



# Improving Bus Service for Watertown

December 9, 2014



# Agenda

- Recap of August 6th meeting
- Transportation Management Association (TMA)
- Corridor Transit Study Scope of Work
- Overview of current MBTA service
- Possible short-term improvements
- Possible medium and long-term improvements
- Next Steps

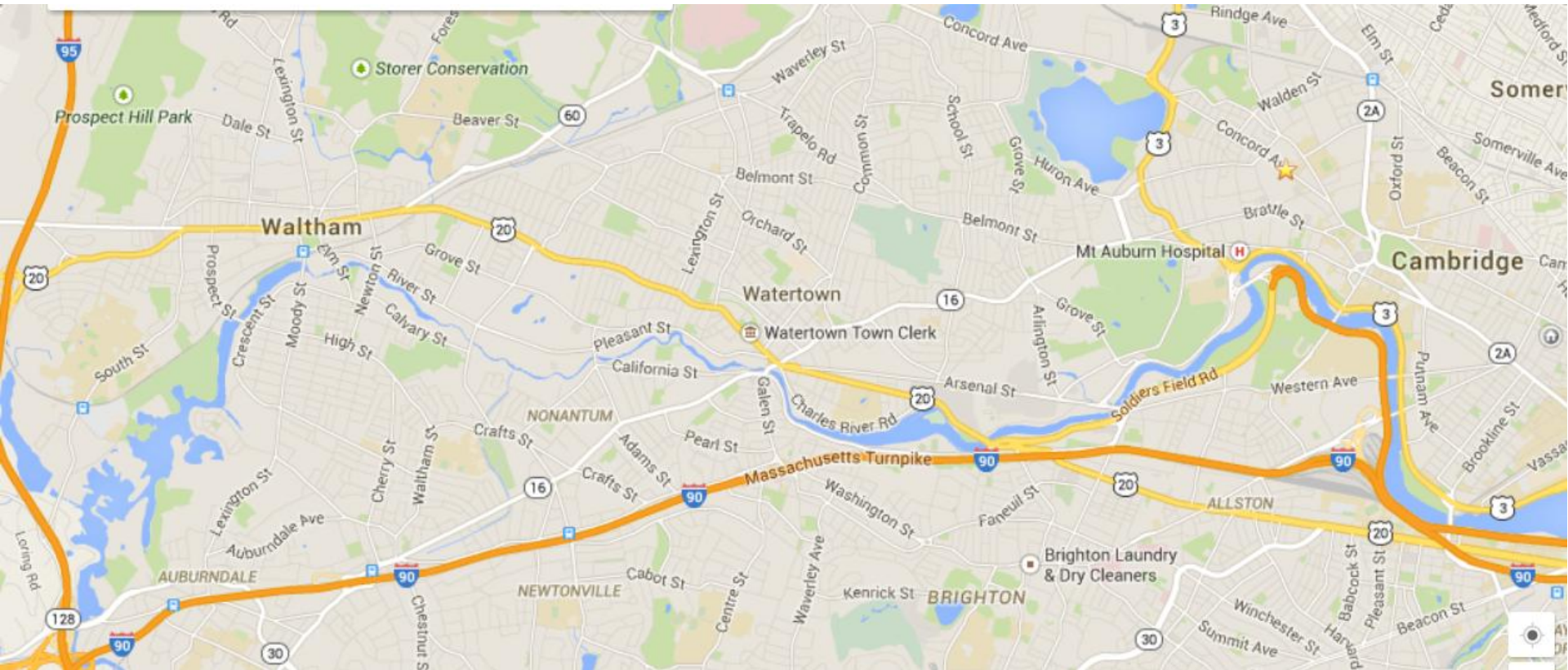
# August 6th Meeting

- Improve bus service quality (trip times, reliability, crowding)
- Transit needs of the new development
- Expand Watertown bus service
- Operate and maintain additional buses
- Possible short and long term strategies

# TMA Discussion

# Corridor Transit Study Discussion





# Watertown MBTA Bus Service

<b>Route</b>	<b>Route Description</b>	<b>Daily Ridership</b>
<b>52</b>	Dedham Mall – Watertown Yard	765
<b>57</b>	Watertown Yard – Kenmore Station	12,059
<b>59</b>	Needham Junction – Watertown Square	1,497
<b>70/70A</b>	Cedarwood – Central Sq. Cambridge (incl. 70A)	7,357
<b>71</b>	Watertown Square – Harvard Station	5,548
<b>73</b>	Waverley Square – Harvard Station	6,424
<b>502</b>	Watertown Yard – Copley Square	1,205
<b>504</b>	Watertown Yard – Downtown Boston	1,547
<b>554</b>	Waverley Square – Downtown Boston	658
<b>558</b>	Auburndale – Downtown Boston	432



# Watertown MBTA Bus Service

- Routes 70/70A, 71, and 73 are most heavily used routes by Watertown travelers
- Routes 71 & 73 recently upgraded as part of the Key Bus Routes Improvement Program.
  - Some changes on the 73 will be completed as part of the Trapelo Road re-construction.
  - Trackless trolleys are being replaced by diesel buses due to Trapelo Road re-construction through 2015.
- The 500-series are express routes serving Downtown & Back Bay via the MassPike
- Route 57 is a Key Route with a Watertown terminus, but with very few stops in Watertown

# Improvement Opportunities



# Recent / What's Underway

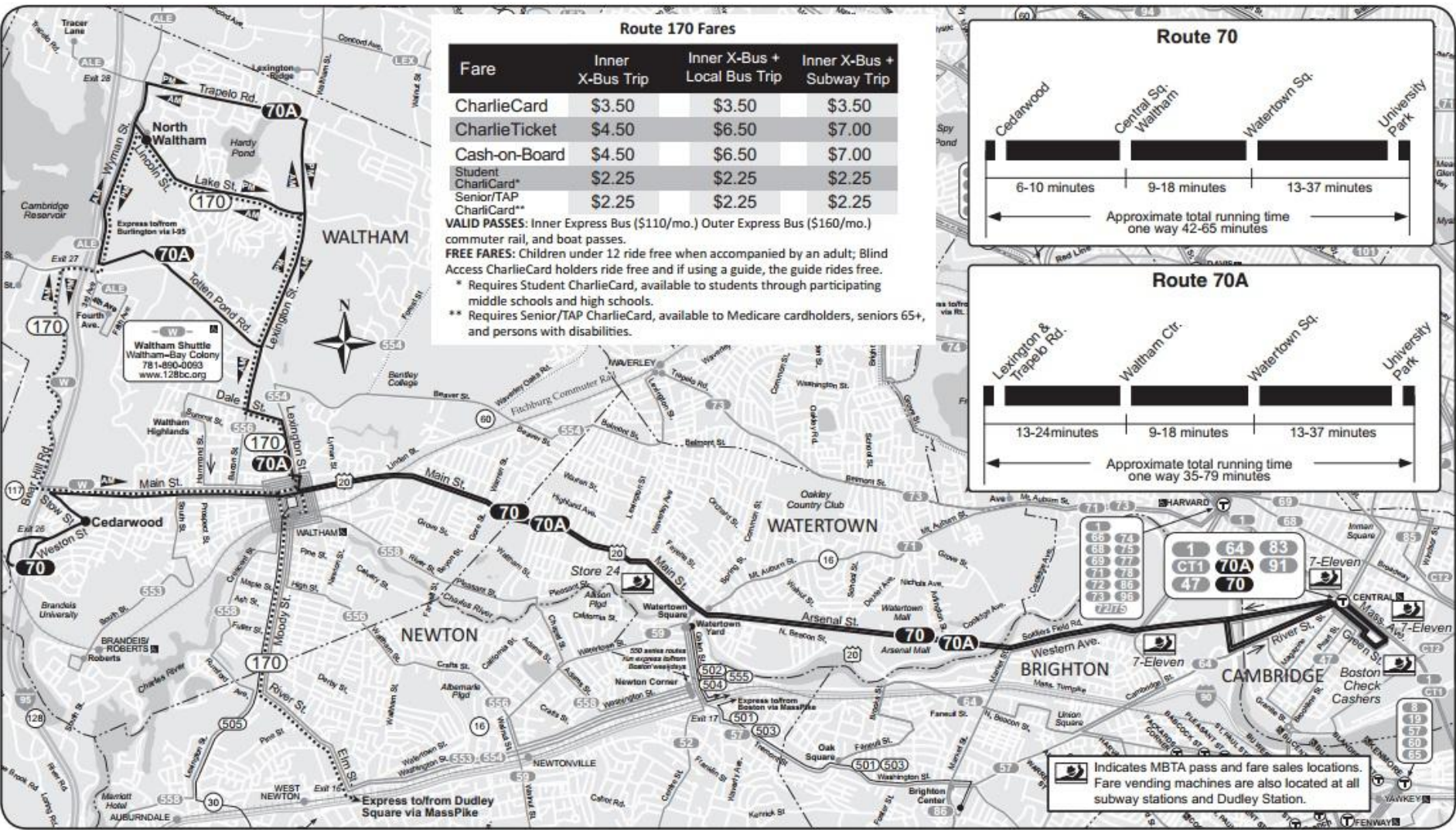
- On Routes 70/70A: More buses and 6 additional round trips added to weekday evenings and Sundays
- Key Bus Route Improvements, including stop spacing, accessibility, and amenities, recently completed on the 71, and underway on the 73



# Early Action Opportunities

- **Add or Reallocate Off-Peak Bus Trips**
  - Target most crowded times as resources become available
  - Shift resources from less crowded times to more crowded times
- **Improve Reliability**
  - Use GPS data to give buses the right amount of run time and recovery time. May require either frequency adjustments or additional buses/drivers, as resources allow
- **Coordinate 70 and 70A Service / smooth headways**
  - High priority since 74% of riders can use either route
  - Headway / frequency irregularity leads to bunching and lower effective frequencies than more evenly spaced trips

# Route 70/70A Cedarwood, North Waltham or Watertown Sq. - University Park



Route 170 Fares

Fare	Inner X-Bus Trip	Inner X-Bus + Local Bus Trip	Inner X-Bus + Subway Trip
CharlieCard	\$3.50	\$3.50	\$3.50
CharlieTicket	\$4.50	\$6.50	\$7.00
Cash-on-Board	\$4.50	\$6.50	\$7.00
Student CharlieCard*	\$2.25	\$2.25	\$2.25
Senior/TAP CharlieCard**	\$2.25	\$2.25	\$2.25

**VALID PASSES:** Inner Express Bus (\$110/mo.) Outer Express Bus (\$160/mo.) commuter rail, and boat passes.  
**FREE FARES:** Children under 12 ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.  
 \* Requires Student CharlieCard, available to students through participating middle schools and high schools.  
 \*\* Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

**Route 70**

Cedarwood      Central Sq. Waltham      Watertown Sq.      University Park

6-10 minutes      9-18 minutes      13-37 minutes

← Approximate total running time one way 42-65 minutes →

**Route 70A**

Lexington & Trapelo Rd.      Waltham Ctr.      Watertown Sq.      University Park

13-24 minutes      9-18 minutes      13-37 minutes

← Approximate total running time one way 35-79 minutes →

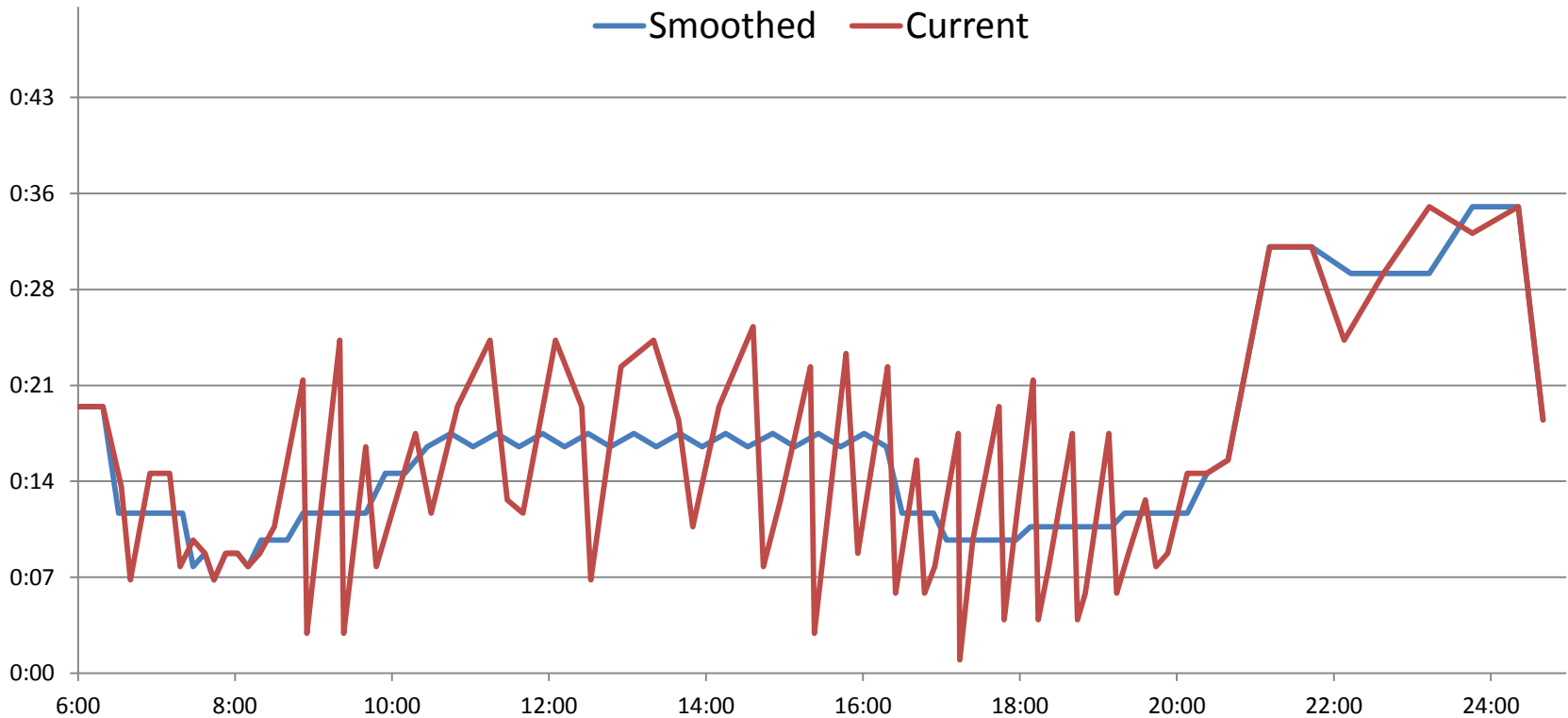
Indicates MBTA pass and fare sales locations. Fare vending machines are also located at all subway stations and Dudley Station.

# Route 70/70A Profile

Route	Route Segment	Length (miles)	Headways (peak/off peak minutes)	Trip time (minutes)	# of Stops (inbound / outbound)	Share of route ridership
Combined 70/70A	Waltham Center – Cambridge	8.0	6-16/10-40	22-55	43/50	74%
Unique 70	Cedarwood – Waltham Center	2.4	20-30/20-40	6-10	16/16	17%
Unique 70A	North Waltham – Waltham Center	6.7	35/40-60	13-24	33/18 or 17/34	9%

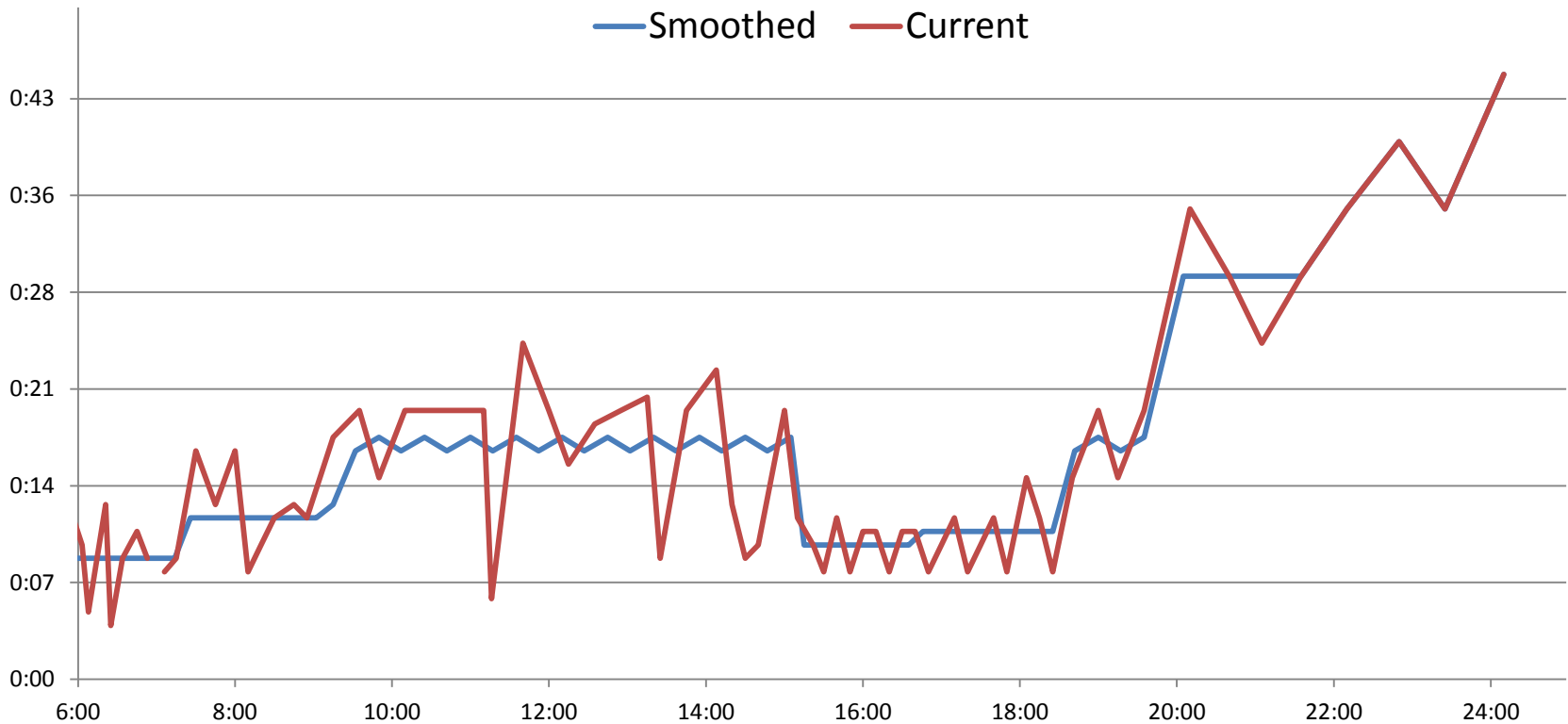
# 70/70A Coordination, inbound

Route 70/70A Weekday inbound scheduled headways at Central Sq Waltham



# 70/70A Coordination, outbound

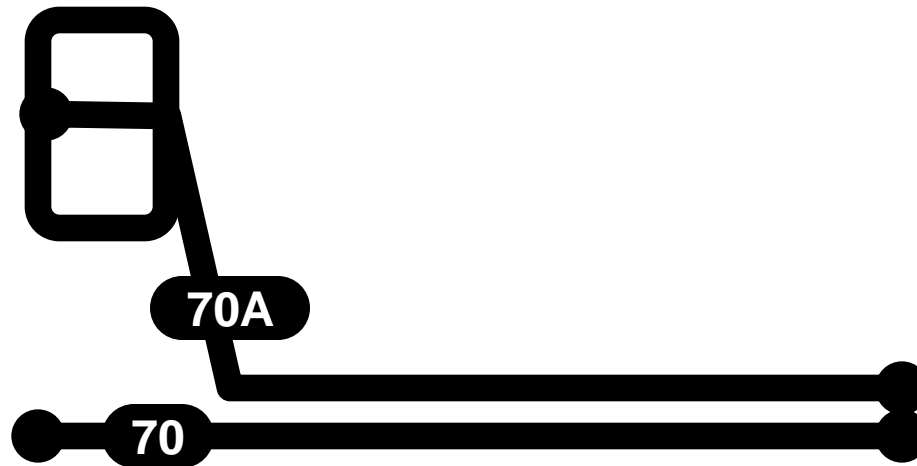
Route 70/70A Weekday outbound scheduled headways at Central Sq  
Cambridge





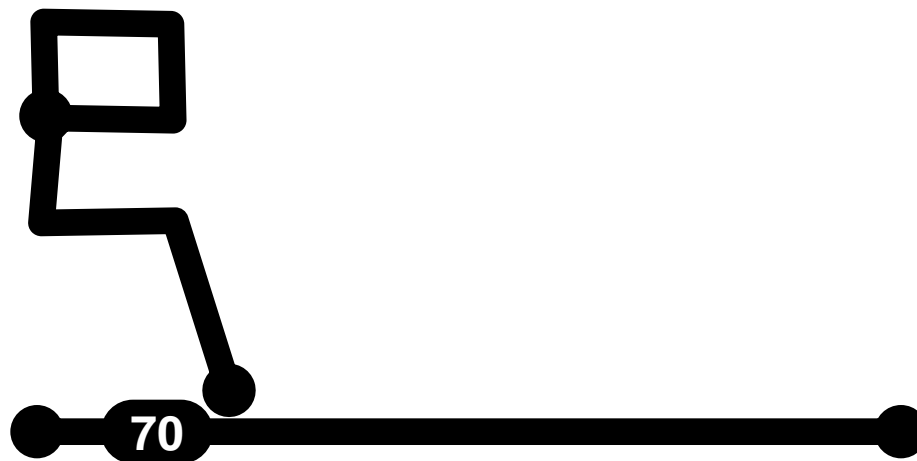
# What would it take to smooth 70/70A scheduled headways?

- Using existing 70/70A route structure, would require adding wait time at Waltham Center, which requires extra buses and operators. Not feasible.



# What if we restructure the routes and split off the 70A from 70?

- North Waltham could have one bus to Waltham Center every 40 minutes (compared to 35-60 minutes to Cambridge now).
- Cedarwood could see 50% more trips and more evenly spaced trips
- Most current 70/70A riders—74% of riders—would see better scheduled frequencies—9% inbound and 4% outbound—with same number of trips. May also contribute to less “unscheduled” bunching.
- Route structure changes would require public process, more survey of existing customers, and conversations with affected users—especially in North Waltham.



# Key Bus Route Improvement Program— possible model for Route 70 improvements

- 850+ bus stops
- Routes with highest ridership & most frequent service
- 15 Routes Account for 33% of Bus Ridership
- Over 35% of stops serve minority/low Income neighborhoods

## ■ **More reliable bus service**

- Less bus bunching & overcrowding

## ■ **Faster trips**

- Fewer bus stops & reduced delays

## ■ **Improved safety & accessibility**

- For seniors and persons with disabilities
- Optimizing stop locations for safety and security

## ■ **Enhanced passenger amenities**

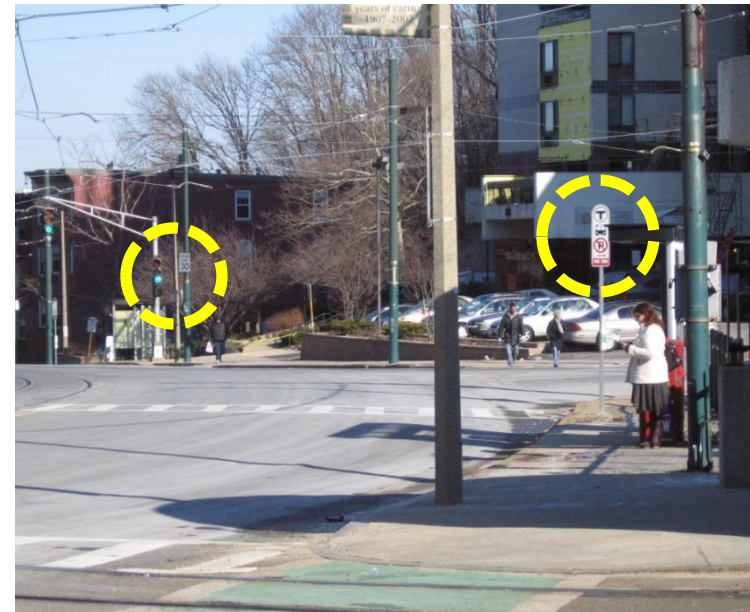
- Shelters, benches, signage, trash receptacles



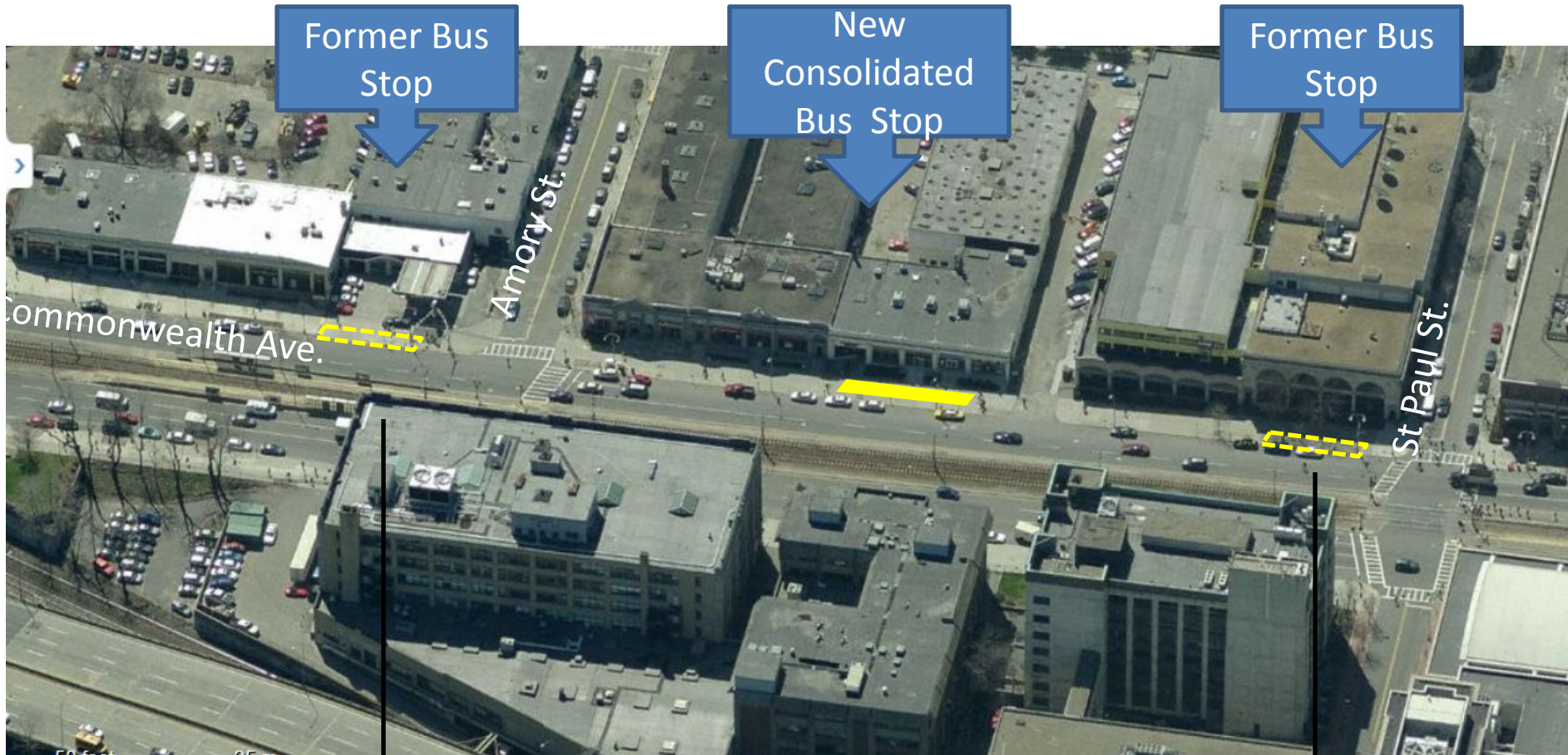
# Optimizing stop spacing to minimize passenger travel time

MBTA Standard: All stops shall be spaced between 750' and 1300'

Route 70/70A	# of bus stops	Stops closer than 750'	Stops closer than 500'
Inbound	87	50%	14%
Outbound	92	50%	26%



# Bus Stop Consolidation



Existing Stop Spacing: 560'  
(Less than MBTA Minimum of 750')

# Accessibility & Safety

- Move stops to safer locations
- Lengthen stops for full curbside access
- New ADA landing pads
- Reconstructed sidewalks
- New pavement markings and stop signage



Buses blocking crosswalks



Uneven surface-tripping hazard

# Customer Comfort & Convenience

- Shelters
- Benches



# New Bus Stop Signs & Pavement Markings





# Signal Improvements / Transit Signal Priority

- Buses running behind schedule can request a longer green light to speed up service
- Currently active at four locations on Route 57 (plus eight locations on the Silver Line)
- Under consideration at additional Boston intersections. Intersections must be connected to Boston's traffic control center.
- Cambridge and Brookline are also considering TSP



# Typical Queue Jump / Right Turn Lane



## Existing

- Bus stop is nearside
- Westbound bus gets delayed in traffic queue at signalized intersection



## With Queue Jump Lane

- Bus stop moved to farside
- Bus bypasses most of queue by utilizing right turn lane to go straight.

# Other Potential Improvements



Dedicated Bus Lanes



Fare Collection Improvements

# Other Opportunities

- Improvements to the Mount Auburn Street/Fresh Pond Parkway intersection to reduce congestion
- Fare collection: MassDOT study currently underway for future implementation
- Implement parking restrictions during peak hours
- Evaluate possible need for extension of bus routes from Pleasant St. & Bridge St. to Pleasant St. & Watertown Yard

# A Bus Facility in Watertown Yard?

- Historically opposed by the Town due to traffic concerns
- Existing facility not code compliant. Would require costly renovation
- Small size would create an inefficient operation
- Will be considered as part of a larger systemwide bus facility strategic plan.



# Next Steps

- MassDOT to initiate corridorwide Transportation Study
- MBTA to evaluate feasibility of service changes along the Route 70/70A
- Survey of North Waltham customers to understand travel patterns
- Public process along Route 70/70A corridor to support route structure changes

# Contact Information

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