

# Recommendations from Boston City Council Transportation Policy Briefing Series



Report to Boston City Councilors

May 2017

Prepared by: Boston City Council Committee on Parks,  
Recreation & Transportation

# Summary

On November 2, 2016, Boston City Council President Michelle Wu created a legislative docket charging the City Council's Committee on Parks, Recreation and Transportation to host a series of policy briefings about key topics in transportation policy. The monthly series, chaired by Committee Chairman Councilor Sal LaMattina, organized in partnership with Northeastern University Professor of Civil and Environmental Engineering Peter G. Furth, featured presentations and discussions with policy experts, local advocates, and other stakeholders.

This is the first briefing series of its kind hosted by the Boston City Council. All policy briefings were held in City Hall, live-streamed online, and also broadcast on the Boston City Council TV channel. The video recordings remain available on the City of Boston website. Briefings took place on a monthly basis between November 2016 and March 2017.

The goal of the series was to convene transportation policy experts, community advocates, and interested parties to discuss

and explore possible solutions to current transportation problems as they pertain to the City of Boston. Below you will find highlights from each briefing presentation, followed by a list of recommendations specific to Boston and the link to each briefing video.

### **About Professor Peter Furth**

Peter Furth is a Professor of Civil and Environmental Engineering at Northeastern University. He earned his BS, MS, and PhD degrees at MIT, finishing in 1981. His transit research covers routing and scheduling, data collection, ridership estimation and modeling, and transit signal priority. He has been a consultant to more than 25 transit agencies nationwide. Professor Furth also does research in traffic signal control and in bikeway design. In the summers, he teaches a course in the Netherlands on Design for Sustainable Urban Transportation, exposing American students to Dutch best practices in transit- and bike-oriented urban planning, bikeway design, transit priority, and traffic safety.

## **Policy Briefing Topics**

November 2016.....	<b>Low Stress Bicycle Network</b>
December 2016.....	<b>Pedestrian Service and Safety</b>
January 2017.....	<b>Systematic Safety and VisionZero</b>
February 2017.....	<b>Transit Priority</b>
March 2017.....	<b>Parking Management</b>

# Briefing 1: Low Stress Bicycle Network

## Presenter

Professor Peter Furth, Northeastern University

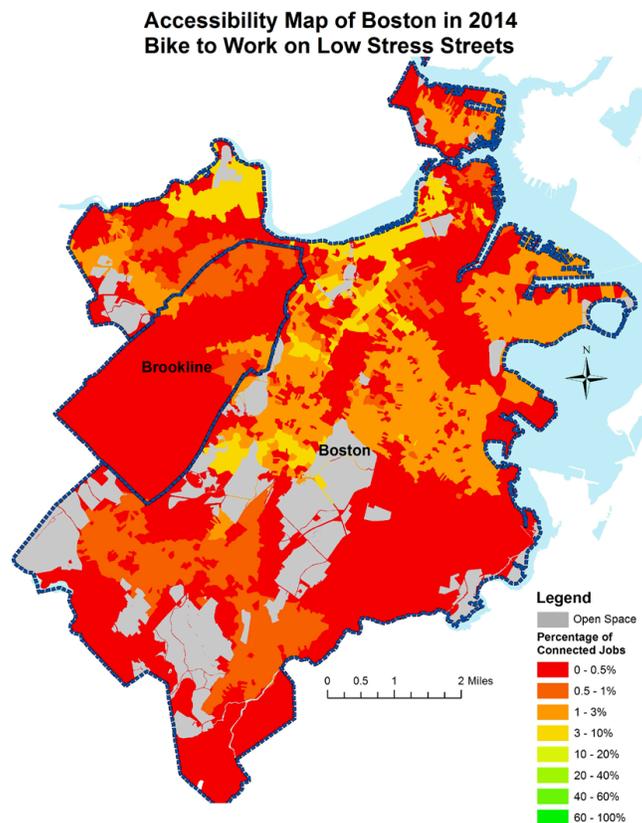
## Panelists

Jeff Rosenblum, Livable Streets Alliance

Chris (Gijs) Hoogerwerf, Transportation consultant from The Netherlands

If you don't mind riding on high-stress roads, you can go anywhere on your bike in Boston. But for those who aren't willing to use roads with high traffic stress, it may be impossible to rely on bike commuting in the city. To make cycling accessible for the mainstream population, there must be low-stress connectivity between destinations, with routes between origins and endpoints that do not require cyclists to use links that exceed their tolerance for traffic stress and do not involve an undue level of detour.

In this briefing, Professor Furth explains how researchers have categorized and analyzed low-stress roads in Boston, as well as identifying key connections for creating low-stress commuting routes across the city. According to Professor Furth's classification system, Traffic Stress Level 1 and 2 roads are comfortable for the mainstream population to use by bicycle. Currently, there are significant gaps in accessibility and connectivity of Level 1 and 2 streets between home and work for most residents.

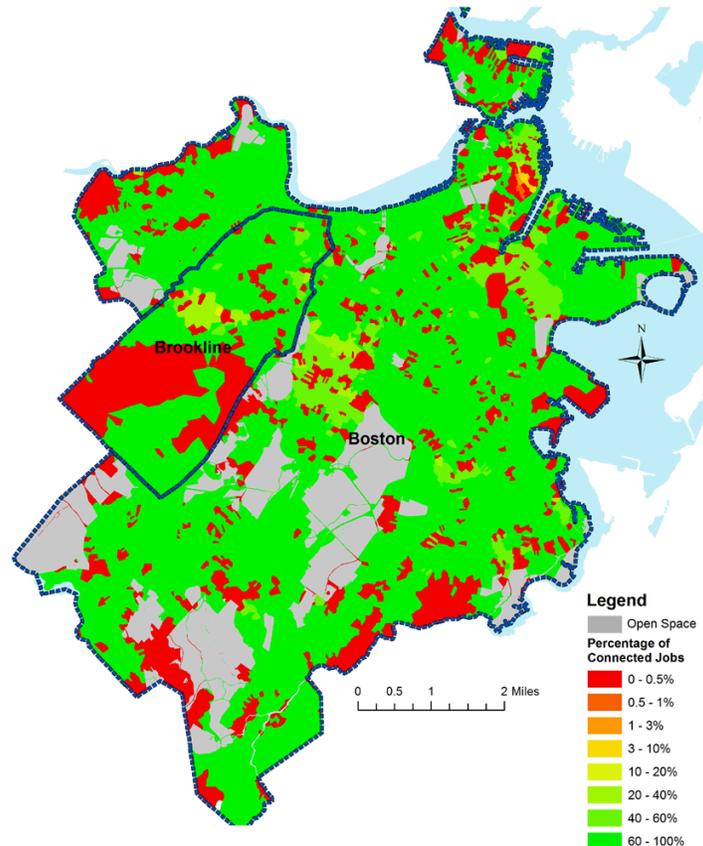


*Not well connected Low Stress Streets for biking to work (2015 situation)*

With improvements described in the 'Bikeways for Everybody' program, this can be improved from 1.3% home-work bike

connectivity to 58.1% home-work bike connectivity on Level 1 and Level 2 Streets.

Accessibility Map of Boston after implementing Bikeways for Everybody  
Bike to Work on Low Stress Streets



*Well connected Low Stress Streets for biking to work (with Bikeways for Everybody program)*

## Recommendations for Boston

- Build political will to recognize biking as a serious mode of transportation
- Designate a capital budget of around \$20 per resident per year, or \$13M, to invest in bicycle infrastructure
- Introduce engineering flexibility, i.e. embrace contraflow at one-direction roads
- Invest in infrastructure, prioritized based on potential to eliminate connectivity barriers for major network routes between home and work

Watch the briefing: [https://www.cityofboston.gov/citycouncil/cc\\_video\\_library.asp?id=11126](https://www.cityofboston.gov/citycouncil/cc_video_library.asp?id=11126)

Further reading: <http://transweb.sjsu.edu/project/1005.html>

# Briefing 2: Pedestrian Service and Safety

## Presenters

Wendy Landman, WalkBoston

Marah Holland, Madison Park Development Corporation

Boston is known for being a walkable city. But that doesn't mean walking in Boston is comfortable and safe enough. We can improve pedestrian safety and the walking experience by implementing safer crosswalks, smart signal timing, narrow lane widths and much more. In doing so, we not only strengthen a major mode of

transportation, but also improve public health outcomes for residents.

In this briefing, Wendy Landman and Marah Holland make clear why walking is a very important, but often overlooked, mode of transportation – and how we can improve it.



*How communities can help promote physical activity*

## Recommendations for Boston

- Provide safe crossings and smooth walkways
- Maintain pedestrian environment year-round (snow removal, trash collection, building façade improvements)
- Improve road design, with more focus on pedestrians (i.e. narrow lane widths, curb extensions, raised crosswalks, etc.)
- Investigate signal timing. Studies have shown that when countdown signals are installed at high crash intersections, pedestrian crashes have dropped by 50%
- Improve wayfinding for pedestrians
- Speak up about walking issues at community meetings
- Use Boston 311 to report walking issues (and follow up)
- Contact local media to highlight the importance of safe walking
- Join with others to start a pedestrian committee in your neighborhood

Watch the briefing: [https://www.cityofboston.gov/citycouncil/cc\\_video\\_library.asp?id=11138](https://www.cityofboston.gov/citycouncil/cc_video_library.asp?id=11138)

# Briefing 3: Systematic Safety

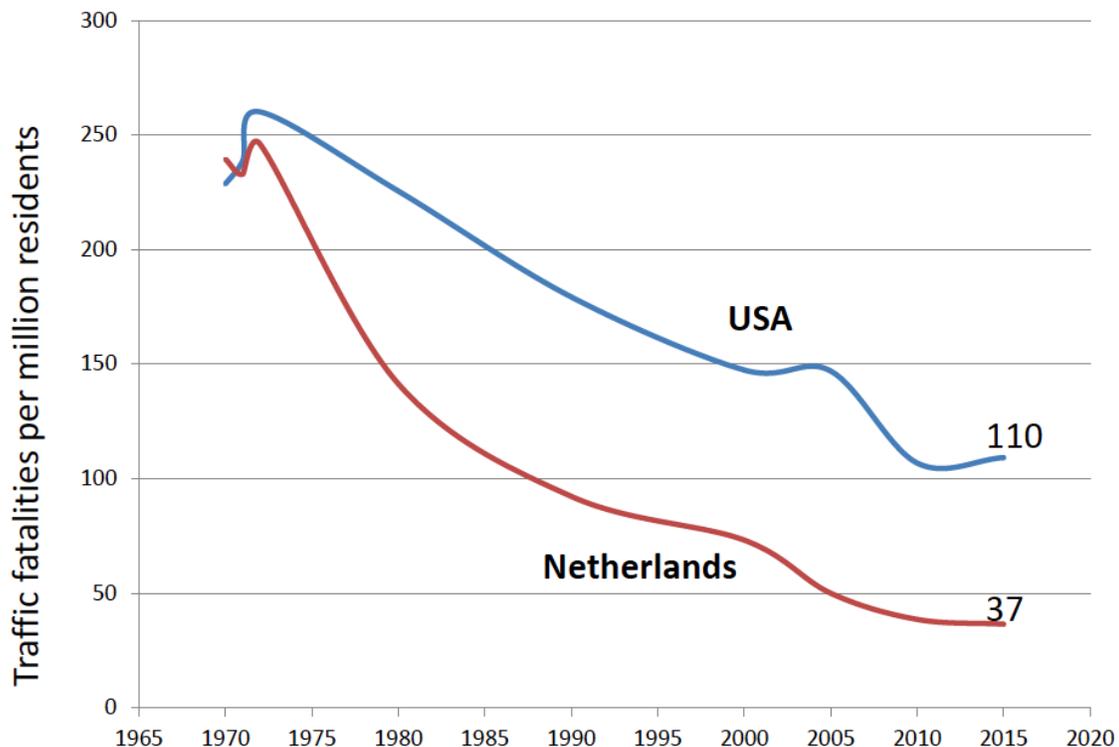
## Presenters

Professor Peter Furth, Northeastern University

Chris (Gijs) Hoogerwerf, Transportation consultant from The Netherlands

The City of Boston has developed a Vision Zero program to improve traffic safety, with the important goal of eliminating fatal and serious traffic crashes in the city. Reaching that goal will require systematically improving the transportation network to increase safety for all users. In this briefing,

Professor Furth introduces a Systematic Safety action plan for Boston, including solutions for speed control, suggestions for road diets, separation and recognizability for bikes, safe cross walks and long term policies for reducing auto use.



*A comparison of traffic fatalities between The Netherlands and US.*

This briefing also featured the debut of Professor Furth's video on Systematic Safety. Using examples from The Netherlands, the video shows that a safer

transportation network not only increases traffic safety, but also creates low-stress bicycle networks and multimodal transit.

Watch the video about Systematic Safety: <https://youtu.be/5aNtsWvNYKE>

## Recommendations for Boston

- Achieve speed targets by developing a speed target policy with specific treatments for different road types
- Smaller *is* better: convert 2+2 lanes to 1+1 lanes, with turn pockets so that turning vehicles don't block a lane. This will improve speed control, create safer crossings and create space for bike lanes
- Separate bicycles from vehicles at major, multilane roads
- Make the bicycle path recognizable by coloring the bicycle lanes



*Recognizability for bikes: green lanes*

- Allow contraflow cycling at one-direction roads
- Crosswalks: set preference for crossing one lane at a time and never to cross more than 2 through lanes at a time. Install zebra striping, beacons, raised crossings and in-street yield signs. Develop signal timing policies for improving pedestrian and bicycle safety
- Develop long-term policies for reducing vehicle dependence, like rational parking pricing (see also briefing 5), better transit (see also briefing 4) and transit-orientated development
- Change the culture! In The Netherlands, Systematic Safety has taken over transportation planning and engineering, with incredible results: more biking and fewer traffic fatalities and crashes
- Implement traffic safety programs with other programs, for instance road maintenance, neighborhood improvement, development programs and climate change programs, like upgrading storm water sewers

Watch the briefing: [https://www.cityofboston.gov/citycouncil/cc\\_video\\_library.asp?id=11146](https://www.cityofboston.gov/citycouncil/cc_video_library.asp?id=11146)

# Briefing 4: Transit Signal Priority

## Presenter

Professor Peter Furth, Northeastern University

The Boston transit system doesn't have priority at signalized and unsignalized intersections. That means that buses and Green Line trolleys lose a lot of time waiting to get a green light. Transit riders greatly value improvements in frequency and travel time, and these two factors appear to drive overall satisfaction with transit. With relatively simple tweaks in signal prioritization, transit in Boston can be more

reliable and faster, which can attract current car drivers to use transit. Priority determines whether people are switching *to* transit or *from* transit.

In this briefing, Professor Furth shows how other cities deal with transit signal priority and paints a vision for Boston with transit priority at intersections.

**Zurich**                      Near zero traffic delay, impeccable punctuality for trams

**The Hague**                Bus lane, tram reservations, priority at all traffic lights

**Portland**                    Green wave for light rail station-to-station; priority for buses as well

**Salt Lake City**            Priority for light rail at all traffic lights

**Boston**                     All (i.e., underground) or Nothing, mostly

*What transit priority looks like in other cities*

Route	Passengers (Million/y)	Impact to MBTA Operations		Impact to Riders		Total (\$M/y)	Cost per passenger
		running time impact (\$M/y)	recovery time impact (\$M/y)	riding time impact (\$M/y)	wait + buffer impact (\$M/y)		
1	4.1	0.80	0.41	2.3	3.8	7.3	\$ 1.79
9	1.9	0.36	0.27	0.6	1.1	2.3	\$ 1.26
28	4.4	0.79	0.30	2.4	4.3	7.7	\$ 1.78
<b>9 Routes</b>	<b>25.9</b>	<b>5.91</b>	<b>2.20</b>	<b>15.0</b>	<b>22.3</b>	<b>\$45.4</b>	<b>\$ 1.76</b>

*How traffic congestion harms Boston transit*

## Recommendations for Boston

- Work toward having smart, flexible signal control
- From the MBTA’s perspective: measure the transit delays, advocate to City of Boston for faster routes and better signal service, be creative
- From the State’s perspective: give incentives for transit priority
- From the City’s perspective: make serving transit well an institutional priority
- Install priority-friendly traffic signals. The current standard signal mode in Boston, the “coordinated-actuated,” is transit-unfriendly
- Consider self-organizing signals. The coordination is organic, not fixed, and is self-healing, allowing transit interruptions

Watch the briefing: [https://www.cityofboston.gov/citycouncil/cc\\_video\\_library.asp?id=11156](https://www.cityofboston.gov/citycouncil/cc_video_library.asp?id=11156)

# Briefing 5: Parking Management

## Presenter

Professor Mark Chase, Tufts University

## Panelist

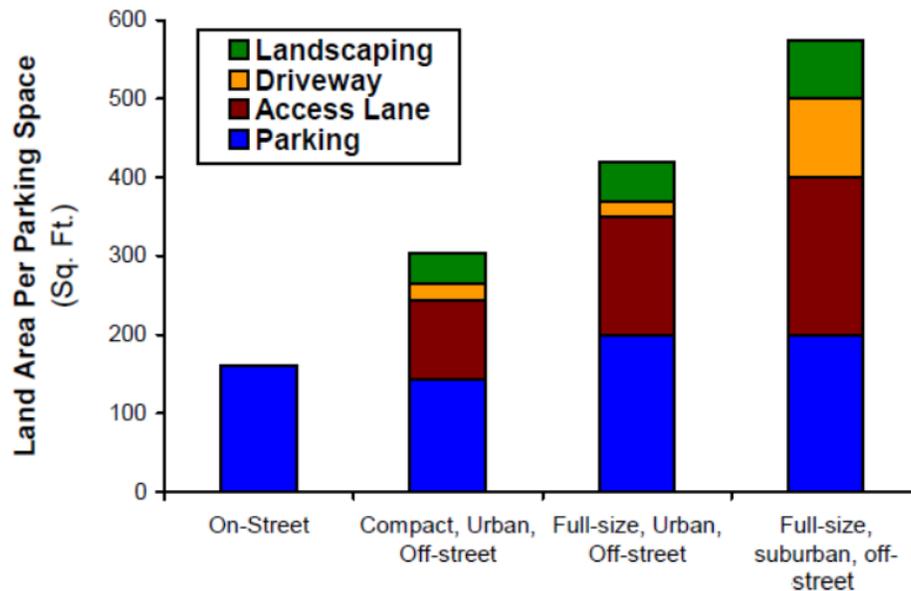
Professor Peter Furth, Northeastern University

Parking may be the most discussed topic in transportation policy. Everyone wants to have a parking spot as close to his or her destination as possible. But on the other hand, nobody likes to pay for parking. However, popular parking spots and cheap parking don't go together, because parking demands a great deal of space, which is scarce and expensive in Boston.

In this briefing, Professor Mark Chase shows that there are solutions to create more

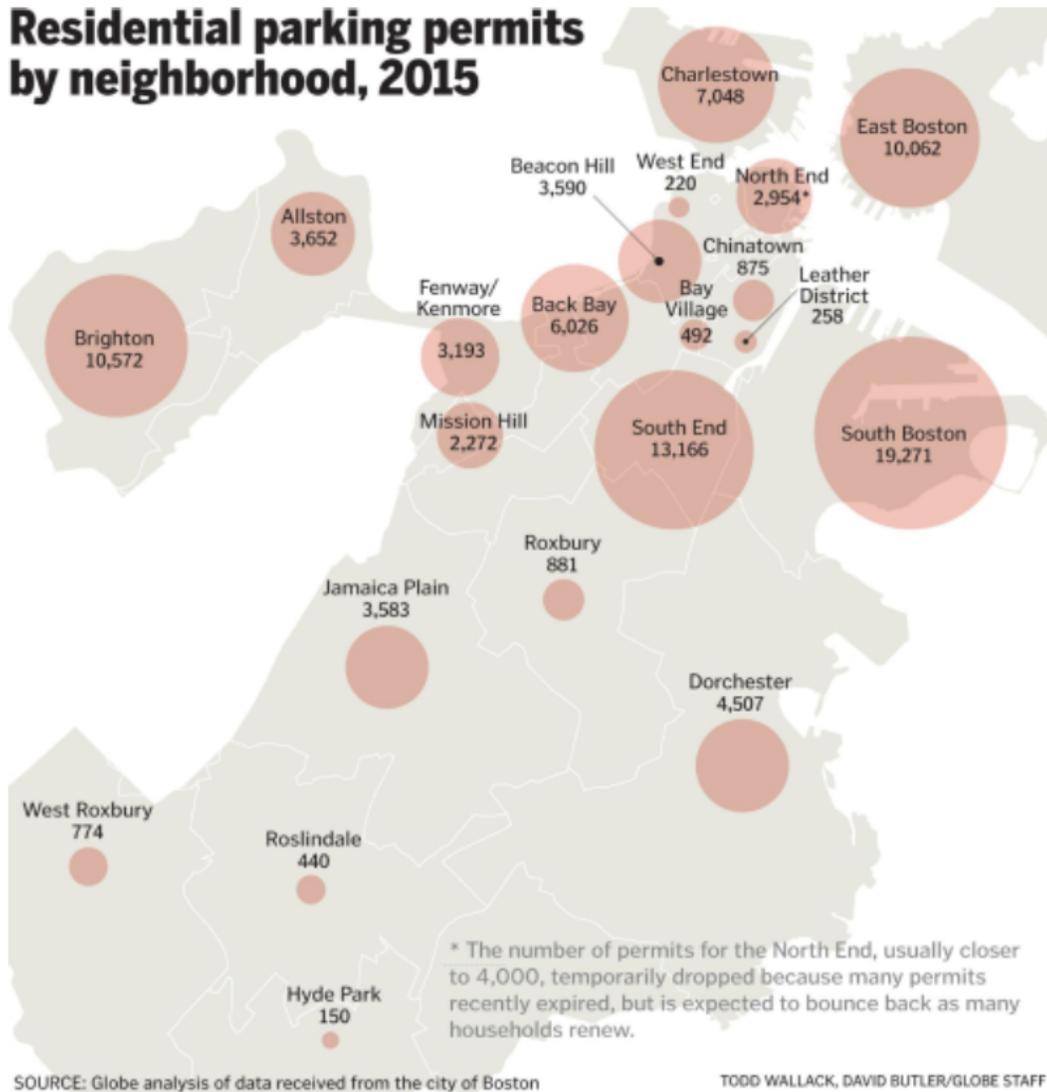
available parking spots with the same amount of parking space. A smarter parking management policy—that sets the right balance between parking pricing and location—allows car drivers to assess their behavior and make choices. Managing parking is about demand, not about generating revenue, so parking rates should aim for the lowest fee to achieve equilibrium between supply and demand.

**Figure 2** Typical Parking Facility Land Use (“Parking Evaluation,” VTPI, 2005)



*Typical parking facility land use (2005)*

## Residential parking permits by neighborhood, 2015



*Residential parking permits by neighborhood (2015)*

## Recommendations for Boston

- Learn from other cities, like Old Pasadena, Nashua and San Francisco
- Set parking rates to manage parking availability, not to generate revenue
- Use the revenues from parking rates and permits to invest in neighborhood projects
- Get support from merchants to increase curb parking rate
- Update the parking permit program to have more tools in hand to manage the parking in residential neighborhoods

Watch the briefing: [https://www.cityofboston.gov/citycouncil/cc\\_video\\_library.asp?id=11170](https://www.cityofboston.gov/citycouncil/cc_video_library.asp?id=11170)