

Cambridge Transportation Study: Inman Square

Inman Square

Cambridge Hospital – 2nd Floor

June 22, 2016



Project Background

- ▶ Study started in Summer 2015
 - ▶ Vanasse Hangen Brustlin, Inc. (VHB)
- ▶ Complaints of high delay for all modes of transportation
 - ▶ Long wait for pedestrians
 - ▶ High volumes of bicyclists
- ▶ Existing operational deficiencies
 - ▶ Crosswalk issues
 - ▶ Large intersection for bicyclists and vehicles



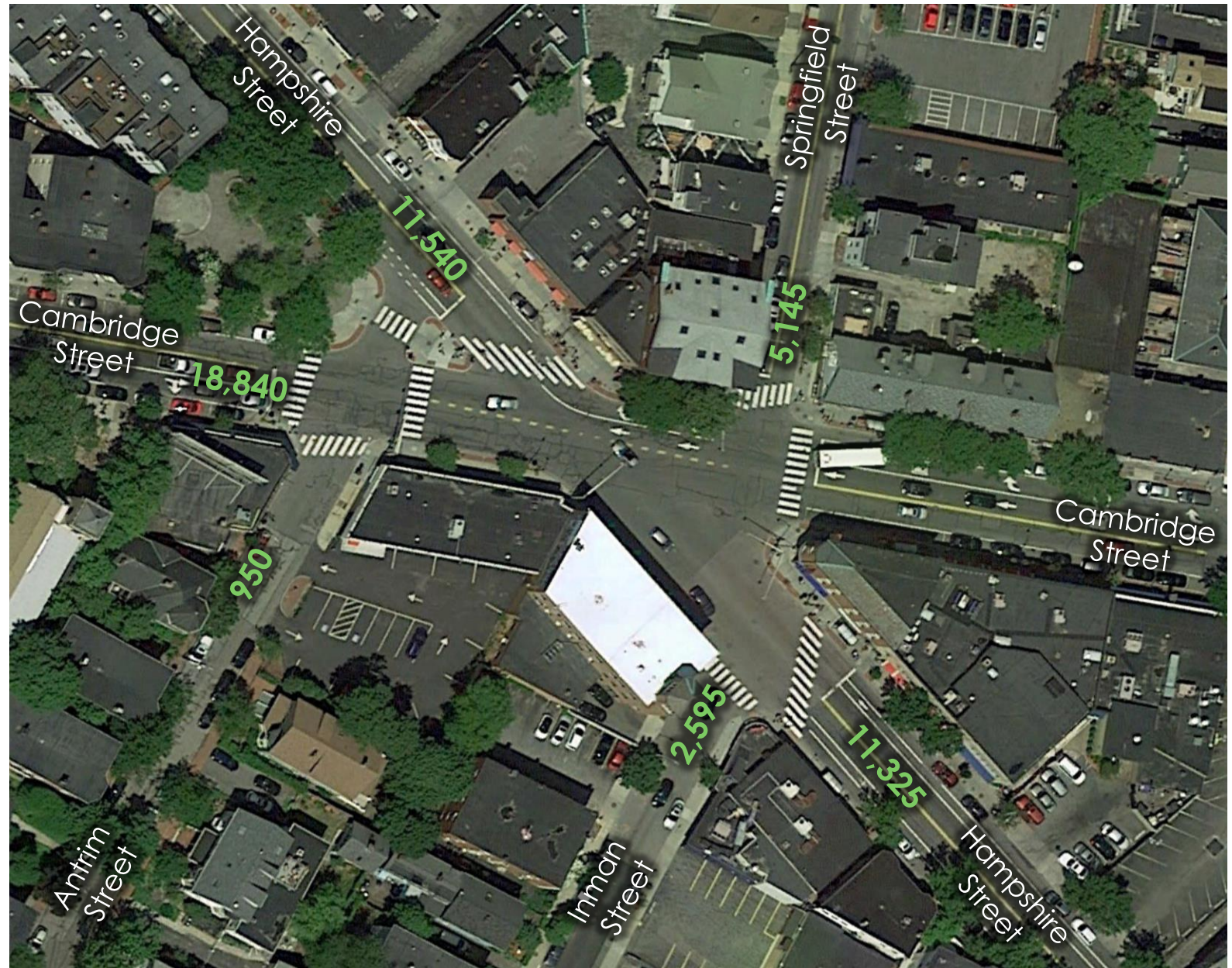
Study Goals

- ▶ Improve safety for all users
- ▶ Improve/simplify operations for all modes
- ▶ Continue to support the local residential and business communities
- ▶ Develop improvements that can be implemented in the short- to medium-term



Average Daily Traffic Volumes

- Vehicles per Day
- Traffic Volumes from Counts conducted May, 2015



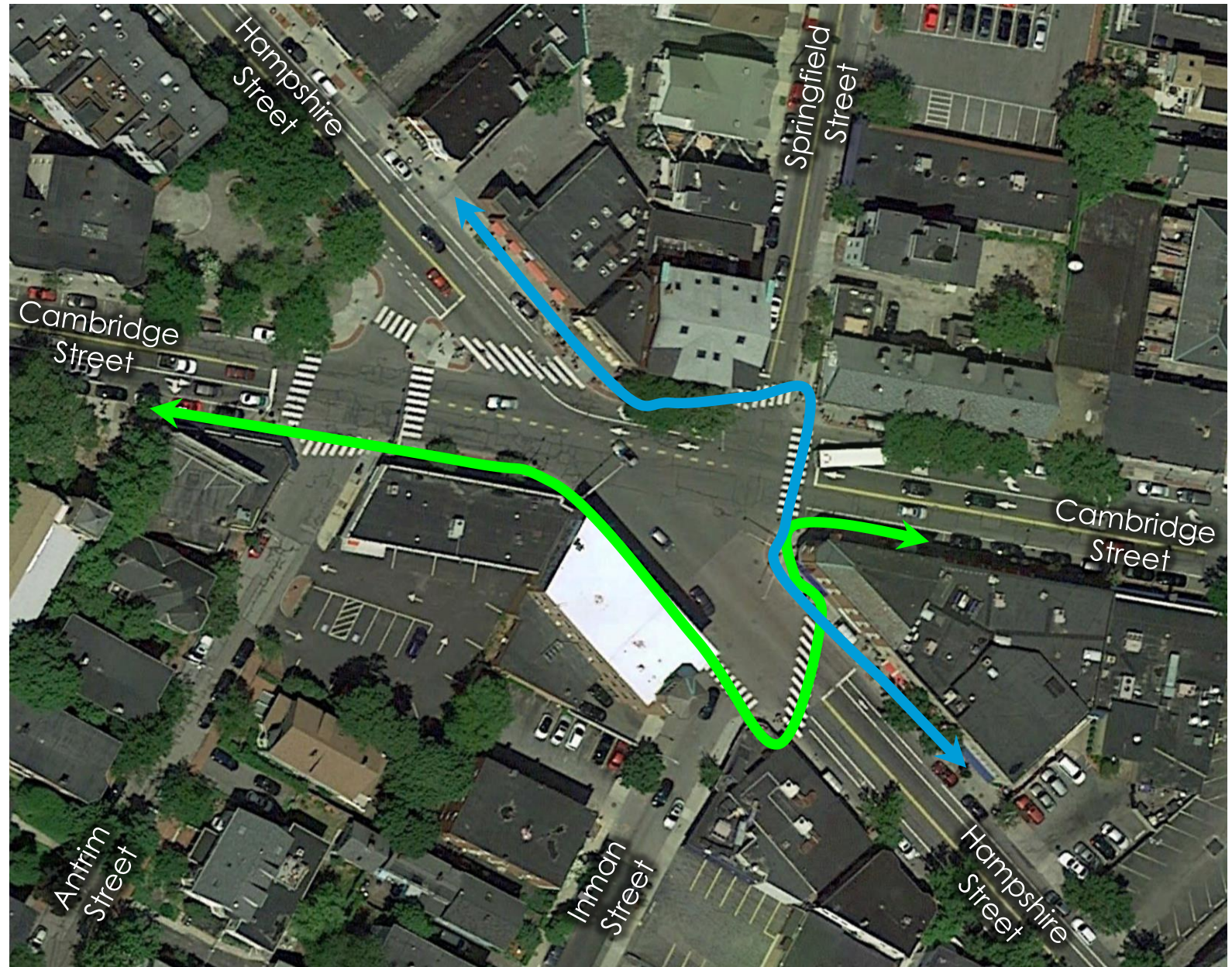
Crash Data

- ▶ Collected data from 2008-2012
- ▶ 69 total crashes in five years
- ▶ Intersection exceeds MassDOT Statewide Average Crash Rate
- ▶ 15 bicycle involved crashes, 5 pedestrian involved crashes
- ▶ Most frequent crash type – angle crash
- ▶ Crash severity
 - ▶ 0 Fatal crashes
 - ▶ 21 Injury crashes



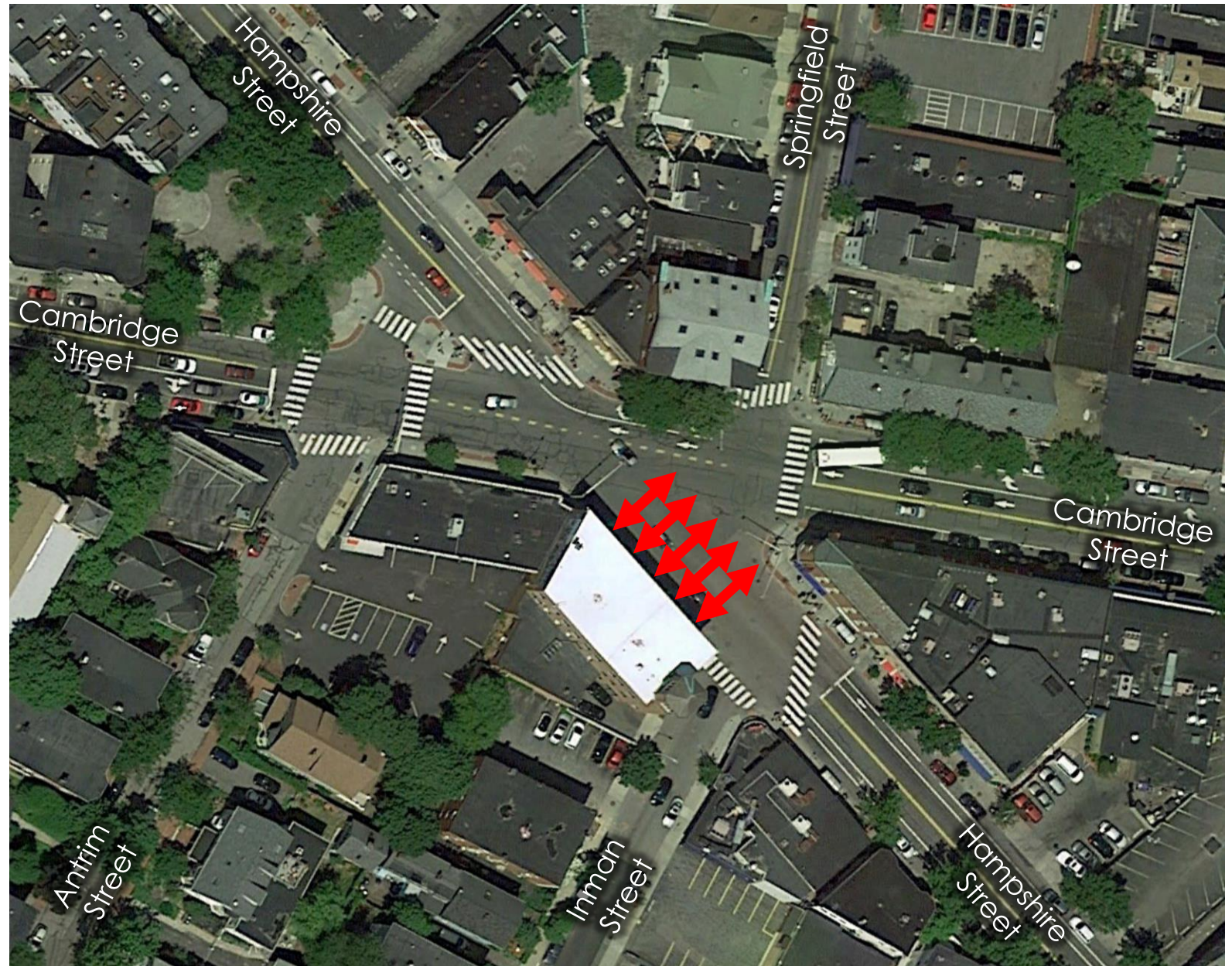
Existing Pedestrian Routing

- Existing Long Crosswalks
- Some crosswalks do not provide signal control
- Crosswalks outside pedestrian desire lines
- High delay at crosswalks reduces compliance with signals
- Hampshire Street south crosswalk is far from the main intersection zone



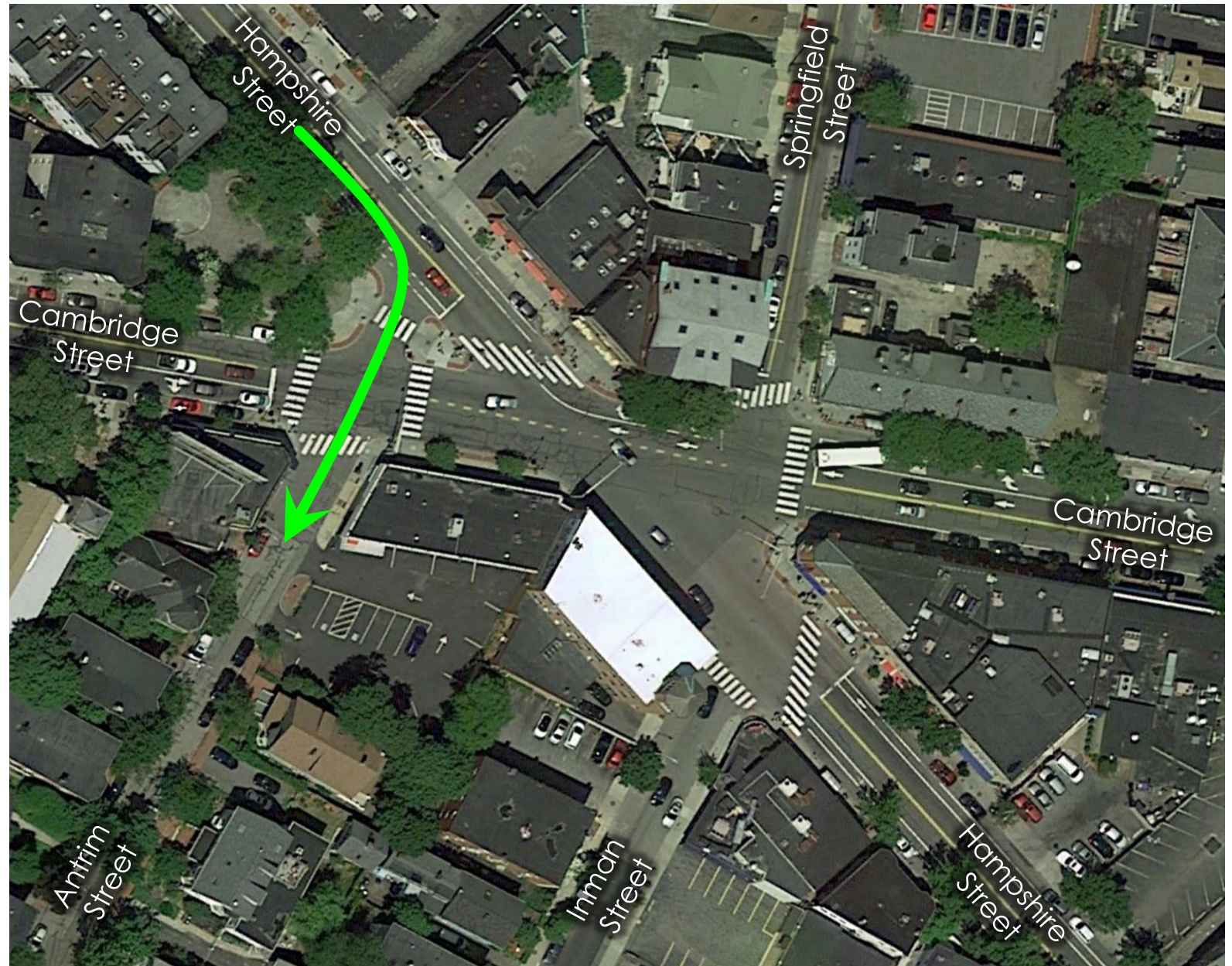
Existing Fire Station Access

- Any proposed changes need to maintain full access to Fire House
- Signal provides pre-emption phase



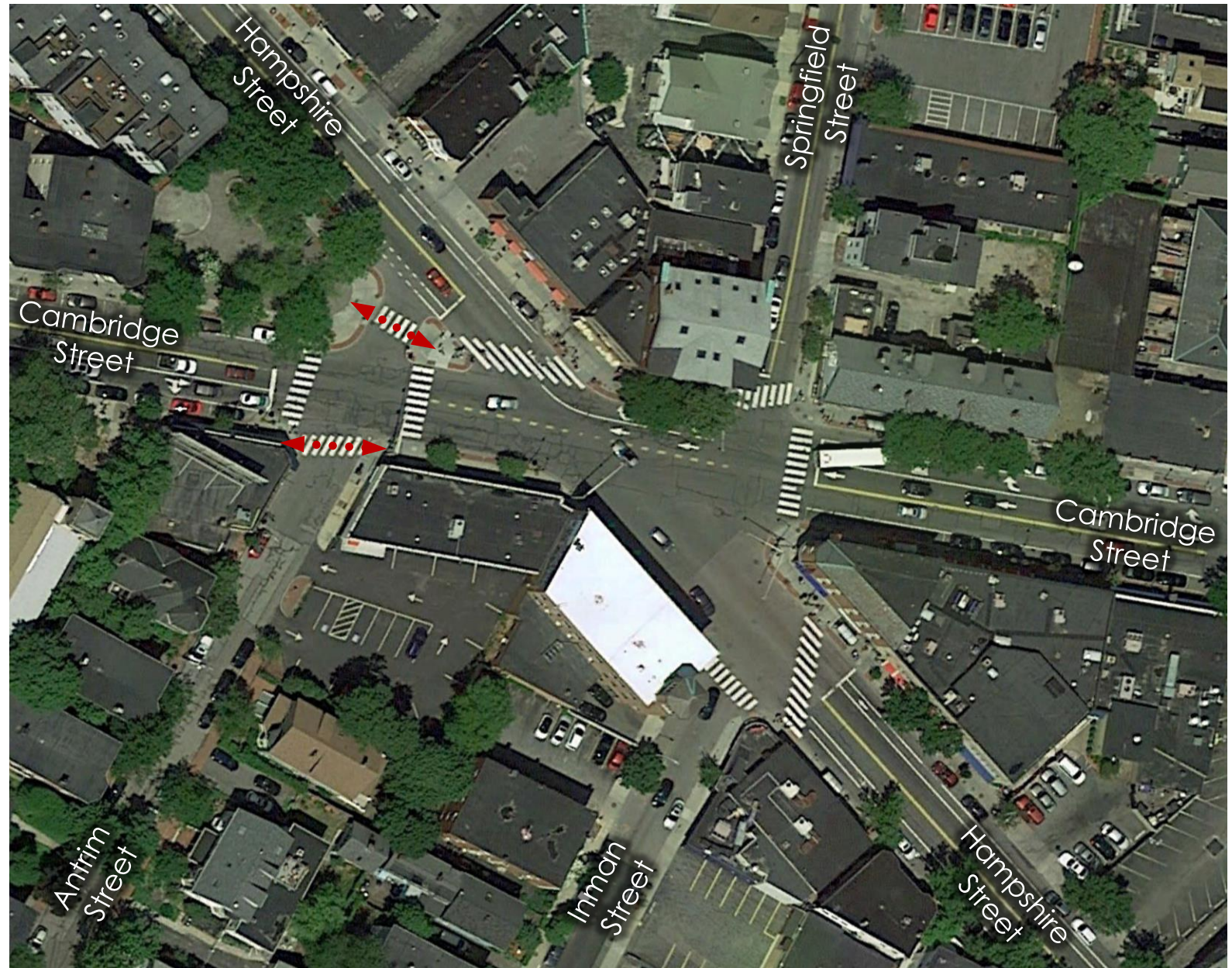
Existing Signal Control Concerns

- No signal control for Hampshire Street southbound to Antrim Street



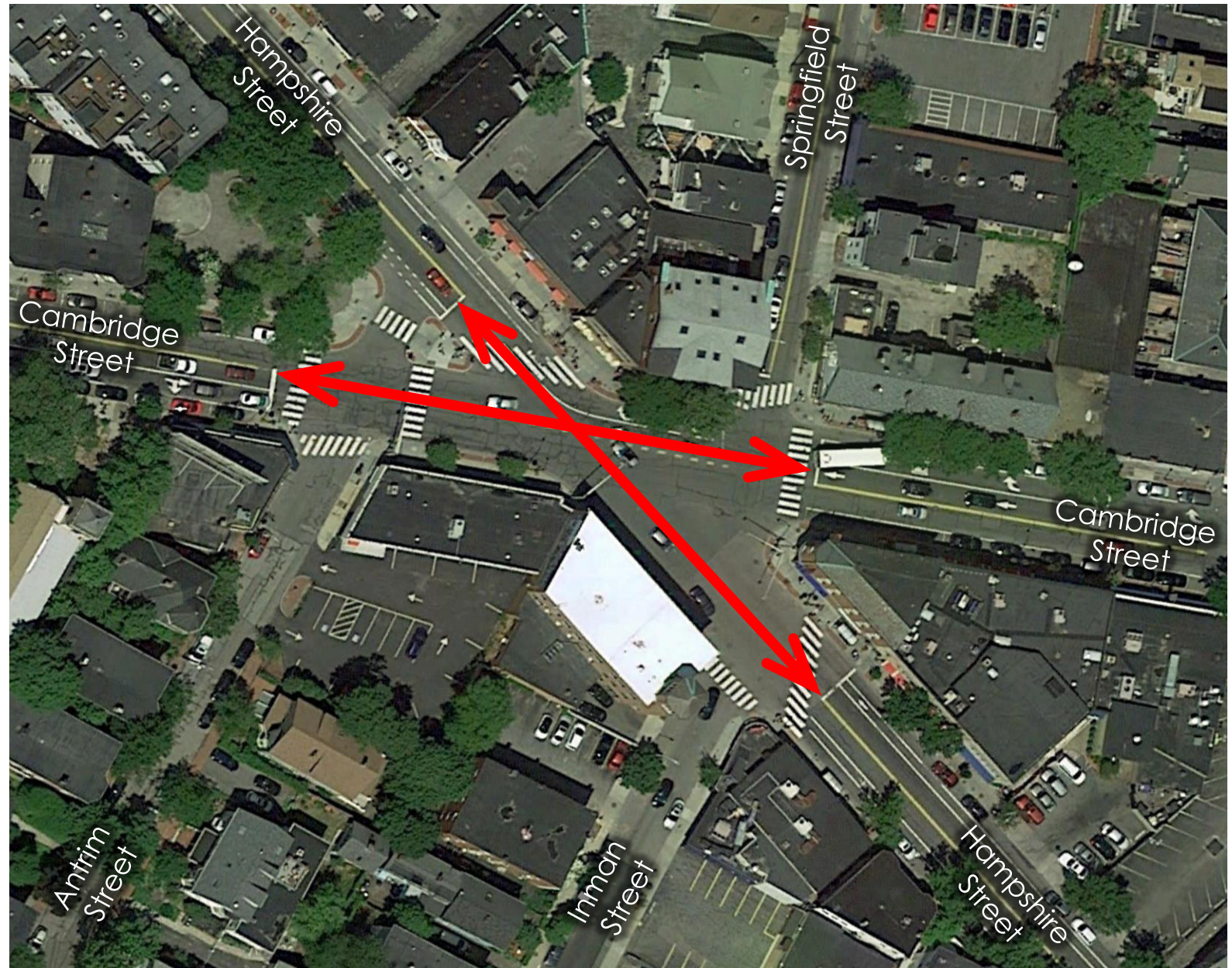
Existing Signal Control Concerns

- No signal control for Hampshire Street southbound to Antrim Street
- No signal control for crosswalk across Antrim Street or Hampshire Street turn lane



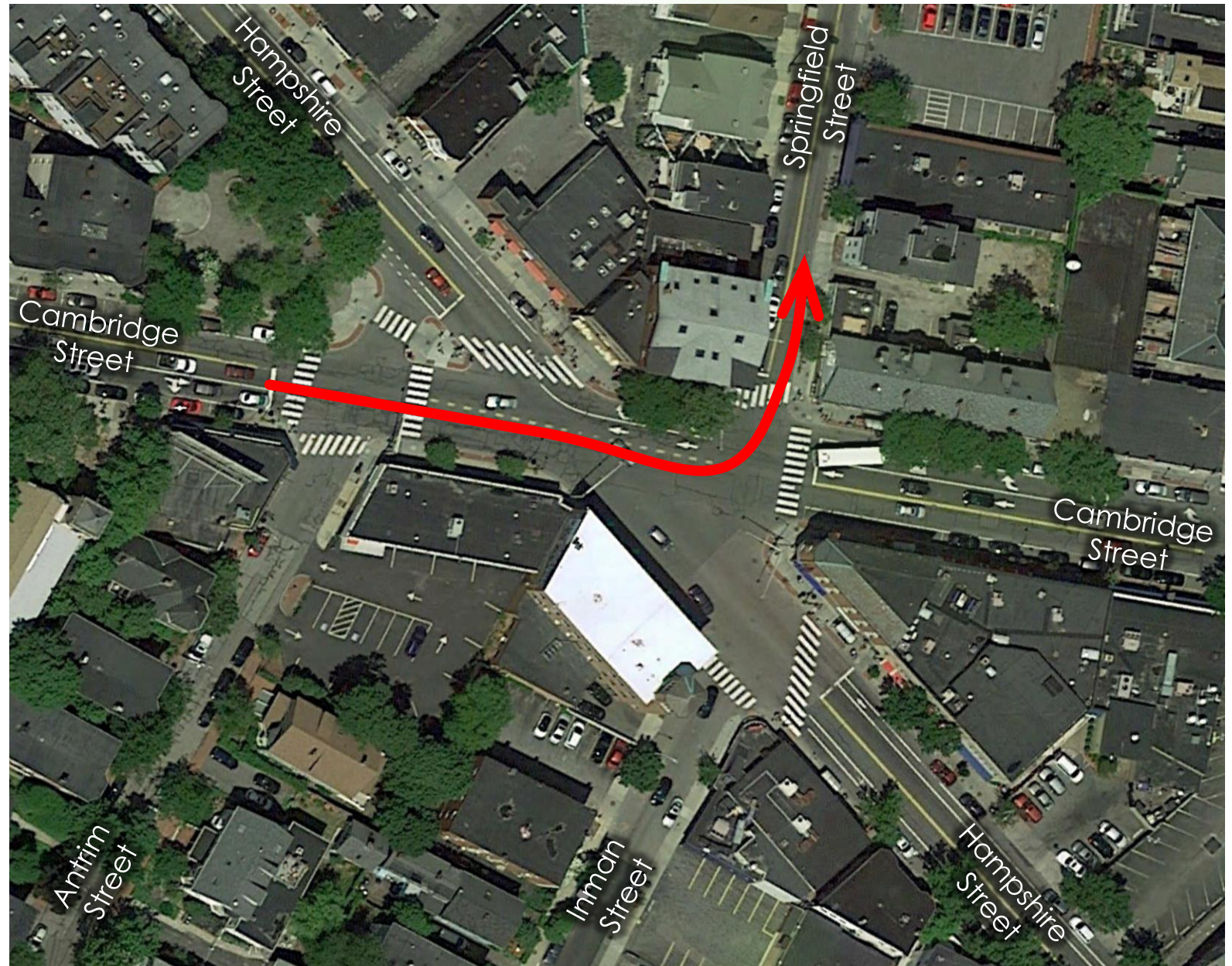
Existing Geometry Issues

- 270' between STOP bars on Hampshire Street & Cambridge Street
- Long distance for bikes to travel



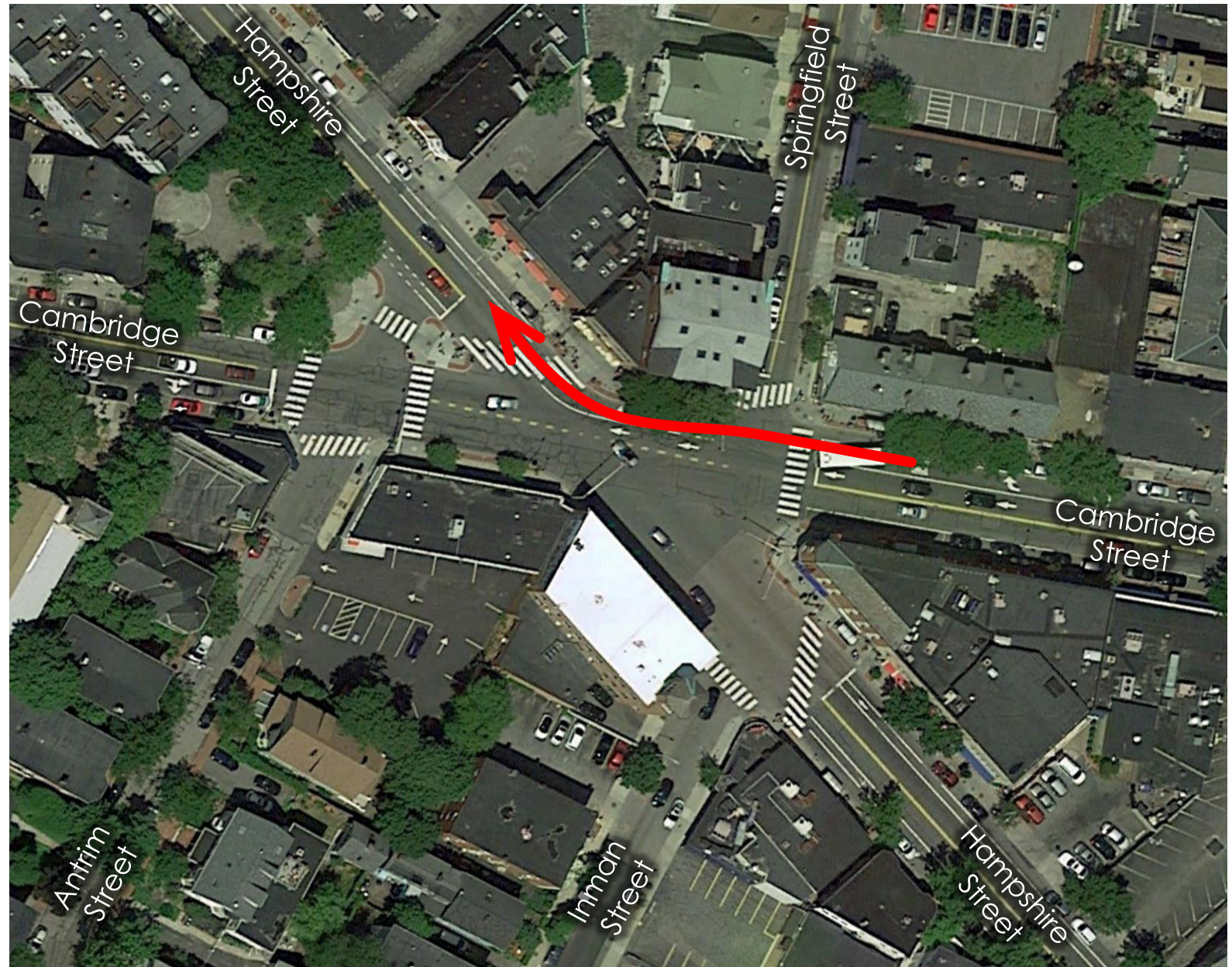
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- Clearance times for vehicles turning



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- 270' between STOP bars on Hampshire Street & Cambridge Street
- Long distance for bikes to travel
- Clearance times for vehicles turning
- Lane control on Cambridge Street is unclear



Desired Outcomes

Pedestrian

- Provide improved sidewalks
- Expand open space
- Provide more crossing opportunities
- Reduce the length of crosswalks

Bicycle

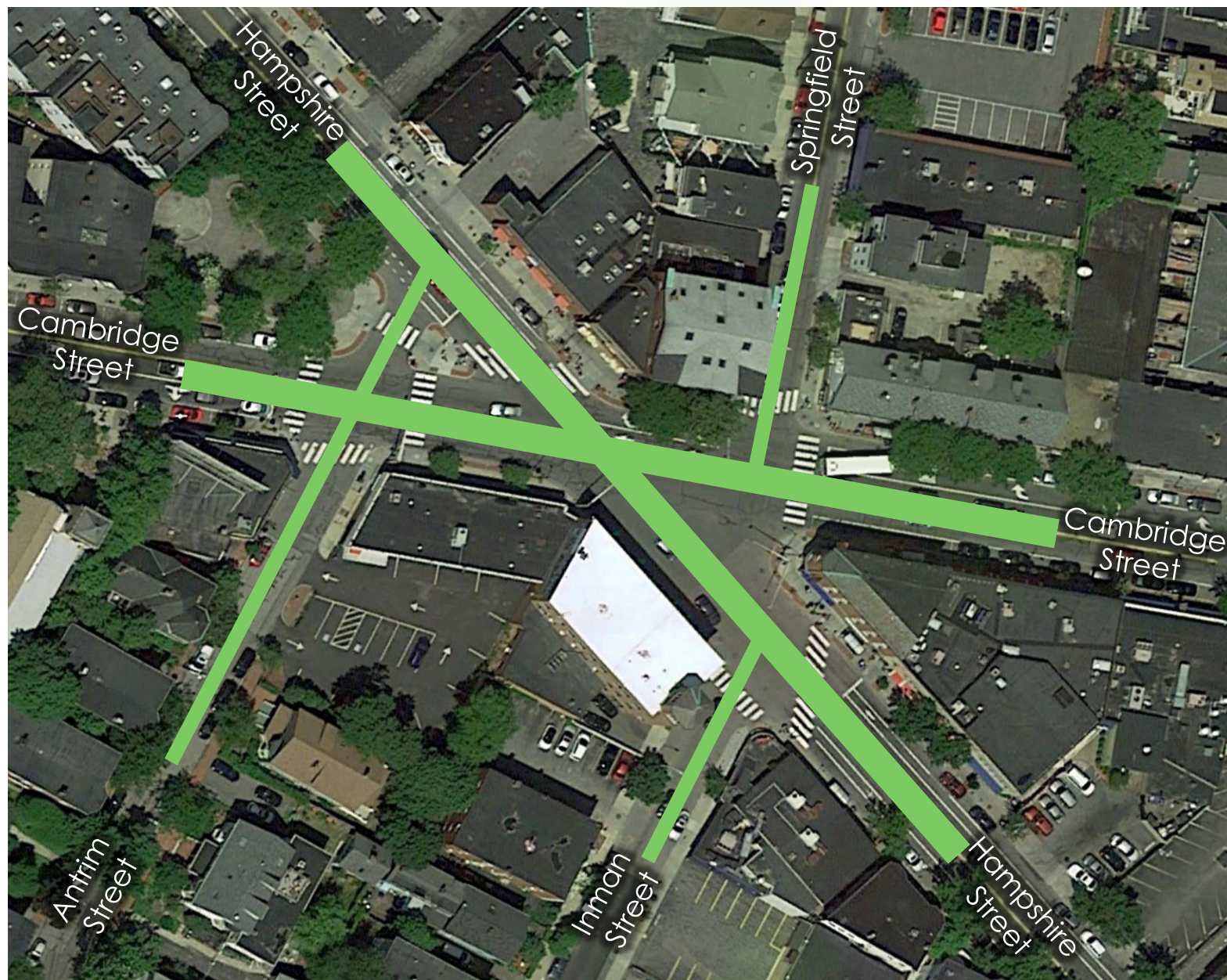
- Reduce exposure through more compact intersection design
- Minimize conflicts with turning vehicles
- Provide separation if feasible

Vehicle

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

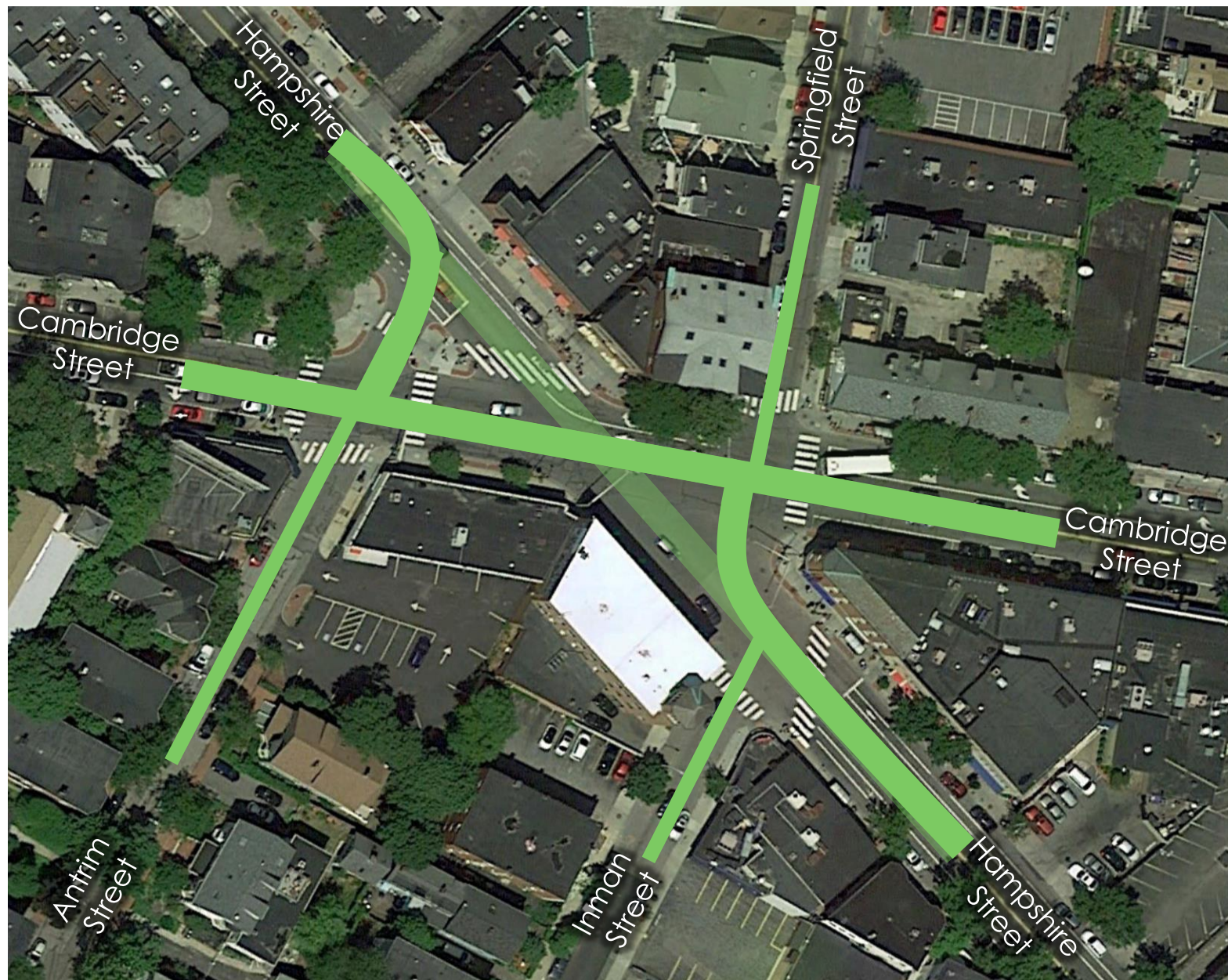


Idea – Bend Hampshire Street



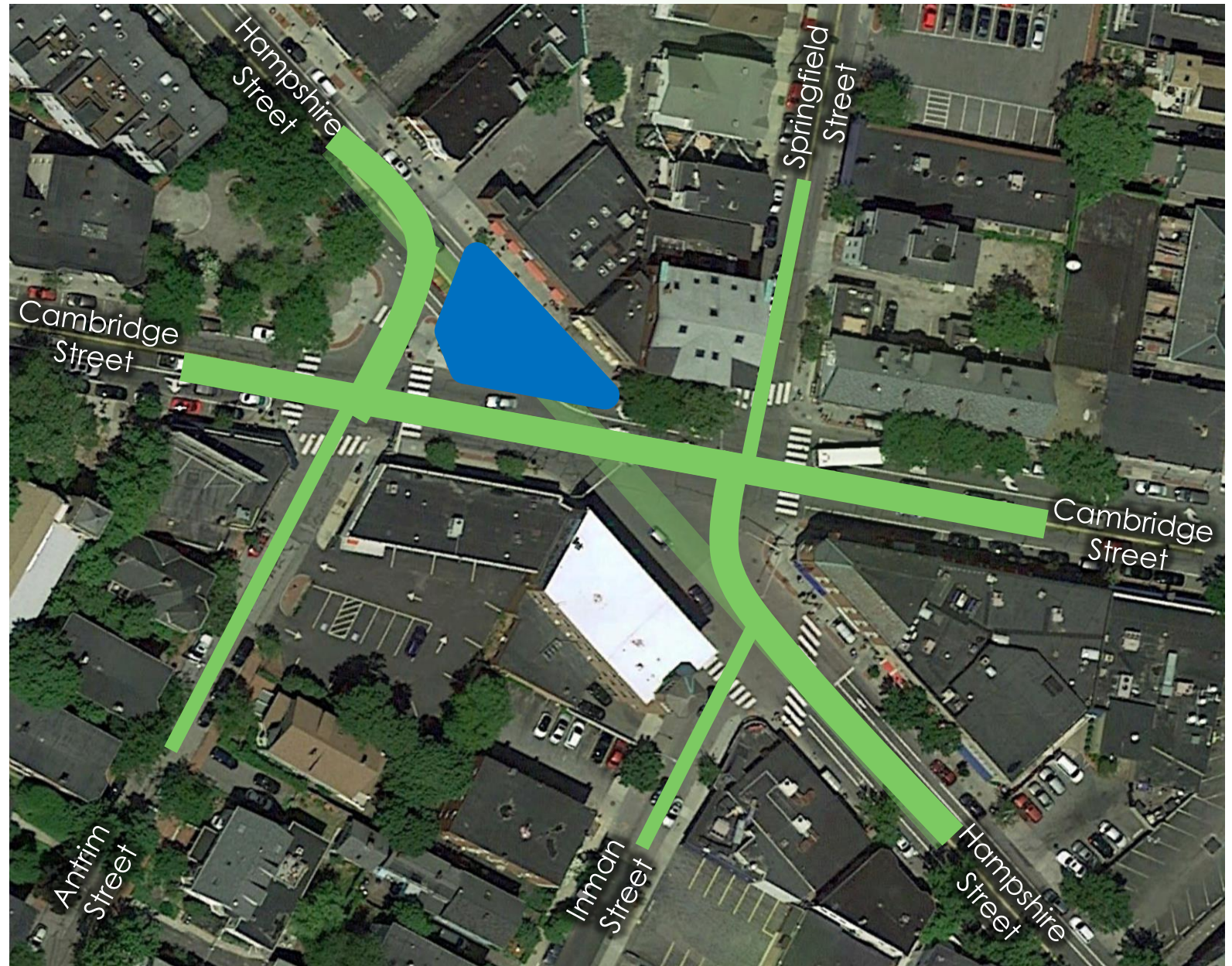
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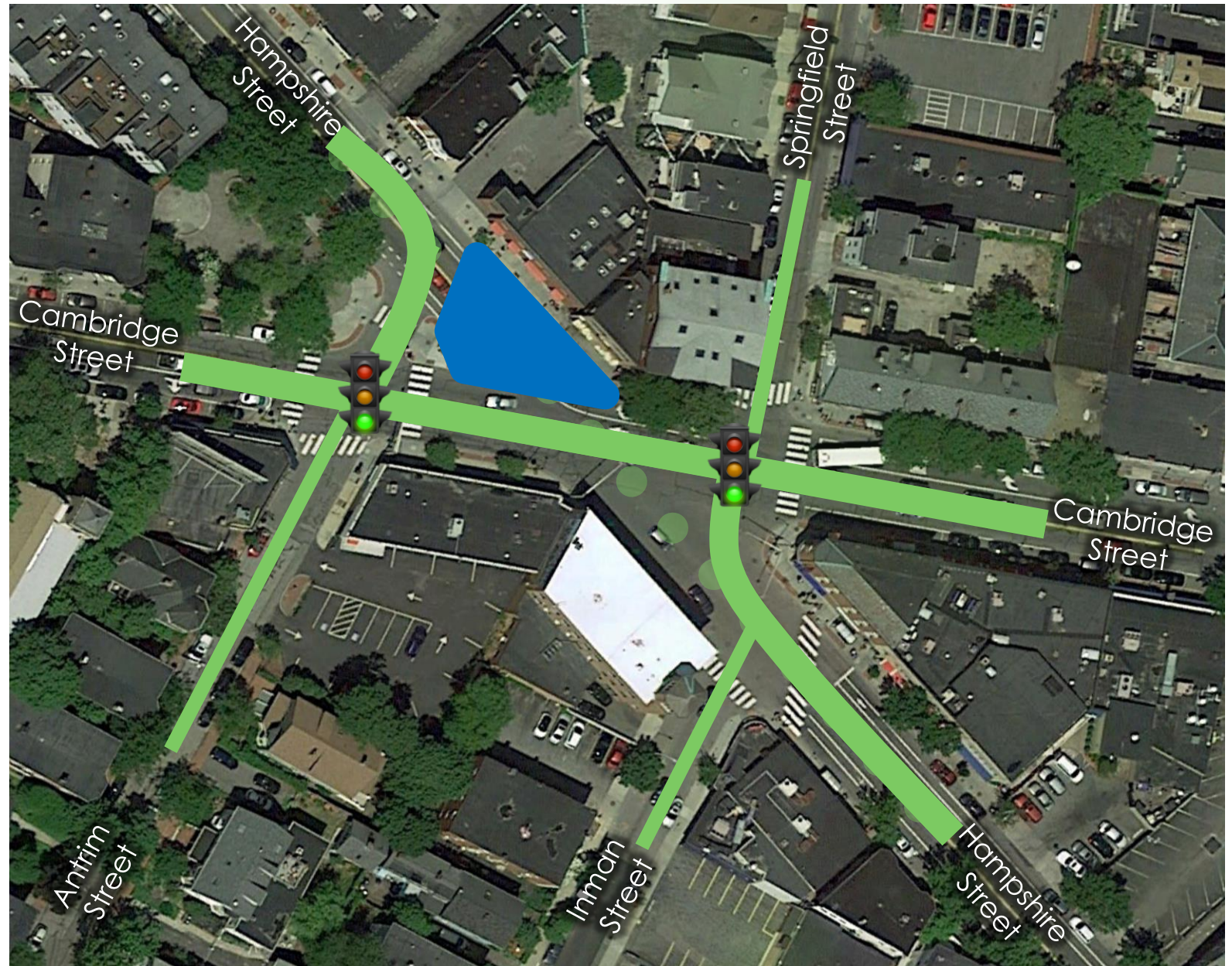
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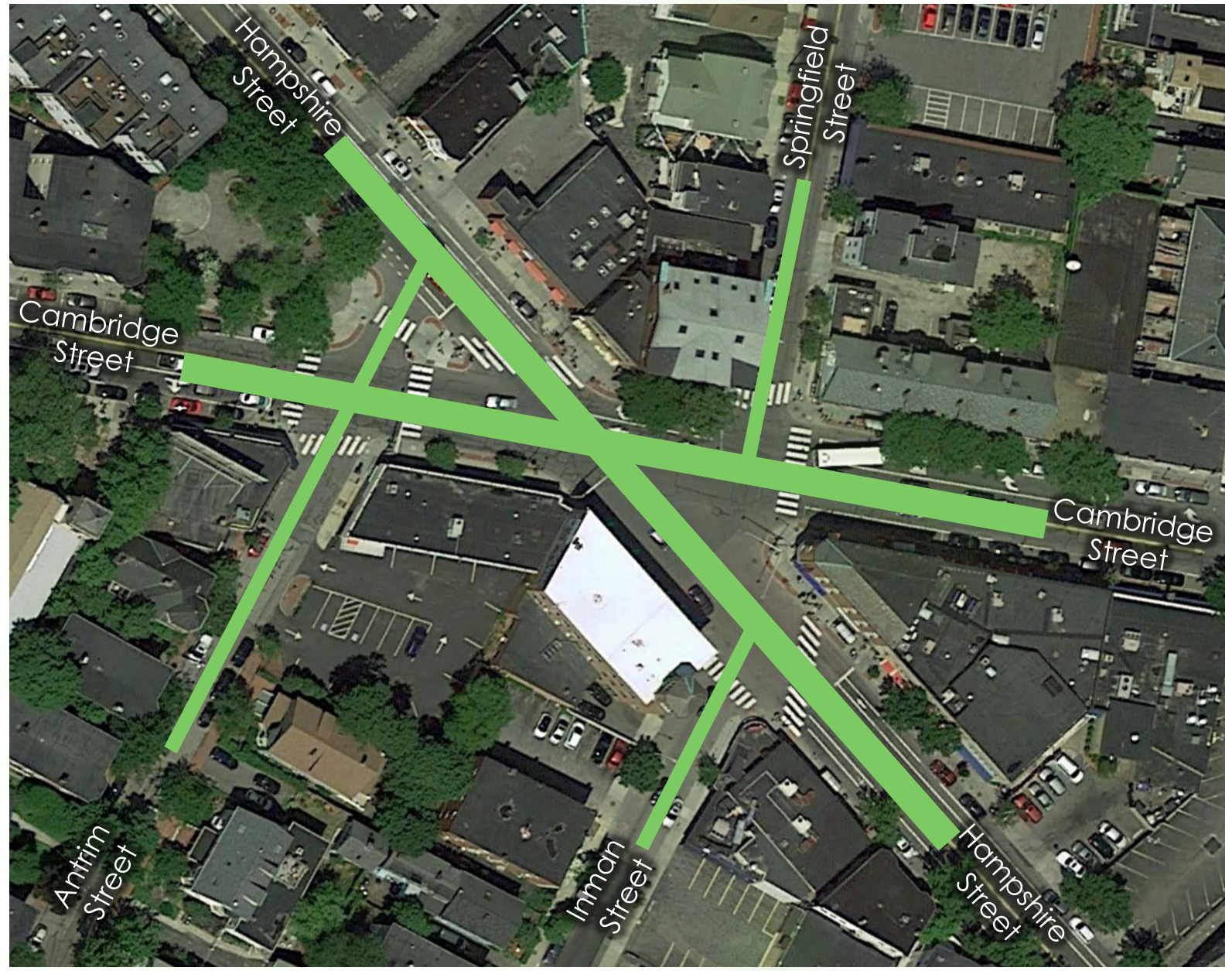


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- Compact intersections reduce exposure time for bikes
- Expanded open space
- Construct two new traffic signals
- More crossing opportunities, crosswalks reduced in length
- Signal control will provide continuous movement on Hampshire Street
- Left turn movements for bikes need additional consideration

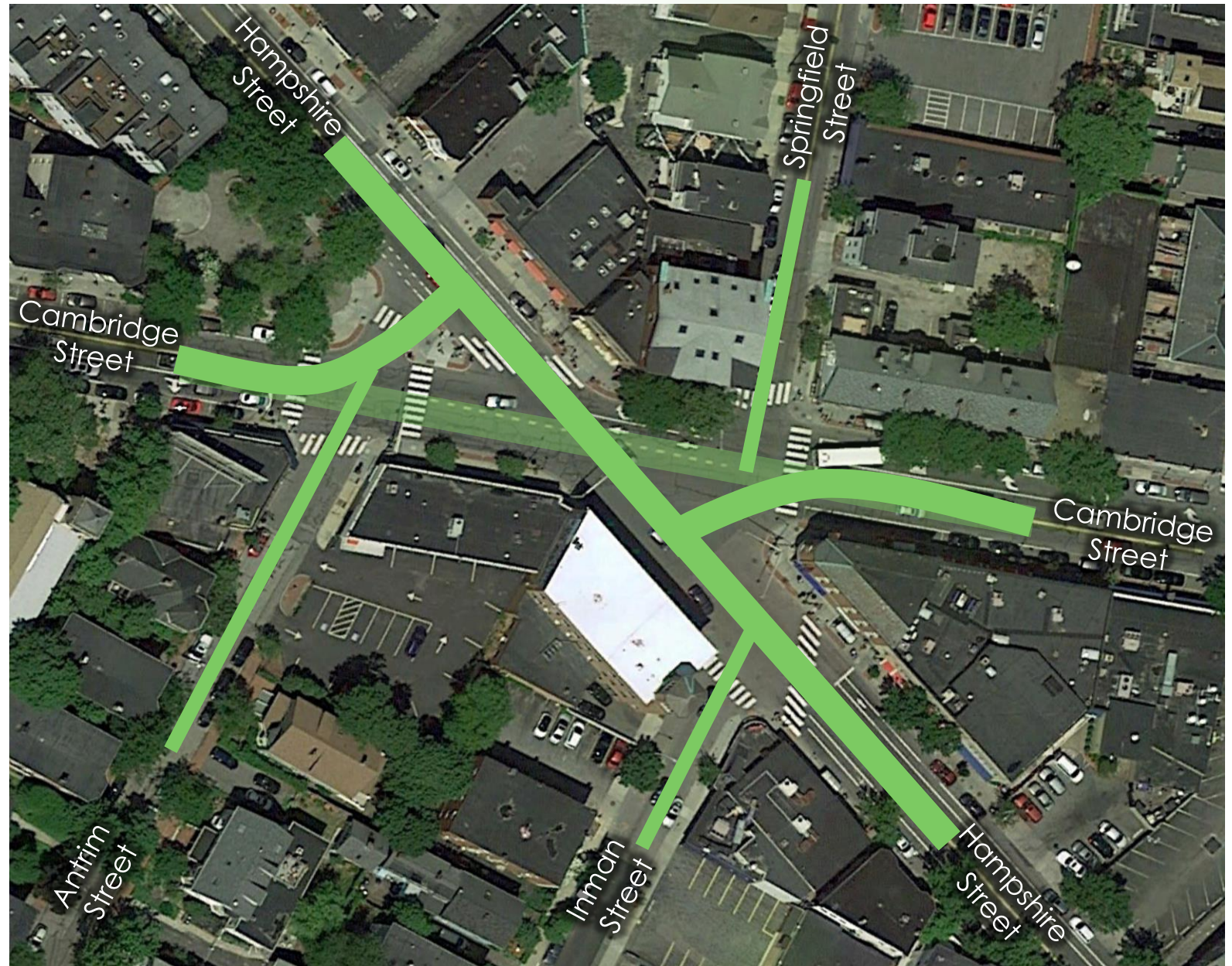


Idea – Bend Cambridge Street



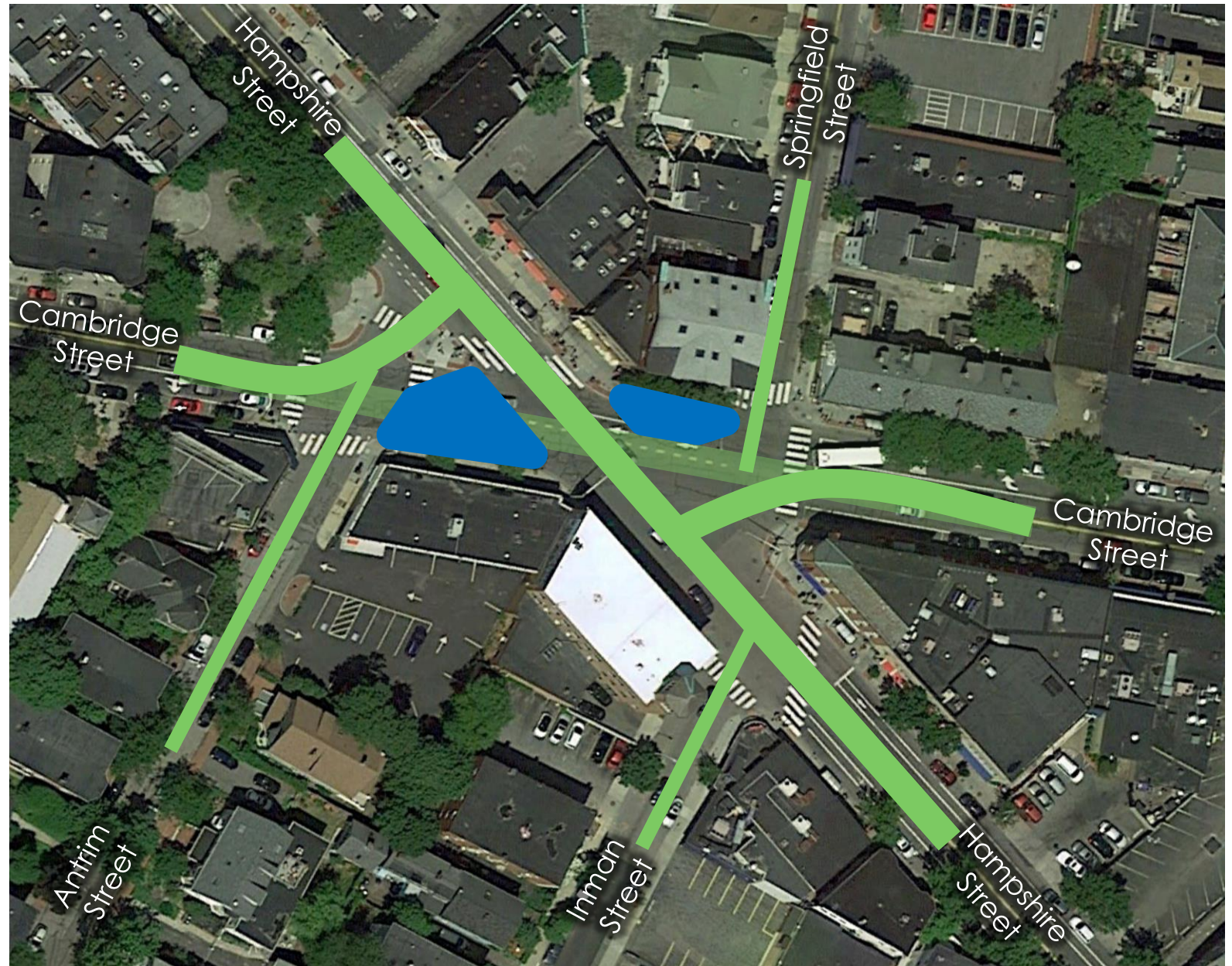
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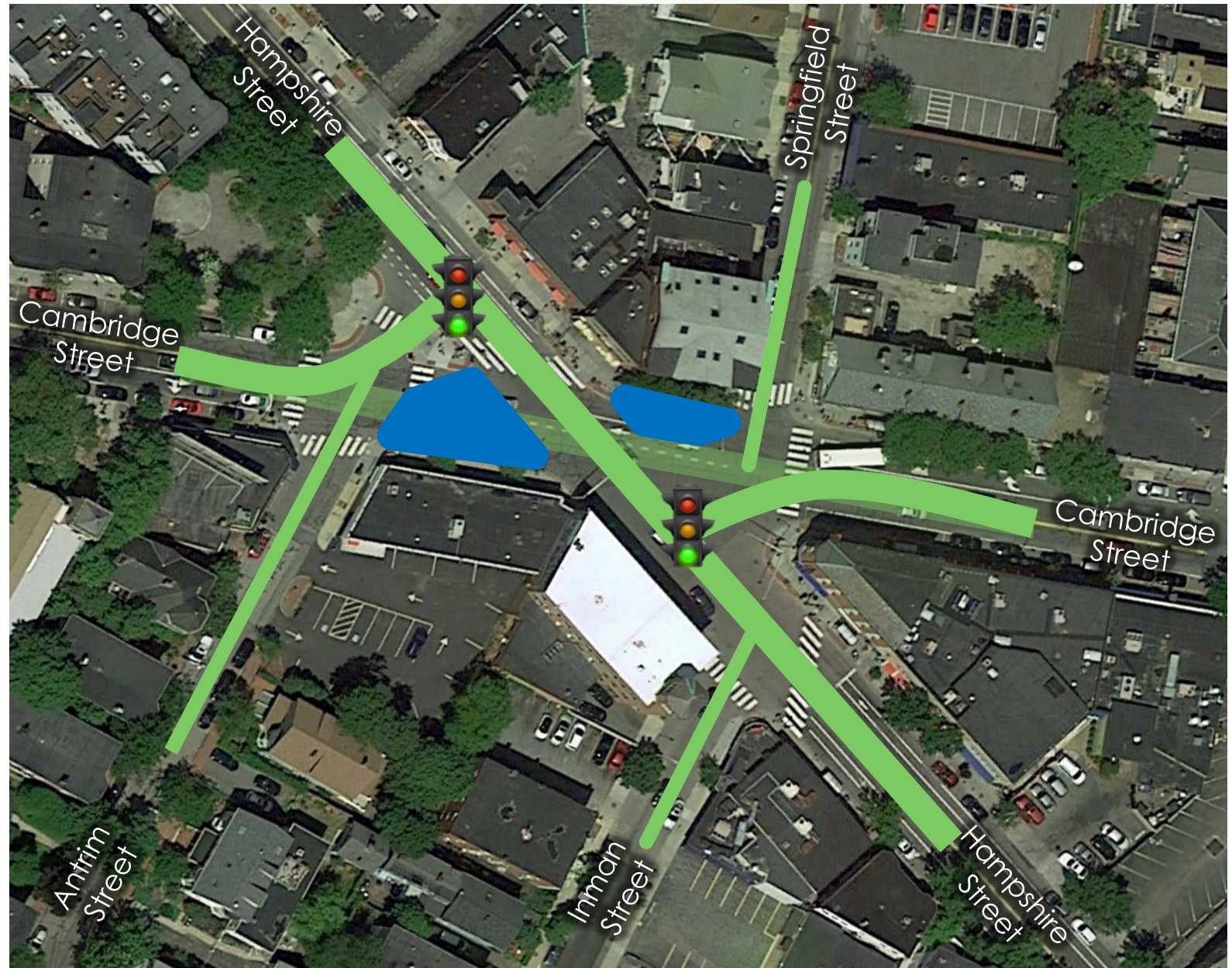
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- Construct two new traffic signals
- More crossing opportunities, crosswalks reduced in length
- Signal control will provide continuous movement on Cambridge Street
- Through bikes on Hampshire Street do not need to turn
- May require operational changes on Springfield Street



Next Steps

- ▶ Discussion with Community
- ▶ Ongoing Coordination
 - ▶ City of Somerville
 - ▶ Fire Department
- ▶ Identify funding opportunities
- ▶ Begin design efforts Fall 2016 pending community input



Questions?

