

Brattle Street at Sparks Street/Craigie Street

Community Meeting – June 13, 2018



AGENDA

- **Introduction**
- **Existing Conditions**
- **Traffic Signal Alternative**
- **Modern Roundabout Alternative**
- **Next Steps**



INTRODUCTION | COMPLETE STREETS

Complete Streets are **streets for everyone**. They are designed and operated to enable **safe access for all users**. Pedestrians, bicyclists, motorists, and public transportation (transit) users of all ages and abilities are able to safely move along and across a Complete Street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They help buses to run on time and make it safe for people to walk to and from train stations.

More sidewalks and bicycle facilities are included, which provides **increased accessibility for pedestrians and cyclists**.

During design and construction of Complete Streets, our goal is to communicate projects with neighborhoods, facilitate an integrated design process, minimize disruption to community life and provide reasonable access for all users during reconstruction.

INTRODUCTION | VISION ZERO

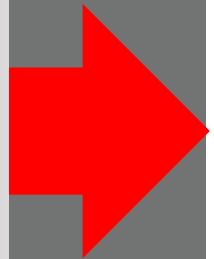
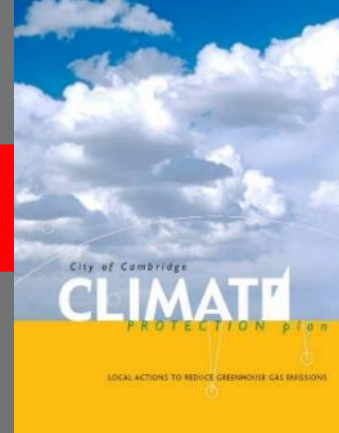
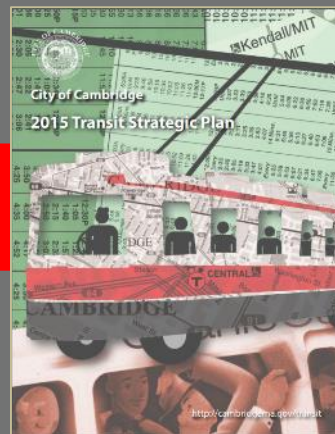
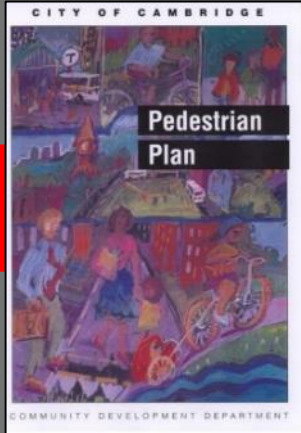
On March 21, 2016, the Cambridge City Council unanimously passed resolutions put forth by the City Manager to formally adopt Complete Streets and Vision Zero policies, showing that the City of Cambridge is committed to achieving these goals, assuring safe access for all users.

Vision Zero calls for the elimination of fatalities and serious injuries resulting from traffic crashes, and emphasizes that they can and should be prevented. The City of Cambridge is the 17th city in the U.S. to commit to a Vision Zero Policy.



INTRODUCTION | GUIDING PLANS AND POLICIES

In addition to Complete Streets and Vision Zero



Vehicle Trip Reduction Ordinance established programs to encourage alternatives to single-occupancy vehicle travel (1992).

Cambridge Growth Policy emphasizes sustainable modes of transportation such as walking, biking and using transit and low-emission vehicles, which promote livability and help to improve air quality and reduce greenhouse gas emissions (1993/2007).

DESIGN | BICYCLE FACILITIES

Bicycle Facilities

- Improvements for bicycling will be considered in all projects undertaken in the City and will be guided by the Bicycle Plan.
- The Bicycle Plan lays out a vision for where we as a City want to be. The fundamental guiding principle for this plan is to enable people of all ages and abilities to bicycle safely and comfortably throughout the City. The Bicycle Plan provides the framework for developing a network of Complete Streets and supporting programs and policies that will help meet this goal.



EXISTING CONDITIONS | INTERSECTION

- Five leg intersection
- Side street stop control
 - Sparks Street southbound
 - Craigie Street westbound
- Intersection geometry makes movements from Sparks Street challenging for people in cars and on bikes
 - 105 feet from the Sparks Street stop bar to the far side crosswalk



EXISTING CONDITIONS | INTERSECTION

- Pedestrian crosswalks across all legs
 - Neighborhood concerns with east leg crosswalk due to lack of refuge island
 - Concerns with speed on Brattle Street
- Park on the corner of Craigie Street
- Nearby schools (BB&N) generate pedestrian and vehicle traffic
- Located within the Old Cambridge Historic District
- Craigie Street island added in late 1990s
- Pedestrian refuge island added in 2010



EXISTING CONDITIONS | TRAFFIC VOLUMES

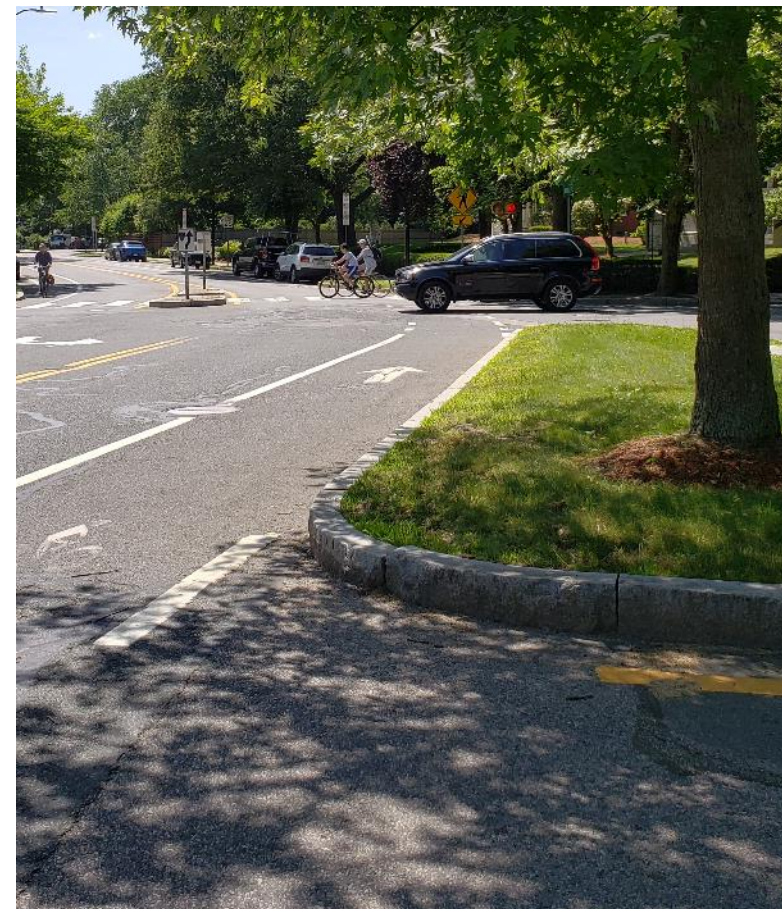
- Counts taken in April, 2017
- AM Peak Hour User Volumes
 - 1600 vehicles
 - 25 trucks
 - 135 bicycles
 - 170 pedestrians
- PM Peak Hour User Volumes
 - 1800 vehicles
 - 15 trucks
 - 135 bicycles
 - 155 pedestrians

Vehicle Volumes



EXISTING CONDITIONS | CRASH HISTORY

- Crash Data Collected for 2014 – 2016
- 14 Total Crashes
 - 4 involving bicycles, 0 involving pedestrians
 - 11 involving a southbound car on Sparks Street colliding with a vehicle or a bicycle on Brattle Street
 - No Injuries reported



ALTERNATIVE IMPROVEMENTS | **CONSIDERATIONS**

All-Way Stop Control



Traffic Signal



Modern Roundabout



Pedestrian Refuge Islands



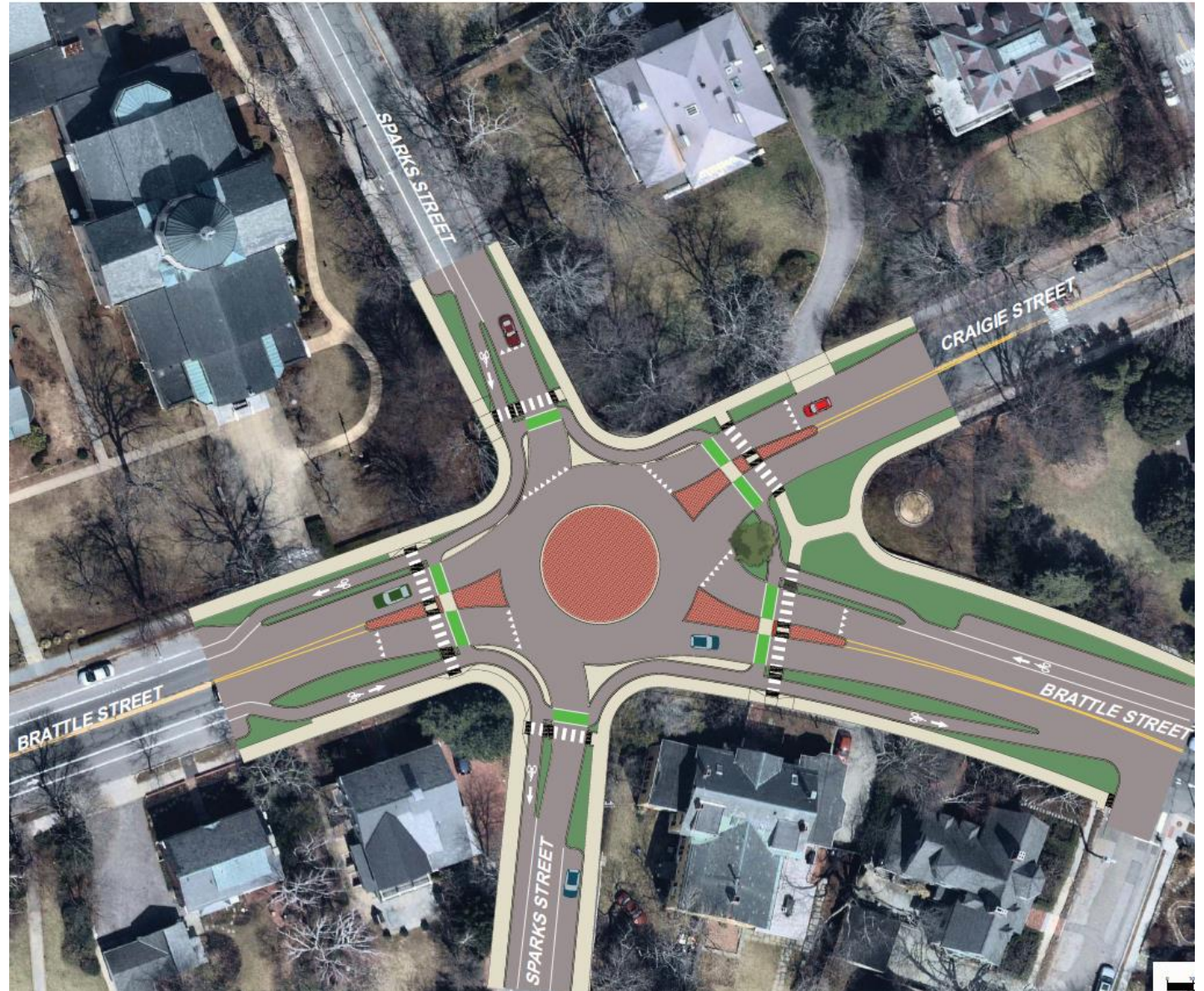
ALTERNATIVE IMPROVEMENTS | SIGNAL

- Intersection meets Federal Guidelines for Installation of a Traffic Signal
- Design would include mast-arm mounted traffic signals to control all movements
 - Potential left turn advance phase for Brattle Street to Craigie Street movement
- Pedestrian signal indications for all six crosswalks
 - Concurrent phasing with adjacent side streets
 - Lead pedestrian intervals
- Reduces delay and improves safety for people entering the intersection from Sparks Street or Craigie Street
- Increased delay for vehicles on Brattle Street limited to 25 to 30 seconds during the peak hours



ALTERNATIVE IMPROVEMENTS | ROUNDABOUT

- No impacts to right-of-way
- Maintains all existing movements for all users
- Crosswalks across one travel lane at a time with refuge islands
- Separated bicycle lanes around the intersection
- Added green space adjacent to the park
- Preserves existing tree adjacent to the park
- Naturally balances delay for all movements through the intersection
- Mountable center island accommodates trucks

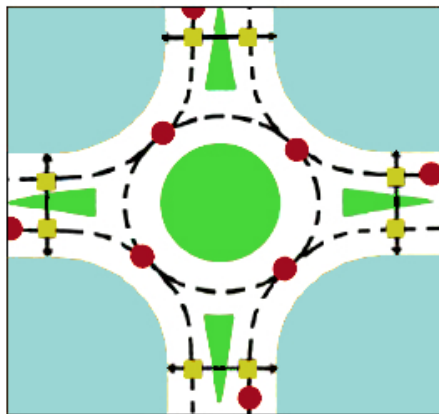


Conceptual Layout

ALTERNATIVE IMPROVEMENTS | ROUNDABOUT

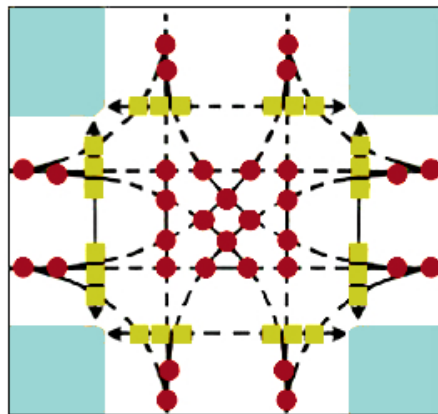
- What is a modern roundabout?
 - Safe for pedestrians, cyclists, and drivers
 - Allows users to navigate one conflict at a time
 - Provides deflection for vehicles entering to reduce speeds
 - Provides mountable center island to accommodate heavy vehicles

Roundabout



● 8 Vehicle conflicts
■ 8 Pedestrian conflicts

Intersection



● 32 Vehicle conflicts
■ 24 Pedestrian conflicts



ALTERNATIVE IMPROVEMENTS | COMPARISON

	Pros	Cons
Traffic Signal	<ul style="list-style-type: none">• Provides positive signal guidance for pedestrians• Provides direct path for cyclists• Minimizes impact to roadway configuration• Lower construction cost	<ul style="list-style-type: none">• Potentially increases rear end crashes• No change to vehicle speeds• Aesthetic/historic impact of overhead traffic signals• Higher maintenance costs
Modern Roundabout	<ul style="list-style-type: none">• Safest intersection configuration• Provides shorter crosswalks with refuge islands• Traffic calming effect for Brattle Street• Increased green space• Lower maintenance costs	<ul style="list-style-type: none">• Significant change to intersection width• Circuitous path for cyclists• Higher construction cost

NEXT STEPS

- Community Input (tonight and ongoing)
- Meet with Cambridge Historic Commission
- Alternative Selection
- Determine funding availability and schedule
- Design
- Permitting
- Construction