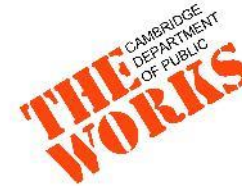
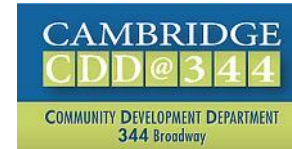


Inman Square Transportation Safety

July 19, 2016

Cambridge City Council Committee Hearing
Transportation and Public Utilities
Neighborhood and Long Term Planning, Public
Facilities, Arts, and Celebrations
Public Safety

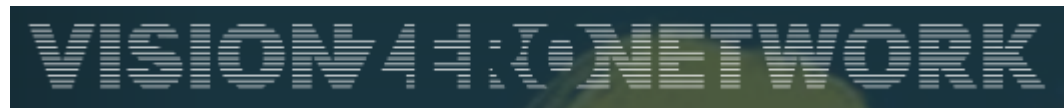
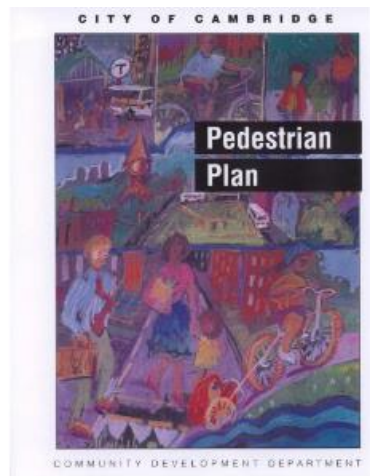


Safe and Sustainable Transportation

- ▶ **Safety for all modes is paramount**
- ▶ Low environmental impacts
 - ▣ Vehicle congestion, climate change, and air quality improvements
 - ▣ Street system that aids stormwater goals
- ▶ Strong economy
- ▶ Healthy living



Policies and Strategies



Safety Initiatives Underway Street Redesign and Traffic Calming



Safety Initiatives Underway Truck Equipment



Safety Initiatives Underway Education and Enforcement

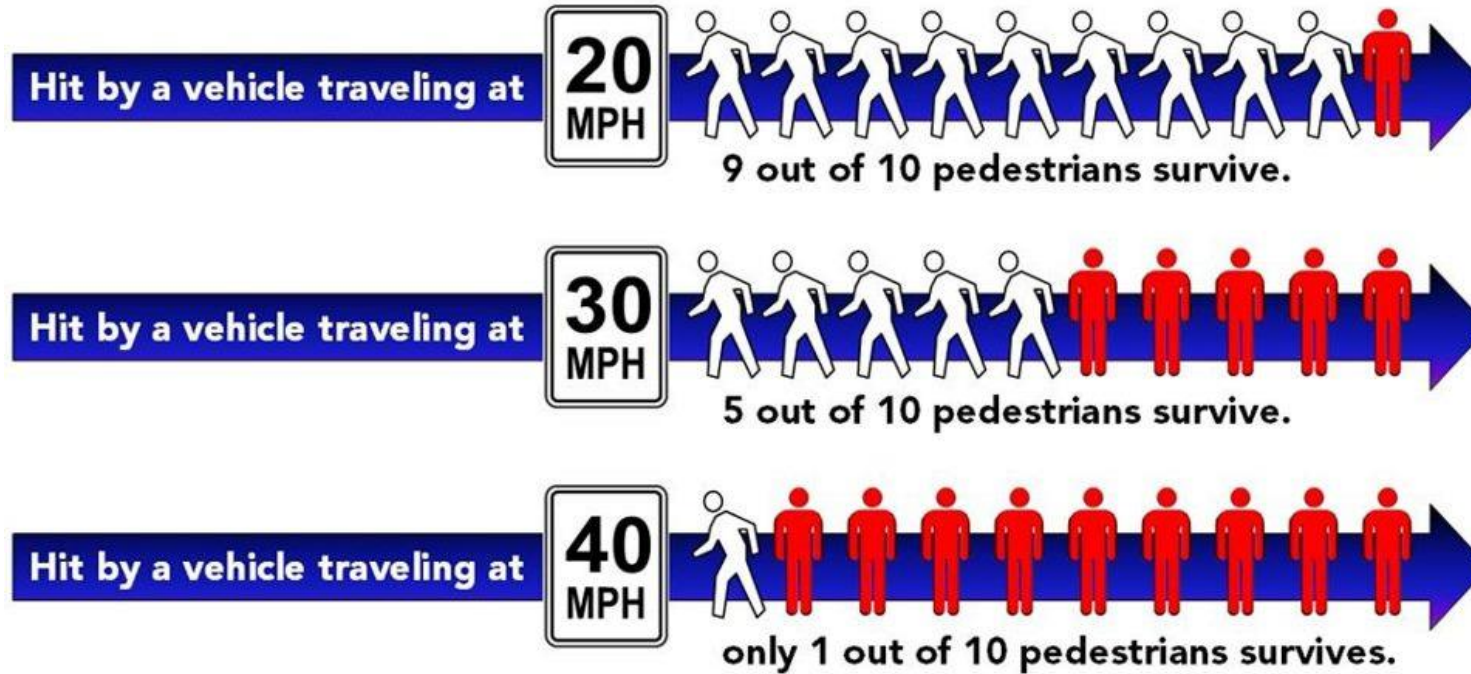


DRIVERS: This is NOT a parking space!
PLEASE Don't Block the Bike Lane.



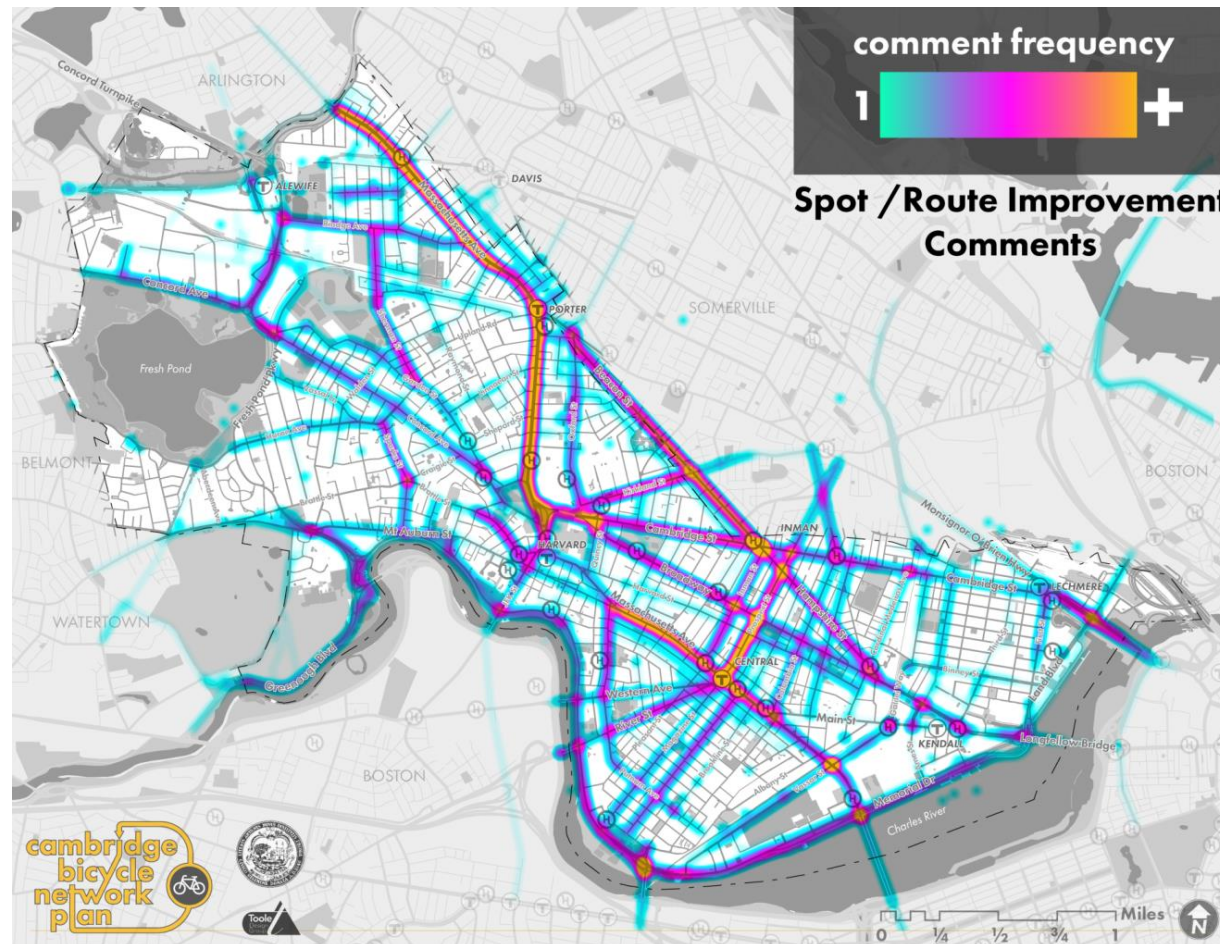
Future Safety Initiatives

Reduced Speed Limit



Future Safety Initiatives

Identification of Bicycle Improvements



Inman Square Traffic Study 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
- ▶ Scope of work
 - ▣ Signal timing changes
 - ▣ Minor street geometry changes

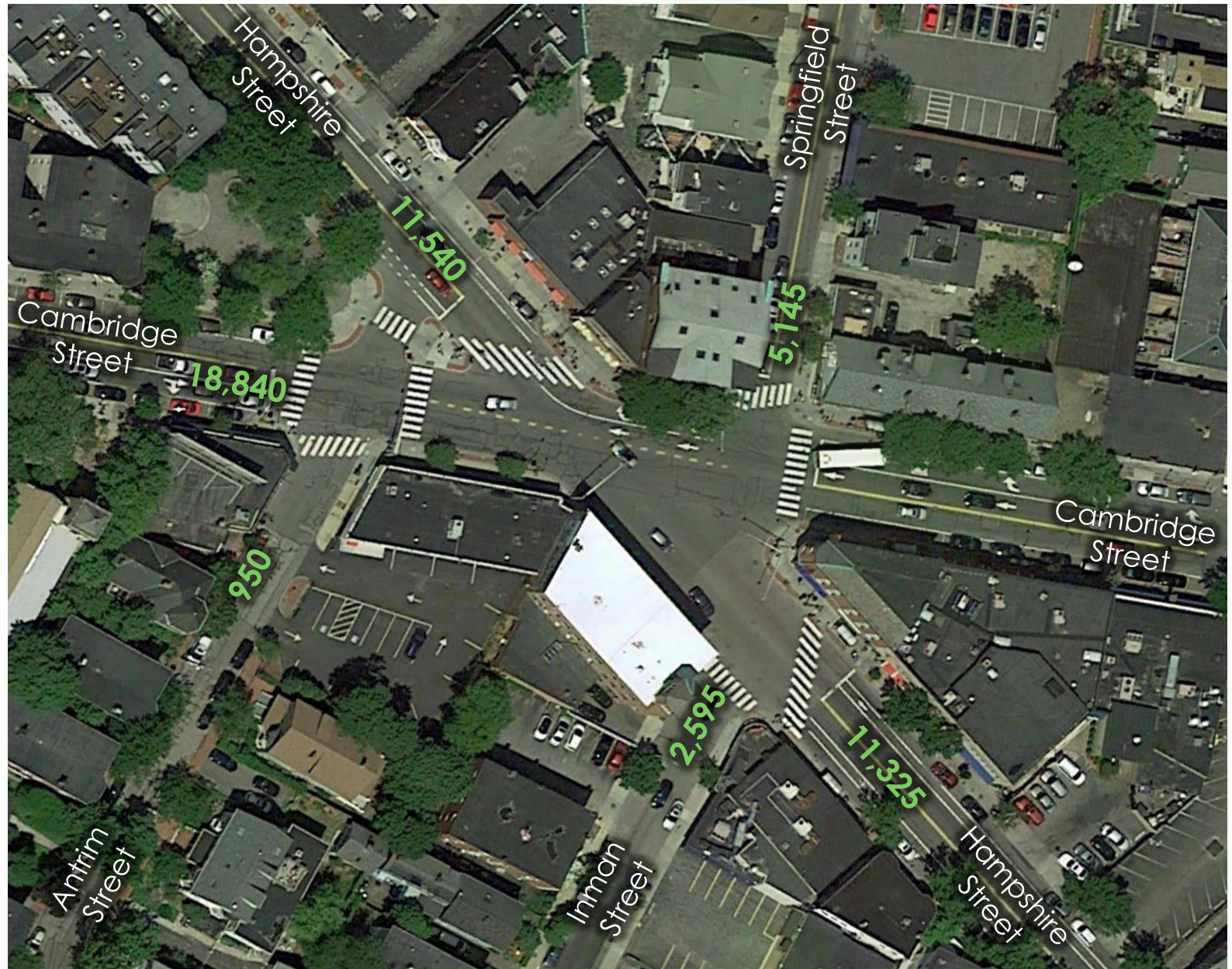
Inman Square Traffic Study

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

Inman Square Traffic Study Average Daily Traffic Volumes

- Vehicles per Day (both directions)
- Traffic Volumes from Counts conducted May 2015



Inman Square Traffic Study 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 (data collection period does not include 6/23 fatality)
 - ▶ 21 Injury crashes

Inman Square Traffic Study

Desired Outcomes

Pedestrian

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

Bicycle

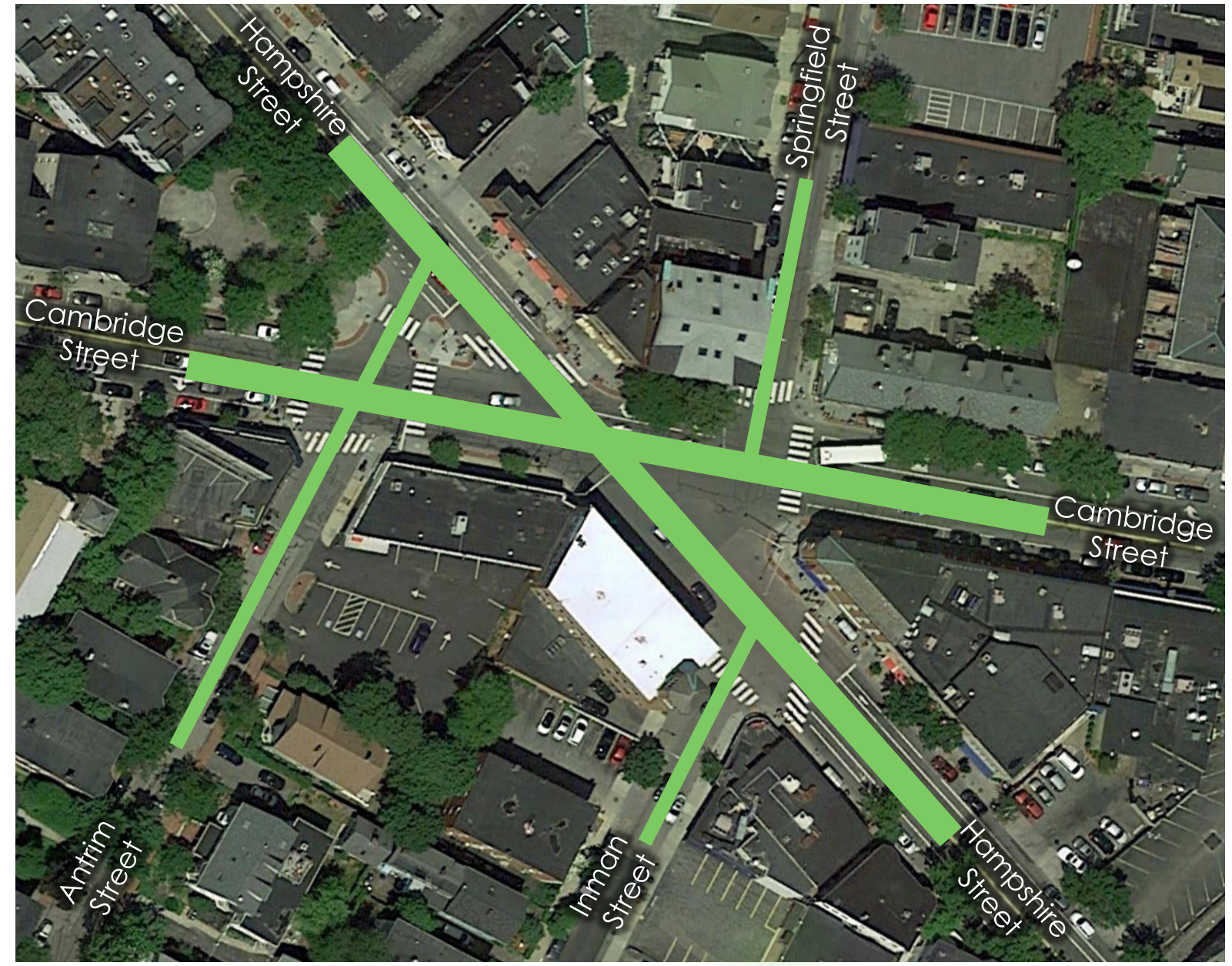
- Reduce exposure through more compact intersection design
- Minimize conflicts with turning vehicles
- Provide separation

Vehicle

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

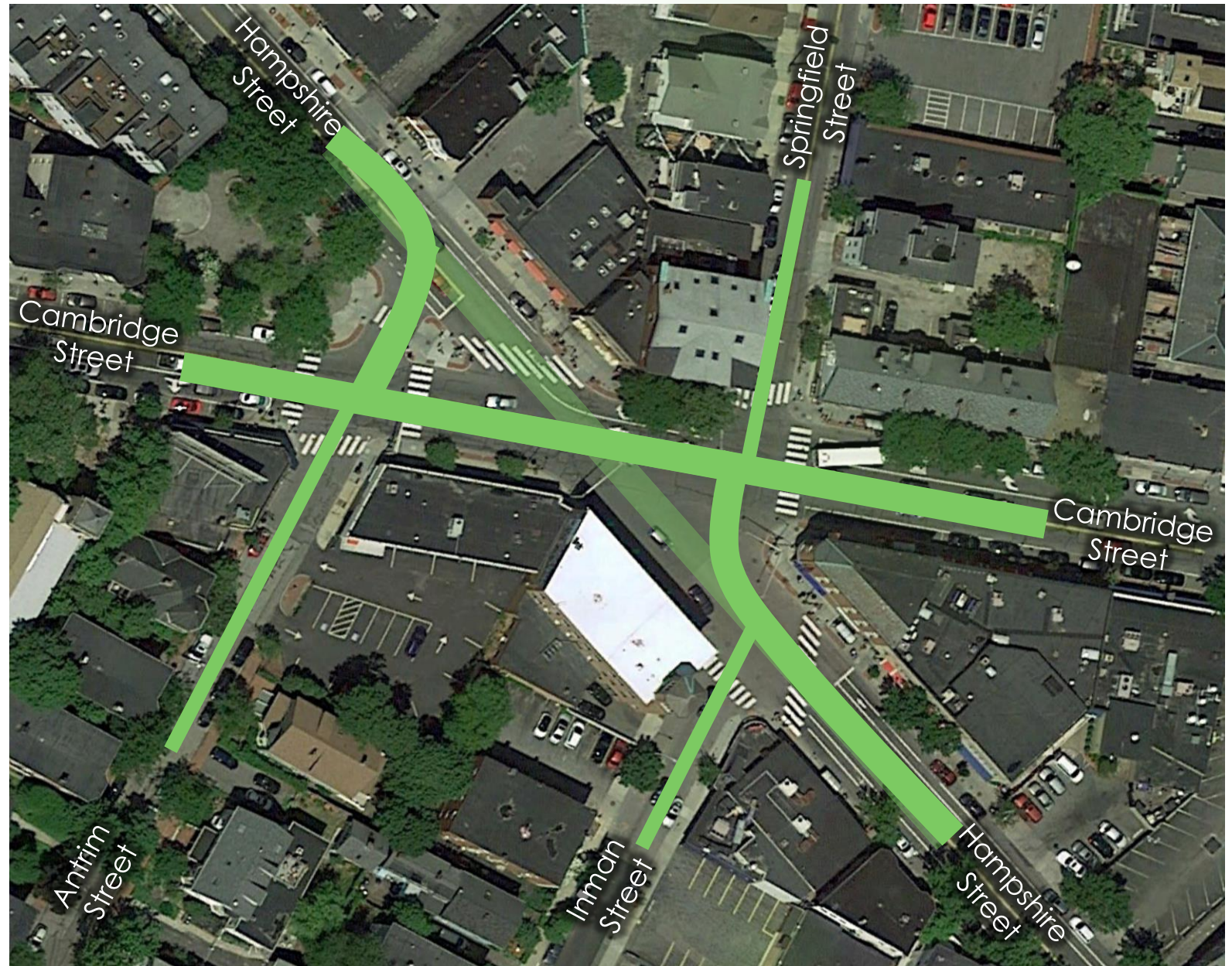
Inman Square Traffic Study Idea – Bend Streets

- Create two separate and simplified intersections



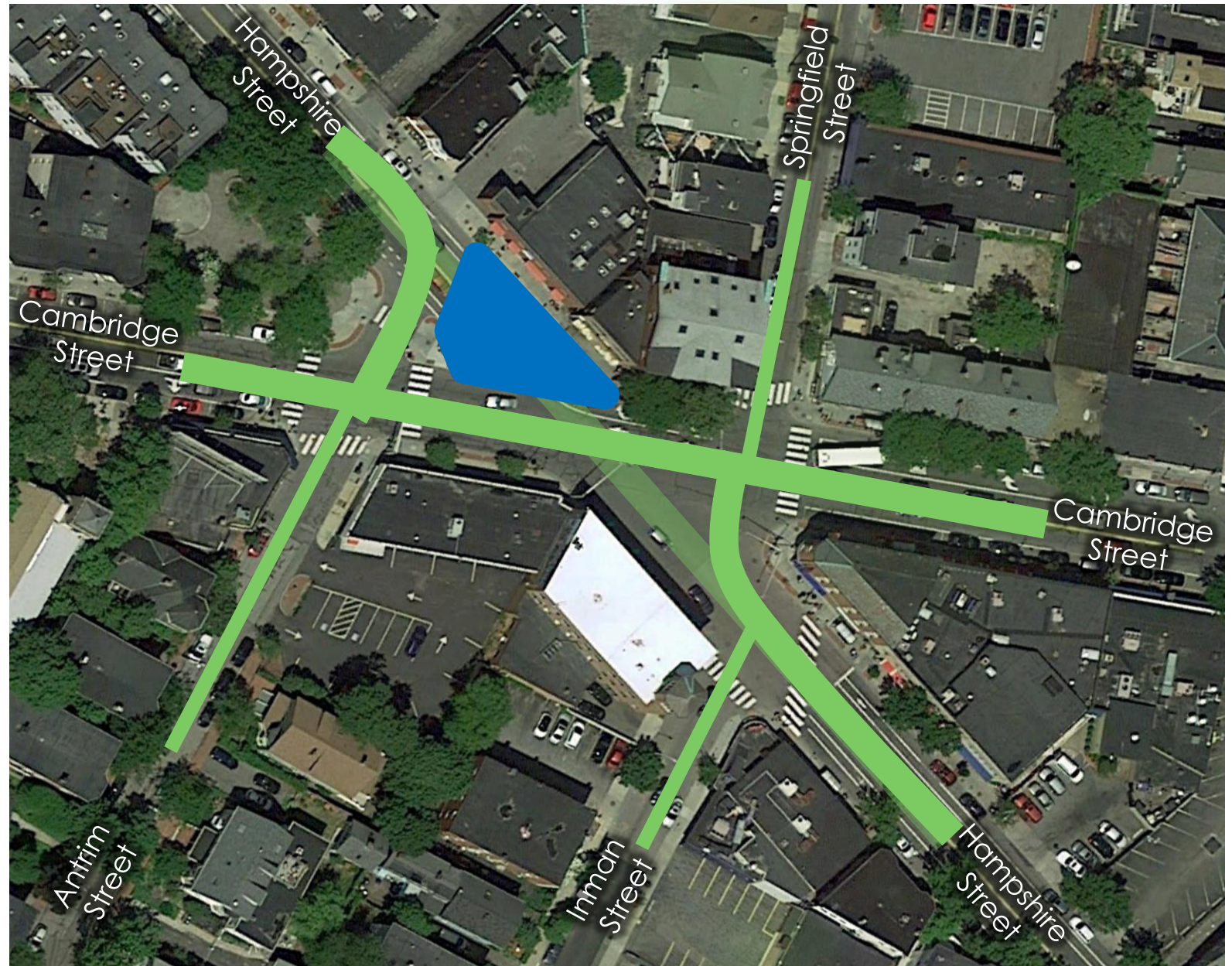
Inman Square Traffic Study Idea – Bend Hampshire Street

- Compact intersections
reduce exposure time for
bikes



Inman Square Traffic Study Idea – Bend Hampshire Street

- Compact intersections reduce exposure time for bikes
- Expanded open space



Inman Square Traffic Study Idea – Bend Hampshire Street

- Compact intersections reduce exposure time for bikes
- Expanded open space
- Construct two new traffic signals



Inman Square Traffic Study Idea – Bend Hampshire Street

- Compact intersections reduce exposure time for bikes
- Expanded open space
- Construct two new traffic signals
- More crossing opportunities, crosswalks reduced in length



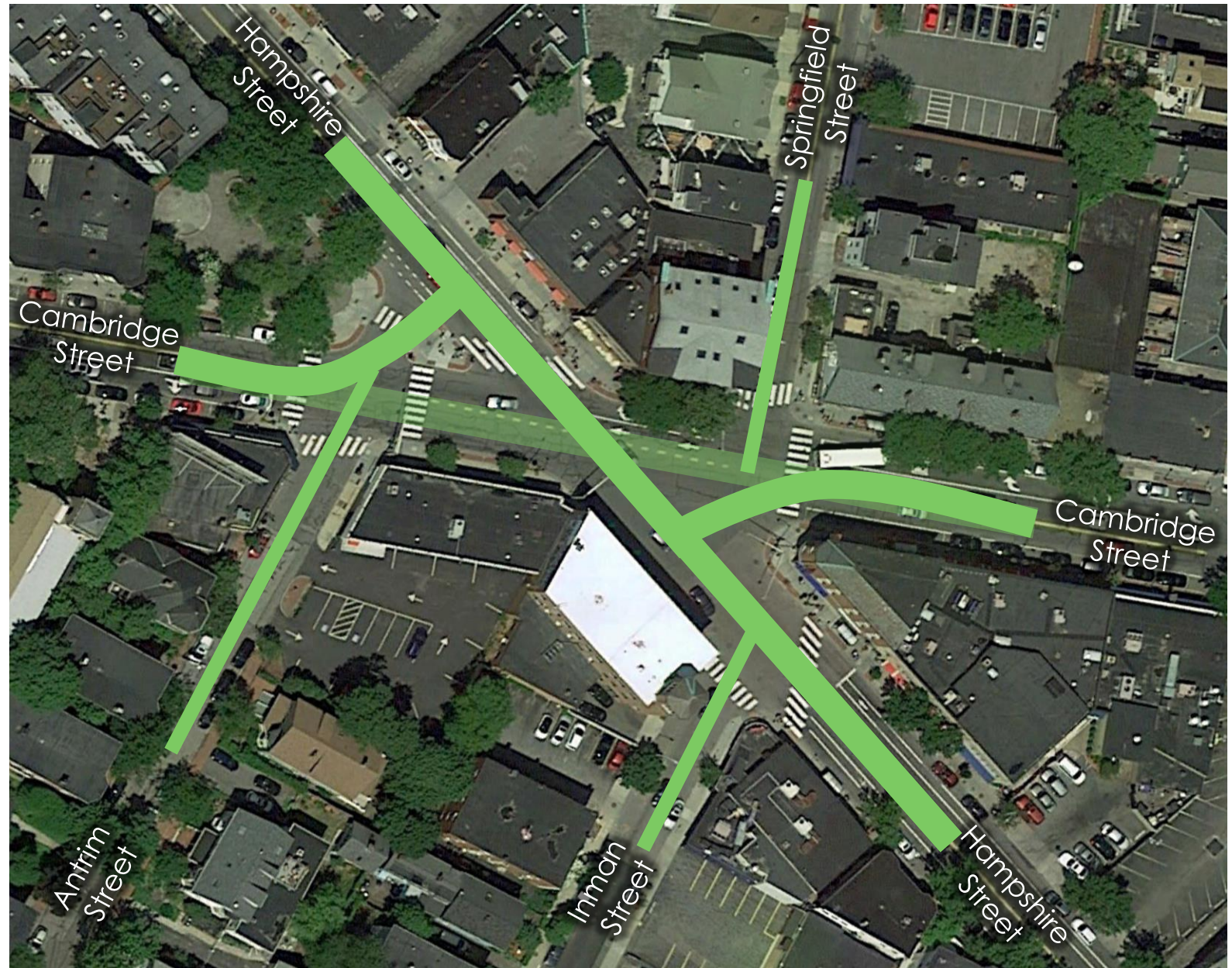
Inman Square Traffic Study Idea – Bend Hampshire Street

- 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



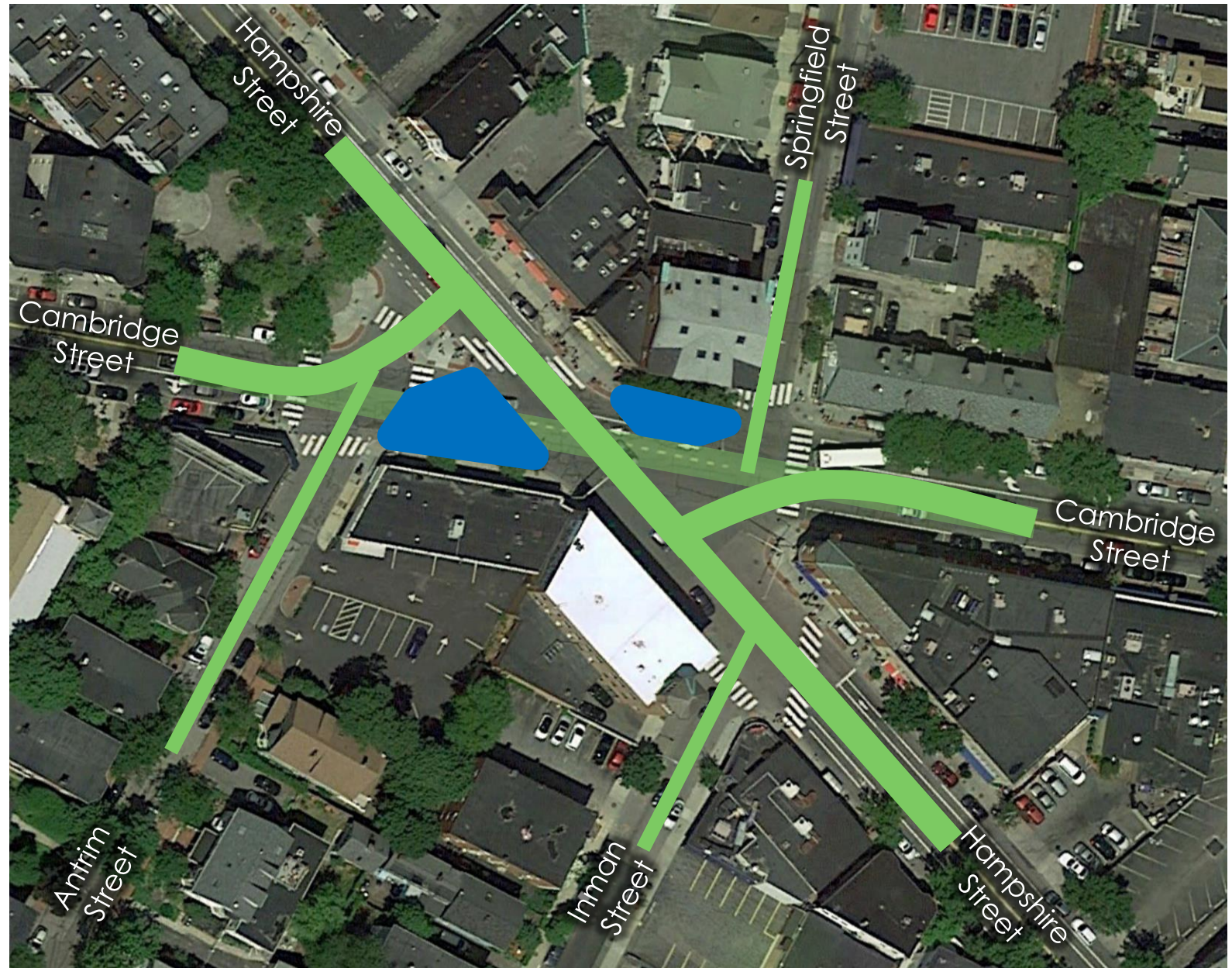
Inman Square Traffic Study Idea – Bend Cambridge Street

- Compact intersections reduce exposure time for bikes



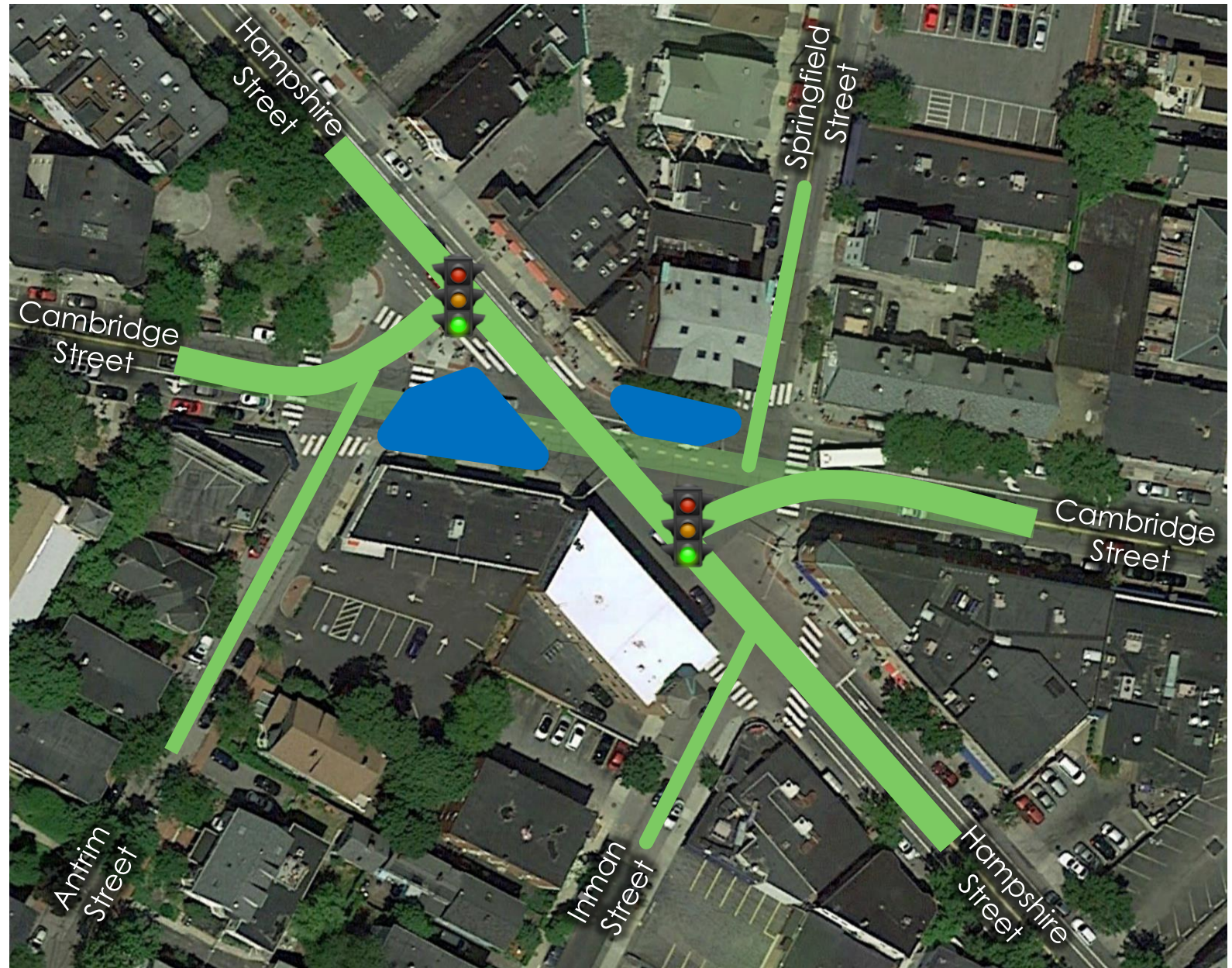
Inman Square Traffic Study Idea – Bend Cambridge Street

- Compact intersections reduce exposure time for bikes
- Expanded open space



Inman Square Traffic Study Idea – Bend Cambridge Street

- Compact intersections reduce exposure time for bikes
- Expanded open space
- Construct two new traffic signals



Inman Square Traffic Study Idea – Bend Cambridge Street

- Compact intersections reduce exposure time for bikes
- Expanded open space
- Construct two new traffic signals
- More crossing opportunities, crosswalks reduced in length



Inman Square Traffic Study Idea – Bend Cambridge Street

- Compact intersections reduce exposure time
- Expanded open space
- 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



Inman Square Traffic Study

Next Steps

Engagement

- ▶ Additional discussions
 - ❑ Local community
 - ❑ Businesses
 - ❑ Bicycle, pedestrian, and transit committees
- ▶ Ongoing coordination
 - ❑ City of Somerville
 - ❑ Fire Department
 - ❑ MBTA

Implementation

- ▶ Progress planning and design
 - ❑ Verify physical and operational feasibility
 - ❑ Issue task order contract for initial design
- ▶ Identify funding for design and construction
 - ❑ City capital
 - ❑ MassDOT Highway Safety Improvement Program

Short-Term Toolbox

“Green-Backed” Sharrows



Short-Term Toolbox Intersection Bike Lane Markings



Short-Term Toolbox Signs



Short-Term Improvement Plan



Safety Education Engagement and Events



Safety Education Classes and Support

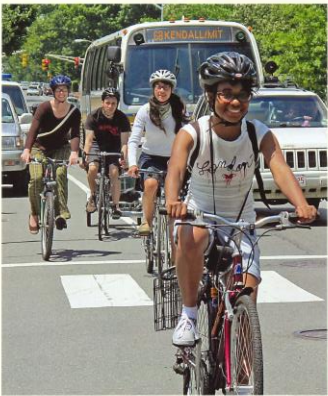


Safety Education Outreach

City of Cambridge Promoting safety between cars & bicycles
Instructions: Peel & apply to the bottom of exterior vehicle mirror on the driver's side

watch for bikes

WATCH FOR BIKES



TIPS FOR SHARING THE ROAD

2013

CitySmart



FAST. FLEXIBLE. FUN.

DRIVERS:
Always **LOOK** before opening your car door!
PLEASE WATCH FOR BIKES.



NO



YES

Safety Education Direct Engagement

2015 Bike Safety Month

Date	Time	Location	Number
Mon 5/4	AM	Inman Sq	>535
Mon 5/11	AM	Central Sq	>175
Tue 5/12	AM	Alewife	>75
Wed 5/13	AM	Harvard Sq	>110
Thu 5/14	AM	Kendall Sq	>240
Thu 5/21	PM	Porter Sq	>75
Friday 5/29	PM	Kendall Sq	>50

2014 Bike Safety Month

Date	Time	Location	Number
Mon 5/5	AM	Inman Sq	782
Mon 5/12	AM	Central Sq	212
Thu 5/15	AM	Kendall Sq	312
Mon 5/19	PM	Central Sq	186
Fri 5/30	AM	Inman Sq	276

Safety Education Variable Message Signs



Safety Enforcement

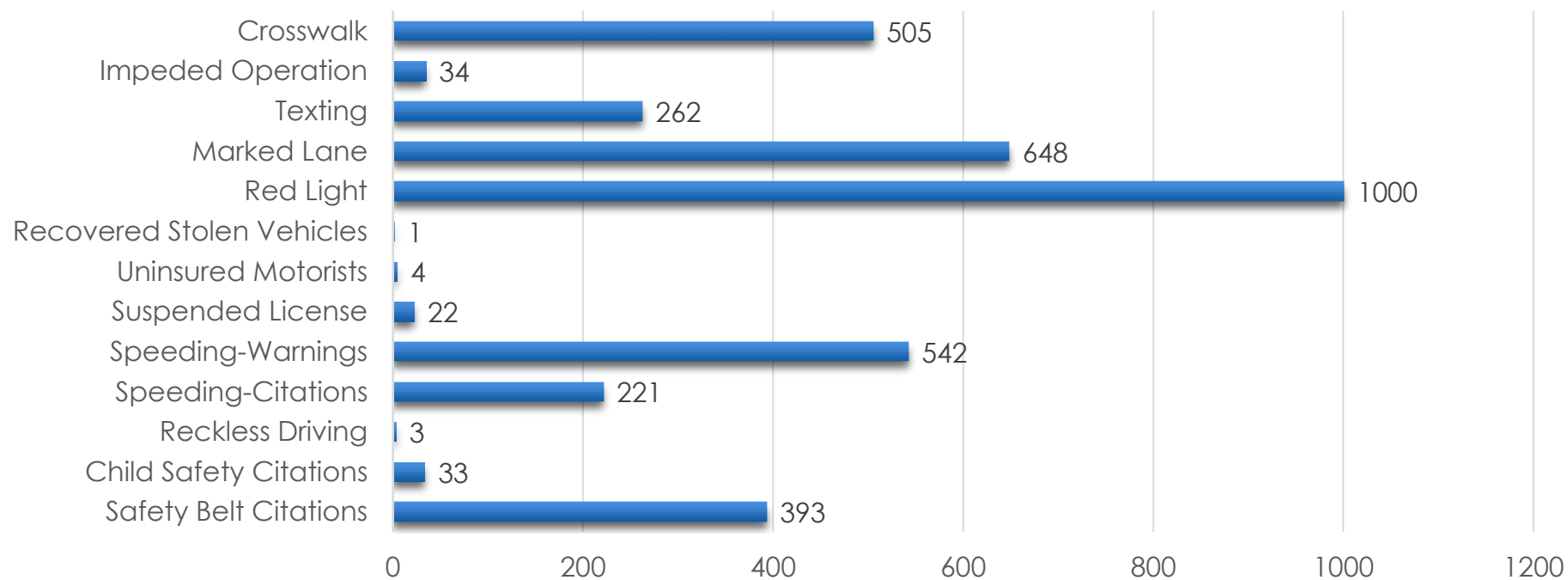
Summary of Activities – Calendar Year 2016

- ▶ Total moving violations issued by CPD (year to date): 6,223
- ▶ Total violations issued to cyclists (year to date): 381 (6% of total)
- ▶ Crosswalk violations: 370
- ▶ Parking violations issued for blocking bicycle lane (to end of June): 484

Safety Enforcement

Sustained Traffic Enforcement Program (STEP) Grant
Federal Fiscal Year 2015

Citations by Category



Total citations, arrests, and warnings: 5,591

Total patrol hours: 1,618

Safety Enforcement

Sustained Traffic Enforcement Program (STEP) Grant

Jul 1, 2016-Sep 30, 2016

Focused Locations

- ▶ Inman Square
- ▶ Mass Ave/Vassar Street
- ▶ Mass Ave/Albany Street
- ▶ Central Square
- ▶ Broadway corridor
- ▶ Hampshire Street corridor
- ▶ River Street corridor

Focused Infractions

- ▶ Crosswalks
- ▶ Speeding
- ▶ Red light / stop sign
- ▶ Distracted driving
- ▶ Bicyclists

Safety Enforcement

Pedestrian and Bicycle Safety Grant – \$7,000

417 citations issued and two arrests made, focusing on violations most directly related to pedestrian and bicycle safety. Patrols conducted during the morning and evening peak periods, concentrated at intersections with the highest reported crash totals and/or where enforcement was requested.

Key Locations

- ▶ Inman Square
- ▶ Harvard Square
- ▶ Porter Square
- ▶ Central Square
- ▶ Lafayette Square

Most Frequent Infractions

- ▶ Failure to yield to pedestrian in a crosswalk
- ▶ Red light / stop sign
- ▶ Improper turn
- ▶ Marked lane violation