

A Low-Stress, Connected Bike Network for Boston



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The Imperative of Mass Cycling

- Public Health
- Climate Change & Sustainability
- Equity



Miller's River path, Charlestown



After school in the Netherlands

Mass Cycling is a Proven Strategy



Utrecht



Portland, Oregon

But one thing stands in the way ...



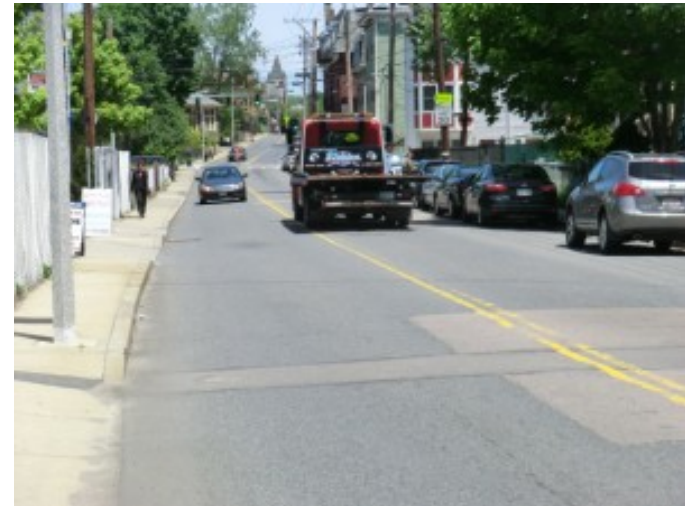
It's the infrastructure, stupid.

Level of Traffic Stress 4



For the “Strong and Fearless”

Level of Traffic Stress 3



For the “Enthused and Confident”

Level of Traffic Stress 2



For the Mainstream Population,
the “Interested But Concerned”

Level of Traffic Stress 1



Suitable for Children cyclists

LTS Criteria for 1: Bike Lanes Next to Parking

Lanes per direction	Bike lane + parking lane width	Prevailing Traffic Speed			
		< 25 mph	30 mph	35 mph	40+ mph
1	15+ ft	LTS 1	LTS 2	LTS 3	LTS 4
	12 - 14 ft	LTS 2	LTS 2	LTS 3	LTS 4
2+	12+ ft	LTS 3	LTS 3	LTS 3	LTS 4

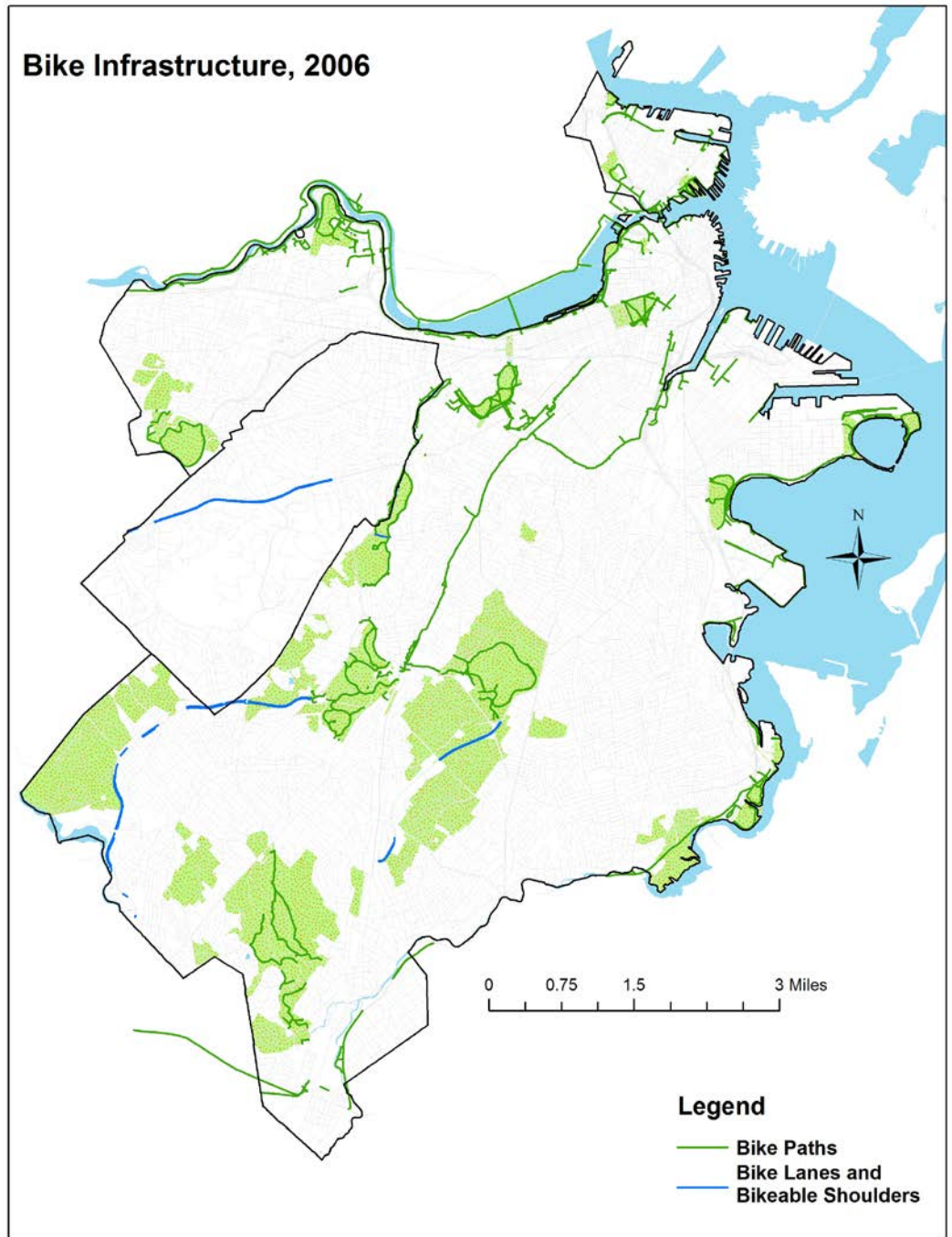
For bike lanes that are frequently blocked, use mixed traffic criteria

LTS Criteria for 2: Mixed Traffic

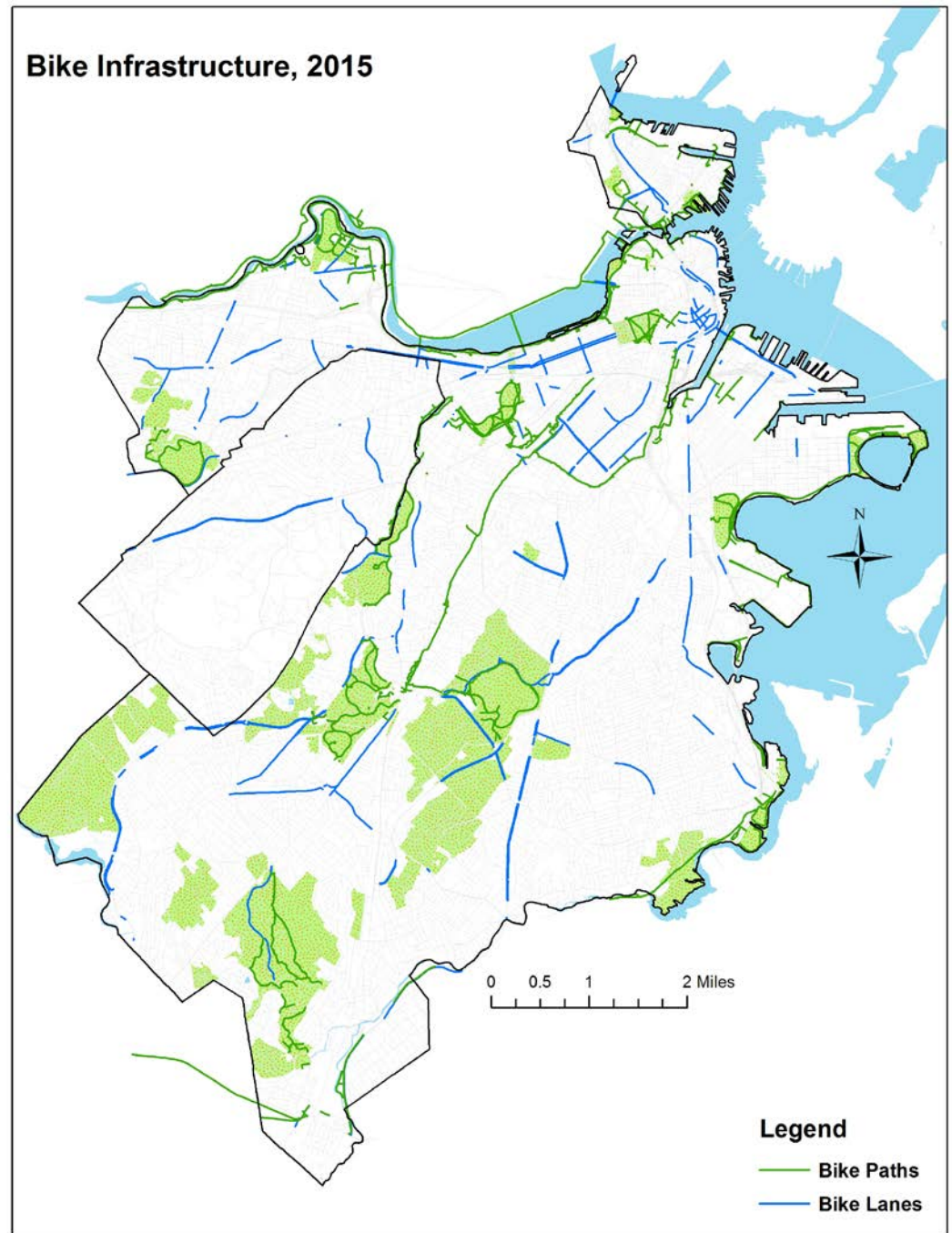
Functional Class	Through Travel Lanes	Speed			
		≤ 20 mph	25 mph	30 mph	35+ mph
Local	--	LTS 1			
Other	Unlaned 2-way*	LTS 1	LTS 2	LTS 2	LTS 3
	1 lane per direction	LTS 2	LTS 3	LTS 3	LTS 4
	Multilane	LTS 3	LTS 3	LTS 4	LTS 4

* With ADT (average daily traffic) less than 4,000

Bike Infrastructure, 2006

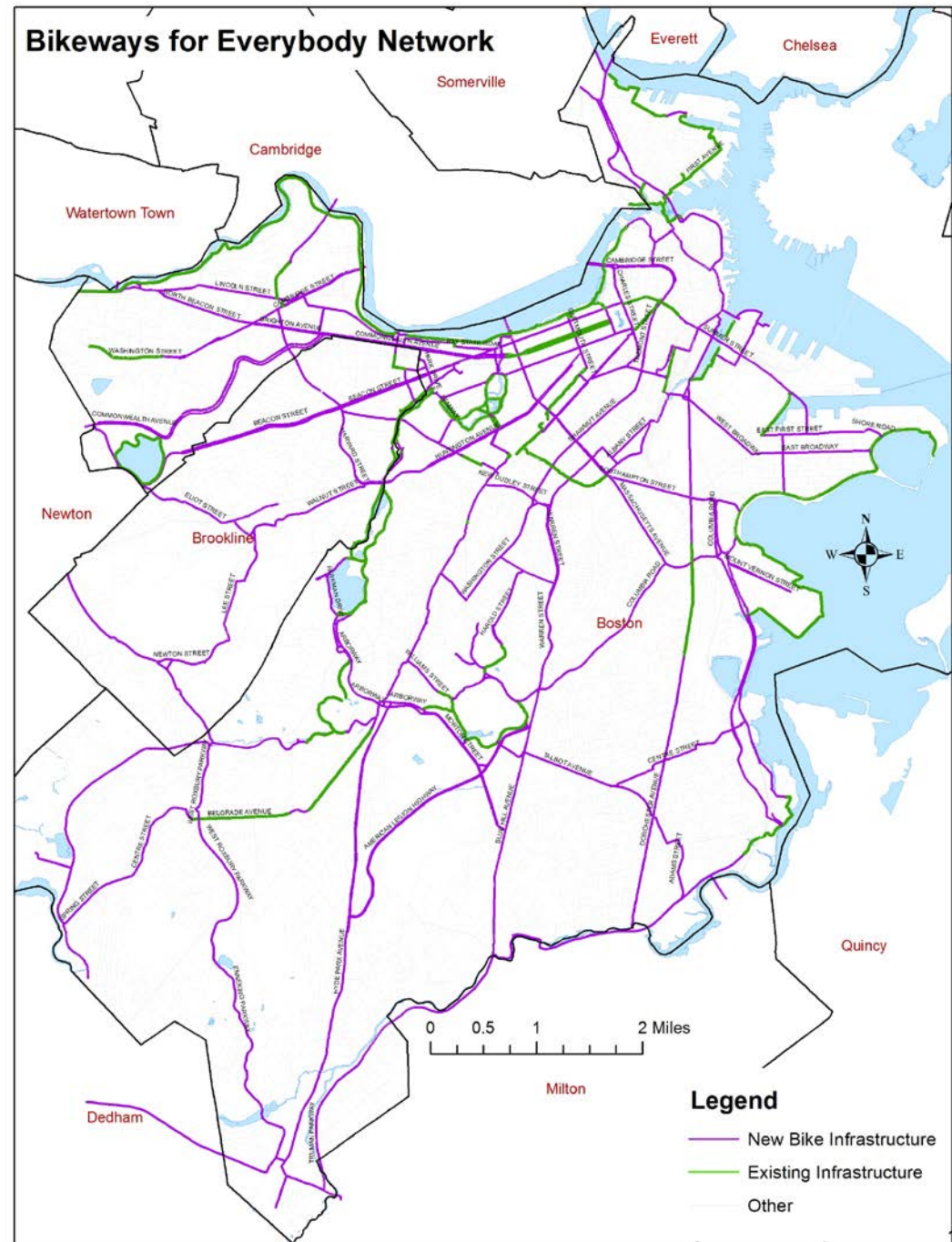


Bike Infrastructure, start of 2015

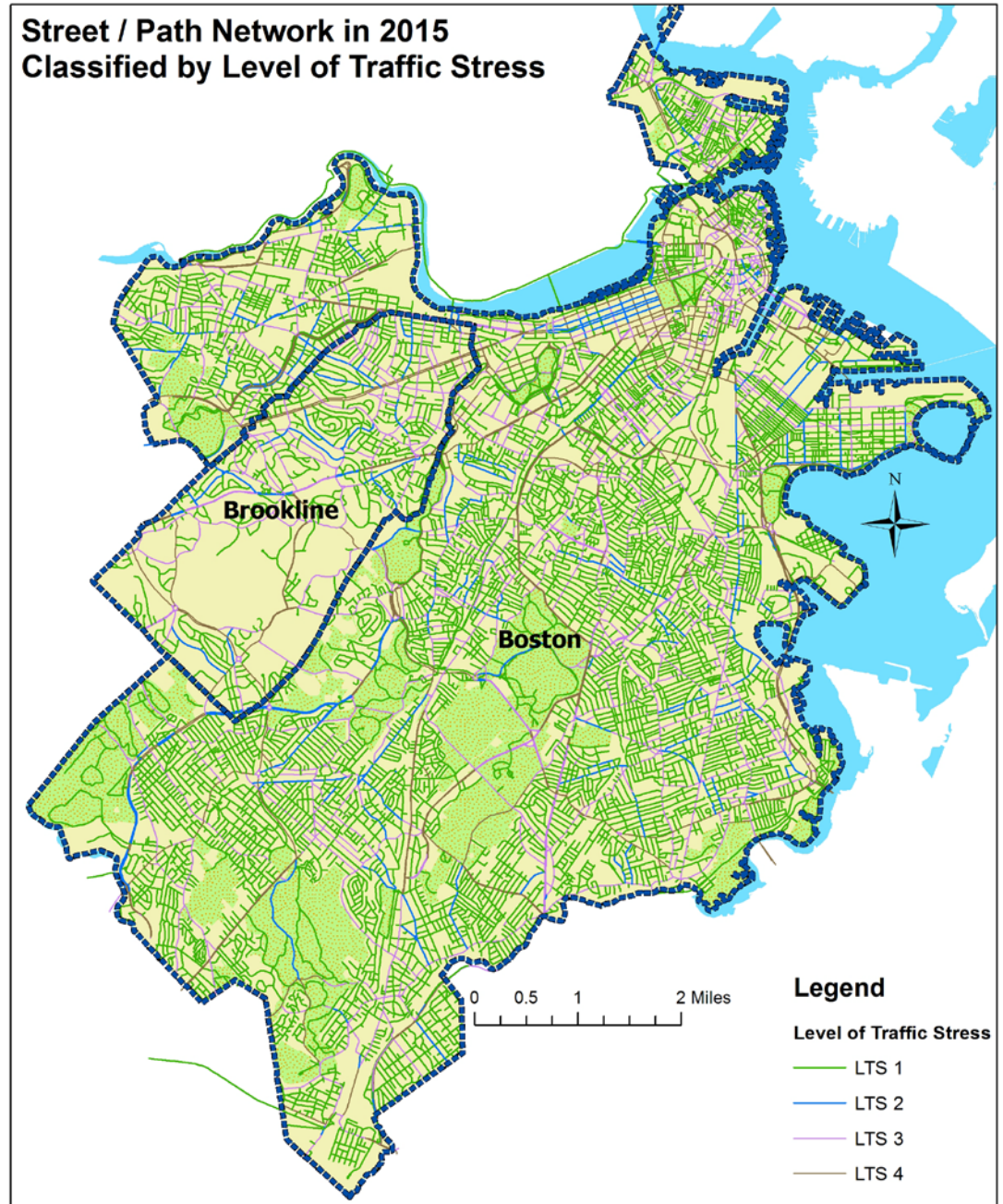


Bikeways For Everybody

Incorporating
Emerald
Network and
other Main
Street routes



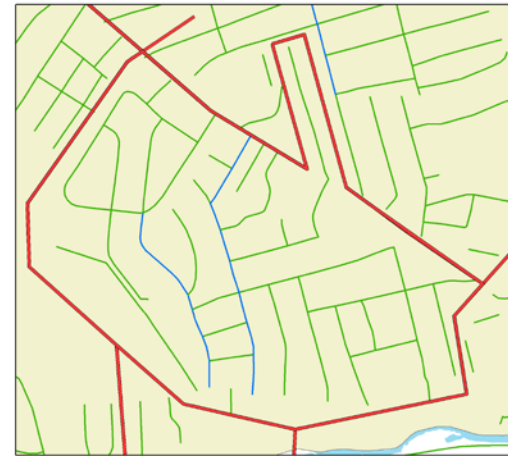
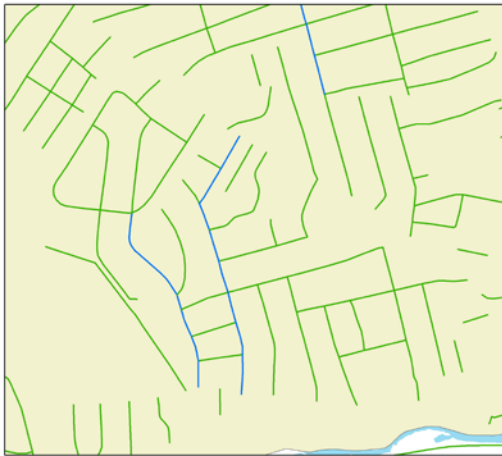
LTS
Classification,
2015



Low Stress Network, 2015

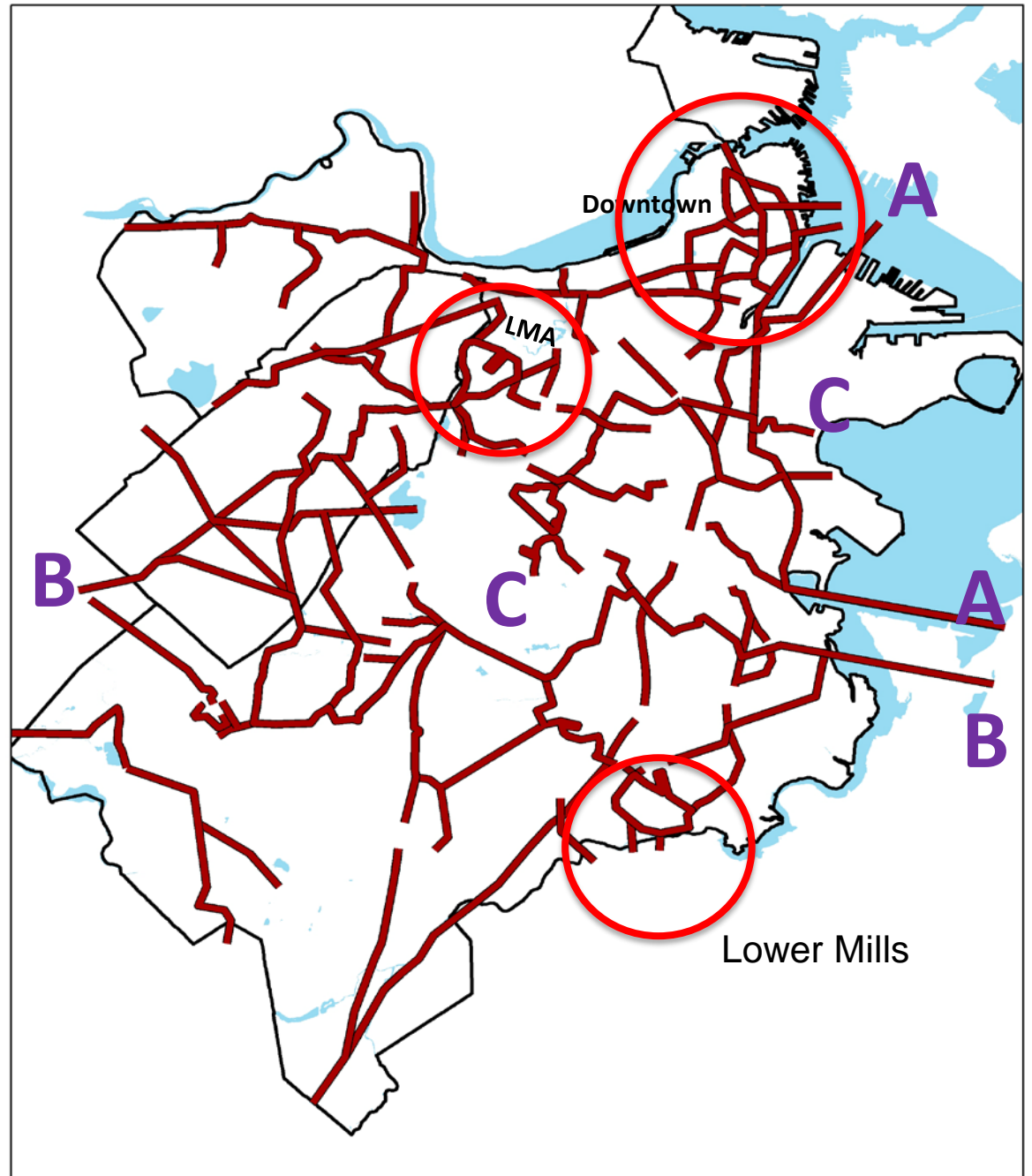


Long Gaps are “Connectivity Barriers”

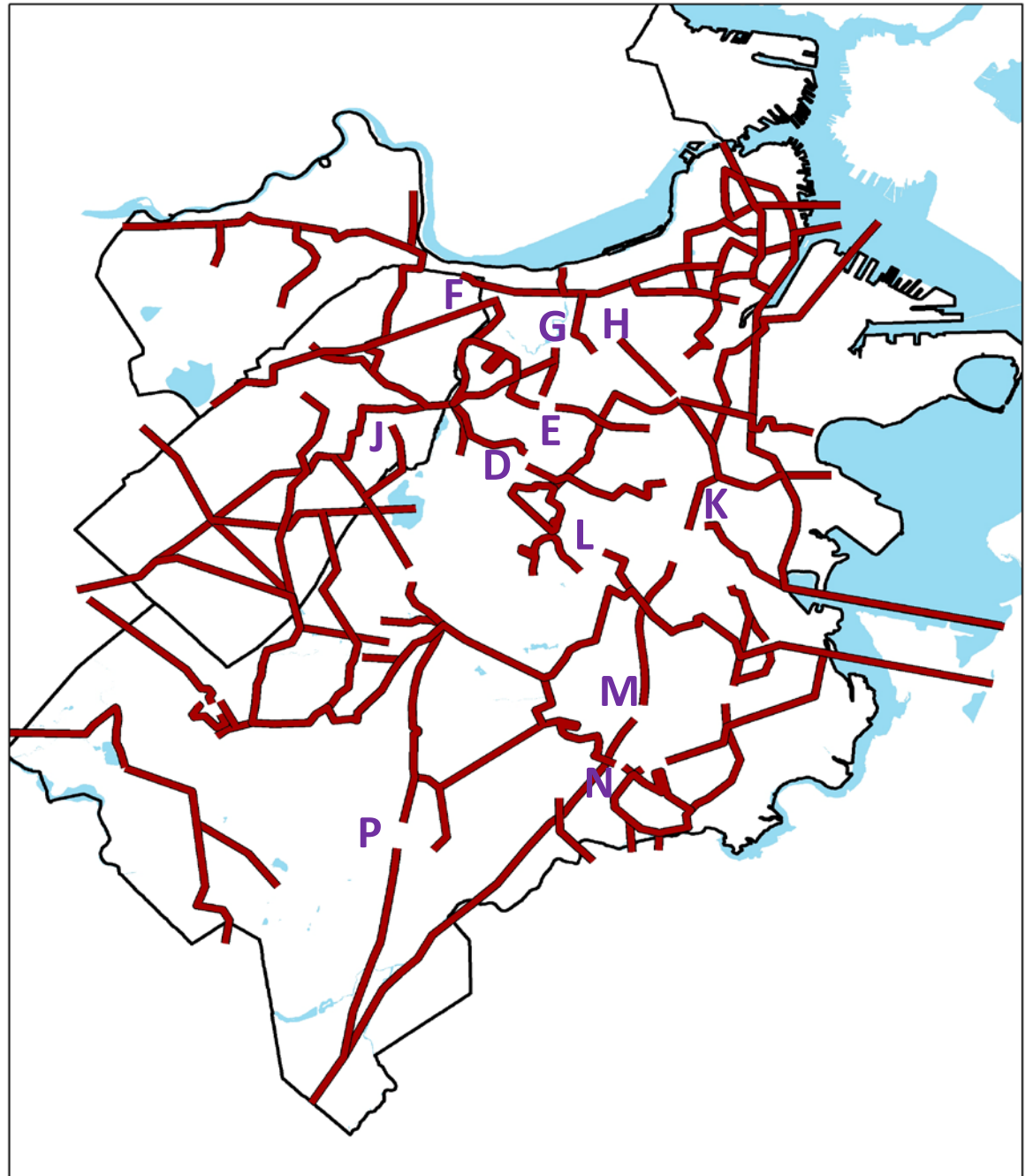


Dorchester Lower Mills / Mattapan

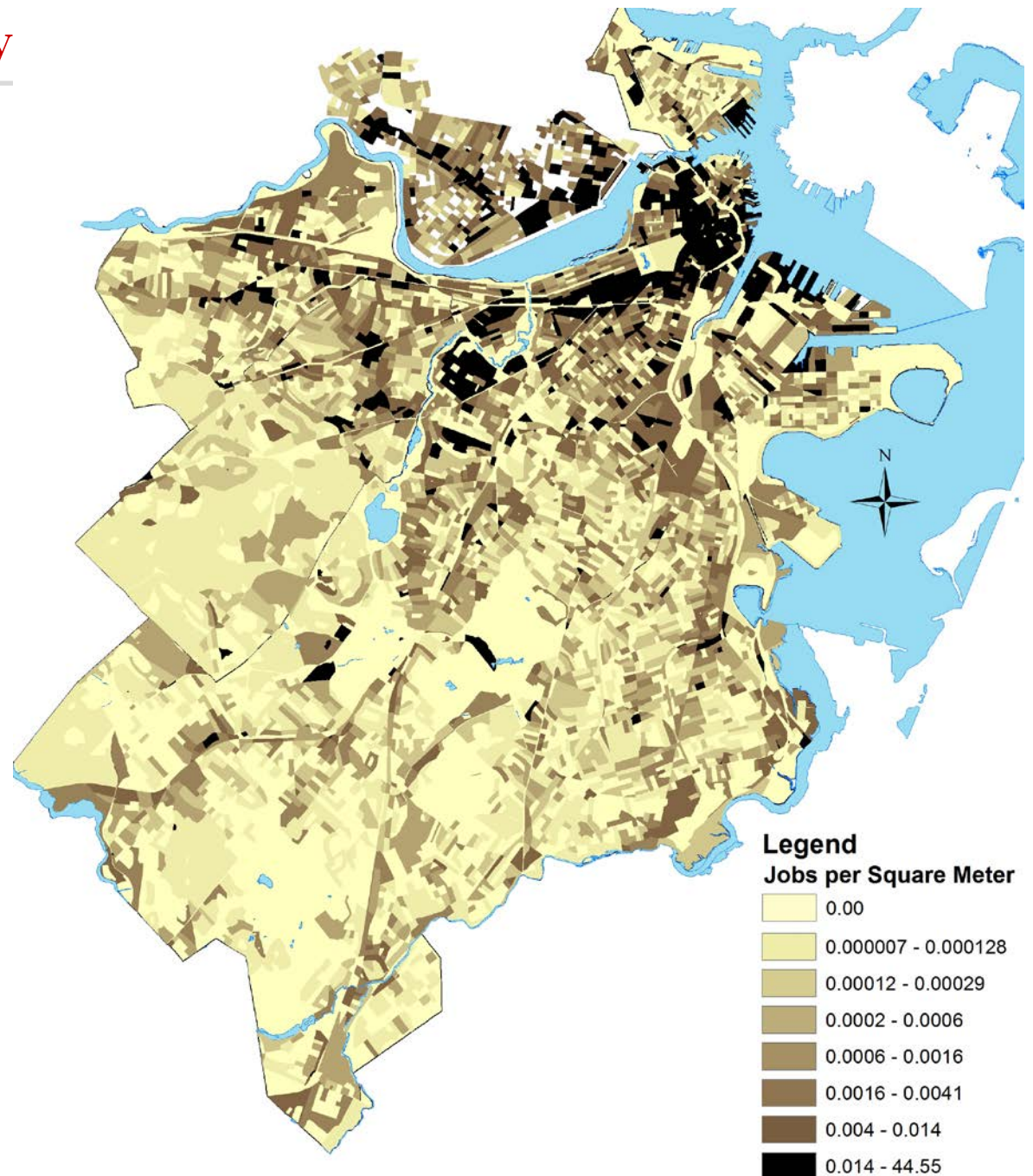
Connectivity Barriers across the City



Breaches in the Barriers



Is there a
low stress
route
between
homes and
jobs?



Percentage of Jobs Connected to Homes by Level of Traffic Stress

Network	at LTS 1	at LTS 2	at LTS 3	at LTS 4
2006	0.5%	0.7%	61.7%	100.0%
2015	0.5%	1.3%	75.4%	100.0%
Bikeways For Everybody	40.9%	58.1%	92.5%	100.0%

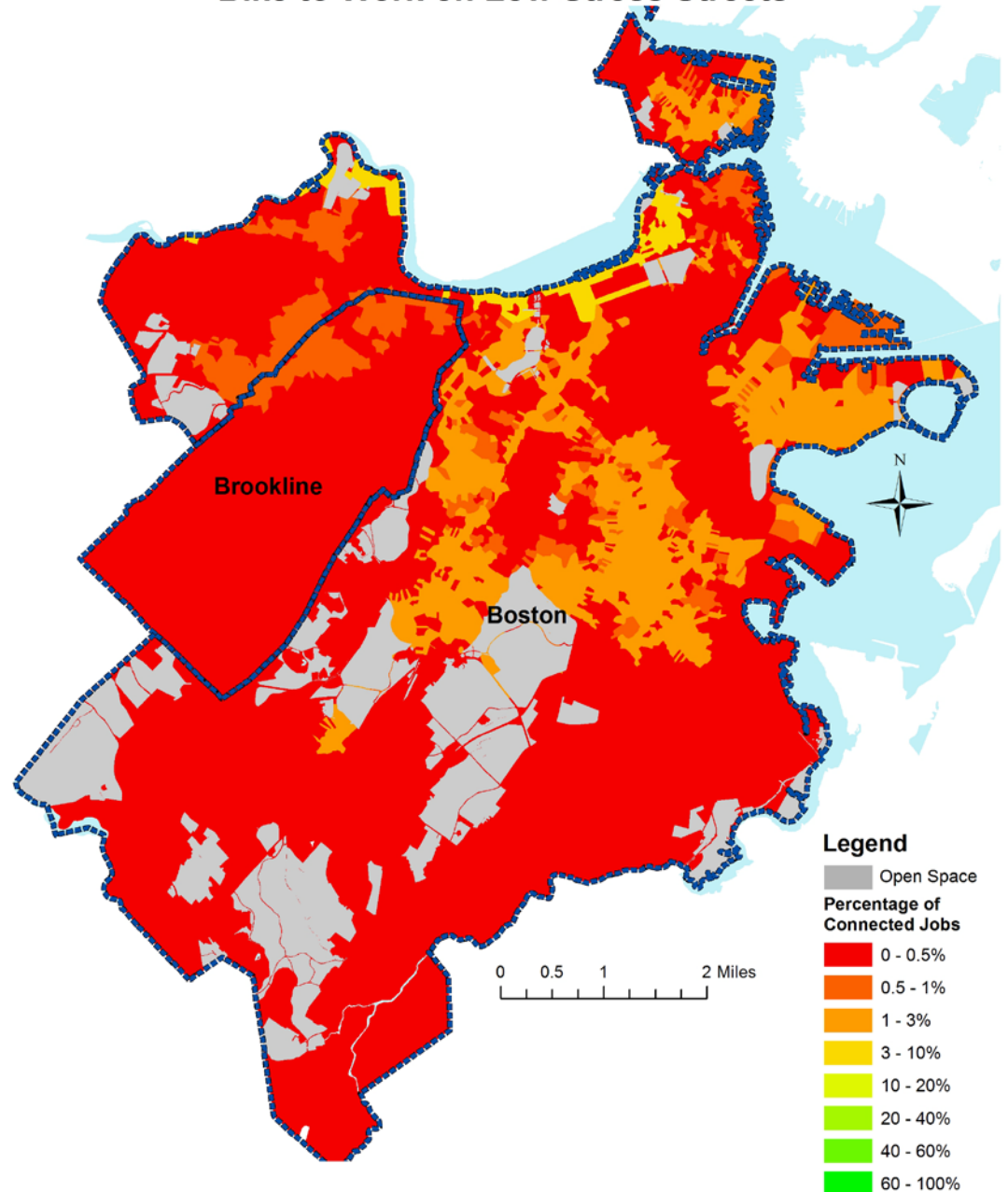
Homes in Boston and Brookline, excluding East Boston

Jobs in Homes in Boston, Brookline, and Cambridge, excluding East Boston

Percentage of
Jobs that are
Accessible by
Neighborhood:

2006

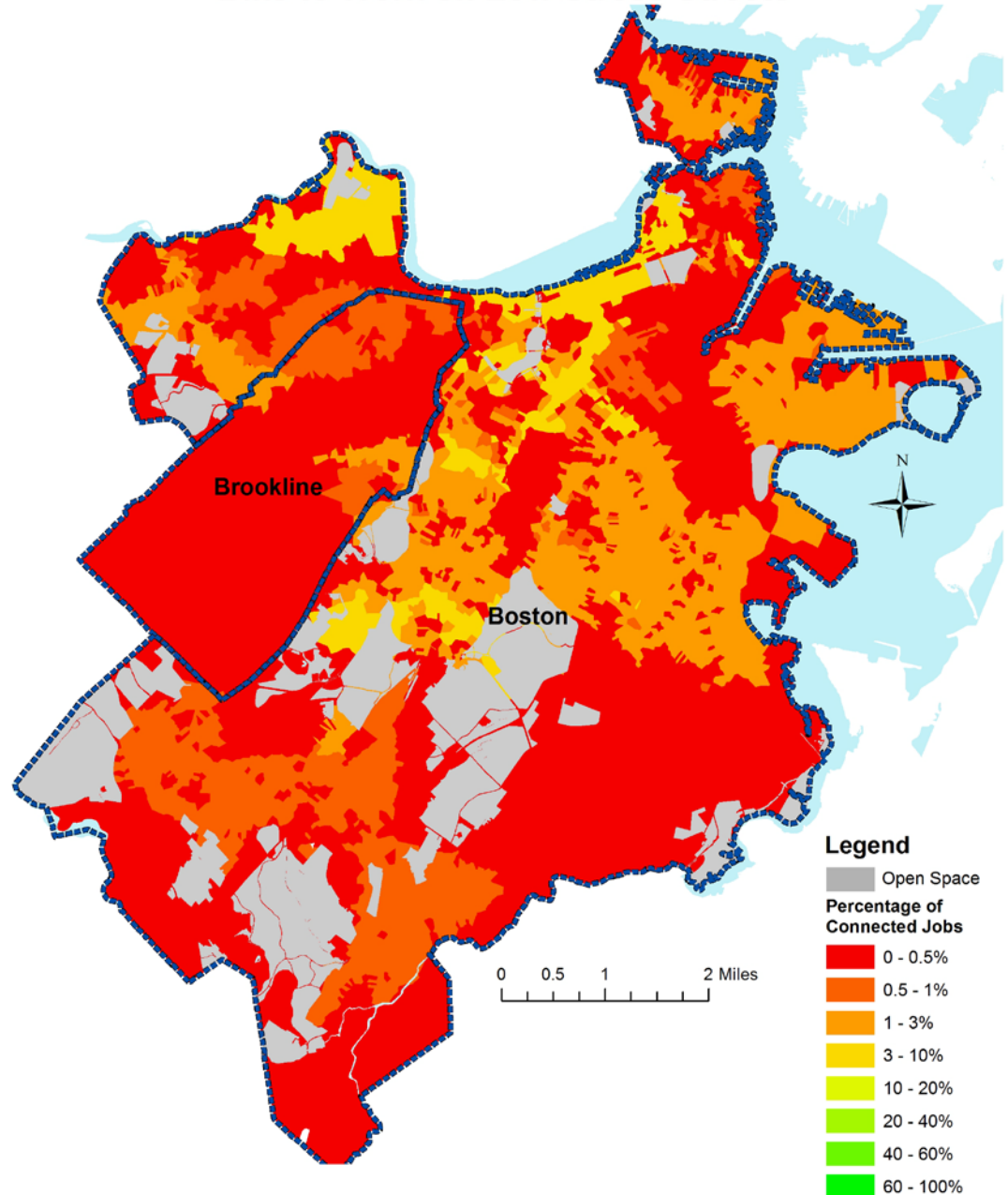
Overall average:
0.7%



Percentage of
Jobs that are
Accessible by
Neighborhood:

2015

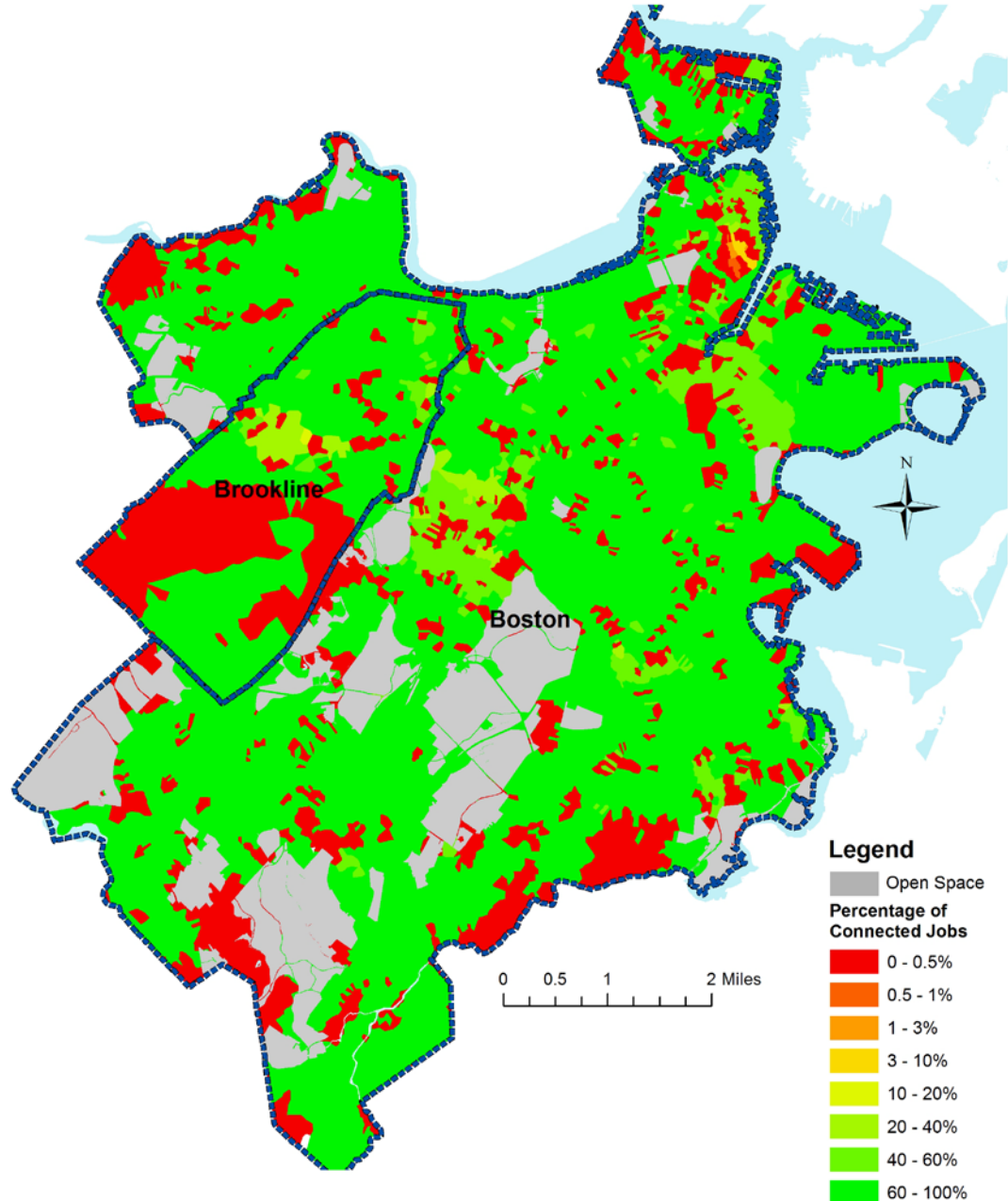
Overall average:
1.3%



Percentage of
Jobs that are
Accessible by
Neighborhood:

Bikeways For
Everybody

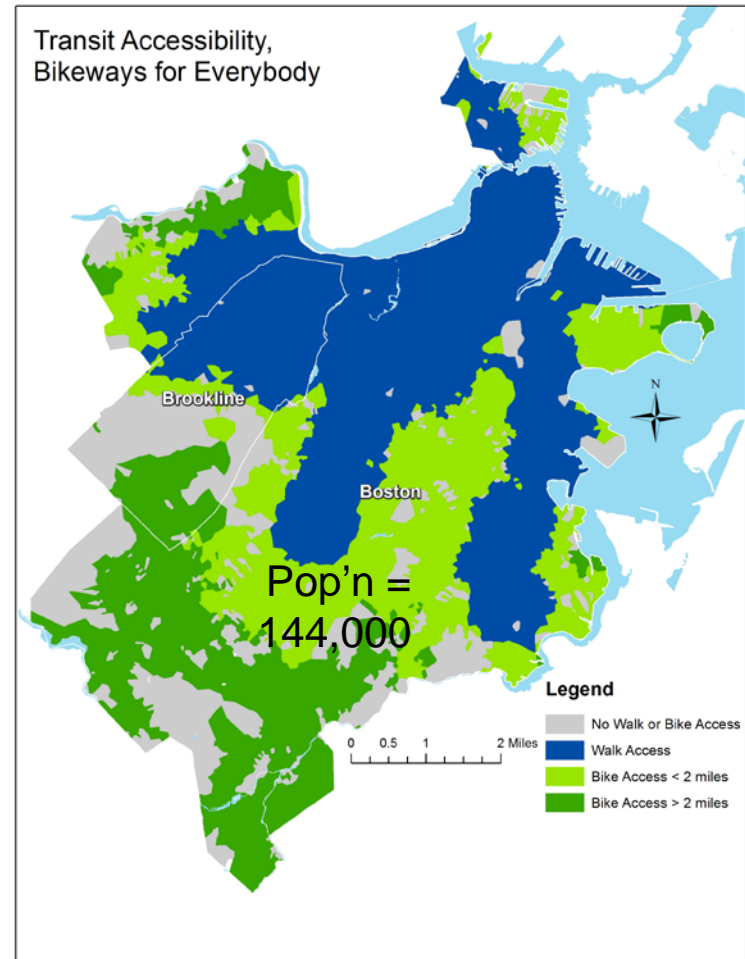
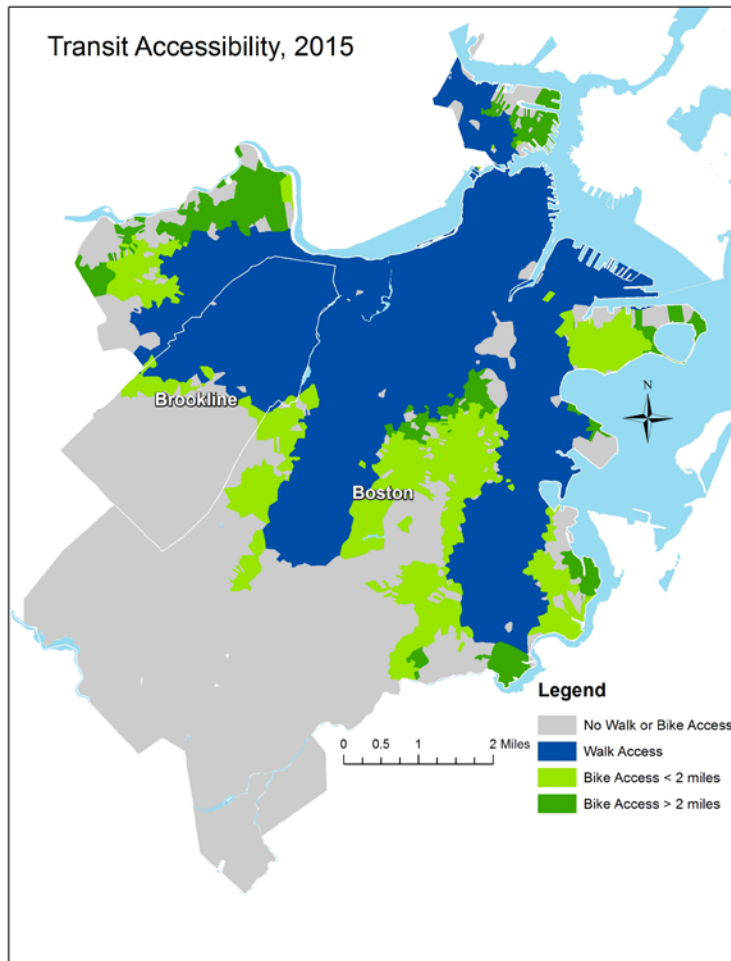
Overall average:
58%



Low-Stress Accessibility to Transit

2015

Bikeways For Everybody



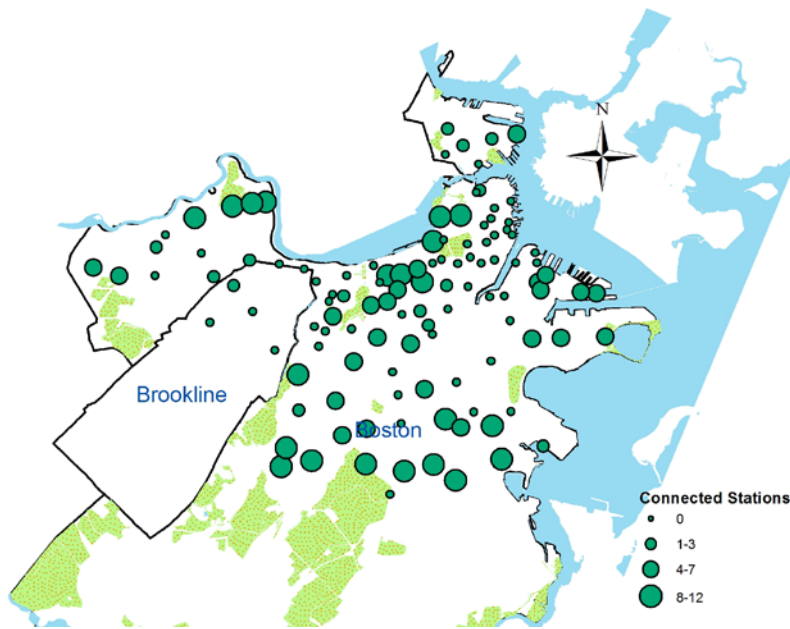
Hubway-to-Hubway Connectivity

2015

Bikeways For Everybody

Maximum connectivity is to 12 stations

Every station is connected to 100 other stations



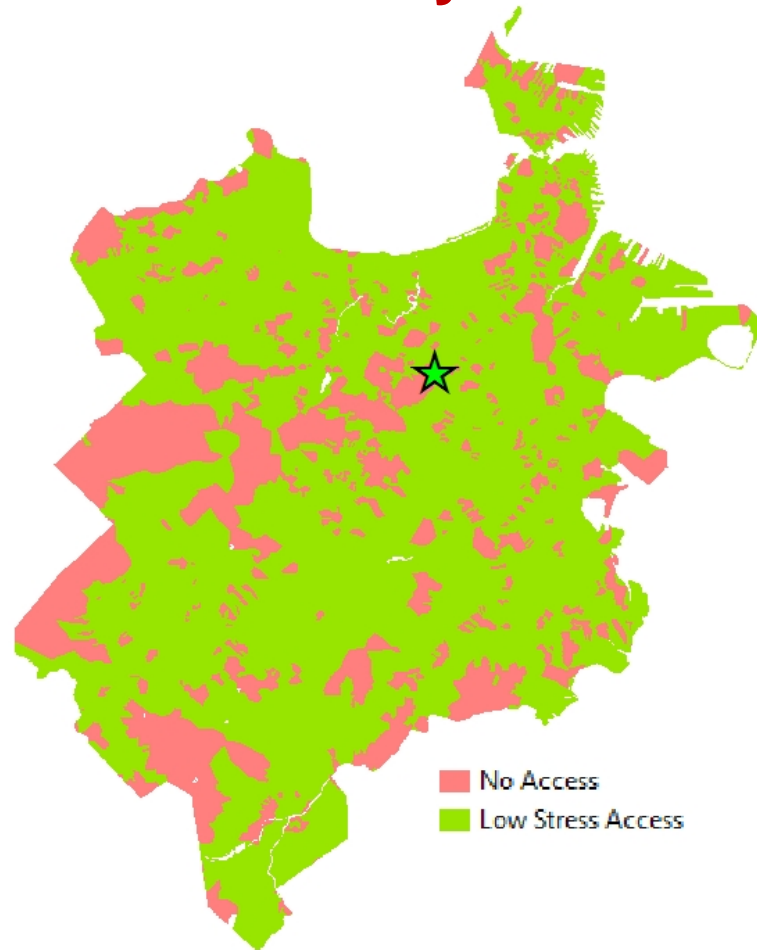
Low-Stress Accessibility to High School

Sample: John D O'Bryant School of Mathematics & Science

2015

Bikeways for Everybody

There is no low-stress accessibility in the 2015 network



Policy Changes Needed to Achieve a Connected Low-Stress Network

1. Capital budget, around \$20 per person per year, or \$13M
2. Political courage
3. Engineering flexibility – embrace contraflow

A Sampling of Needed Projects

- Public Garden Ring
- Malcolm X + Washington St, Dudley – Egleston Sq
- Bay State Road
- Columbia Road + Mass Av (Newmarket)
- Cambridge St (downtown)
- Southampton St

