

Kelley Square Improvement Project

Worcester, MA

WORCESTER BIKE SUMMIT
JUNE 25, 2019

Project Area



Why improve Kelley Square?

- A badge of honor and a concern for generations
- A complex network located in a vibrant and growing neighborhood
- Close proximity to I-290 Interchange
- Safety issues for all users
 - Top 10 crash location
- Little to no Multimodal Accommodation
- High traffic volume and operational issues
- **The primary purpose is to improve safety for all users**



Project Needs & Goals

- Improve **safety** for all users
- Improve **mobility** for all users
- Enhance neighborhood **connectivity**
- Create a **walkable & bikeable** Kelley Square
- Support existing businesses and **economic growth**



Crash Summary (2013-2016)

Collision Type	Madison St. Washington to Green	Kelley Square	I-290 Interchange	Other	Total
Angle	49	80	61	0	190
Head-On	0	0	0	1	1
Rear-End	13	49	32	0	94
Sideswipe (Opp. Direct.)	3	1	4	0	8
Sideswipe (Same Direct.)	6	27	34	0	67
Single Vehicle	6	25	12	0	43
Non Motorist (Bike/Pedestrian)	4	13	5	0	22*
Total	81	195	148	1	403

* The non-motorist crashes are also accounted for in the crash totals.

Existing Operations—PM Conditions



Public Outreach—What We Did

Established a Robust Public Engagement and Outreach Plan

- Participated in local events –Farmer’s Markets & other City events
- Conducted workshops:
 - **Workshop #1**—existing conditions/issues/focus areas
 - **Workshop #2**—evaluating/scoring improvement alternatives
 - **Workshop #3**—placemaking, landscape and urban design opportunities
- Conducted Public Meetings:
 - **December 5, 2018**—project status and update
 - **February 27, 2019**—25% Design Public Hearing
 - **May 6, 2019** – Landscape meeting
 - **May 22, 2019** – Design Update/Construction meeting



Public Outreach—What We Did

Established a Robust Public Engagement and Outreach Plan

- Coordinated with Key Stakeholders:
 - City of Worcester
 - City Manager's Office
 - Public Works/Engineering
 - Economic Development/Planning
 - Transportation Advisory Group
 - FHWA
 - WalkBike Worcester
 - Worcester Regional Transit Authority
 - Urban Planning Partnership
 - Canal District Alliance
 - Green Island Neighborhood
 - Impacted businesses
 - Red Sox and Development Team
- Continuing coordination through design and construction



Improvement Alternatives Considered

- Signalization
- Unsignalized with Geometric Improvements
- Roundabout(s)—traditional and hybrids
- Potential change in directionality of streets



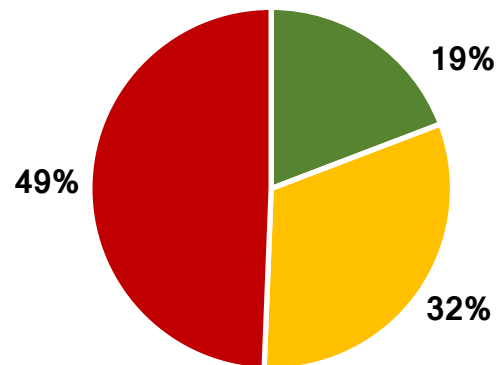
Alternatives Evaluated

Results from Public Workshop #2 on 10/24/18	Alt 1 Signalization	Alt 2 Roundabout	Alt 3 Hybrid – Option 1	Alt 4 Hybrid – Option 2
Safety	37%	28%	74%	85%
Pedestrian Facilities	32%	9%	76%	85%
Bicycle Facilities	10%	12%	50%	66%
Business Access/Egress	15%	13%	37%	71%
Traffic Operations (congestion, delay & queuing)	5%	21%	51%	74%
Property and Building Impacts	19%	20%	24%	64%
Place Making	15%	26%	65%	84%
Neighborhood Connectivity	29%	12%	44%	78%
Transit Options	22%	15%	18%	47%
Community Health	6%	12%	41%	73%

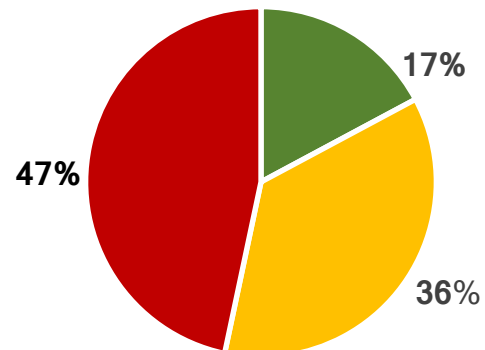
Percent scored as positive impact from the community as part of October's workshop

Alternatives Evaluated

Alternative 1 Signalization



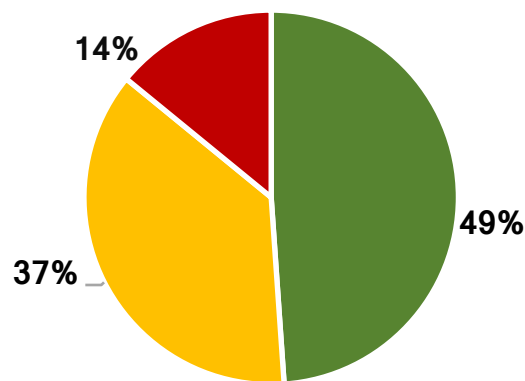
Alternative 2 Roundabout



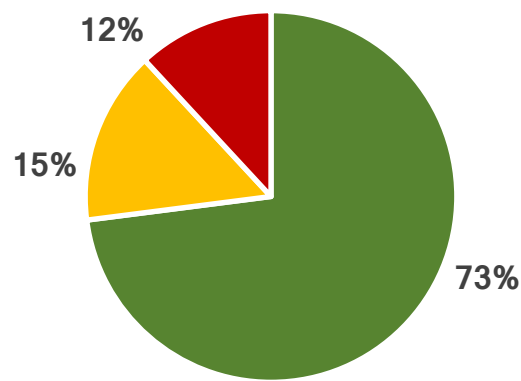
- Positive Impact
- Neutral Impact
- Negative Impact

Results from Public Workshop #2 on 10/24/18

Alternative 3 Hybrid Option 1

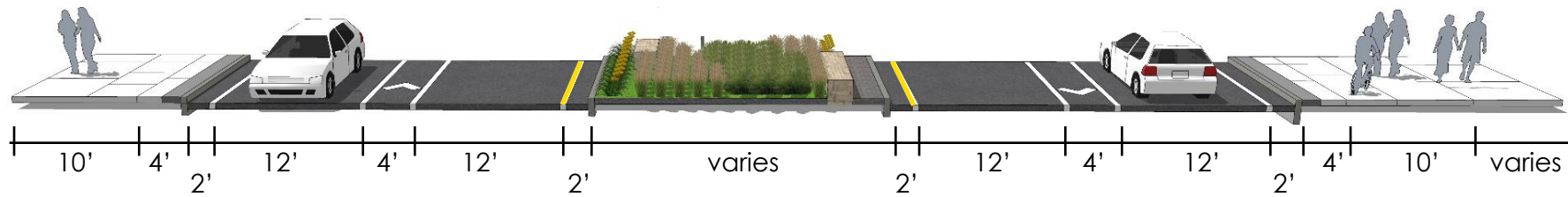


Alternative 4 Hybrid Option 2

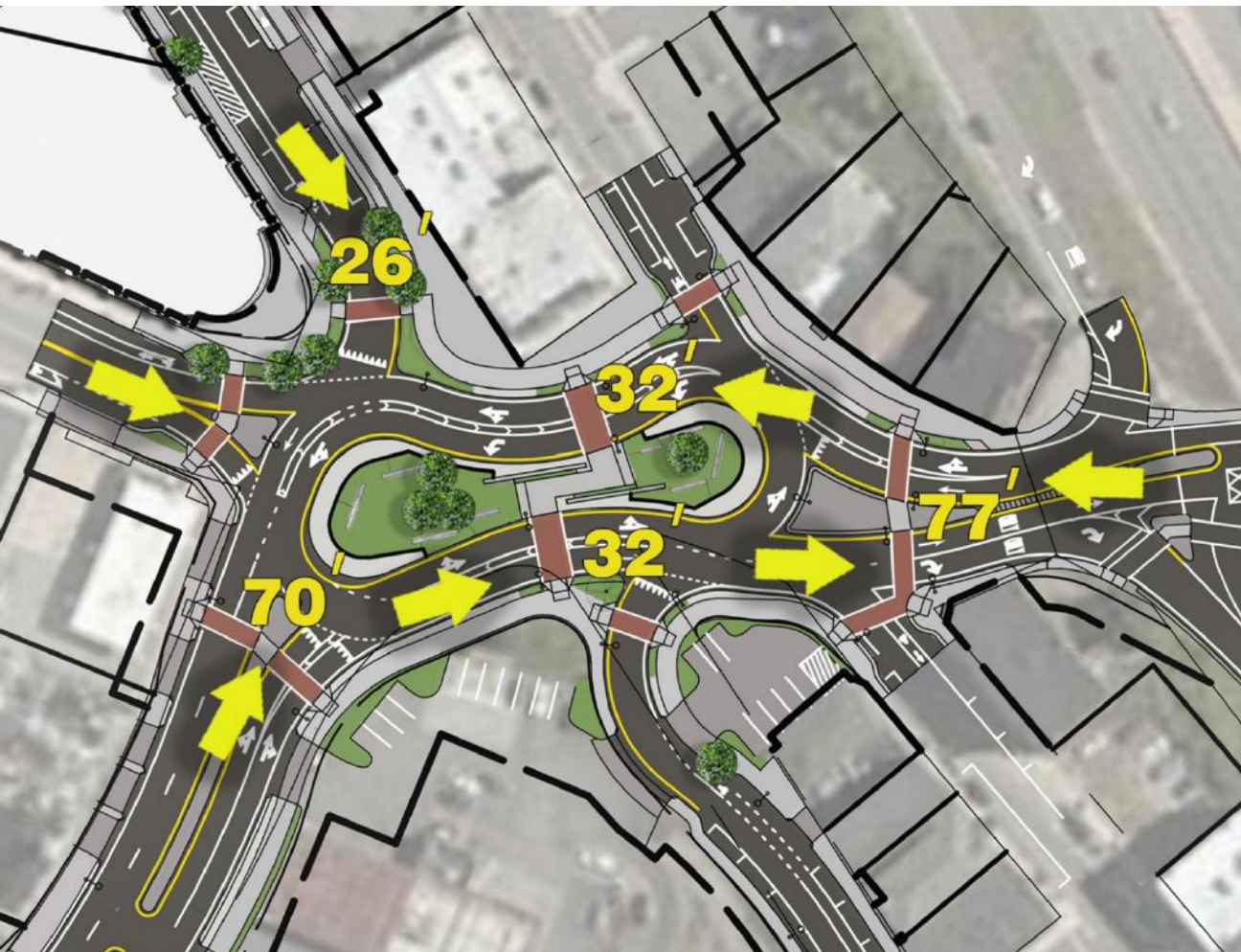


Hybrid Roundabout—First in Massachusetts

- Clearly delineates traffic lanes/ fewer conflict points
- Closest to existing geometry
- Traffic calming
- Provides connectivity between neighborhoods
- Shorter pedestrian crossings with opportunities to cross Kelley Sq.
- Provides bike facilities on and off roadway



Pedestrian Enhancements



- Long existing crossing distances
- Little to no refuge areas
- Traffic coming from multiple directions
- Shorter crossing distances
- Larger refuge areas
- Conflicting vehicle traffic coming from 1 direction
- High visibility/ decorative crosswalks and RRFBs

Bicycle Enhancements



Shared Use Path



Separated Bike Lane



5' on-road Bike Lane



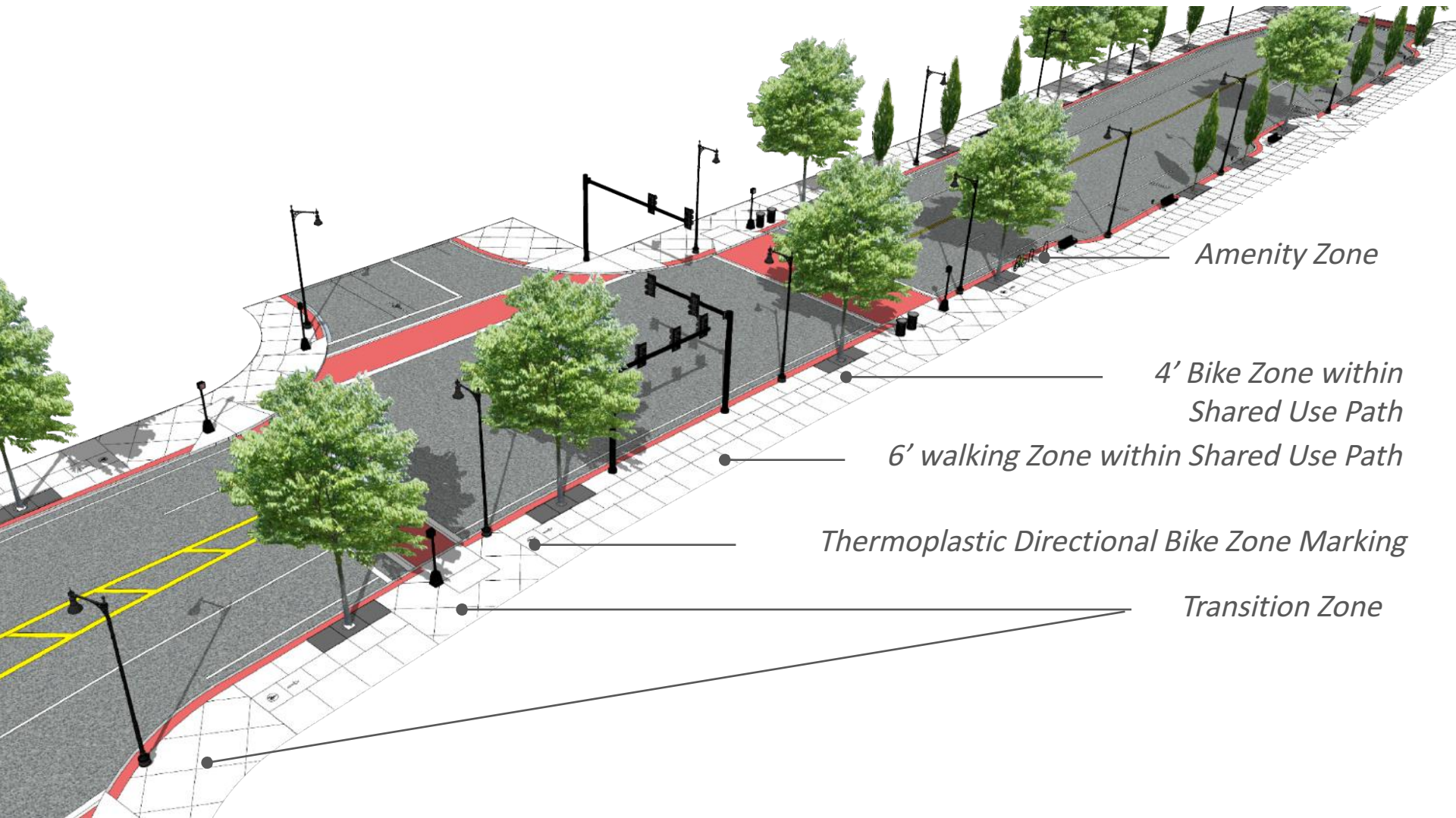
Shared Use Path

- Shared use path around hybrid and along Madison Street
- All SUPs will be 1-way circulation for bicyclists
- Hybrid SUP will use scoring, inlays and signage to better define bicycle and pedestrian movements



City of Portland, OR

Shared Use Path



Amenity Zone

4' Bike Zone within
Shared Use Path

6' walking Zone within Shared Use Path

Thermoplastic Directional Bike Zone Marking

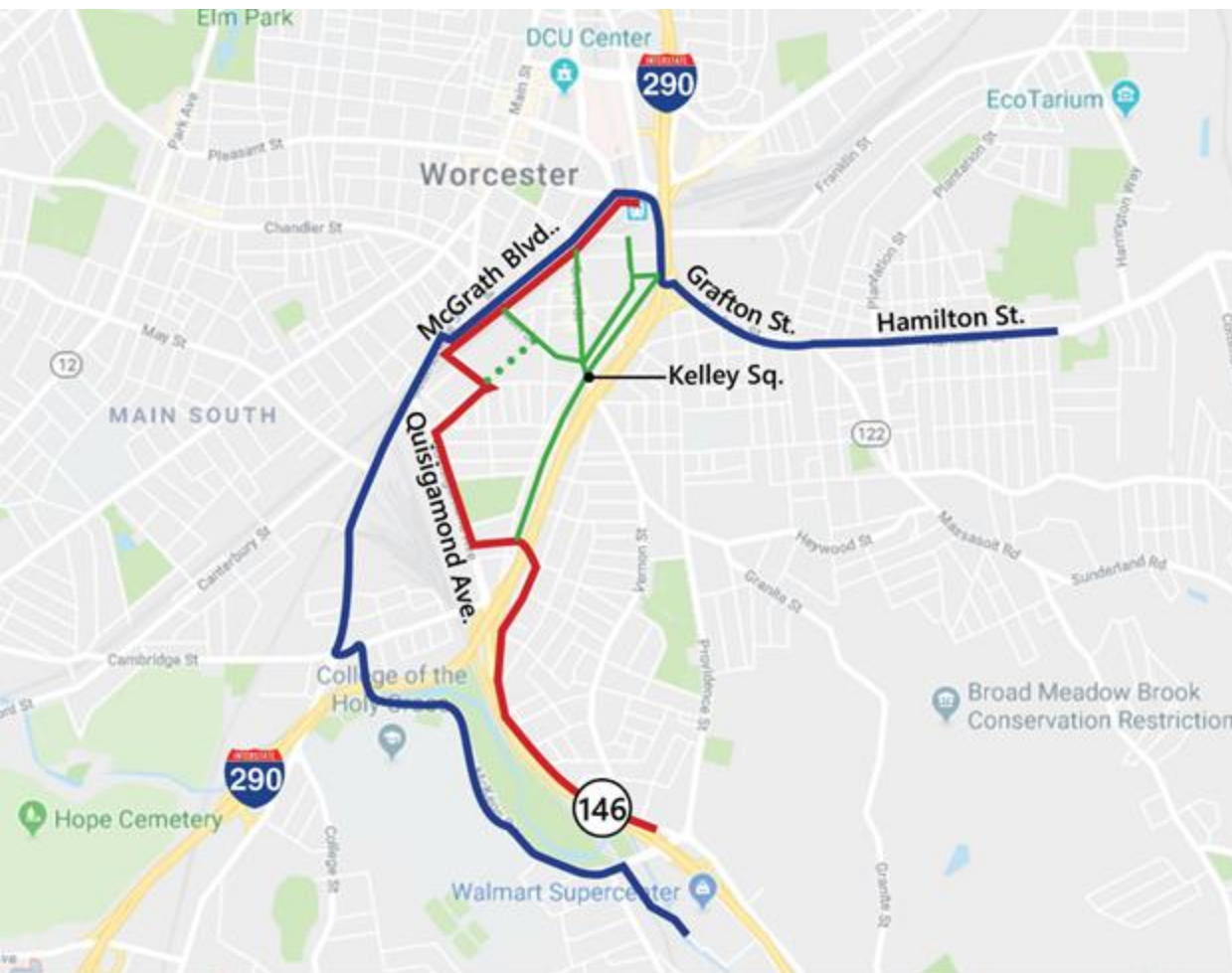
Transition Zone

Separated Bike Facility—Harding Street

- Bicycle accommodation desired on both sides
- Proposed separated bicycle facility to run contraflow
- First separated bicycle facility in Worcester



Bicycle Connections to Regional Network



- East Coast Greenway
- Blackstone River Greenway
- Local Connections

References: East Coast Greenway website, Central Massachusetts Metropolitan Planning Organization (CMMPO) Regional Bicycle Plan 2018