Study Corridor

Length: 2.3 miles

¼ mi buffer
Project Purpose

This project will identify multi-modal transportation options, alignment, traffic and safety issues on Boston Street from I-95 to Fleet Street in order to close the transportation gap resulting from the proposed MTA rail transit project not moving forward.

- Provide alternative recommendations & design for:
  - improved safety
  - pedestrian and bicycle accommodation
  - residential and commuter travel
  - improved truck access
Objectives

1. Review current planning and engineering documents for Boston Street (last 10 years)
2. Collect and analyze current traffic (vehicle, pedestrian, and bicycle) volume on Boston Street
3. Analyze current pedestrian, bicycle, commuter shuttle, and transit access
4. Analyze current truck routes.
5. Collect and analyze crash data along Boston Street within the study limits.
6. Make recommendations for multi-modal transportation improvements
• Existing Conditions
  o Roadway Design
  o Bicycle & Pedestrian Facilities
  o Traffic Operations & Safety
  o Curbside Parking Management & Operations
  o Transit Service Operations
  o Travel Market Evaluation
  o Freight Operations
The corridor has five typical cross sections
Boston Street Typical Cross-Sections

Fleet St to Aliceanna St

- Restricted parking during off-peak times in curb lane
- 6' Sidewalk
- 2' 2'
- 12' Sharrow
- 11' Turn lane
- 11' Drive lane
- 11' Drive lane
- 2' 2'
- 6' Sidewalk

Road Bed 23'

Road Bed 22'

Curb-to-Curb 45'

Cross Section Width 65'
Boston Street Typical Cross-Sections

Aliceanna St to Lakewood Ave

- Road Bed 23’
- Road Bed 32’
- Curb-to-Curb 60’
- Cross Section Width 80’

Restricted parking during off-peak times in curb lane
Boston Street Typical Cross-Sections

Lakewood Ave to Conkling St

- 6’ Sidewalk
- 2’ 2’ Bike lane
- 8’ Park lane
- 11’ Drive lane
- 10’ Drive lane
- 16’ Planting Strip
- 11’ Drive lane
- 10’ Drive lane
- 8’ Park lane
- 2’ 2’ Sidewalk

Road Bed 29’
Curb-to-Curb 74’
Cross Section Width 94’
Boston Street Typical Cross-Sections
Conkling St to Ponca St
Boston Street Typical Cross-Sections

Ponca St to O’Donnell St

Road Bed 24’

Curb-to-Curb 80’

Cross Section Width 96’
Pedestrian Amenities

- Ped network is complete
- Most intersections west of Haven have pedestrian ramps, signals and crosswalks
- Only intersection with ped refuge is at Chester
Pedestrian Amenities

- Inconsistent pedestrian amenities east of Haven
Pedestrian Intersection Volumes

Legend
- Pedestrian Volume at Key Intersection
  Size Varies by Volume

AM

PM

Legend
- Pedestrian Volume at Key Intersection
  Size Varies by Volume
Bicycle Network

<table>
<thead>
<tr>
<th></th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trail</strong></td>
<td>3.70 miles</td>
<td>0.25 miles</td>
</tr>
<tr>
<td><strong>Sharrow/Signed</strong></td>
<td>2.75 miles</td>
<td>0.25 miles</td>
</tr>
<tr>
<td><strong>Bike Lane</strong></td>
<td>0.90 miles</td>
<td>0.0 miles</td>
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</tbody>
</table>
Multimodal Field Observations
Traffic Safety

Highest Crash Locations *(Shown in red on map)*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Frequency Crash Location</th>
<th>Majority of Crash Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ponca</td>
<td>Left Turns</td>
</tr>
<tr>
<td>2</td>
<td>Hudson</td>
<td>Rear-End</td>
</tr>
<tr>
<td>3</td>
<td>Lakewood</td>
<td>Angle &amp; Sideswipe</td>
</tr>
<tr>
<td>4</td>
<td>Haven</td>
<td>Angle</td>
</tr>
</tbody>
</table>

*Data from 2012-2014

**Pedestrian and Bicycle related crashes are included in overall totals

Total: 126 crashes**
On-Street Parking Inventory

1,998 Spaces Inventoried

<table>
<thead>
<tr>
<th>Parking Regulation</th>
<th>Percentage of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted</td>
<td>88%</td>
</tr>
<tr>
<td>Time Restricted</td>
<td>9%</td>
</tr>
<tr>
<td>Metered</td>
<td>1%</td>
</tr>
<tr>
<td>Loading</td>
<td>1%</td>
</tr>
<tr>
<td>Handicapped</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Data collected in the fall of 2016*
Transit Service Frequency
Transit Ridership

Legend
Average Daily Boardings
- 0
- < 30
- 31 - 50
- 51 - 100
- > 101

Water Transit Routes
- Blue
- Harbor Connector

Blue Route
Peak Season (May - Sept.): 1,608 per month
Off Peak Season (Oct. - Apr.): 497 per month

Harbor Connector
Fall 2016 Ridership: 259 average daily riders
Commuter Shed

Legend
Percent of Total Vehicles Traveling on Boston St in AM Peak

- 0%
- 1% - 2%
- 3% - 5%
- 6% - 10%
- 11% - 20%
- 21% - 30%

Morning

21224 23%

21222 12%
*Data collected on a typical Tuesday, Wednesday, or Thursday between 4:00 PM and 6:00 PM in the fall of 2016. License plates recorded as vehicles pass Linwood while traveling eastbound on Boston.*
# Regional Park-&-Ride Lots

*Data collected on a typical Tuesday, Wednesday, or Thursday between 11:00 AM and 1:00 PM*

<table>
<thead>
<tr>
<th>Lot</th>
<th>Utilization</th>
<th>Transit Serving Downtown</th>
<th>Serving Major Roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Marsh</td>
<td>62%</td>
<td>MTA 15, 120</td>
<td>I-95 MD 43</td>
</tr>
<tr>
<td>MARC Martin State Airport</td>
<td>78%</td>
<td>MARC Penn MTA 160</td>
<td>MD 43 MD 150</td>
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<tr>
<td>Essex</td>
<td>28%</td>
<td>MTA 23, 40, 160</td>
<td>MD 150</td>
</tr>
<tr>
<td>Mace Mini</td>
<td>0%</td>
<td>N/A</td>
<td>MD 702 MD 150</td>
</tr>
</tbody>
</table>
Travel Times Comparison - Boston

Inbound Travel Time AM
Haven to Central Along Boston - Roughly 2 miles

- MTA Route 31 - Transit
- Aliceanna/Hudson - Bike
- Promenade - Bike
- Boston/Fleet - Auto
- Boston/Aliceanna - Auto

*AM Travel times unavailable for Route 13

*Vehicle & Bike data collected in the fall of 2016 on typical Tuesday, Wednesday, or Thursday between 7:00 AM and 9:00 AM / Transit data received from MTA

Morning
Travel Times Comparison - Boston

Outbound Travel Time PM
Central to Haven Along Boston - Roughly 2 miles

- MTA Route 13
- MTA Route 31
- Aliceanna/Hudson - Bike
- Promenade - Bike
- Boston/Fleet - Auto
- Boston/Aliceanna - Auto

* Vehicle & Bike data collected in the fall of 2016 on typical Tuesday, Wednesday, or Thursday between 4:00 PM and 6:00 PM / Transit data received from MTA
Freight – Designated Truck Routes

Boston Street is restricted to local truck trips. Eastern Avenue serves as the east-west truck route.

*Data sourced from Baltimore City Official Truck Routes*
Public Questionnaire

- 497 total responses received from Nov. 2016 to Apr. 2017
- 77% of respondents were from the zip code that contains the study area (21224 zip)
- Average respondent age was between 25 and 34
- Majority of respondents’ households (55%) own two cars

https://www.surveymonkey.com/r/BostonCorridorStudy
Zip Code of Respondent’s Residence
Percent of Respondents who travel on Boston Street

**Work trips:**

- Personal Vehicle (drove): 74%
- Walking: 37%
- Bicycle: 19%
- Public transportation - Bus: 9%
- Public transportation - Water: 7%
- Private shuttle/bus service: 2%
- Ride Sharing: 24%

**Non-work trips:**

- Personal Vehicle (drove): 91%
- Walking: 78%
- Bicycle: 30%
- Public transportation - Bus: 10%
- Public transportation - Water: 16%
- Private shuttle/bus service: 1%
- Ride Sharing: 53%
Percent who use park-&-ride lots at least once per week

- Essex or Mace Mini Park & Ride: 0%
- MTA White Marsh: 0%
- Martin State Airport MARC: 2%
- At an informal location: 39%
Rank Modes of Travel

QUESTION
• Rank the following modes of travel: Personal Automobile, Walking, Public Transportation, Biking, Carpoools/Ride sharing, Truck & Deliveries by the priority for study corridor.

TAKEAWAY
• Respondents prioritize
  1- Personal Vehicle
  2- Walking
  3- Public Transit
  4- Biking
Future Development

**North & West of Study Area (Harbor East, etc.)**
- 1.7M sf new office space
- 300,000 sf new retail space
- 2,100 new dwelling units
- 400 new hotel rooms

**North of Study Area (Brewers’ Hill, etc.)**
- 586 new dwelling units

**Hospital Area**
- 112 new hotel rooms

**South & East of Study Area**
- > 1.6M sf new industrial

**Within Study Area:**
- 700,000 sf new office space
- 480,000 sf new retail space
- 1,540 new dwelling units
- > 100,000 sf new industrial
Recommendations
Developing the Recommendations

• Input from Stakeholders
• Fatal Flaw Analysis
• Technical analysis of infrastructure gaps and barriers
• Public Questionnaire

Categories

• Roadway Capacity & Traffic Operations
• Inter-Parcel Connectivity
• Pedestrian & Bicycle Improvements
• Parking
• Commuter Park-&-Ride Lots
• Transit & Harbor Connector
Intersections & Signals

Fleet

Aliceanna

Montford
Intersections & Signals

Clinton

Ponca
Inter-Parcel Connectivity
Pedestrian & Bike Improvements

- Pedestrian Refuge Islands
  - Boston and Hudson
  - Boston and Lakewood
  - Boston and Potomac
  - Boston and Ellwood

- Improved Pedestrian Infrastructure (ADA compliant curb ramps, crosswalk restriping, pedestrian signals, and sidewalks)

- Bike Boulevards
  - Foster and/or Hudson

- Bike Share Stations
  - O’Donnell Square Park
  - Canton Waterfront Park

- Promenade Connection Improvements
  - East/West Connections
  - Boston and Hudson
Commuter Park-&-Ride Lots
Intermodal Connections: Public/ Private Partnerships
**Transit**

- Improve Harbor Connector Landings

- Explore New Harbor Connector Routes from Canton Waterfront Park to Maritime Park & Harborplace

- Recommendations for MTA:
  - Extension of MTA Express Route from White Marsh to Boston Street

- Recommendation for Private and Public Partnership
  - Encourage the establishment of subscription van pool service
  - Encourage the establishment of privately funding micro transit and employee shuttles
Next Steps

- Complete Final Report - June 30, 2017
- Public Comment Period on Final Report (30 Days)
  - Post to DOT website
  - Email to Community Association
  - Can email DOT project manager for a PDF version

http://transportation.baltimorecity.gov/boston-street-multimodal-corridor-planning-study
Thank You

Please contact **Gladys Hurwitz**
City Planner at the Department of Transportation

Gladys.Hurwitz@Baltimorecity.gov
(410) 396-6856