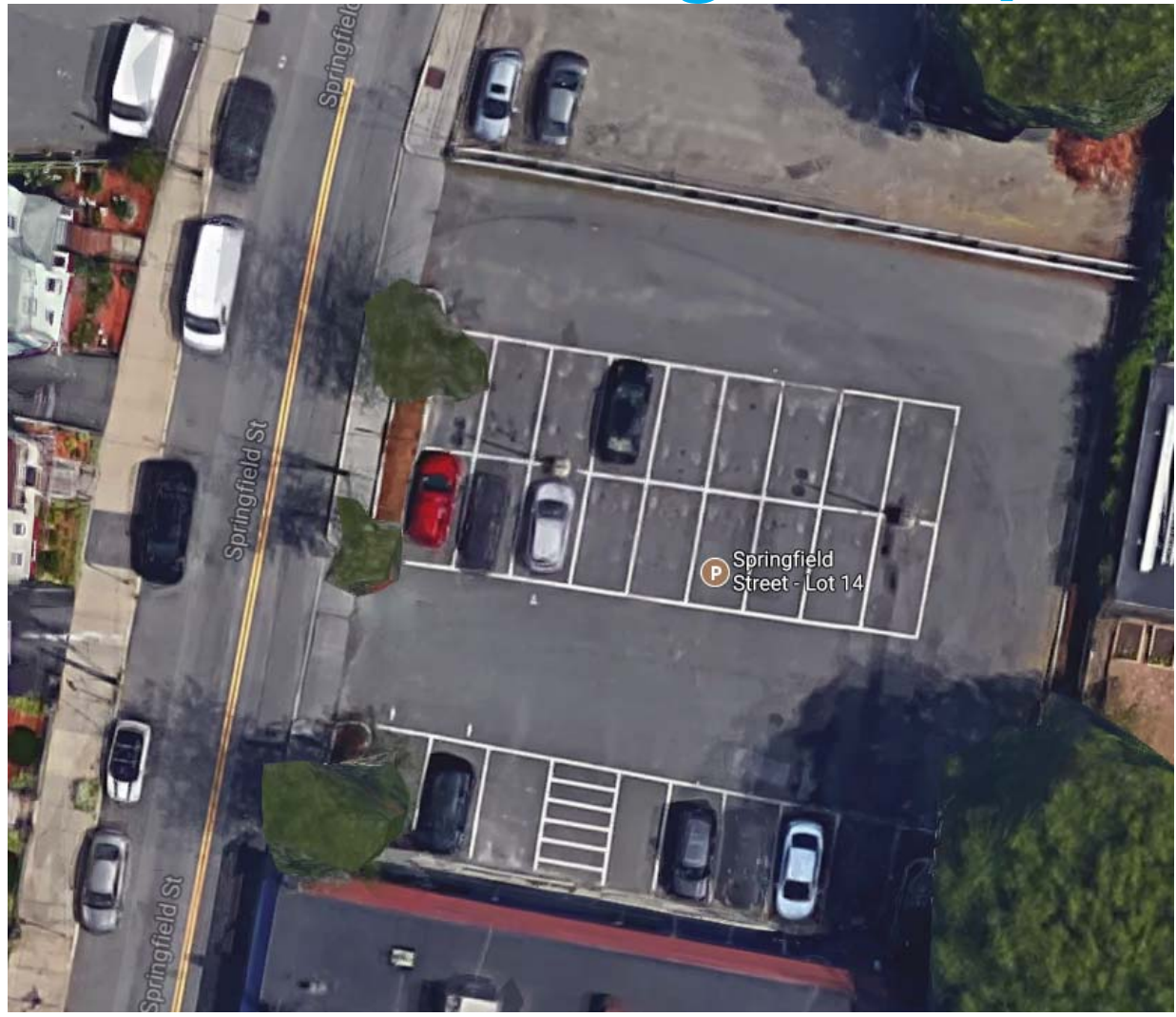




Evaluation of Concepts

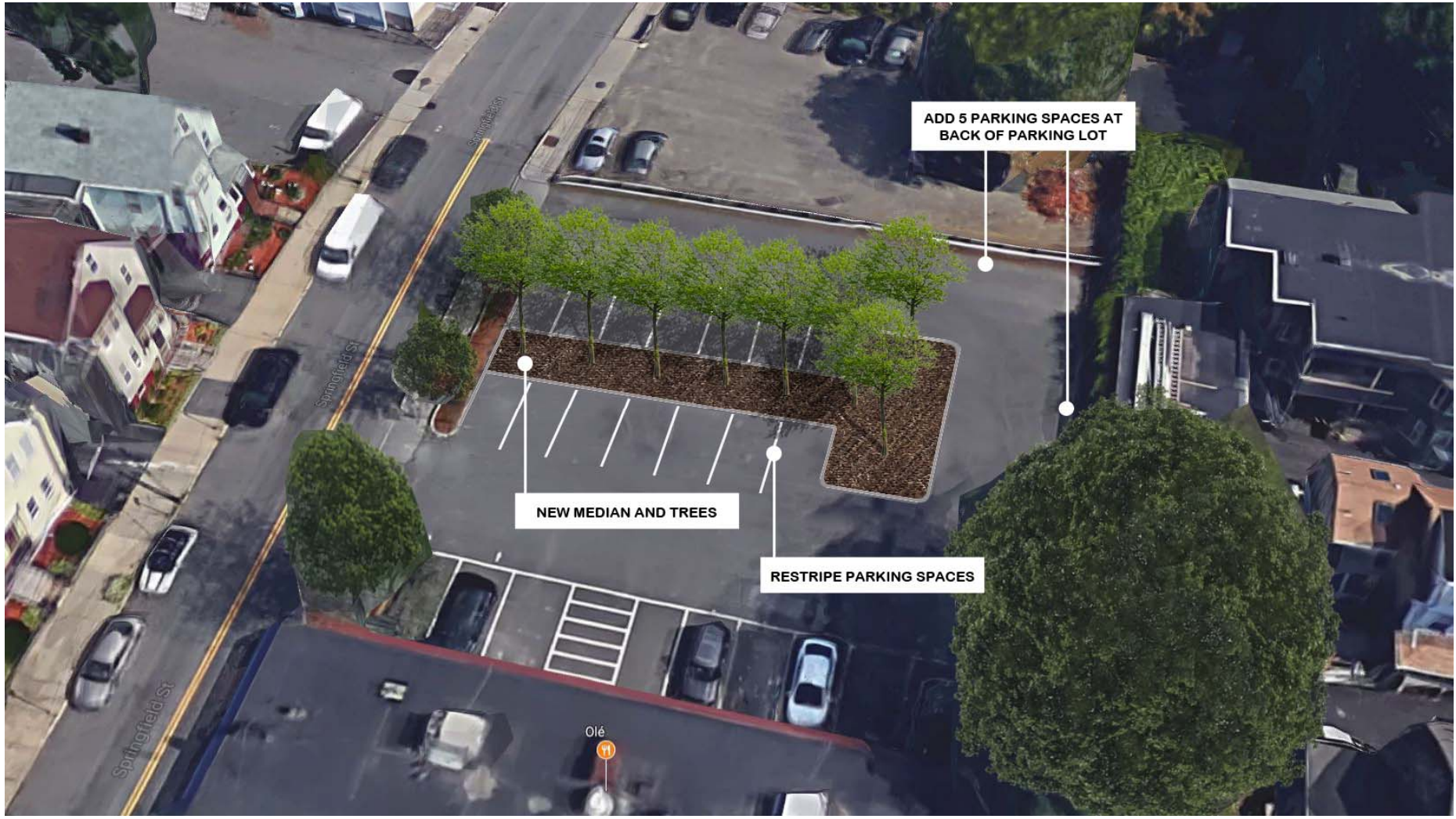
# Tree Canopy

## Springfield Street Parking Lot Improvements



# Tree Canopy

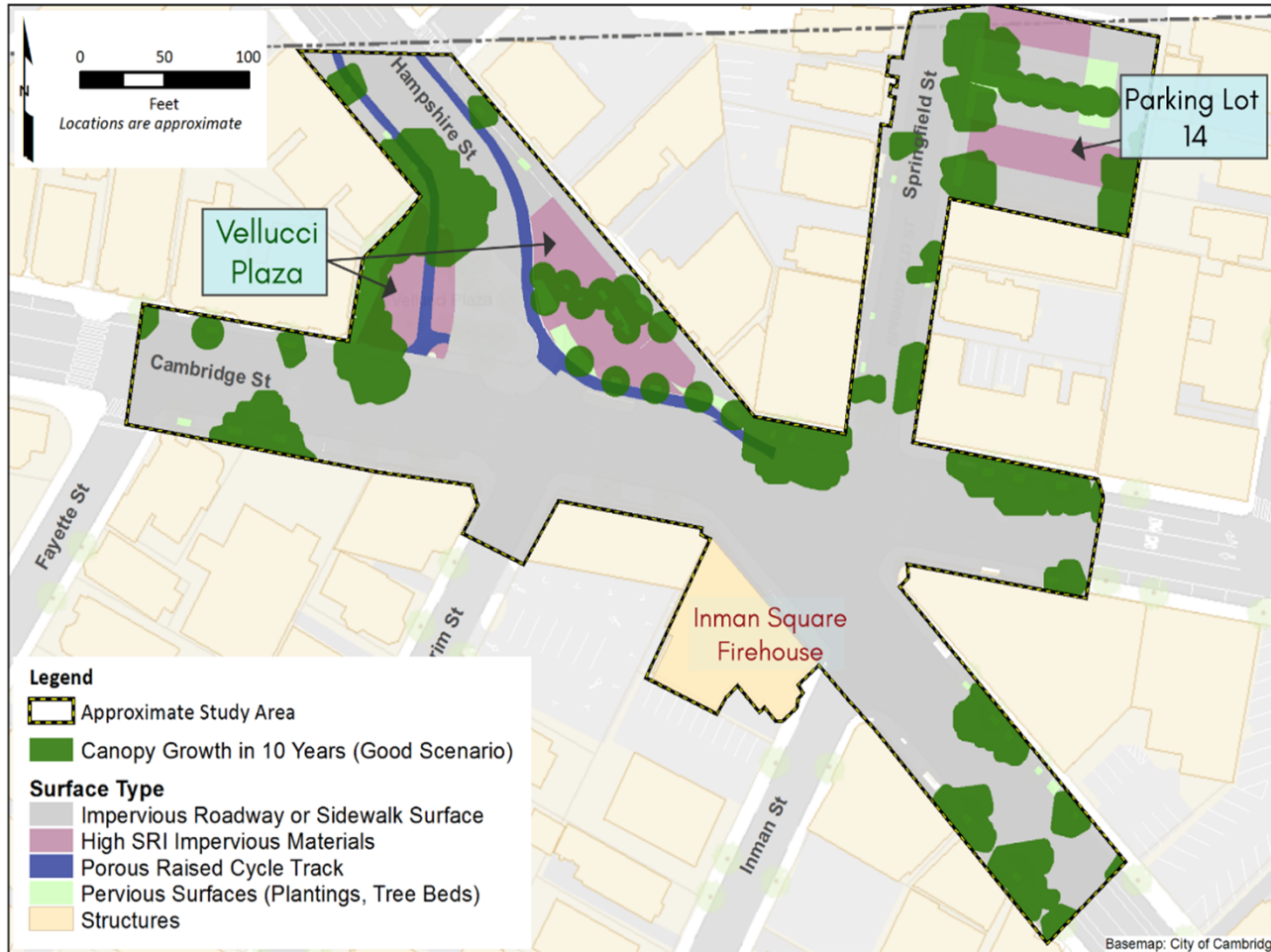
## Springfield Street Parking Lot Improvements





# Tree Canopy

## Current Concept: 10 year Growth



**Estimated 100% to 135% restored @10 Year Growth**

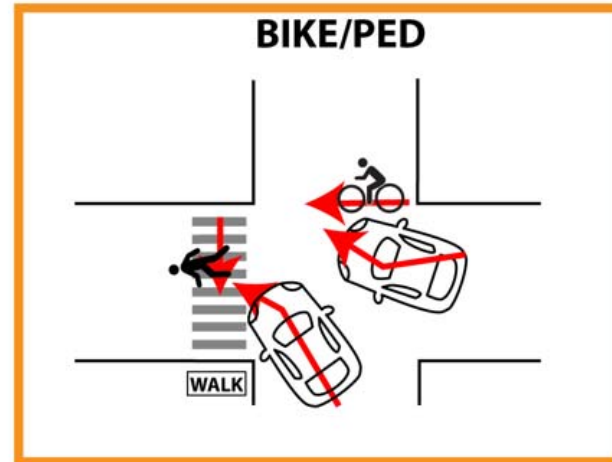
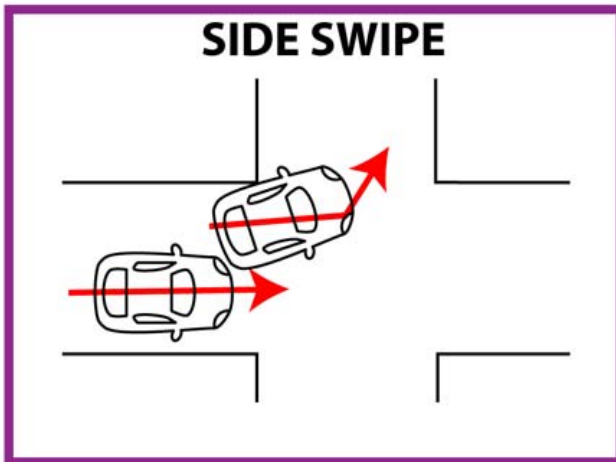
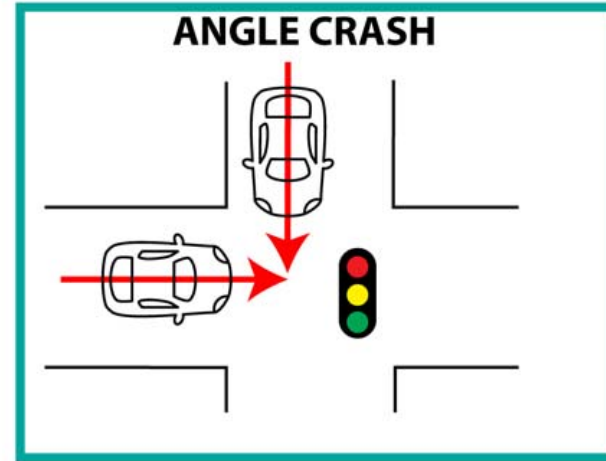
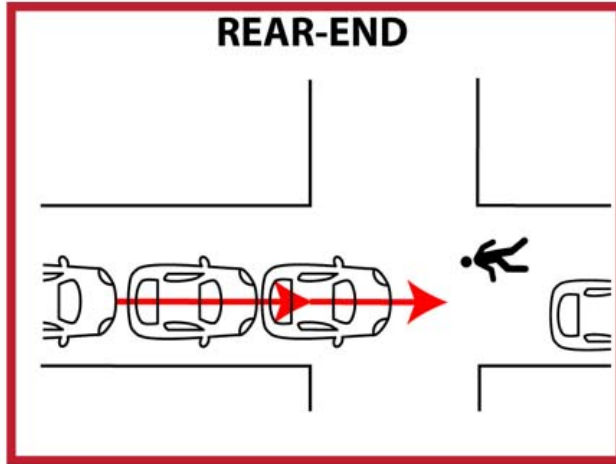


## Environmental Goals

- **Both options – reduce vehicle emissions by reducing vehicle delay**
- **Current Concept – safer – encouraging more people to bike and walk, further reducing transportation emissions.**
- **Current Concept – improves transit operations, further reducing transportation emissions.**
- **Both options improve Springfield St Parking Lot – reducing asphalt and piloting cool asphalt coating.**
- **Both options use lighter colored pavers.**

# Safety/Alignment with Vision Zero

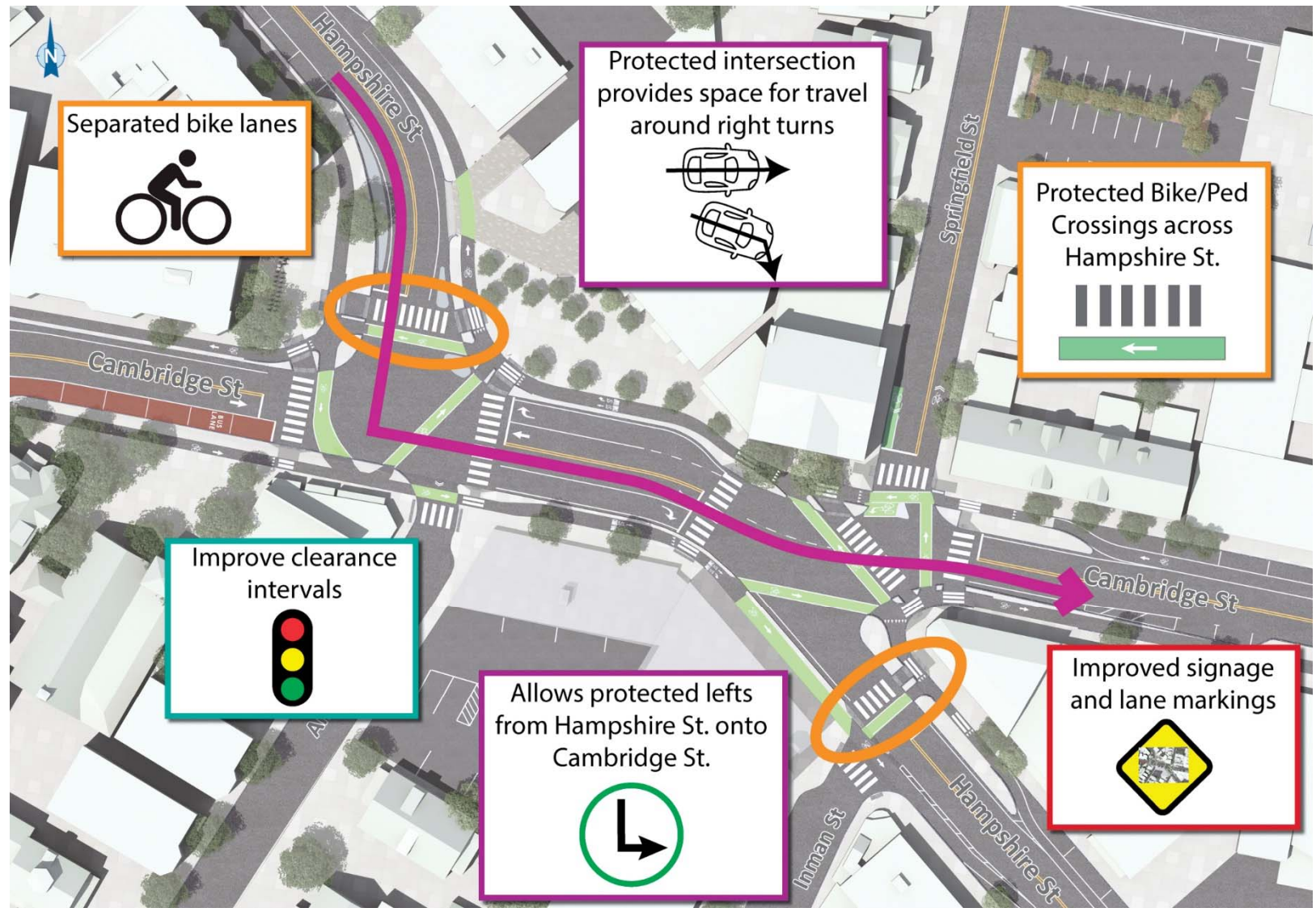
## Common Crash Types in Inman Square



# Safety/Alignment with Vision Zero

## Current Concept





- Angle
- Bike/Ped
- Sideswipe
- Rear-end

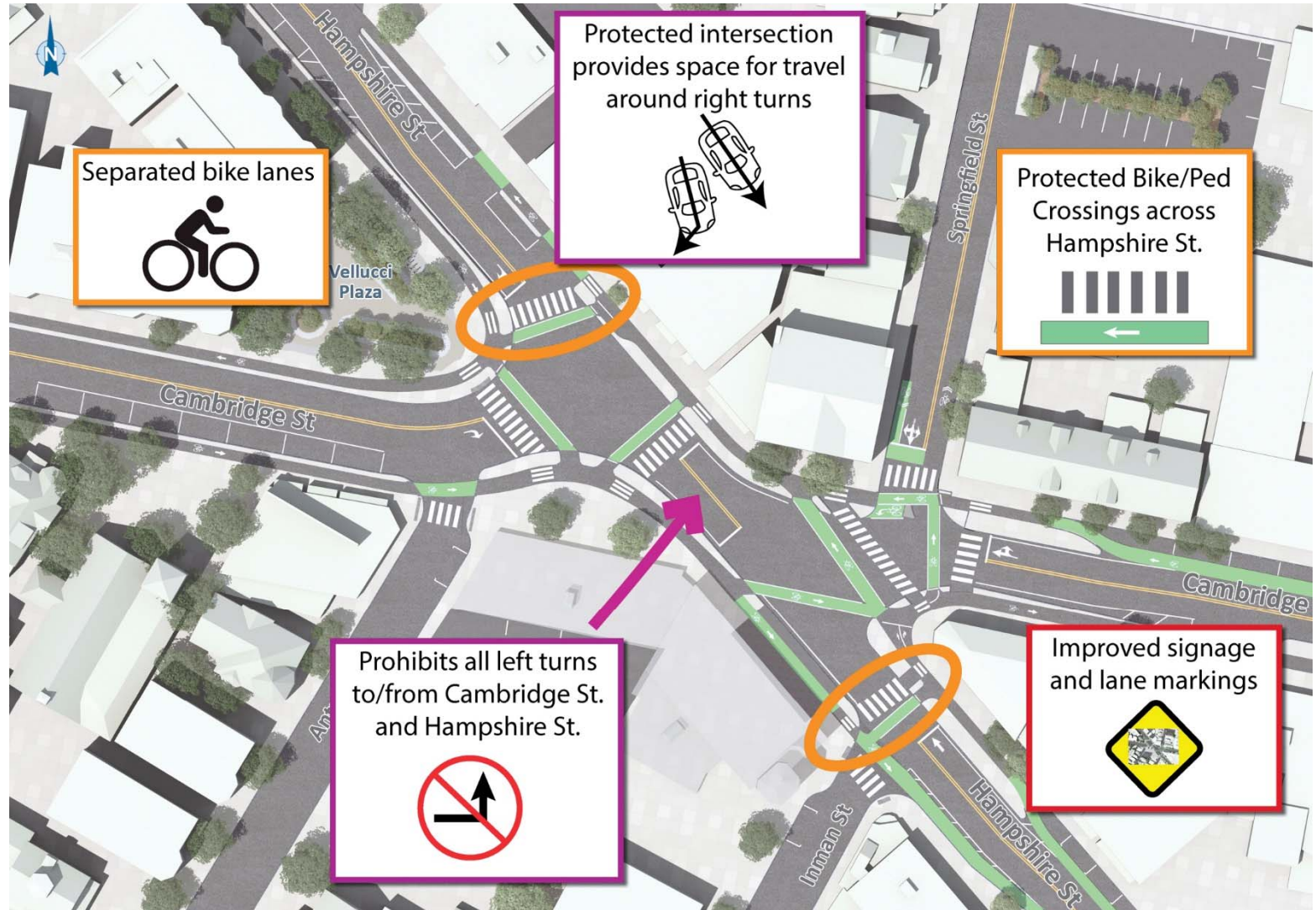




# Safety/Alignment with Vision Zero

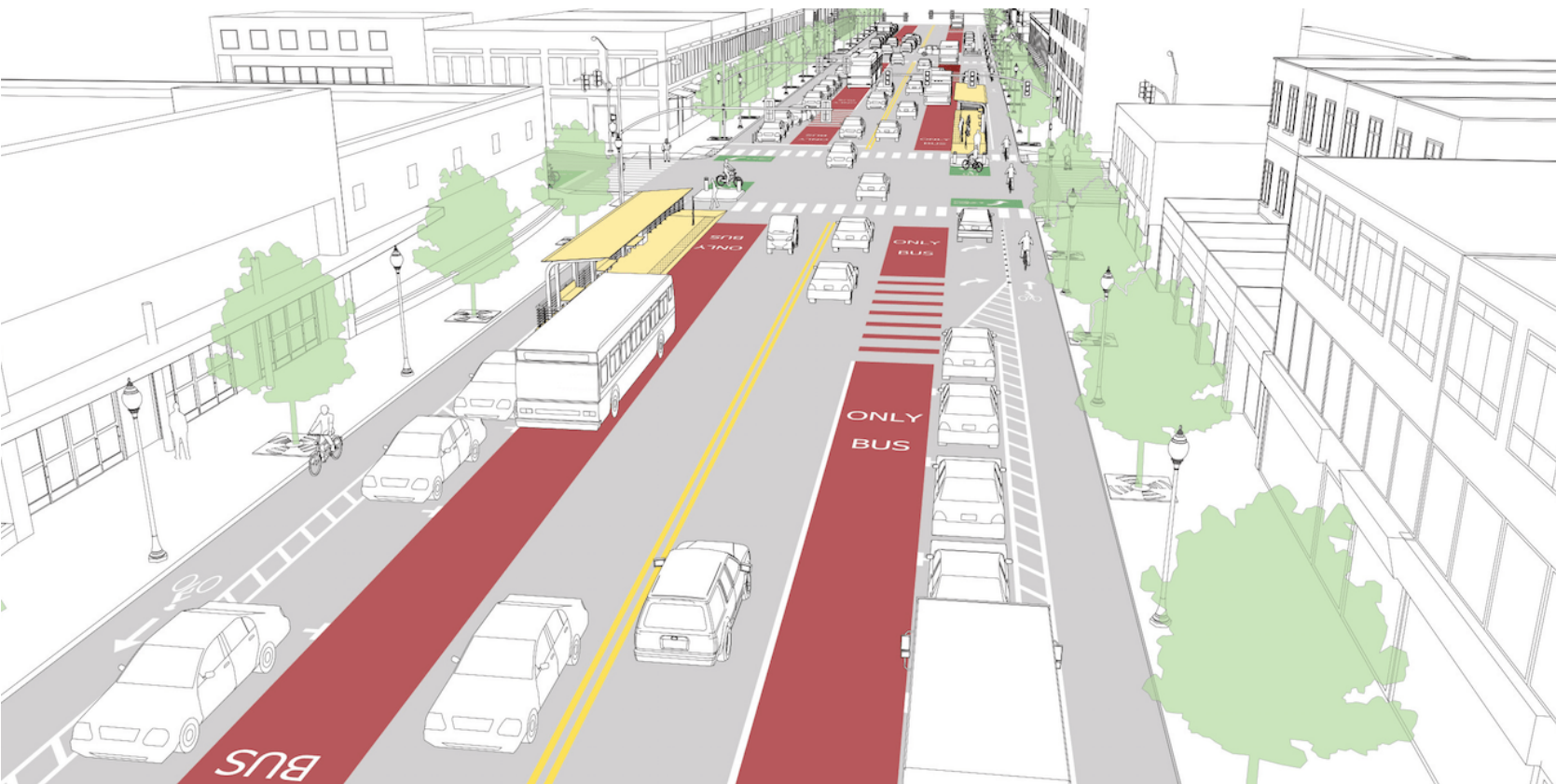
## Alternative Concept

-  Angle
-  Bike/Ped
-  Sideswipe
-  Rear-end



# Transit Improvement Opportunities

**Transit lane with separated bike lane and  
far side bus island stop**

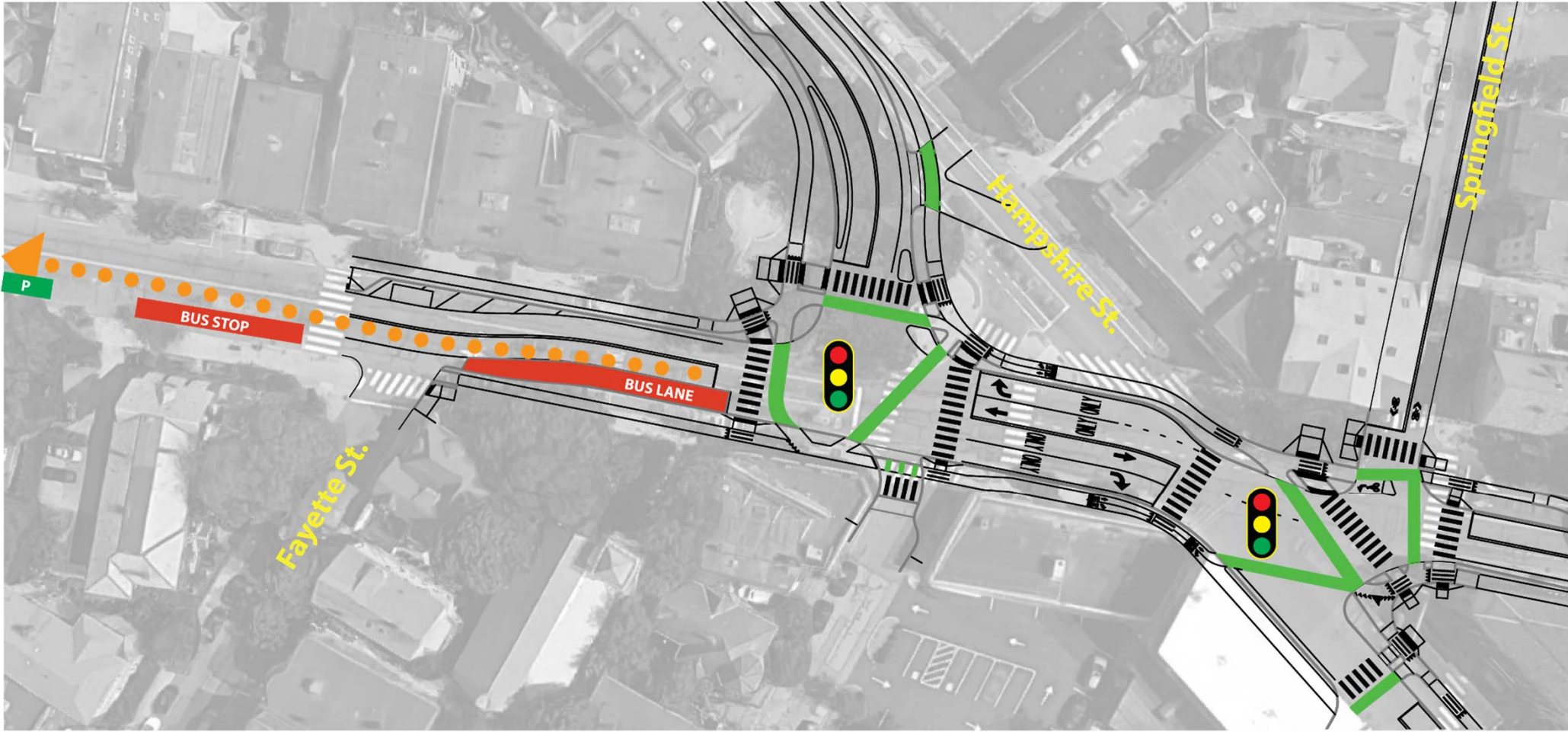


Source: NACTO



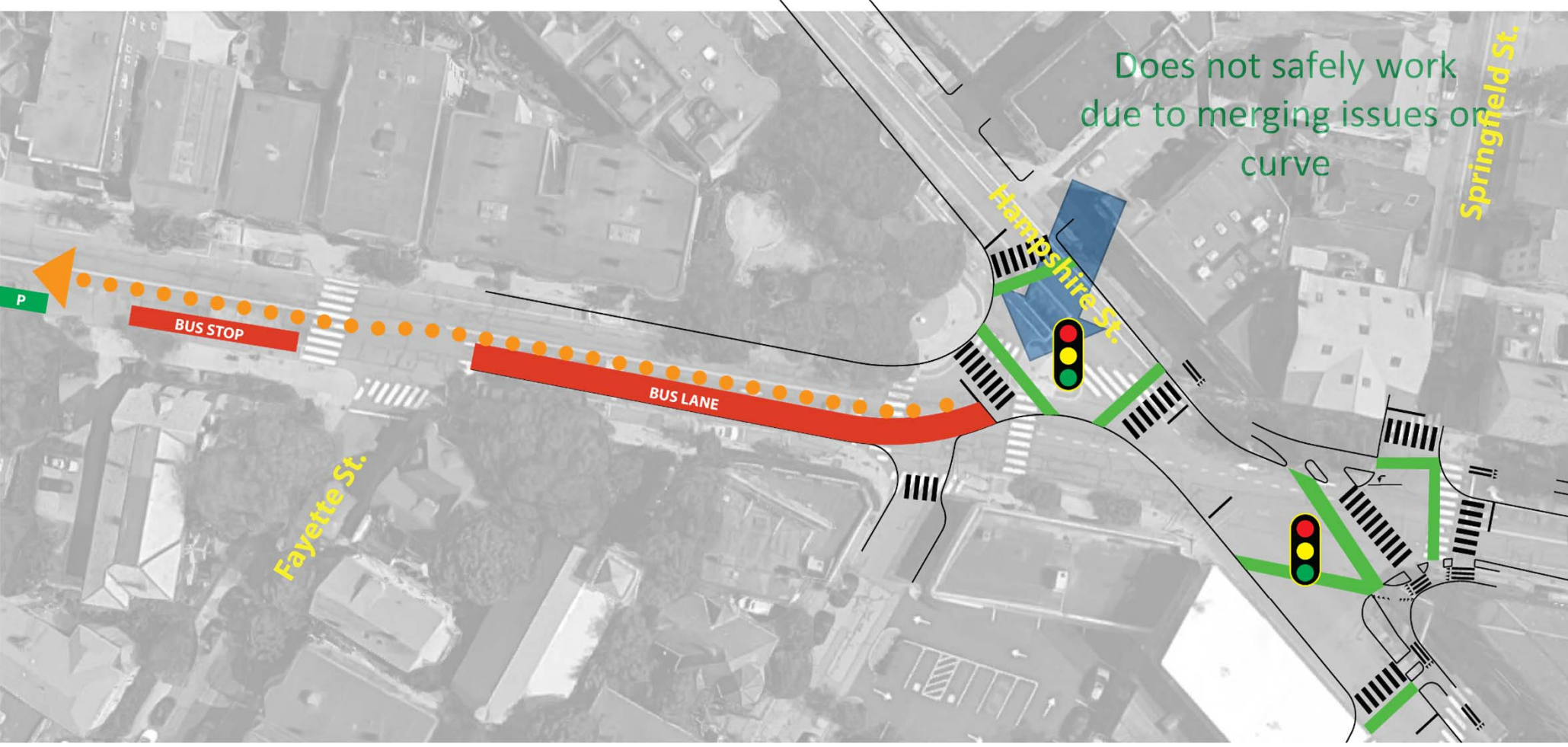
# Transit Improvement Opportunities

## Current Concept Traffic Queue & Bus Lane - Cambridge Street EB - AM Peak



# Transit Improvement Opportunities

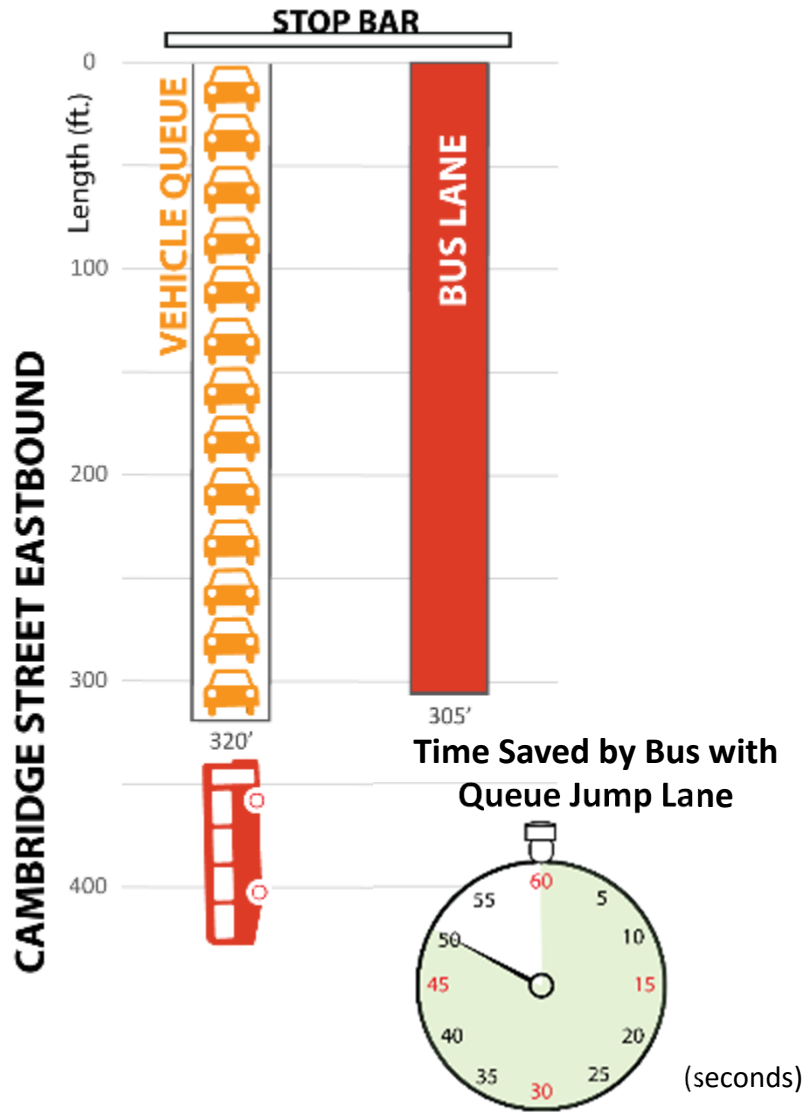
## Alternative Concept Traffic Queue & Bus Lane - Cambridge Street EB - AM Peak



# Transit Improvement Opportunities

## Vehicle Queues & Bus Lane – AM Peak

### Current Concept



Time savings based on average vehicle delay and bus delay with QJL for each alternative in the AM weekday peak hour



# Curb Use (Parking)

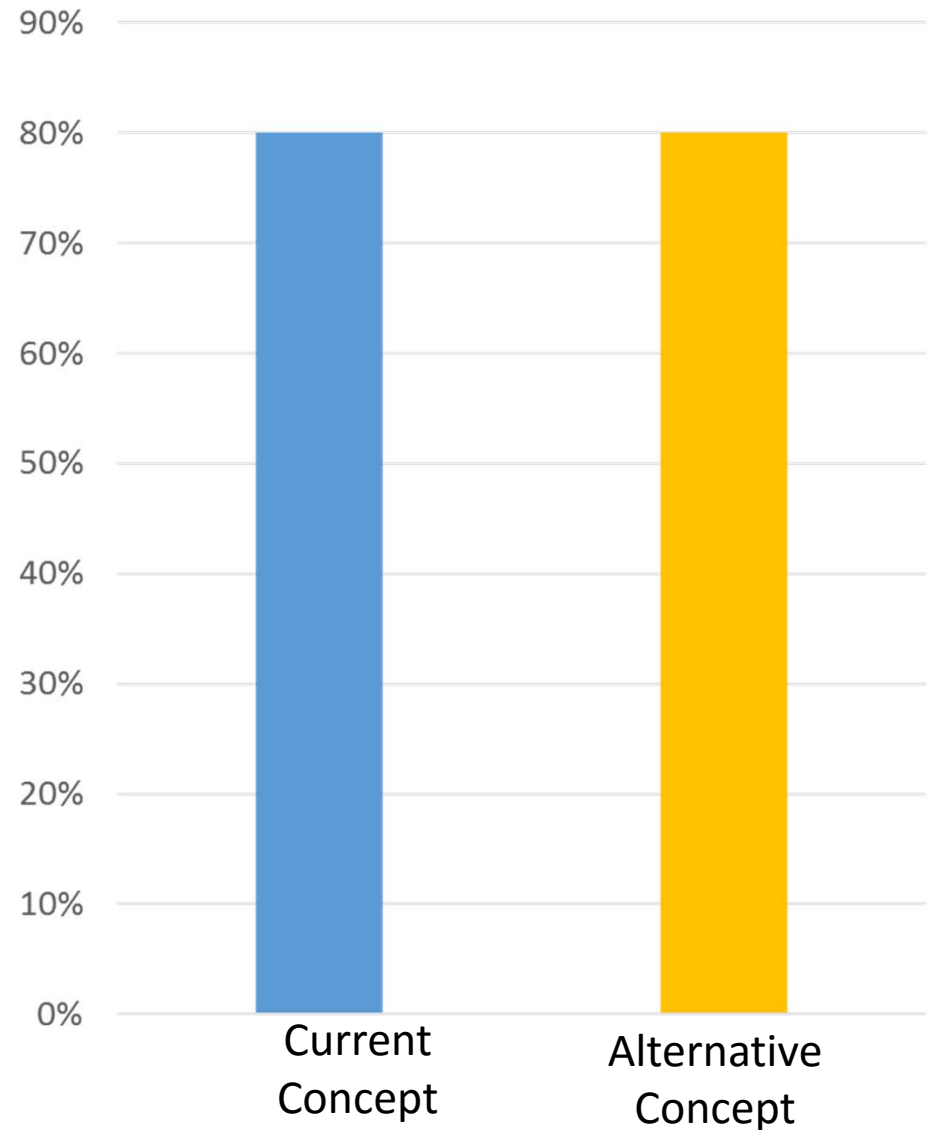
## Similarities

- Total number of spaces
- 5 spaces added to Springfield Lot

## Differences

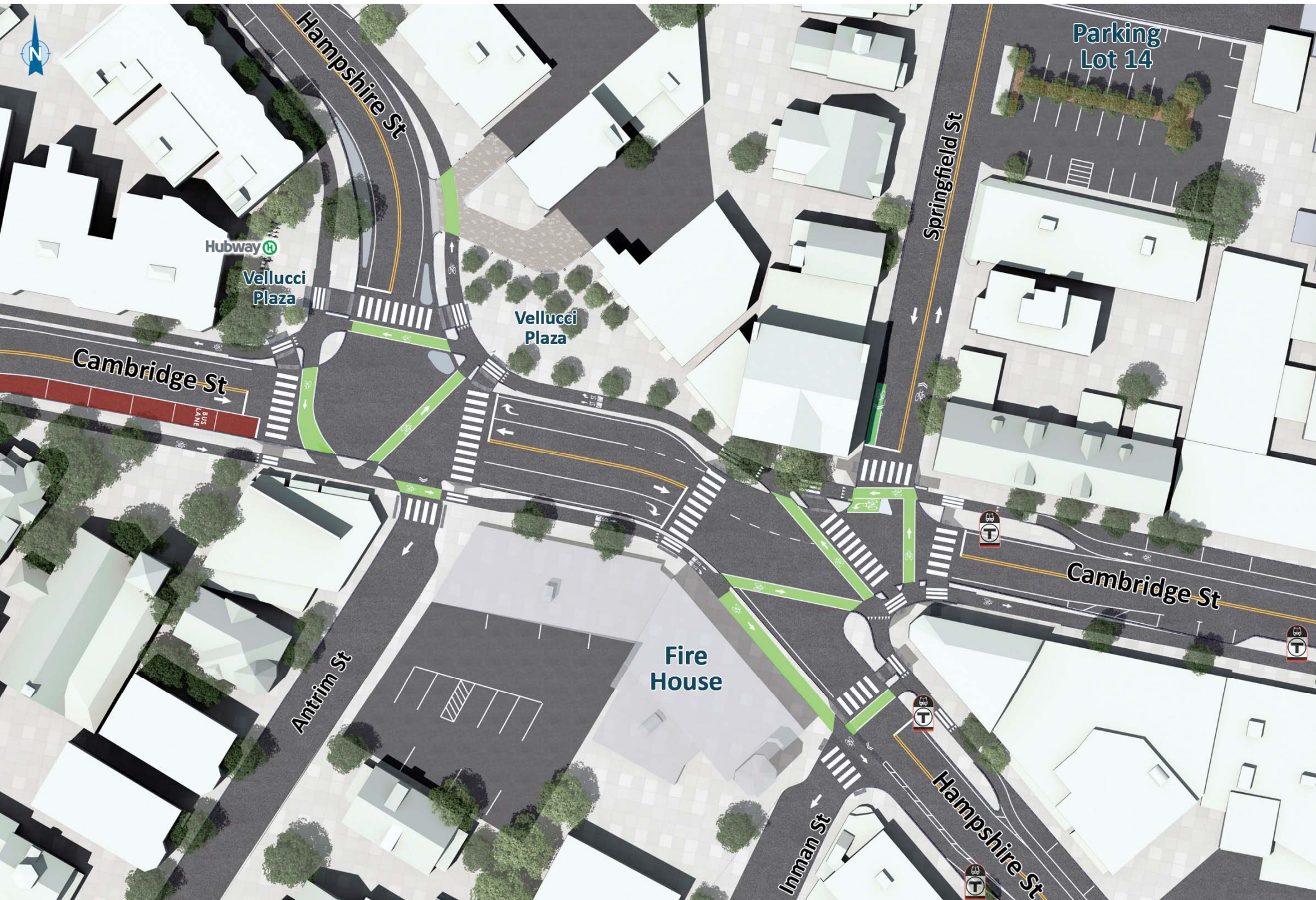
- Presence of AM peak parking due to transit lane in Current Concept
- Number of spaces on Hampshire St north (Somerville Line)
- Placement of disability spaces

Total % Retained Parking



# Evaluation Criteria

- **Plaza space**
- **Tree Canopy / Environmental Goals**
- **Safety/alignment with Vision Zero policy (#1 priority)**
- **Clear and intuitive for all users**
- **Travel delay (all modes)**
- **Transit improvement opportunities**
- **Curb Use (parking and loading)**



Hampshire St

Parking Lot 14

Hubway  
Vellucci Plaza

Vellucci Plaza

Cambridge St  
BUS LANE

Springfield St

Antrim St

Fire House

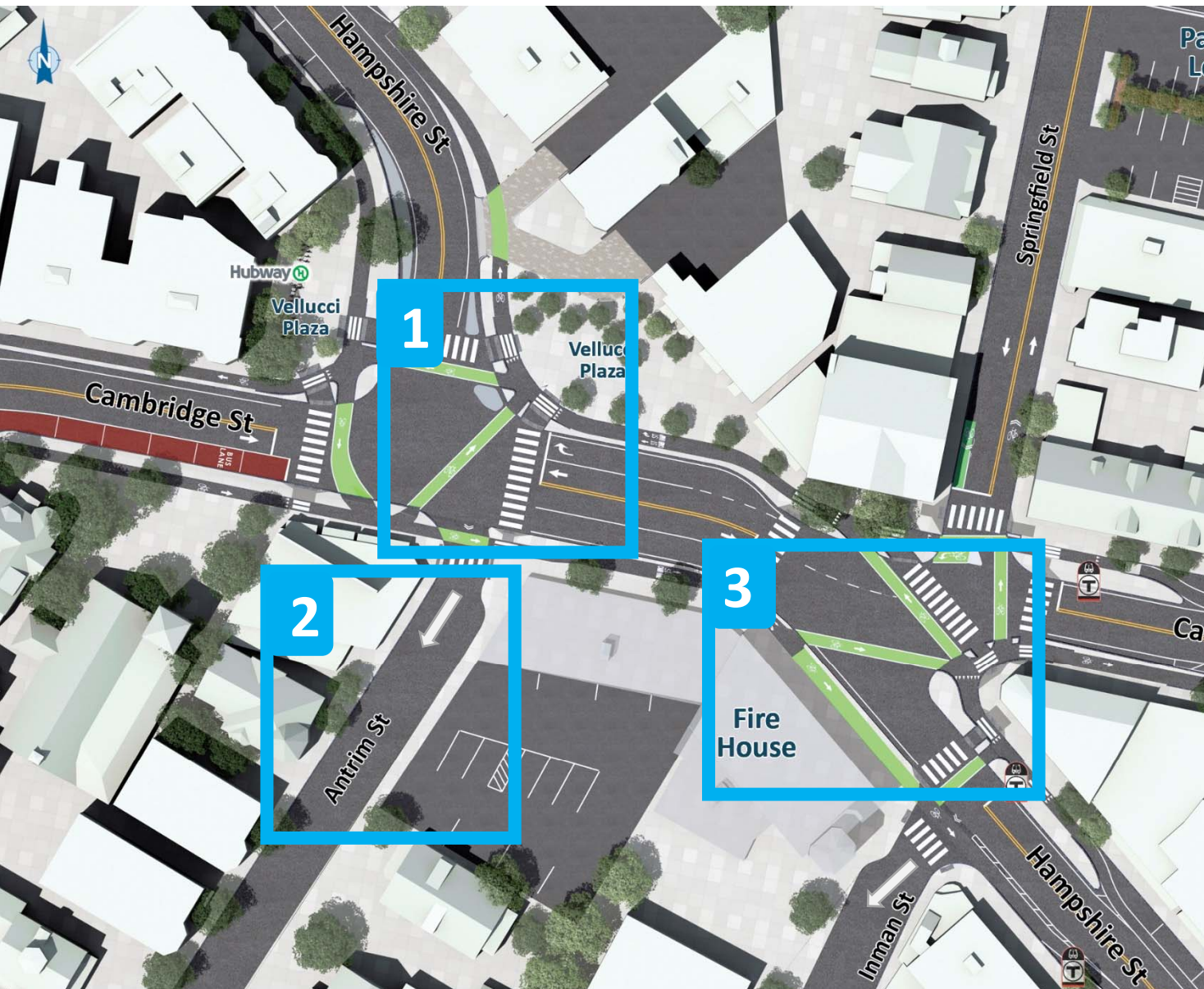
Cambridge St

Inman St

Hampshire St



# Updates Since July 2017 Meeting

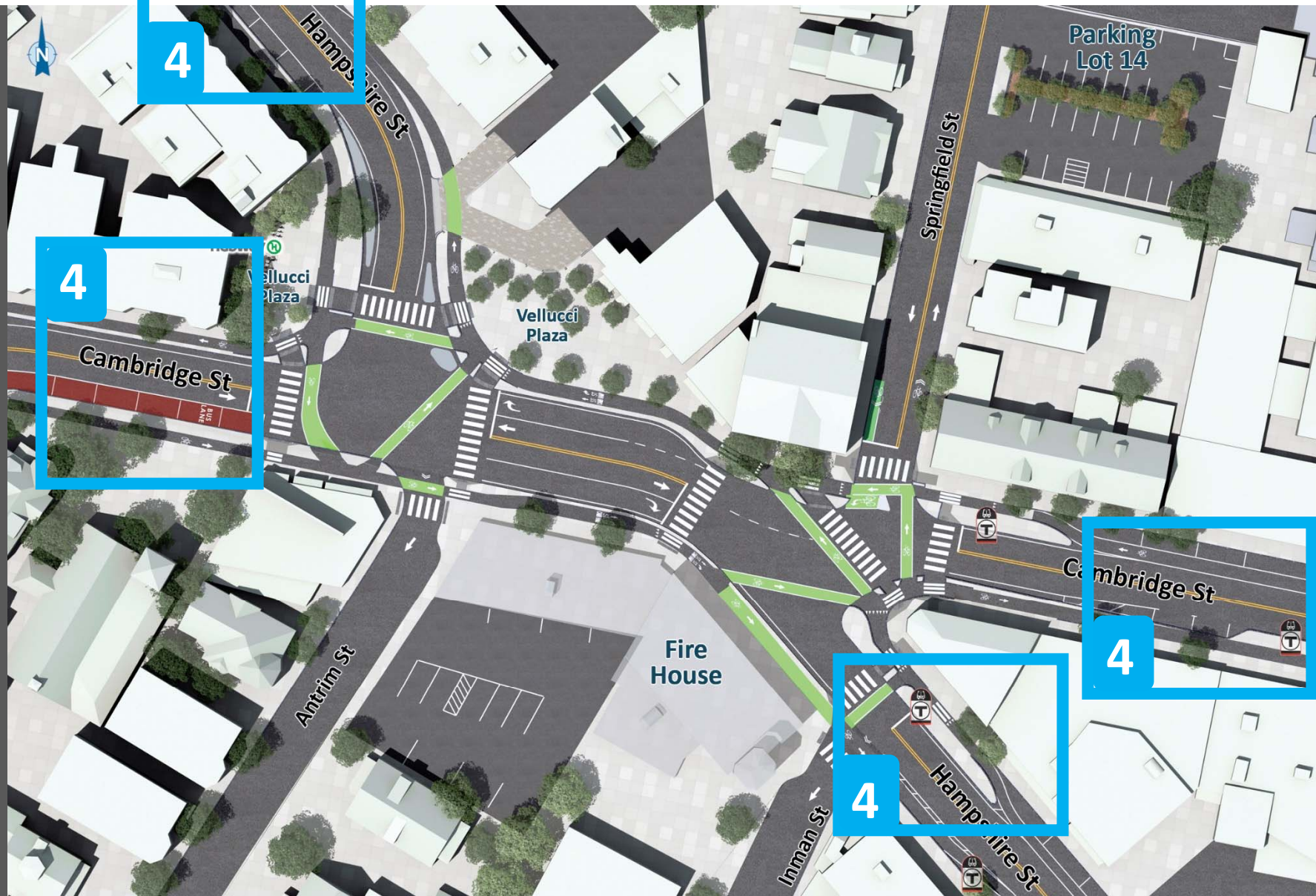


1. Add pedestrian crossing to new plaza
2. Maintain direction of Antrim Street southbound
3. Considered additional pedestrian crossing at Fire Station
  - Increases pedestrian delay at other crosswalks
  - Physical constraints for safe crossing



# Updates Since July 2017 Meeting

4. Modified bus stop locations to maximize on-street parking

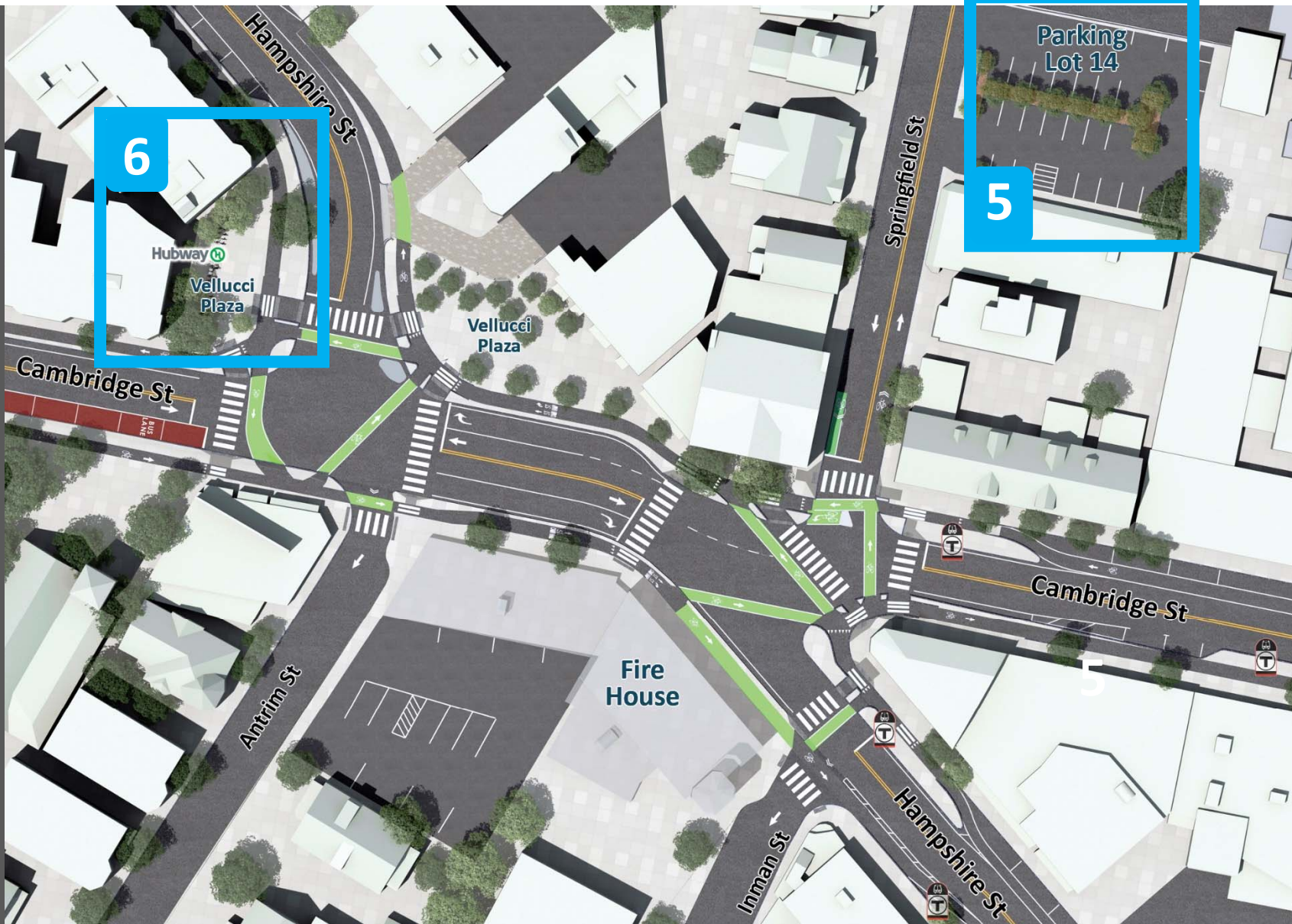




# Updates Since July 2017 Meeting

5. Consideration for added plantings and green infrastructure within nearby Parking Lot 14

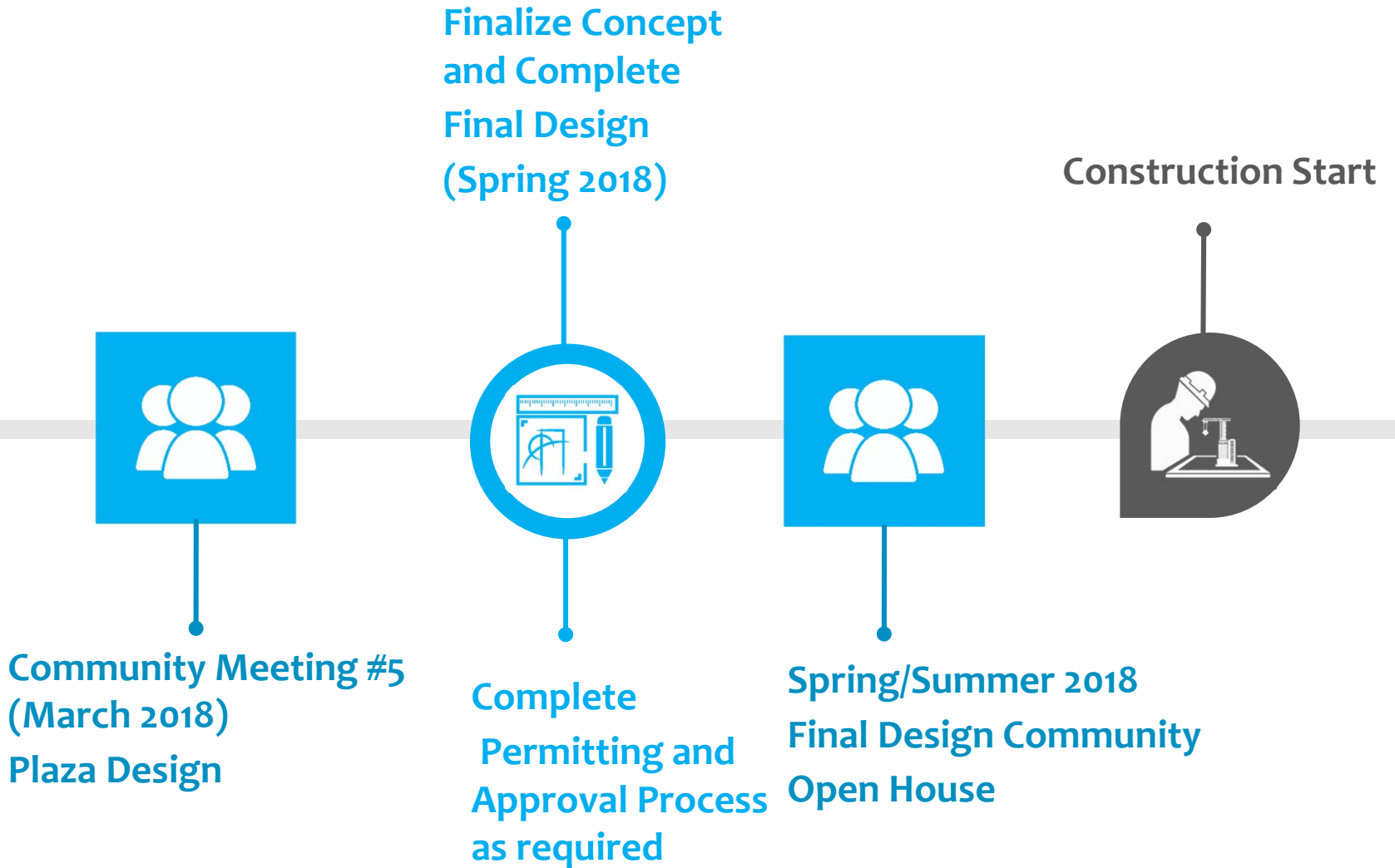
6. Analyzed concept to maintain existing Plaza footprint





NEXT STEPS

# Next Steps



NEXT STEPS

# Questions

**CONTACT INFORMATION:**

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[www.cambridgema.gov/theworks/inmansquare](http://www.cambridgema.gov/theworks/inmansquare)

