Kendall Square Streetscape Redesign
Scope Map

Project Scope Area

Add / Alt #1

CRA and City property for possible integration of bicycle and pedestrian facilities (Grand Junction Path, sidewalk, Binney/ Galileo cycle track)
Project Team

• Alta Planning + Design
  • Prime Consultant
  • Bicycle and Pedestrian Facility Design
  • Landscape Architecture

• HDR Engineering, Inc.
  • Civil Engineering

• McMahon and Associates
  • Traffic Engineering
Project Goals and Objectives

• Enhance connectivity of existing bike facilities
• Facilitate bus travel
• Improve pedestrian and bicycle facilities at intersections
• Integrated streetscapes and proposed pedestrian/bike facilities
• Preserve street trees
• Accommodate new development
• Manage traffic access and cut-through traffic
• Integrate designs with railroad crossing at Broadway
• Reflect environmental sustainability goals
• Accommodate universal design principles
Project Timeline

• 10% Design: Fall - Winter 2016
  • Conduct traffic analysis
  • Prepare preliminary design concepts
  • Select 3 alternatives
  • Prepare evaluation criteria
  • Select preferred alternative
  • Advance to 10% design level

• 25% Design: Winter – Spring 2017
  • Prepare 25% level design documents
  • Prepare cost estimate
  • Prepare project phasing recommendations
Work Completed To Date

• Advanced traffic analysis for “existing” conditions, baseline analysis
• Initiated cross section studies of streets to understand options for configurations
• Initiated studies of protected intersections
• Developed potential evaluation criteria
• Held meetings with:
  • Binney Street Park designers (Stoss)
  • EZ Ride management
  • Boston Properties
  • Cambridge Bicycle Committee
  • BioMed Realty
Site Analysis
Transportation Analysis Completed

• Synchro capacity analysis
  • 2016 Theoretical “Existing” Volumes (Longfellow open)
  • 2026 No Build
    • Planned projects
    • 0.5% annual background growth

• Pedestrian and Bicycle Delay

• Summary of corridor/intersections by mode

• Analysis of bus frequency and passenger loads
Volumes Charts

Broadway & Galileo: The Transit Intersection

Main Street & Galileo & Vassar: The Pedestrian Intersection
Preliminary Intersection Options

Assumptions:

• 2016 Theoretical Existing Volumes
  • Longfellow Bridge open

• Stay within existing right-of-way for vehicle lanes

• Maintain existing vehicle-pedestrian time separation at Broadway

• Determine ideal intersection configurations individually and tie them together during future evaluation
MassDOT Recommended Time-Separated Bicycle Movements

2016 Theoretical Volumes

GG Way at Main/Vassar  GG Way at Broadway  GG Way at Fulkerson

LEGEND

Time
Separated Movement
Bicycle Facility

<table>
<thead>
<tr>
<th>Separated Bike Lane Operation</th>
<th>Motor Vehicles per Hour Turning across SBL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right Turn</td>
</tr>
<tr>
<td>One-way</td>
<td>150</td>
</tr>
<tr>
<td>Two-way</td>
<td>100</td>
</tr>
</tbody>
</table>

EXHIBIT 6A: Considerations for Time-separated Bicycle Movements
Source: MassDOT Separated Bike Lane Planning & Design Guide
Scope Map

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Existing Section – Broadway

Section H: Broadway (just east of Galileo Galilei intersection)
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CRA and City property for possible integration of bicycle and pedestrian facilities (Grand Junction Path, sidewalk, Binney/ Galileo cycle track)
Existing Sections – Binney Street
Scope Map

Project Scope Area

Add / Alt #1

CRA and City property for possible integration of bicycle and pedestrian facilities (Grand Junction Path, sidewalk, Binney/Galileo cycle track)
Existing Sections – Galileo Galilei Way
Scope Map

Project Scope Area

Add / Alt #1

CRA and City property for possible integration of bicycle and pedestrian facilities (Grand Junction Path, sidewalk, Binney/Galileo cycle track)
Galileo Galilei Way – Possible Alternative: Separate SB Cycle Track, Sidewalk

Note: this image is drawn incorrectly with a bike lane in the northbound direction, it should be a raised cycle track in the northbound direction (left side of the image)
Protected Intersections
Protected Intersections
Protected Intersection Concept – Broadway and Galileo Galilei Way
Protected Intersection Concept – Main Street and Galileo Galilei Way
Existing Transit and Curb Uses
Bus Passengers and Frequencies

**Broadway & Galileo**

<table>
<thead>
<tr>
<th>Location: Galileo Galilei @ Broadway</th>
<th>AM Peak [8:15 - 9:15 AM]</th>
<th>PM Peak [5:00 - 6:00 PM]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eastbound on Broadway*</td>
<td>Westbound on Broadway</td>
</tr>
<tr>
<td>Number of passengers*</td>
<td>361</td>
<td>81</td>
</tr>
<tr>
<td>Number of buses</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Frequency by Route</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CT2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>64</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>68</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>EZRide</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

**Main Street & Galileo & Vassar**

<table>
<thead>
<tr>
<th>Location: Main St @ Vassar</th>
<th>AM Peak [8:15 - 9:15 AM]</th>
<th>PM Peak [5:00 - 6:00 PM]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Westbound on Main</td>
<td>Northbound on Vassar</td>
</tr>
<tr>
<td>Number of passengers</td>
<td>137</td>
<td>153</td>
</tr>
<tr>
<td>Number of buses</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Frequency by Route</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>EZRide</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

- **Morning Peak:** More buses carrying more passengers travel through both intersections
- **Intersection bus volumes:** The Broadway at Galileo intersection has more bus activity than the Main Street at Vassar Street intersection.

Data Source: MBTA Composite Data (Fall 2015); Charles River TMA EZRide Shuttle Ridership Data (Fall 2014)
Bus Stop Design with Bicycle Lanes

Figure 1: Unconstrained Bus Stop with adjacent Separated Bike Lane (MassDOT)

Figure 2: Constrained Bus Stop with adjacent Separated Bike Lane (MassDOT)

Figure 3: Bus Stop with adjacent Bike Lane (AASHTO)
Transit – Floating Bus Stops

Source: NACTO Transit Street Design Guide
KSMTF: Recommended Bus Route Changes

Draft routing changes proposed at September 6, 2016 Kendall Square Mobility Task Force Meeting

Legend
- Existing Bus Routing
- Possible enhancements to Bus Routing
- MBTA Green Line Extension
KSMTF: Priority Corridors to be Evaluated
KSMTF: Binney between First & Broadway

Will work to ensure that the final design will not preclude a potential future scenario of converting a travel lane to bus lane with cycle tracks plus mixed travel lanes/turn lanes in both directions.