

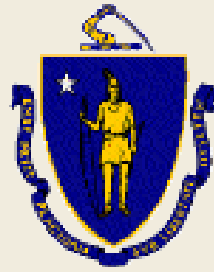


Mount Auburn Street Corridor Study



November 1, 2016
Russell Youth
Community Center





Commonwealth of Massachusetts

Governor
Charles D. Baker

Lieutenant Governor
Karyn E. Polito

Energy and Environmental Secretary
Matthew A. Beaton

Department of Conservation and Recreation Commissioner
Leo P. Roy



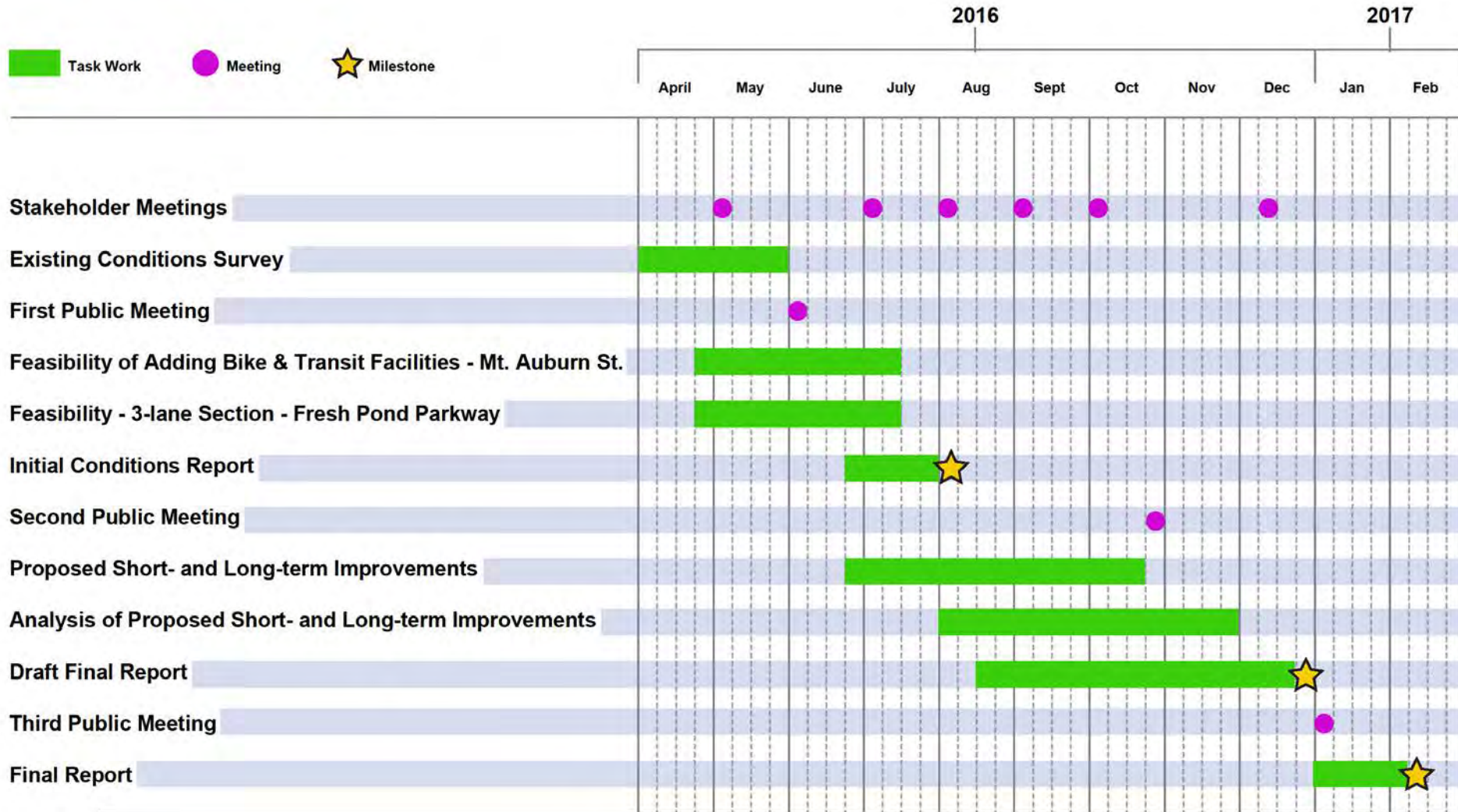
DCR Mission Statement

*To protect, promote and enhance our
common wealth of natural, cultural
and recreational resources
for the well-being of all.*

Project Area



Schedule



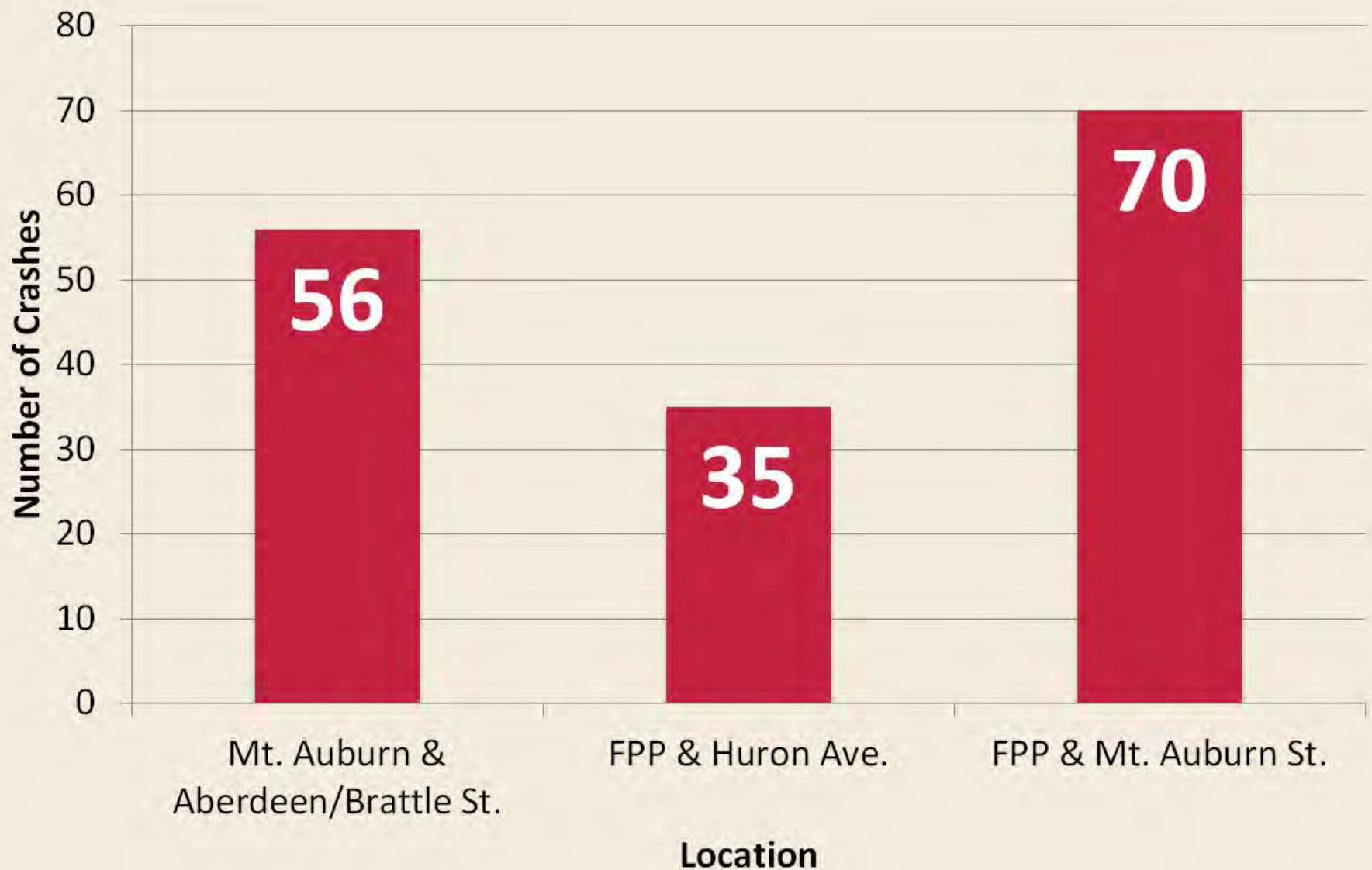
Agenda

- Welcome
- Road Safety Audit Results
- Road Diet Analysis
- VISSIM Analysis – Early Results
- VISSIM Takeaways & Design Changes
- Community Feedback Design Changes
- Landscaping Ideas

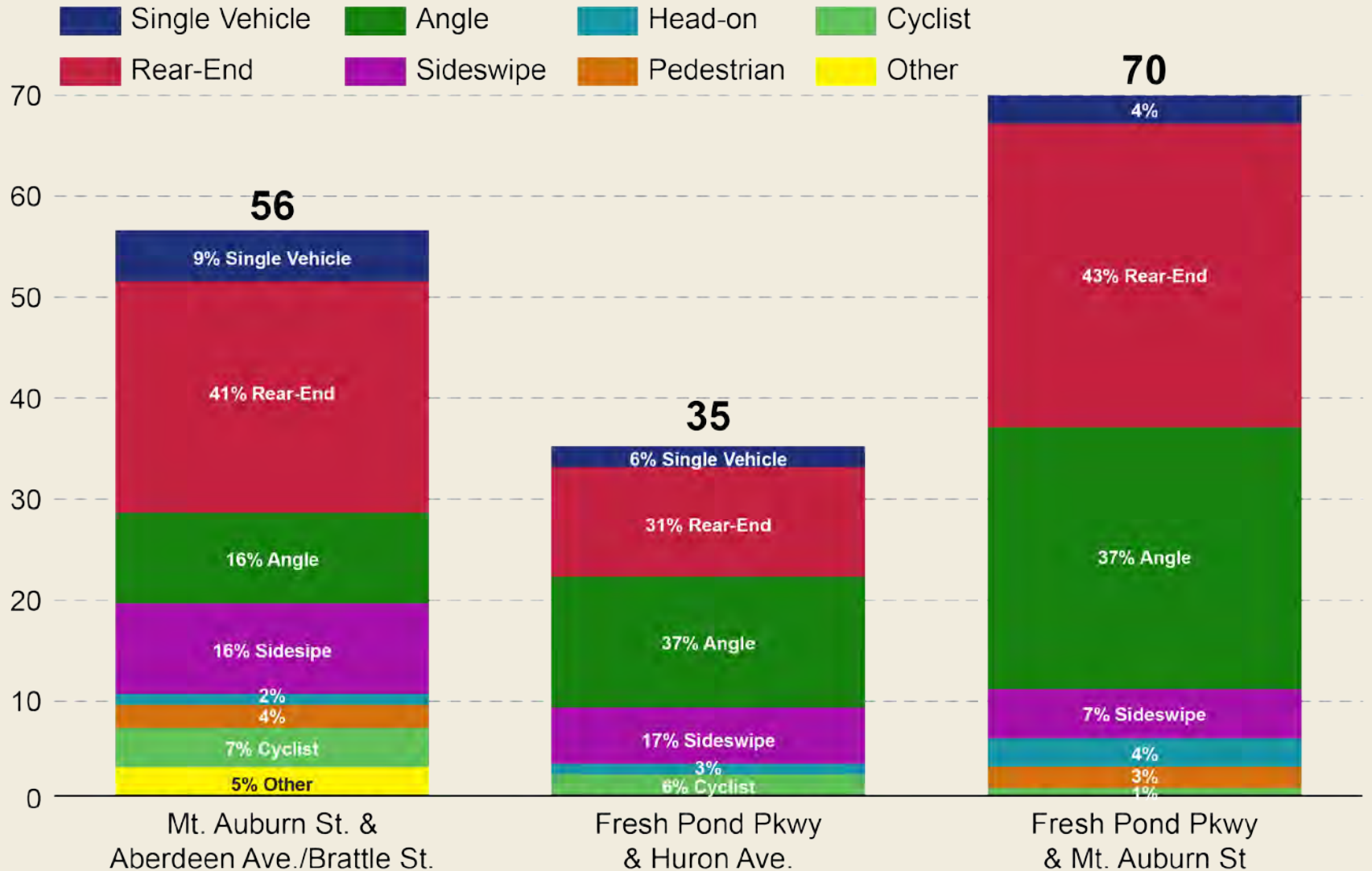


Road Safety Audit Results

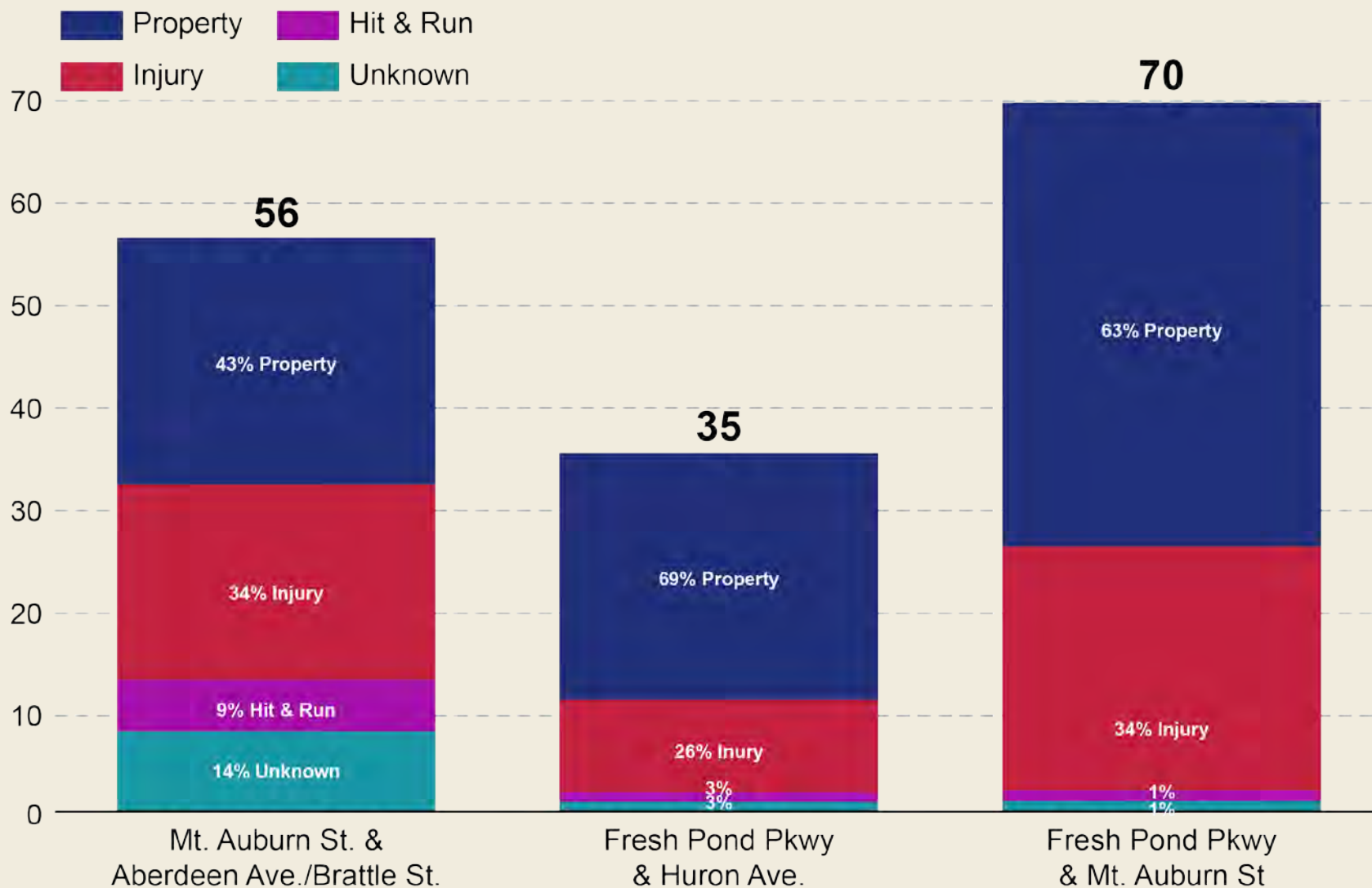
Crash Rate Comparison: 2011-2015 (5 years)



Crash Type Comparison



Crash Severity Comparison



Fresh Pond Parkway at Huron Avenue

- No overhead traffic signal indications
 - Poor visibility for existing signals approaching from Fresh Pond Parkway
 - Rear-end crashes on Fresh Pond Parkway NB and SB
 - Red light running
- Left turns restricted, but only during peak hours
 - No “protected” (green arrow) phasing; vehicles must turn left against oncoming traffic
 - Crashes involving SB left-turning vehicles and NB through vehicles



Takeaways – Fresh Pond Parkway at Huron Avenue

- Install Overhead Signals
- Check yellow and “all red” signal phases
- Consider Restricting Fresh Pond Parkway Left Turns 24/7



Fresh Pond Parkway at Mount Auburn Street

- Large pavement area
 - Unclear vehicle paths
 - High-speed turns due to large corner radii
- Turns restricted due to geometry or signal phasing
 - Motorists may make illegal turn rather than attempt to find legal route
 - e.g. Fresh Pond Parkway southbound vehicles looking for Mt. Auburn Hospital
- Unclear lane use (Fresh Pond Parkway southbound)
 - Wide enough for 3-4 lanes, marked for 2 lanes



Fresh Pond Parkway at Mount Auburn Street (cont'd)

- Poor signal visibility
 - No overhead indications at most approaches
 - Large intersection area
- Pedestrians must cross Gerrys Landing Road in three stages
 - Two pedestrian crashes
 - Pedestrians more likely to disobey signals with longer delay



Takeaways – Fresh Pond Parkway at Mount Auburn Street

- Reduce Pavement & Improve Markings
- Install Overhead Signals
- Remove 3rd Southbound Lane
- Reduce Pedestrian Delay
- Improve Pedestrian Crossings



Mount Auburn Street at Brattle Street/Aberdeen Avenue

- Brattle St. slip lane
 - Intersects Mt. Auburn St. just 100' east of Aberdeen Avenue stop line
 - Rear-end crashes
 - Merge with traffic occurs within queue for intersection
 - Stop line set back from Aberdeen Avenue by 100'
- Signal Indications
 - No overhead signals – poor visibility
 - Westbound left-turn lag phase – left-turn and rear-end crashes
 - Aberdeen southbound left-turns get little green time



Takeaways – Mount Auburn Street at Brattle Street/Aberdeen Avenue

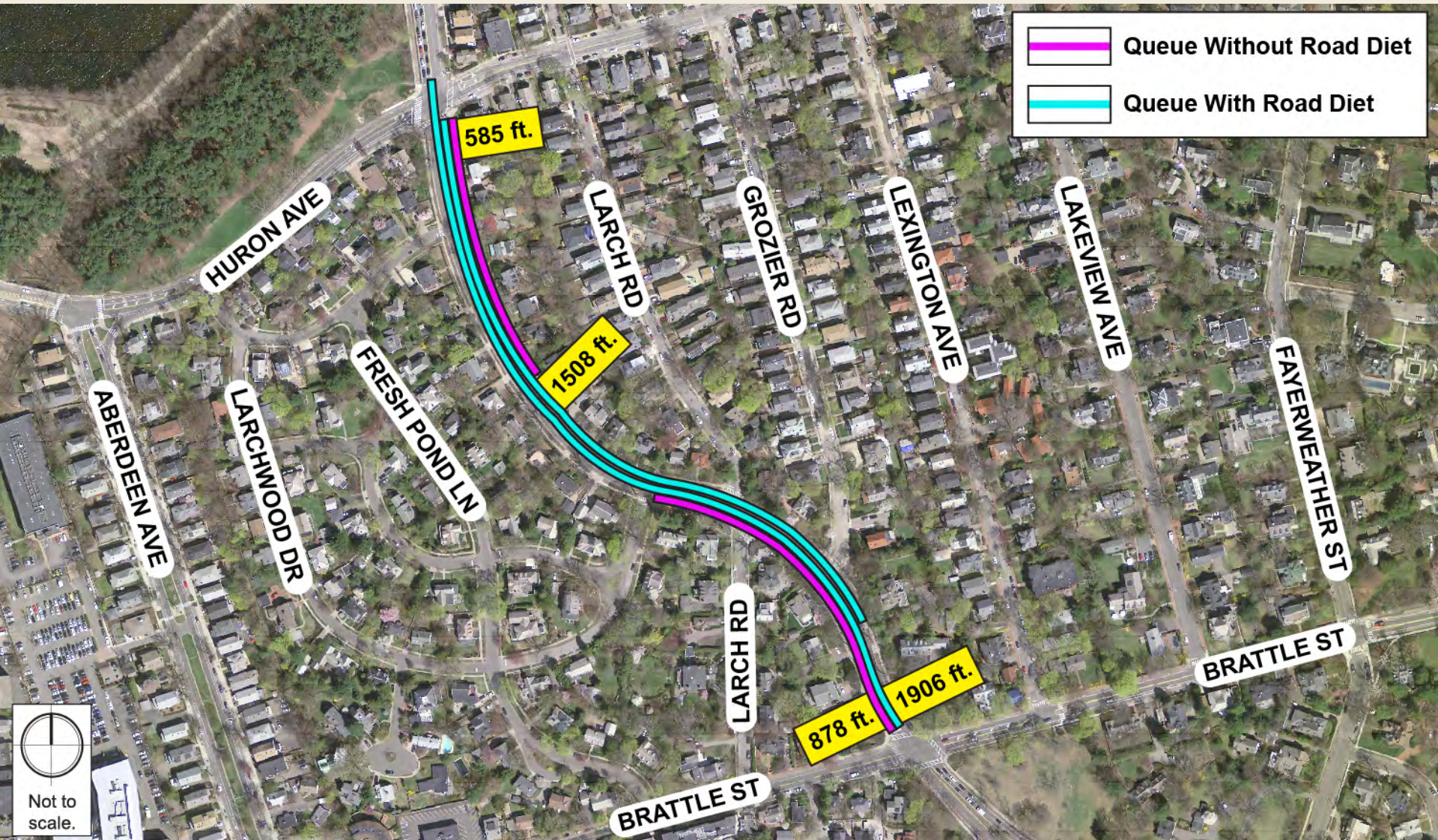
- Install Overhead Signals
- Adjust signals at Aberdeen
- Remove Brattle/
Mt. Auburn Merge
- T-Up Intersection at Brattle
- Install New Signal at Brattle
- Create Signal-Protected
Bike Crossing



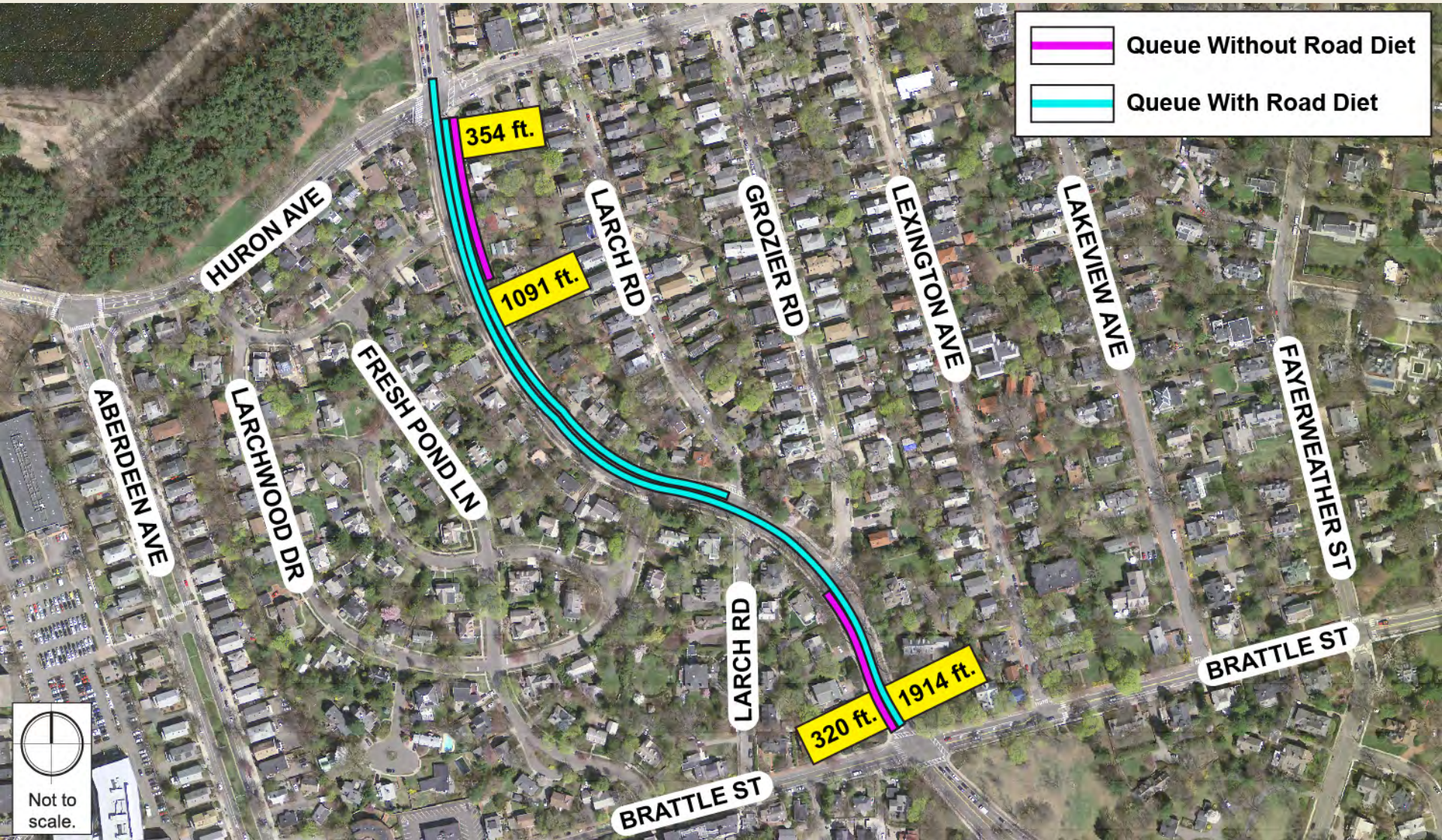


Road Diet Analysis

Fresh Pond Parkway 4:3 Road Diet – AM Peak Queues



Fresh Pond Parkway 4:3 Road Diet – PM Peak Queues



Fresh Pond Parkway 4:3 Road Diet – Cut Through Streets



Review of Shared Goals

1. Calm traffic, provide clarity, reduce crashes and severity of crashes
2. Improve connectivity, air quality and expand mobility choices by:
 - a. Measuring people, not cars
 - b. Reducing transit delays
 - c. Improving safety, access, parking and comfort for bicycles.
 - d. Maintaining mobility for motor vehicles
 - e. Improving safety, attractiveness, noise, and comfort for pedestrians and residents
3. Address cut-through traffic in the Larchwood, Huron Village, and Coolidge Hill Neighborhoods
4. Offer short-term and long-term solutions
5. Acknowledge enforcement and special uses by BB&N, Mt. Auburn Cemetery, Mt. Auburn Hospital, Shady Hill, and Tufts Health Plan

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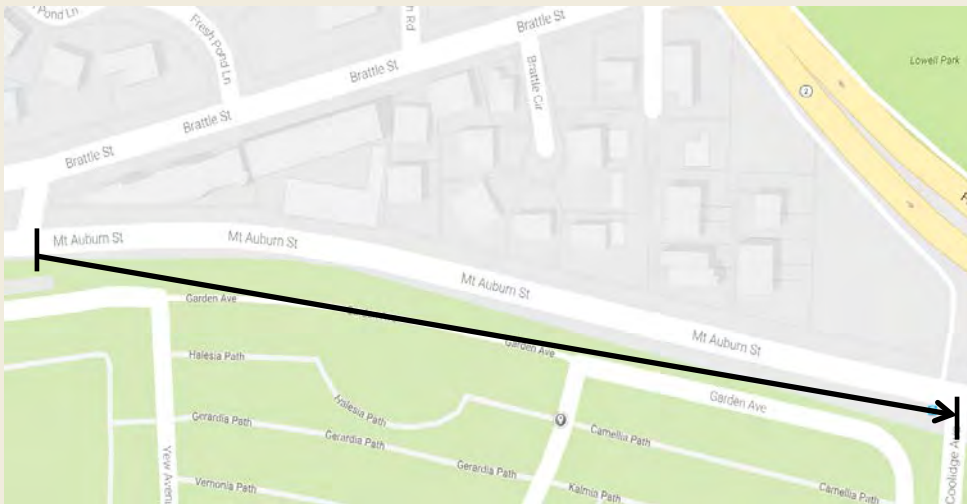


VISSIM Traffic Analysis – Early Results

Person Throughput Analysis (AM Peak)

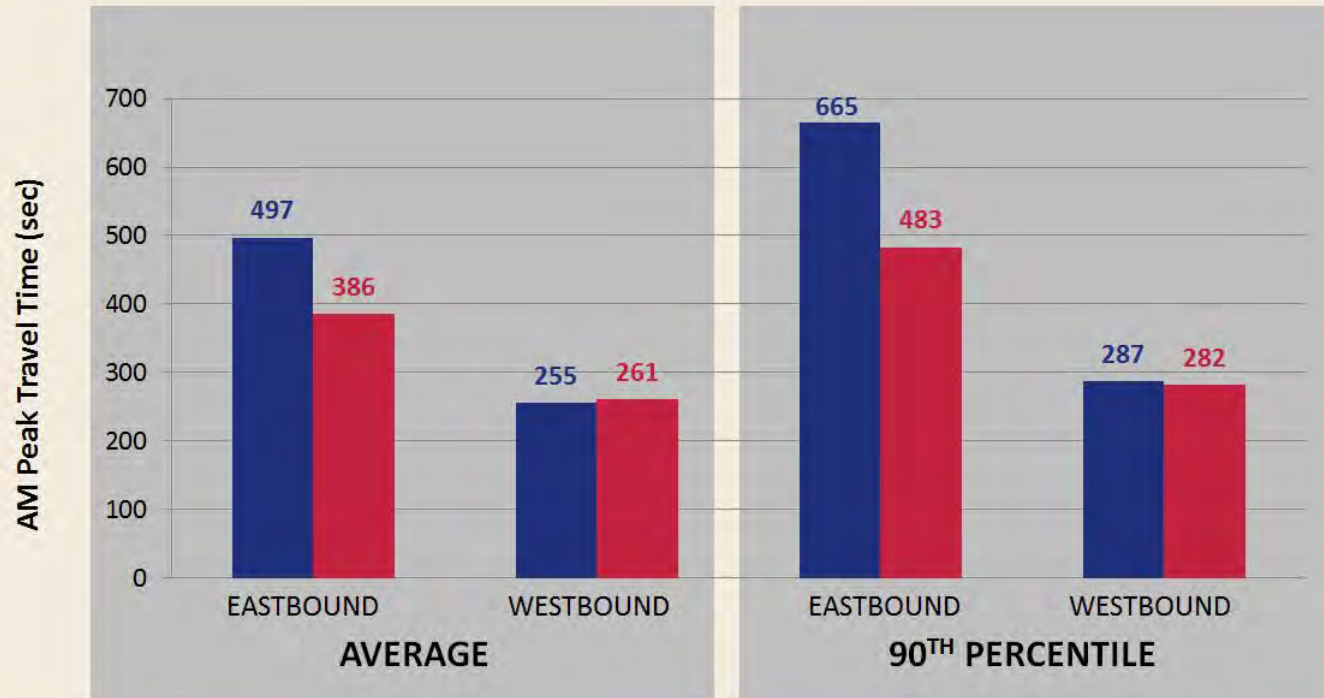
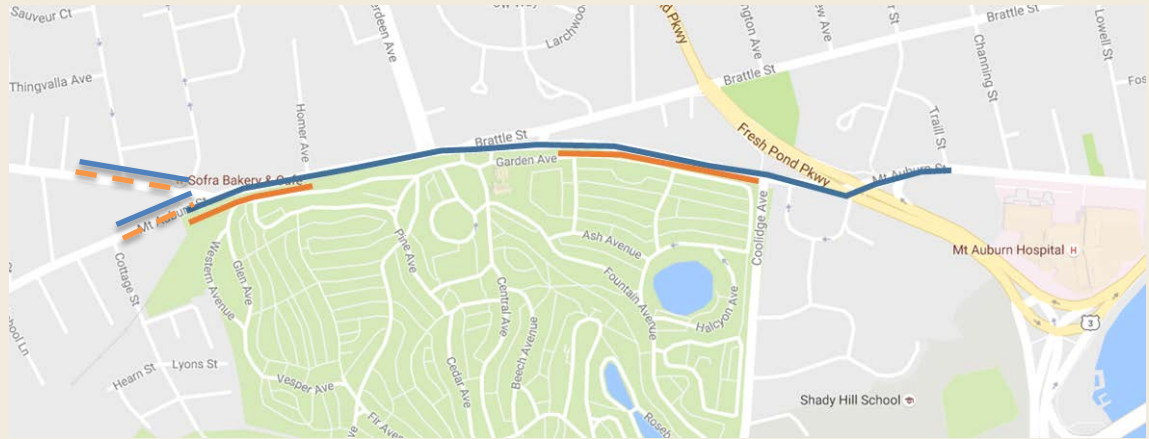


Percent Bus Vehicles = 2%
Percent Bus Person Throughput = 43%
Bus Throughput = 925 persons/hour
Vehicle Throughput = 1,200 persons/hour



Percent Bus Vehicles = 3%
Percent Bus Person Throughput = 56%
Bus Throughput = 985 persons/hour
Vehicle Throughput = 765 persons/hour

Bus Travel Time Option B*

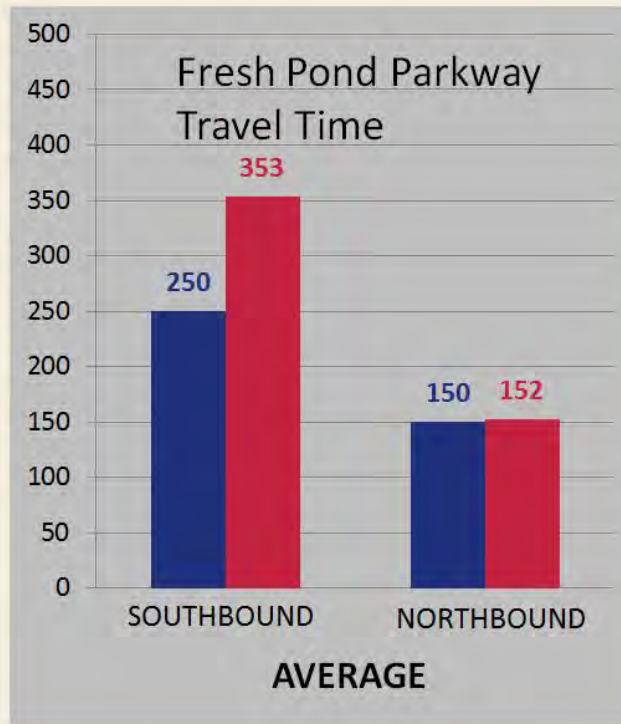
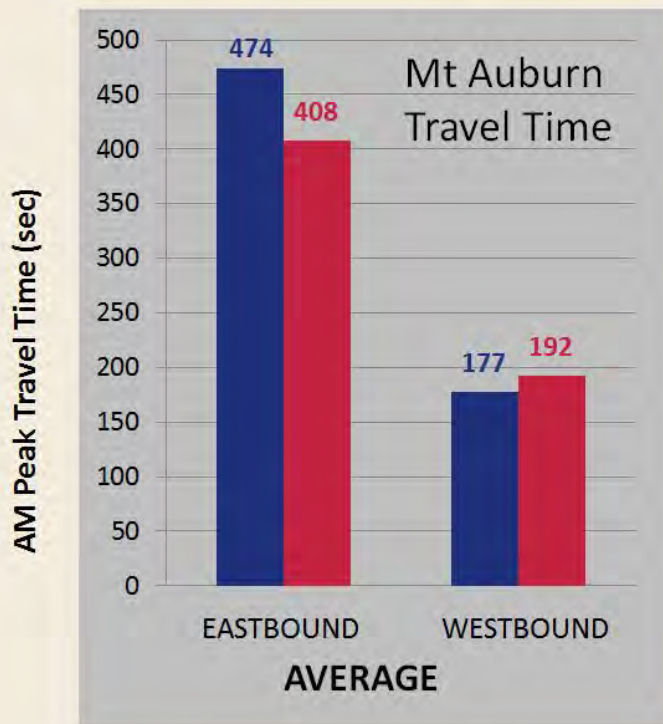
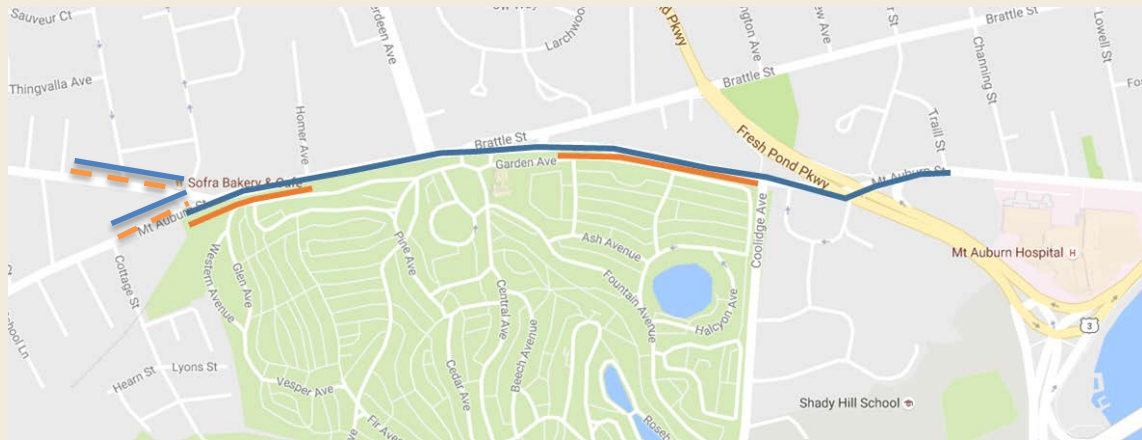


- About 2 minutes bus travel time savings with bus lanes
- About 3.5 minutes reduction in 90th percentile travel time

- Existing
- With Partial Bus Lanes and Queue Jump

* With two-stage crossing

Auto Travel Time Option B*

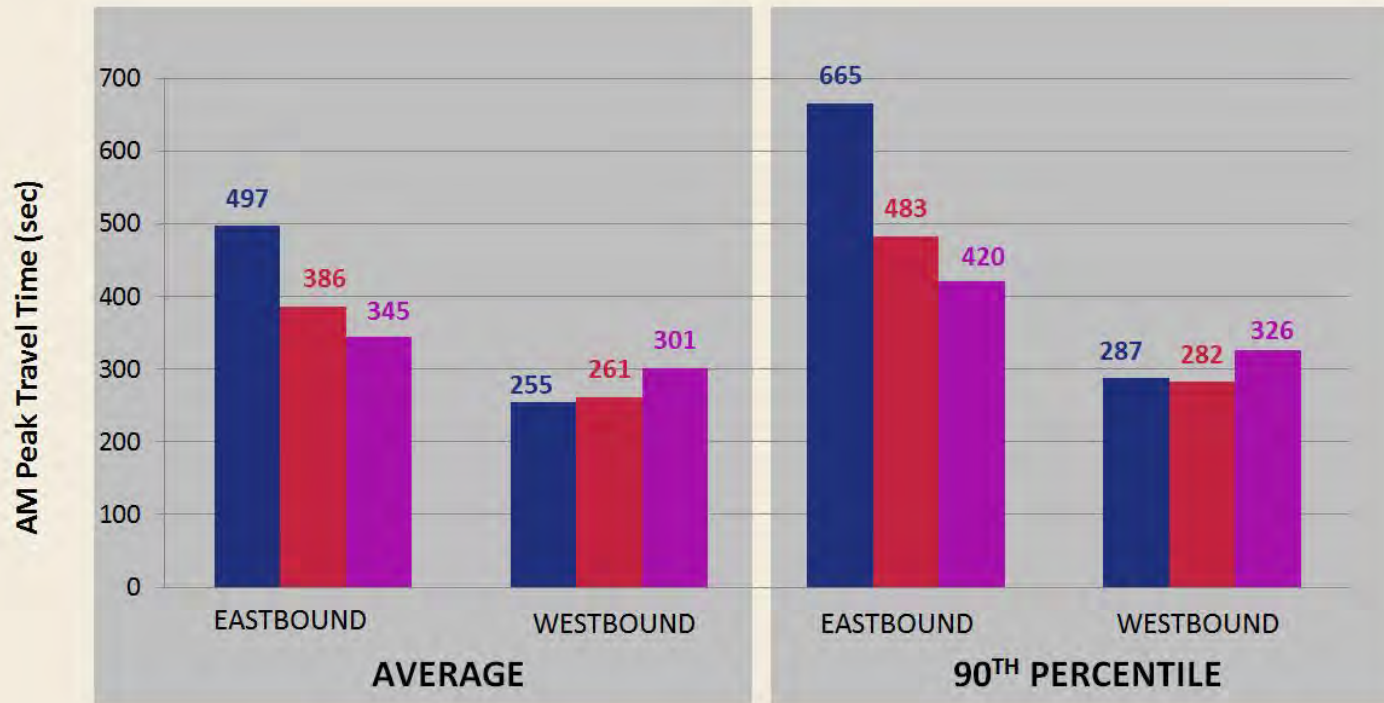
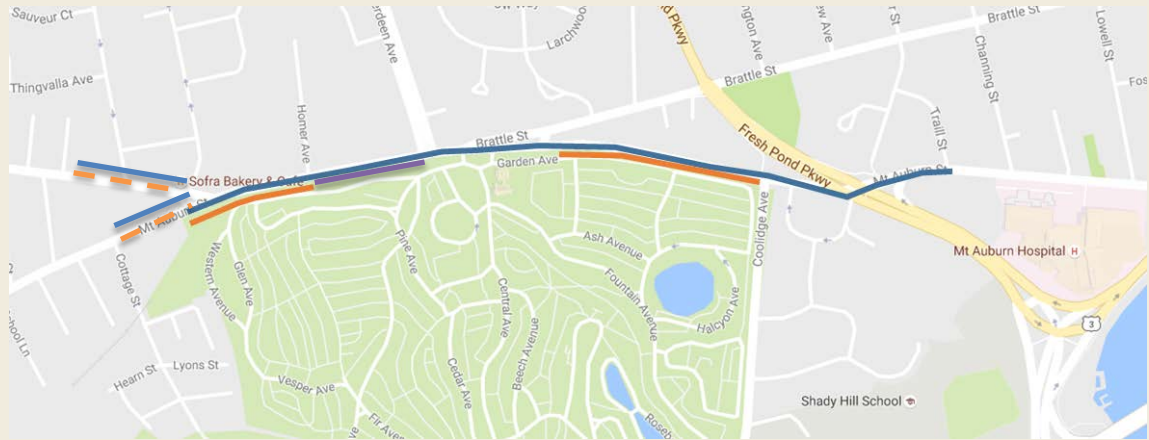


- Vehicle operations improve on Mt Auburn due to signal timing changes at Fresh Pond Parkway

- Existing
- With Partial Bus Lanes and Queue Jump

* With two-stage crossing

Bus Travel Time Option A*

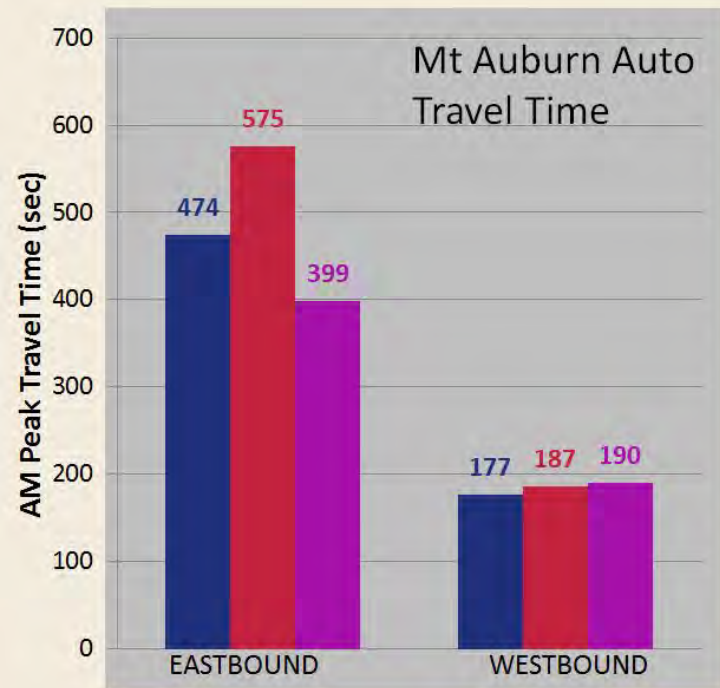
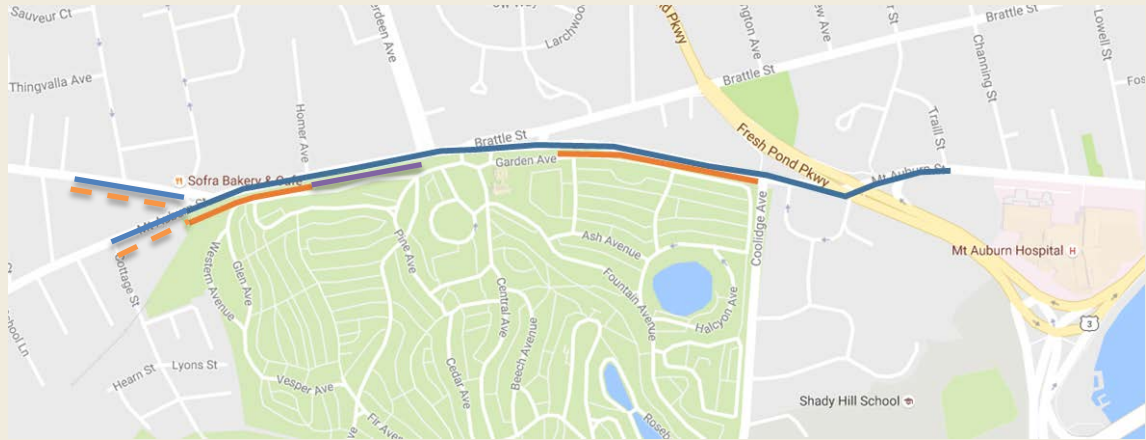


- Additional bus lane provides over 2.5 minutes travel time savings

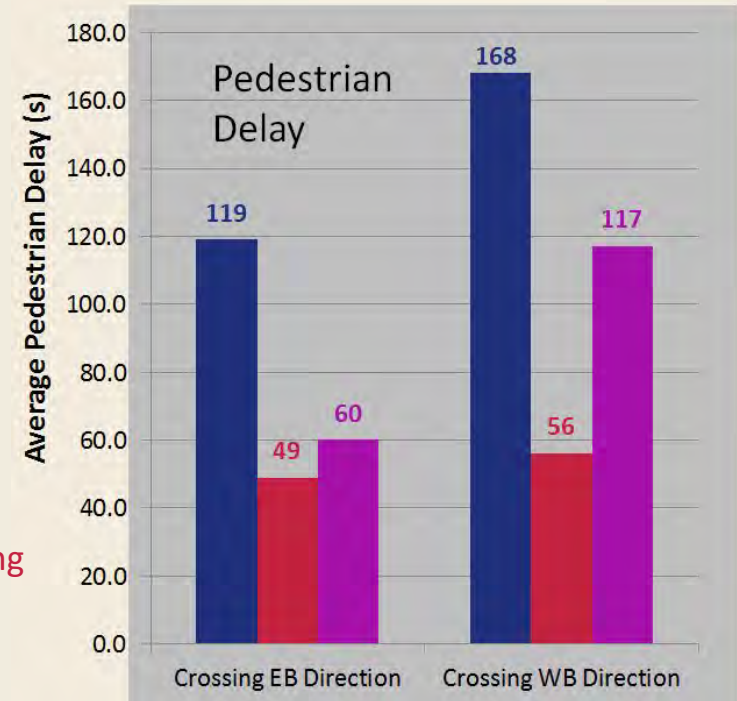
- Existing
- With partial bus lane and queue jump
- Additional bus lane between Homer and Aberdeen

* With two-stage crossing

Auto Travel Time and Pedestrian Delay



- Existing
- With single-stage crossing at FP
- Two-stage crossing at FP



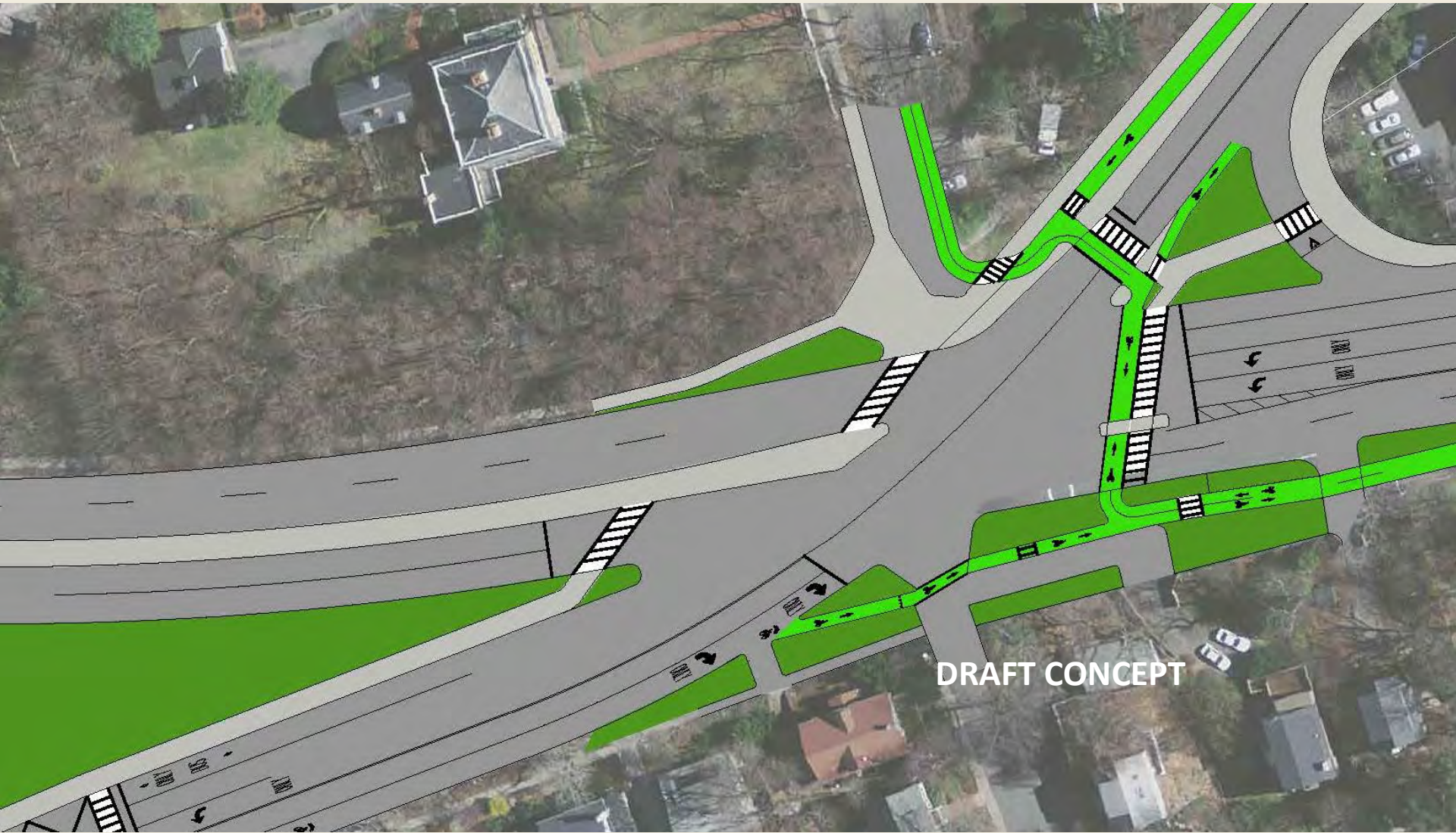


VISSIM Traffic Analysis – Takeaways & Design Changes

PLEASE NOTE:

The following concepts are drafts; works in progress shown only for the purpose of collecting public feedback for their improvement.

One-Stage Crossing becomes Two-Stage Crossing

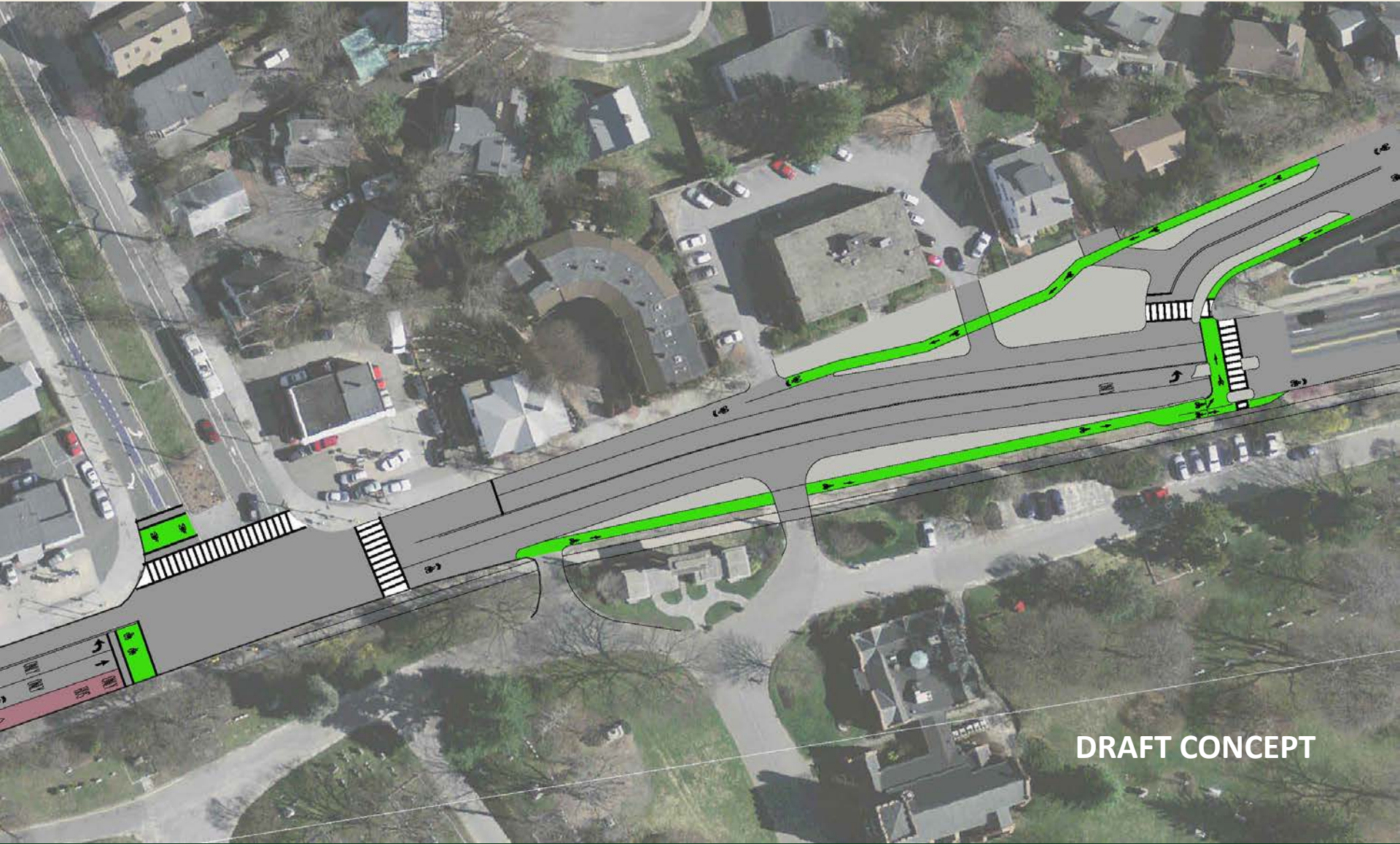


Change to Aberdeen to Homer Lane Directions



DRAFT CONCEPT

Aberdeen to Brattle – Transit Lane Very Challenging

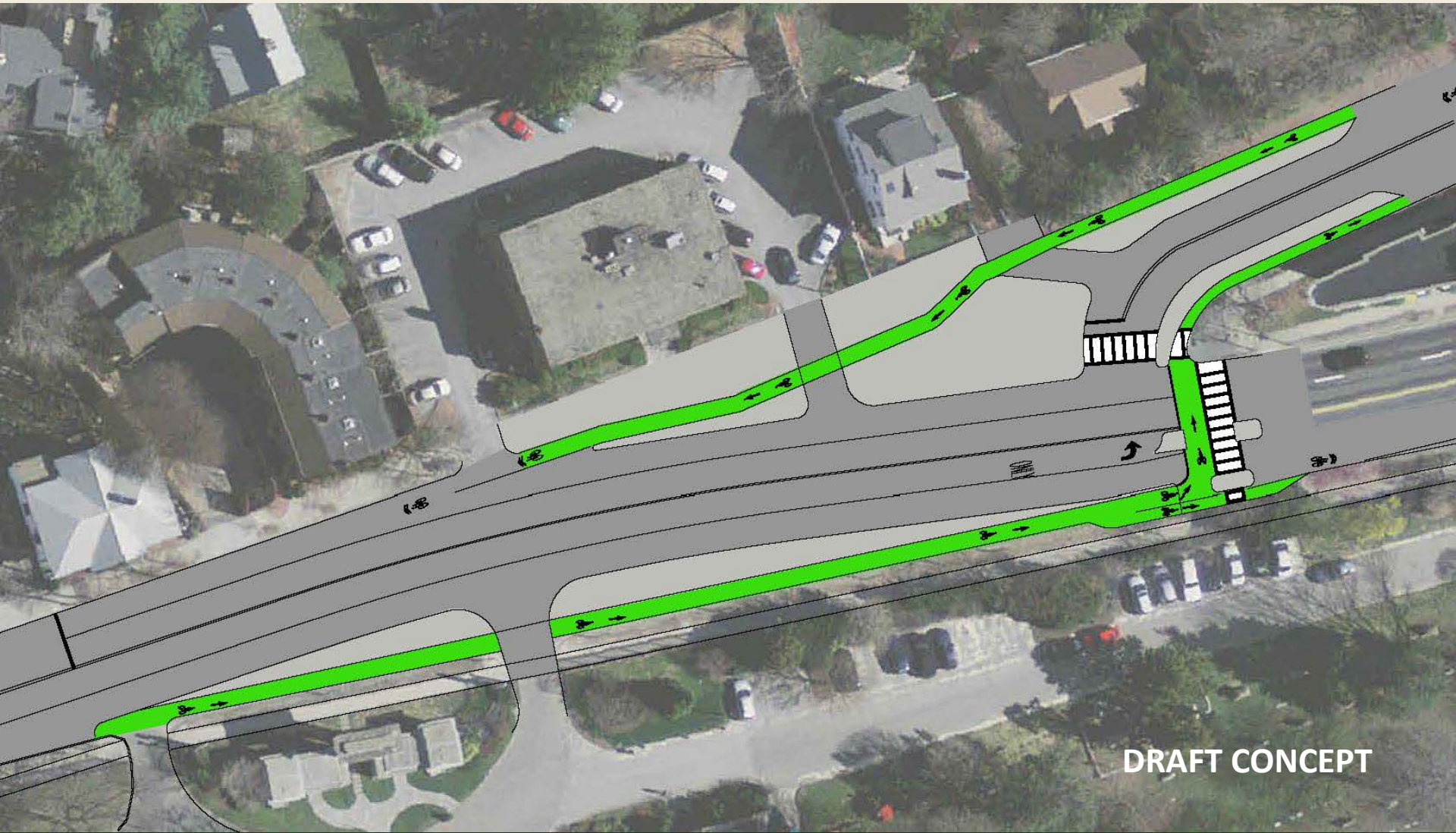


DRAFT CONCEPT

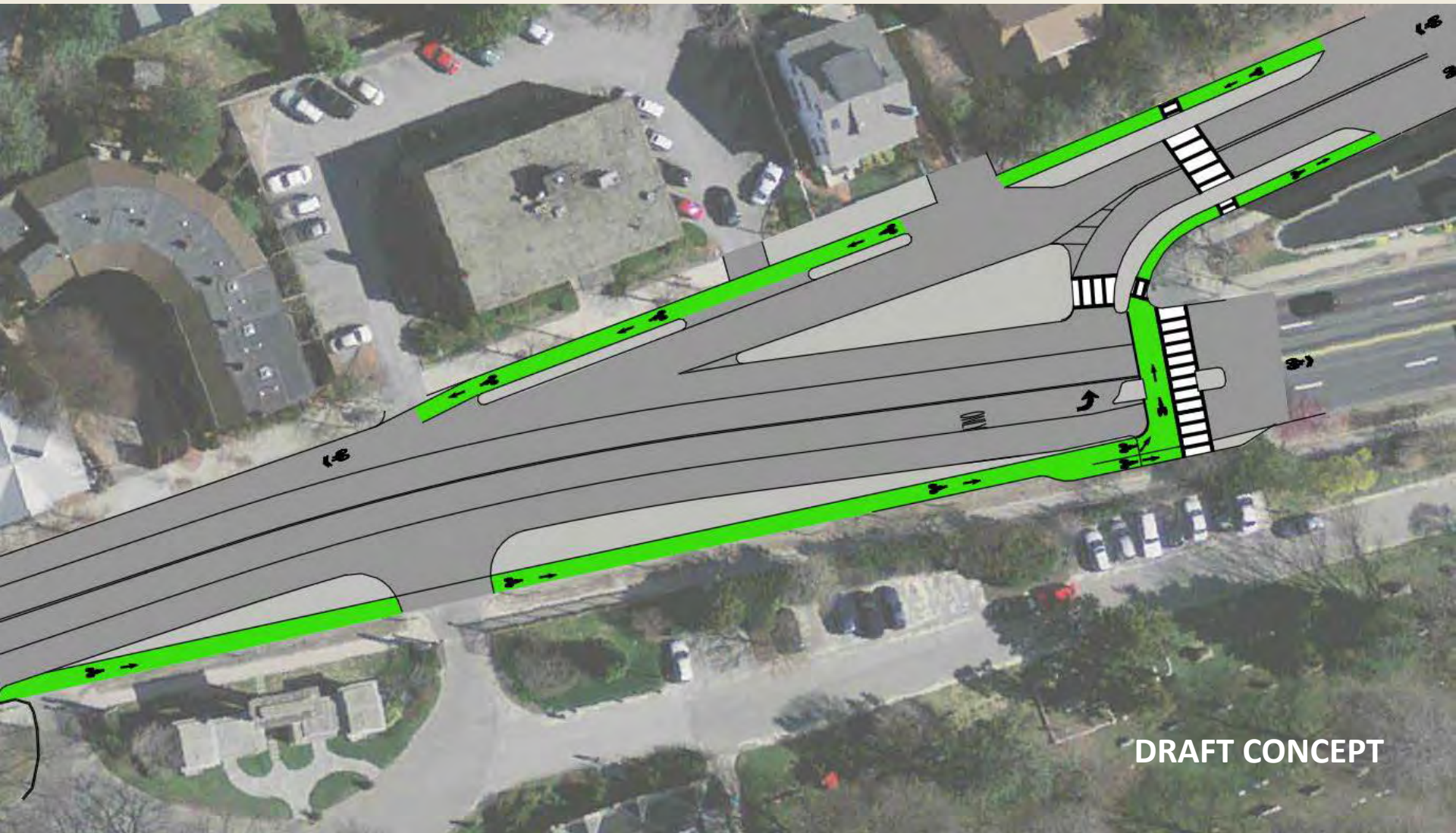


Community-Feedback-Driven Design Alternatives

Option A – Increase Safety / Eliminate Merging Movement

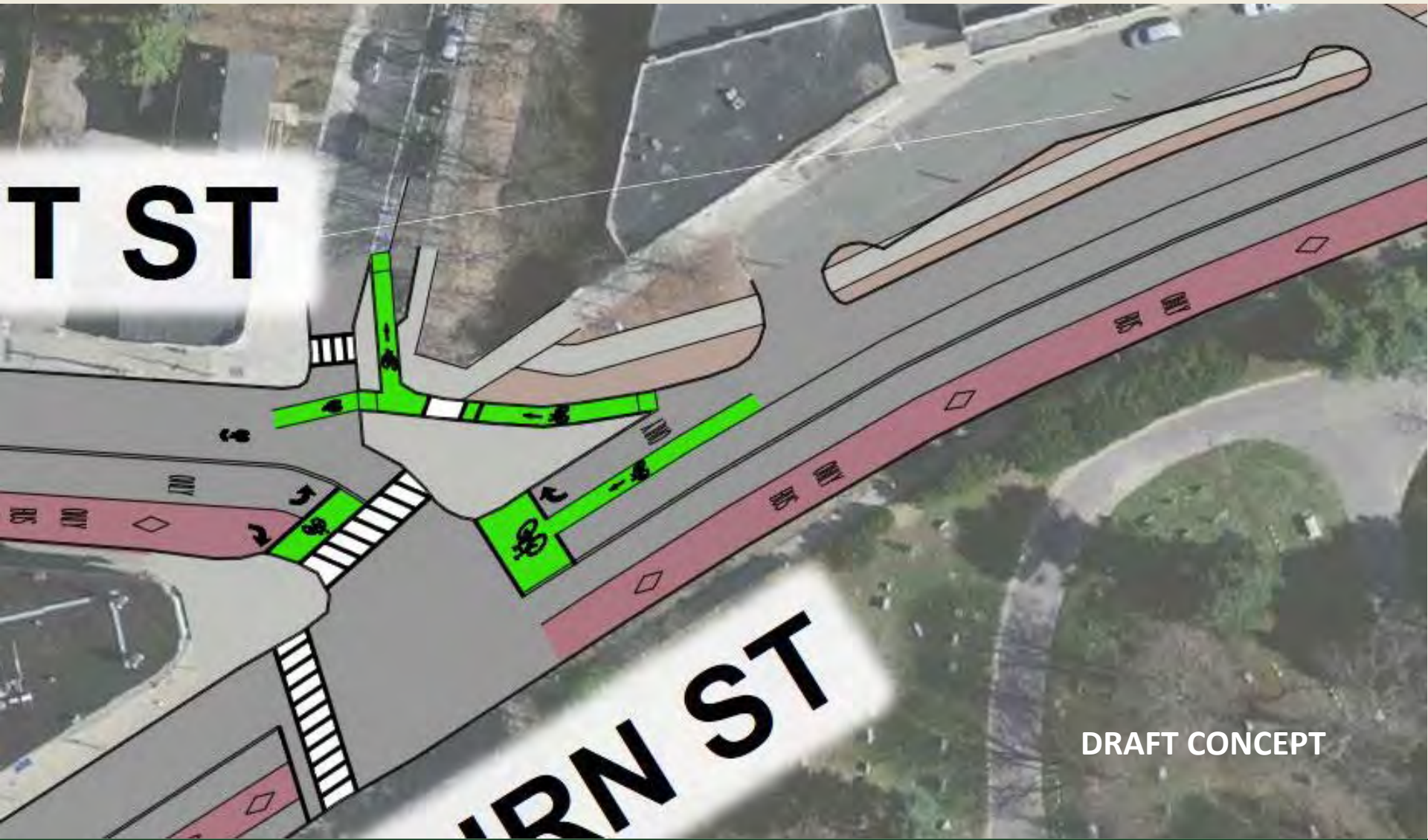


Option B – Maintain Merge Lane

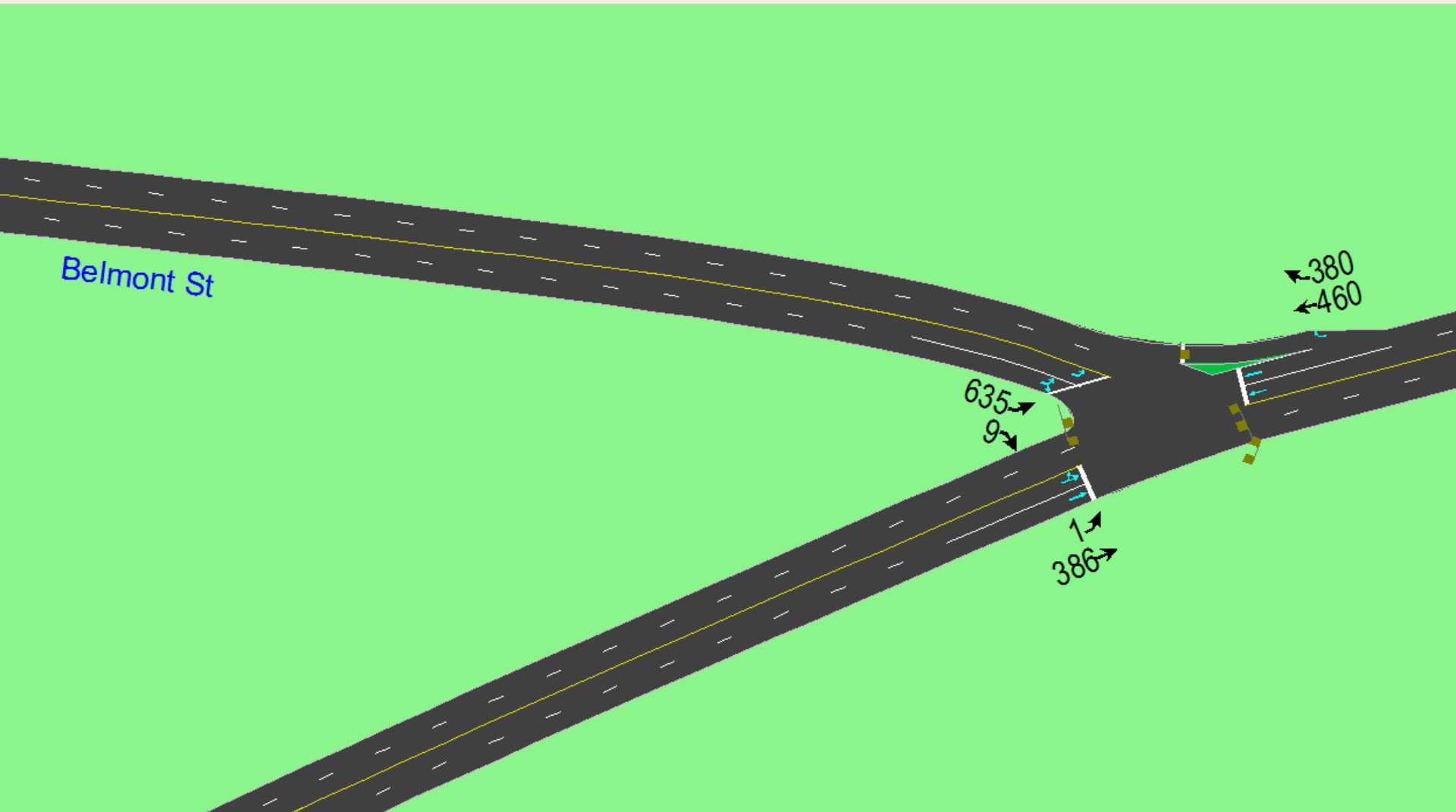


DRAFT CONCEPT

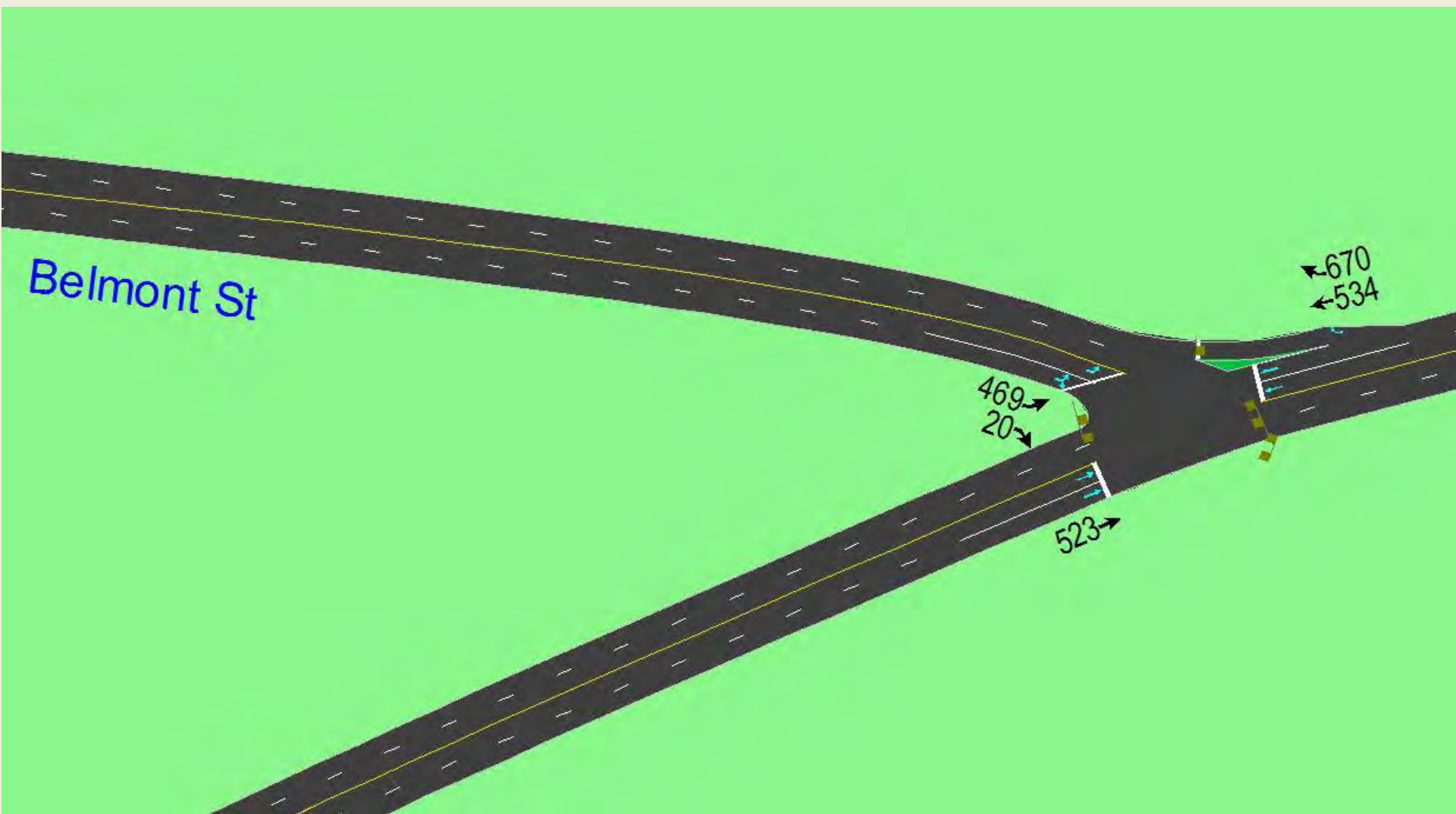
Mount Auburn at Belmont Proposed Design



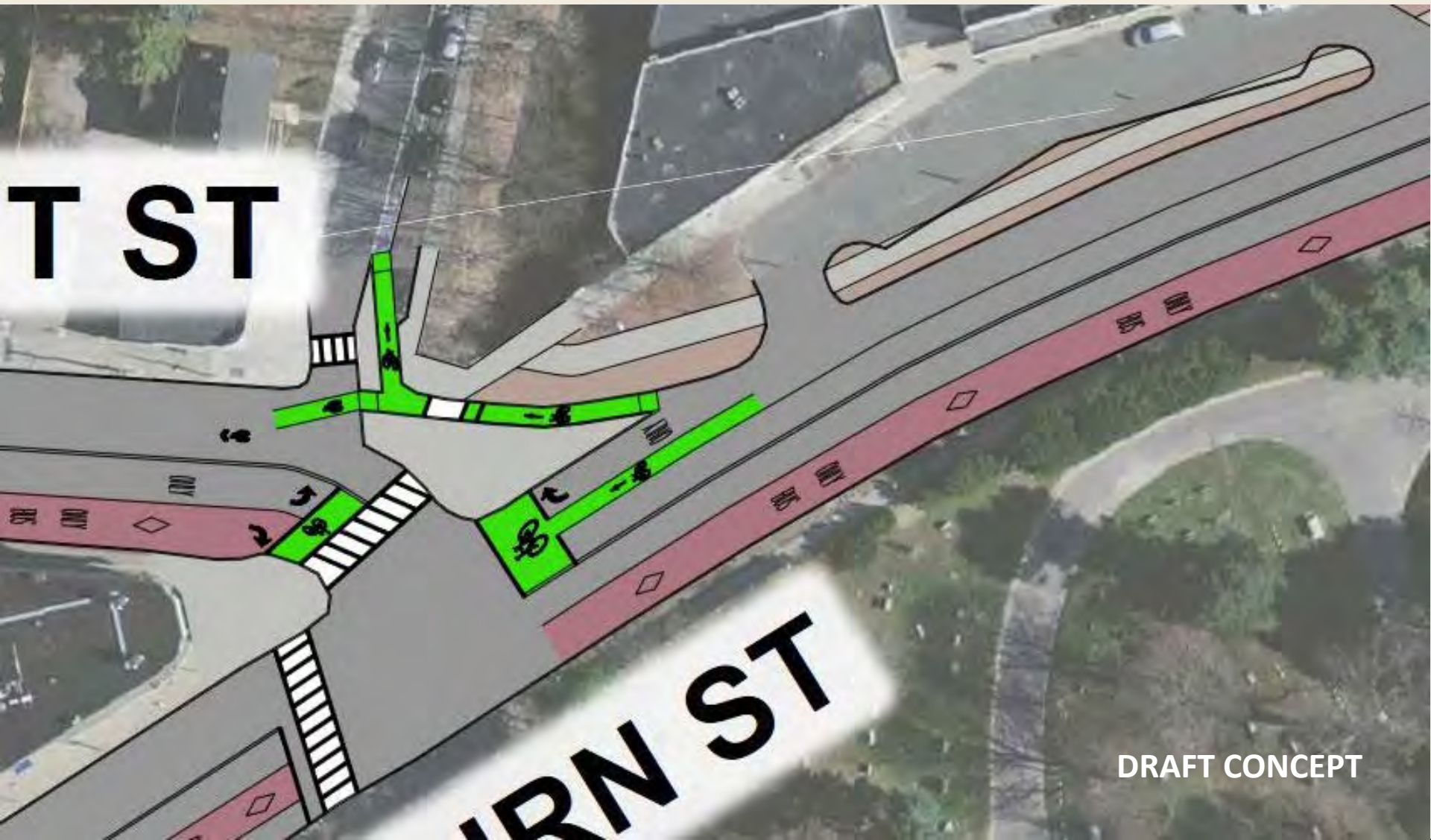
Mount Auburn at Belmont: Existing Volumes (AM Peak)



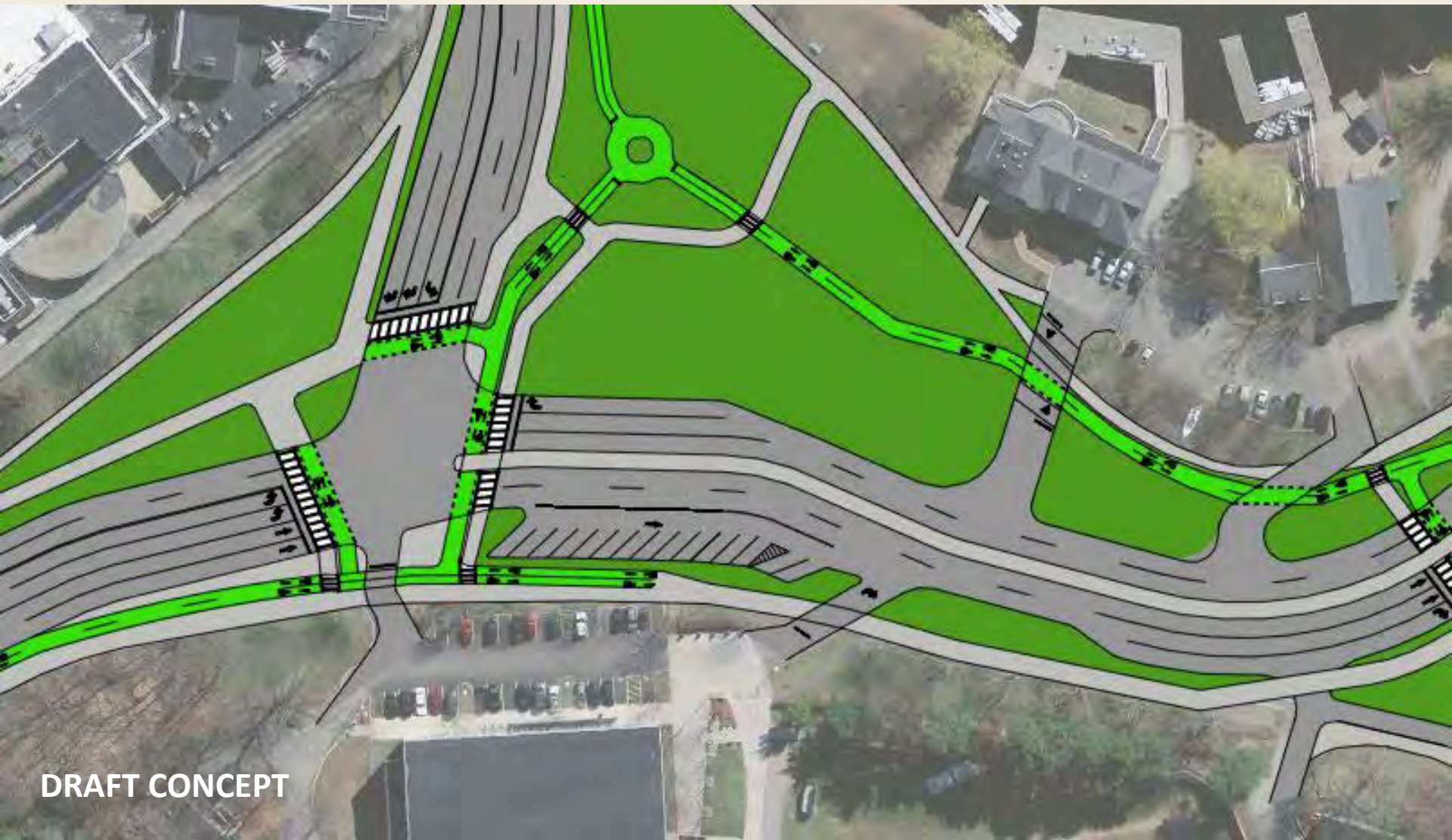
Mount Auburn at Belmont: Existing Volumes (PM Peak)



Mount Auburn at Belmont Proposed Design – No Change

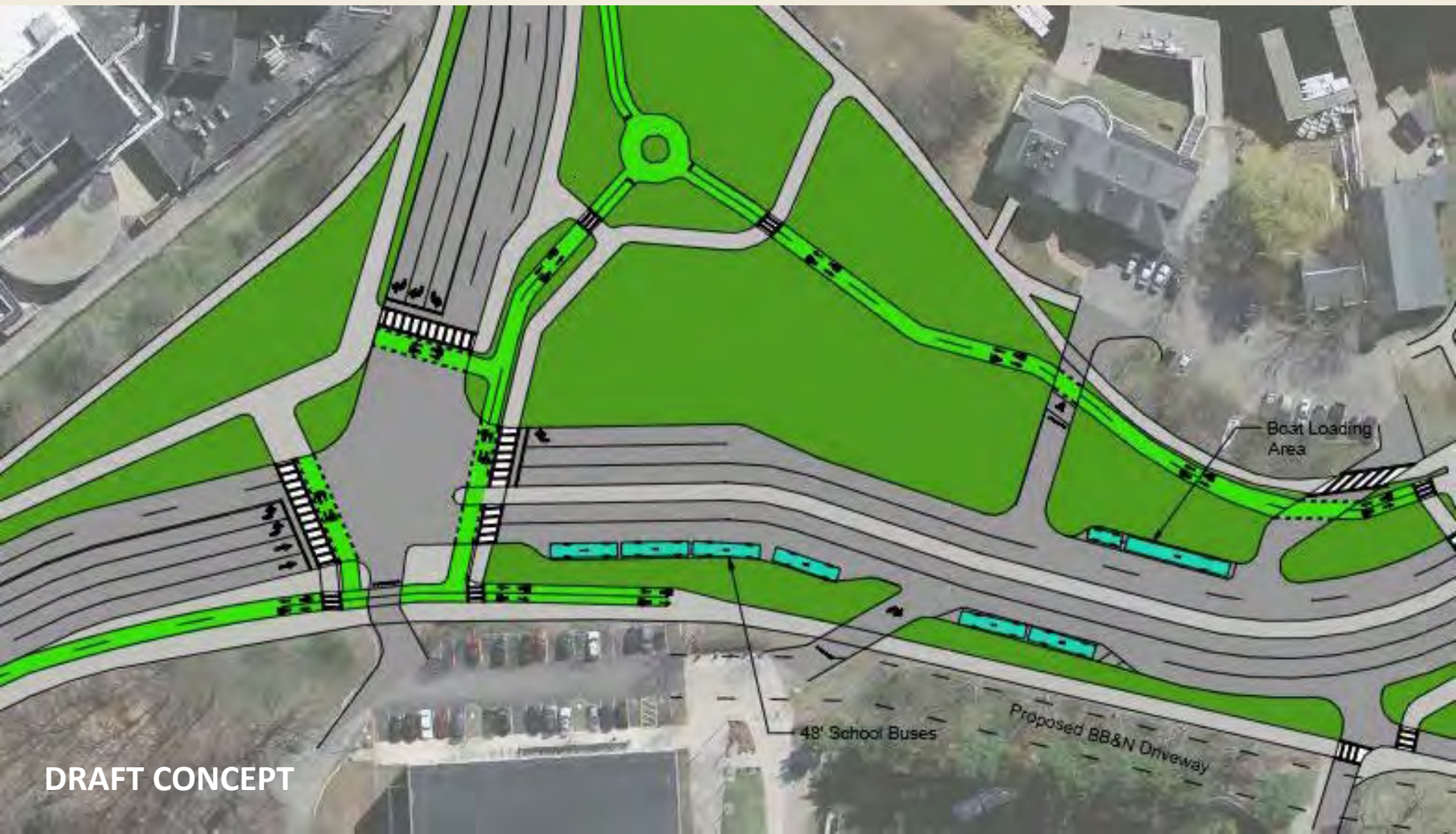


Boat House Circulation – Option B



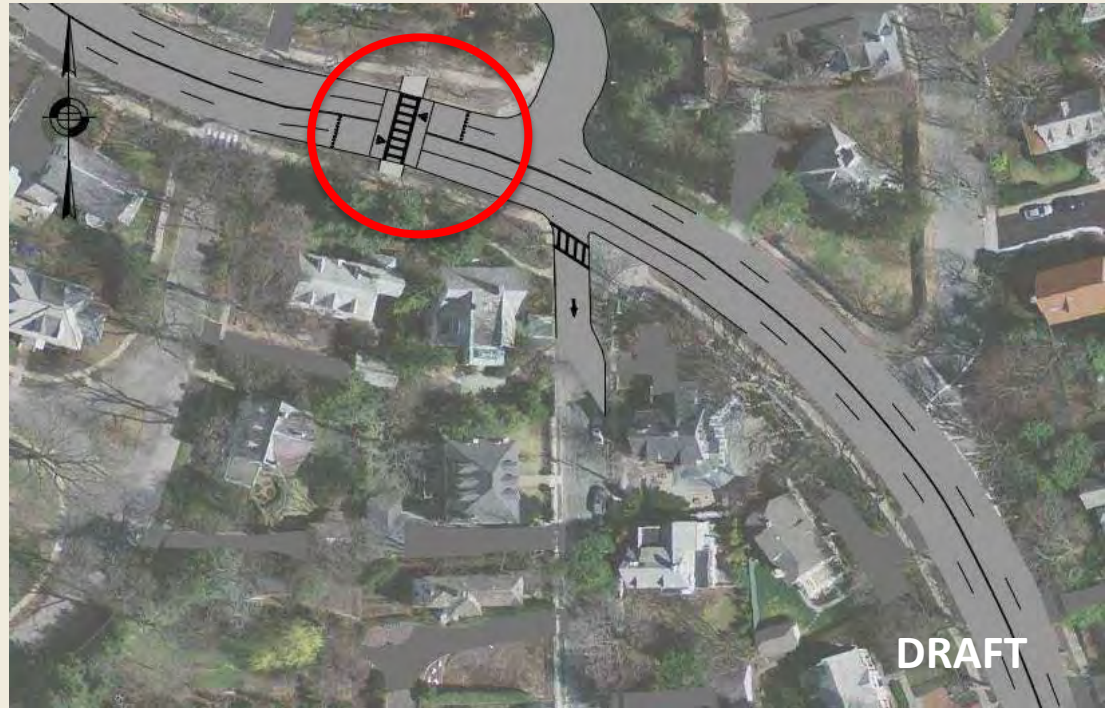
DRAFT CONCEPT

BB&N and Boat House Circulation – Option A



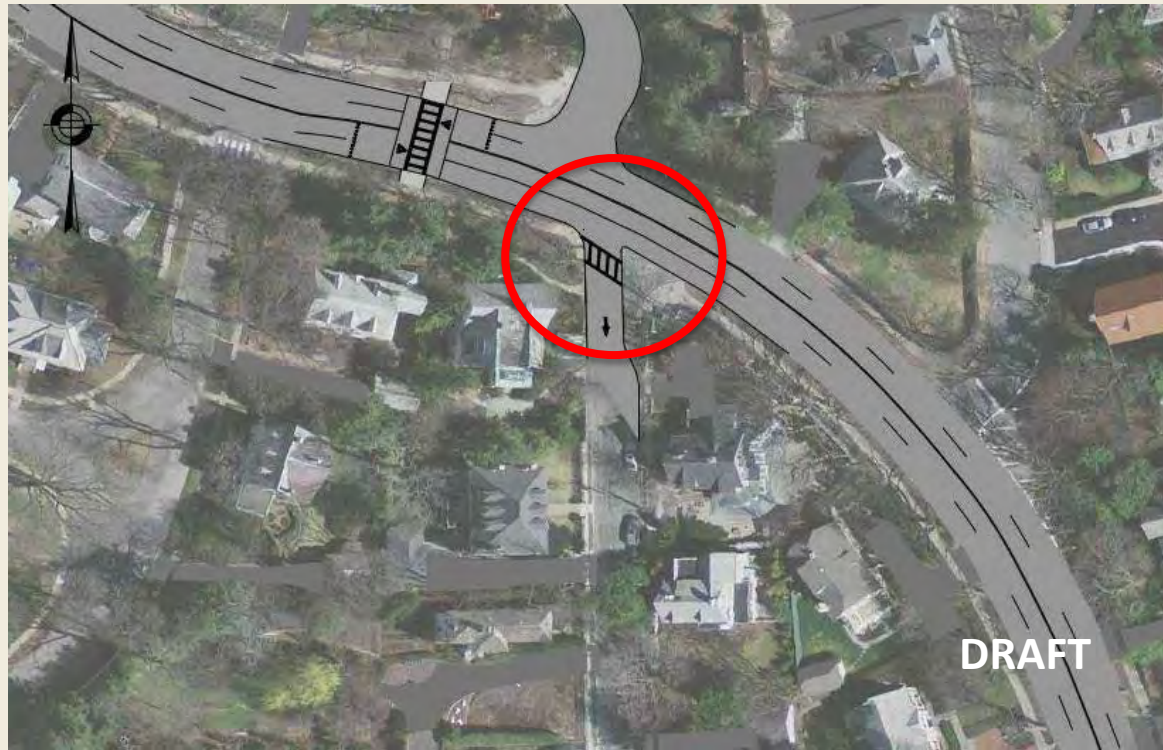
Fresh Pond Parkway Midblock Crossing

- Concerns about:
 - Sight lines
 - RRFB visibility and recognition
 - Speeds
 - Noise
 - Lack of desire line

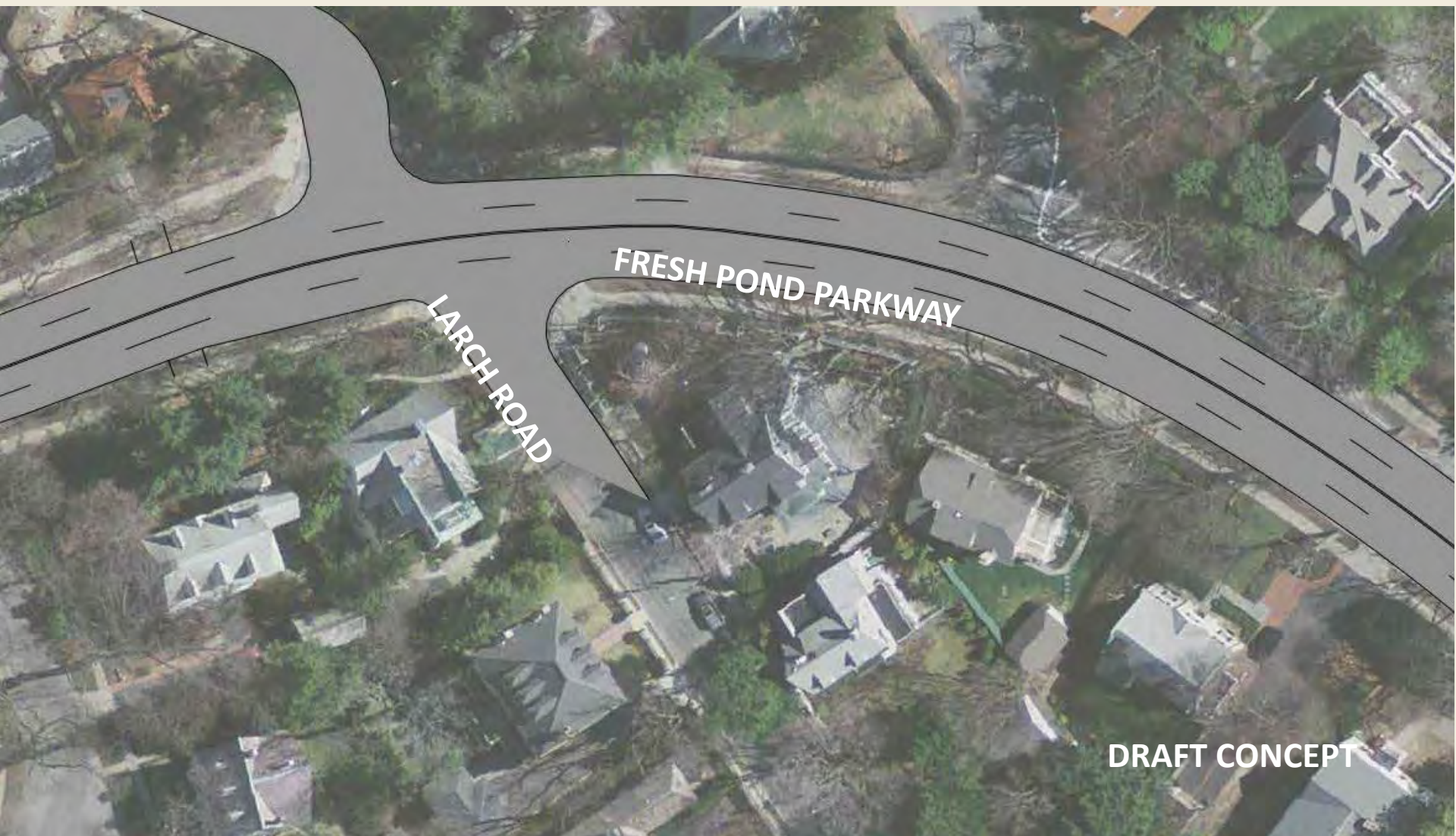


Larch St. Left Restriction

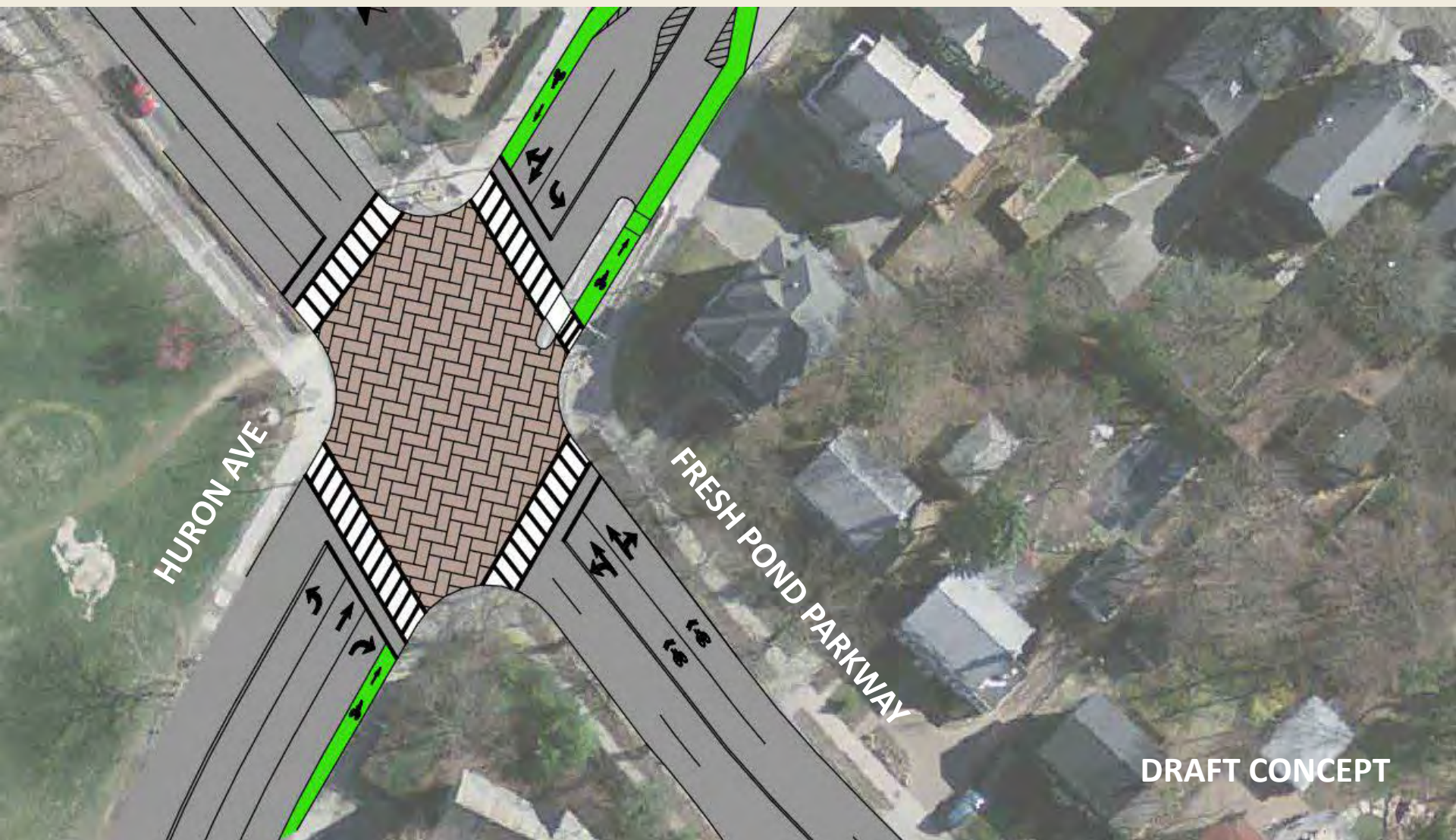
- Concerns about:
 - Circulation



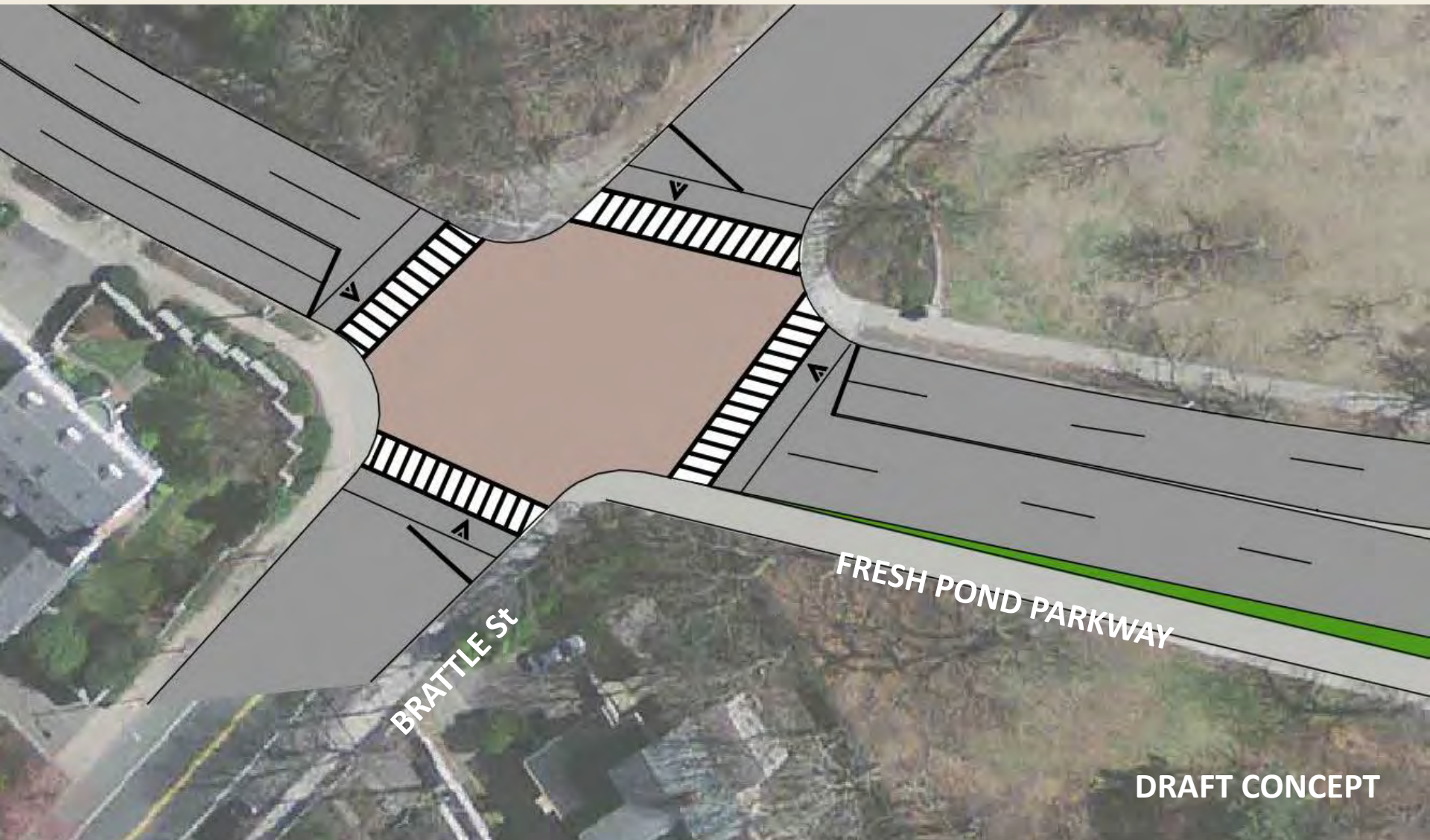
New Option A – Maintain Existing Geometry



Raised Intersection, Stamped Asphalt or Both?



Raised Intersection, Stamped Asphalt or Both?



Raised Intersection, Speed Table, Stamped Asphalt or?

Speed Table Feasibility Research:

- Many different studies have shown that speeds can be reduced anywhere from 1% to 21%, but they have rarely been used on high volume or high volume streets in the US.
- Typically they are used in a dense urban context or a side street residential context.
- Although speed tables are generally applied on low-speed facilities in the United States, they may have applications on approaches to high-speed intersections where low speeds are desired. (NCHRP 613)



Status: Continue to Study

Speed Activated Speed Limit Reminder Signs

FHWA cites
1 to 14%
speed
reductions



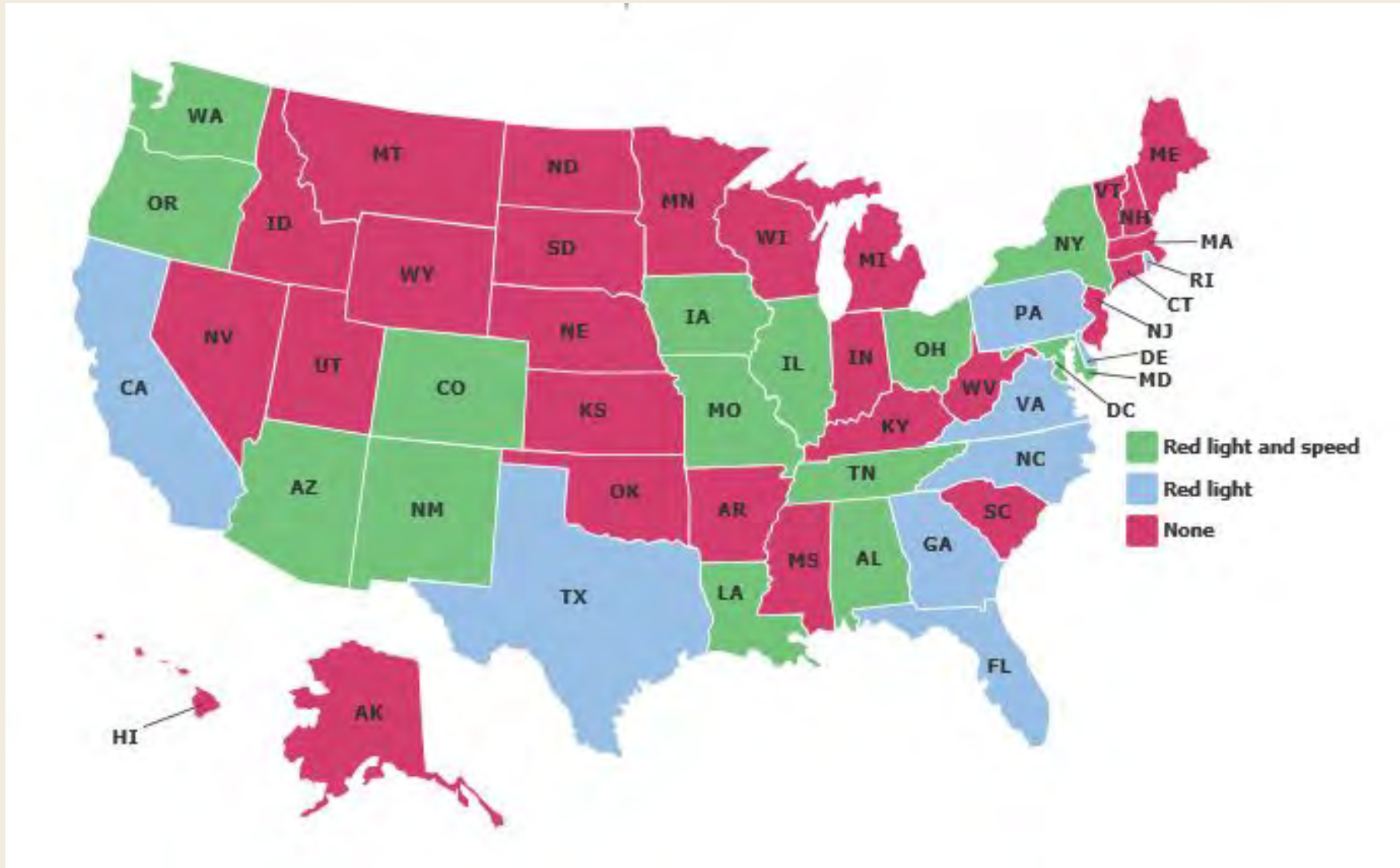
Gateway Treatments



Speed Limit Enforcement Cameras



Speed Limit Enforcement Cameras – Legislation



Star Market Driveway



Star Market Driveway – Option A



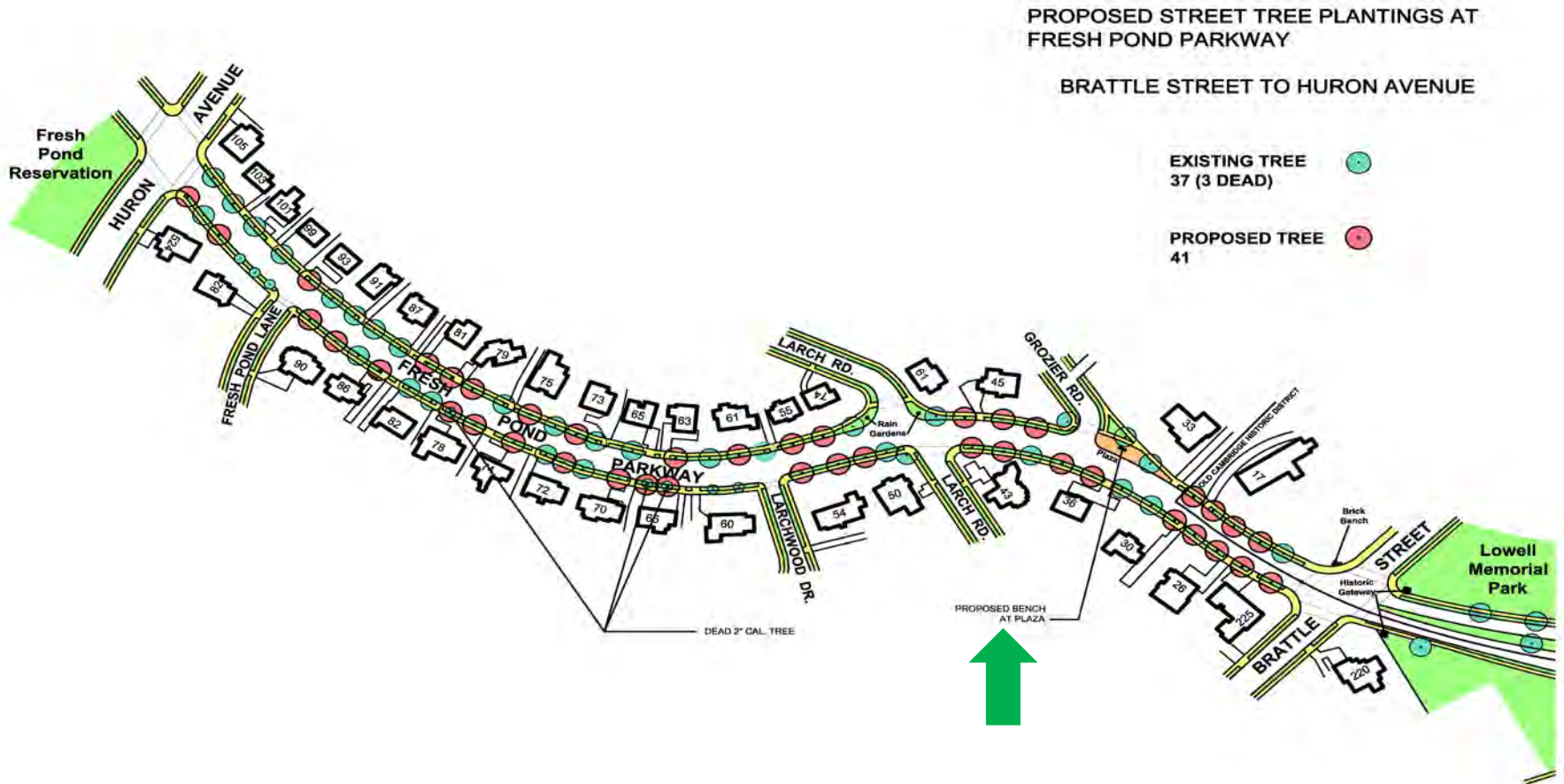
Star Market Driveway – Option B





Landscaping Ideas

Fresh Pond Parkway Street Trees



FIRST PLANTINGS LIKELY SPRING 2018

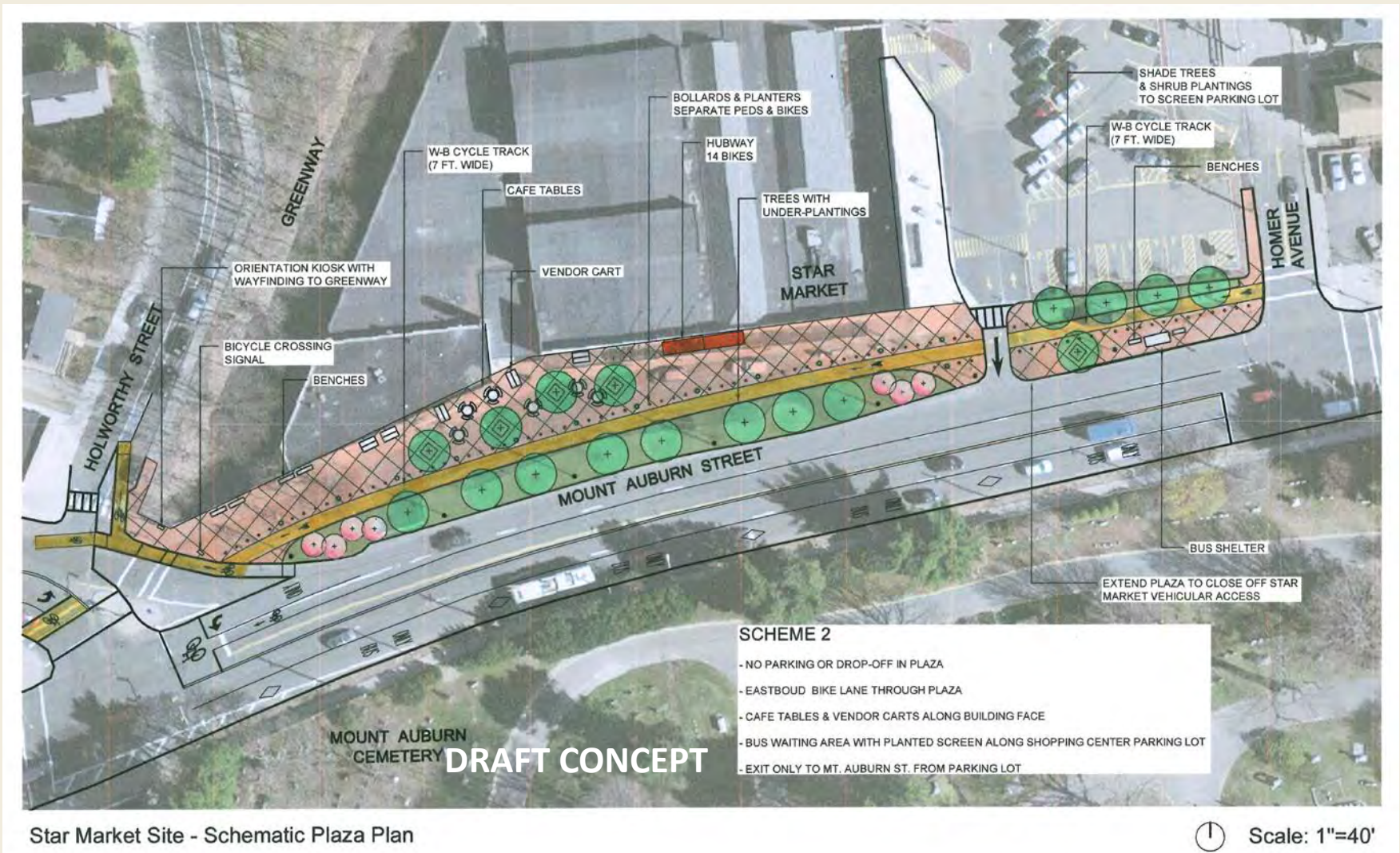
Star Market Plaza Scheme 1



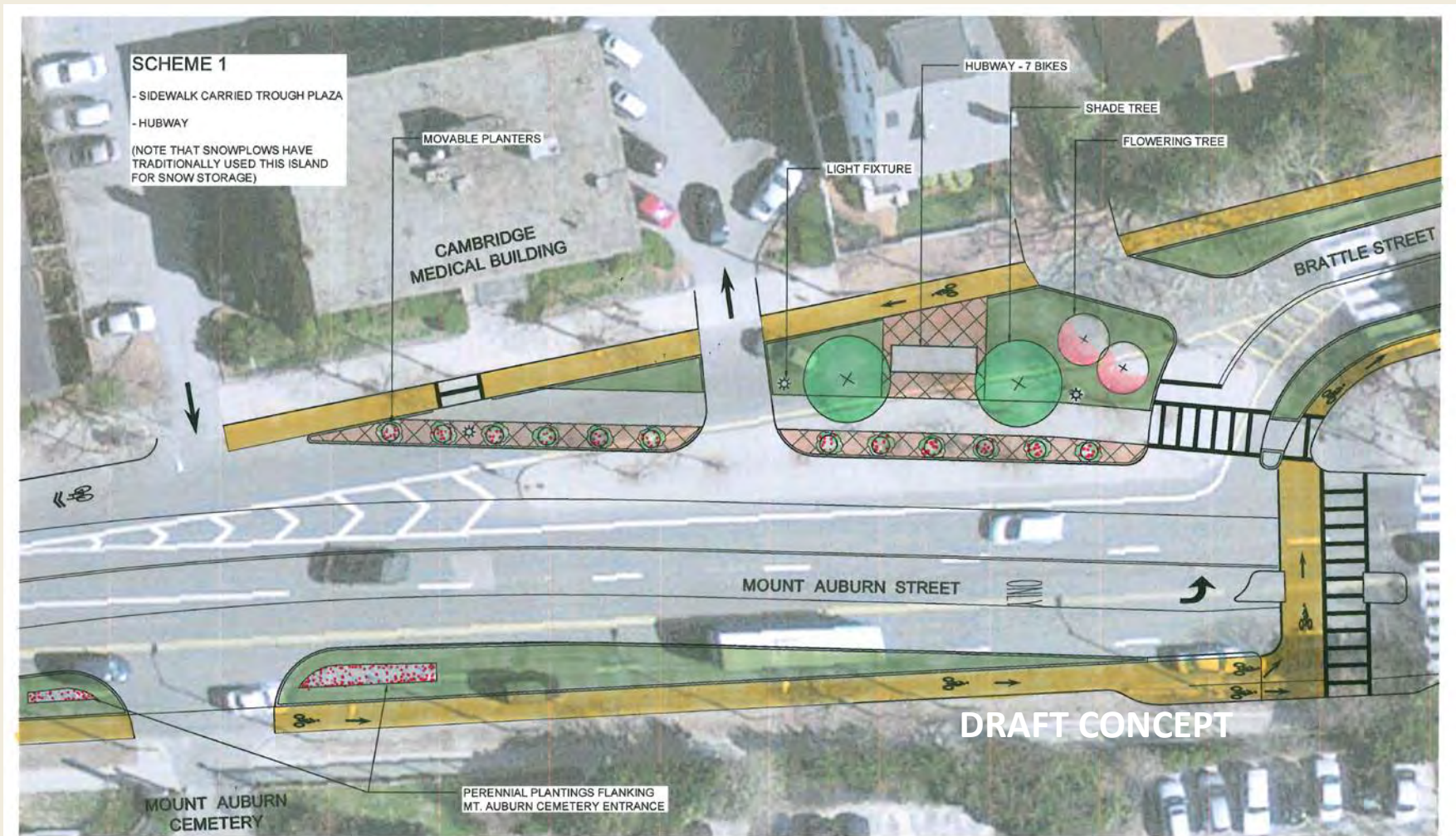
Star Market Site - Schematic Plaza Plan

Scale: 1"=40'

Star Market Plaza Scheme 2



Brattle Plaza Scheme 1



Brattle Street Site - Schematic Plaza Plan

Scale: 1"=20'

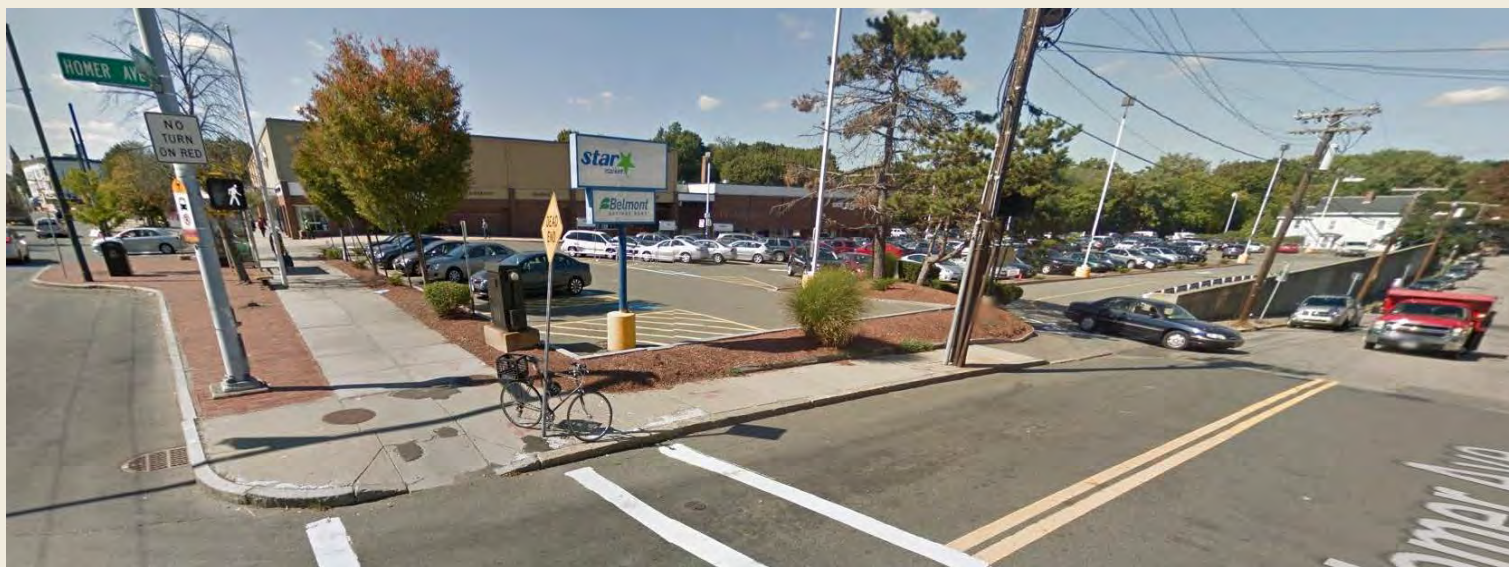
Brattle Plaza Scheme 2



Brattle Street Site - Schematic Plaza Plan

Scale: 1"=20'

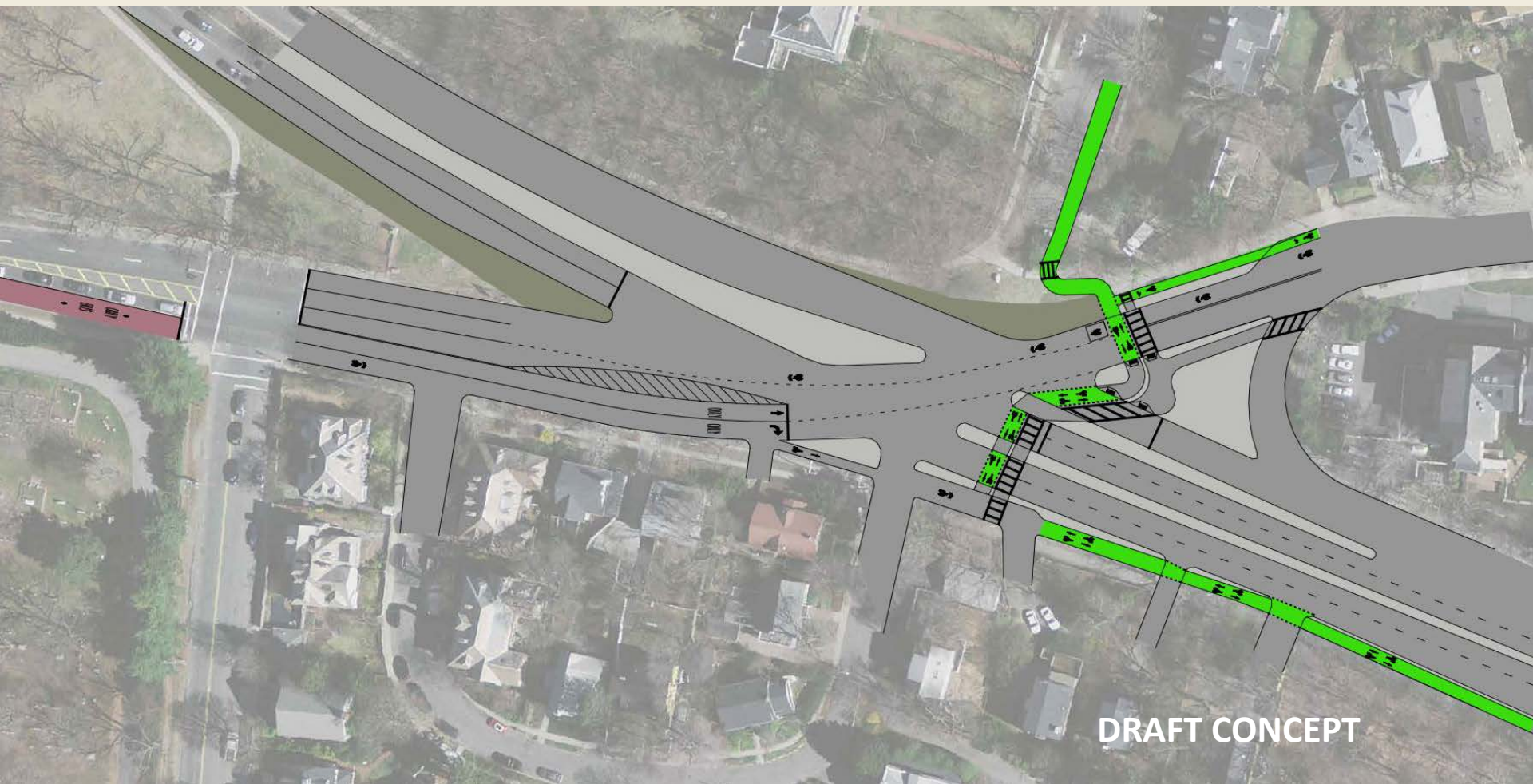
Preferred Entrance into Star Market



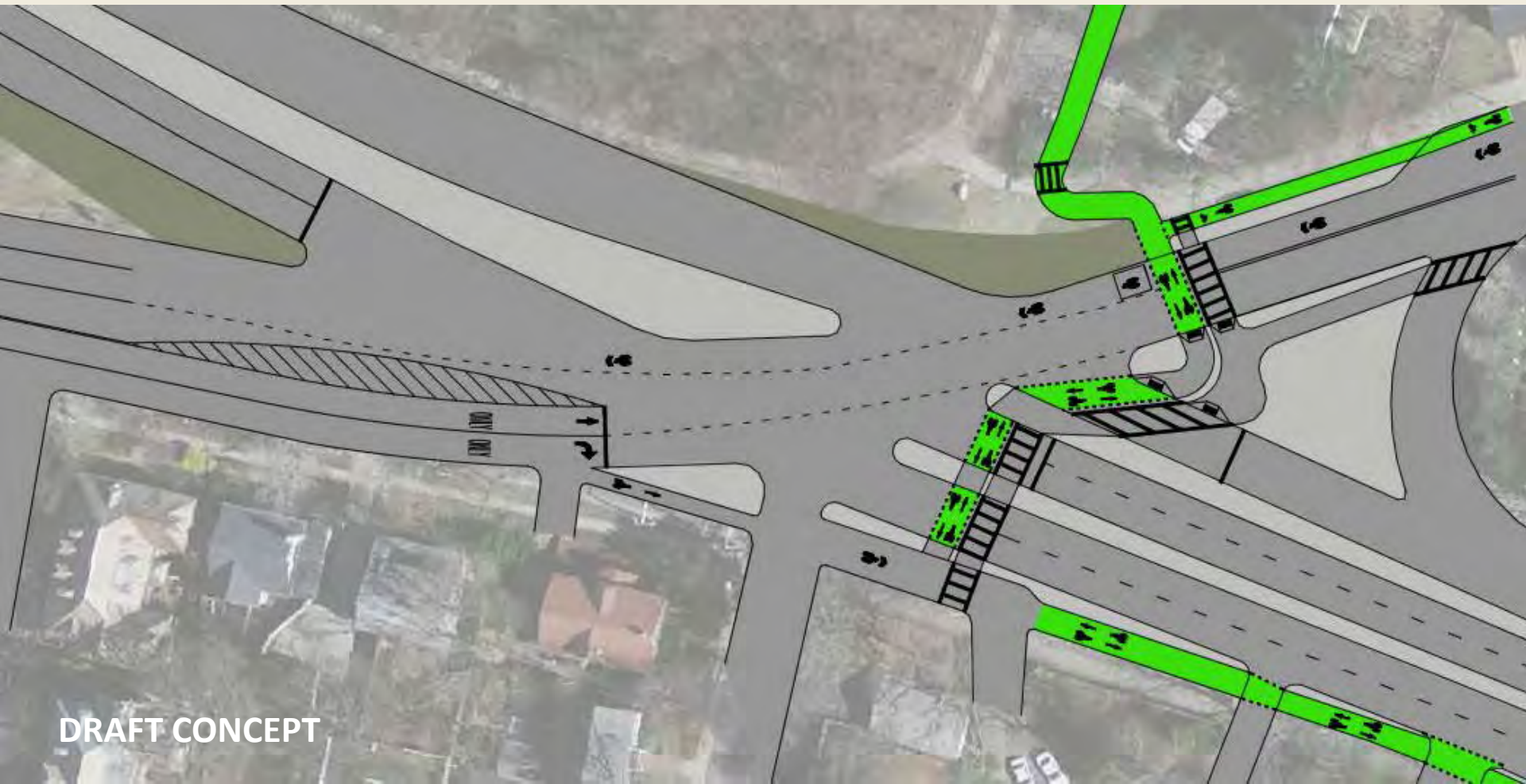


Short Term Option

Mt. Auburn Street at Fresh Pond Parkway — Short-Term



Mt. Auburn Street at Fresh Pond Parkway — Short-Term



We Want Your Feedback

- *Please leave your comments on the roll plans around the room*

Next Steps

- Second Public Meeting: **November 14**
 - Long and short-term options, their benefits and traffic analysis
 - Please bring your friends and neighbors!
- Final Stakeholder Group Meeting and Public Meeting: January



For More Information:

- **Project Website:** www.mass.gov/dcr/mt-auburn-corridor-study
- **If you have comments or suggestions on this project:**
 - *Submit online at:* <http://www.mass.gov/eea/agencies/dcr/public-outreach/submit-public-comments/>
 - *Write:* Department of Conservation and Recreation, Office of Public Outreach, 251 Causeway Street, Suite 600, Boston, MA 02114
 - *Deadline (pertaining to this meeting): Thursday, 10/15/16*
 - *Note: Public comments submitted to DCR may be posted on the DCR website in their entirety.*
- If you have questions, please email:
MaryCatherine.McLean@massmail.state.ma.us