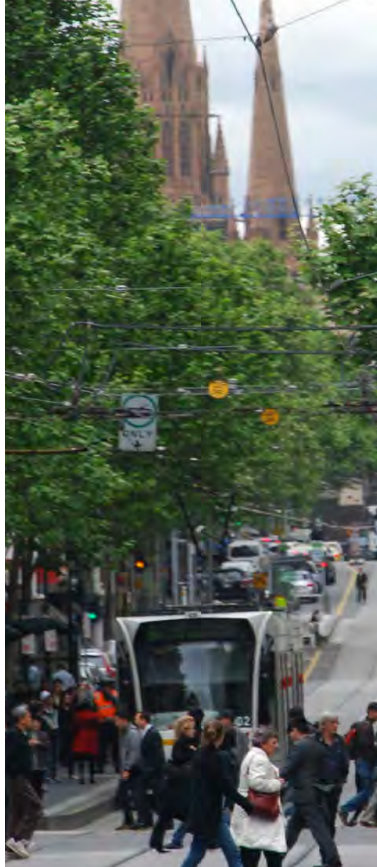


Designing streets for safer speeds



2018 Designing Cities Conference | Los Angeles, 1-4 October 2018

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GDCI | Global Designing Cities Initiative

fabrizio@nacto.org
@GlobalStreets





Every year
1.4 million
people die in the streets
of the world



1 person
every
23 seconds

A photograph of a busy city street. In the foreground, a group of people, including several women wearing hijabs and children, are walking across the street. A dark-colored SUV is parked or moving slowly in the background. The scene is set in an urban environment with buildings and other vehicles visible in the distance.

Streets are dangerous places for kids.

More than

500 children

die **each day** in road crashes in cities
around the world.

Road traffic injuries the leading cause of death among
young people aged 15 to 29 years **and soon expected to
be the first cause of death for 4 to 15 years old.**

**These deaths are
preventable!**

**These deaths are
preventable!**

And we know what to do!

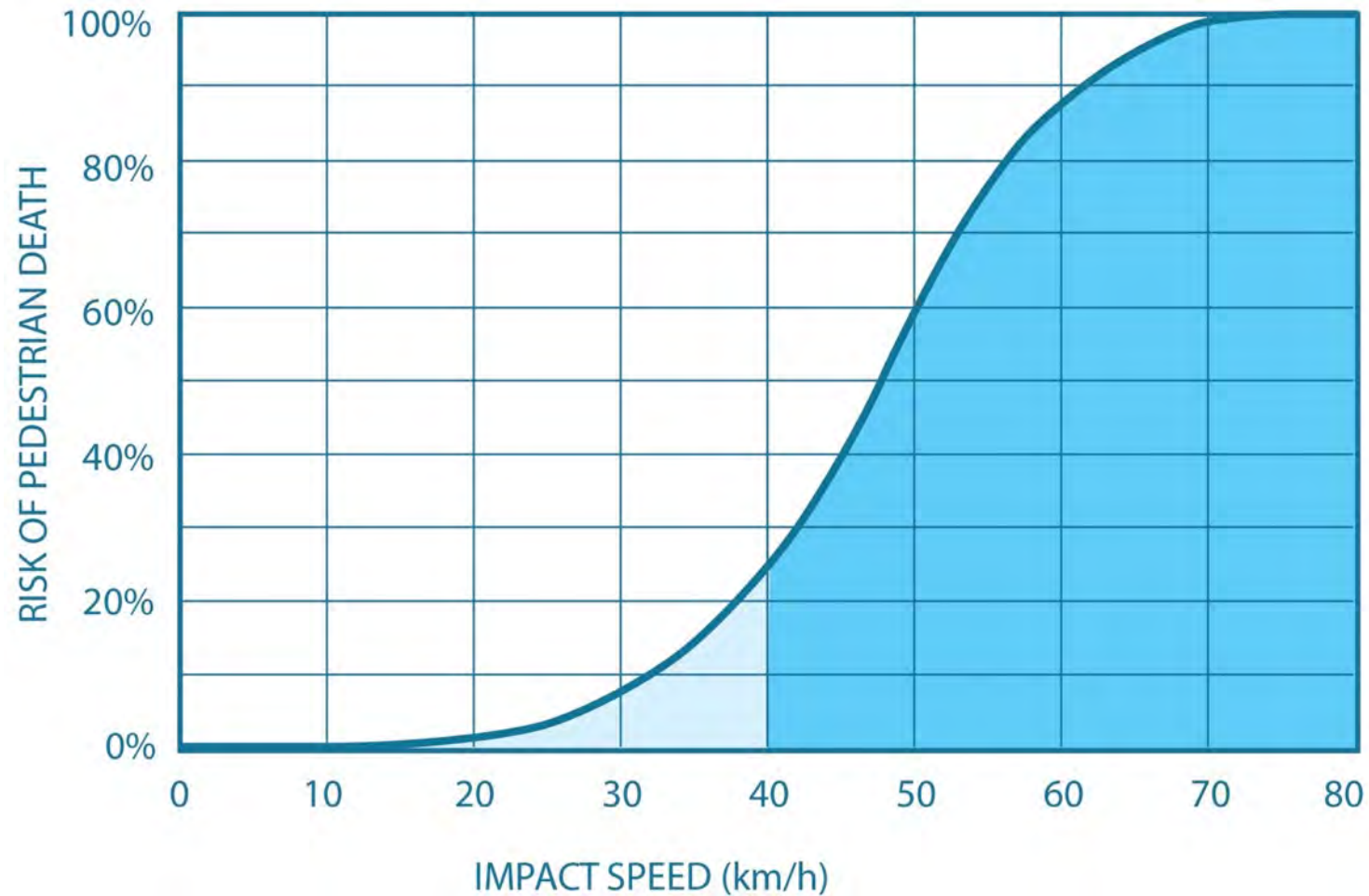
Speed kills



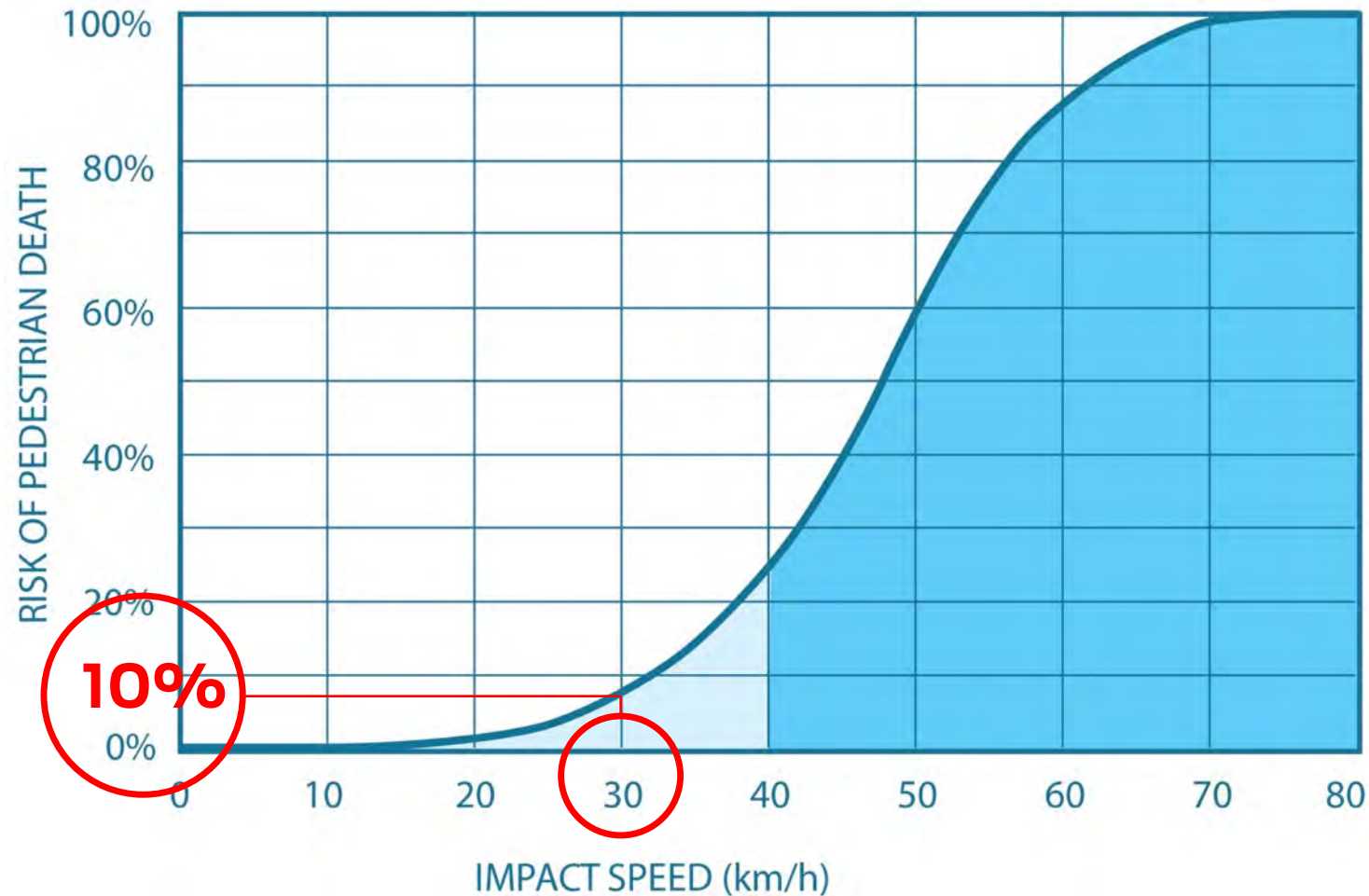
Lower speeds



Risk of Pedestrian Death and Impact Speed

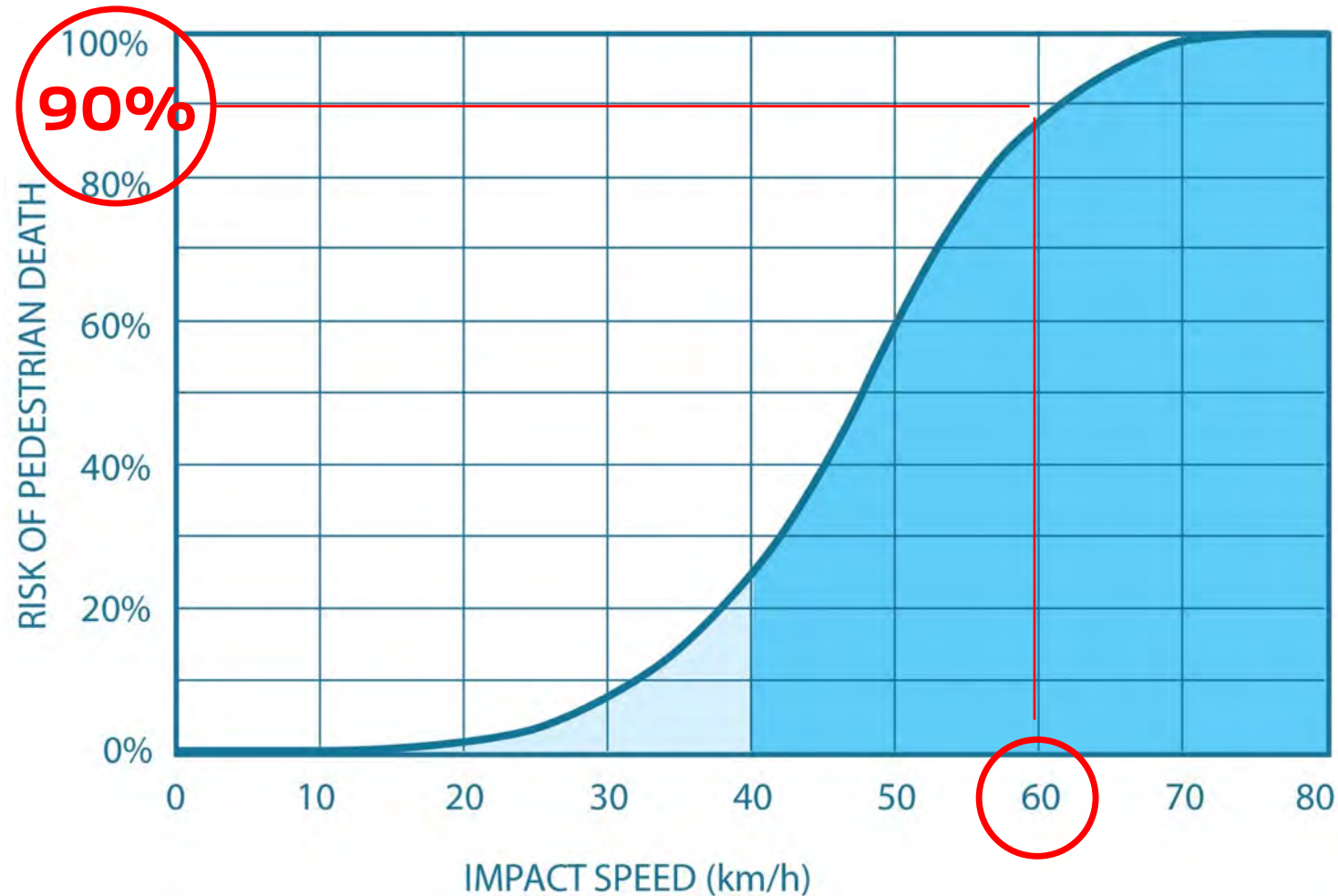


Risk of Pedestrian Death and Impact Speed



30km/h = 90% chance of SURVIVAL

Risk of Pedestrian Death and Impact Speed



60km/h = 90% chance of DYING



Human body can only withstand a limited amount of force.

Force = Mass X Acceleration
= Size/ Weight of Vehicle X Speed



....and we don't walk with
an external protective
shell !

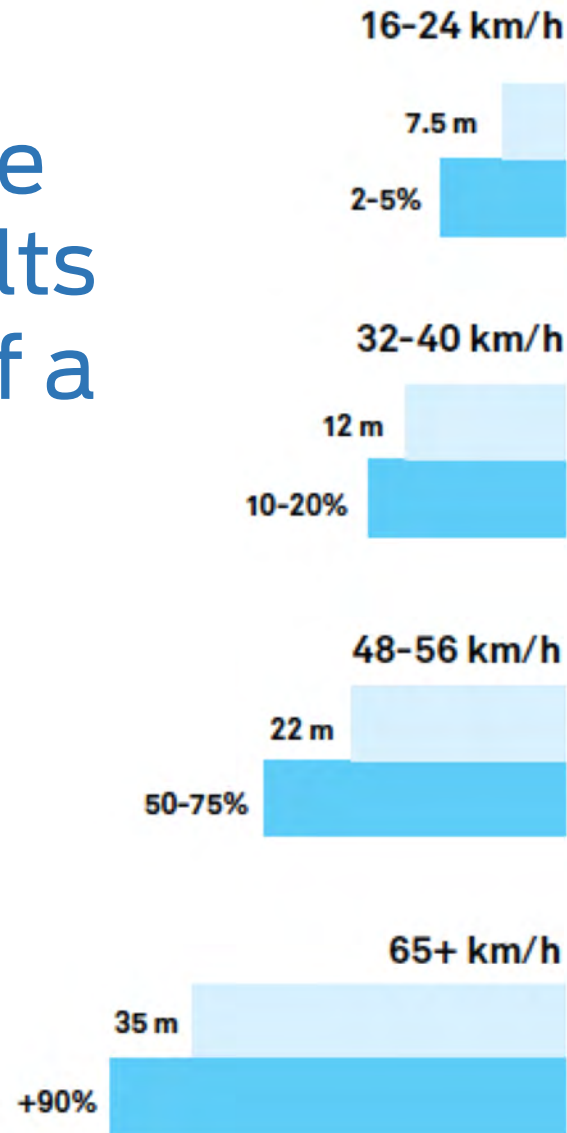
Vulnerability and speed



Global
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Initiative

An increase in average speed of **1 km/h** results in a **3% higher risk** of a crash and a **4–5% increase in fatalities**.

(WHO)



**We designed our
streets to
prioritize
one user**

And promote
“fast moving”
traffic



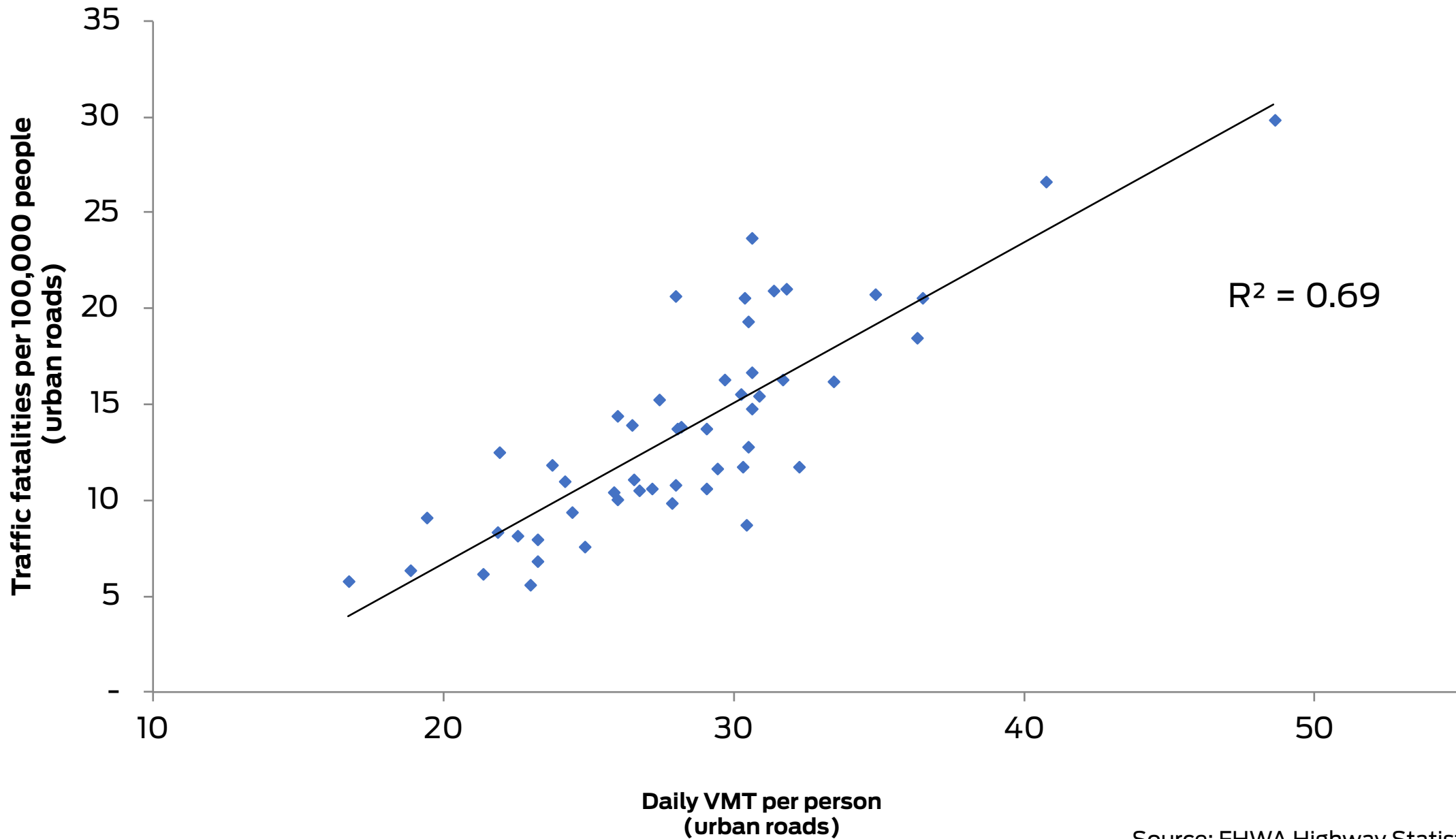


Fortaleza



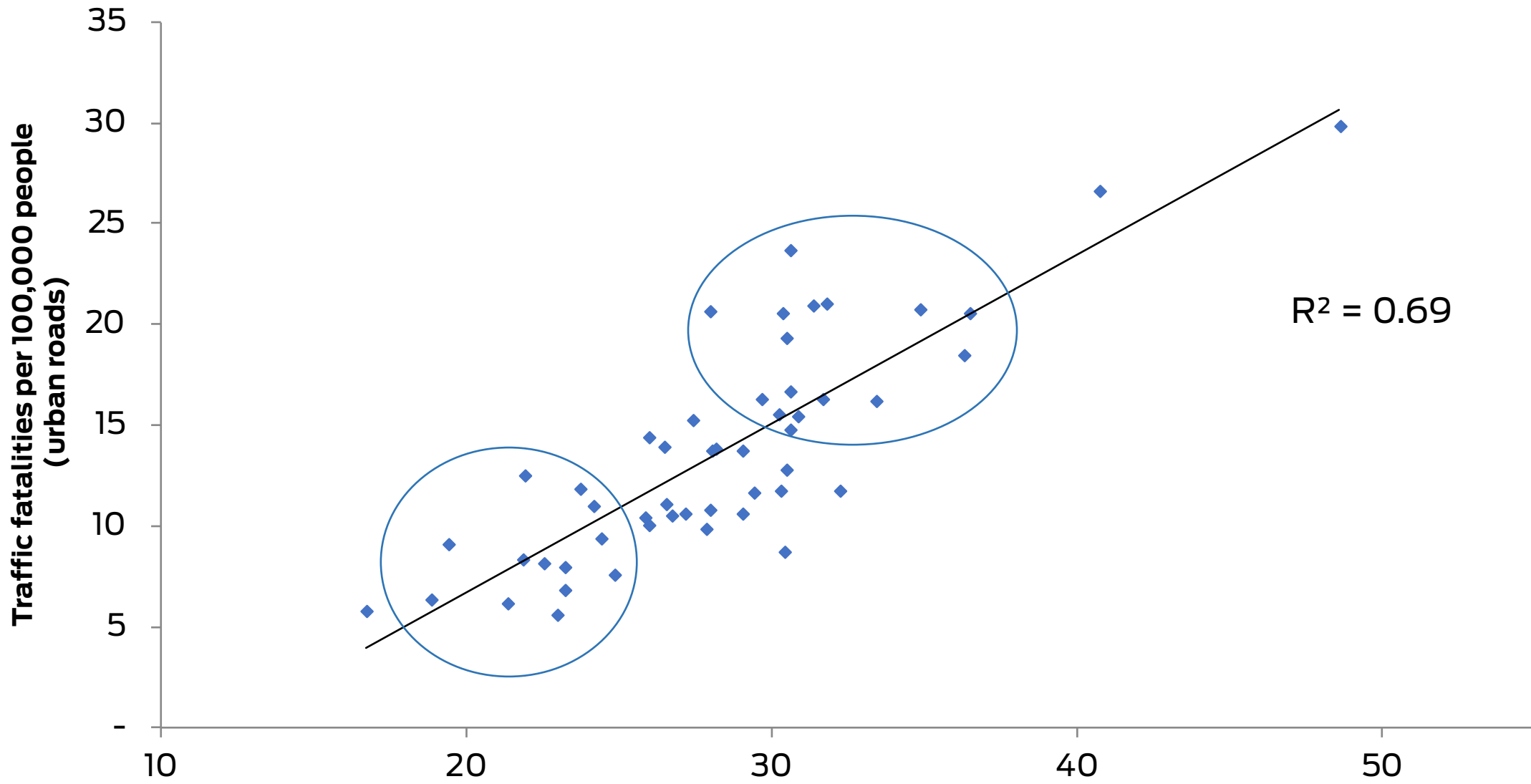


More Personal Driving is Associated with More Traffic Fatalities



Source: FHWA Highway Statistics, 2008

More Personal Driving is Associated with More Traffic Fatalities



Strong correlation between VMT and safety.

Multimodal streets are more efficient



Private Motor Vehicles
600–1,600/hour



Mixed Traffic With Frequent Buses
1,000–2,800/hour



Two-way Protected Bikeway
6,500–7,500/hour



Dedicated Transit Lanes
4,000–8,000/hour



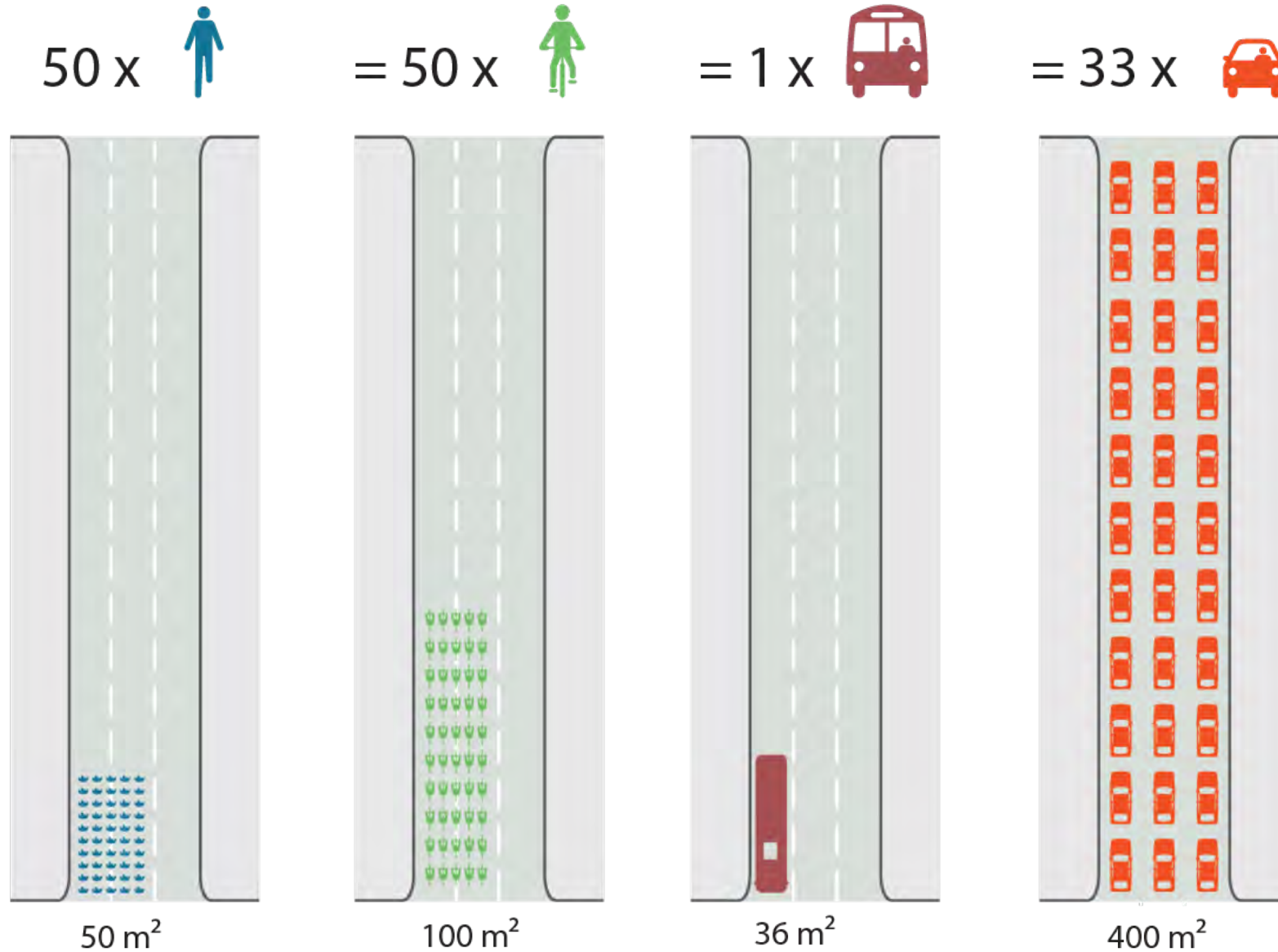
Sidewalk
8,000–9,000/hour



On-street Transitway, Bus Or Rail
10,000–25,000/hour

Sidewalks are
8 times
More efficient

Multimodal streets are more efficient



Design for all street users



Pedestrians



Cyclists



Transit Riders



Motorists



**Freight Operators
and Service
Providers**



**People Doing
Business**

Design streets that put **people** first

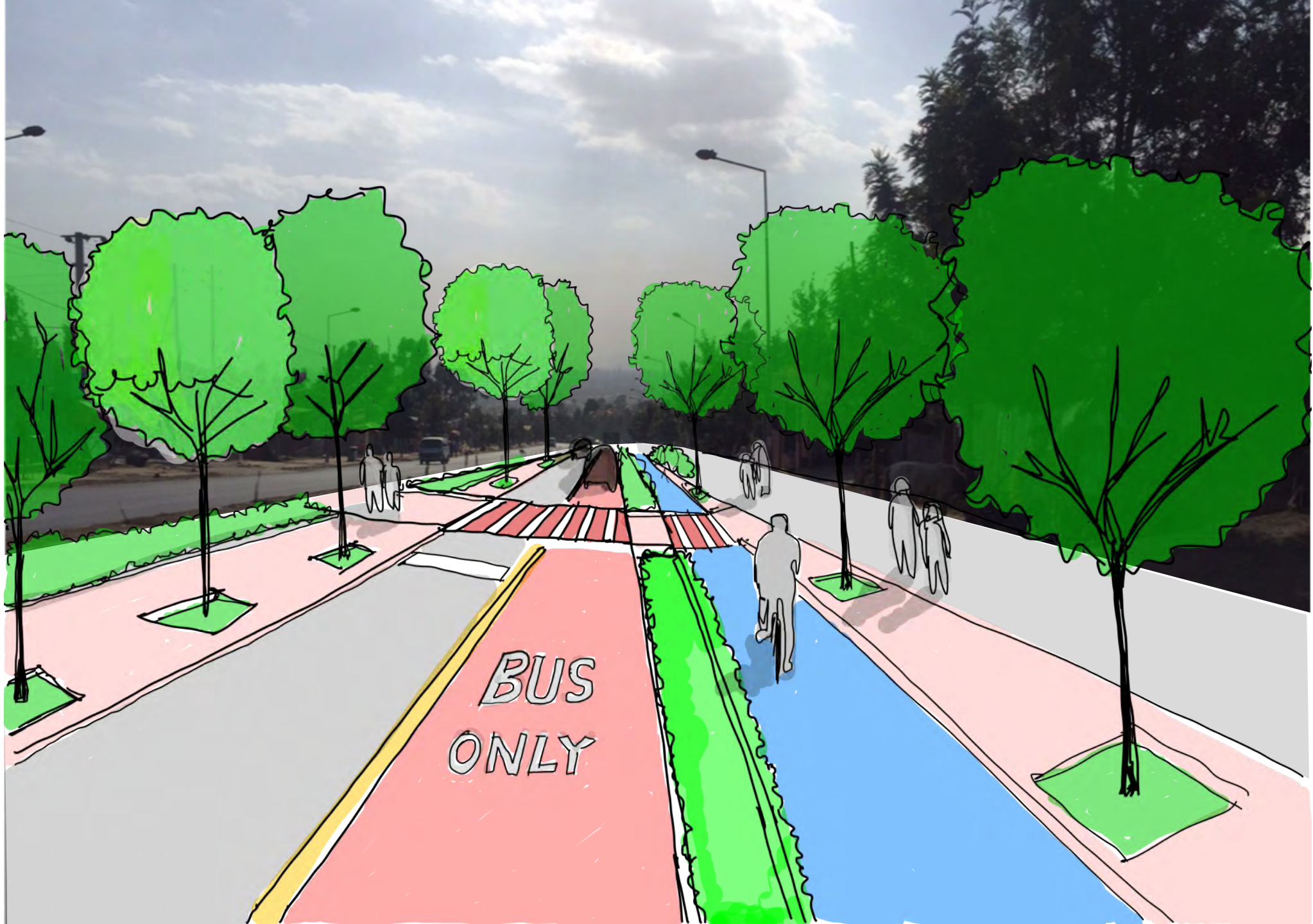












Geometric Design

Traffic Calming Measures – Lane Narrowing

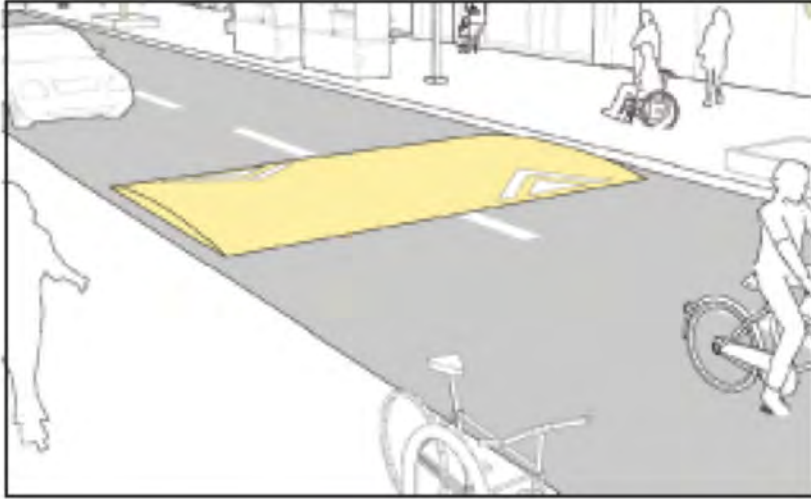
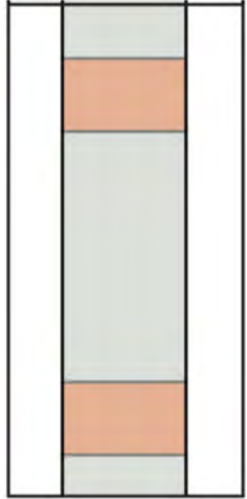
Why narrowing lanes?

Narrower (3 m-wide) lanes:

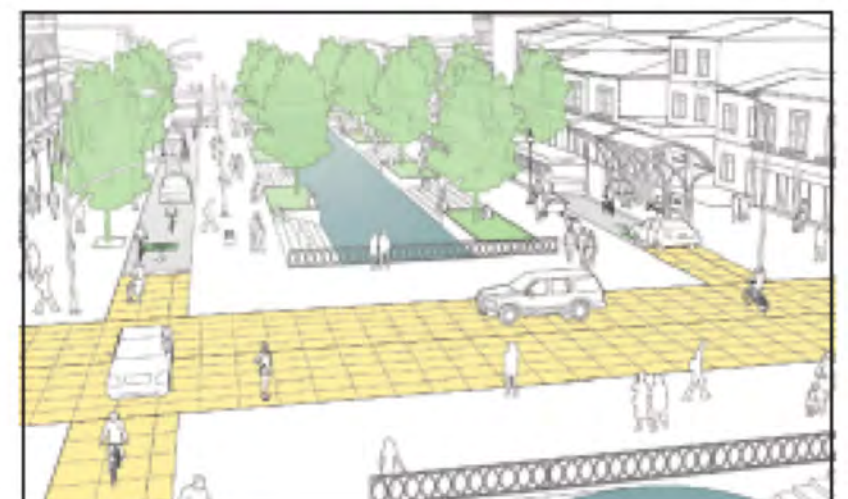
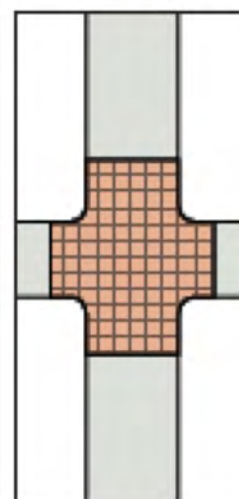
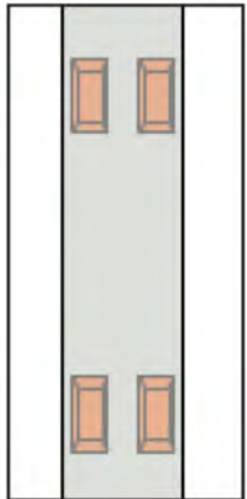
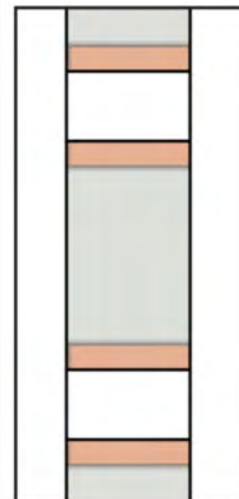
1. are **safer**
2. encourage **slow speeds**
3. Carry **more vehicles** (...or at least as much as wider lanes)

Geometric Design – Vertical Deflection

Speed humps



Raised crossings

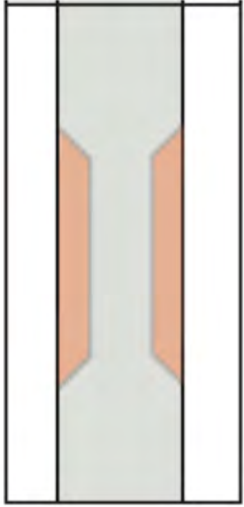


Speed cushions

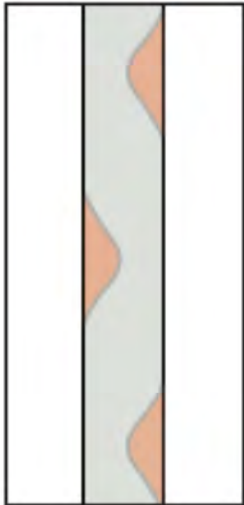
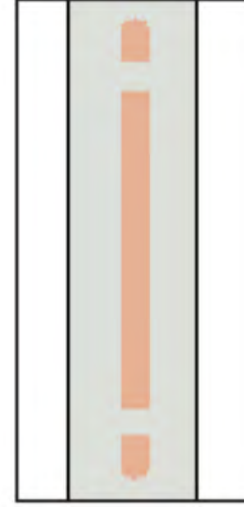
Raised intersections

Geometric Design – Horizontal Deflection

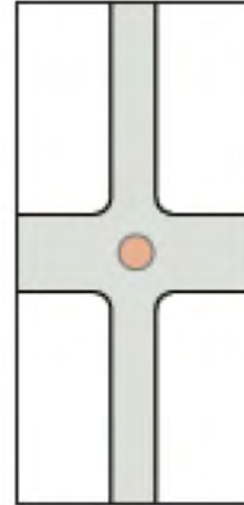
Pinchpoints



Medians and Refuge Islands



Chicanes and Lane Shifts

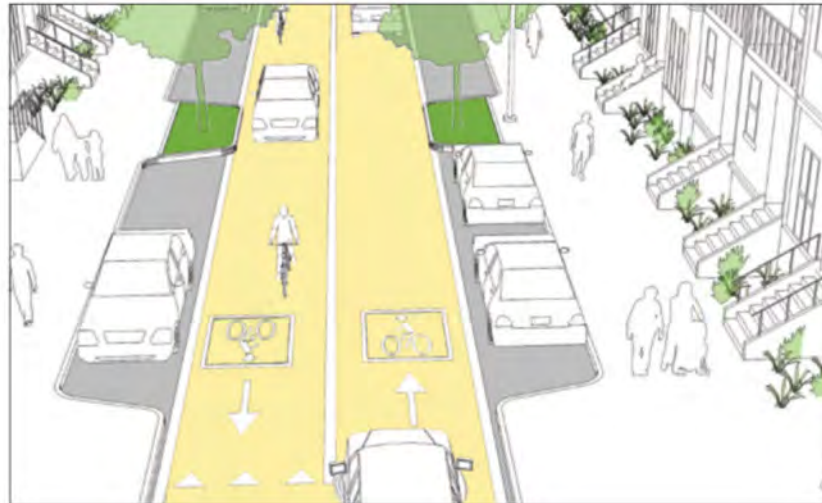
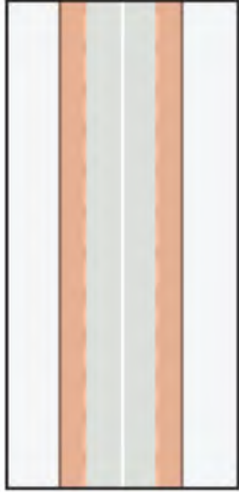


Mini Roundabouts

Geometric Design

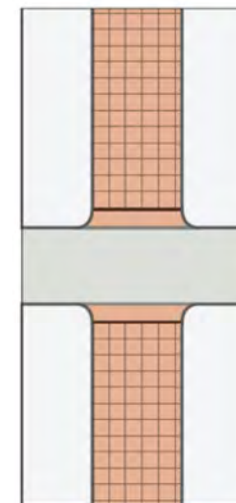
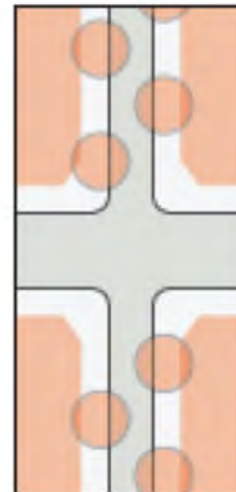
Traffic Calming Measures

Lane Narrowing



Two-way streets

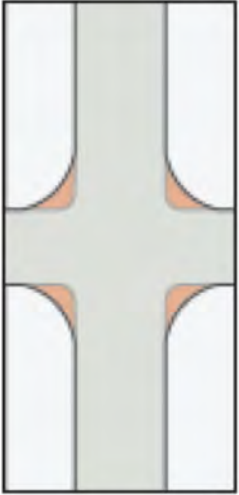
Buildings and Trees



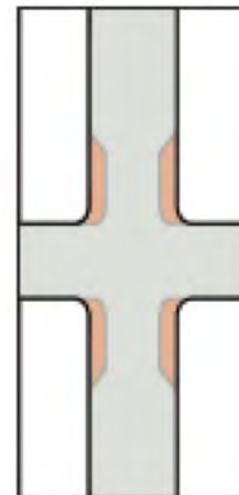
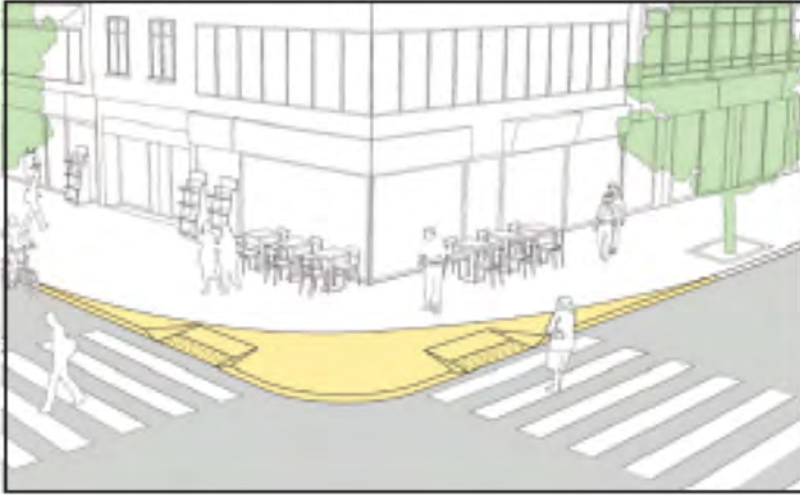
Shared Streets

Geometric Design

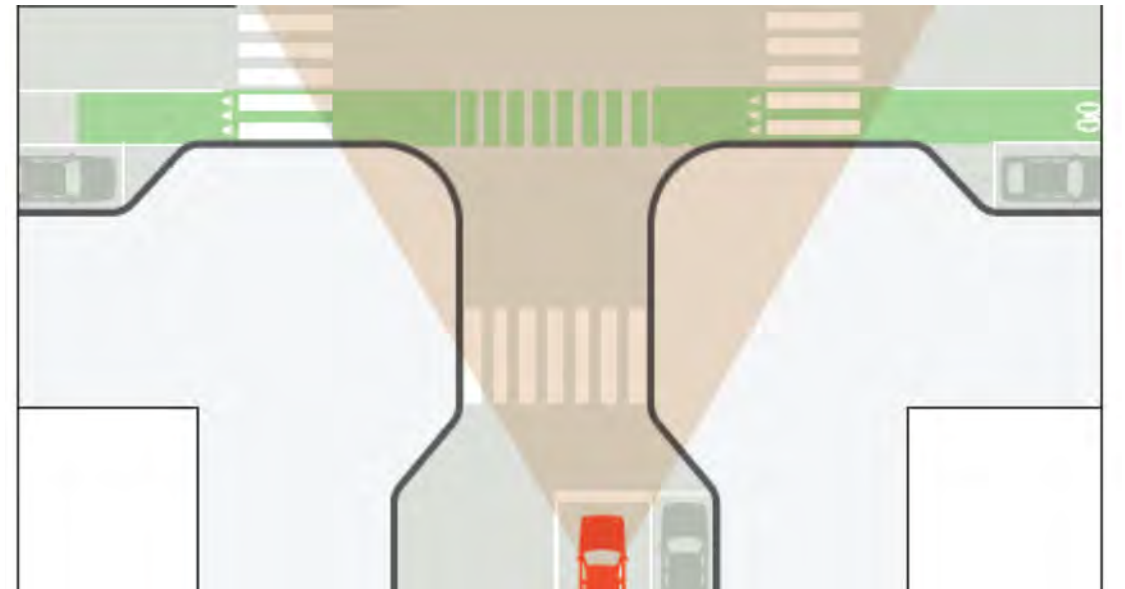
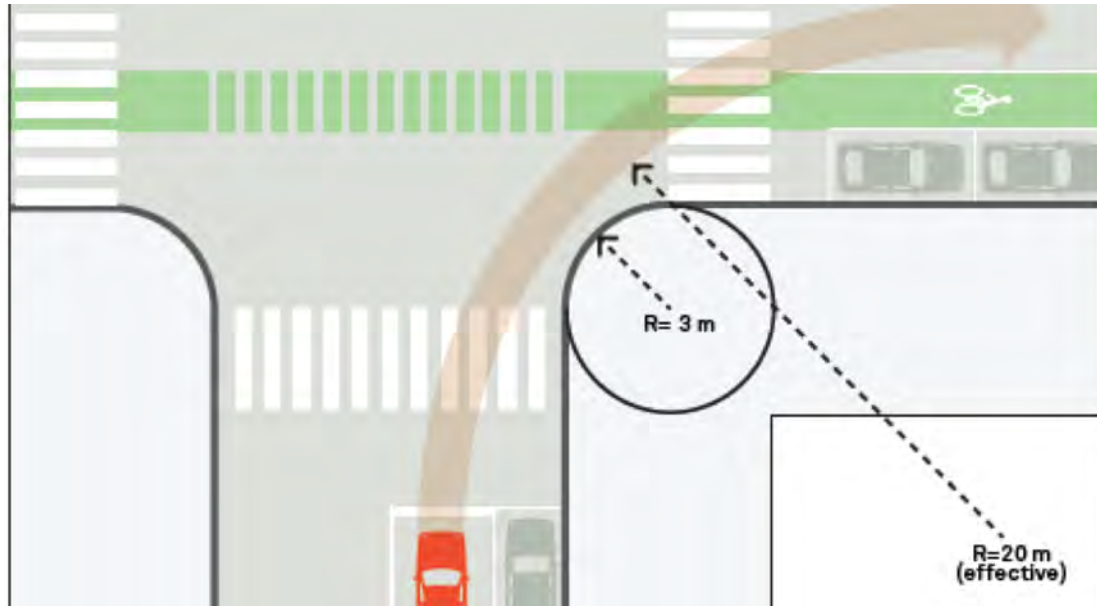
Traffic Calming Measures



Corner Radii



Curb extensions / Gateway Treatments



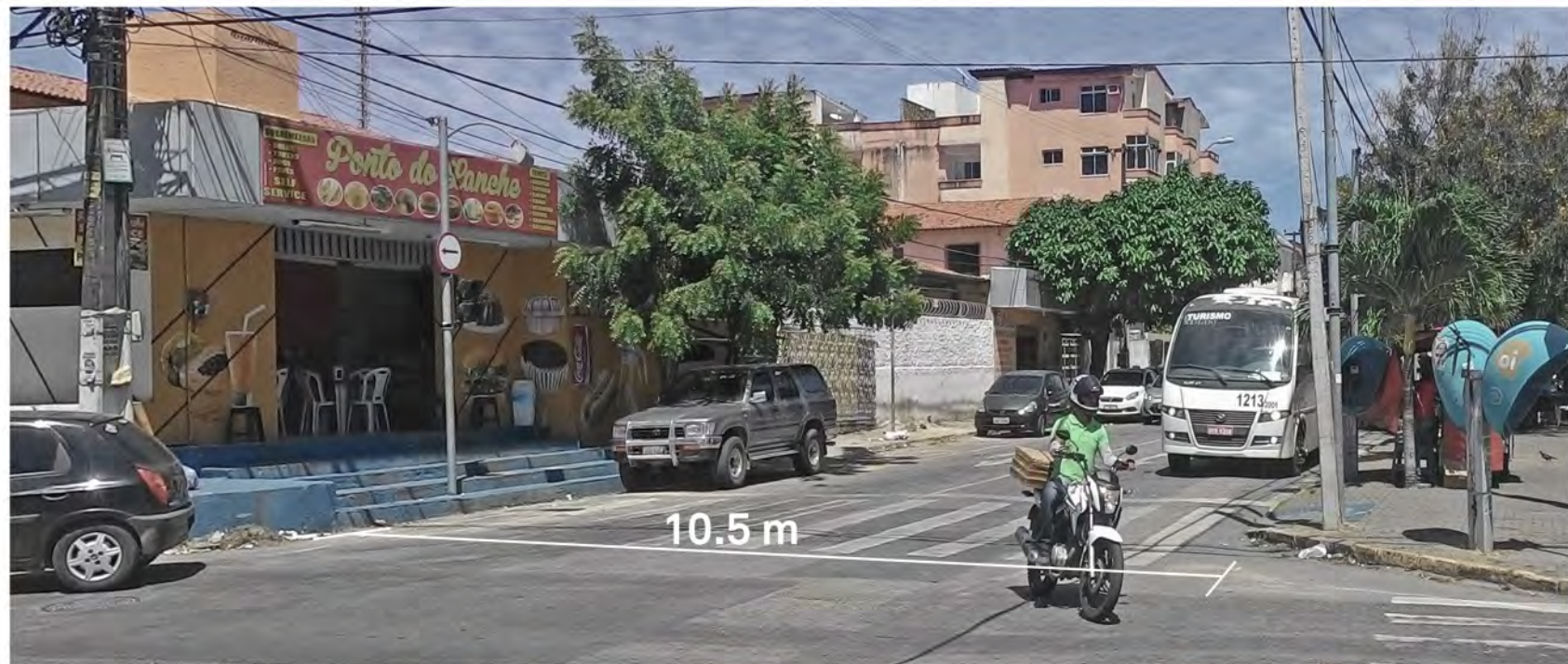
Tertuliano Sales Street

Quantitative survey

Pedestrian Exposure



(Reduced from 10.5 m to 3.5 m)



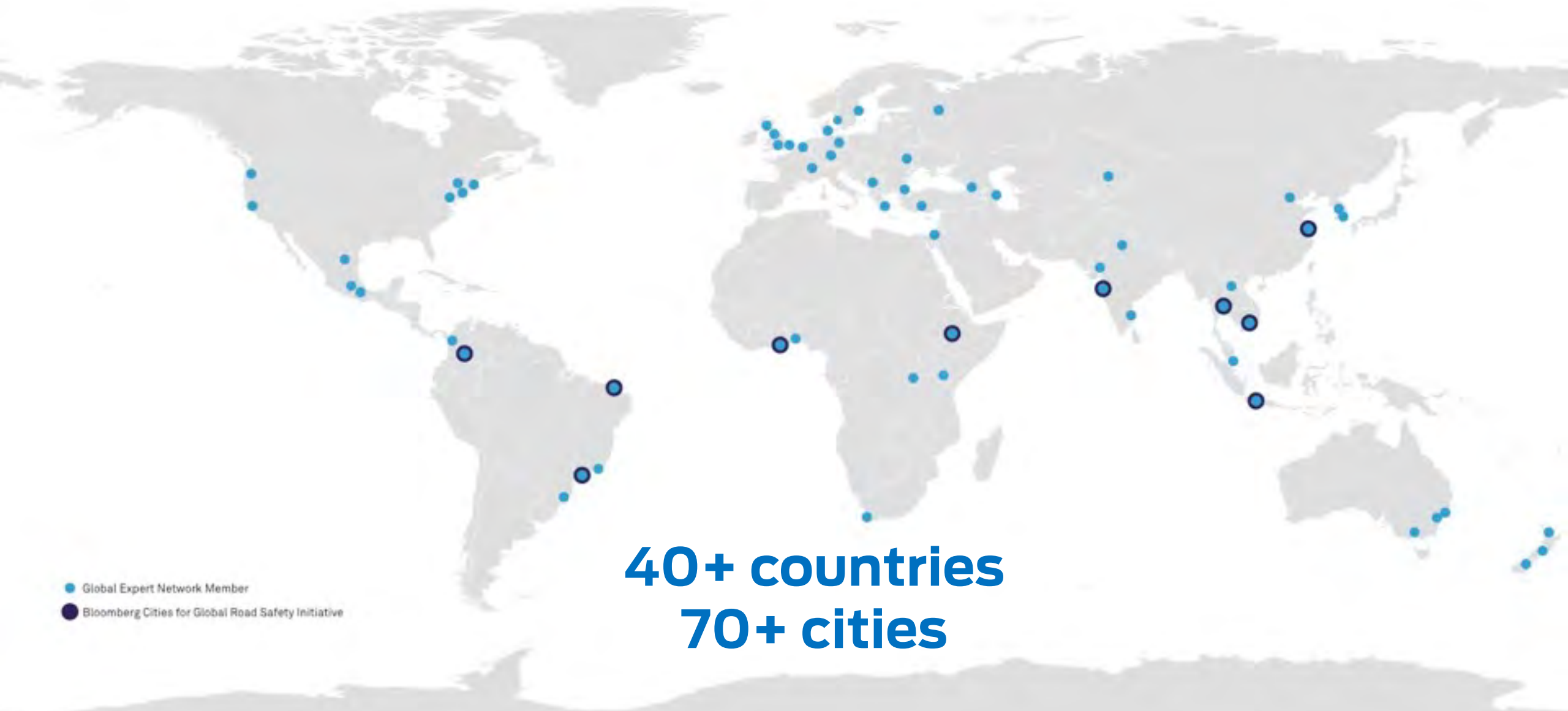


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Initiative**

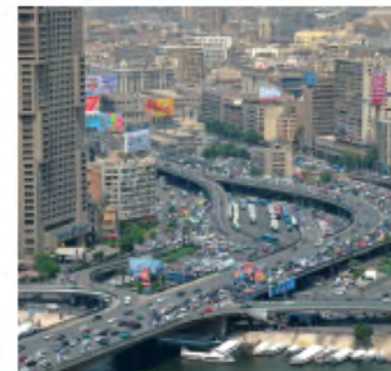


**Bloomberg Philanthropies
Initiative for Global Road Safety
(BIGRS)**

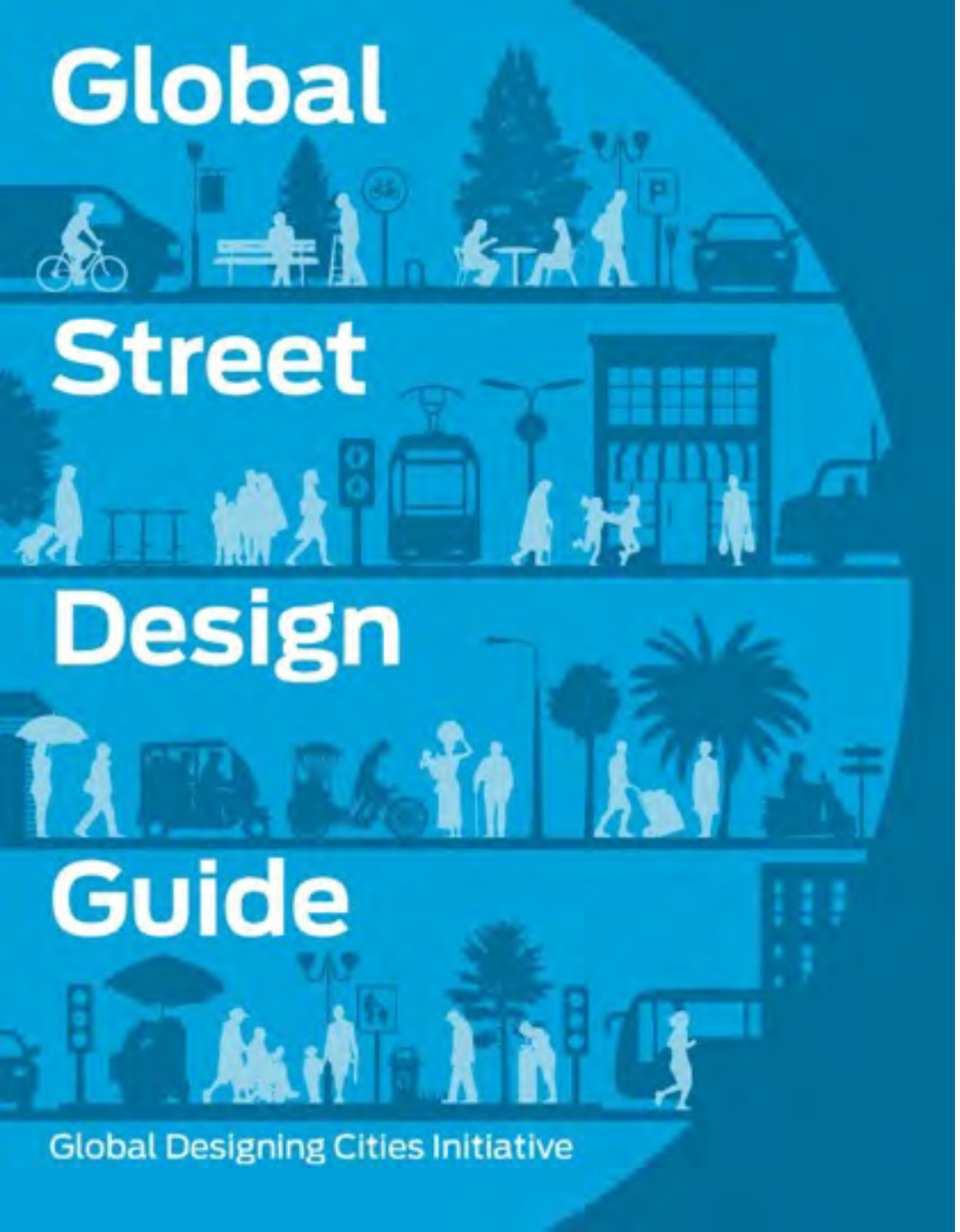
Network of Global Experts



International best practices



47 case studies from 25 countries and 6 continents



Global

Street

Design

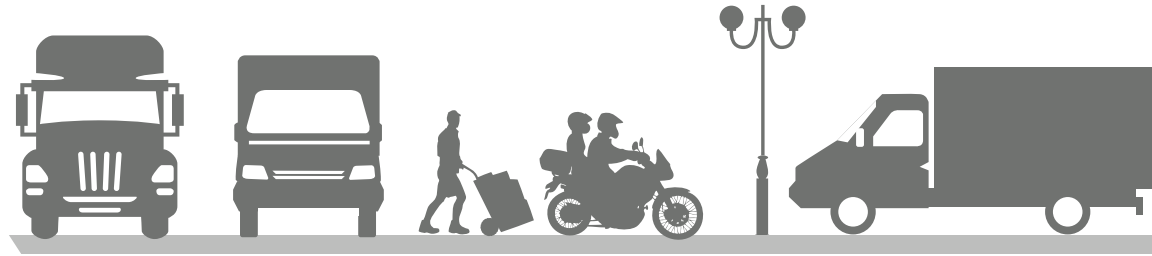
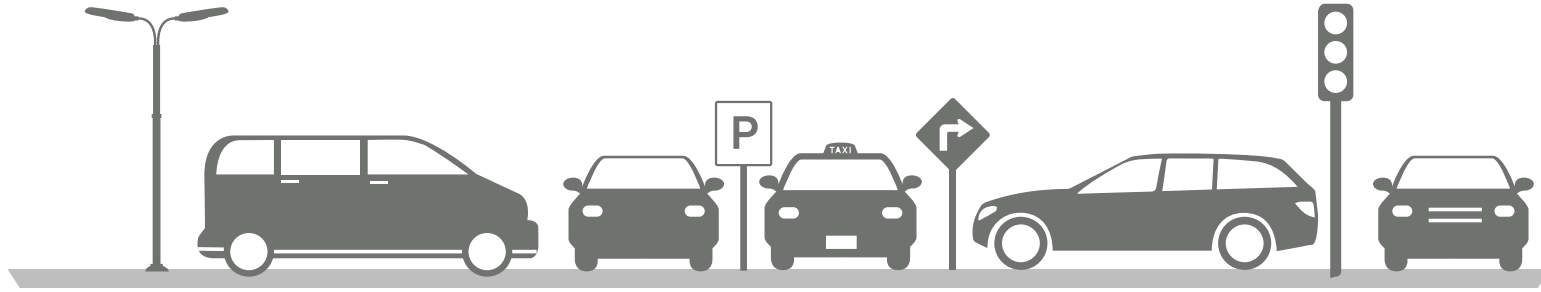
Guide

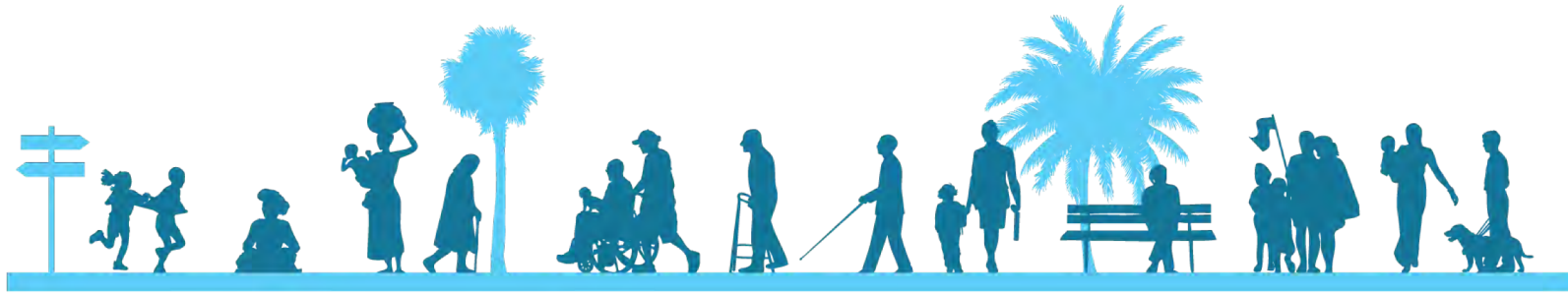
Global Designing Cities Initiative

Global Street Design Guide

Free Download

www.globaldesigningcities.org





**Develop a set of
guidelines on
designing streets
for safer speeds**

São Paulo Brasil



Bogotá Colombia



Addis Ababa Ethiopia



Fortaleza Brasil



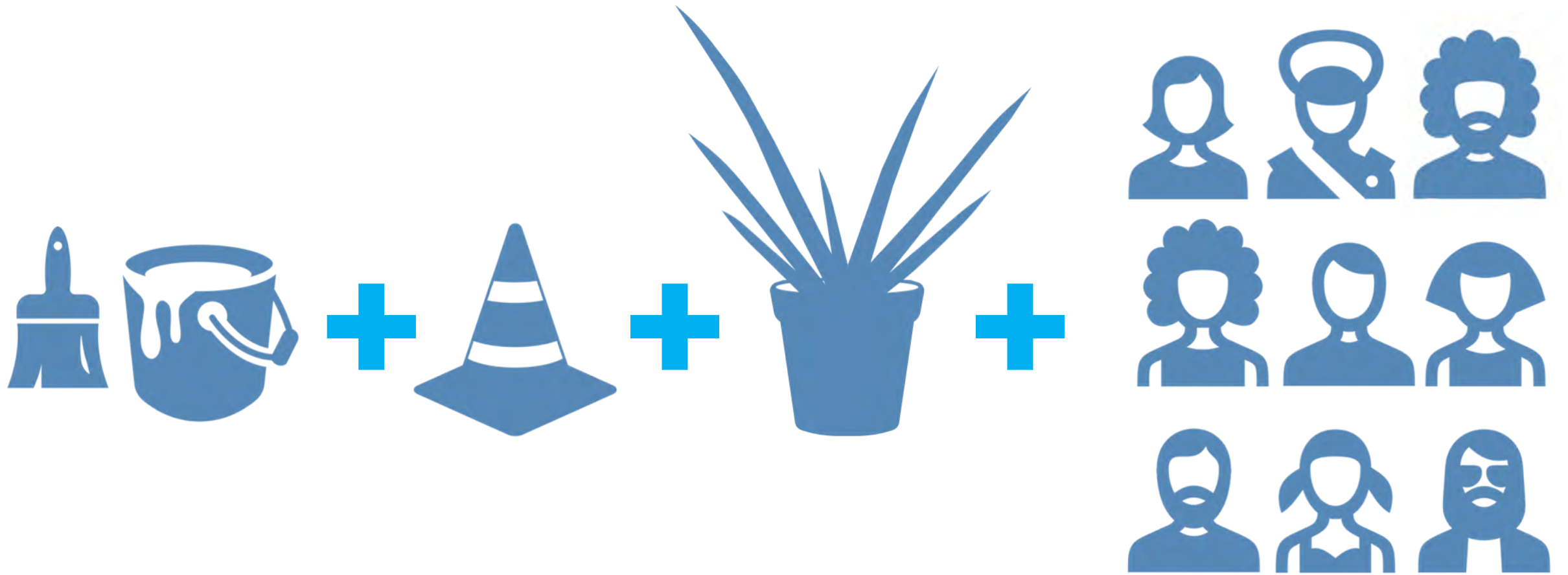
Mumbai India



Bloomberg
Philanthropies
Initiative for
Global Road
Safety
(BIGRS)

**Streets can
change...**

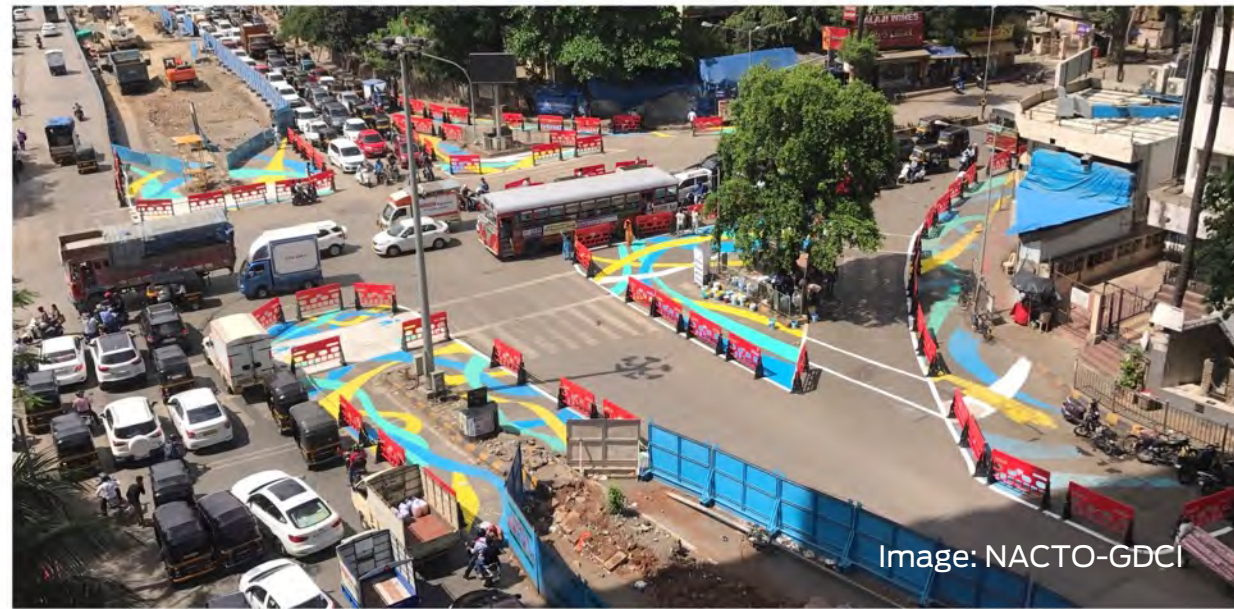
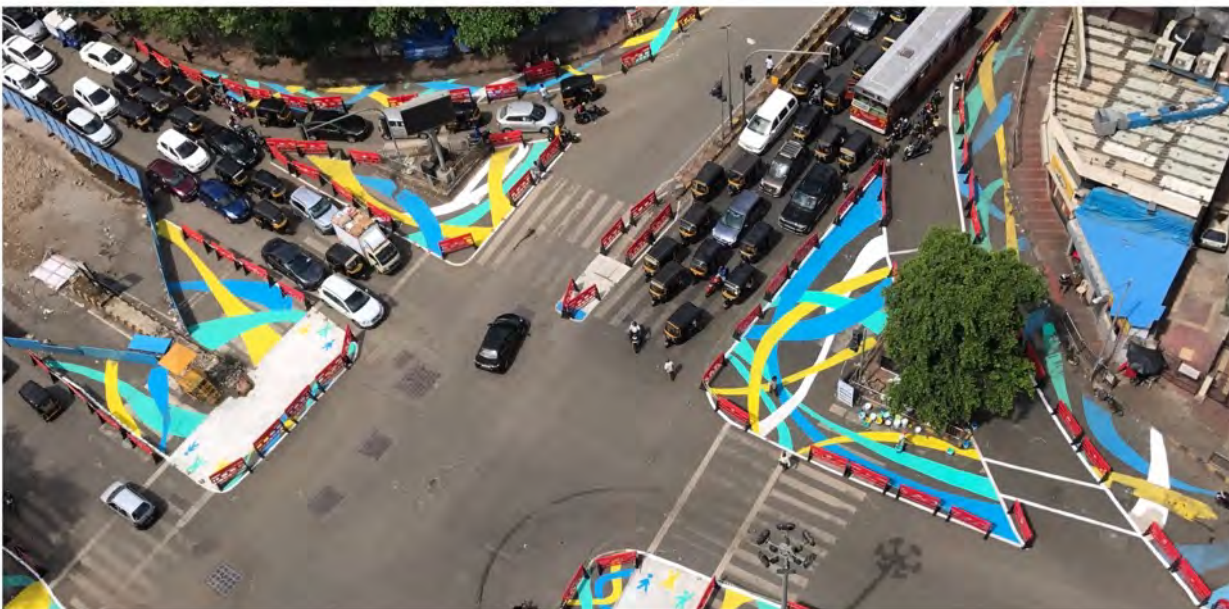
Short-Term Interim Transformations



Addis Ababa



Mumbai



São Paulo



Fortaleza



Bogotá



Streets can change...

**Streets can
change...**

...now.