

Silver Line Gateway

June 5, 2017

FMCB

Overview

- MassDOT and the MBTA are jointly implementing the Silver Line Gateway to improve connections between the Seaport and East Boston/Chelsea
- Funding for the second phase of the project (Chelsea Intermodal Center) is included in the Draft FY 2018-2022 Capital Investment Plan
- Staff is updating the Board on progress ahead of the planned April 2018 start of service

Silver Line Gateway Overview

1997-2010: Urban Ring planning efforts identified the need for improved transit connections between Chelsea and the Blue and Orange Lines. Urban Ring project was suspended in 2010.

2012: Silver Line Gateway planning process commenced

2015: Construction began

2018: Revenue service starts in April

COST: \$46.5M for SLG; \$20.5M for Chelsea Intermodal Center



Project Map



- Silver Line Gateway (SL3) becomes a third branch of the Waterfront service
- Follows route of SL1 to Williams Tunnel but bypasses Logan terminals to provide Blue Line transfer at Airport Station
- Service continues on Coughlin Bypass Road in East Boston and new 1.1 mile fully-dedicated busway to Chelsea

Project Purpose and Need

Existing Bus service in Chelsea and the Seaport are at or approaching capacity

Silver Line Gateway Corridor Bus Capacity

Route	Peak Hour Ridership	Peak Demand/Seated Capacity	Peak Demand/Planned Capacity
SLW	546	97%	69%
SL1	319	120%	86%
SL2	651	116%	82%
111	787	112%	80%
116	185	119%	85%
117	296	95%	68%

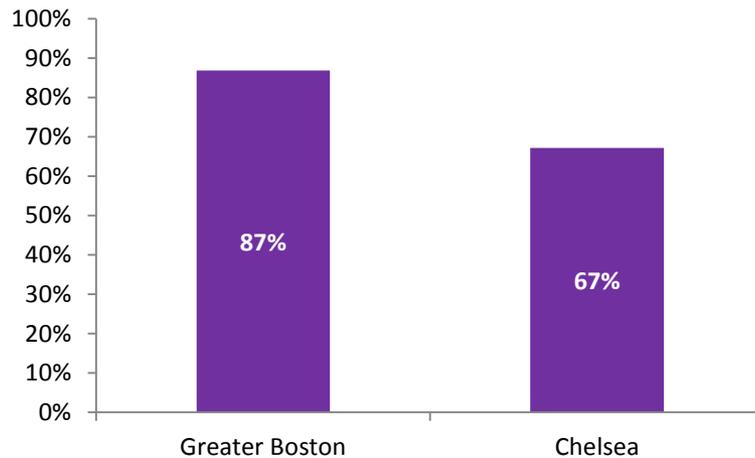
Peak Demand / Seated Capacity: Demand as a percentage of seats on vehicle type used on each route

Peak Demand / Planned Capacity: Demand as a percentage of 140% of seats (DPU standard used by MBTA Service Planning)

Project Purpose and Need

Chelsea has lowest household income in Greater Boston and only the City of Boston has lower rates of auto ownership

Car Ownership (%)



Source: U.S. Census Bureau, 2010-2014 American Community Survey

Median Household Income

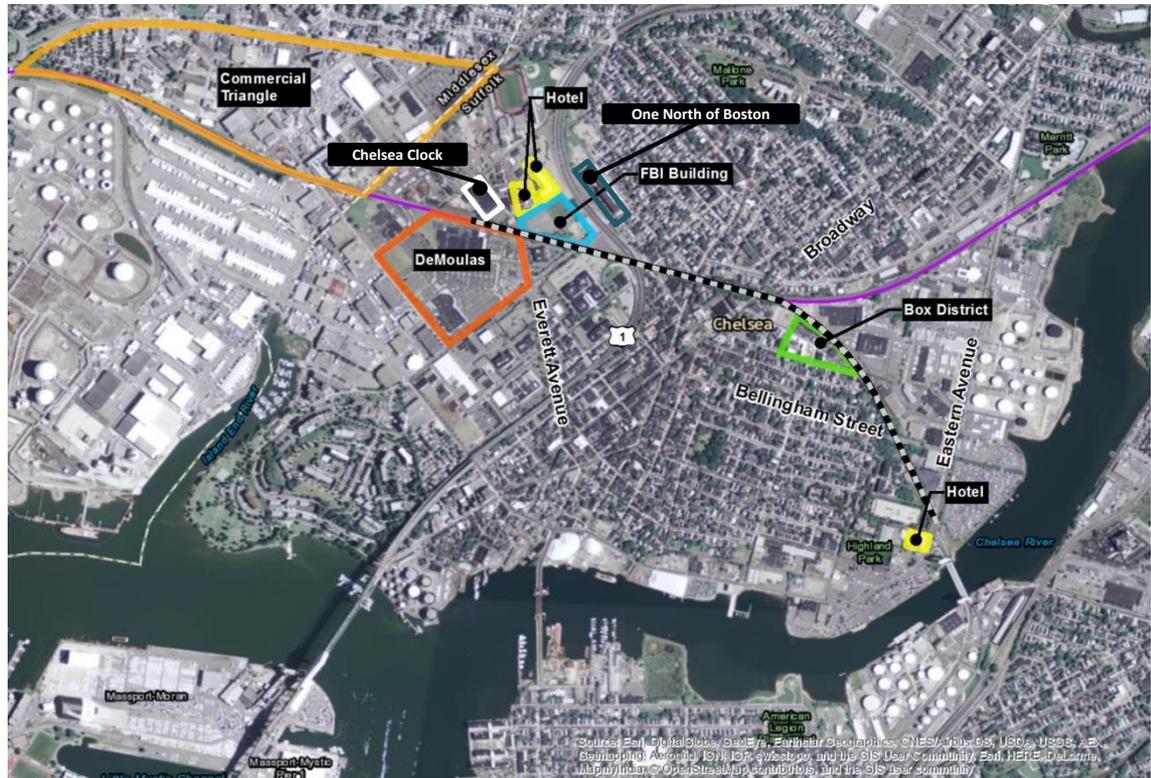
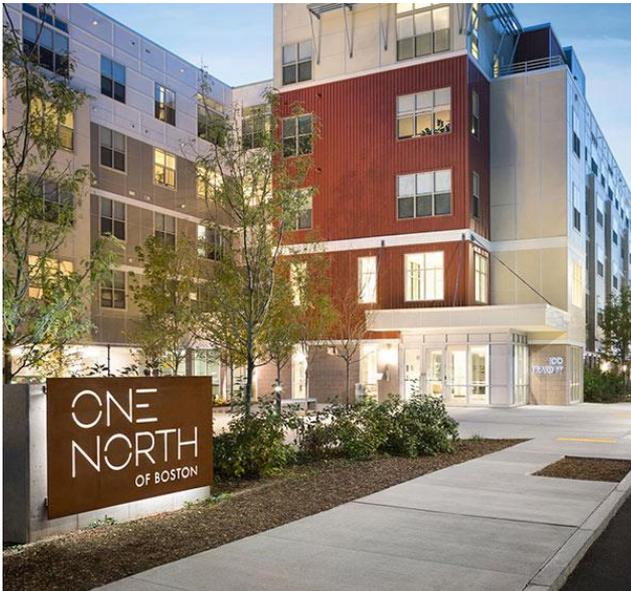


Source: U.S. Census Bureau, 2010-2014 American Community Survey

Chelsea is the second most densely populated municipality in Massachusetts at 15k/sq mi (density of residential areas is 26k/ sq mi)

Project Purpose and Need

Opportunities for economic development



Since construction began in 2015, 650 units of housing, 420 hotel rooms and a new FBI headquarters have been built in the corridor

Project Purpose and Need

Opportunities for economic development – Chelsea Station



Commercial Triangle – 150 acre area recently rezoned for mixed use by the City of Everett (800 units permitted)

Mystic Mall – Market Basket exploring TOD potential of 25 acre site

Chelsea Clock – former factory site permitted for 700 units

Ridership & Anticipated Service Delivery

Projected Ridership – Silver Line Gateway (SL3)

Total Daily Ridership: 8,730

New Transit Trips: 2,500



Anticipated Service Delivery and Vehicle Count

Peak Vehicle Count: 22 (SL1, SL2, SL3) *

On Peak Headways: 10 to 12 mins (SL3)

Off Peak Headways: 12 to 15 mins (SL3)

*These routes require all electric operation in Transitway tunnel

Example Trip Comparisons

Trip Characteristics	Current Network	Silver Line Gateway
Downtown Chelsea to World Trade Center		
Travel Time	37 min	19 minutes
Transfers	2	0
Airport Blue Line Station to World Trade Center		
Travel Time	20 min	7 min
Transfers	1	0

Construction Phasing

Phase 1 – Silver Line Gateway (MassDOT Highway Division):

- Rebuilt Washington Avenue bridge
- 1.1-mile dedicated busway construction
- 0.5-mile shared-use path construction
- Four new bus rapid transit stations

Cost: \$46.5 million

Anticipated Completion Date: March 2018



BRT Station Example: Box District



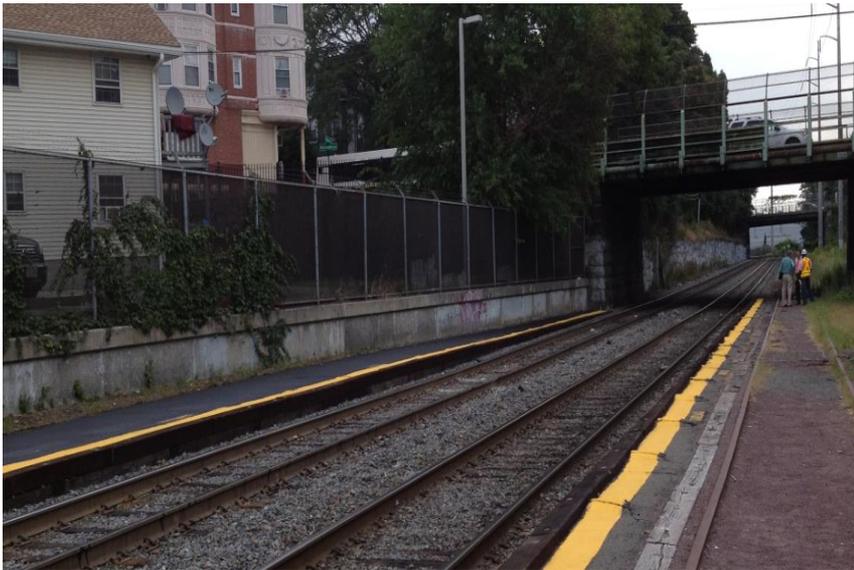
IMAGE PROVIDED BY MA EGEEA, ILLUSTRATION BY BFR

Construction Phasing

Phase 2 – Chelsea Intermodal Center: MBTA is currently designing a new relocated Chelsea Commuter Rail station and a new railroad signaling system to improve traffic flow in Chelsea. The new station will be fully accessible.

Cost: \$20.5 million (funded in Draft FY 2018 – 22 CIP)

Design Phase Anticipated Completion Date: August 2017



Relocated Commuter Rail Station in Chelsea

Highlighted Issue: Chelsea Street Bridge



Operations Challenges:

- SLG route passes over the Chelsea Street Lift Bridge
- Lifts typically last 12 - 30 minutes
- Average of 6 lifts per day
- Lifts occur at unexpected times with little or no warning
- Vessels always have right of way

Proposed Solution:

- Develop a decision support tool
- Analyzes information input by Bridge Operators
- Takes bus location, time of day, vessel composition and direction into account
- Provides a recommended routing strategy for Bus Ops

Highlighted Issue: Chelsea Street Bridge

A Web Page

http://massdot.com/SLGRouteDecisionSupportTool

Logged in as SLGAdmin Log Out

SLG Route Decision Support Tool

Route	Lift Duration	Travel Time	Route	Schedule Delay
Chelsea St Bridge	18	1	19	17
McArdle Detour	-	8	8	6
Route 1 Detour	-	13	13	11

All times in minutes

Short Turn Possible : **YES**

Detour Possible : **YES**

Bridge Lift Information

Lift Start Time: 11:00 AM
Date: August 19, 2014 Tuesday
Vessel(s): Direction - Upstream
2 - Tugboats
1 - Barge

Other Highlighted Issues

- Fare transfer issue at Airport Station under current fare collection system
- Coughlin Bypass Road
- Marketing campaign to promote line

