

# Cambridge Transportation Study: Porter Square

Porter Square Neighborhood  
Association

June 16, 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
  - ▶ Concerns about bicycle movements
  - ▶ Coordination with adjacent signals
- ▶ Existing operational deficiencies
  - ▶ Complex signal phasing
  - ▶ Shared center lane on Mass Ave southbound
  - ▶ Turn restrictions from White Street and Somerville Avenue



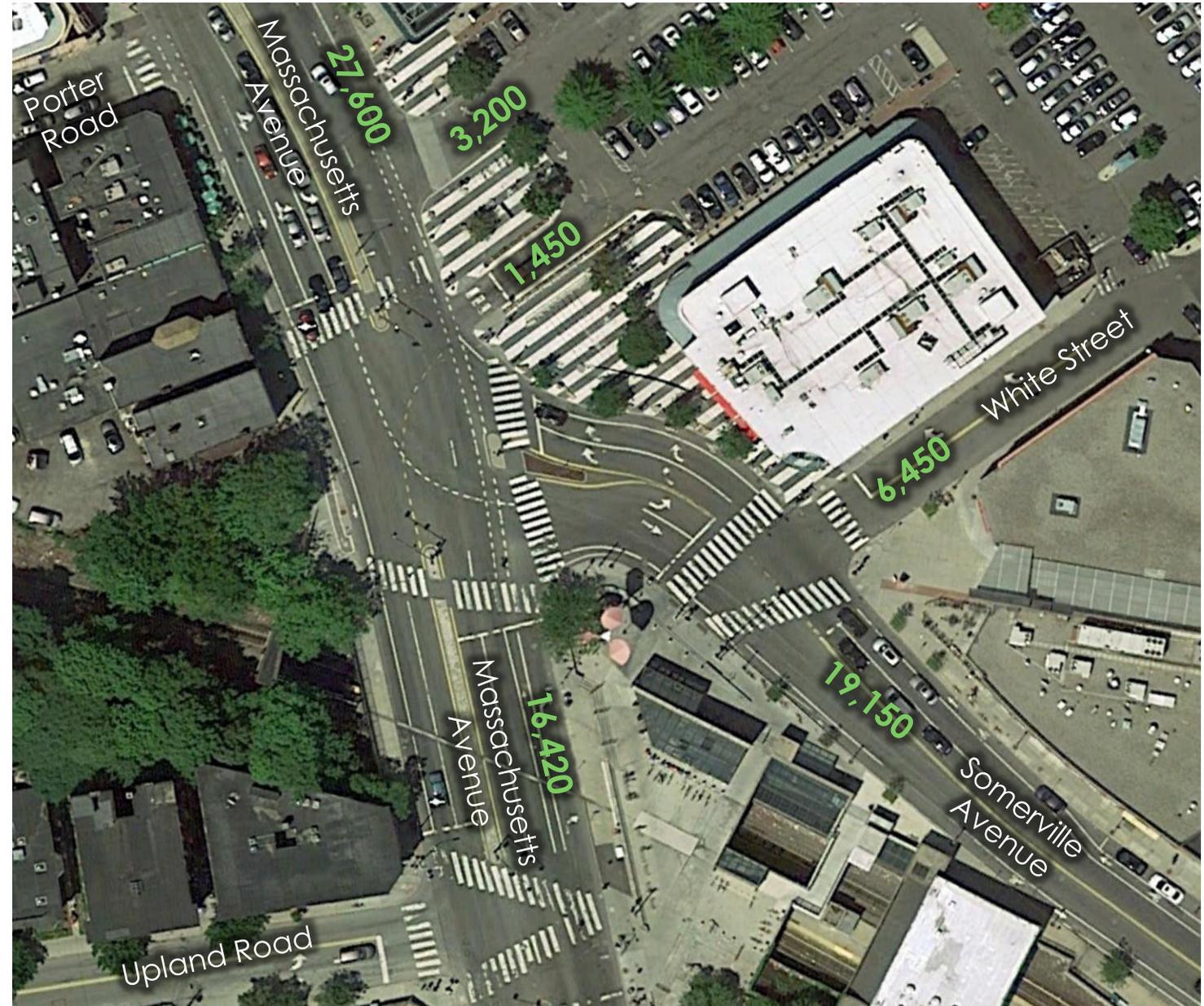
# Study Goals

- ▶ Improve safety for all users
- ▶ Improve/simplify operations for all modes
- ▶ Continue to support the local residential and business communities
- ▶ Develop relatively low-cost 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

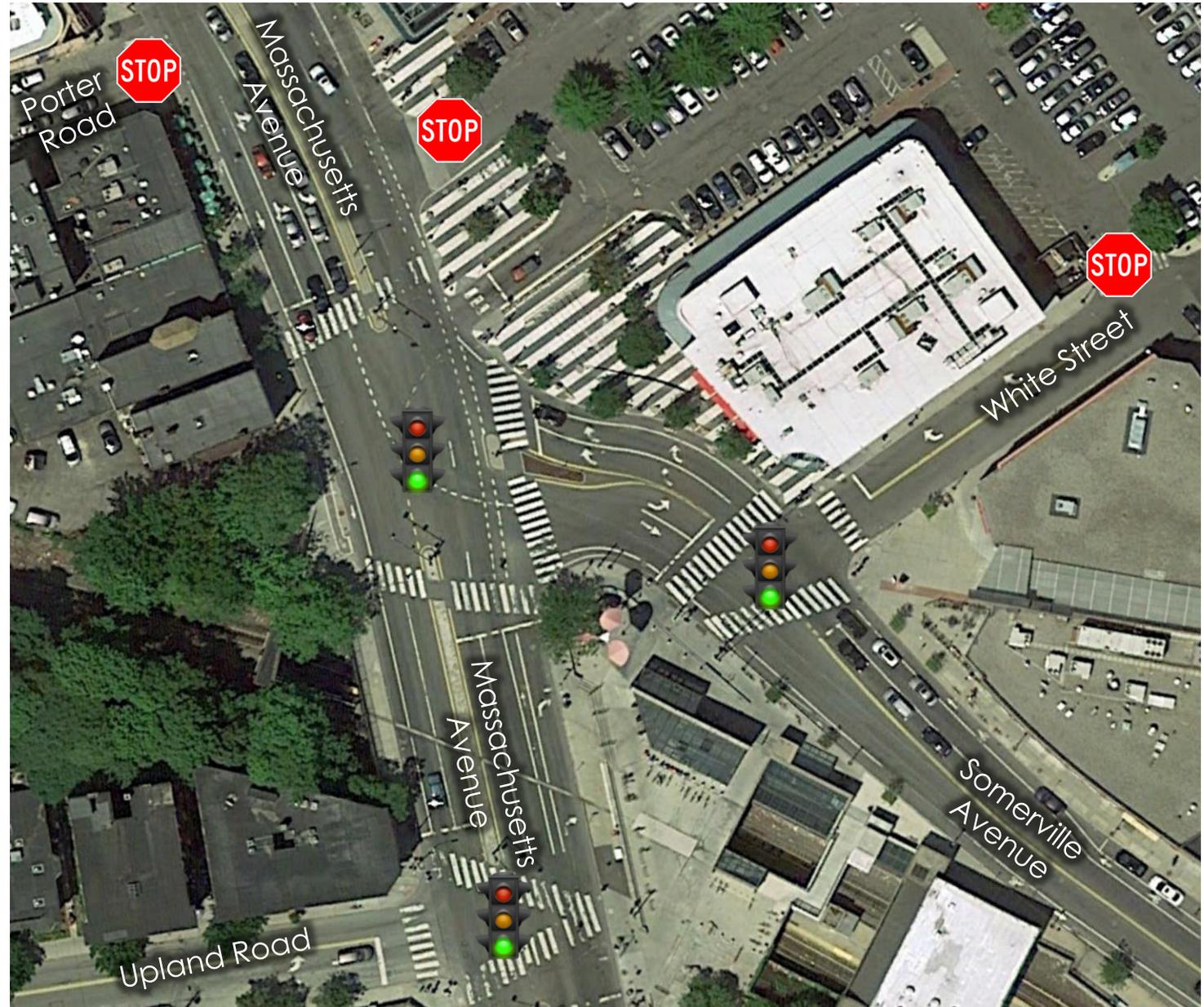
- ▶ Collected data from 2008-2012
- ▶ 62 total crashes in five years between three intersection
  - ▶ All three intersections below MassDOT statewide average crash rate
    - ▶ Mass Ave @ Somerville Ave – 29 crashes
    - ▶ Mass Ave @ Upland Road – 27 crashes
    - ▶ Somerville Ave @ White Street – 6 crashes\*
  - ▶ 7 bicycle involved crashes, 1 pedestrian involved crash
- ▶ Most frequent crash type – angle crash
- ▶ Crash severity
  - ▶ 0 Fatal crashes\*
  - ▶ 21 Injury crashes



\*Does not include recent pedestrian crash at White Street

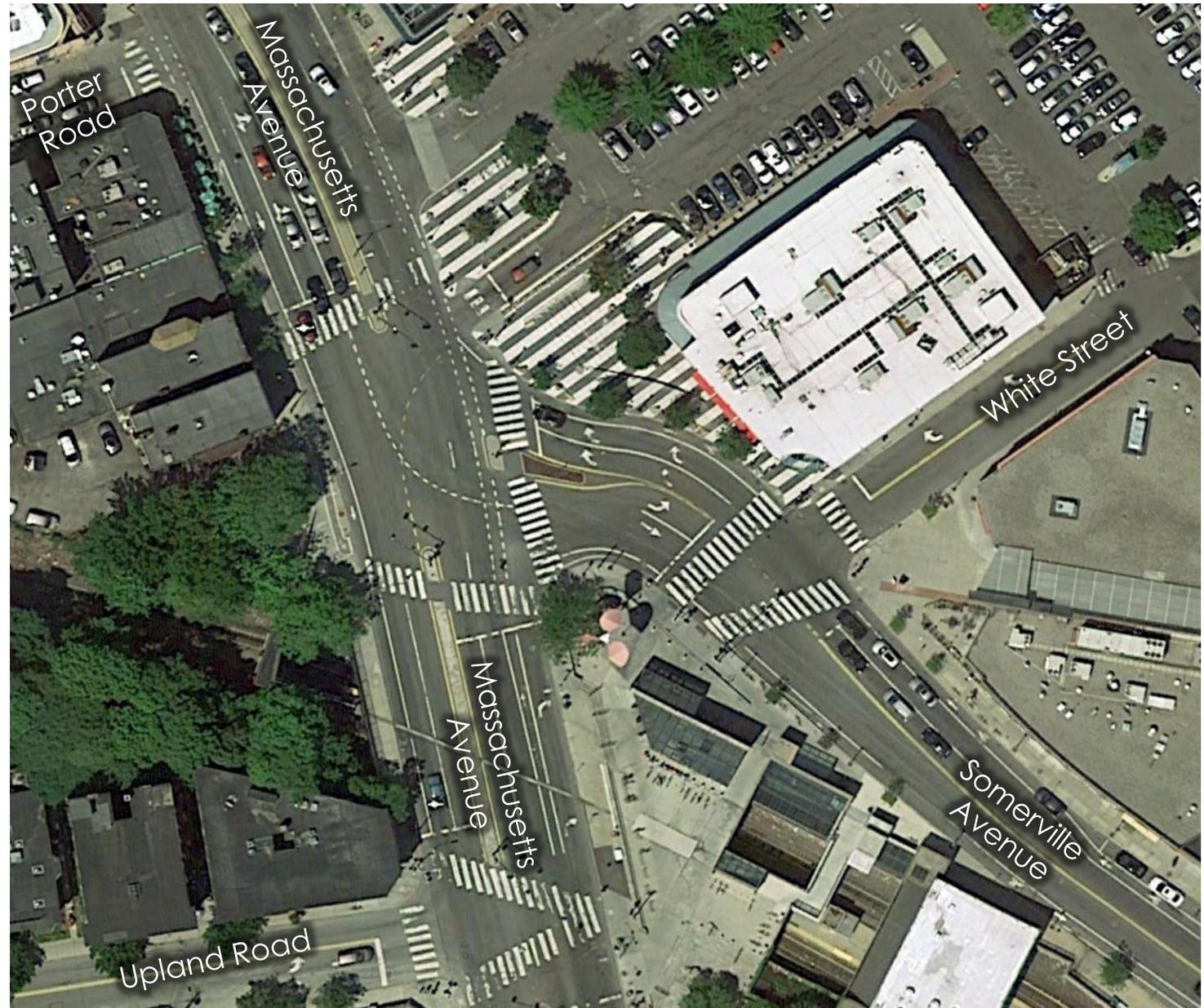
# Existing Traffic Control

- Three Traffic Signals
- Stop Control on Minor Approaches
  - Porter Road
  - Shopping Center Right Out
  - Shopping Center White Street Driveway



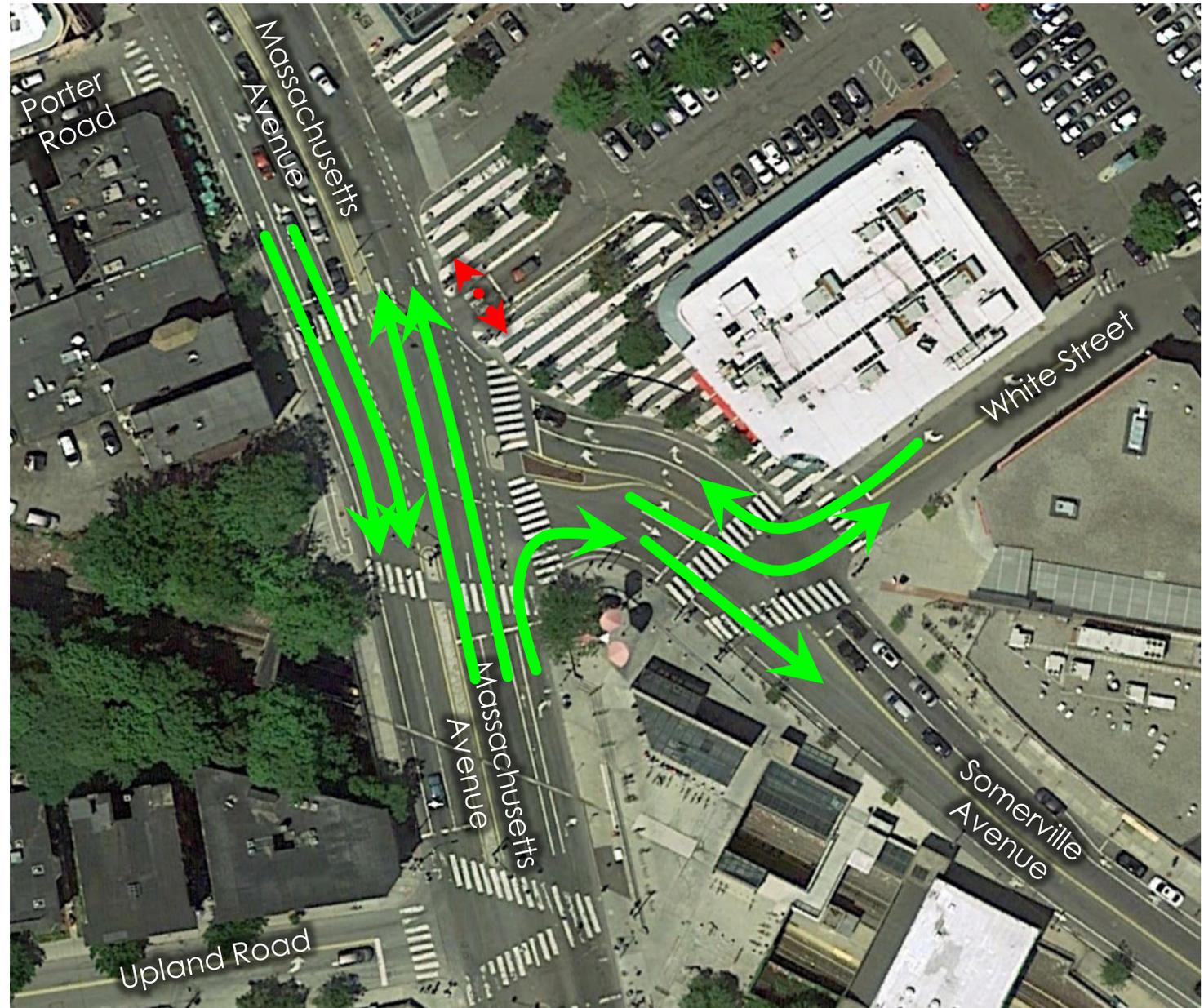
# Mass Ave @ Somerville Ave Existing Signal Phasing

- Phase 1
  - Mass Ave Through
- Phase 2
  - Mass Ave Left Turn
  - Somerville Ave Right Turn
- Phase 3
  - Somerville Ave Right Turn
  - Bike Left Turn
  - Mass Ave Pedestrian Crossing
- Phase 4
  - Exclusive Pedestrian Phase
- Phase 5
  - Shopping Plaza Driveway



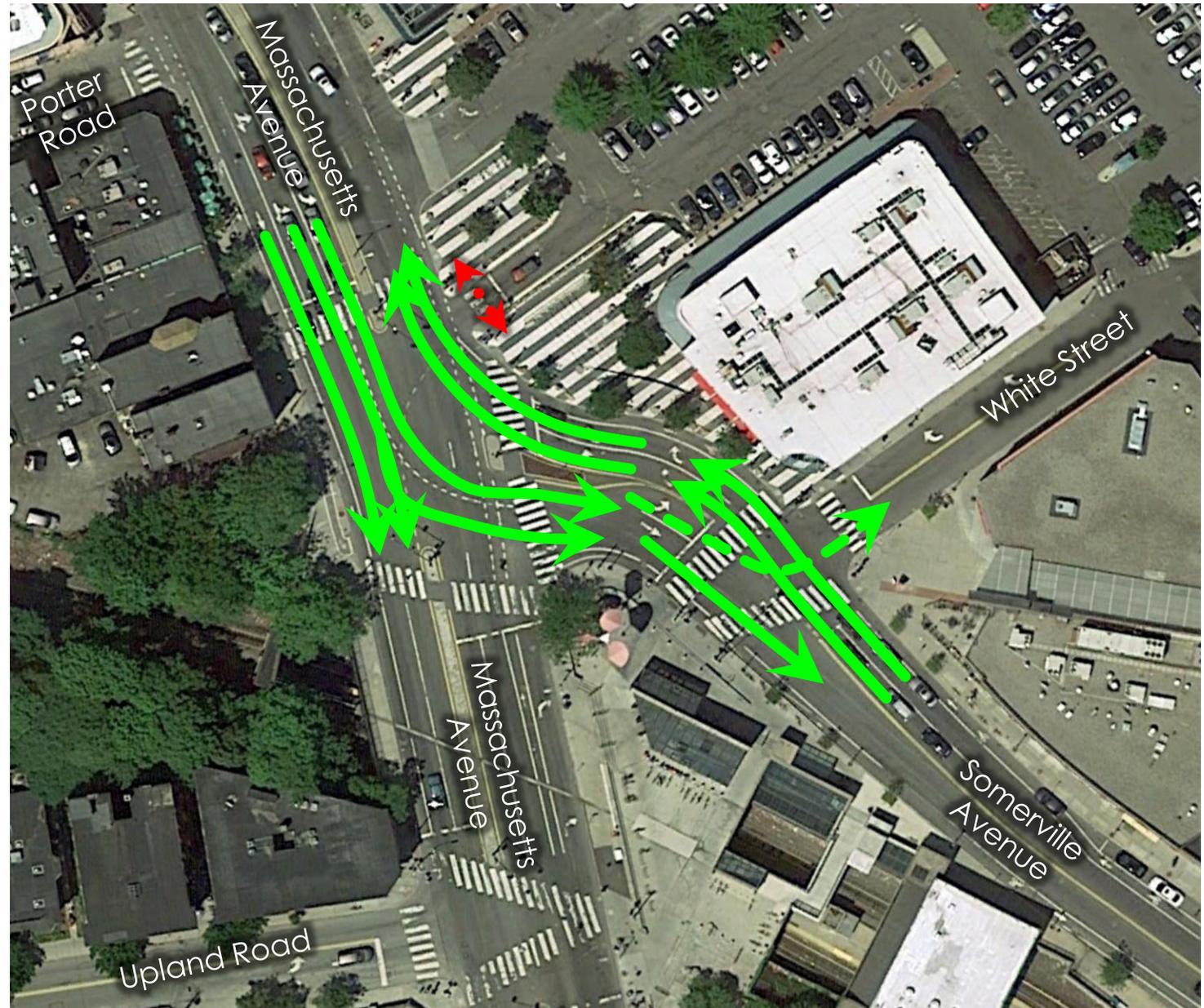
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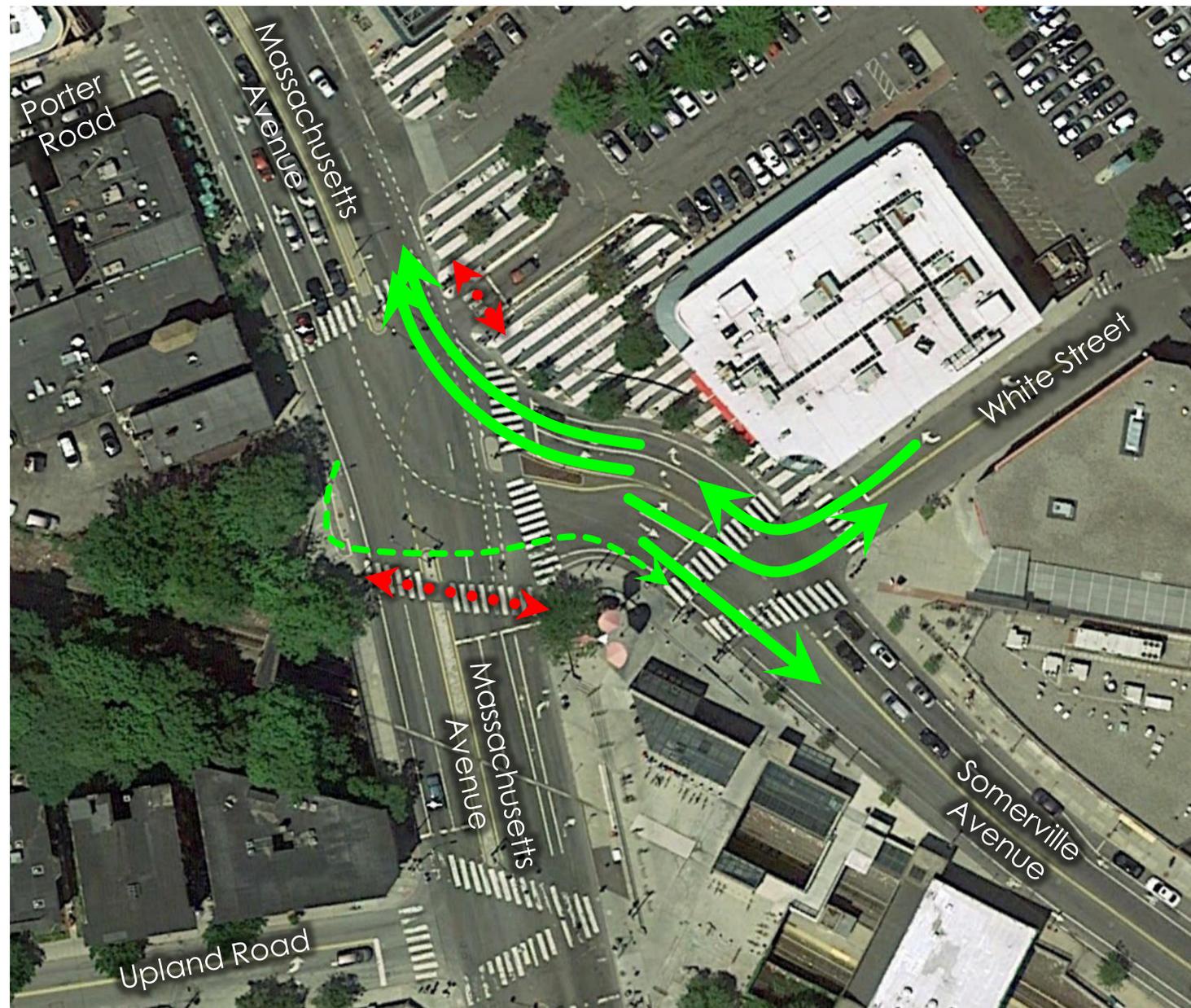
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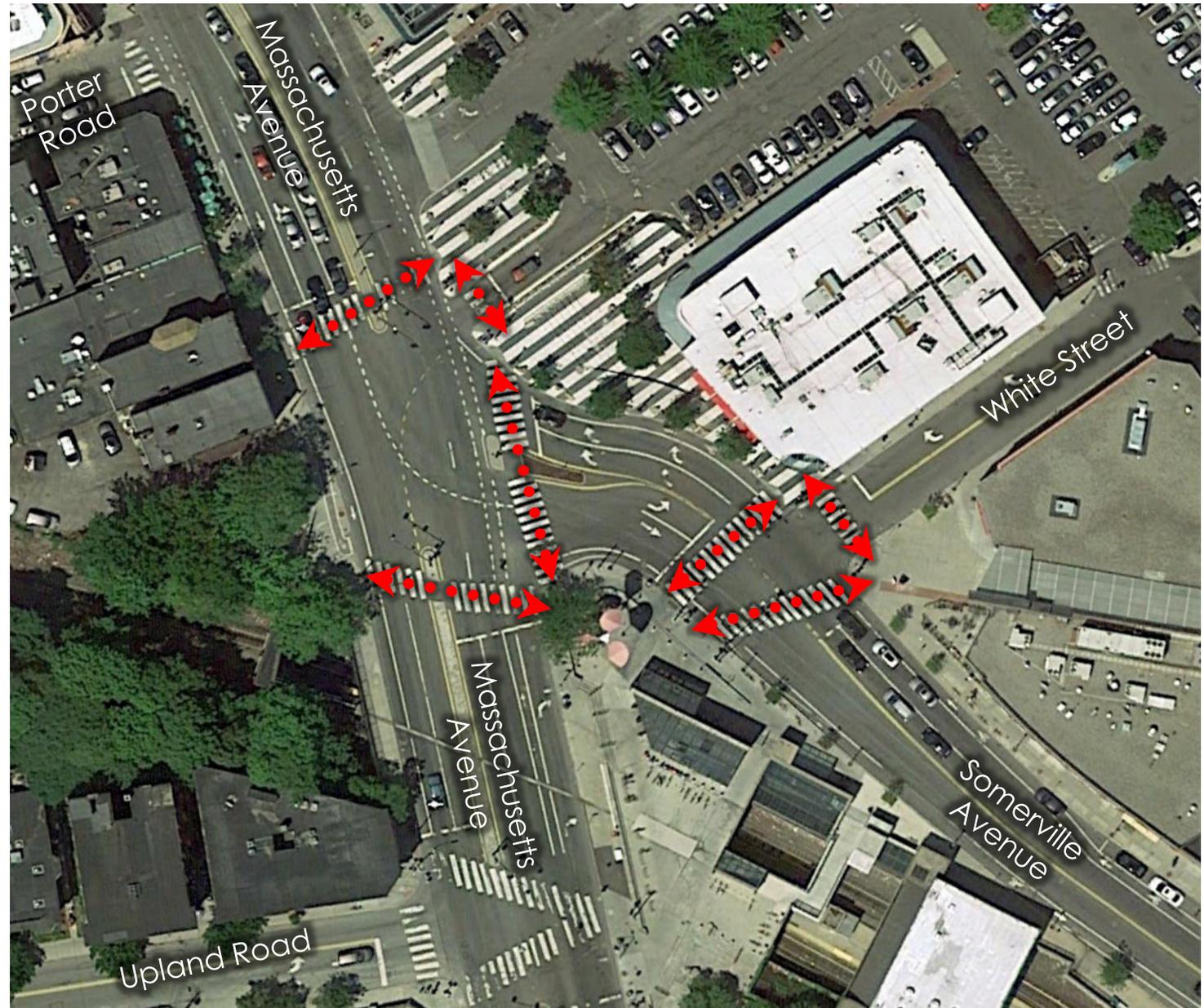
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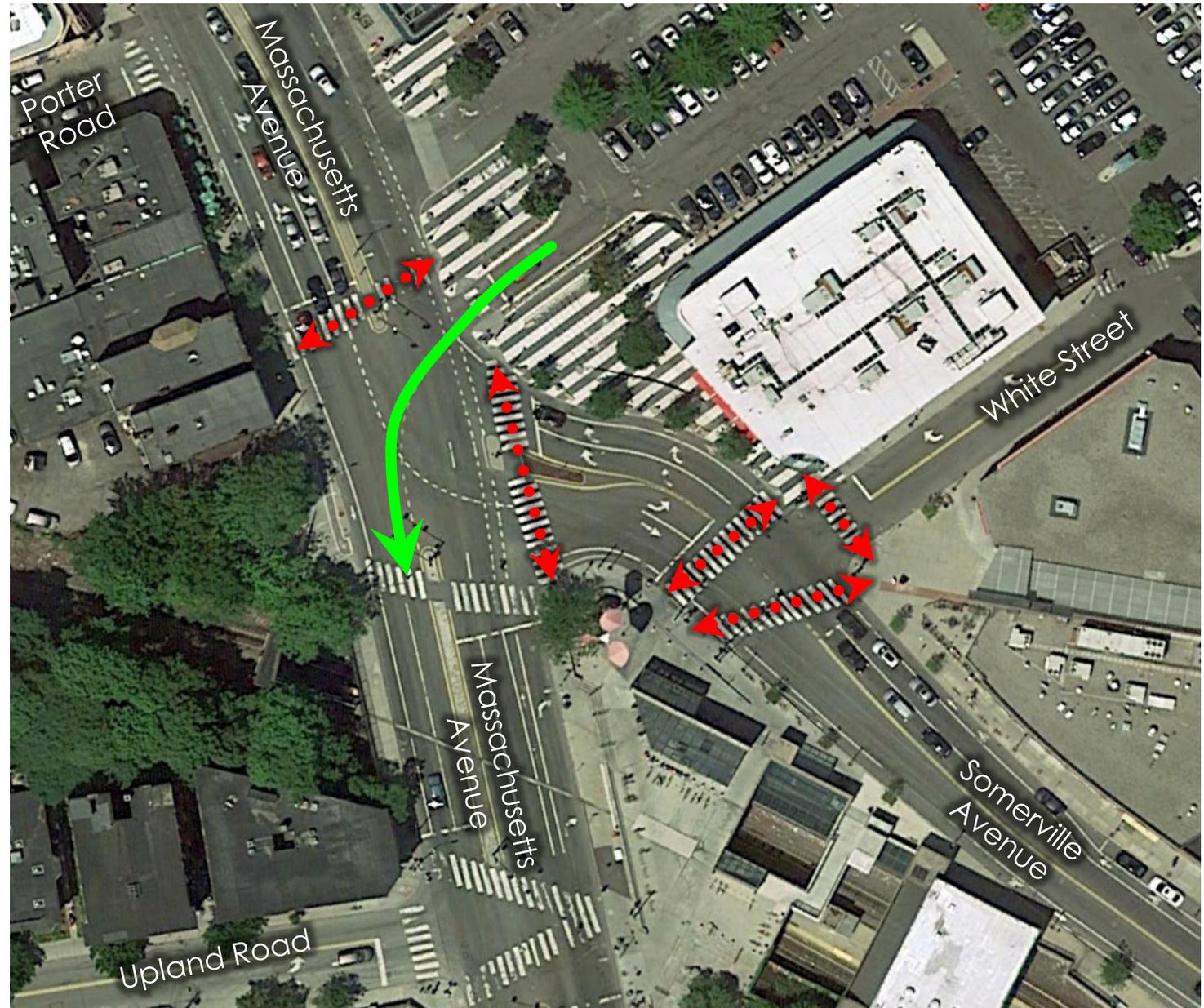
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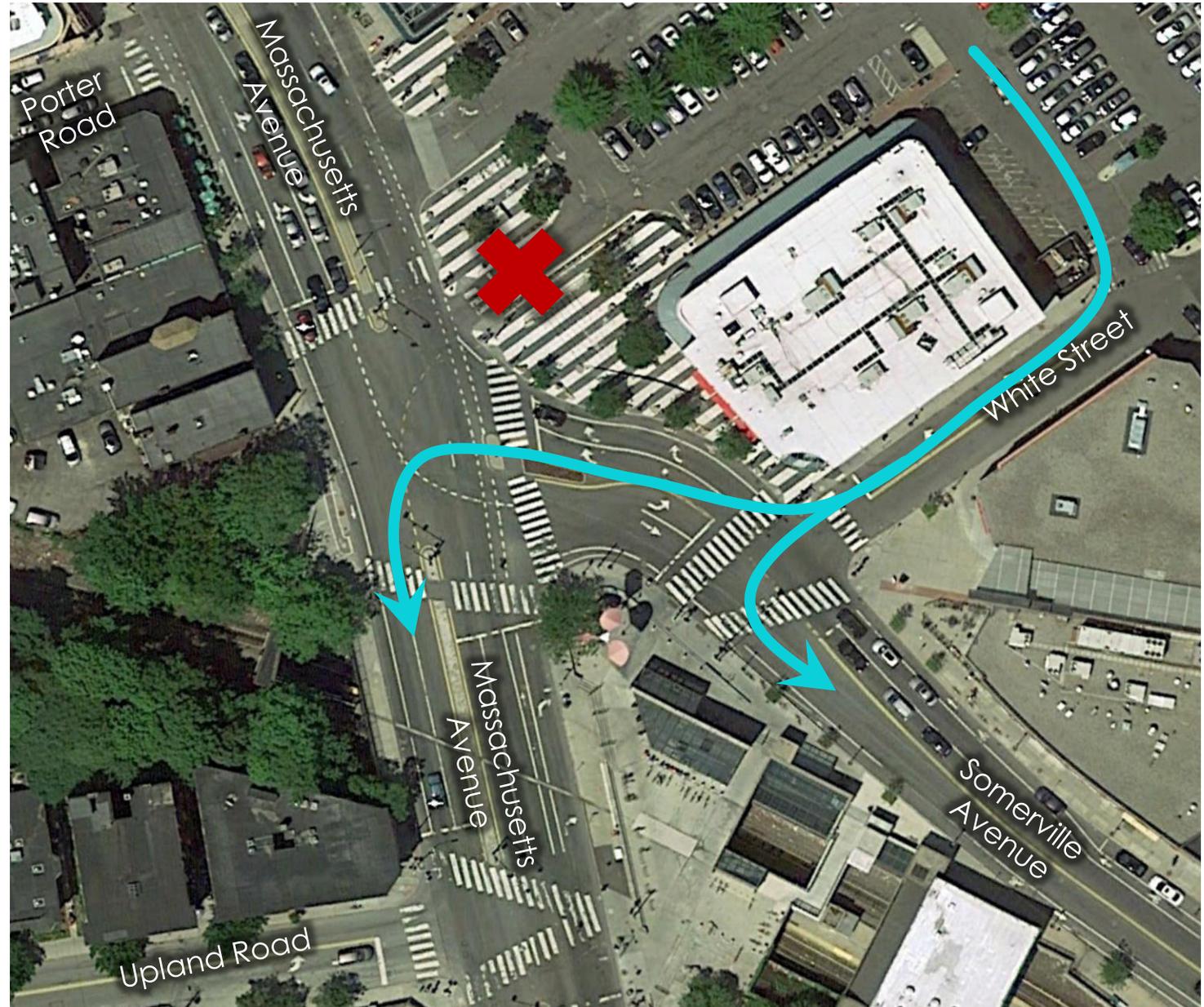
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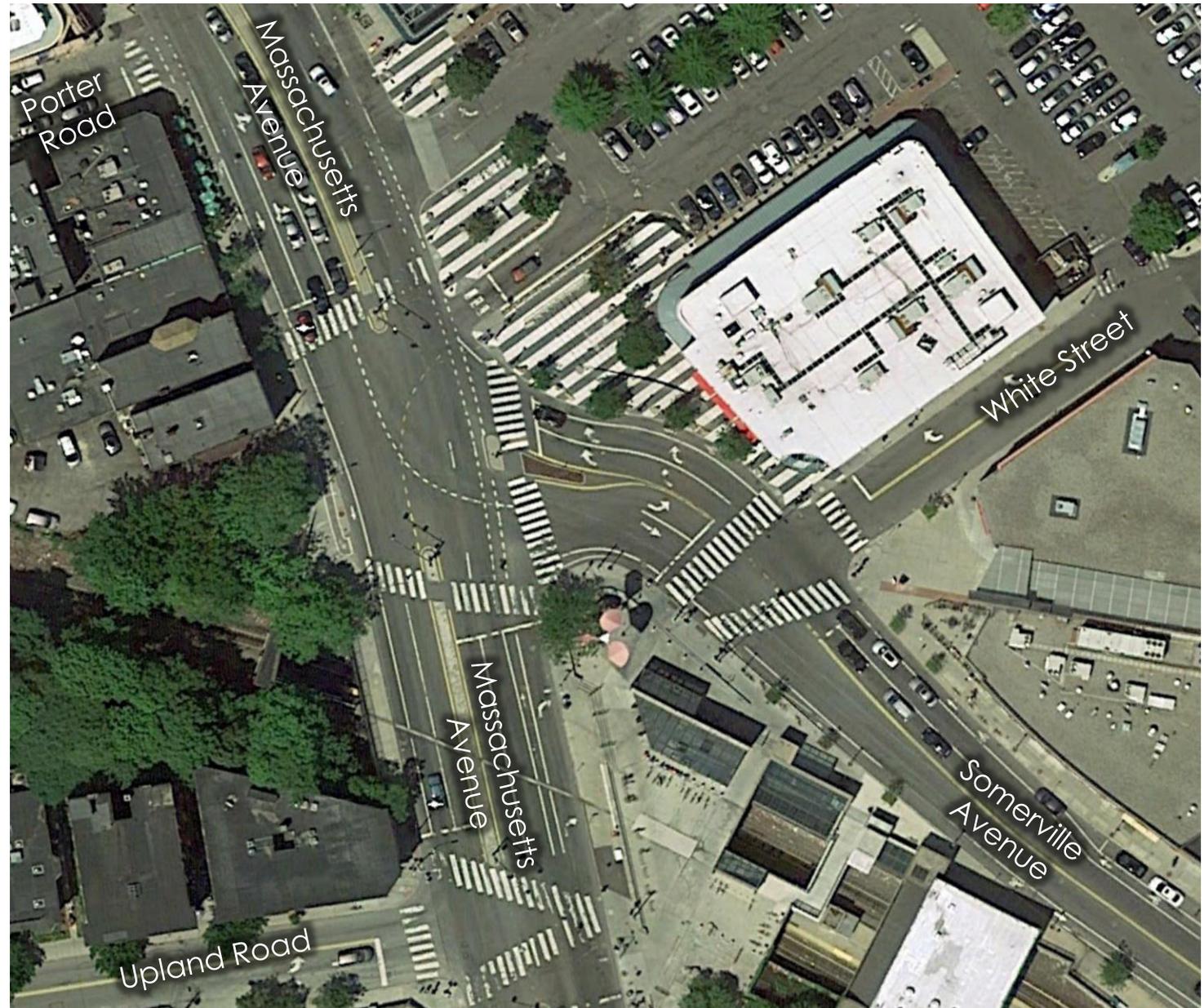
# Proposed Changes

- Allow Left Turns
  - Somerville Ave to Mass Ave
  - White Street to Somerville Ave (optional)
- Revise Shopping Plaza Access
  - Close south Mass Ave driveway or convert to entrance
  - Left turns to Mass Ave & Somerville Ave via White Street
- Simplify Mass Ave Left Turns
- Simplify Signal Operations
  - Reduce Cycle Length
  - Reduce Number of Phases
  - Improved Coordination with Upland Road



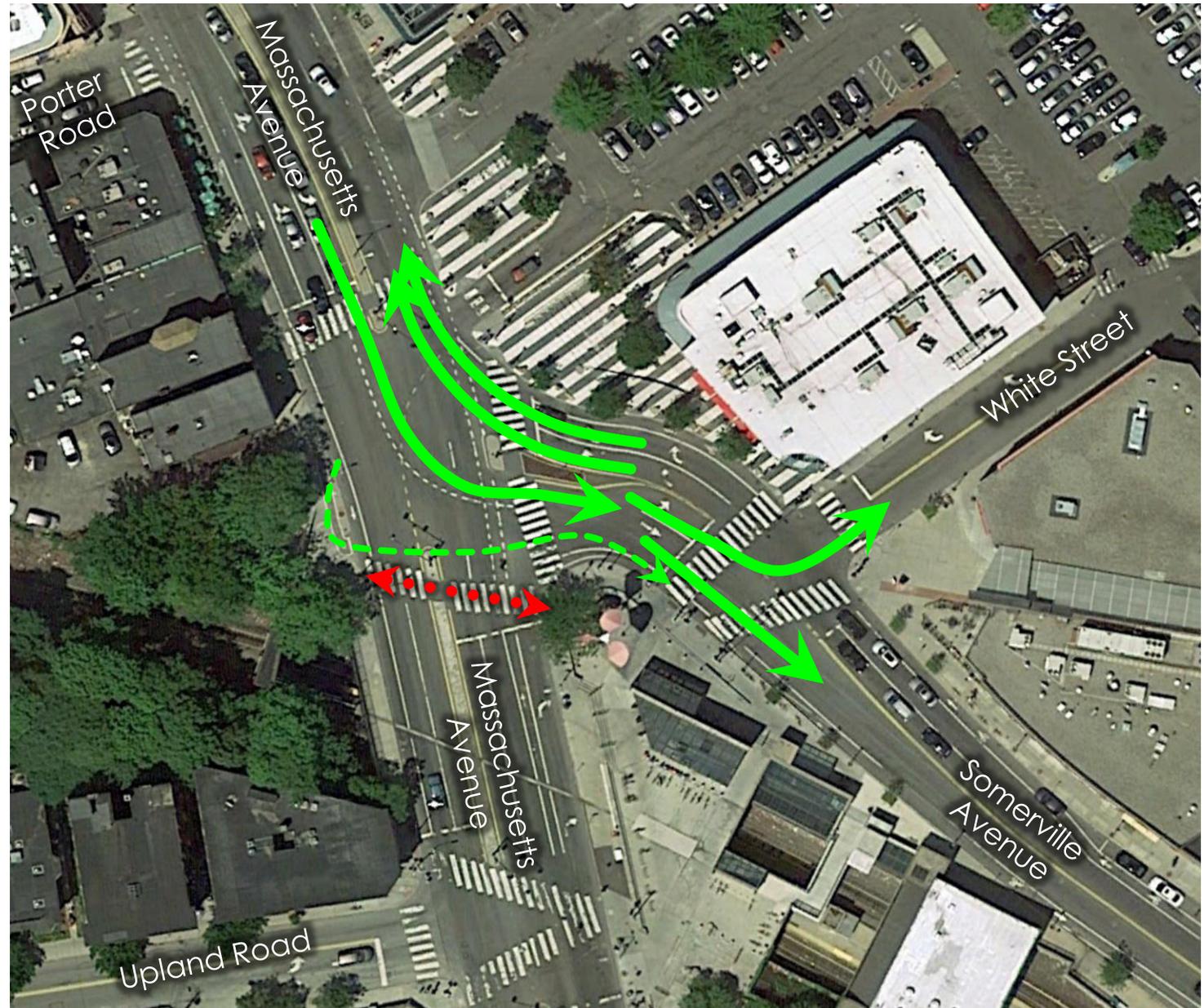
# Mass Ave @ Somerville Ave Proposed Signal Phasing

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  - Mass Ave South Crosswalk
  - Bike Left Turn
  - Somerville Ave Through
- Phase 2
  - Mass Ave Through
  - Somerville Ave Crosswalk
- Phase 3
  - Somerville Ave Left Turn
  - Mass Ave Right Turn
  - Mass Ave North Crosswalk



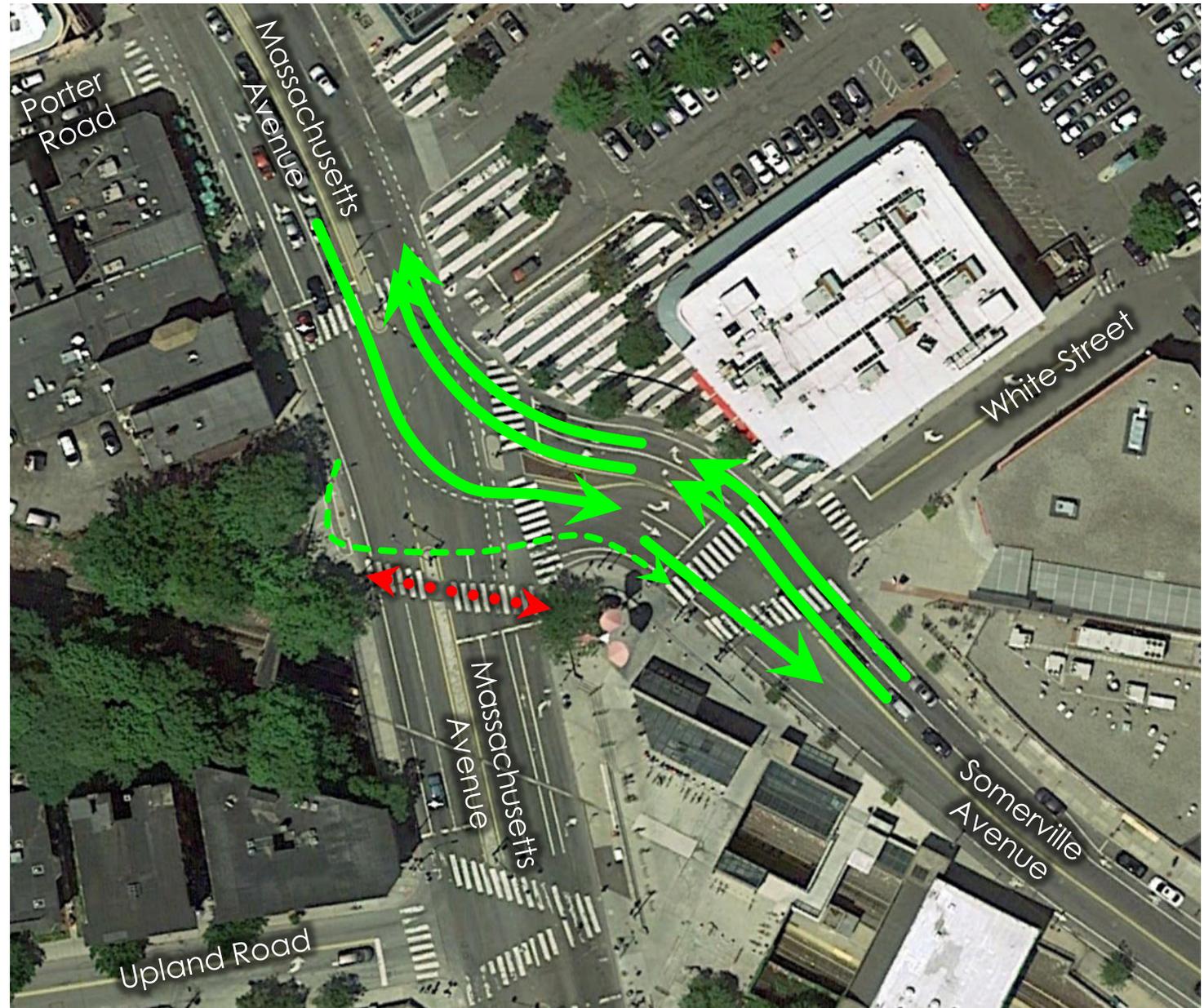
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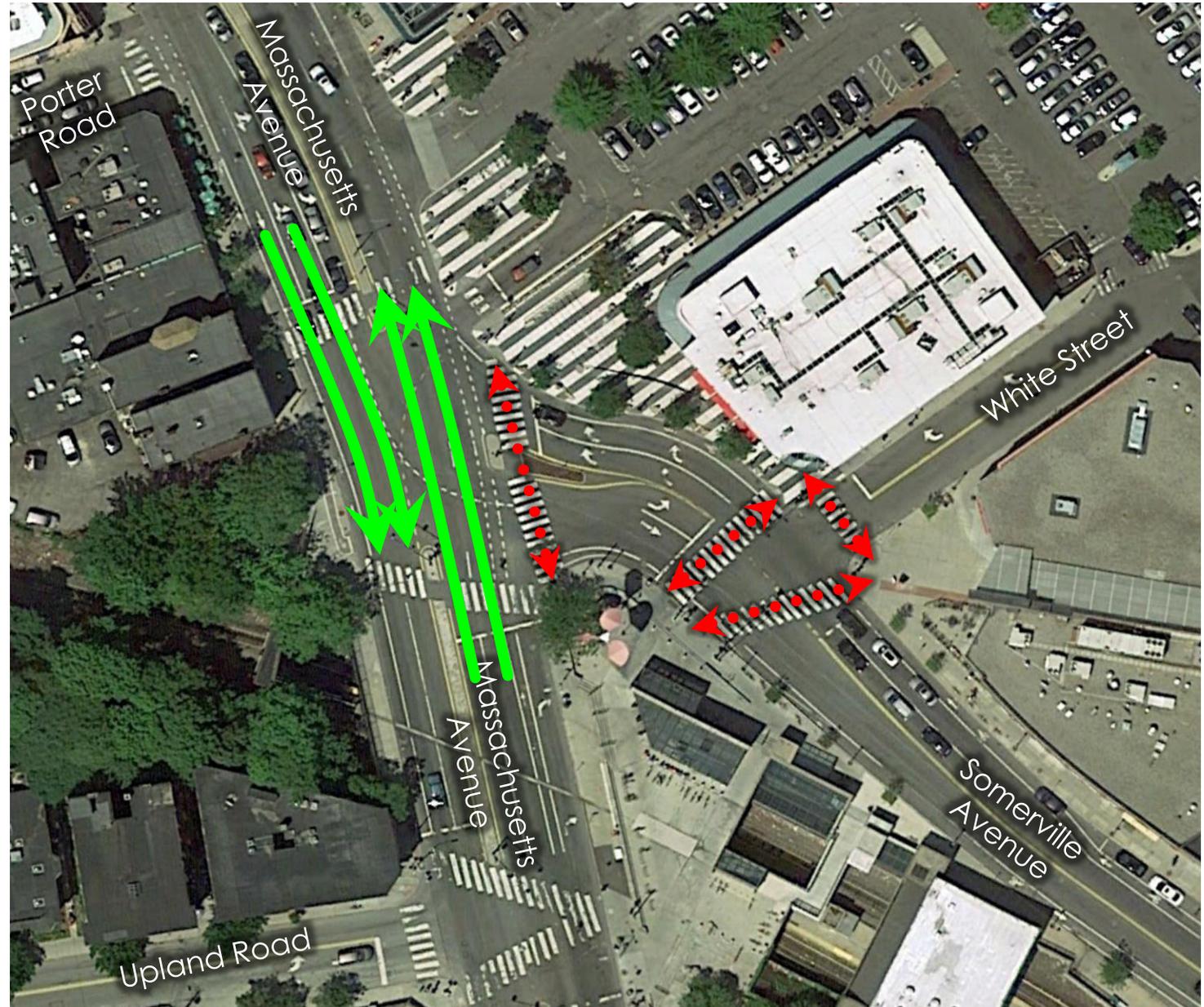
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  - White Street Right Turn
  - White Street Left Turn (optional)



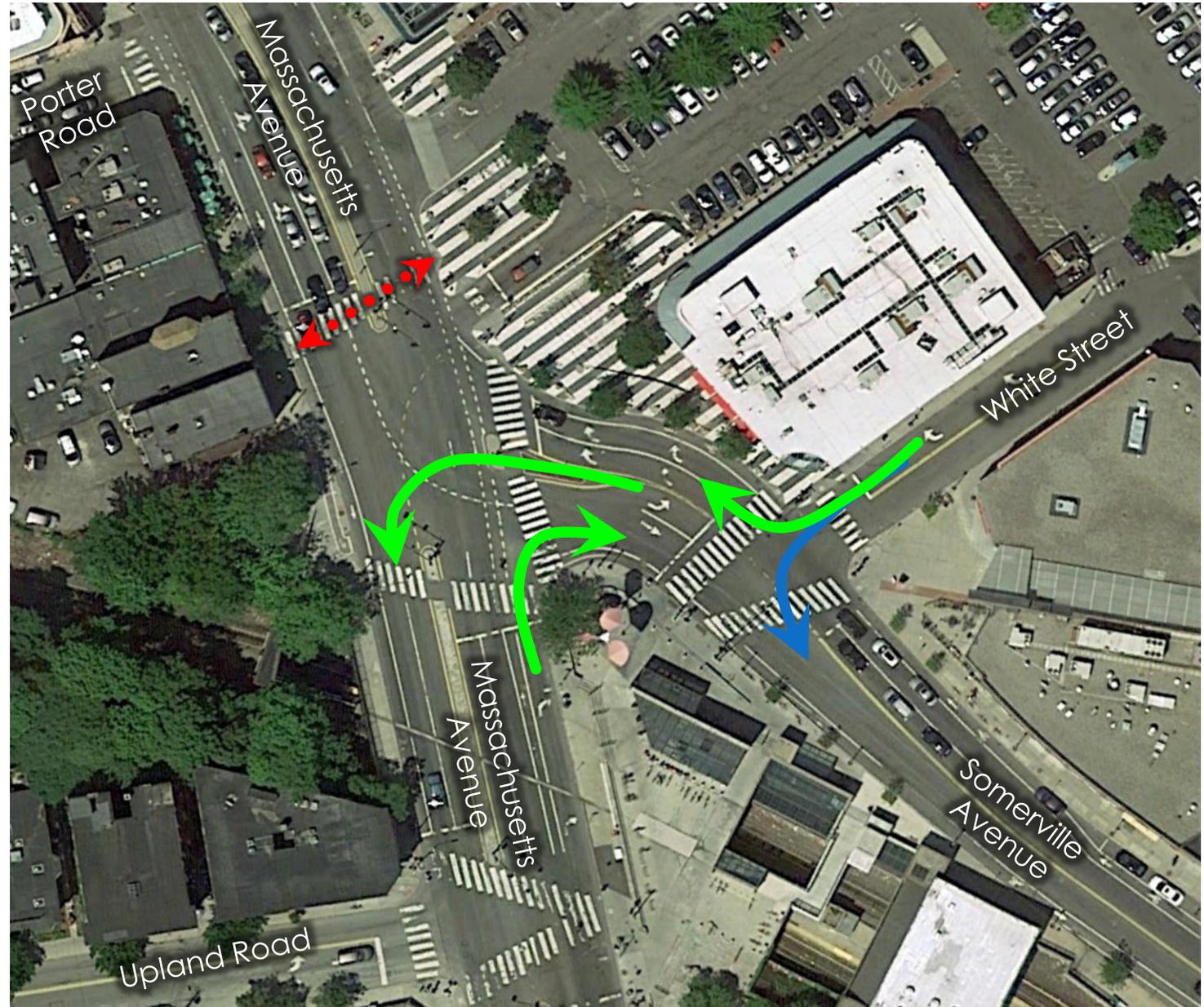
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# Next Steps

- ▶ Discussion with Community
- ▶ Ongoing Coordination
  - ▶ City of Somerville
  - ▶ Gravestar/Porter Square Shopping Center
  - ▶ Public Safety Agencies
- ▶ Begin design efforts Fall 2016 pending community input



Questions?

