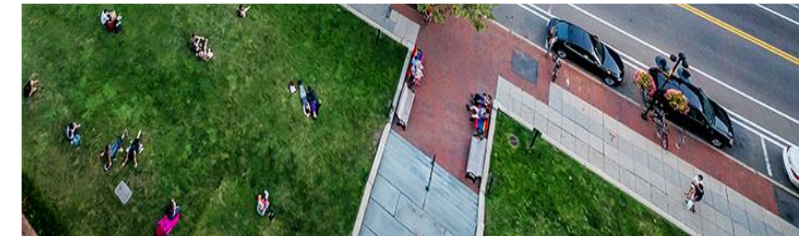
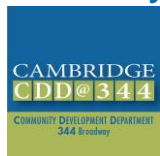


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# City of Cambridge Community Development Department Transit Advisory Committee

January 2023





# Welcome

## **Purpose**

Get feedback from appointed members of the TAC, the City's "community experts"

## **Outcomes**

TAC to provide input to city staff on Silver Line Extension alternatives  
TAC to know the most recent information on City and MBTA projects

## **Process**

TAC to 'raise hand' during presentations and discussions  
Public to type in questions in zoom Q&A or speak verbal comments during public comment period



# **Review: Silver Line Extension Alternatives Analysis Study**

Andrew Reker, City of Cambridge



# Alternatives Analysis Study

## **Purpose**

Assess the feasibility, utility, and cost of different options to provide high quality transit from Chelsea through Everett to Somerville, Cambridge, and/or Boston

## **Outcome**

A preferred alternative for Silver Line extension(s)

## **Process**

Collect ideas, conduct an initial screen, create alternatives, evaluate using goals and objectives



# Metrics

## **Expand mobility and access**

Total daily riders; access to jobs; comparison of transit travel time with driving travel time; access to affordable housing; potential for TOD

## **Advance equity**

Daily ridership for people of color, low-income households; access to jobs for people of color, low-income households; reduction in bus delay for parallel bus routes; evaluation of if the alternatives serve most frequent travel flows for people of color and low-income households

## **Improve safety**

Connections to existing or planned pedestrian and bicycle networks



# Metrics

## **Support climate resilience and sustainability**

Change in transit mode split

Change in greenhouse gas emissions

## **Advance a feasible and implementable alternative**

Ability to phase over time

Inclusion as part of other upcoming efforts or others underway

Extent or proportion of bus priority

Cost effectiveness (e.g. dollar per new rider)



# Two groups of alternatives

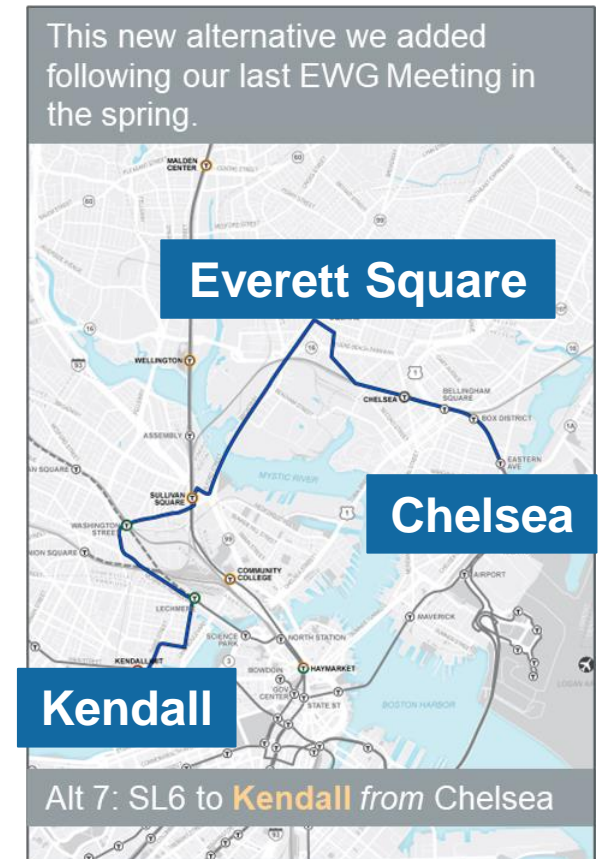
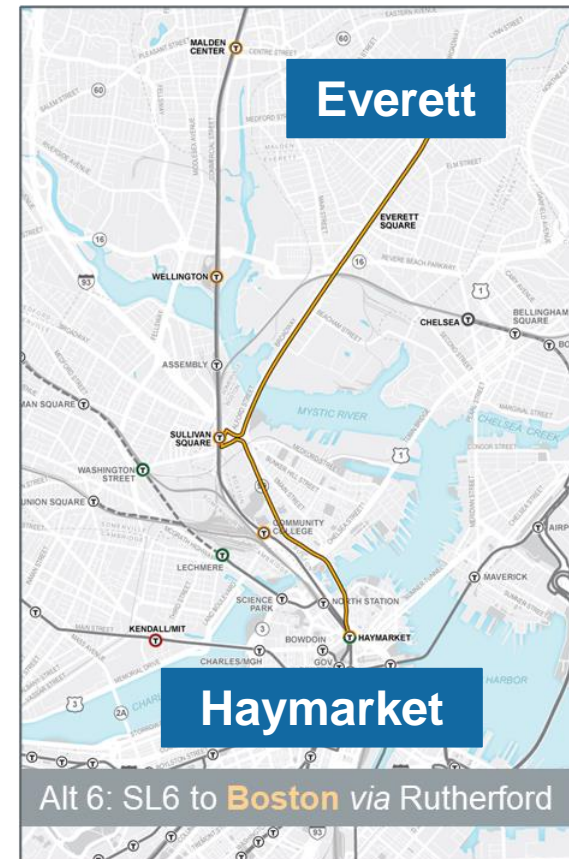
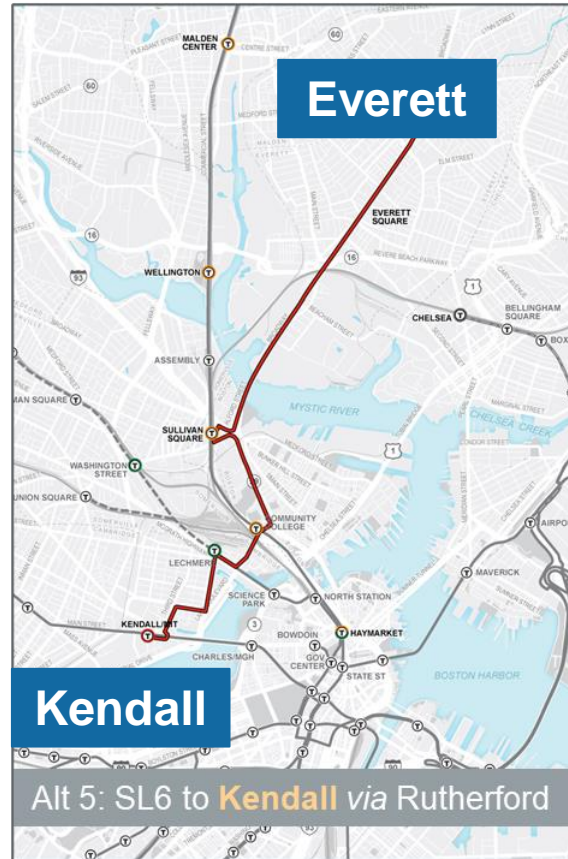
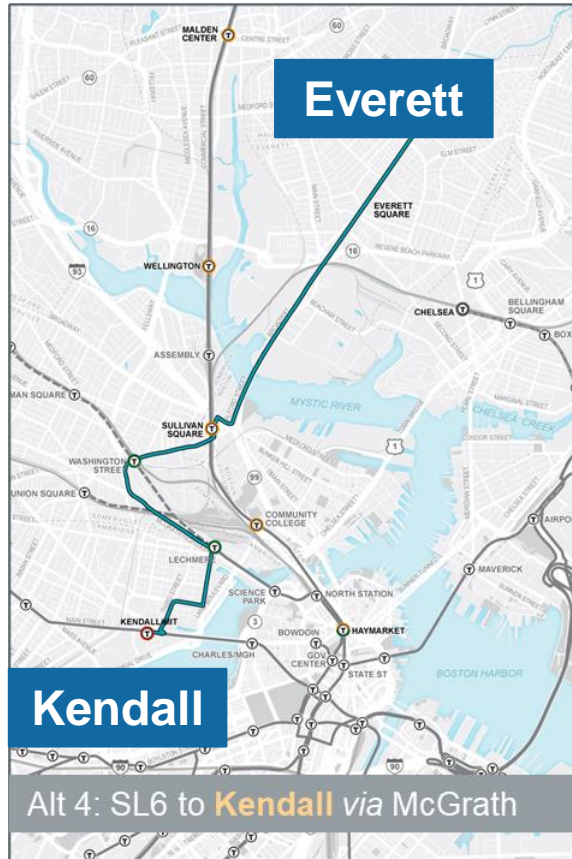
## Extensions of current SL3 (South Station to Chelsea)

- South Station to Malden Center
- South Station to Wellington
- South Station to Sullivan Square

## New route “SL6”

- Everett-Malden line to Kendall via **McGrath**
- Everett-Malden line to Kendall via **Rutherford**
- Everett-Malden line to **Haymarket** via Rutherford
- **Chelsea** Eastern Ave to Kendall via **McGrath**

# SL6 New Service Alternatives



NOTE: SL6 Alternatives 4, 5, and 6 also assume an extension of SL3 to Everett Square. Alternative 7 includes this as part of its primary alignment, though it begins at Eastern Avenue in Chelsea to avoid the requirement for any Chelsea-originating trips to transfer at Chelsea station.





# Key findings for all SL6 alternatives

- Provides excellent access to jobs by transit
- Access does not change much between rush hours and middays
- Increase extents of bus lanes and signal priority (co-benefits for local routes)
- Improve safety along the route and at stations
- Generate a shift to using transit instead of personal vehicles
- Maximize the investments that others will make along the same streets



# Alternative 4

## Where this alternative stands out

Reduces bus delay, connects with regional bicycle network, many extents of bus priority, and good potential for sharing costs

## Where this alternative does not

Does not serve an existing travel flow for people of color and low-income households, requires more buses than available, and experiences slow traffic near Kendall Square

## Alternative 4

Everett

Everett Sq

Sullivan Sq

**McGrath**

Lechmere

Kendall



# Alternative 5

## Where this alternative stands out

Many extents of bus priority

## Where this alternative does not

Does not serve an existing travel flow for people of color and low-income households and experiences slow traffic near Kendall Square

## Alternative 5

Everett

Everett Sq

Sullivan Sq

**Rutherford  
Ave**

Lechmere

Kendall



# Alternative 6

## Where this alternative stands out

Many extents of bus priority, access to jobs, access for residents of affordable housing, potential for transit-oriented development, reduction in bus delay, connections with regional bicycle network, and potential cost sharing

## Where this alternative does not

Total daily riders, cost effectiveness (for new riders)

**Alternative 6**  
Everett  
Everett Sq  
Sullivan Sq  
Rutherford Ave  
**Haymarket**



# Alternative 7

## Where this alternative stands out

Many extents of bus priority, total daily riders, and potential cost sharing

## Where this alternative does not

Requires more buses than available and cost effectiveness (for new riders)

This alternative is similar to Alternative 4

## Alternative 7

**Chelsea**

Everett Sq

Sullivan Sq

**McGrath**

Lechmere

Kendall



# Project team feedback

Asking people to give general feedback and chose how likely people are to use specific alternatives. Alternatives are grouped into two categories:

SL3 extensions to Malden Center, Wellington, and Sullivan

SL6 new routes that we just reviewed

**Silver Line  
Extension  
Feedback  
Form**

[mbta.com/  
slxfeedback](https://mbta.com/slxfeedback)

			SL6			
			KENDALL VIA MCGRATH	KENDALL VIA RUTHERFORD	HAYMARKET	KENDALL FROM CHELSEA
			Alternative 4	Alternative 5	Alternative 6	Alternative 7
GOAL	OBJECTIVE	METRIC				
<b>Mobility + Access</b>						
	Optimize potential ridership	Total daily riders	SL6 Build: 33,800 SL3 Build: 17,100 +/- SL3 No-Build: +4,700	SL6 Build: 32,300 SL3 Build: 17,100 +/- SL3 No-Build: +4,700	SL6 Build: 21,800 SL3 Build: 17,300 +/- SL3 No-Build: 4,800	SL6 Build: 38,500 SL3 Build: 9,100 +/- SL3 No-Build: -3,300
	Connect residents directly with jobs, services, and other daily activities	Number of jobs accessible via 45-minute transit commute (Avergae by stop during AM peak, midday)	AMP (414,000) - MID (413,000)	AMP (420,000) - MID (420,000)	AMP (429,000) - MID (425,000)	AMP (418,000) - MID (406,000)
<b>Expand Mobility and Access</b>	Provide transit travel times that takes a similar amount of time or is faster than driving	Ratio of transit time to drive travel time (AM peak, midday)	75%	75%	74%	65%
	Provide transit connections to existing and planned affordable housing	Number of affordable housing units within ½-mile of an Alternative	2355	1978	3434	2122
	Provide transit service to areas with current or future growth in housing and jobs	TOD Propensity Score (based on 10 criteria, max score of 58)	34	33	38	32
<b>Equity</b>						
	Provide new transit service for people who already rely on transit to get around	Percentage of commuters to jobs accessible by a 45-minute transit commute who rely on transit	AMP (29%) - MID (29%)	AMP (29%) - MID (29%)	AMP (29%) - MID (29%)	AMP (28%) - MID (29%)
<b>Advance Equity</b>	Provide new transit service for people who already rely on transit to get around	Average reduction in daily passenger minutes of delay on bus routes that overlap with the alternative	-7.0	-6.1	-7.0	-4.8
	Make sure people who are likely to rely on transit have transit that matches how much service they need and when	Number of travel flows with more than 5,000 daily trips (weighted by low-income and minority trips) served by the alternative	4	4	4	11
<b>Safety</b>						
<b>Improve Safety</b>	Address identified transportation safety issues along project corridors	Ability for Alternative to provide a connection to an existing pedestrian facility or to retain width for a new facility that is continuous, comfortable, and safe	21% of stops have flagged road segments for ped access concerns	30% of stops have flagged road segments for ped access concerns	30% of stops have flagged road segments for ped access concerns	25% of stops have flagged road segments for ped access concerns
		Ability for Alternative to provide a connection to an existing bicycle facility or to retain width for a new facility that is continuous, comfortable, and safe	90% of stops accessible by bike	81% of stops accessible by bike	89% of stops accessible by bike	75% of stops accessible by bike
<b>Sustainability</b>						
	Increase the number of trips taken by transit in the study area	% change in transit mode split (10 OD Pairs)	Auto: 67% (NB:71%) (-3.3%) Transit: 22% (NB:19%) (3.1%)	Auto: 67% (NB:71%) (-3.3%) Transit: 22% (NB:19%) (3.0%)	Auto: 68% (NB:71%) (-2.8%) Transit: 22% (NB:19%) (2.5%)	Auto: 67% (NB:71%) (-3.4%) Transit: 22% (NB:19%)
<b>Theme: Feasible + Implementable Solutions</b>						
	Potential to Phase: Find opportunities to provide incremental value as resources become available	Number of Silver Line buses needed to operate the alternative (Estimated fleet surplus or deficit)	Vehicles required: 16 (Estimated fleet deficit: 13 vehicles)	Vehicles required: 15 (Estimated fleet deficit: 11 vehicles)	Vehicles required: 13 (Estimated fleet deficit: 9 vehicles)	Vehicles required: 18 (Estimated fleet deficit: 13 vehicles)
<b>Advance Feasible and Implementable Solutions</b>	Synergy with Other Efforts: Explore potential to leverage investments with other processes upcoming or underway	Extent to which investment could be included within other efforts upcoming or currently underway	High	Medium	Medium	High
	Transit Priority: Ability for Silver Line to offer highly reliable bus rapid transit service	Extent of Silver Line that could operate within exclusive transit ROW	75%	80%	90%	80%
	Cost-Effectiveness: Serve as a steward for local funds by furthering concepts that provide the highest benefit for cost	Planning-level cost estimate	Medium-Low (2) (\$150m)	Medium (3) (\$140m)	Medium-High (4) (\$120m)	Low (1) (\$170m)

Thank you for participating in this Transit  
Advisory Committee meeting.

**Stay healthy and well.**

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**Thank You**