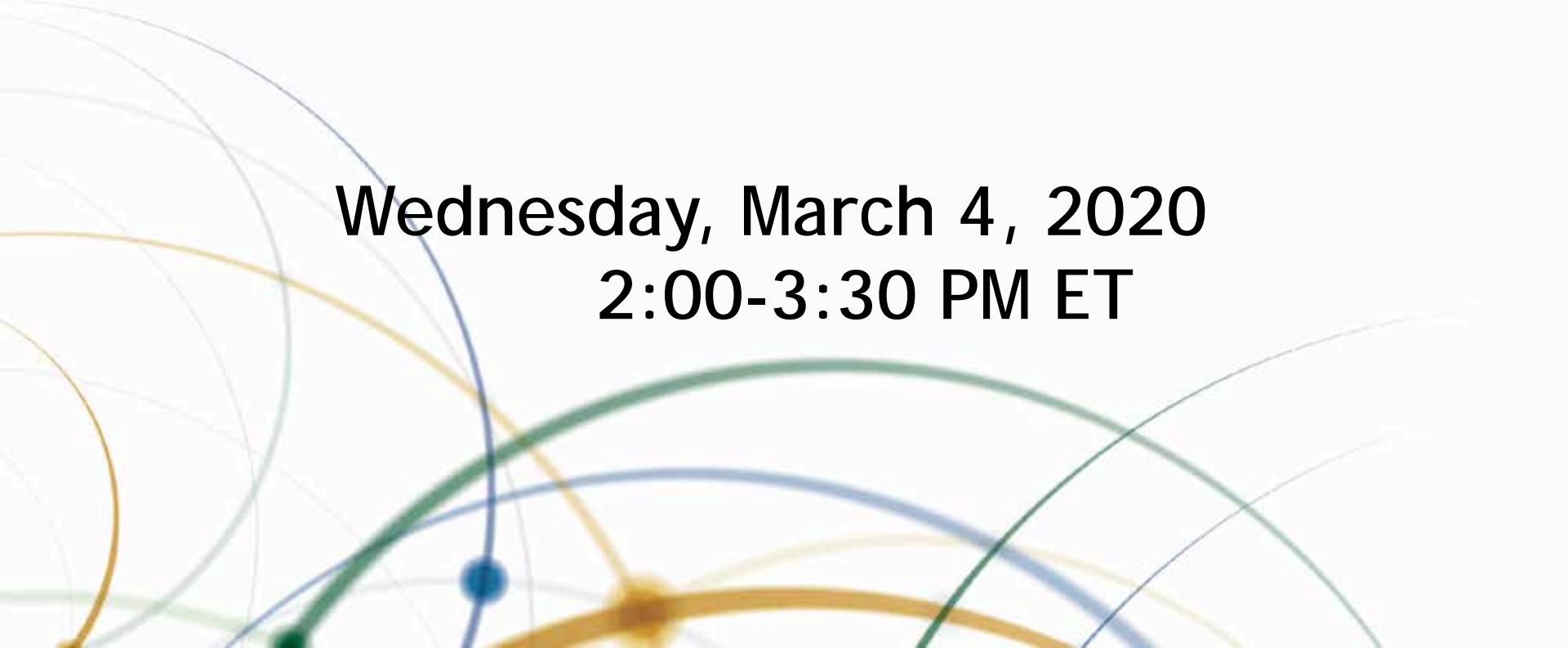


TRANSPORTATION RESEARCH BOARD

# Fast-Track: A tactical transit study

Wednesday, March 4, 2020  
2:00-3:30 PM ET



## Learning Objectives

At the end of this webinar, you will be able to:

- Define tactical urbanism
- Identify practices from case studies around the country





# FAST-TRACKED

Quick-Build Transit Research + Case Studies

Dana Wall | Street Plans



# Agenda

TACTICAL URBANISM OVERVIEW

FAST-TRACKED REPORT FINDINGS

FAST-TRACKED REPORT CASE STUDIES

KEY TAKEAWAYS

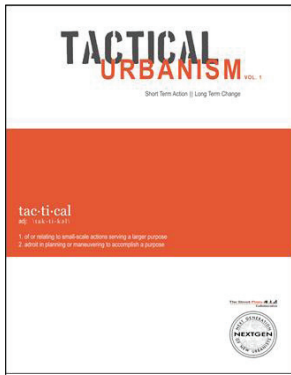
CONSIDERATIONS + FURTHER RESEARCH



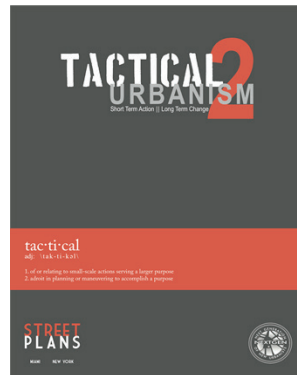
# Better Streets, Better Places

- **Transportation Planning**
- **Placemaking + Tactical Urbanism**
- Architecture + Urban Design
- Public Outreach
- Training + Workshops
- **Research + Best Practices Guides**

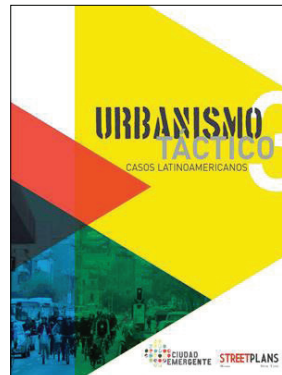




North America (2011)



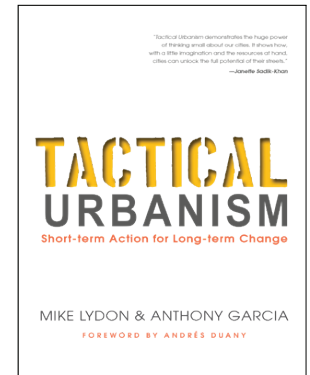
North America (2012)



South America (2013)



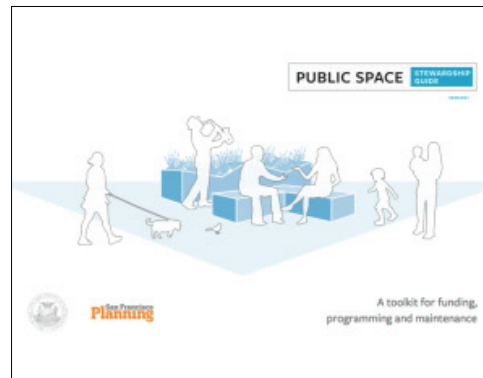
Australia / NZ (2014)



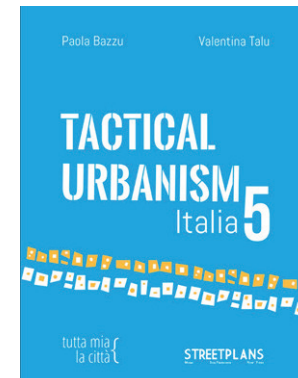
Island Press (2015)



North America (2016)



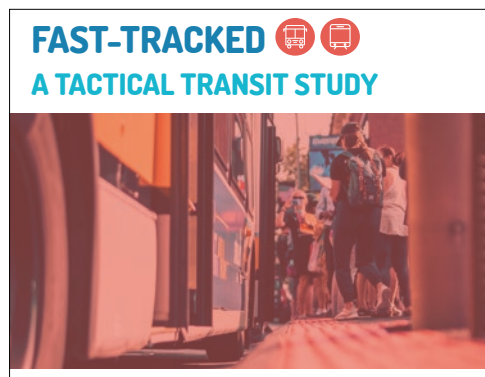
North America (2016)



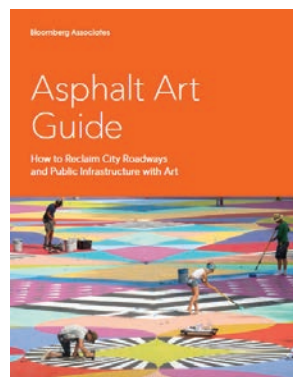
Italy (2017)



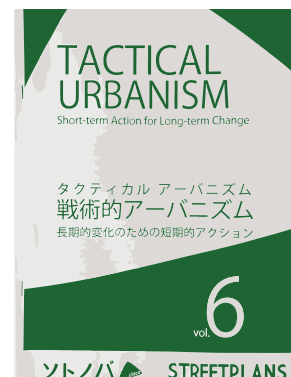
Russia (2019)



North America (2019)



North America (2019)



Japan (2019)



North America (2020) - DRAFT



# Visualizing Transit Corridors





# Great! Now what...?



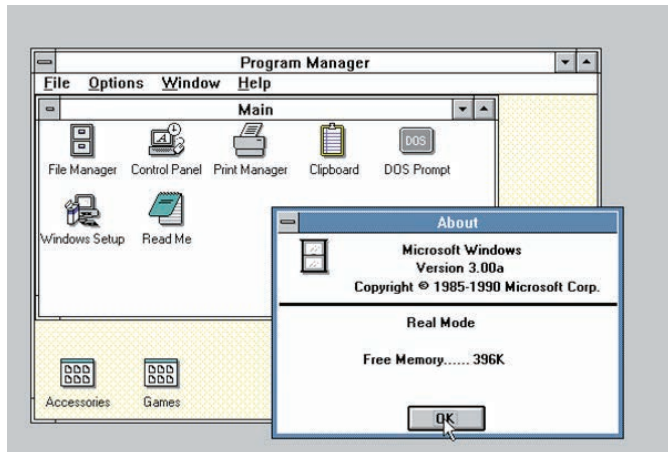
# Conventional project delivery is...

reinforcing citizen frustration with government.

- Slow + expensive
- (Too) large-scale, aka. “Silver Bullet”
- Lacks transparency
- One-way/static input
- Inflexible/(too) results-oriented



# Iterative project delivery is...



- We expect software and products will always get better.
- We are willing to tolerate/expect imperfections.



# Lessons in Iterative Design



**2009** – 3-day pop-up plaza w/ lawn chairs

**2010** – pilot plaza w/ paint and temporary materials

**2012** – design development begins

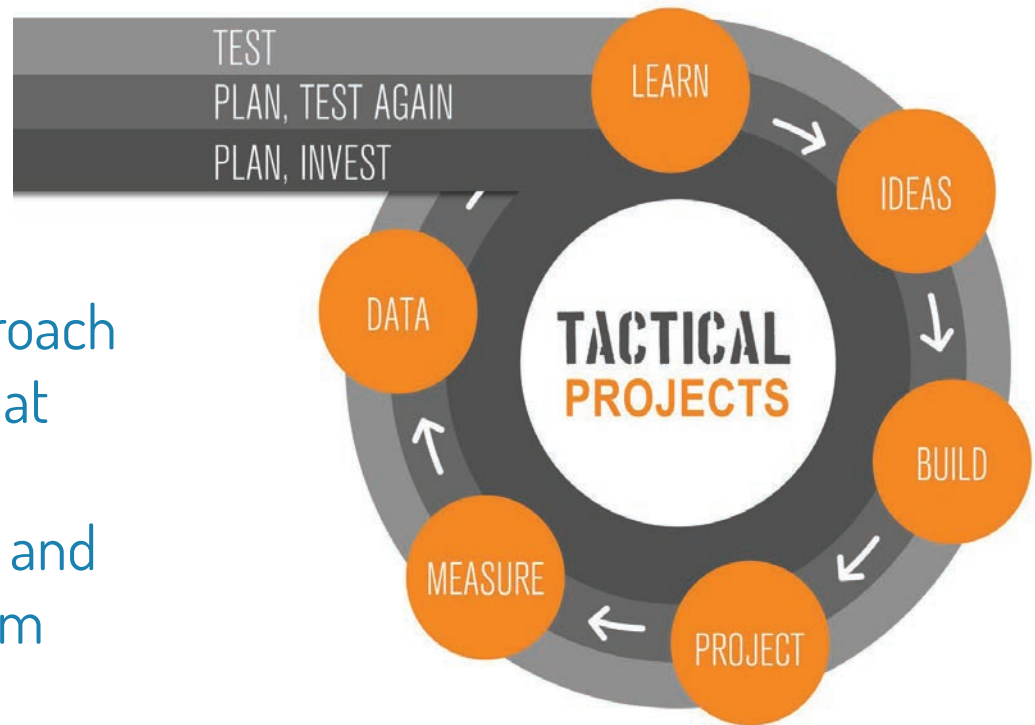
**2014** – permanent plaza construction begins

**2016** – project complete!

# What is Tactical Urbanism?





BUILD, MEASURE, LEARN

Tactical Urbanism is an approach to neighborhood building that uses **short-term, low-cost, and scalable interventions** and policies to catalyze long-term change.





# Breaking Down Project Delivery

	DEMONSTRATION	PILOT	INTERIM DESIGN	PERMANENT
				
	1 day - 1 month	1 month - 1 year	1 year - 5 years	5 years - 50 years
	\$	\$\$	\$\$\$	\$\$\$\$
Materials	.....	.....	.....	.....
Public Input	.....	.....	.....	.....
Flexibility of Design	.....	.....	.....	.....
Data Collection	.....	.....	.....	.....

# TOP DOWN

*Mayors | City Councilors | Municipal Departments*



# BOTTOM UP

*Citizen Activists | Community Groups | Neighborhood Organizations*

# Why Tactical Urbanism?

- 1** Expedites delivery of public benefits at a **low cost**.
- 2** **Temporary, iterative** nature allows for evaluation and making adjustments.
- 3** Based on **existing master plans**, action-focused.
- 4** **People-driven**, people-centered.

# Tactical Urbanism Evolution

## Guerrilla/DIY



Worldwide

- started as a response to frustration with slow conventional project delivery
- more “subversive” in nature

## Sanctioned



Times Square, NYC

- three iterations (demonstration, pilot, interim design)
- became notable best practice for the movement

## Standardized



Burlington Quick Build Program

- creation and adoption of programs for ease of implementing pilot projects worldwide
- standardization of the methodology

**“Let’s not hire a consultant to tell us what we already know; let’s just do this.”**

Senior Planner, Metro Transit



# Research Overview

- First study of its kind, to incentivize further research
- Tactical Transit growing application of Quick-Build methodology
- Collection of case studies and takeaways to encourage growth in the movement



Los Angeles Boarding Platforms



Go Ave 26

# What is Tactical Transit?

- Implemented in 2 years or less (from inception to implementation)
- Executed under \$100,000-ish
- Uses temporary materials, anticipates flexibility
- Can be operational or infrastructure based
- May be a test



King St Transit Pilot



Solano Ave Bus Parklet

# What is Tactical Transit?

## Infrastructure

- Dedicated bus lanes
- Modular boarding platforms
- Signage
- Queue jump lanes
- Road diets
- Separated bike lanes
- Curb extensions, ped. crossings
- Seating & other amenities

## Operational

- Split local/express service
- Stop consolidations
- Prepaid boarding areas
- Signal timing adjustments
- Motor vehicle restrictions



# Methodology

- 36 interviews, plus online investigation
- Projects span 11 states, five regions of North America
- Variations in community size and local government structure
- 20 projects across three categories
  - Speed + Reliability
  - Access + Safety
  - Rider Experience



# Findings: Speed + Reliability

- Travel time savings from 20%-50%, with the most common savings being 20%-30%
- Projects were shown to improve both transit and car travel times
- 50% reduction in boarding times
- Most transit lanes piloted were under one mile in length, yet saw significant improvements in travel times



# Findings: Access + Safety

- Projects documented 40%-65% reductions in collisions, and reductions in pedestrian fatalities
- Projects showed increases in ridership of up to 17%
- Projects documented increases in bicycle travel from 40-400%





# Findings: Rider Experience

- Three projects resulted in proposals for dedicated permits or design guidelines to guide future similar projects
- Most of the work was led by advocacy groups, foundations, or nonprofits
- Where transit agencies supported their efforts, impacts were significantly amplified



# Case Study: Massachusetts Ave. Bus Lane

Massachusetts Avenue | Arlington, MA

.25 mile, Eastbound | Oct. to Nov. 2018

- Years of attempts to alleviate congestion, acquired BostonBRT program funding for pilot BRT elements
- AM peak-hour, shared bus-bike lane demarcated with cones
- Combination of infrastructure and operational strategies



**MOST POSITIVE OUTCOME**

# Results

- 73% of survey respondents (mostly riders) said they wanted the lane to be made permanent.
- No traffic violations or compliance issues during the test.
- No significant negative impacts to parking.
- Evaluation revealed a **50% reduction in avg. trip travel time (5-6 minute savings)**, 40% reduction in variability of travel times, 10+ minute savings on typical delayed trip.





# What's Next?

- Operational interventions remained after conclusion of pilot.
- Permanent bus lane operational one year later, approved three months after pilot.
- If not for the Quick Build approach, Town wouldn't have been able to test multiple interventions at once.
- Quick Build approach made staff and political officials comfortable that they wouldn't be “wasting resources”.

## Arlington Select Board approves installation of a permanent bus Massachusetts Avenue



Posted Mar 4, 2019 at 8:03 PM

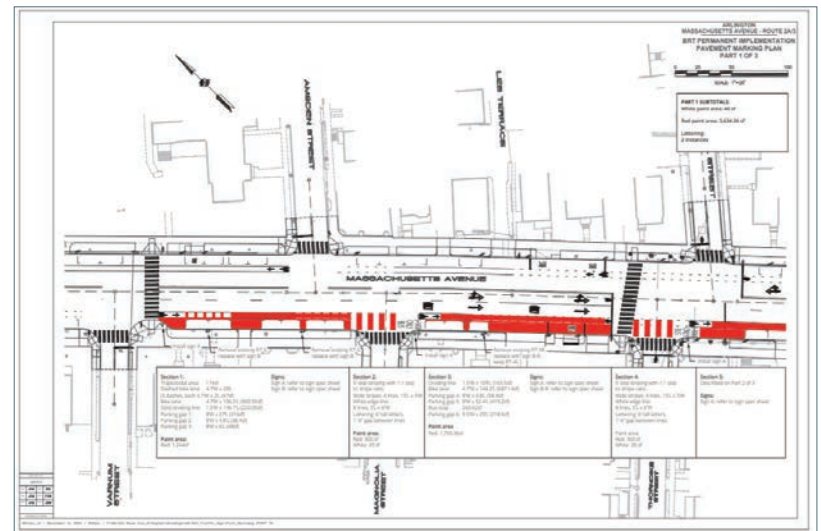


The Arlington Department of Planning and Community Development presented the results of the bus rapid transit pilot, the MBTA data analysis, and the post-pilot survey, and made recommendations to implement a permanent bus lane to the Select Board at its Feb. 25 meeting. The results showed that the pilot made substantial improvements in bus travel times and reliability, and resident reactions were overwhelmingly positive. Based on the data analysis and recommendations, the Select Board unanimously approved the implementation of the bus lane. Estimated implementation is set for summer.



news/2020/01/31/car-overtaken-on-broadway-arlington-police-log

From Feb. 9 to Nov. 9, 2018, all elements of RBT were piloted in Arlington on the eastbound side of Mass.



# Case Study: Main St. Bus Lane

Main Street | Cincinnati, OH

.42 mile, Northbound | Nov. 2018

- Lane had been in the making for years, initially proposed by advocacy group Better Bus Coalition
- AM/PM peak-hour, dedicated bus lane demarcated with thick stripe and markings
- \$55,000 in total using funds from existing Dept. of Transportation & Engineering capital program

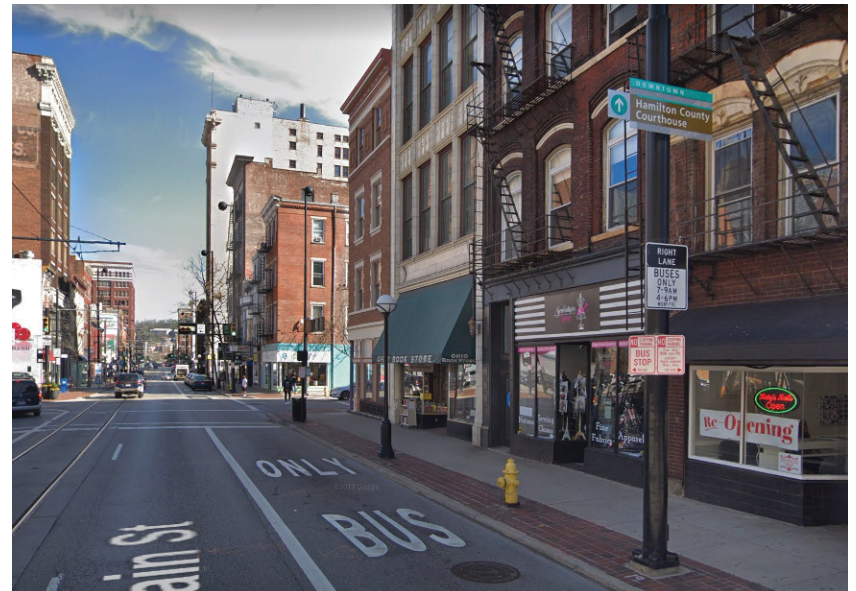


ADVOCACY INITIATION



# Results

- 20% travel time savings.
- 43 traffic violations given in one month.
- City put down pavement markings two months later, bus lane remains.
- City has created a matrix for identifying where to use test methodology next.
- Key to success of project was strong political champion.



# Key Takeaways

## 1 Designing the Project

- It's not just one thing; most projects had multiple small moves that made a big impact.
- Don't overlook **operational strategies** and intersection treatments.
- Removal of bump-outs may be required.
- Don't forget signals!
- Start with the bare minimum. **Don't overdesign** things.



Washington St Bus Lane



Streets for People



# Key Takeaways

## 2 Establishing Metrics

- Projects may not show raw improvements to primary metrics.
- There are **other ways of measuring success**.
- Consider more, and a wider variety of, metrics that can communicate a successful project.



# Key Takeaways

## 3 Public Support

- Don't expect people to come to you.
- Recommended six months for traffic patterns to normalize.
- Communicating that there will be an adjustment up front is crucial, **don't give up too early!**



Hands on Exchange



Streets for People

# Considerations + Further Research

- **Tactical Transit Lanes:** Costs and timing; build on UCLA research; when does it make sense to jump to permanent?
- **Route Alignments/Stop Consolidation:** A definitive study on the benefits of realignments, express/local service and the methods used to develop these models.
- **Materials:** What materials are used for tactical projects, what is their durability and ideal use case scenario? Paint, modular platforms, and others.
- **Costs/Funding:** How can we measure the cost/benefit of these projects? How can cities creatively leverage funding? At what point do you make a project permanent?
- **Transportation Choices:** How well are these projects advancing permanent projects in transit, bike, and pedestrian infrastructure, compared to roads?



**BRIEF**

# FHWA approves red street paint for bus lanes







**Thanks!**

[dana@streetplans.org](mailto:dana@streetplans.org)

[@street\\_plans](https://www.instagram.com/street_plans)

[www.street-plans.com](http://www.street-plans.com)





# Fast-Tracked: Tactical Transit in NYC

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TRB Webinar

March 4, 2020



# Agenda

1. Overview of Transit in New York City
2. Better Buses Action Plan and Tactical Toolkit
3. Protected Bus Lane
4. Bus Boarders

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# Overview of Transit in NYC



# MTA New York City Transit & MTA Bus

## Primary Transit Provider for New York City

- 5.4 million subway and 2.2 million bus riders carried daily (2018)
- Operates NYC's subway system of 665 miles over 27 lines and 472 stations
- 5,706 buses operating on 317 bus routes
- 50,000 employees



# NYC Department of Transportation

## Owens NYC's Street Infrastructure

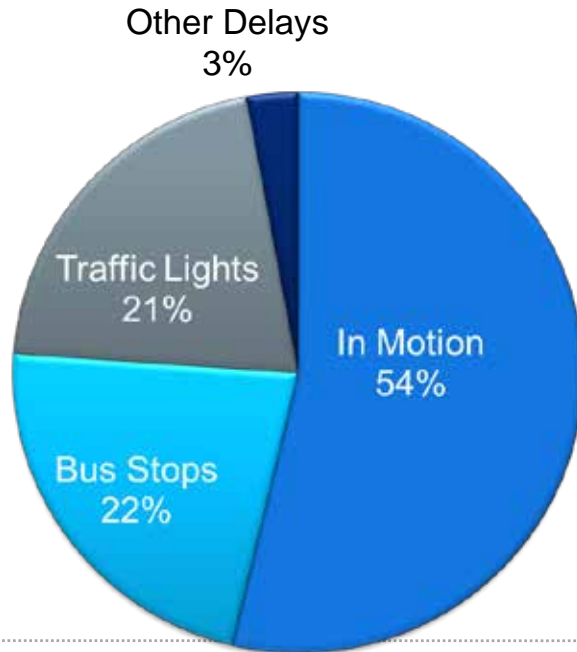
- 6,000 miles of streets with 200 million linear feet of markings
- 794 (free) bridges and tunnels
- 12,700 traffic signals and 315,000 street lights
- Over 15,000 bus stops
- Operation of Staten Island Ferry
- 5,000 employees



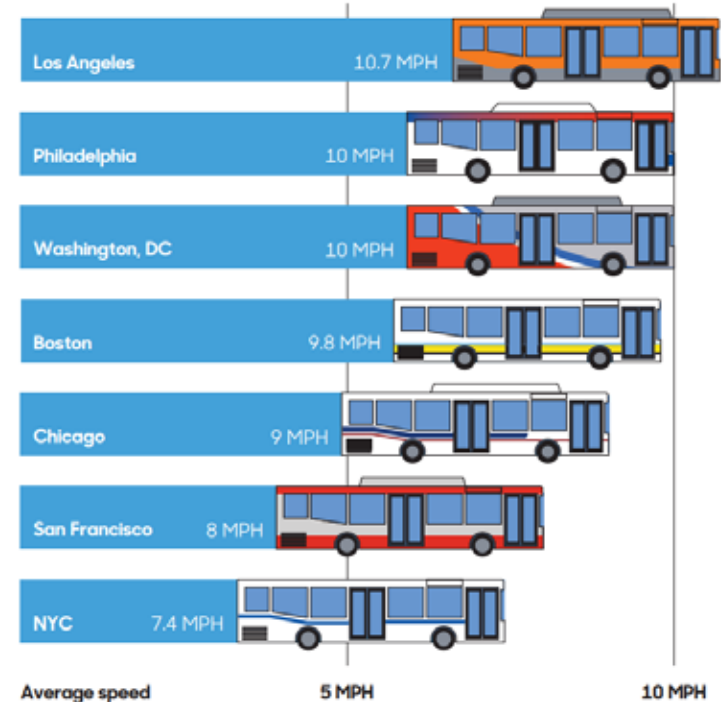


# We're #1! (in slowest buses)

New York City has the slowest buses in the U.S.



Average Typical Weekday Speeds, 2014



Source: NTD, TransitCenter

# NYC Issues and Challenges



Double parking



Blocked bus stops



Crowded stops/sidewalks



Long traffic queues



Bus merge/turn issues



Narrow roadways

---

## Better Buses Action Plan and Tactical Toolkit

# 2

# Better Buses Action Plan

Released by Mayor de Blasio on April 19, 2019

## Goals to Improve Bus Speeds by through 2020

- Improve 5 miles of existing bus lane per year
- Install 10-15 miles of new bus lane per year
- Pilot up to 2 miles of physically separated bus lanes in 2019
- Add 300 TSP intersections per year
- Evaluate and improve bus stops



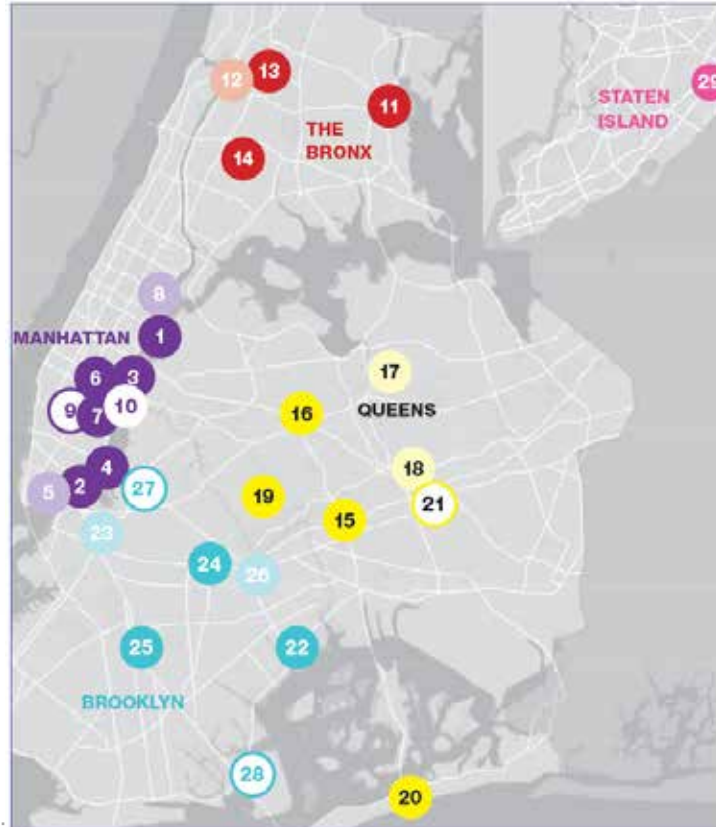


# Better Buses 2019 Projects

29 bus priority projects in all 5 boroughs, applying a variety of treatments



***Need to implement projects fast!  
No time for capital work***



- 01. Lexington Ave
- 02. FDR Dr
- 03. Madison Ave
- 04. Allen St
- 05. Battery Pl\*
- 06. 42 St
- 07. 14 St
- 08. 96 St\*
- 09. 23 St & 2nd Ave\*\*
- 10. 57th St\*\*
- 11. Baychester Ave
- 12. Broadway\*
- 13. Moshulu Pkwy
- 14. Webster Ave
- 15. Woodhaven Blvd
- 16. Broadway
- 17. Main St\*
- 18. Union Turnpike\*
- 19. Fresh Pond Rd
- 20. Rockaway Beach Blvd
- 21. Archer Ave\*\*
- 22. Pennsylvania Ave
- 23. Lexington St\*
- 24. Utica Ave
- 25. Church Ave
- 26. East New York Ave\*
- 27. Williamsburg Bridge Bus Plaza\*\*
- 28. Flatbush Ave\*\*
- 29. Narrows Rd

- 0 Completed
- 0 \*Planning and implementation continuing in 2020
- 0 \*\*Added since April 2019

# Tactical Transit Street Design Toolkit

## Bus Lanes

- Curbside bus lanes
- Offset bus lanes
- Physical protection materials

## Bus Stops

- Bus boarders
- Bus boarding islands

# Tactical Transit Street Design Toolkit

## Curbside Bus Lane

- Adjacent to curb
- Usually only in effect peak hours
- Minimal thermoplastic





# Tactical Street Design Toolkit

## Offset Bus Lane

- One lane away from curb
- Accommodates parking/loading
- Thermoplastic + red paint (MMA, Ruby Glass, Epoxy)



# Tactical Transit Street Design Toolkit

## Protected Bus Lane

- Physically separates bus lane to prevent vehicle intrusions



# Tactical Transit Street Design Toolkit

## Bus Boarder

- Bus stays in lane
- No need to pull in and out of traffic
- More pedestrian space





# Tactical Transit Street Design Toolkit

## Bus Boarding Island

- Bus stays in lane
- No need to pull in and out of traffic
- Separates bus boarding from traffic or protected bike lane
- Can be built without capital project



---

## Protected Bus Lane

3



# Treatment

- Pilot continuous physical barriers
- Use existing materials on hand:
  - Qwick Curb
  - Tuff Curb
  - Rubber speed bumps

Tuff Curb



Rubber  
Speed Bump



Qwick  
Curb



# Installation

- Use in-house crews
- Install took 2 days
- Mix of Tuff Curb and rubber speed bumps



# Evaluation

- Initial install successful
- Yet, product deteriorated quickly
- Product failure, but lessons learned





# Next Steps

- Lessons learned from pilot
- Plan to pilot additional blocks with different materials next year



---

## Bus Boarders

4



# Background

- Bus bulbs are an important tool for improving bus speeds, accessibility, and rider experience
- Typically require capital project, which is expensive and long



# Treatment

## Bus Boarder

- Bus bulb made of recycled plastic
- Piloted on Utica Ave in Brooklyn in July 2016
- Wanted to see if bus boarders could be used as a temporary material while waiting for capital bus bulb



# Installation

- Initial installation took 2.5 days
- Before install, roadway needed to be smoothed out so platform could sit flush





# Evaluation

- 94% of bus customers surveyed satisfied with project
- “It adds prestige to my neighborhood”
- Held up well through winter



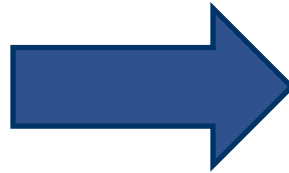


# Relocation

- Removed and relocated to 125<sup>th</sup> St, Manhattan



Disassembly, Utica Av & Avenue N



New concrete curb, Utica Av & Avenue N, Brooklyn



Reinstallation, 125<sup>th</sup> St & Lenox Av, Manhattan



72<sup>nd</sup> Av & 42<sup>nd</sup> St, Manhattan  
sidewalk widening



23<sup>rd</sup> St & 2<sup>nd</sup> Ave Lenox Av, Manhattan  
bus bulb



Cypress Hills St, Queens  
bus stop ADA improvement



14<sup>th</sup> Street Transit and Truck Priority  
bus bulb for transitway



# Summary

- Tactical transit tools are useful for quick implementation
- Allow for project phasing
- Placeholder for capital projects



# THANK YOU!

---

Questions?



NYC DOT



NYC DOT



nyc\_dot



NYC DOT



# TACTICAL TRANSIT:

Using Pilot Projects as Tool for  
Transformation



Photo: Boston Globe

Jay Monty

Transportation  
Planner

Everett,  
Massachusetts

# CITY OF EVERETT SNAPSHOT

3 miles from downtown Boston

Population: 45,000-50,000 (approx.)

Large Transit Dependent Population

Transit:

- 7 Bus Routes
- 15,000 Daily Boardings & Alightings
- No Rapid Transit or “Key” Bus Routes



# TRANSIT AND GOVERNANCE

- MBTA provides regional transit services (subway, trolley, rail, bus)
- Cities and towns own most roadway infrastructure.
- Weak regional planning structure
- Varying forms of municipal governance





# FROM STUDY TO ACTION



## EVERETT TRANSIT ACTION PLAN Final Report

November 2016



### EVERETT TRANSIT ACTION PLAN

#### SERVICE AND ROUTE IMPROVEMENTS

Service and route improvements include short and medium term service changes, projects, and strategies designed to improve local bus service within Everett and provide better connections to major destinations for Everett residents. Many of these recommendations are dependent upon further analysis and implementation as part of the MBTA Service Plan, which will look at service changes on a garage by garage basis.

Figure 1 | Service and Route Improvements Recommendations Map



# THE "PILOT"

- Intended as a discreet 4-day test to inform a longer-term pilot program.
- No formal outreach process
- 1 week notice to abutters and riders
- Mayor announces indefinite extension of pilot on 3<sup>rd</sup> day.



# COORDINATION AND LOGISTICS

- Everett DPW and Parking Enforcement
  - 200 parking spaces removed
  - 300 cones placed and picked up
- MBTA/MassDOT
  - Driver Training and Rider Notification



Photo: Boston Globe

**MBTA BUS**

**BROADWAY BUS-ONLY LANE**

South Bound from Glendale Square to Sweetser Circle in Everett  
4:00AM-9:00AM  
Monday 12/5 – Friday 12/9  
Bus routes 97, 104, 109, 110, 112,  
may experience early arrivals near Sweetser Circle

BROADWAY BUS-ONLY LANE  
GLENDALE SQUARE to SWEETSER CIRCLE  
4:00AM – 9:00AM  
Monday 12/5 – Friday 12/9



Visit [http://www.mbta.com/rider\\_tools/transit\\_updates/](http://www.mbta.com/rider_tools/transit_updates/)  
for additional updates.

For schedule information: [mbta.com](http://mbta.com)  
617-222-3200 / 617-222-5146 (TTY)

 Massachusetts Bay  
Transportation Authority



# COORDINATION AND LOGISTICS

- PRESS AND PUBLIC RELATIONS

## Bus Lane Ruffles Early Morning Feathers on Broadway

by Independent Staff • December 2, 2016 • 2 Comments

## Dedicated Bus Lane Could be A Model Statewide

December 23, 2016

By Independent Staff

By Seth Daniel

[Recommend](#) Be the first of your friends to recommend this.

The first week of the Everett dedicated bus lane on Broadway has produced data showing a tremendous amount of time saved by bus operations and by passengers, according to comments and statistics from State Transportation Secretary Stephanie Pollack.

## The Boston Globe

EVERETT

### Everett hails bus-only lane as success

## CITYLAB

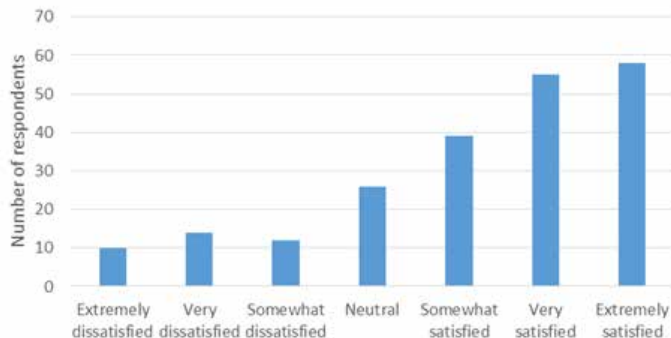
[DESIGN](#) / [TRANSPORTATION](#) / [ENVIRONMENT](#) / [EQUITY](#) / [LIFE](#) [Q](#)

## When Street Parking Becomes a Pop-Up Bus Lane

STEPHEN MILLER PER 11, 2017

An experiment in Everett, Massachusetts, has meant shorter rides for both transit users and drivers.

How satisfied are you with the bus-only lane on this section of the route?



## Broadway Bus Lane to Become Permanent Next Week

September 8, 2017

By Independent Staff

By Seth Daniel

[Recommend](#) 44 people recommend this. Be the first of your friends.

Nothing makes a situation more permanent than paint.

# FROM PILOT TO PERMANENT



Photos: City of Everett

# BOSTON BRT PILOTS:

- Funded by the Barr Foundation through an RFP process
- Three projects in four communities
- Demonstrated elements of Bus Rapid Transit





# BOSTON BRT PILOTS:

- Technical Elements (lanes, platforms, signals)





# BOSTON BRT PILOTS:

- Public Engagement (local artists, flower bomb)



Photos: Ad Hoc Industries

# BOSTON BRT PILOTS:

- Public Engagement (local artists, flower bomb)



Photos: Ad Hoc Industries



# BOSTON BRT PILOTS:

- Public Dialogue and Press Events



Photos: Ad Hoc Industries

# KEEPING THE MOMENTUM:

- New Permanent Level Boarding Stations
- Real-time Arrival Info and Bike Sharing at Key Stations





# WHY DO A PILOT PROJECT?

- Creates a real-time public process that can inform a larger transformational project or policy.



Image Courtesy of Utile

# WHY DO A PILOT PROJECT?

- Public Perception and Accountability

## Bus Lane Ruffles Early Morning Feathers on Broadway

by Independent Staff • December 2, 2016 • [2 Comments](#)

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December 23, 2016  
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By Seth Daniel

[Recommend](#) Be the first of your friends to recommend this.

The first week of the Everett dedicated bus lane on Broadway has produced data showing a tremendous amount of time saved by bus operations and by passengers, according to comments and statistics from State Transportation Secretary Stephanie Pollack.



### Other Comments About the Boarding Platform and Bus Lane in Everett – Frequent Responses

"A lot of people don't know about the pilot program and are still parking in the bus lane"

"Concerned about winter maintenance"

"Better for ADA accessibility"

"Drivers are nuts!"

"Buses work well"

"Easier, but not faster"

"Stops need benches to sit at"

# TAKEAWAYS

- Pilot as a Public Process
- Utilizing Existing Practices
- Perception is as Important as Reality
- Fringe Benefits to Other Modes
- Don't Expect Perfection
- Steady Incremental Change Leads to Transformation





# Jay Monty

Transportation Planner  
City of Everett, Massachusetts

[Jay.monty@ci.everett.ma.us](mailto:Jay.monty@ci.everett.ma.us)

# Today's Speakers

- Dana Wall, [dana@streetplans.org](mailto:dana@streetplans.org)
- Kyle Gabhart,  
[kgebhart@dot.nyc.gov](mailto:kgebhart@dot.nyc.gov)
- Jay Monty,  
[Jay.Monty@ci.everett.ma.us](mailto:Jay.Monty@ci.everett.ma.us)



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- Join a Standing Committee  
(<http://bit.ly/2jYRrF6>)
- Become a Friend of a Committee  
(<http://bit.ly/TRBcommittees>)
  - Networking opportunities
  - May provide a path to become a Standing Committee member
- For more information: [www.mytrb.org](http://www.mytrb.org)
  - Create your account
  - Update your profile



@NASEMTRB



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Transportation  
Research  
Board



# TRB turns 100 on November 11, 2020

100  YEARS  
2020

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[www.TRB.org/Centennial](http://www.TRB.org/Centennial)

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