



THE  
BRONX  
All-America City

East Fordham Road & Valentine Avenue



# Select Bus Service on the Bx12:

A BRT Partnership Between the New York City DOT and MTA New York City Transit

Transportation Research Board  
Bus Route Restructuring: Bus Transit Systems (AP050)  
January 12, 2009

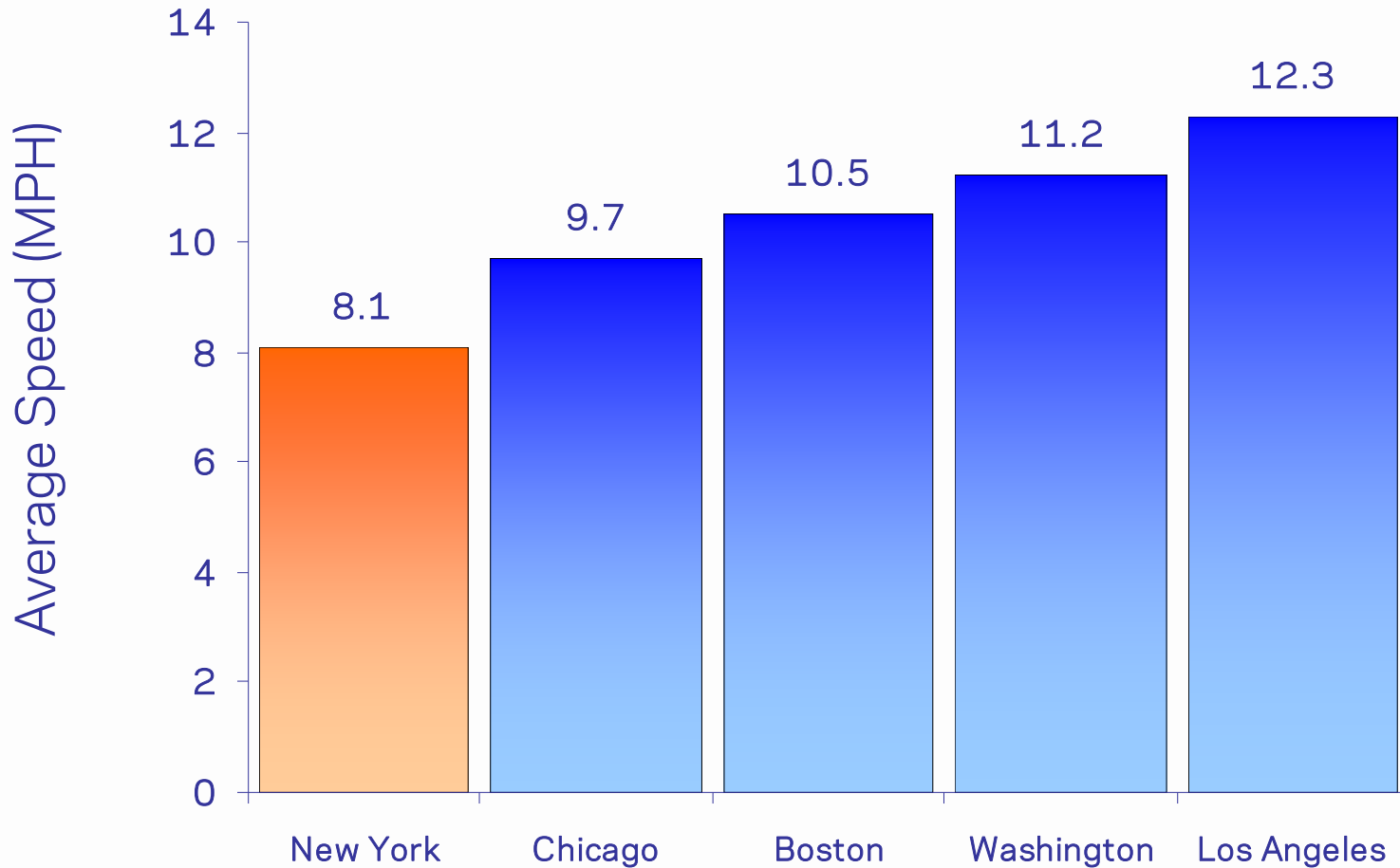
# Outline

- History and Background
- Project Description
- Project Results
- Lessons Learned
- Next Steps

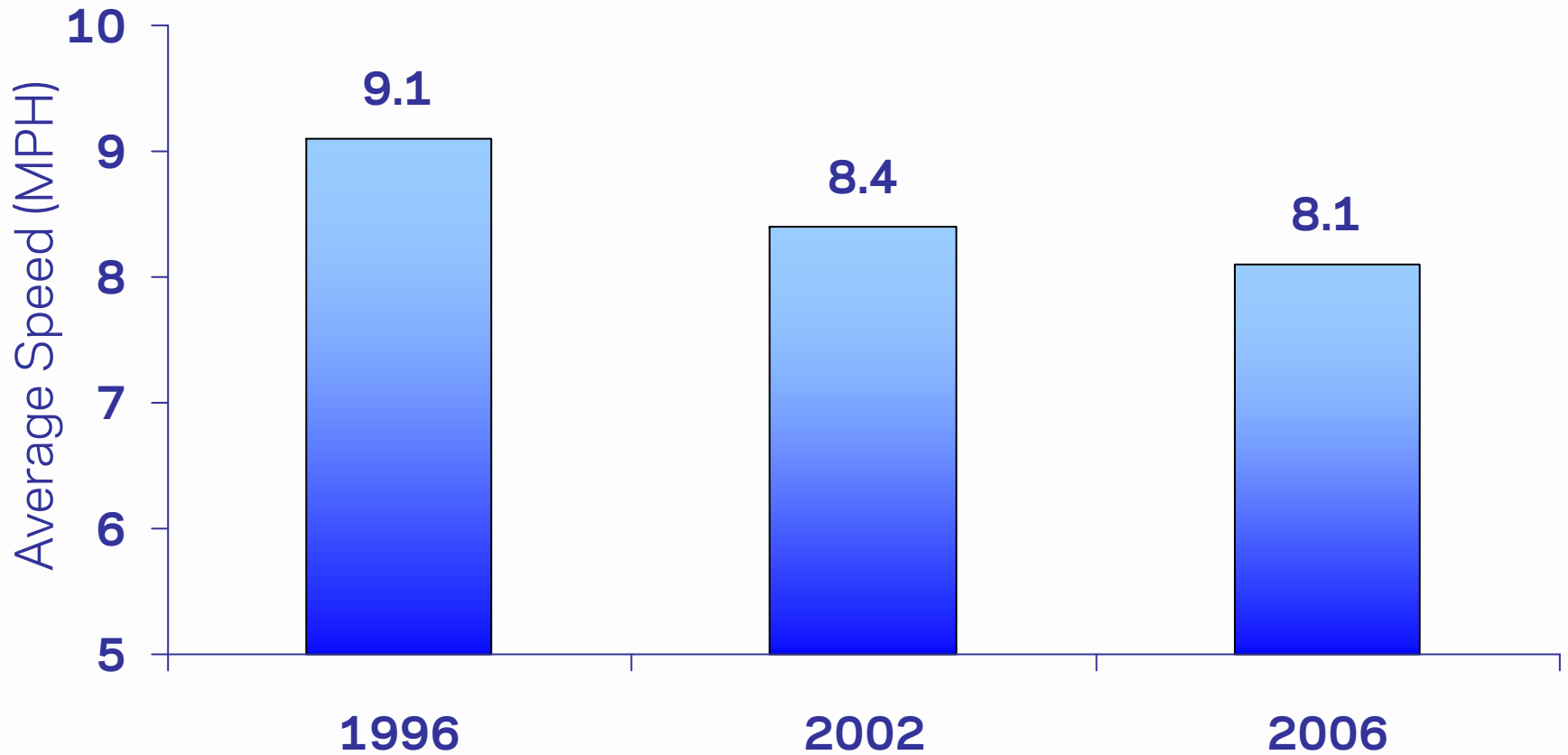
# Background

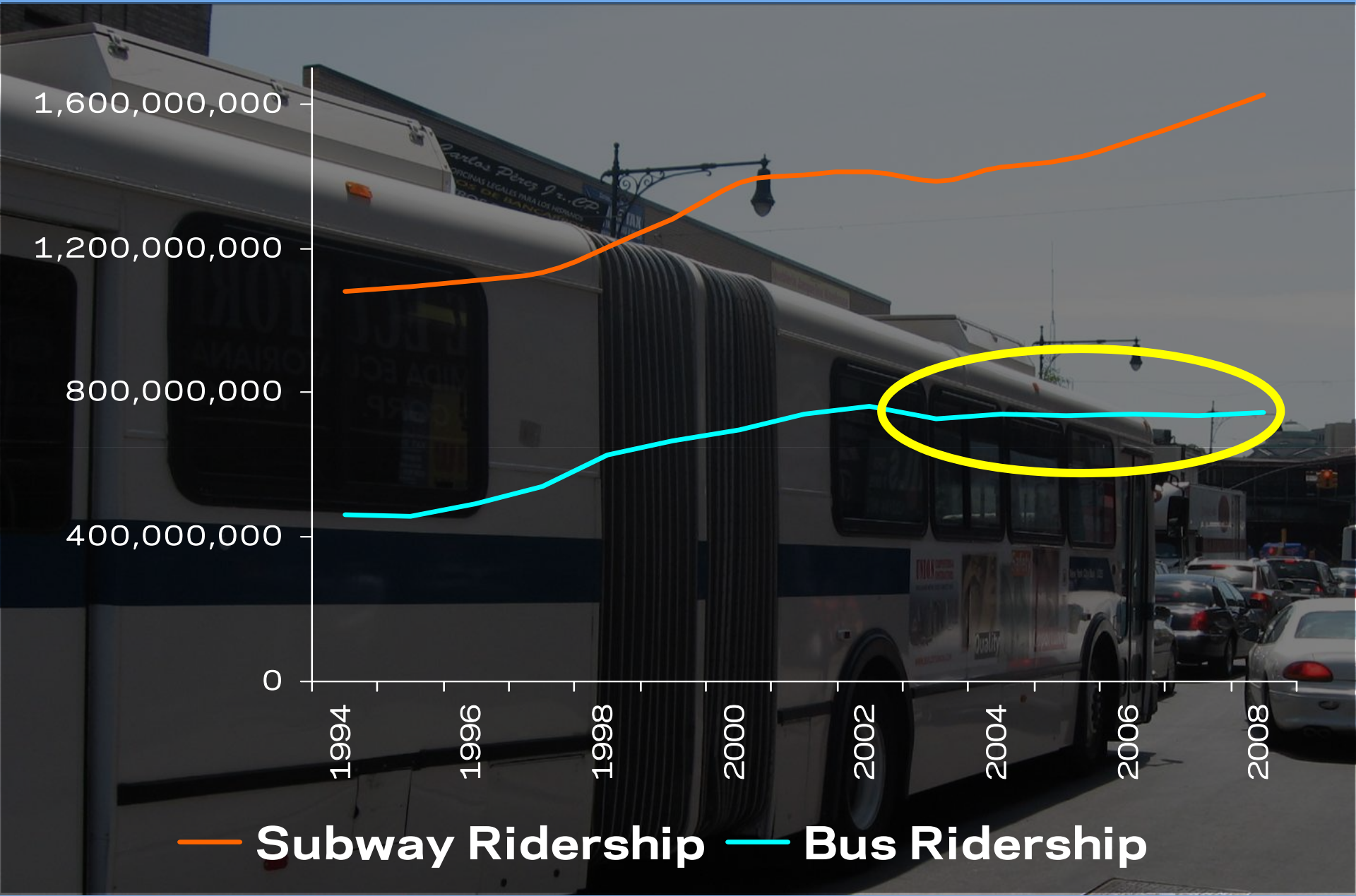
- MTA New York City Transit:
  - Operator of New York City’s public transit system
  - Part of Metropolitan Transportation Authority (New York State)
  - Over 5.2 million subway and 2.3 million bus trips per day
- New York City Department of Transportation:
  - Operator of New York City’s streets, free bridges, and Staten Island Ferry
  - Maintains street and traffic signal infrastructure
- **Agency partnership key to project success**

# Background: Slow Bus Speed



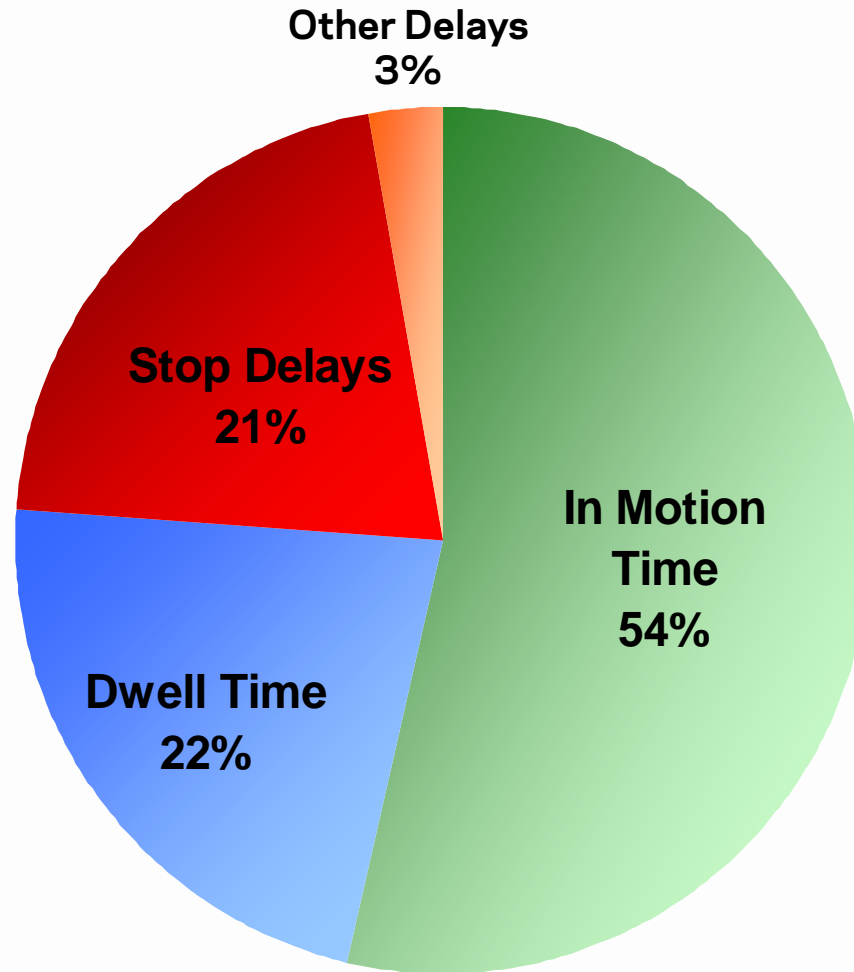
# Background: Declining Bus Speed





— Subway Ridership — Bus Ridership

# Background: Sources of Bus Delay



# Background: BRT Study

- Study began in 2004 with 80 candidate corridors
- Corridor list narrowed to 36, then to 15, then to 5 based on:
  - Travel time benefits
  - Right-of-way feasibility
- Selection process documented in Transportation Research Record No. 1971
- Final corridor list adjusted based on public feedback





# Background: BRT Study

- Corridor planning began in 2006
- Goal to test bus priority features quickly and cheaply
- Routes branded as “Select Bus Service”



# Background: Agency Support



## Proposed MTA Capital Program



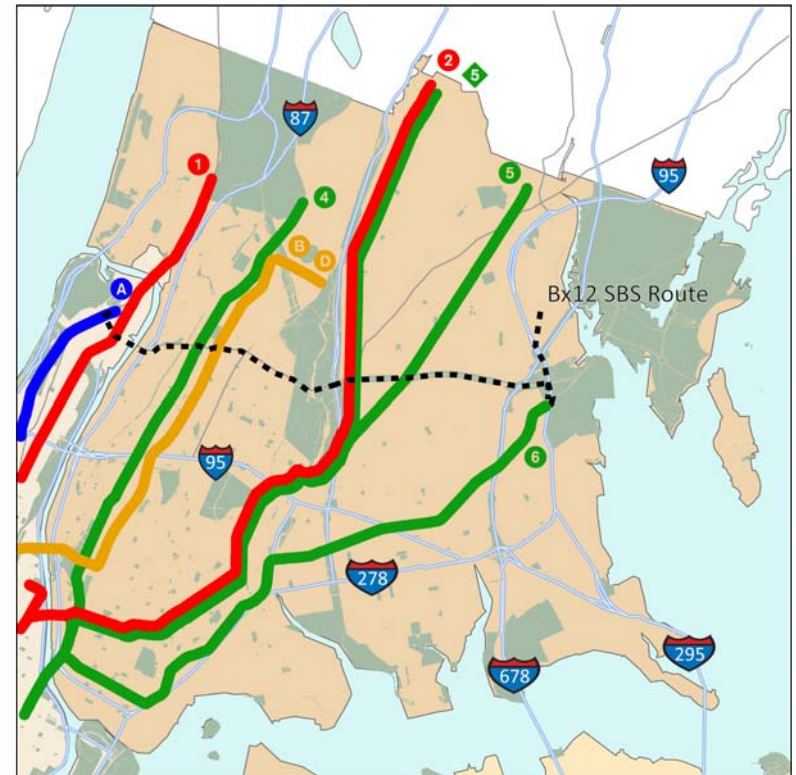
DRAFT -



- Agency principals provided strong plan support
- Bus improvement program featured in:
  - PlaNYC
  - MTA Capital Plan
  - Sustainable Streets (DOT Strategic Plan)
- Congestion pricing provided planning context

# Background: The Bronx

- Population of 1.4 million
- 28% below poverty line
- \$34,626 mean household income
- 56% commute by transit
- Strong north-south connections to Manhattan
- Few east-west options



# Bx12 Select Bus Service Fordham Road-Pelham Parkway



# Corridor Ridership

<b>Bus Route</b>	<b>Weekday Ridership (2009)</b>
<b>Bx12</b>	<b>47,793</b>
Bx17	12,431
Bx9	28,900
Bx22	18,312
W60-61 (Westchester Co.)	6,427
<b>TOTAL:</b>	<b>113,863</b>

# Expanded/Improved Bus Lanes

- Expanded:
  - Existing peak period bus lanes expanded to all-day operation
  - Bus lanes extended geographically
- Improved:
  - High visibility red bus lanes
  - Overhead signage
  - Increased NYPD bus lane enforcement

# Expanded/Improved Bus Lanes



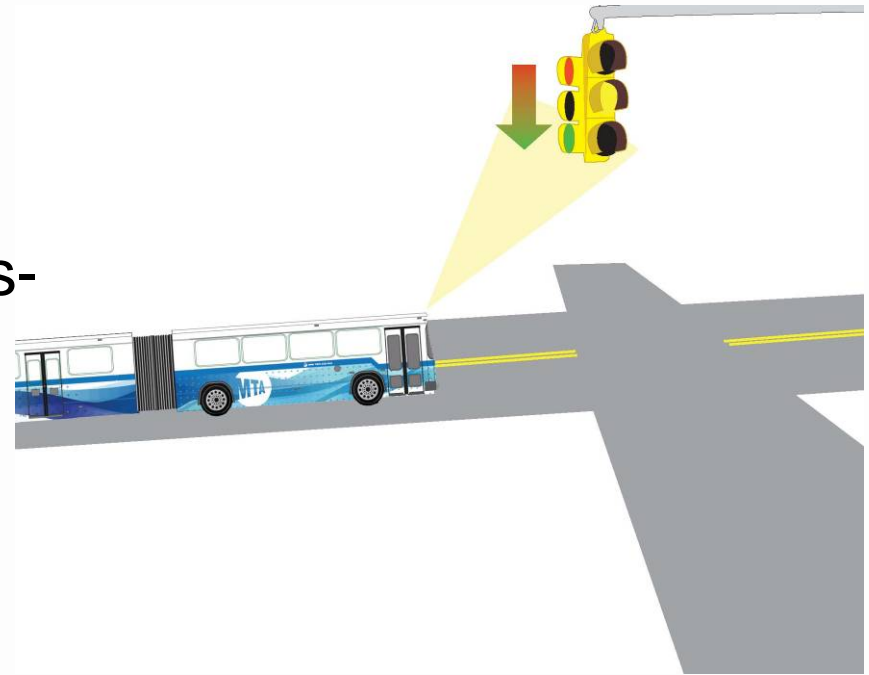
# Fordham Road Delivery Window





# Transit Signal Priority

- Opticom radio/GPS signal priority system
- Installed at 20 of 35 intersections along the route
- Initially weekday peak periods-expanded to mid days and weekends
- Early green/extended green available based on existing signal parameters
- Signals timings also optimized



# Leading Bus Interval / Queue Jump

- Provides 6 second advance green for all buses approaching in the bus lane
- Bus lane operates at all times to provide free path for bus
- Currently activated on every signal phase; may be actuated in the future



# Proof-of-Payment Fare Collection

- Customers pay at fare payment machines and obtain a proof-of-payment receipt before boarding
- Customers board the bus at either door and hold receipt for inspection – receipt valid for 1 hour
- Two types of machines in use
  - Re-purposed MetroCard “express” machine for customers with MetroCards
  - Re-purposed Parkeon multi-space parking meter for customers with coins

# Proof-of-Payment Fare Collection



# Proof-of-Payment Fare Inspection

- Fare inspectors on vehicles and at stations (not police/peace officers)
- On-board cameras to document incidents
- Anyone without receipt is subject to \$100 summons



# Improved Service Plan



- SBS buses uniformly operate full length of route
- Local buses operate between Sedgwick Avenue and Pelham Bay Park with summer extension to Orchard Beach

# Enhanced Stations



# Branding





# On-Board Cameras

- Currently used for security and liability protection
- Supports off-board fare collection
- Potential future use for bus lane enforcement



# Improved Customer Information



# Launch Elements

- Customer Ambassadors
- Enforcement blitz
- Operator training
- On-going refinement



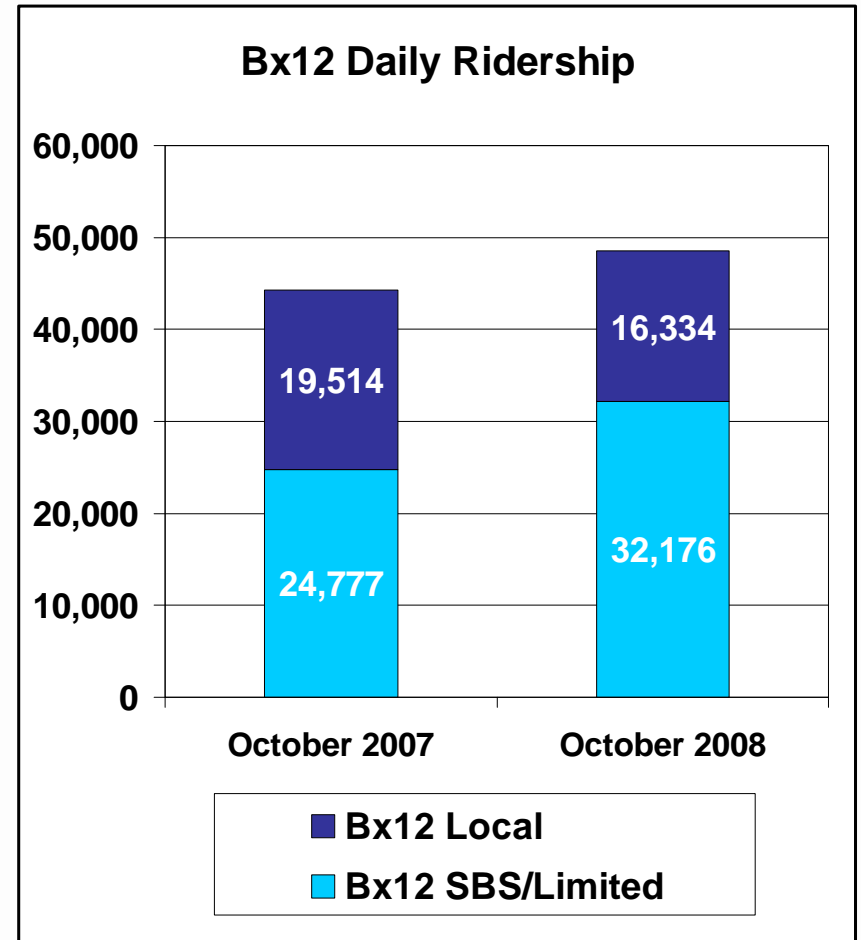
# Results - Customer Response

## Ridership:

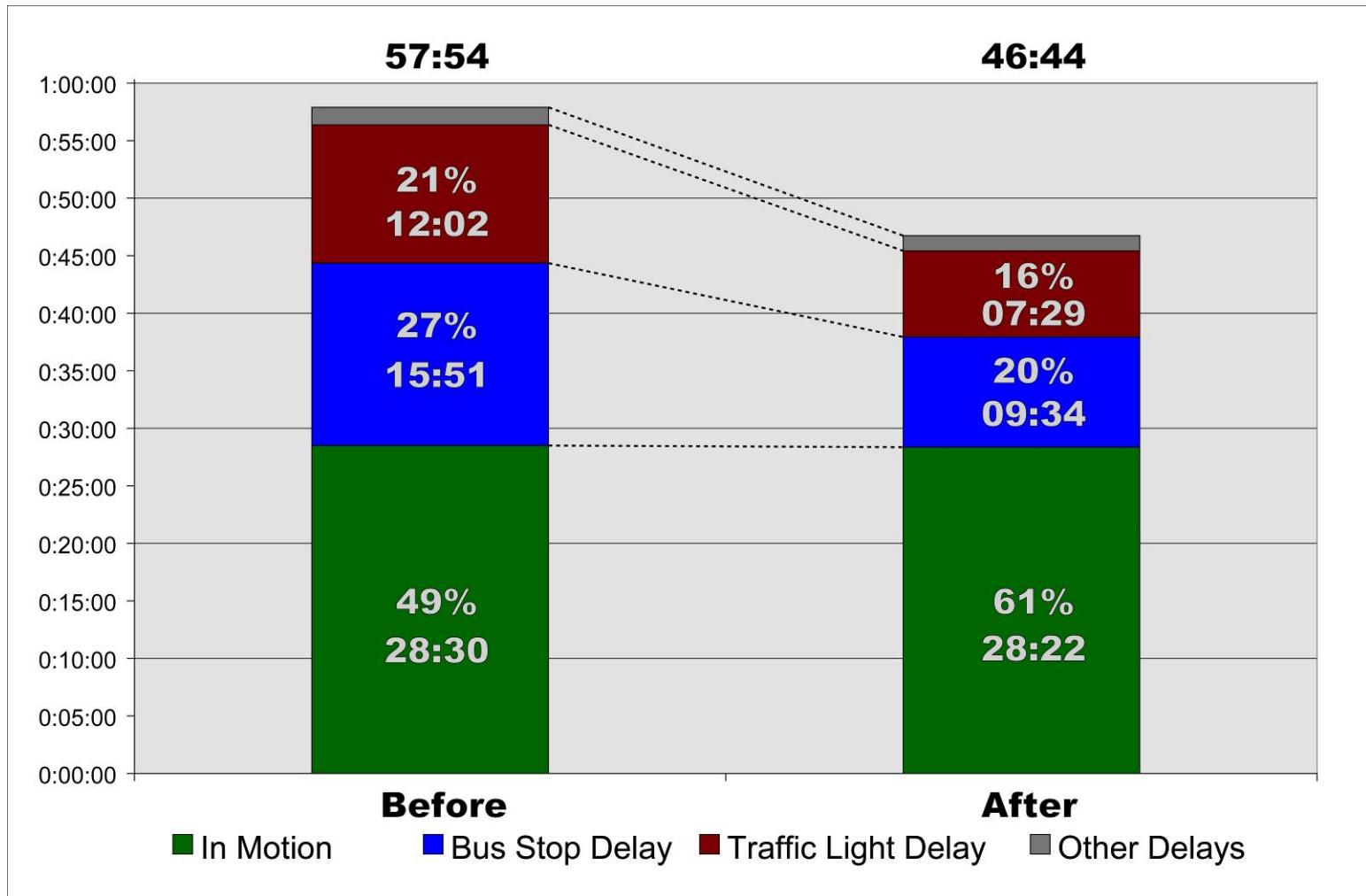
- 30% increase in Limited to Select Bus ridership
- 7% overall route increase
- Overall Bronx bus ridership level

## Customer Satisfaction:

- 98% satisfied or very satisfied
- 89% of customers said that SBS service is better than the limited
- 68% of customers said that paying on the street was more convenient



# Results - Running Time



# Results - Fare Collection

- Both types of machines operating dependably (98% availability)
  - Transaction time for MetroCard machines = 3 sec.
  - Transaction time for Coin machines slower
  - Occasional power issues at stations
- Fare evasion rate comparable to or better than conditions prior to implementation.

## Results - Cost

- ~ \$10.5 M for full 9 Mile corridor.
- \$6M in increased annual Operating Costs. This includes additional service, and new staff for maintaining fare equipment, revenue collection and enforcement.
- Red bus lanes and on-street branding wear out over time – replacement cycle TBD

# Lessons Learned

- Importance of Partnership
  - Staff level
  - Executive level
  - Commitment to problem solving
- Value of Simple/Cheap Solutions
  - Red-marked bus lanes
  - Off-board fare collection
  - Transit Signal Priority



# Lessons Learned

- Training Makes a Difference
  - Bus operators
  - Customer outreach
- Effective Outreach Required
  - Community Boards
  - Business Improvement District

# Next Steps

- Bx12 SBS
  - Bus Lanes on Pelham Parkway
  - Three door, low floor articulated buses
  - Improved fare collection machines
- Phase I Routes
  - First Avenue/Second Avenue: Fall 2010
  - Nostrand Avenue: 2012
  - 34<sup>th</sup> Street: 2012
  - Hylan Boulevard: 2013
- Continue development of additional BRT routes

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