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WRI ROSS CENTER FOR  
SUSTAINABLE  
CITIES

# CITIES SAFER BY DESIGN

Designing safer streets and communities



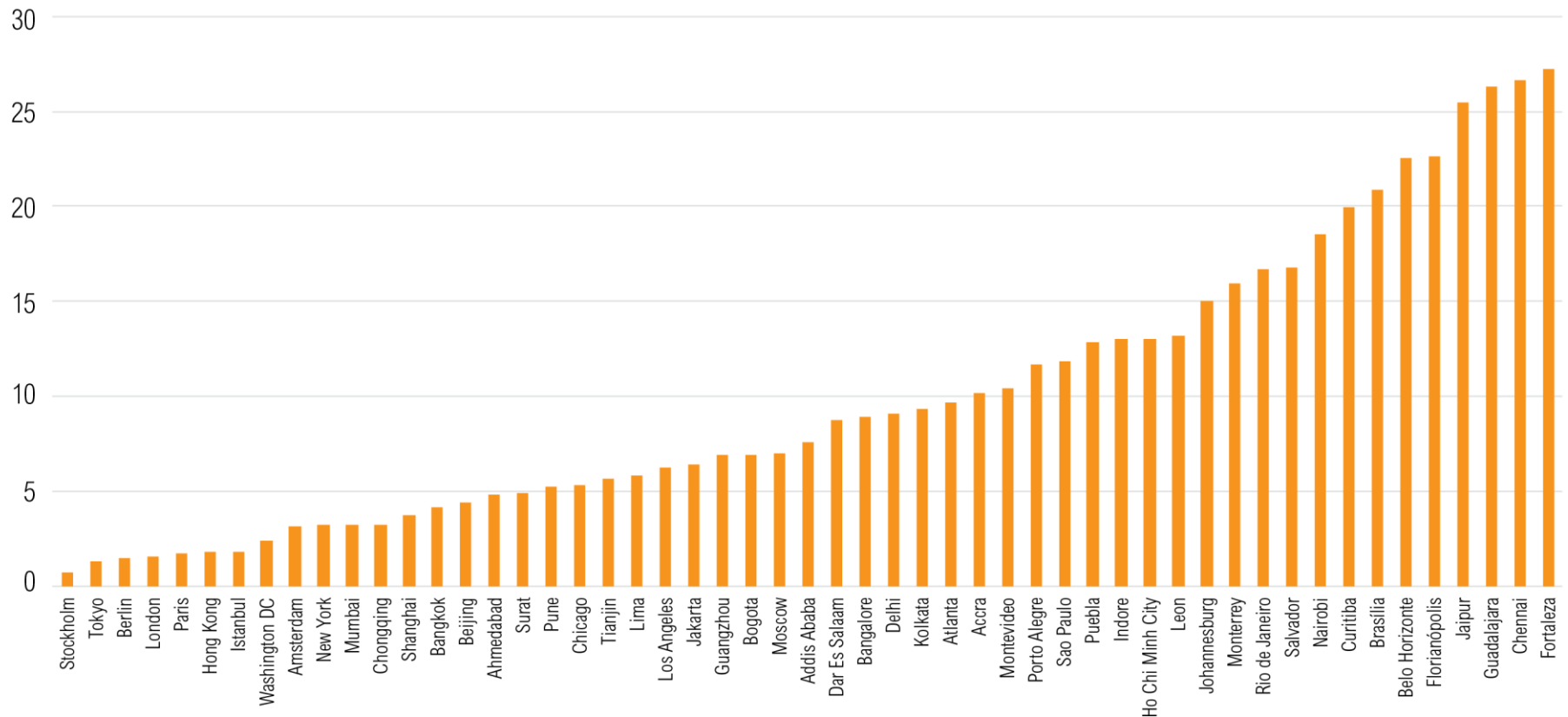
BEN WELLE, SENIOR ASSOCIATE, HEALTH & ROAD SAFETY, EMBARQ INITIATIVE, WRI ROSS CENTER FOR SUSTAINABLE CITIES



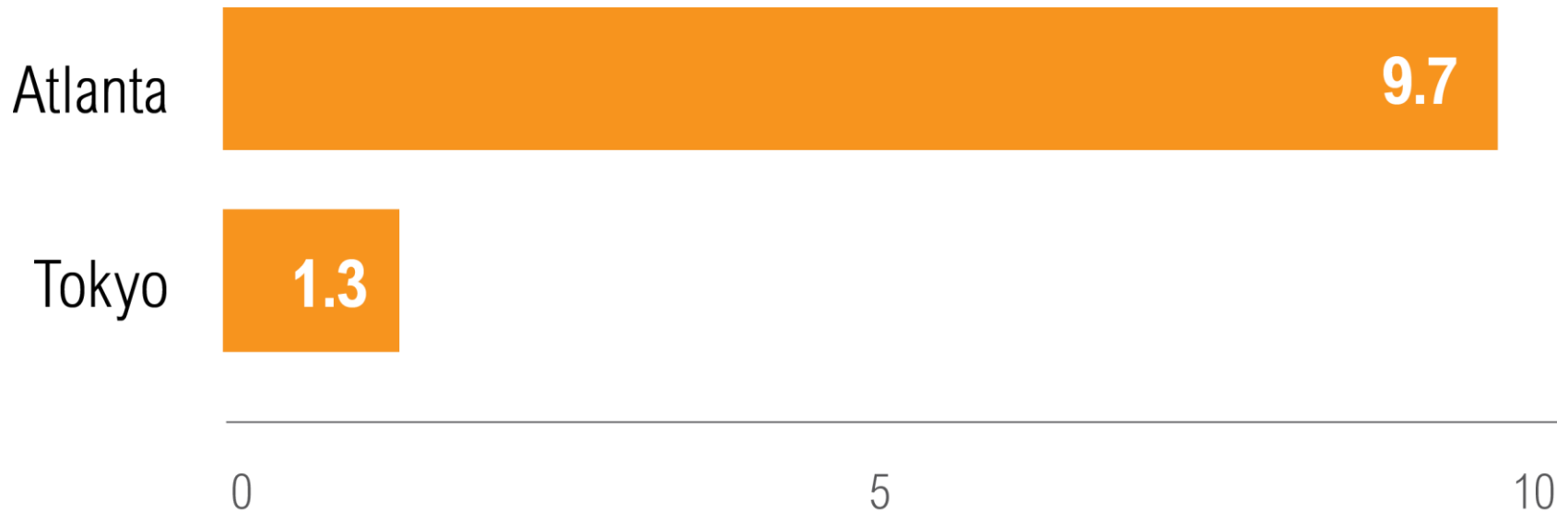
# WHO IS TRAFFIC SAFETY ABOUT?

- Road crashes are the leading cause of death among young people **ages 15-29**, and the second leading cause of death worldwide among people **ages 5-14**.<sup>1</sup>
- Older pedestrians and cyclists can account for up to **45 percent** of pedestrian fatalities and up to **70 percent** of cyclist fatalities.<sup>2</sup>
- People from lower socioeconomic backgrounds are more likely to be involved in traffic crashes, and often live in areas with low-quality infrastructure.<sup>3</sup>

# REPORTED FATALITY RATES IN SELECTED CITIES (PER 100,000 POPULATION)



# DEVELOPMENT PATH FOR TRAFFIC SAFETY



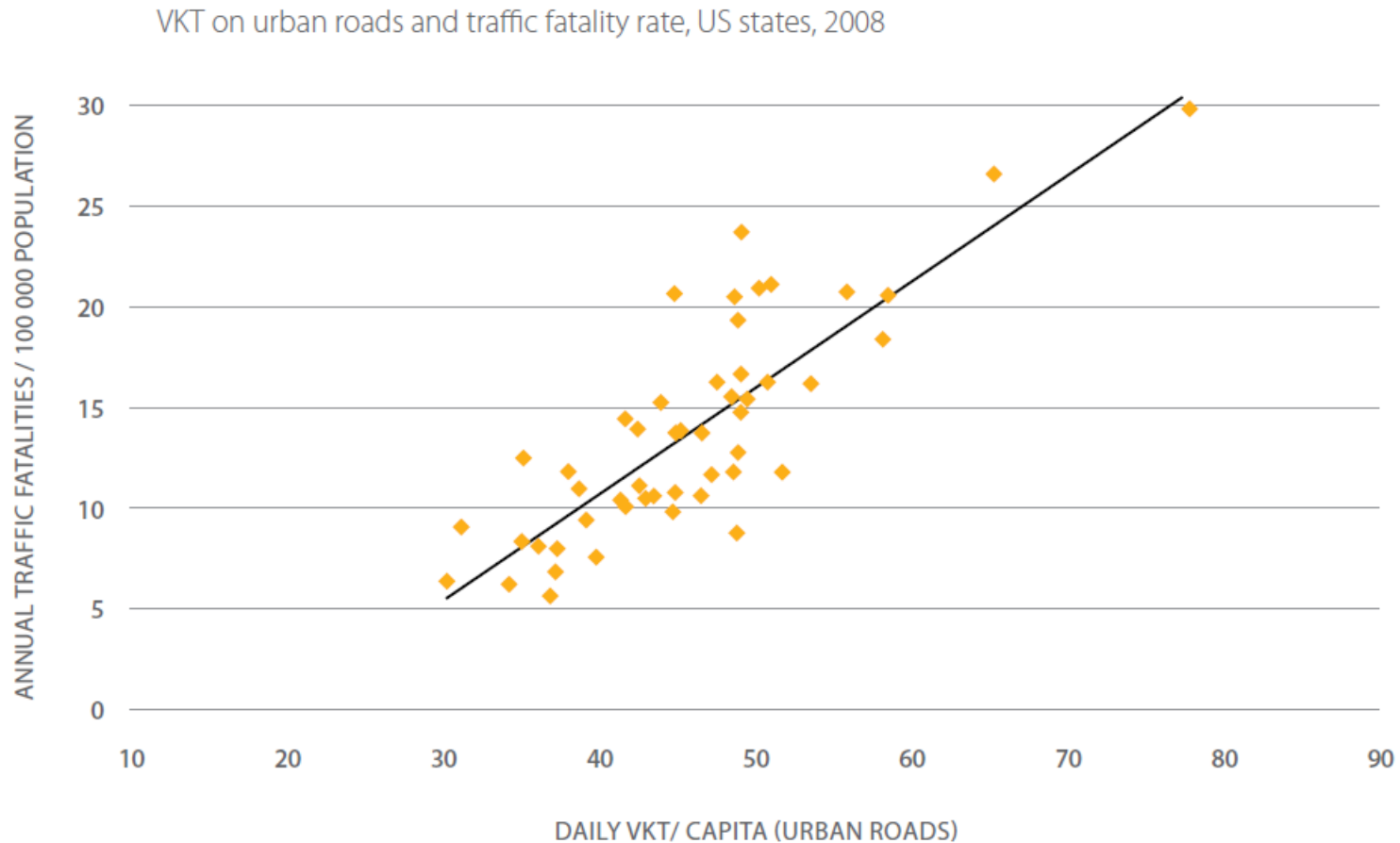
■ Reported Fatality Rate (Per 100,000 Population)



# HOW CAN WE MAKE CITIES SAFER BY DESIGN FOR ALL – INCLUDING THE YOUNG, OLD AND DISABLED?



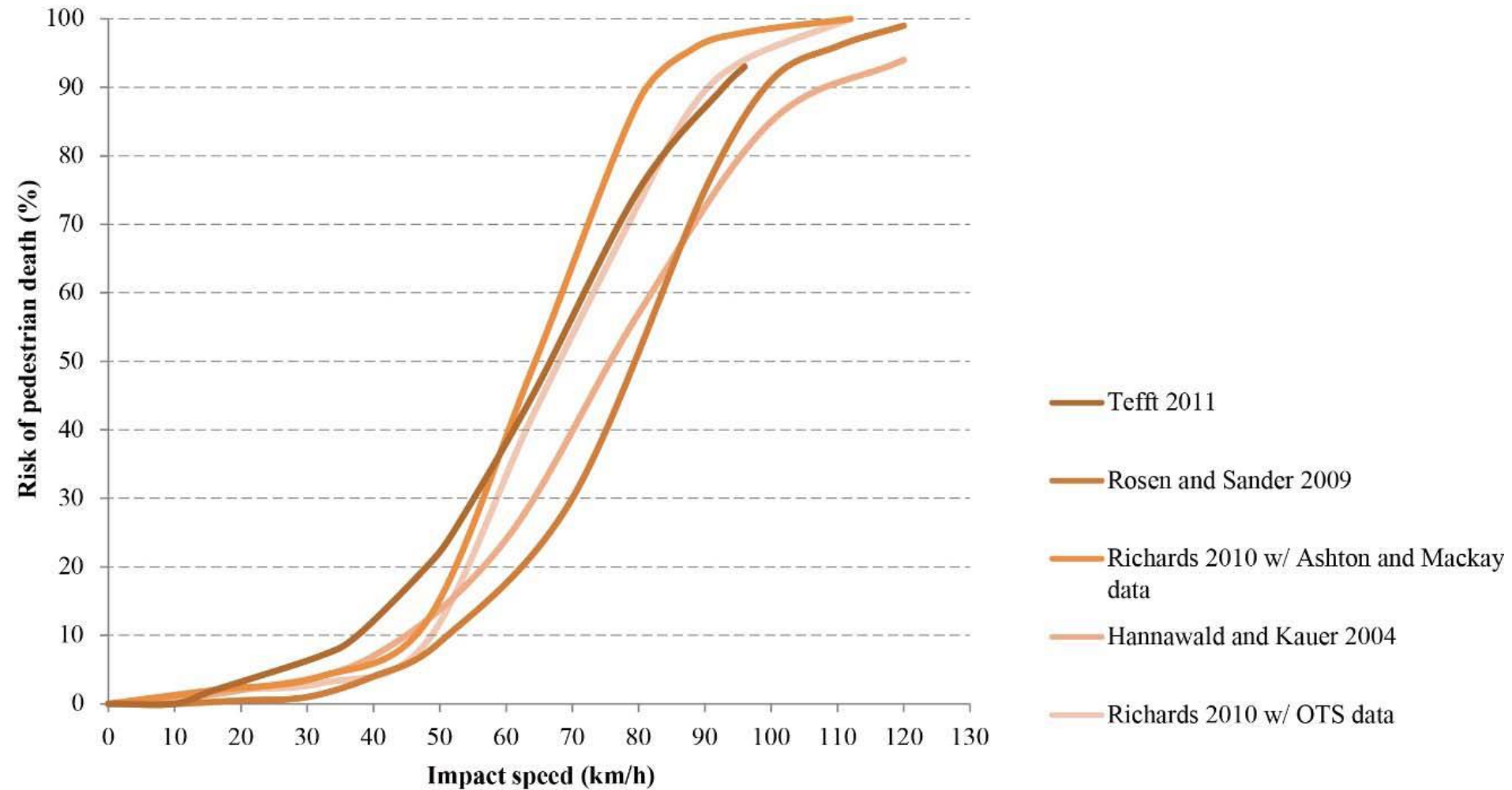
# REDUCE EXPOSURE, DIMINISH RISK



SOURCE: US Federal Highway Administration (FHWA) Highway Statistics 2008



# REDUCE EXPOSURE, DIMINISH RISK



# DESIGN PRINCIPLES



Beijing, China

Urban design that reduces the need for vehicle travel and fosters safer vehicle speeds



Medellín, Colombia

Traffic calming measures that reduce vehicle speeds or allow safer crossings



Mexico City, Mexico

Arterial corridors that ensure safer conditions for all road users



Rio de Janeiro, Brazil

A network of connected and specially designed bicycling



Istanbul, Turkey

Safe pedestrian facilities and access to public spaces



Ahmedabad, India

Safe access to mass transport corridors, stations, and stops





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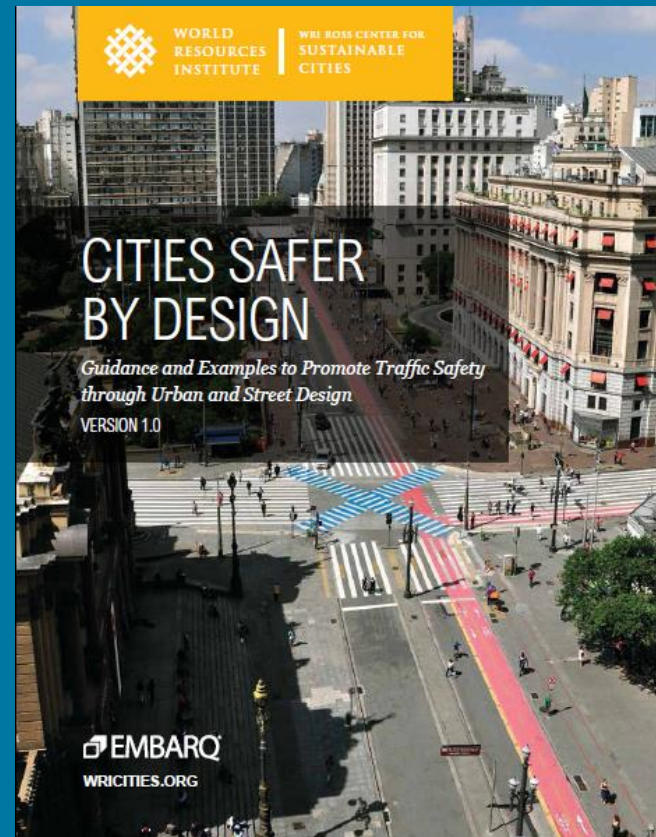
#cityssaferbydesign

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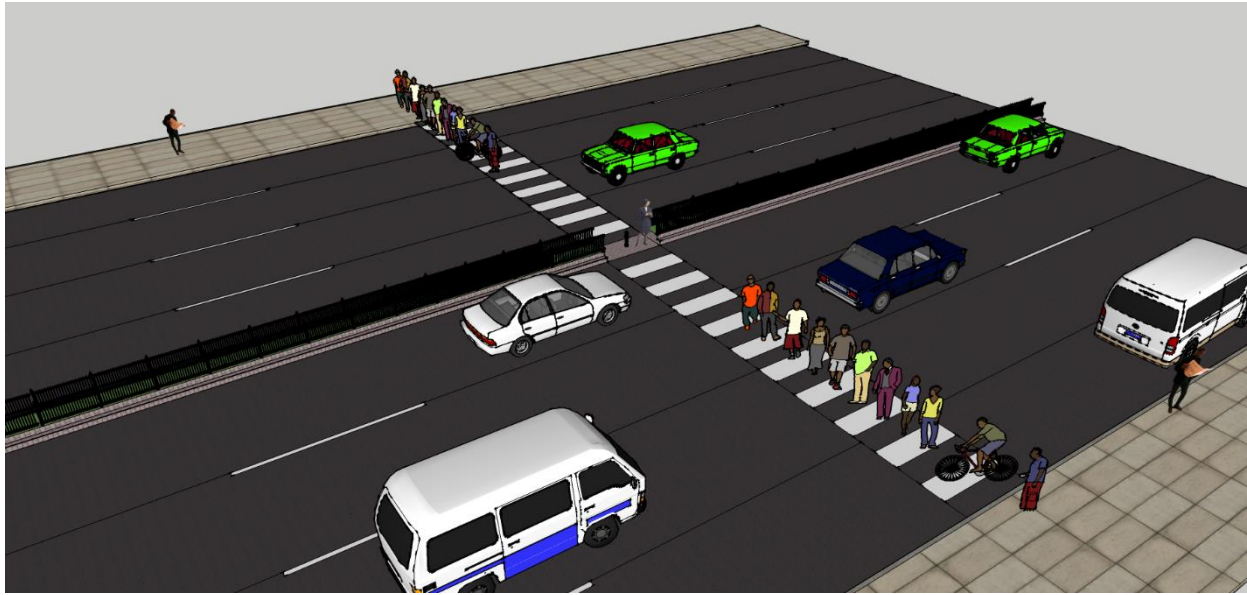


# CREATING COMPLETE STREETS



\*Estimation based on Duduta et al., 2013, Traffic Safety on Bus Priority Systems





# PEDESTRIAN STREETS



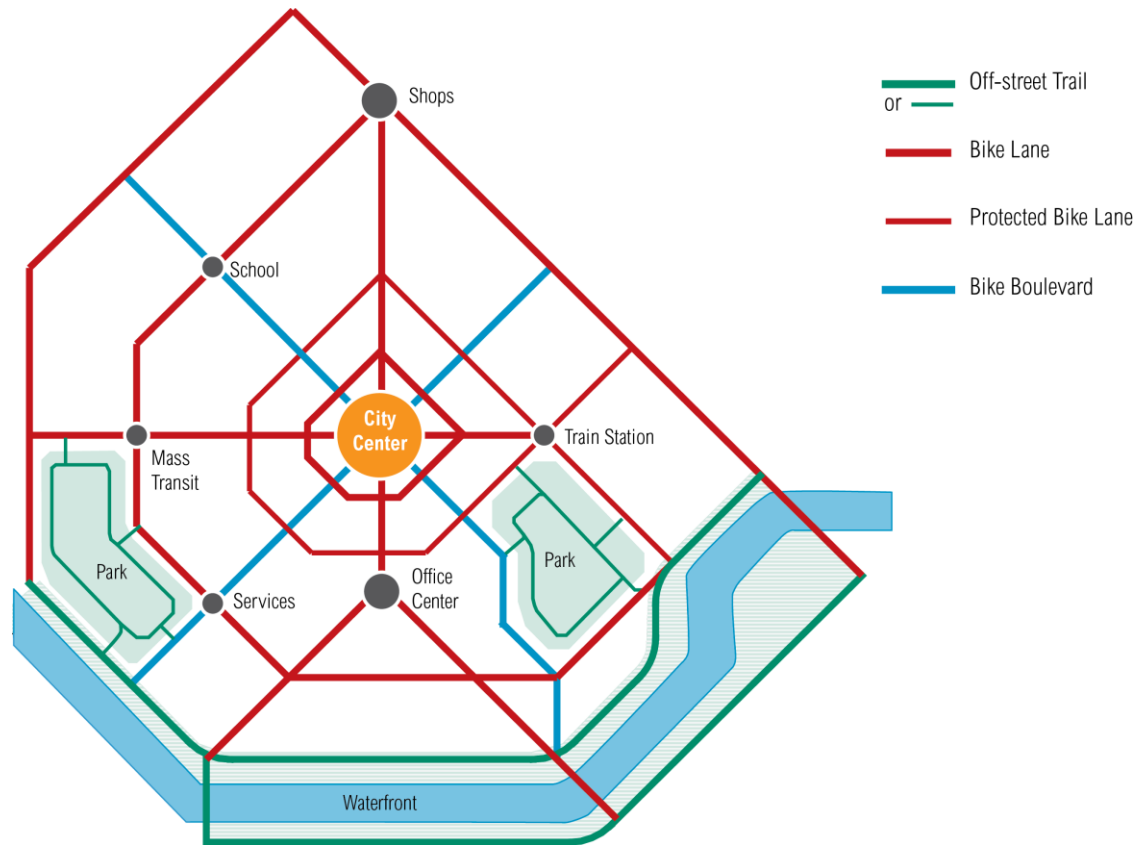
Pedestrianization can cut traffic crashes in half in and around these zones, and create great public spaces for people in high-volume areas. Measures should be taken at buffer areas to ensure safe entry.



# PROVIDING BASIC SIDEWALKS



# NETWORK FOR SAFETY IN NUMBERS



- Bogota, Colombia found that adding more than 100 km (62 miles) of bikeways helped reduce bicyclist deaths by **47.2 percent** between 2003 and 2013 , and increased bicycle use from just over **3 percent** of all daily trips to over **6 percent**.<sup>1</sup>



# PROTECTED CYCLE LANES



Accra



Addis Ababa

# TRANSIT IS SAFE - MAKE ACCESSING IT SAFE, TOO

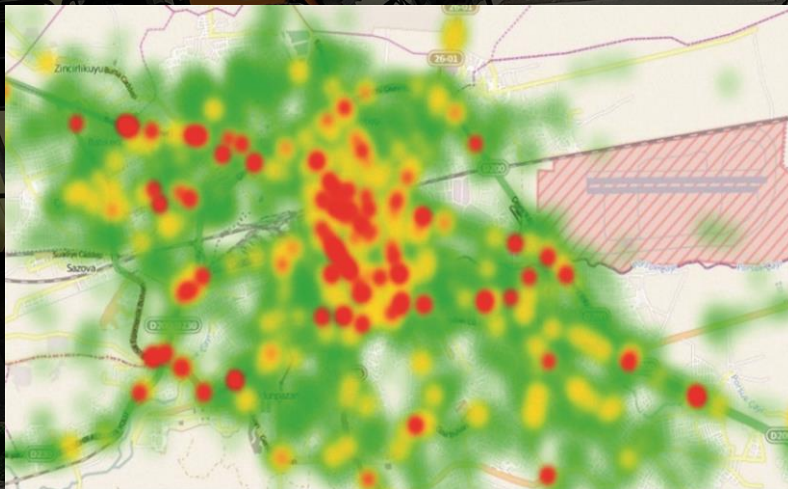


A study from Sweden showed that three-quarters of those injured in bus and tram 320 incidents sustained their injuries at bus or tram stops, or at pedestrian crossings. Measures to improve safety include reducing vehicle speeds through speed humps, raised crossings, shortening crossing distances, and ensuring clear visibility at stations.



# IMPROVING DATA AND ANALYSIS

- Data analysis and assessment tools for deploying these design principles



Heat Map of Traffic Crashes in Eskişehir, Turkey



Pedestrian counts, Istanbul Historic Peninsula



# BLOOMBERG GLOBAL ROAD SAFETY INITIATIVE IN 10 CITIES AND 5 COUNTRIES

1. Accra, Ghana;
2. Addis Ababa, Ethiopia;
3. Bandung, Indonesia;
4. Bangkok, Thailand;
5. Bogota, Colombia;
6. Fortaleza, Brazil;
7. Ho Chi Minh, Vietnam;
8. Mumbai, India;
9. Sao Paulo, Brazil; and
10. Shanghai, China.



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# CAPACITY BUILDING AND IMPROVING SAFETY FOR CHILDREN IN CITIES



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