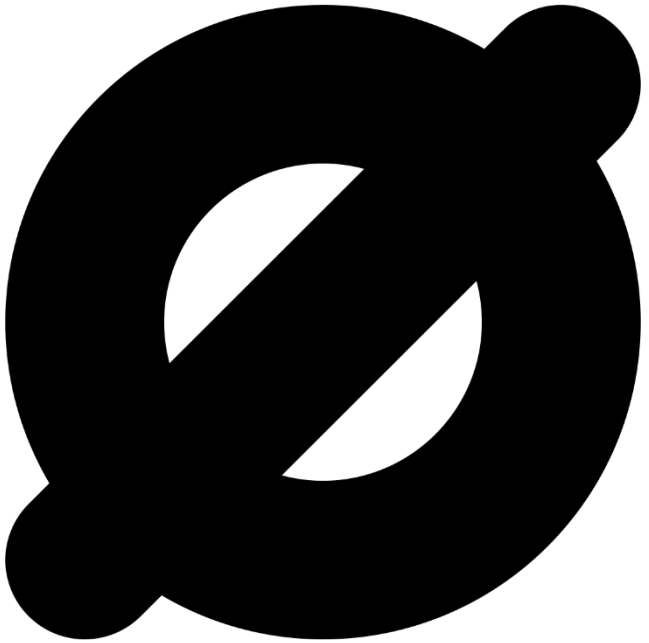


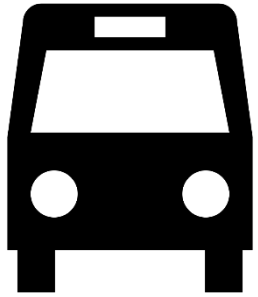
Vision Zero

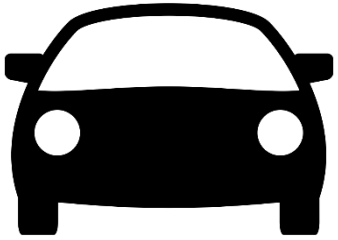
Planning for Cities and Towns in Massachusetts

ICC June 14, 2017

Traffic Safety

- What you think about traffic safety efforts in the Commonwealth?
- How often do you think about traffic safety in your city or town? In what ways?





Purpose

- Develop guidance for more cities and towns in MA to adopt Vision Zero

- Start from a Public Health perspective

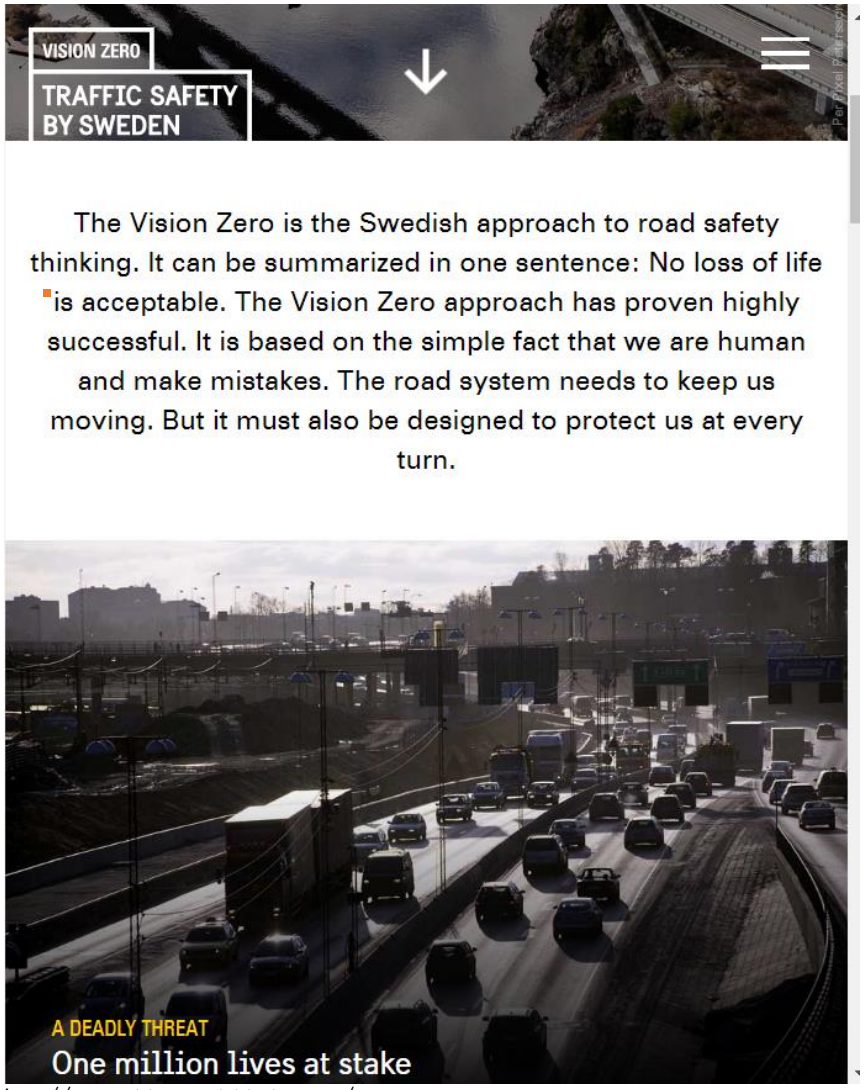
What is Vision Zero?

History

- "Vision Zero" adopted in Sweden in 1997

Goal

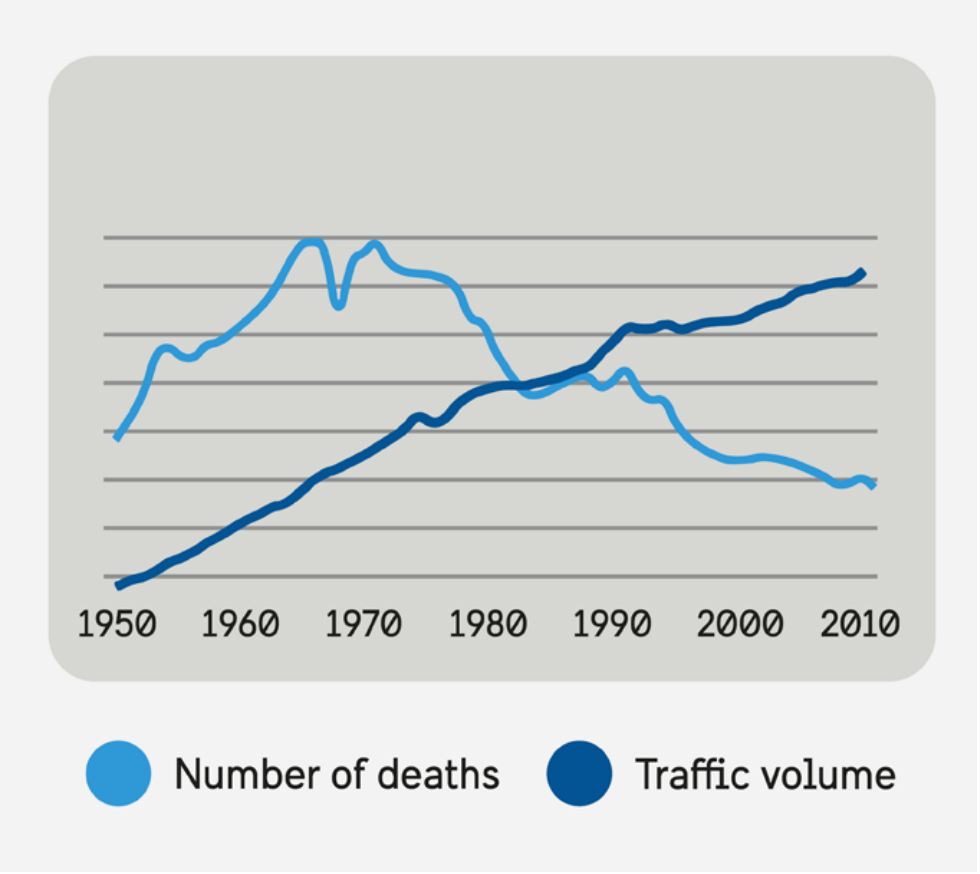
- The long term goal is that no-one shall be killed or seriously injured within the Swedish road transport system (20 year goal)



http://www.visionzeroinitiative.com/

What is different about Vision Zero?

1. Reframe road traffic deaths and serious injuries as preventable
2. Focus on system failure
3. Reduce the impact of collisions
4. Adopt a Safe System approach
5. Make data- and goal-driven decisions
6. Treat road safety and traffic enforcement as a social equity issue
7. Move from education to integration

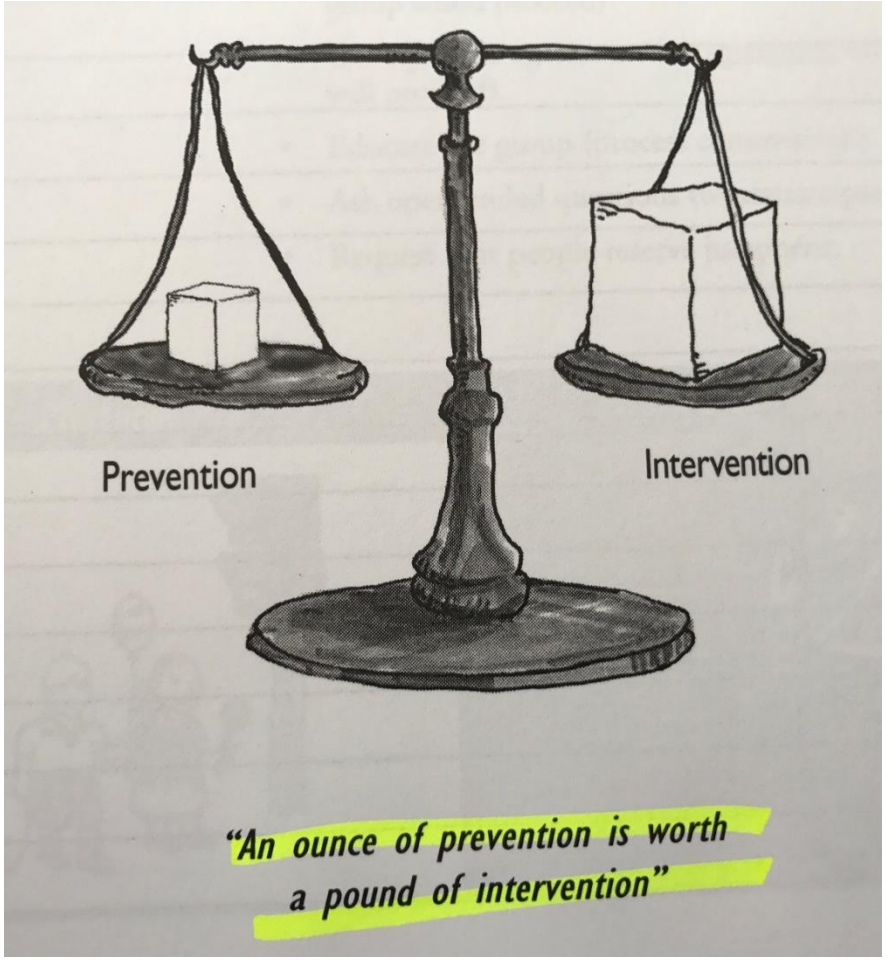


http://www.visionzeroinitiative.com/taking-safety-to-new-levels/

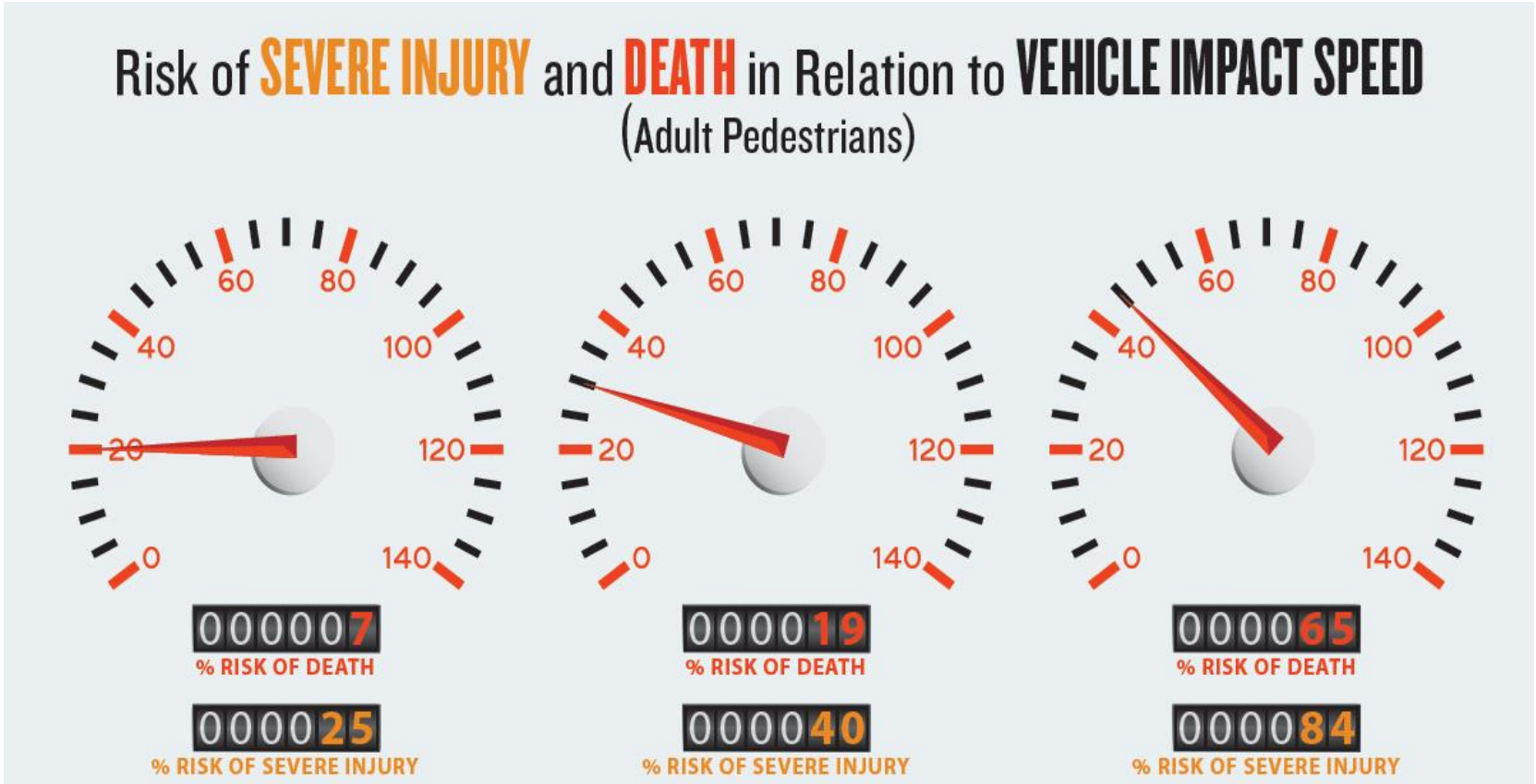
Adapted from: http://www.visionzeroinitiative.com/

Public Health Issue

- As with other preventable public hazards (e.g., diseases prevented through vaccines), Vision Zero calls us to work upstream (prevention) and downstream (intervention).
- Identify risk and (re)design the transportation system so that crashes won't result in fatal or serious injury.



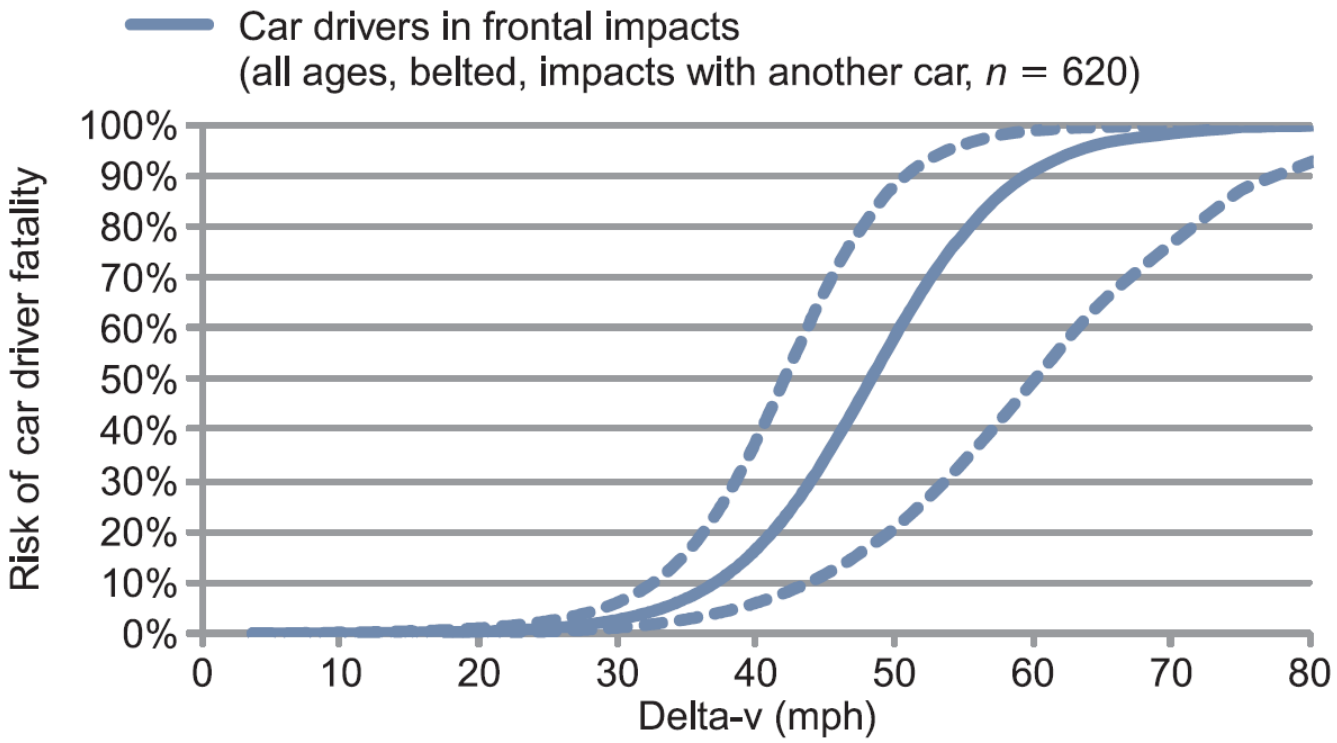
Role of Speed



Risk of severe injury and death in relation to impact speed in a sample of 315 pedestrians aged 15+ years struck by a single forward-moving car or light truck model year 1989–1999, United States, 1994–1998. Risks adjusted for pedestrian age, height, weight, body mass index, and type of striking vehicle; standardized to the population of pedestrians struck in the United States in years 2007–2009 with respect to pedestrian age and type of striking vehicle. Adapted from data shown in Figure 1 of Tefft (2012)

Role of Speed

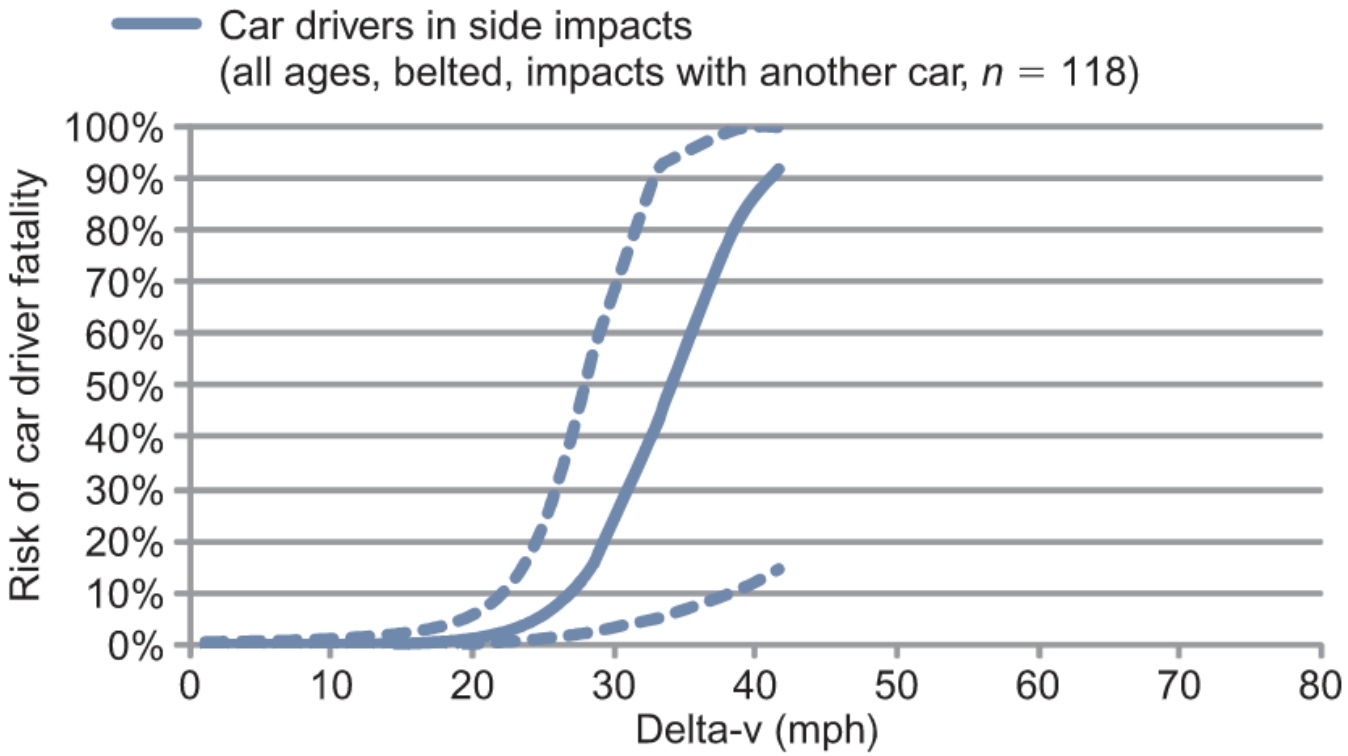
Figure 3.3: Risk of car driver fatality calculated using logistic regression from the OTS and CCIS dataset



Road Safety Web Publication No.16
Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants
September 2010, Department for Transport: London

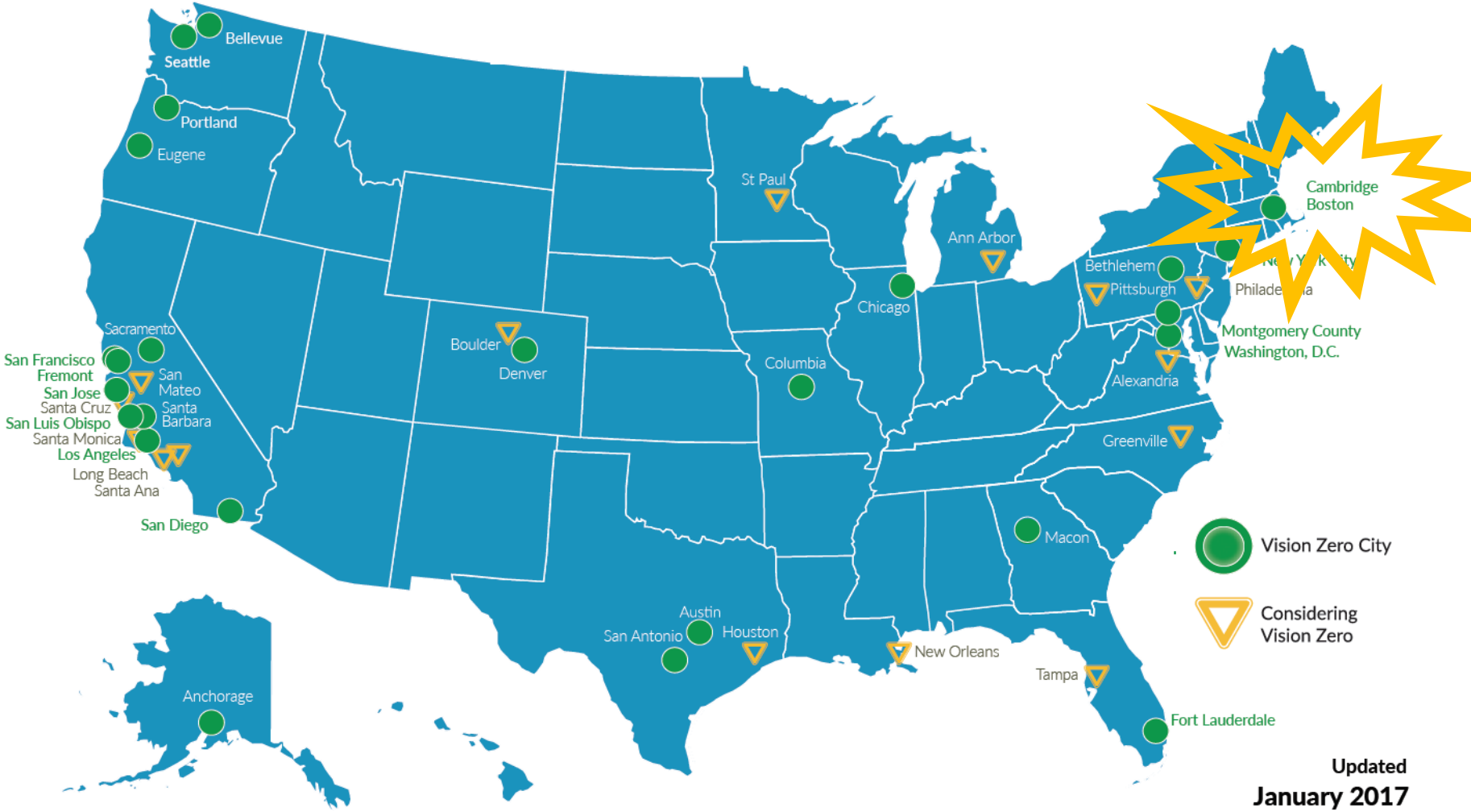
Role of Speed

Figure 3.4: Risk of car driver fatality calculated using logistic regression from the OTS and CCIS dataset



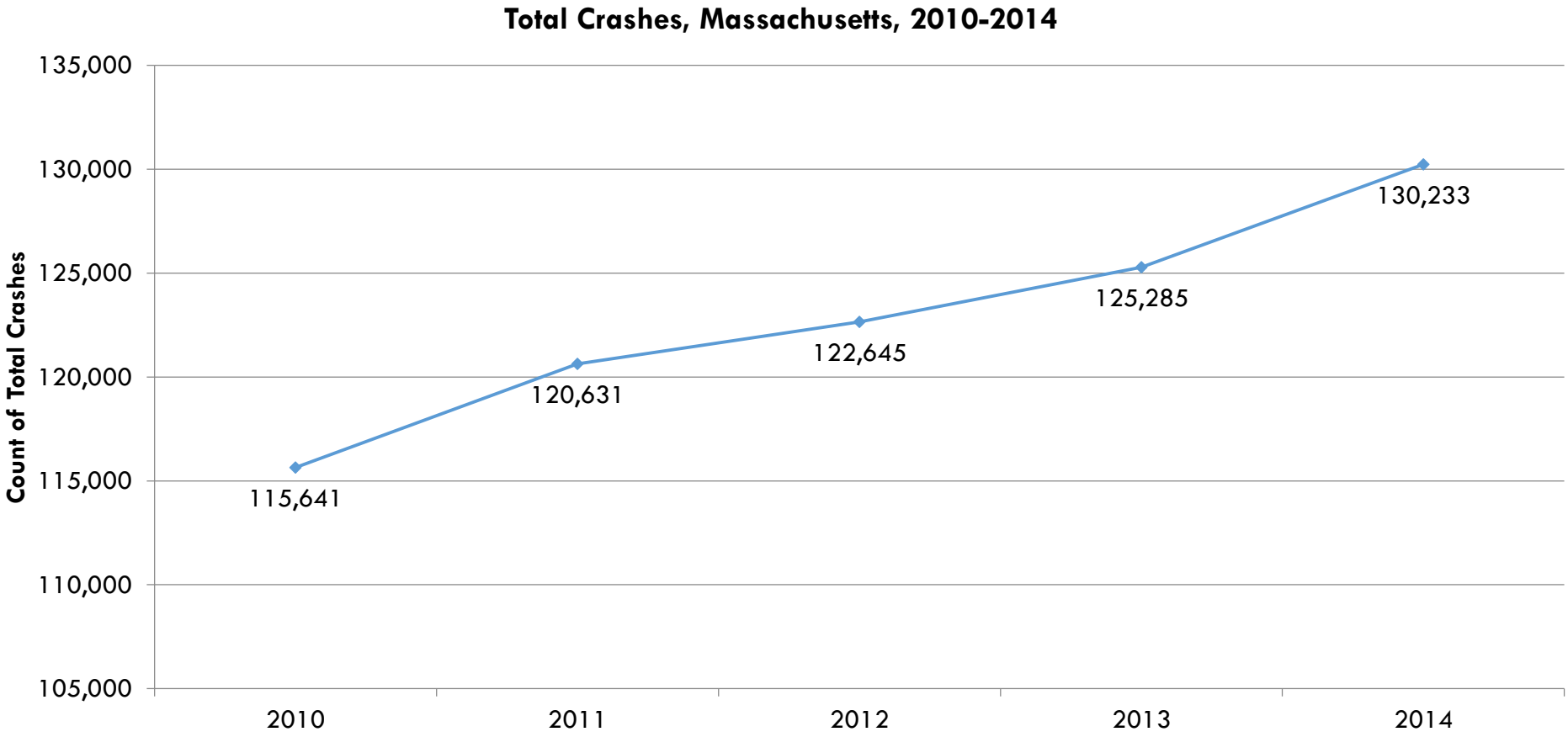
Road Safety Web Publication No.16
Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants
September 2010, Department for Transport: London

Where is Vision Zero happening in the US?

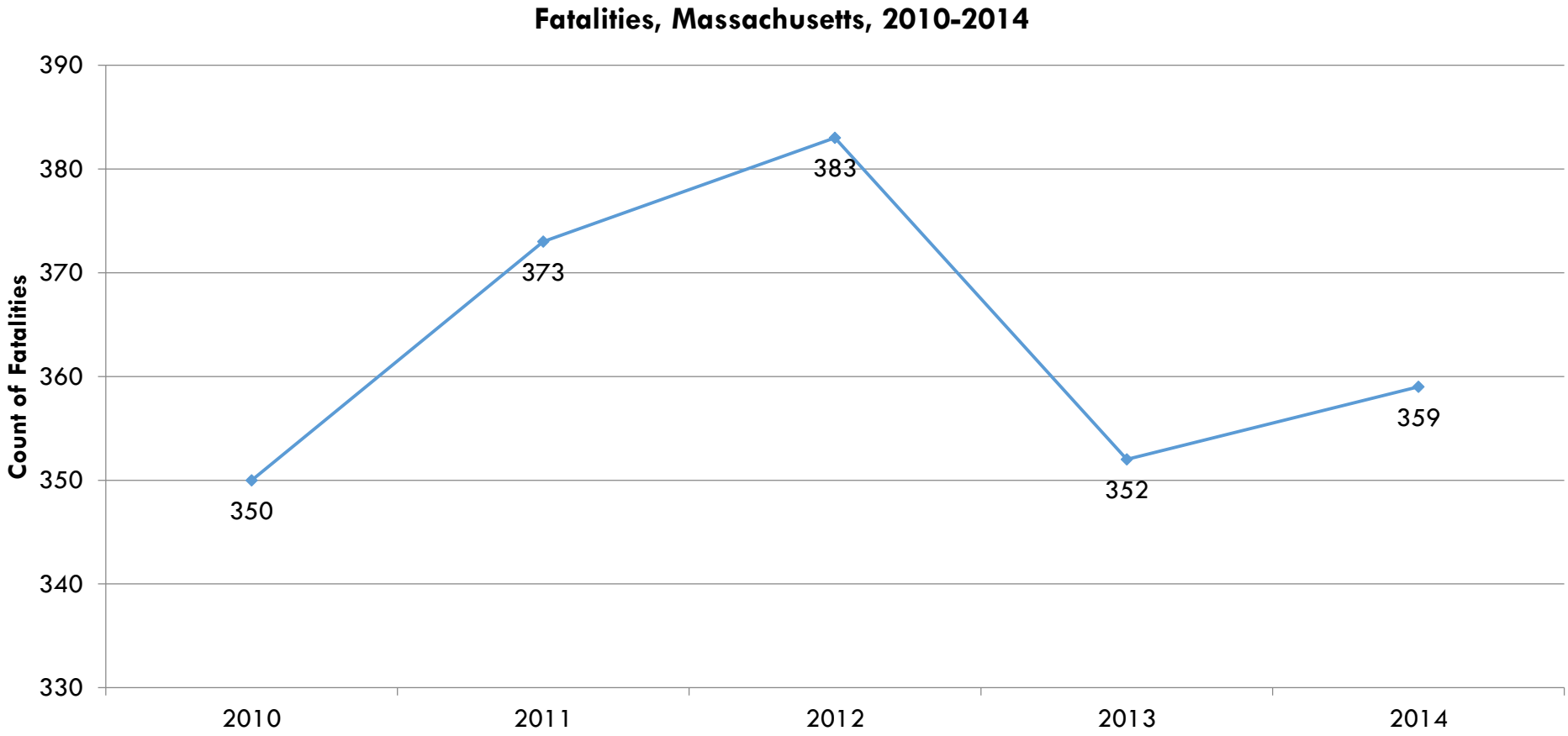


Source: Vision Zero Network

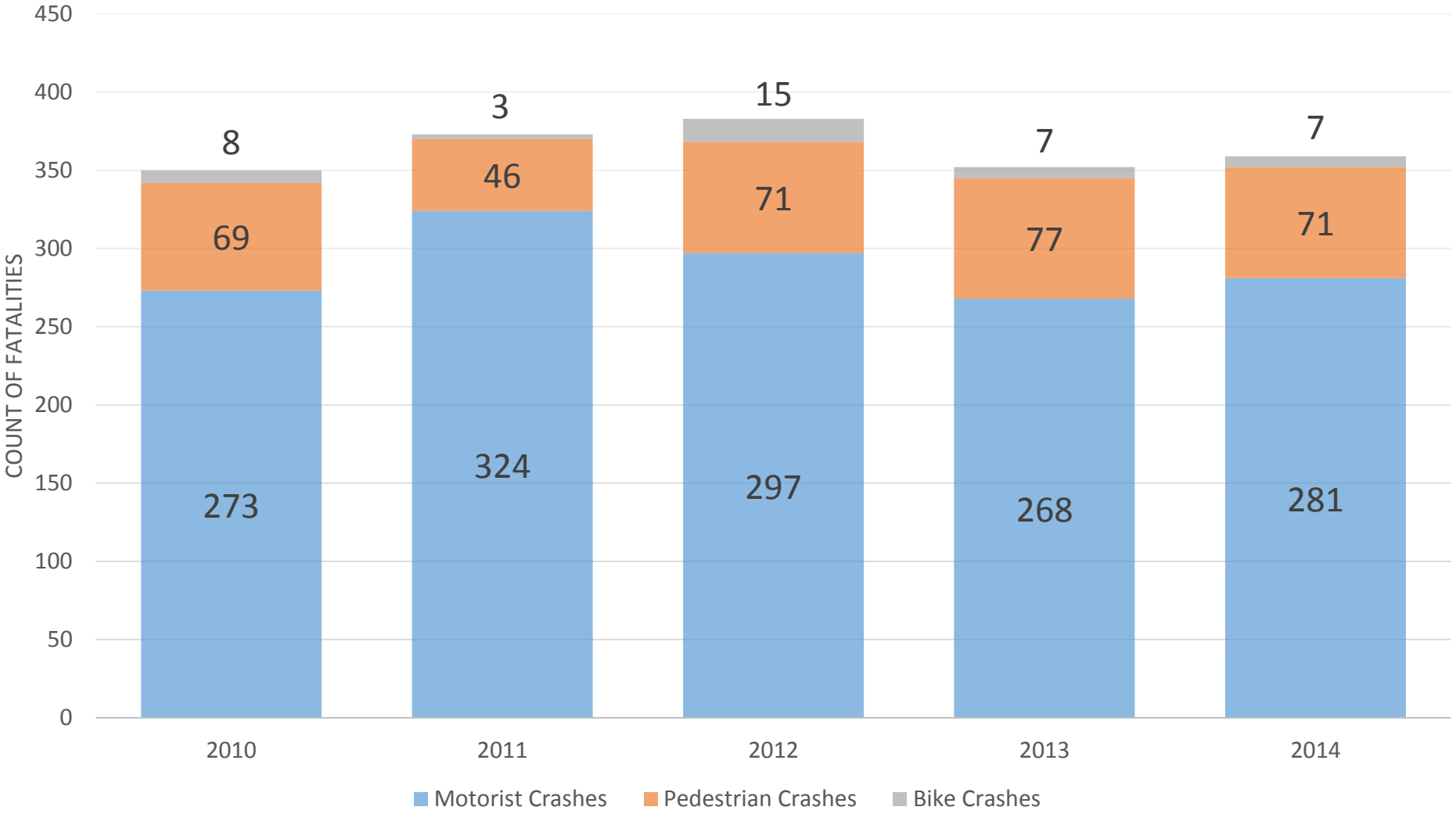
614,435 Crashes



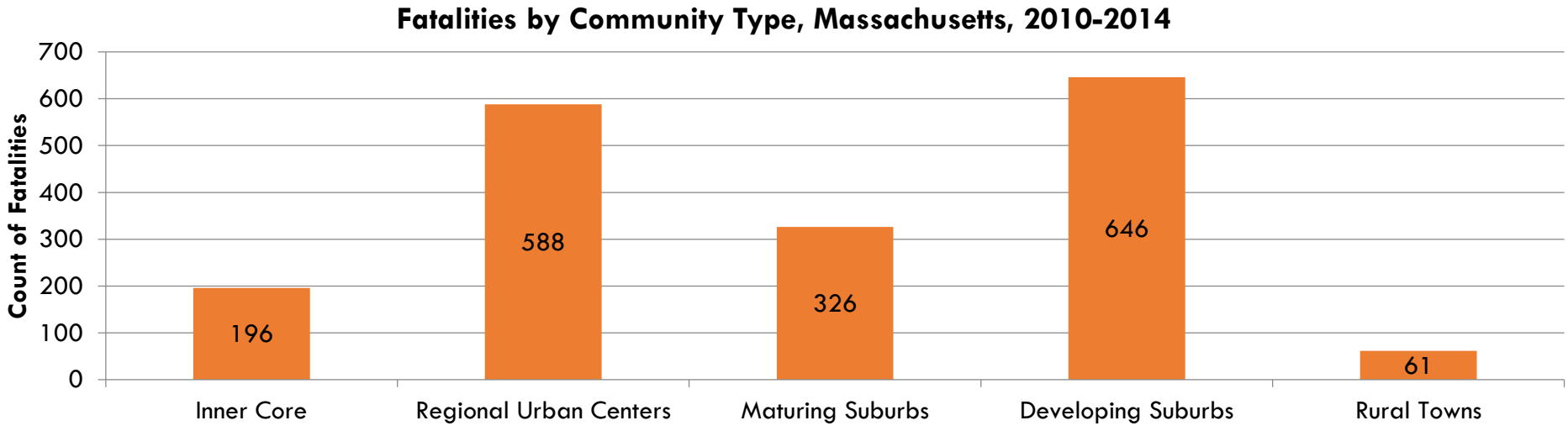
1,817 Fatalities

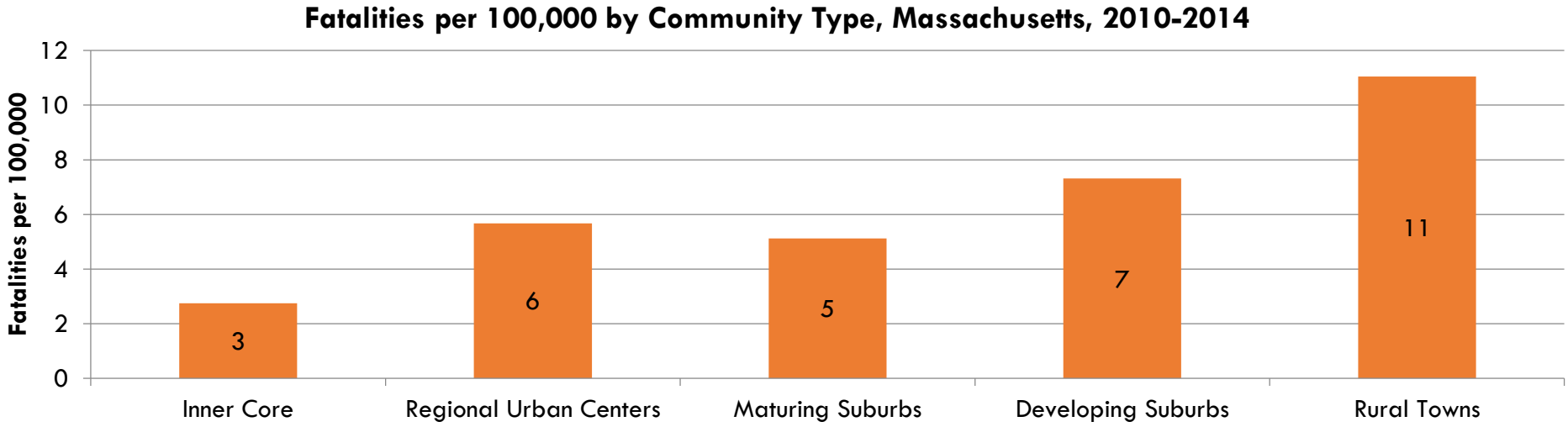


Fatalities by Crash Type and Year, Massachusetts, 2010-2014

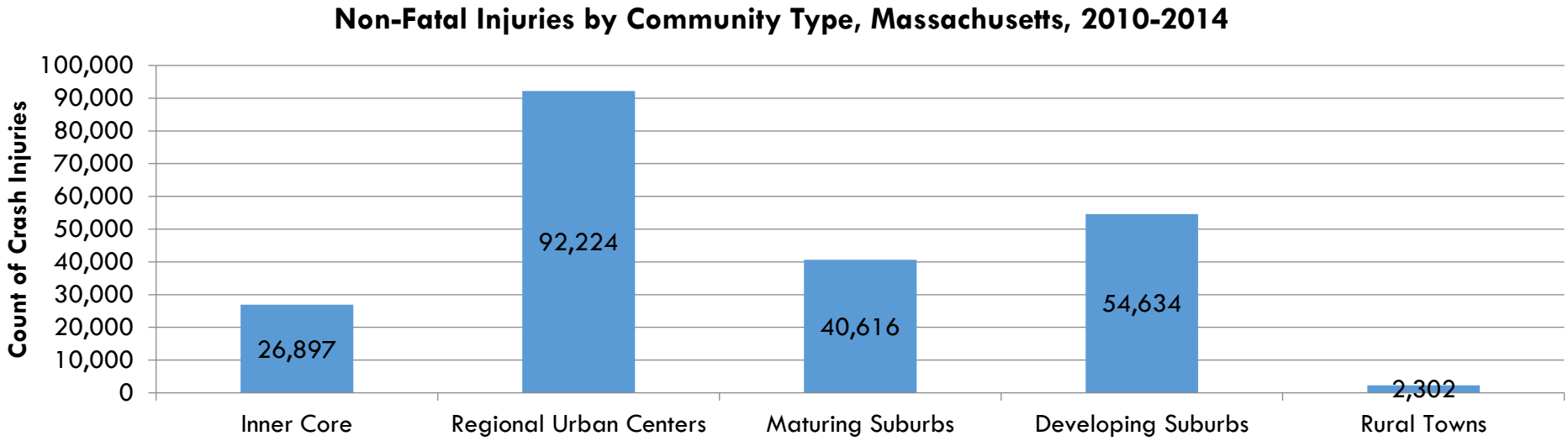


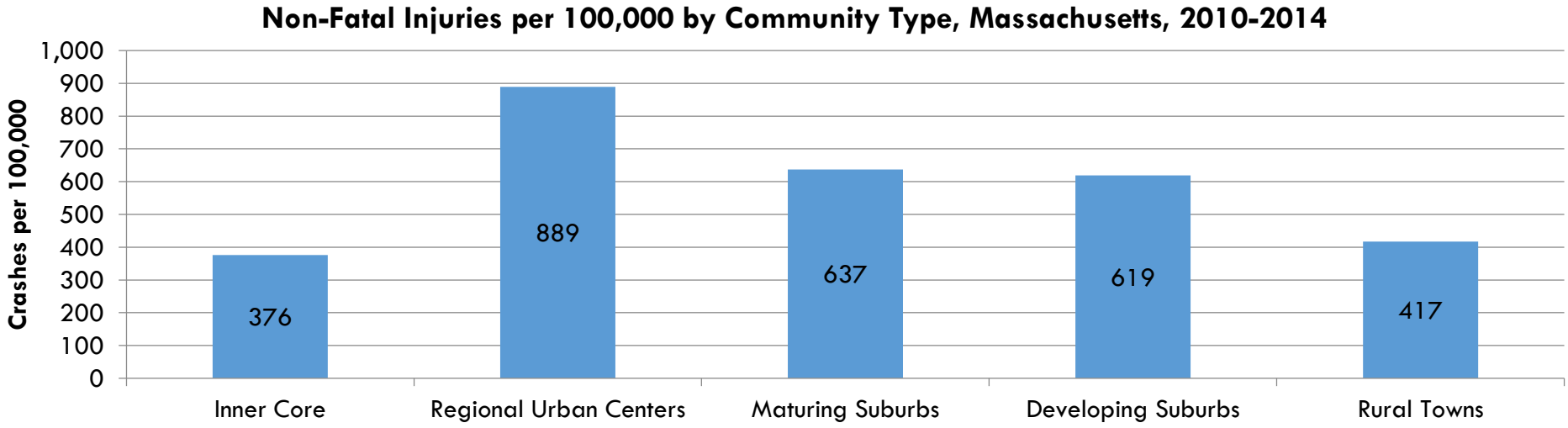
Fatalities by Community Type, Massachusetts, 2010-2014



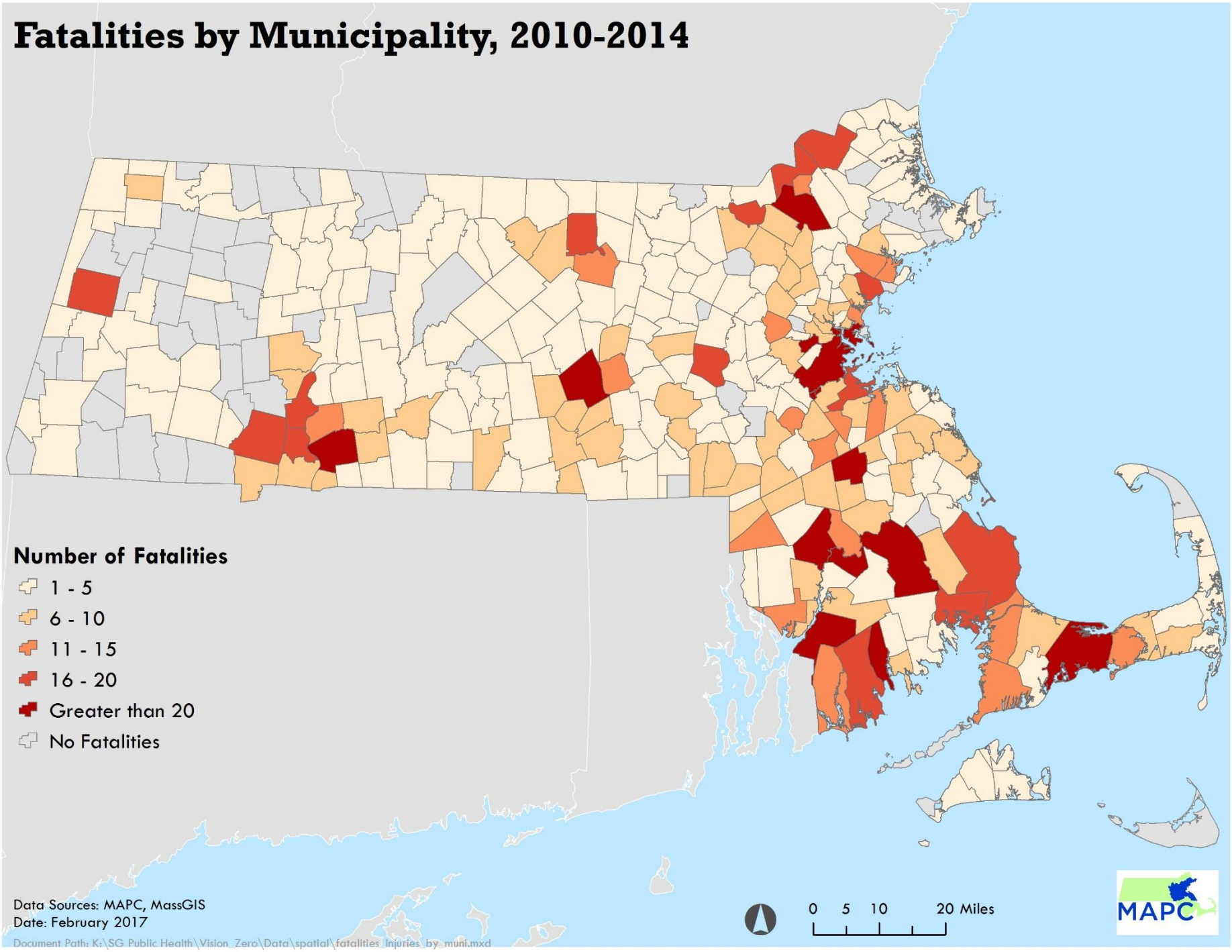


Injury Crashes by Community Type, Massachusetts, 2010-2014

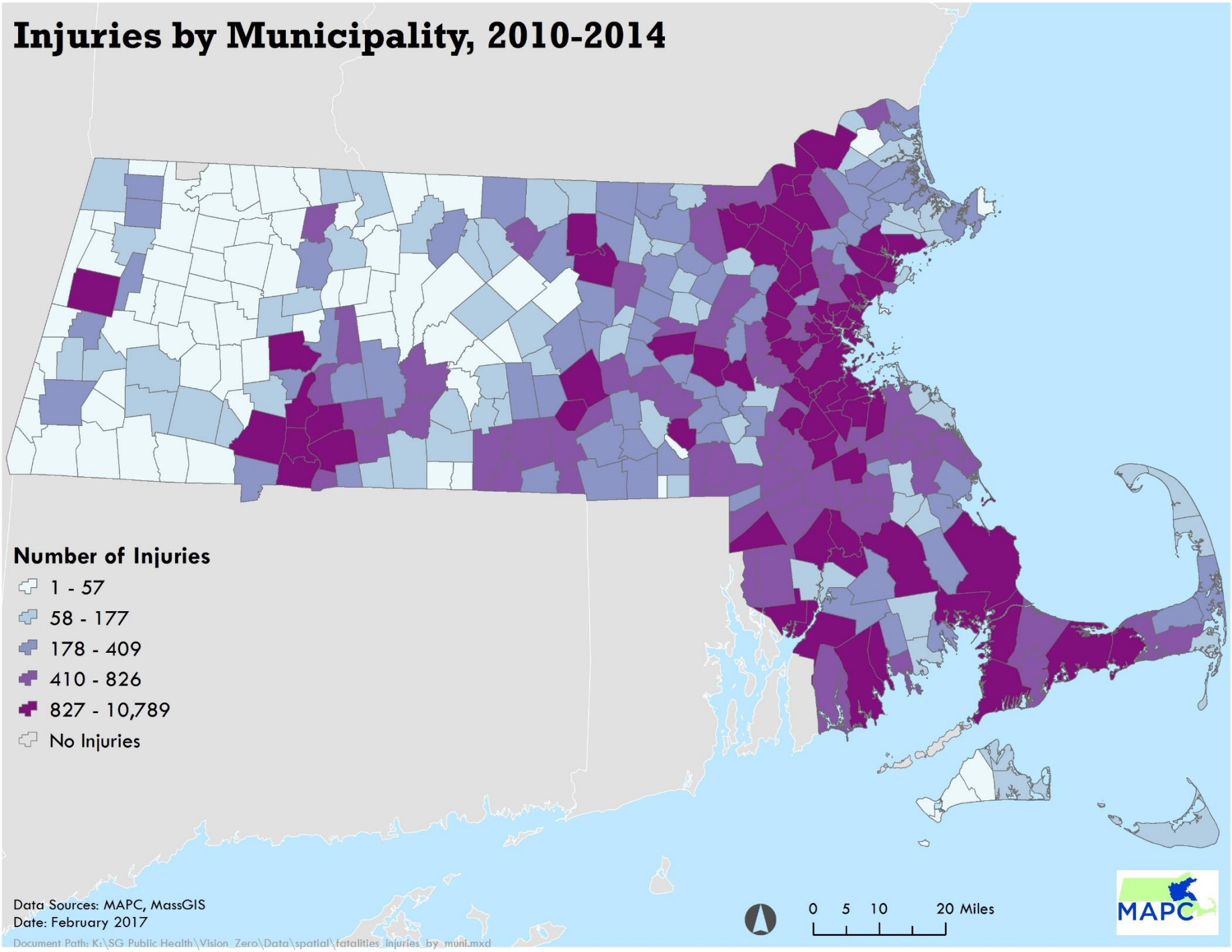




Fatalities by Municipality, 2010-2014



Injuries by Municipality, 2010-2014



Hospitalization Data

Hospital Stays for Nonfatal MV-Traffic Injuries by Age Group MA Residents, FY2010-FY2014				
	Inner Core	**Regional Urban**	**Maturing Suburbs**	**Developing Suburbs**
0-14	248	340	116	139
15-24	729	1,388	739	1,032
25-44	1,249	2,015	838	1,312
45-64	1,058	1,812	1,093	1,463
65+	709	1,172	976	1,109
Totals	*3,993*	*6,727*	*3,762*	*5,055*

1. Includes motor vehicle-related injuries occurring on public roads. Deaths and transfers were excluded.
2. As defined by Metropolitan Area Planning Council community types. Based on patient's city/town of residence, not city/town where crash occurred.
3. Ages 0-14 were combined with ages 15-24 due to low counts in the 0-14 year old age group. Counts of less than 11 nonfatal injuries are suppressed due to data confidentiality guidelines.

Data Sources: Inpatient Hospital Discharge and Outpatient Observation Stay databases, MA Center for Health Information and Analysis. Data are collected and reported by fiscal year.

Prepared by the MDPH Injury Surveillance Program, Jan. 2017; JH, BH

Hospitalization Data

Hospital Stays for Nonfatal MV-Traffic Injuries[1] by Race/Ethnicity, All MA Residents, FY2010-FY2014		
Race/Ethnicity	**Count**	**Crude Rate[2]**
White, non-Hispanic	14,555	58.3
Black, non-Hispanic	1,941	91.6
Hispanic	1,833	53.8
Asian/P.I., non-Hispanic	502	26.1
MA Total[3]	19,897	59.8

1. Includes motor vehicle-related injuries occurring on public roads. Deaths and transfers were excluded.
2. Crude rates per 100,000 persons.
3. Total counts include those with "other" or "unknown" race/ethnicity.

Data Sources:

Hospital Stays - Inpatient Hospital Discharge and Outpatient Observation Stay databases, MA Center for Health Information and Analysis. Data are collected and reported by fiscal year.

Population Estimates by race/ethnicity, MAPC community type and MA totals were provided by MAPC on 2/22/17.

Vision Zero Strategies

For cities and towns:

- Set target speeds and design to target
- Engage travelers in travel behaviors
- Make equitable implementation and enforcement essential
- Adopt an adaptive management approach

http://www.visionzeroboston.org/overview

A Speed Reduction Strategy

- **Pedestrians and bicyclists should not be exposed to motorized vehicles at speeds exceeding 20 miles per hour (mph).** If this cannot be satisfied, separate non-motorized and motorized travelers or reduce the vehicle speed to 20 mph or less.

- **Motorists and their passengers should not be exposed to other motorized vehicles at speeds exceeding 30 mph in 90 degree intersections.** If this cannot be satisfied then separate crossings, reduce the angle of the intersection, or reduce the speed to 30 mph or less.

- **Motorists and their passengers should not be exposed to oncoming motorized traffic (other vehicles of approximately same weight) at speeds exceeding 45 mph, or 30 mph if oncoming vehicles are of considerably different weight .**If this cannot be satisfied then separate, equalize weights of vehicles, or reduce speeds to 45, or 30, mph or less.

- **Motorists and their passengers should not be exposed to the road side at speeds exceeding 45 mph, or 30 mph if the road side contains trees or other narrow objects.** If this cannot be satisfied separate or reduce speed to 45, or 30, mph or less.

Johansson R. Vision zero - implementing a policy for traffic safety. Saf Sci. 2009;47(6):826–31.

Vision Zero in Municipalities

- What do you think about cities and towns adopting a Vision Zero policy and action plan that seeks to eliminate fatalities and serious injuries from traffic crashes?

- If a Vision Zero policy were adopted by cities and towns, what additional powers or resources, if any, might be necessary to achieve its objectives?

Contact

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http://www.mapc.org/vision-zero