Massachusetts Avenue
Bus Priority Pilot

Public Forum

November 14, 2018
Forum Overview

- Introductions and presentation (45 minutes)
- Q & A (15 minutes)
- Next steps (10 minutes)
Overview and Benefits
Public Transit / Buses

- The region is growing economically and regional traffic is increasing
- Public transit is the most efficient way to capture and serve that growth in a sustainable way, reduce congestion, relieve demand for parking
- A 30% increase in transit trips in the region is predicted by 2035
- Bus service suffers from significant delay and reliability challenges
MBTA Ridership in Arlington

Route 77
7,600+ riders/day

Route 79
1,200+ riders/day

Route 350
1,600+ riders/day

Over 10,000 riders/day
Time Travel Variance

Inbound minutes between scheduled and actual departure times

50th Percentile

3-5 minutes behind schedule

90th Percentile

10-20 minutes behind schedule

Causes

• Long Wait Times
• Overcrowding
• Bus Bunching
Process and Methodology

- Review of entire Mass Ave corridor
  - Data Collection
  - Observations
  - Field Assessment
- Conceptual Design
  - Potential Alternatives
  - Range of opportunities
- Public Review and Input Throughout Process
- One-Month Pilot Program
  - Post-Pilot Assessment
Timeline

April-June: Field Work and Data Collection, including stakeholder meetings
May 16: BRT Educational Forum
June-August: Corridor Scenario Development (Conceptual Design of Dedicated Bus Lane, Queue Jumps, Bus Stop Relocation and Related Improvements)
May-October: Stakeholder Meetings in East Arlington
August 15: Alternatives Scenarios Forum
August-September: Implementation
October 9-November 9: Bus Priority Pilot
November 14: Final Forum
November-December: Pilot Evaluation
Arlington Pilot Goals

1. Improve Traffic Flow
2. Reduce Travel Time
3. Increase Reliability
Criteria Used to Choose Pilot

- Bus Travel Time
- Bus Reliability
- Vehicular Traffic
- Intersection Queues
- Pedestrian Accommodation
- Bicycle Accommodation
- On-Street Parking Displacement
- Feasibility

Impact Designation:
- Positive
- Slightly Positive
- Neutral
- Slightly Negative
- Negative
Pilot
Arlington Bus Priority Pilot

Pilot
• Minimal construction; cones, signal changes, signs, education and enforcement
• October 9 - November 9, 2018 during morning commute eastbound

Features
• Mass Ave Eastbound – dedicated bus lane Varnum Street to Alewife Brook Parkway
• Bus queue jump at Lake Street and Alewife Brook Parkway
• Bus stop relocation at Lake Street
Mass Ave at Lake Street

- Bus stop relocated to far side of intersection
- Relocated signs and markings for bus stop
- Transit Signal Priority (TSP) installed
- Queue jump for buses in right turn lane
- *All features to remain at end of pilot*
Mass Ave at Lake Street
Mass Ave between Varnum Street and Alewife Brook Parkway

- Dedicated bus lane in parking lane 6-9 am
- Delineated by signage and traffic cones
- Police enforcement of no parking, driving, or standing in dedicated lane
- Operation as bus and bike lane

*All features removed at the end of the pilot*
(Sidewalk bumpout reconstruction at Lafayette is conditioned upon decision of the permanent dedicated lane.)
Mass Ave between Varnum Street and Alewife Brook Parkway
Mass Ave at Alewife Brook Parkway

- Lane assignment changed in the eastbound direction
- Traffic Signal changed to split phase
- Queue jump for buses and bikes in the right turn only lane

*All features to remain at end of pilot*
Mass Ave at Alewife Brook Parkway
Mass Ave at Alewife Brook Parkway
Feedback and Data
Pre-Pilot Survey

- Opened the week before the pilot started
- 314 responses
- Respondents: drivers (51%), bus riders (26.5%), walkers (7.5%), cyclists (10%), other (5% - mostly multiple modes)
- About 75% of respondents travel on Mass Ave 4+ days per week
- 85% familiar with the BRT Pilot before it started
Pre-Pilot Survey

• Varying levels of satisfaction with how existing Mass Ave (without Pilot) functions; 36% of all respondents satisfied, 40% dissatisfied

• Majority of bus riders (2/3) dissatisfied or very dissatisfied

• Respondents using other modes generally satisfied or neutral

Based on your typical mode of travel on Mass Ave, how satisfied are you with how the street functions?
Pre-Pilot Survey

- Most respondents (61%) comfortable traveling on Mass Ave

- Bicyclists least comfortable (25%)

![Comfort Level Bar Chart]

**How comfortable are you in traveling along the corridor in your typical mode of travel?**

- Very Comfortable: 0.00%
- Comfortable: 10.00%
- Neutral: 20.00%
- Uncomfortable: 40.00%
- Very Uncomfortable: 50.00%
Pre-Pilot Survey

• Traffic and congestion frequently cited as issues on Mass Ave
• Bus riders noted heavy traffic which creates slow travel conditions, as well as lack of bus reliability and bus bunching
• Safety
  o Lack of visibility and predictability of other road users makes travel uncomfortable and stressful
  o Pedestrian and bicycle safety a concern for all users – need more continuous bike lanes and improved crosswalks
Waze Data

• Monitoring at 8:30 am from beginning of Pilot with regular check-ins at same time on weekday mornings

• Additional delays between Lake Street and Alewife Brook Parkway during first few days of the pilot (5-8 minutes more than usual)

• After second week, traffic delays went back to usual
Evaluating Our Success: Bus Rider Surveys

Results from 274 surveys conducted by street teams at bus stops from Arlington Heights to Thorndike Street from 7-9 am on 10/16 (Tues), 10/17 (Wed) & 10/18 (Thurs)
Pilot Survey

How often do you ride the bus on Mass Ave?

- 4+ days a week: 71.3%
- 2-3 days a week: 19%
- 1 day a week: (small slice)
- Less than 1 day a week: (small slice)
Pilot Survey

How satisfied are you with the dedicated bus lane on Mass Ave?

- Satisfied: 64.2%
- Somewhat satisfied: 18.5%
- Neutral: 12.1%
- Somewhat dissatisfied: 3.4%
- Dissatisfied: 0.8%
What people said
(about the dedicated bus lane)

The ride was so much faster on the 77 and all the stress I normally feel about getting on a bus that is immediately clogged in congestion went away.

The dedicated bus lane only saved me only a portion of the time I lose waiting long periods for the 77 bus to show up.

So much faster than before. Make it permanent.

It makes my bike commute faster!

I am extremely happy with the dedicated bus lane on Mass Ave. It substantially reduces the commute time. I wish that it extended up Mass Ave into Arlington and further down Mass Ave in Cambridge.

No doubt it’s improving situation in East but bunching past the center to heights is not fixed.

It still feels like buses arrive in an unpredictable schedule and doubled up sometimes.

Much faster! But too short

Needs to be longer

Noticeable improvement in speed

A great and flexible use of space during the peak hours

Huge improvement at alewife parkway
Pilot Survey

How would you rate your overall bus experience on Mass Ave in Arlington since the pilot was implemented?

- 64.3% Positive
- 17.5% Somewhat positive
- 15.2% Neutral
- 0% Somewhat negative
- 0% Negative
What people said
(about their overall bus experience)

The dedicated bus lane has been amazing! It's been great to jump ahead of traffic and get into Cambridge faster. If buses ran more frequently then my experience would be positive. It has created a bit of a bottleneck of traffic right after the light at Alewife Parkway.

It is such a relief to not have to sit in traffic in the morning - the bus lane has taken 10 minutes off of my commute. The population of Boston and the surrounding suburbs is going to continue to increase and roadways do not have the capacity for more vehicles. More people should be incentivized to take public transit - providing a bus lane is one way of doing so. People will sacrifice some convenience if those sacrifices are offset somewhere else.

It cut down on my commute time and with the 79 bus only running every 30 min it allowed me to take the later bus and get to work at the same time the earlier bus got me there with out the dedicated bus lane.

I saw minimal improvement in my commute. Either a larger implementation of a bus lane is necessary or cooperation with Cambridge to make the route more efficient is necessary.

Less stress, more reliable

Buses still late

Better but could be better

Bunching & crowding are still a problem

some drivers are blocking the lane from cross streets
Pilot Survey

Do you feel your bus trip is faster with the new dedicated lane & intersection improvements?

- 31.8% Faster by 1-3 minutes
- 20.2% Faster by 4-6 minutes
- 17.8% Faster by 7-9 minutes
- 15.5% Faster by 10+ minutes
- 14.7% Not faster
Pilot Survey

Since the Town & partners made changes to Mass Ave, have you changed how often you take the bus?

- I take the bus on Mass Ave more often. (74%)
- I take the bus on Mass Ave less often. (24.8%)
- I take the bus on Mass Ave as often.
- This does not apply to me (e.g., I have not come here before or I am not familiar with the changes.)
Pilot Survey

Should the Town of Arlington and the MBTA make this dedicated bus lane permanent?

- Yes: 94.7%
- No:
Thank you for the art installations!

PLEASE PLEASE MAKE THIS PERMANENT!! And please work with Cambridge to extend the bus lane farther onto Mass Ave, specifically through Cameron Street and at Rindge Ave.

Looks like parking is pretty underutilized up farther on Mass Ave so great opportunity to extend the bus lane.

I was finally on time!

Please make sure you remember the bike benefit when deciding!

It turned a frustrating commute into an acceptable one. Please keep it!

It has improved safety on this stretch of road and I thank you.

Make sure vehicles exiting cross streets don’t block bus lane.

Make it longer past Lake St.
Preliminary MBTA Data

- Pilot Data – 10/9 – 10/24
- Pre-Data – 9/10 - 10/5
- Measured from 260 Mass Ave to one stop past Alewife Brook Parkway
  - Rte 77 – Magoun Street
  - Ret 79/350 - Alewife
Route 77 – Pilot Corridor

50th Percentile – Average Travel Time

Overall Route 60 minutes

Pre-Pilot Travel Time

Pilot Travel Time

5 – 6 minute savings in Corridor

50% Travel Time Reduction
Route 77 – Pilot Corridor

90th Percentile – Typical Bad

Overall Route: 105 minutes (60)

Pre-Pilot Travel Time

Pilot Travel Time

10+ minute savings off typical delayed trip
40% reduction in variability of trip times
Route 77

Overall Route – Corridor Length
5.25 miles

50th Percentile – Pre-Pilot Travel Time
60 minutes

50th Percentile – Pilot Travel Time
54 minutes
Route 77

- Overall Route – Corridor Length: 5.25 miles
- 90th Percentile – Pre-Pilot Travel Time: 60 minutes (21%)
- 90th Percentile – Pilot Travel Time: 54 minutes (12%)
Travel Time Savings

Route 79/350

Route 77
Variability Improvement

Route 79/350

Travel time variability

Route 77

Travel time variability
Conclusion/Lessons Learned

- Very positive feedback from bus riders and people bicycling
- Preliminary MBTA data extremely promising with significant improvement in travel times and reliability
- Dedicated lane improves street function for bus riders (and bicyclists)
- Low impact on vehicle traffic compared to typical conditions
- Low impact to on-street parking from bus lane due to low utilization in 6-9 am timeframe
Next Steps

- Post-Pilot survey open until November 30
- Review full set of MBTA data and feedback November-December
- Deliver report in early 2019 on recommendations for permanent bus lane
- Continue work at Alewife Brook Parkway intersection and signal modifications
- Investigate pedestrian safety improvements
- Add TSP to Mass Ave signals – also added to Jason and Mill Street intersection
- Consider level platform boarding
- Work with MBTA and Cubic to implement off-board fare collection system
- Explore BRT elements on Broadway and broader application of BRT elements along other sections of Mass Ave
Thank You

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