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
### Agenda

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<th>Section</th>
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<tr>
<td>TACTICAL URBANISM OVERVIEW</td>
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<td>FAST-TRACKED REPORT FINDINGS</td>
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<td>FAST-TRACKED REPORT CASE STUDIES</td>
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<td>KEY TAKEAWAYS</td>
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<tr>
<td>CONSIDERATIONS + FURTHER RESEARCH</td>
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Better Streets, Better Places

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

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

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Time Interval</th>
<th>Materials</th>
<th>Public Input</th>
<th>Flexibility of Design</th>
<th>Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMONSTRATION</strong></td>
<td>1 day - 1 month</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>PILOT</strong></td>
<td>1 month - 1 year</td>
<td>$$</td>
<td></td>
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<tr>
<td><strong>INTERIM DESIGN</strong></td>
<td>1 year - 5 years</td>
<td>$$$</td>
<td></td>
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<tr>
<td><strong>PERMANENT</strong></td>
<td>5 years - 50 years</td>
<td>$$$$</td>
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- **Permission Status**:
  - Always sanctioned
  - Always sanctioned
  - Sanctioned or unsanctioned
  - Always sanctioned

- **Term and diagram format** based on PeopleForBike's "Quick Builds for Better Streets," which defines the pilot/interim time intervals above as "quick build" projects.

TOP DOWN

Mayors | City Councilors | Municipal Departments

Developers
Entrepreneurs
Business Improvement Districts

TACTICAL URBANISM

Advocacy Organizations
Artists
Planning + Design Firms

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

<table>
<thead>
<tr>
<th><strong>Guerrilla/ DIY</strong></th>
<th><strong>Sanctioned</strong></th>
<th><strong>Standardized</strong></th>
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<tr>
<td>Worldwide</td>
<td>Times Square, NYC</td>
<td>Burlington Quick Build Program</td>
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- Started as a response to frustration with slow conventional project delivery
- More “subversive” in nature
- Three iterations (demonstration, pilot, interim design)
- Became notable best practice for the movement
- 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
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
What is Tactical Transit?

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Operational</th>
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<tr>
<td>• Dedicated bus lanes</td>
<td>• Split local/express service</td>
</tr>
<tr>
<td>• Modular boarding platforms</td>
<td>• Stop consolidations</td>
</tr>
<tr>
<td>• Signage</td>
<td>• Prepaid boarding areas</td>
</tr>
<tr>
<td>• Queue jump lanes</td>
<td>• Signal timing adjustments</td>
</tr>
<tr>
<td>• Road diets</td>
<td>• Motor vehicle restrictions</td>
</tr>
<tr>
<td>• Separated bike lanes</td>
<td></td>
</tr>
<tr>
<td>• Curb extensions, ped. crossings</td>
<td></td>
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<tr>
<td>• Seating &amp; other amenities</td>
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</table>
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

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

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.

From Oct. 3 to May 2, 2014, elements of MBTA were piloted in Arlington on the northbound side of
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
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.
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!
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?
FHWA approves red street paint for bus lanes
Thanks!
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Fast-Tracked: Tactical Transit in NYC

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
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

Owns 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.

Other Delays
3%

Traffic Lights
21%

Bus Stops
22%

In Motion
54%

Average Typical Weekday Speeds, 2014

- Los Angeles: 10.7 MPH
- Philadelphia: 10 MPH
- Washington, DC: 10 MPH
- Boston: 9.8 MPH
- Chicago: 9 MPH
- San Francisco: 8 MPH
- NYC: 7.4 MPH

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
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
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
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
Background

- Archer Ave, Queens is a major transit hub connecting buses to LIRR and 3 subway lines
- Bus lane chronically blocked
Treatment

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

September 2019 – initial install

October 2019 – delineators displaced

December 2019 – full product displaced
Next Steps

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

Example of different material
Pre-cast concrete in Winnipeg

Deteriorating product from pilot

Initial product installation
Bus Boarders
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 125th St, Manhattan

Disassembly, Utica Av & Avenue N

Reinstallation, 125th St & Lenox Av, Manhattan

New concrete bulb, Utica Av & Avenue N, Brooklyn
72nd Av & 42nd St, Manhattan sidewalk widening

23rd St & 2nd Ave Lenox Av, Manhattan bus bulb

Cypress Hills St, Queens bus stop ADA improvement

14th 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?
TACTICAL TRANSIT:

Using Pilot Projects as Tool for Transformation

Photo: Boston Globe

Jay Monty
Transportation Planner
Everett, Massachusetts
CITY OF EVERETT SNAPSHOTS

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
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 3rd 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
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
By Independent Staff
By Seth Daniel

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 hails bus-only lane as success

When Street Parking Becomes a Pop-Up Bus Lane

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

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

Photos: Ad Hoc Industries
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.
WHY DO A PILOT PROJECT?

• Public Perception and Accountability
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
Today’s Speakers

• Dana Wall, dana@streetplans.org
• Kyle Gabhart, kgebhart@dot.nyc.gov
• Jay Monty, Jay.Monty@ci.everett.ma.us
Get Involved with TRB

- Getting involved is free!
- 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
  - Create your account
  - Update your profile
TRB turns 100 on November 11, 2020

100 YEARS
2020

Help TRB:
- Promote the value of transportation research;
- Recognize, honor, and celebrate the TRB community; and
- Highlight 100 years of accomplishments.

Learn more at www.TRB.org/Centennial

MOVING IDEAS: ADVANCING SOCIETY—100 YEARS OF TRANSPORTATION RESEARCH

The National Academies of SCIENCES • ENGINEERING • MEDICINE