

# EST Training Workshop

## New Street and People-oriented Design



Yoga Adiwirarto – Country Director Indonesia



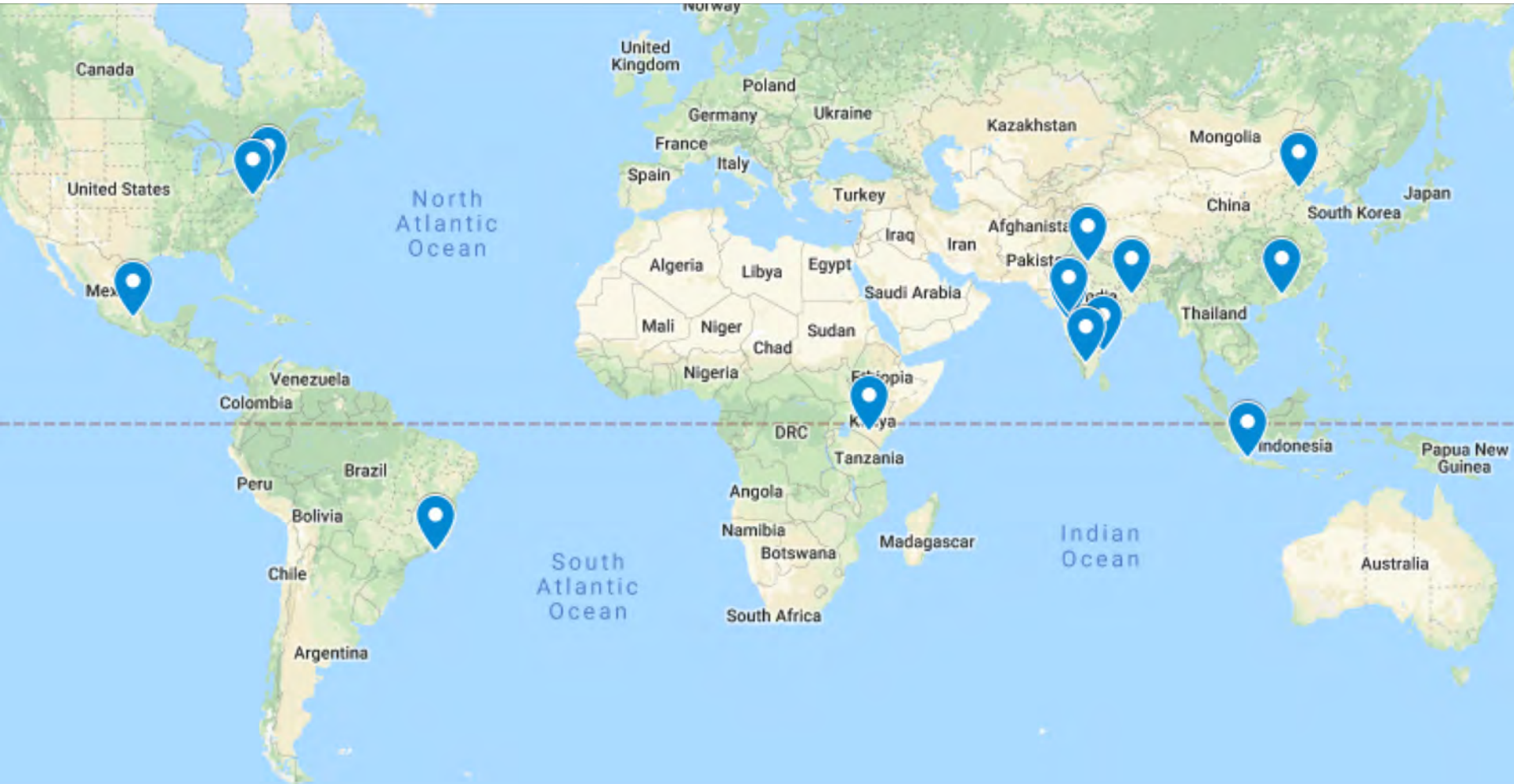
Institute for Transportation  
& Development Policy



# ITDP

Institute for Transportation  
& Development Policy

*Promoting environmentally sustainable  
and equitable transportation worldwide*



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# City Development Past Trends

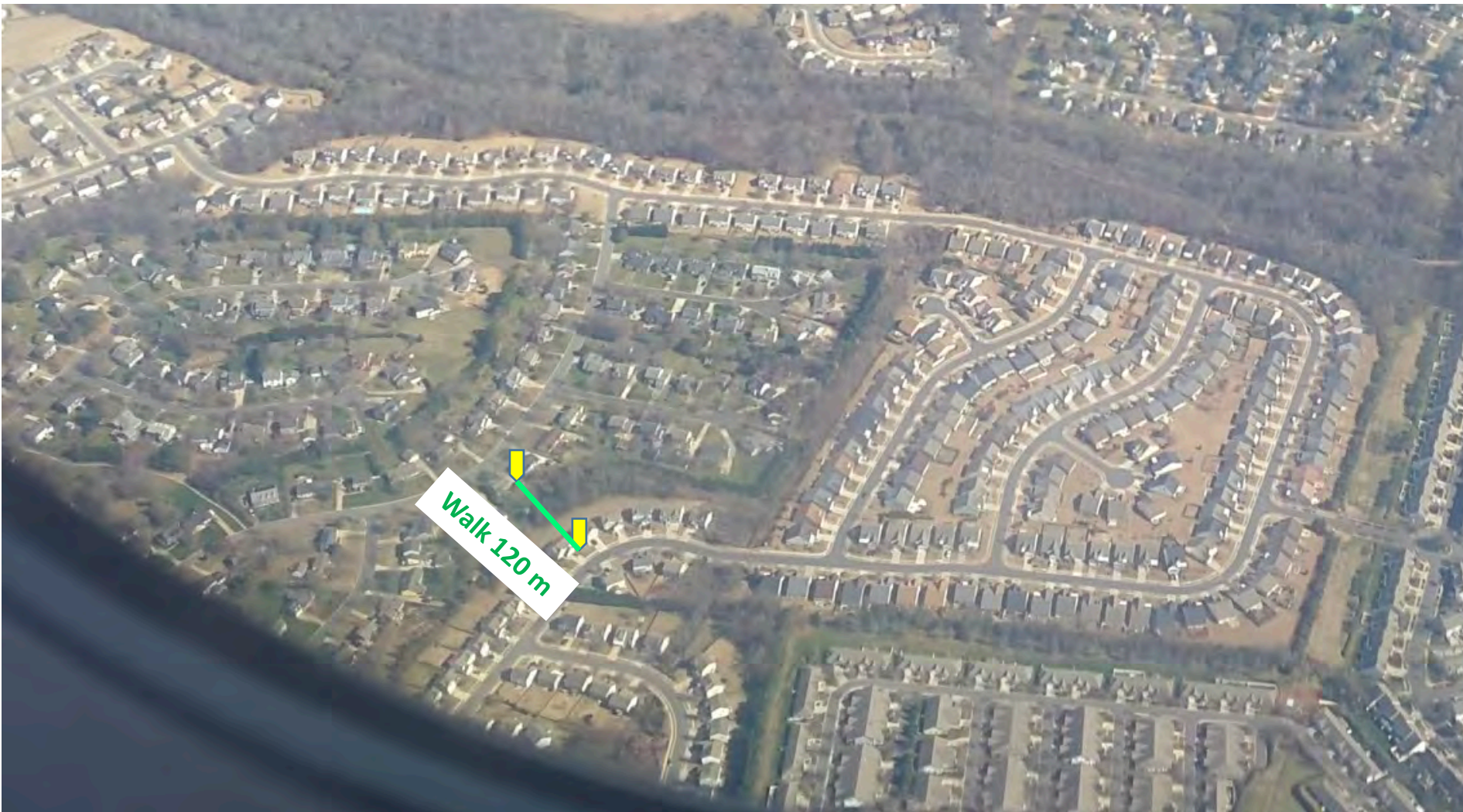




# Low Density Car-oriented Development



# Car Changes the Way We Plan...



120 meters walking trip becomes 2.5 KM car trip







# Street “Stakeholders”



Private Car  
Users

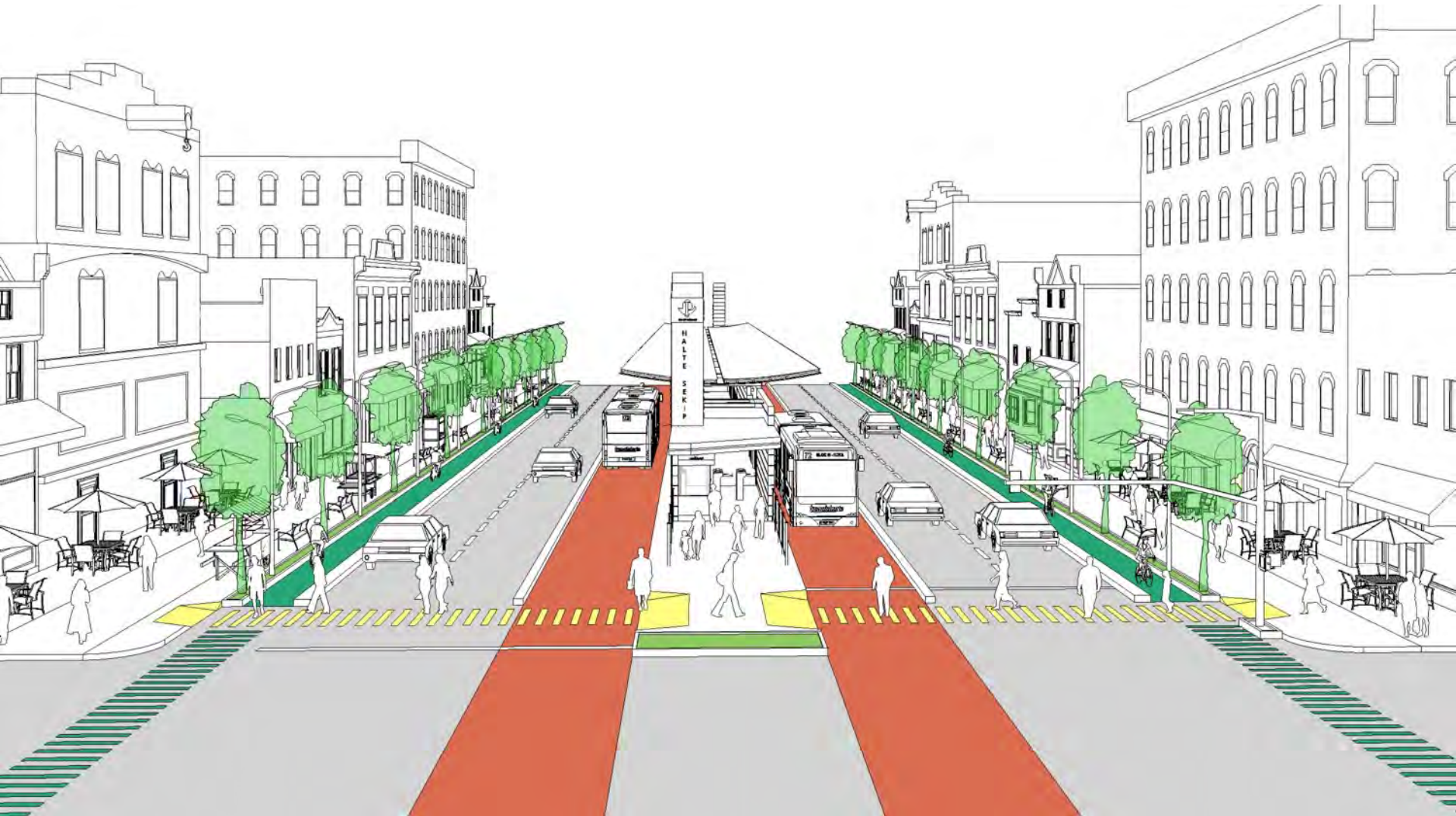
Pedestrians

Cyclists

Informal  
Businesses

Public  
Transport  
Users

# Complete Street Concept



Street for Everyone

# Hourly Capacity of a 3 meter wide space



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



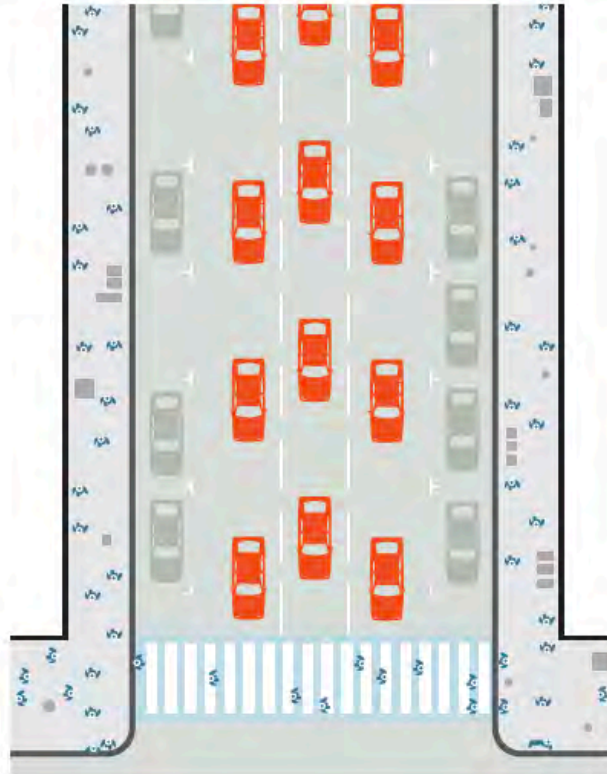
On-street Transitway, Bus Or Rail  
10,000–25,000/hour

**People capacity of different modes.**  
The illustration shows the hourly capacity of a 3 m-wide lane (or equivalent width) by different modes at peak conditions with normal operations.<sup>28</sup> Ranges relate to the type of vehicles, traffic signal timing, operation, and average occupancy.

# Multimodal Street Carries More People!

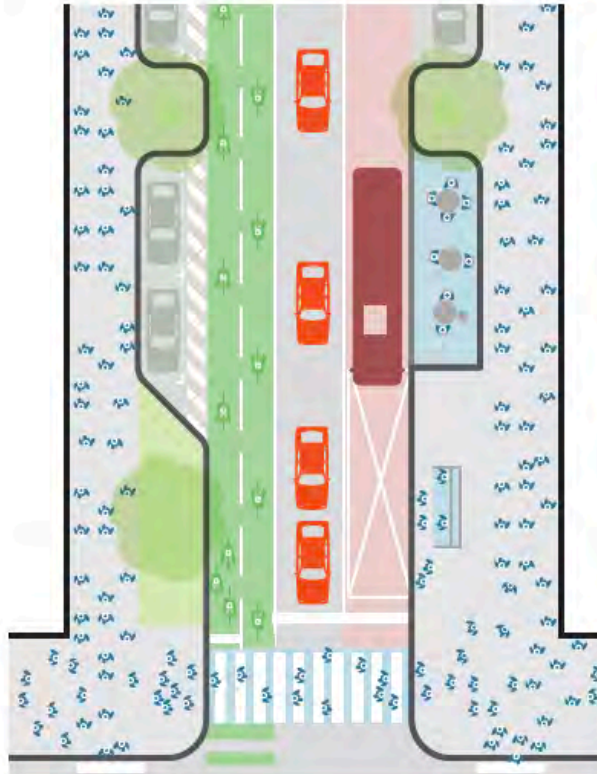


Car-Oriented Street






Total capacity: 12,300 people/h

Multimodal Street






Total capacity: 30,100 people/h<sup>20</sup>

Hourly Capacity of a Car-Oriented Street

	4,500/h	x2	9,000 people/h
	1,100/h	x3	3,300 people/h
	0	x2	0 people/h

Hourly Capacity of a Multimodal Street

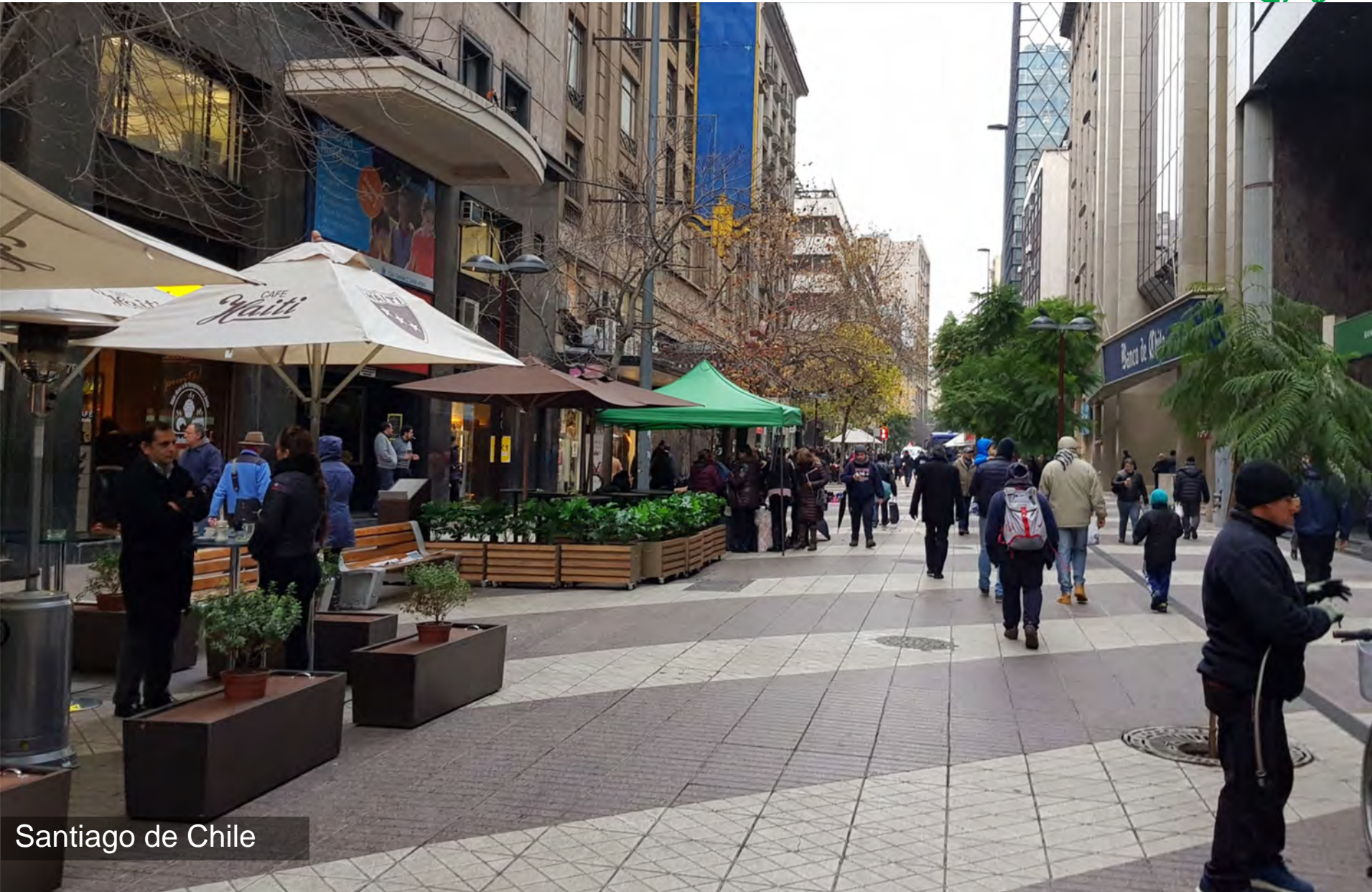
	8,000/h	x2	16,000 people/h
	7,000/h	x1	7,000 people/h
	6,000/h	x1	6,000 people/h
	1,100/h	x1	1,100 people/h
	0	x1	0 people

# Result of Car-Oriented Planning



Jakarta

# Result of Pedestrian—oriented Planning



Santiago de Chile

# Set the right priority



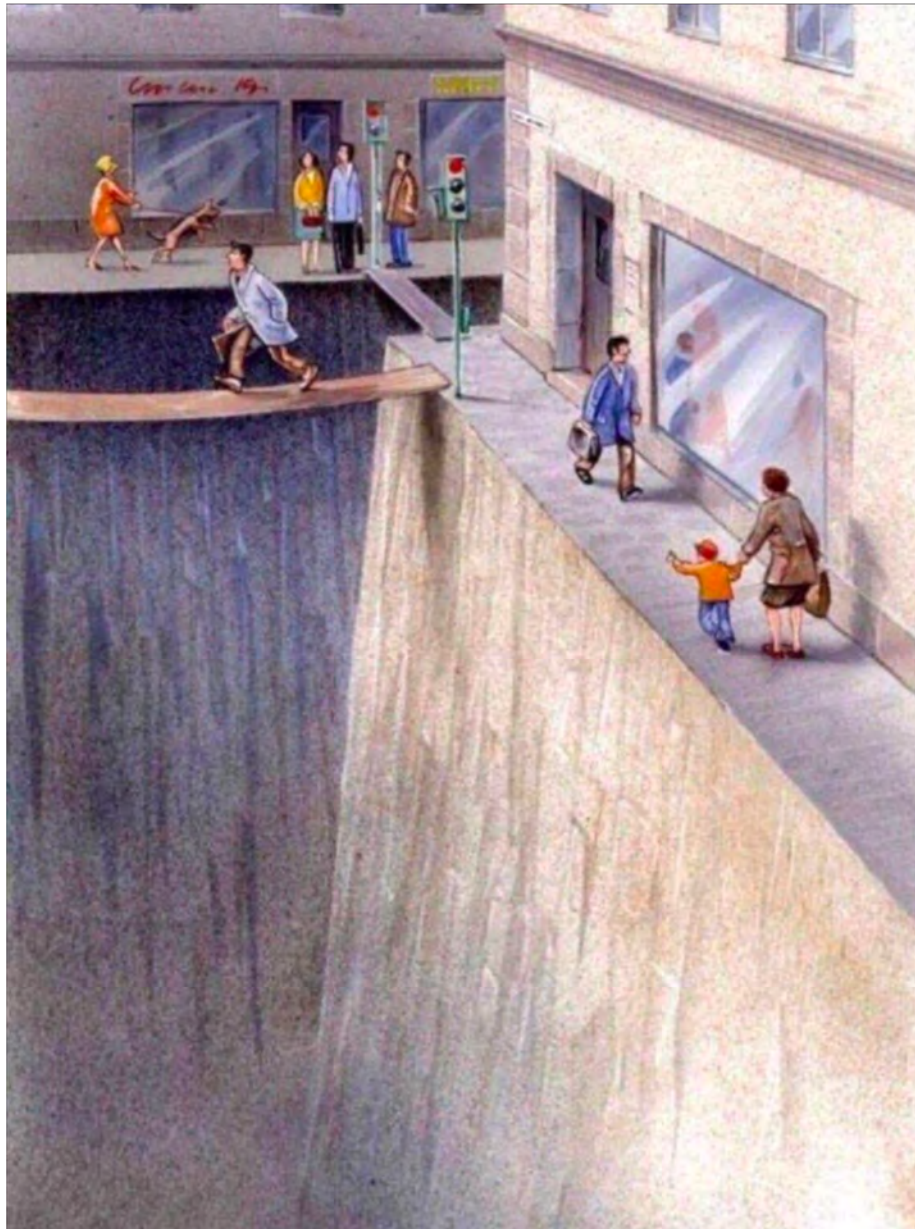
## Priority for Cars



## Priority for People



# How Pedestrians See the Street



Source:unknown



# Inequality for Pedestrians

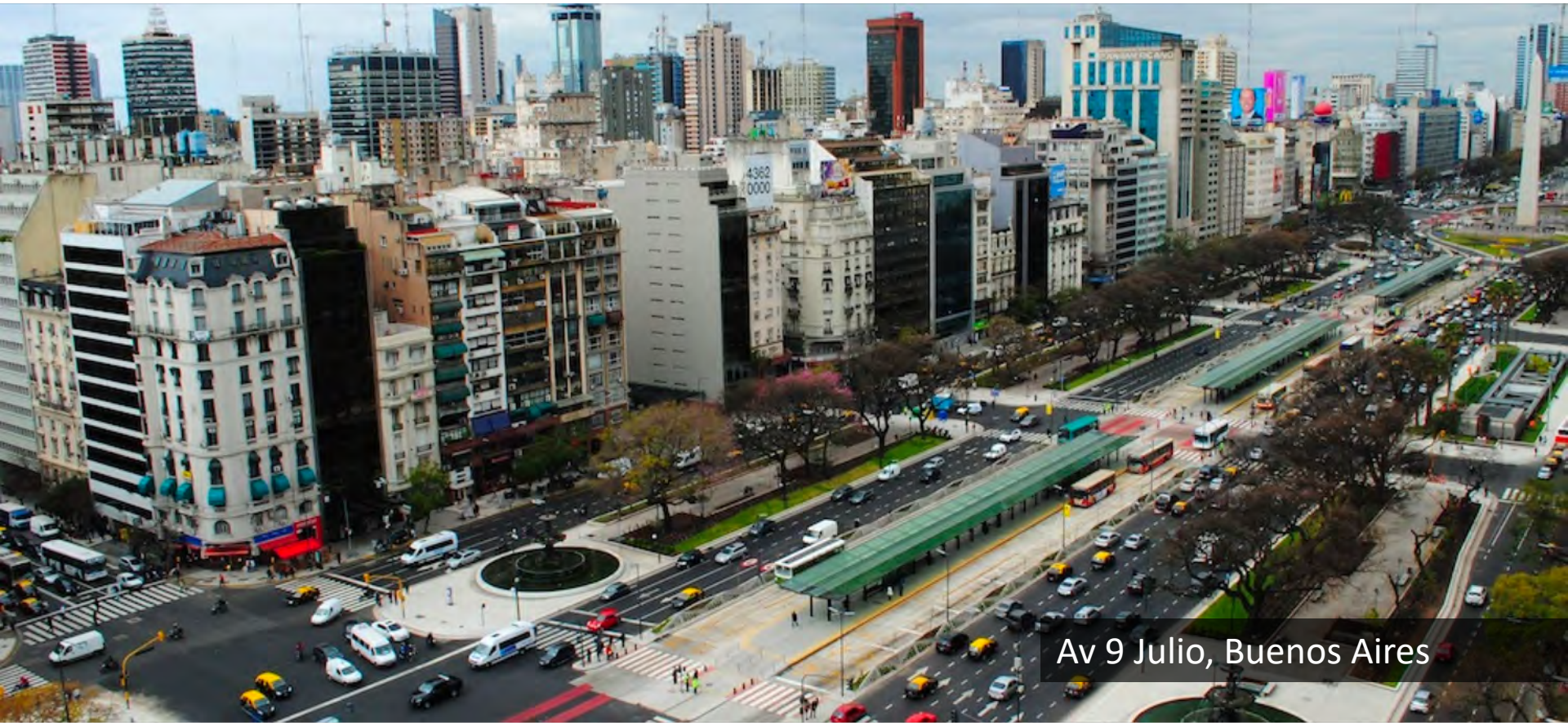


Heritage City, Melaka



Dataran Pahlawan, Melaka

# Some Cities are in the Process of Changing...



Av 9 Julio, Buenos Aires

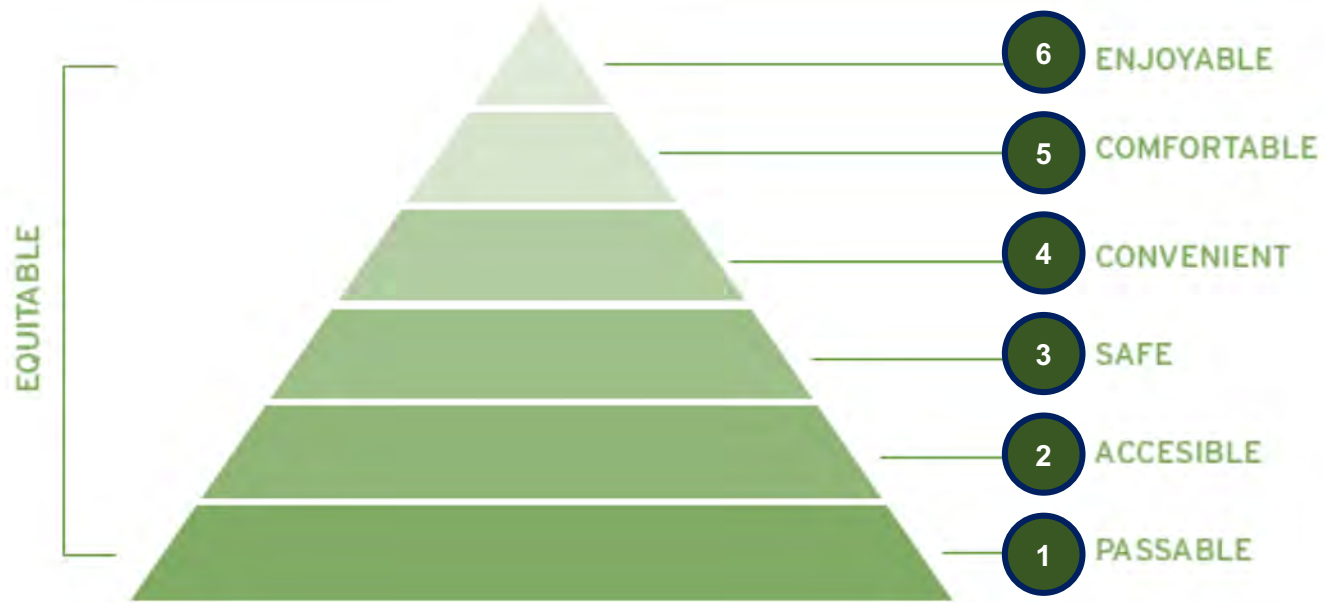
Although others are there already...



Bourke Street Mall, Melbourne



# Priority in Designing Streets



Source: Graphic created by Michael Flynn, Sam Schwartz Engineering

# 8 Principles of Transport in Urban Life



## Walk

Develop neighborhoods that promote walking

## Mix

Plan for mixed use

## Cycle

Develop neighborhoods that promote walking

## Densify

Optimize density and transit capacity

## Connect

Create dense networks of streets and paths

## Compact

Create regions with short commutes

## Transit

Locate development near high-quality public transport

## Shift

Increase mobility by regulating parking and road use



||||| PEDESTRIANS

# FIRST

TOOLS FOR A WALKABLE CITY |||



## WALKWAYS

PERCENTAGE OF BLOCK FRONTAGE WITH SAFE, ALL ACCESSIBLE WALKWAYS

## CROSSWALKS

PERCENTAGE OF INTERSECTIONS WITH SAFE, WHEELCHAIR-ACCESSIBLE CROSSWALKS IN ALL DIRECTIONS

## VISUALLY ACTIVE FRONTAGE

PERCENTAGE OF WALKWAY SEGMENTS WITH VISUAL CONNECTION TO INTERIOR BUILDING ACTIVITY

## PHYSICALLY PERMEABLE FRONTAGE

PERCENTAGE OF WALKWAY SEGMENTS WITH VISUAL CONNECTION TO INTERIOR BUILDING ACTIVITY

## SHADE AND SHELTER

PERCENTAGE OF WALKWAY SEGMENTS THAT INCORPORATE ADEQUATE SHADE OR SHELTER ELEMENT

## SMALL BLOCKS

LENGTH OF LONGEST BLOCK (LONG SIDE)



## DRIVEWAY DENSITY

AVERAGE NUMBER OF SHOPS AND BUILDING ENTRANCES PER 100 METERS OF BLOCK FRONTAGE

## PRIORITIZED CONNECTIVITY

RATIO OF PEDIESTRIAN INTERSECTIONS TO MOTOR VEHICLE INTERSECTIONS

## COMPLEMENTARY USES

RESIDENTIAL AND NON-RESIDENTIAL USES COMBINED WITHIN SAME OR ADJACENT BLOCKS

## ACCESS TO LOCAL SERVICES

PERCENTAGE OF BUILDINGS THAT ARE WITHIN 500-METERS WALKING DISTANCE OF A SOURCE OF FRESH FOOD, AN ELEMENTARY OR PRIMARY SCHOOL, AND A HEALTHCARE SERVICE OR PHARMACY

## ROADWAY AREA

TOTAL ROAD AREA USED FOR MOTOR VEHICLE TRAVEL AND ON-STREET PARKING AS PERCENTAGE OF TOTAL LAND AREA



A photograph of a busy Japanese street at night. The street is paved with a pattern of light and dark tiles. On the left, there are several shops, including one with a sign that says "LAKESIDE CAFE". On the right, there are more shops, including one with a sign that says "SUZUCHI FOOT WEAR". The street is filled with pedestrians, and there are many illuminated signs and advertisements. The overall atmosphere is vibrant and urban.

# Walkways

**Goal: Provide safe, all accessible walkways**

- Universal Access
- Pedestrian-focused
- Continuous
- Connected



Continuous Walkways, Tokyo



Shared Street with Transit Mall in Bogota



Shared Street with limited speed in Historical Santiago



Car-Free Street with Pedestrian Priority Pavement



Creating Pedestrian-only street has positive impact to businesses

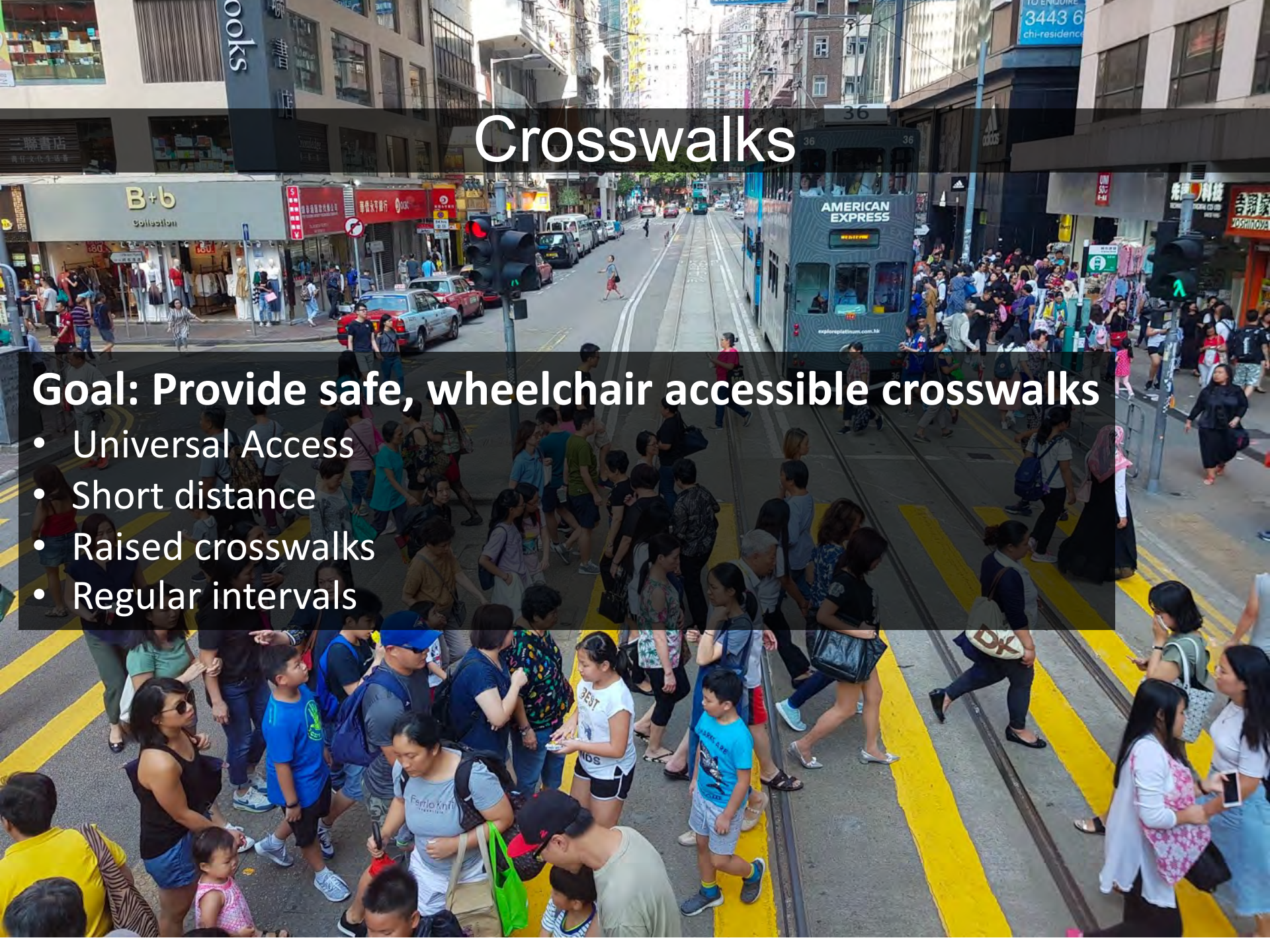


Wide sidewalk to connect with BRT, Guangzhou

# Crosswalks

**Goal: Provide safe, wheelchair accessible crosswalks**

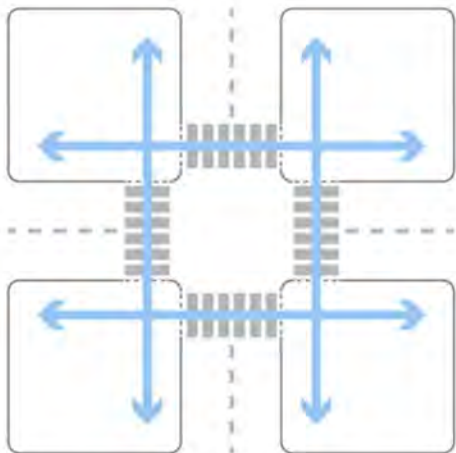
- Universal Access
- Short distance
- Raised crosswalks
- Regular intervals



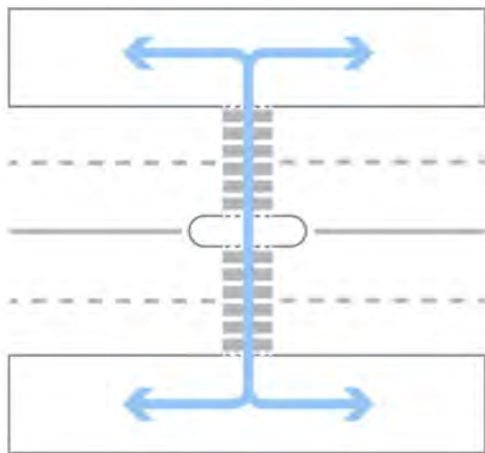




## All Directions Crosswalks

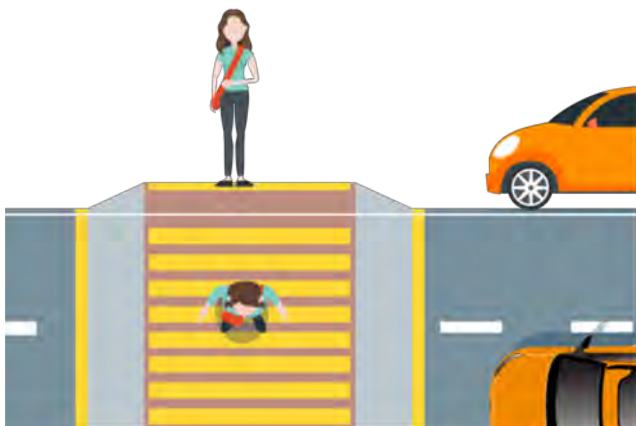


Crosswalks should be provided in all directions to create a complete pedestrian network.



Crosswalks that cross two or more traffic lanes have a wheelchair-accessible pedestrian refuge.

## Raised Crosswalks



## Pinchpoint Crossings



Side

Top



No Crosswalks where people regularly cross near bus stops



Mid-Block Crossings Need to be provided at regular interval (150-200 m)



Raised Crossings & Middle Block Crossings





Diagonal Crossings, Shibuya

# Visually Active Frontage

**Goal: Create enjoyable walking experience**

- Transparent Windows
- Visually Attractive
- Parks, Patio, Playground

# Poll: Where would you prefer to walk?



# Glass Shopfront Helps Pedestrians' Experience





**HARIA'S STAMP SHOP LTD.**  
Est. 1958  
READY MADE FLAGS KIKOYS KANGAS T-SHIRTS. KITENGE  
MASAI SHUKAS LAPEL PINS SAFARI BADGES. MAGNETS  
ETHNIC ATTIRE. BATIKS. GIFTS & SOUVENIR ITEMS.  
NO. 40A BIASHARA STREET  
The HAKUNA MATATA Branch SHOP 2

# Permeable Frontage

**AVERAGE NUMBER OF SHOPS AND BUILDING ENTRANCES PER 100 METERS OF BLOCK FRONTAGE**

**GOAL: 5% OR MORE**

- 1 Quantify the total length of block frontage that abuts public walkways and divide by 100 meters.
- 2 Quantify the number of entrances along public walkways.
- 3 Divide the second measure by the first to calculate average number of entrances per 100 meters of block frontage.

This sidewalk in Nairobi, Kenya, has a number of businesses along it, creating a physically permeable frontage that facilitates an active walking environment.

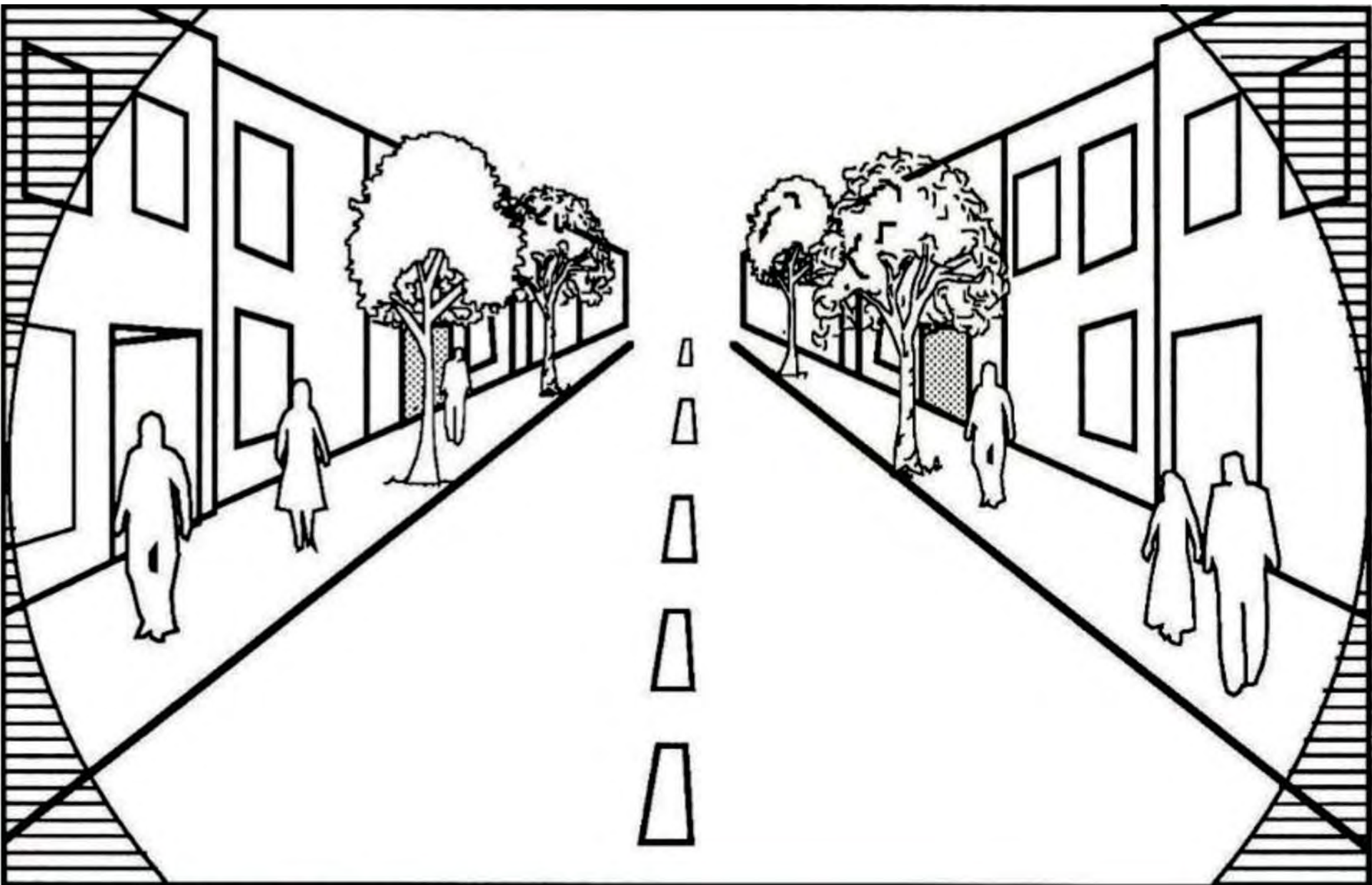


Street with small shops, Hongkong

# Speed Control

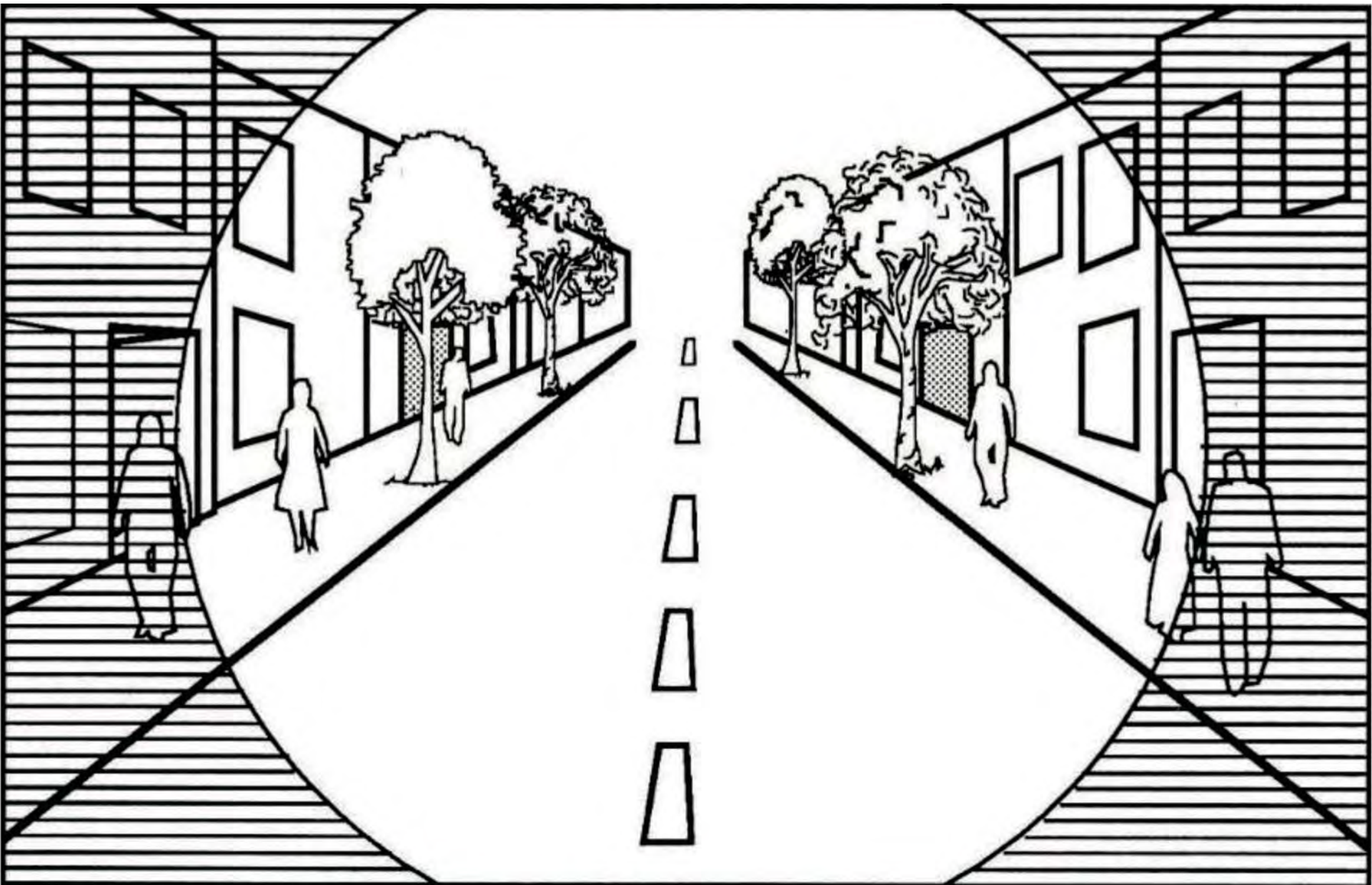


# Driver's Vision



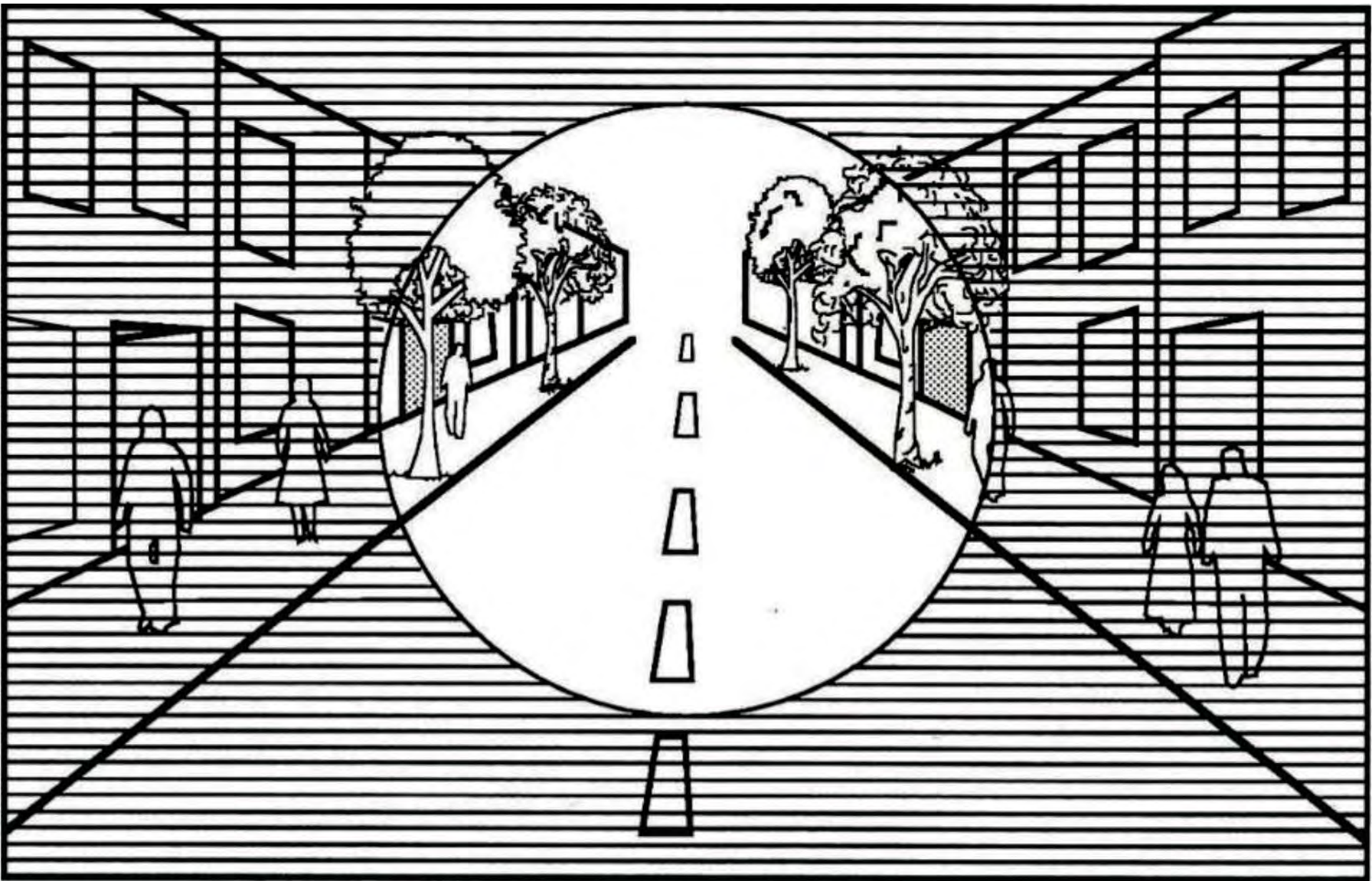
20 KPH

# Driver's Vision



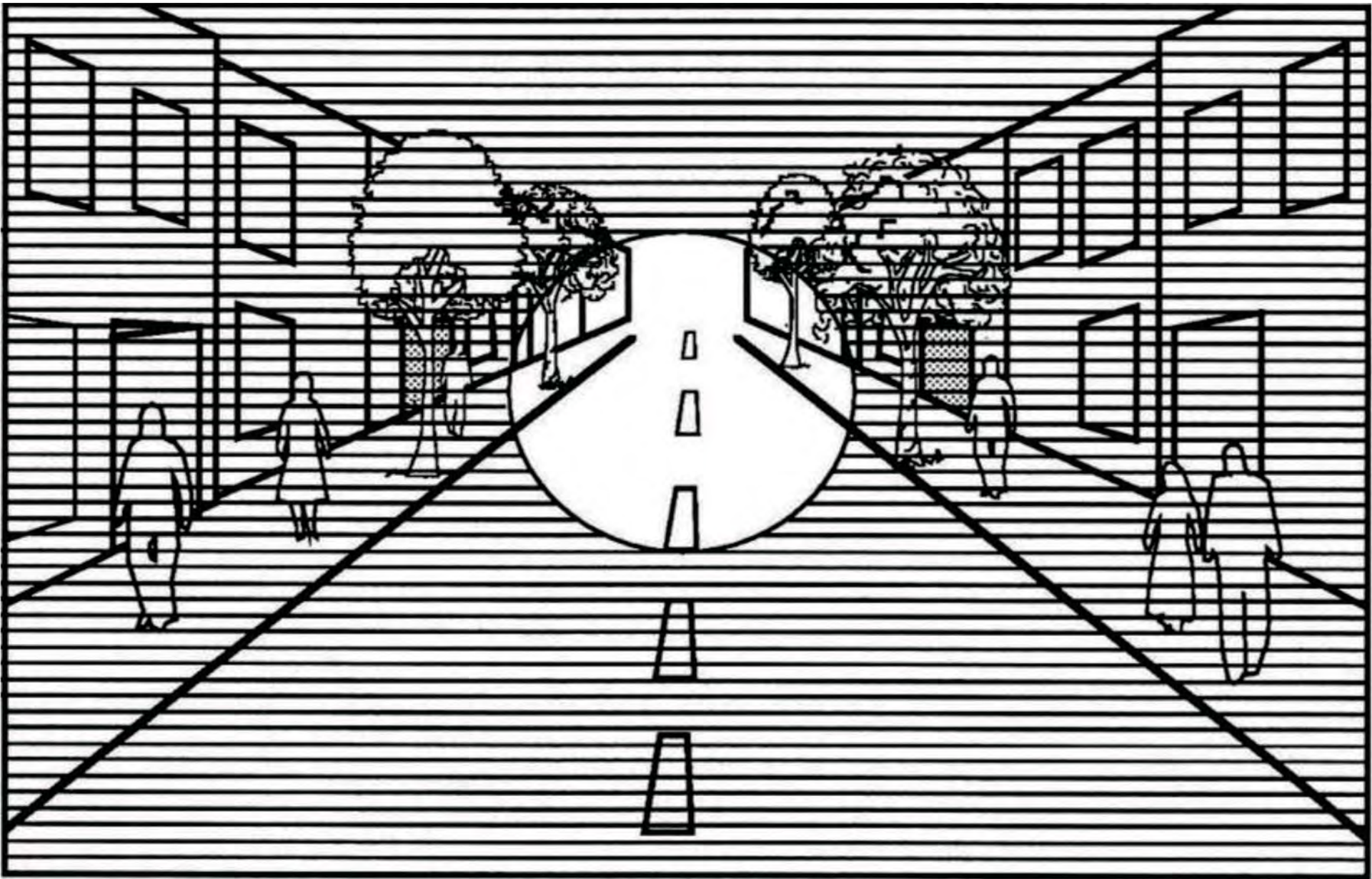
30 KPH

# Driver's Vision



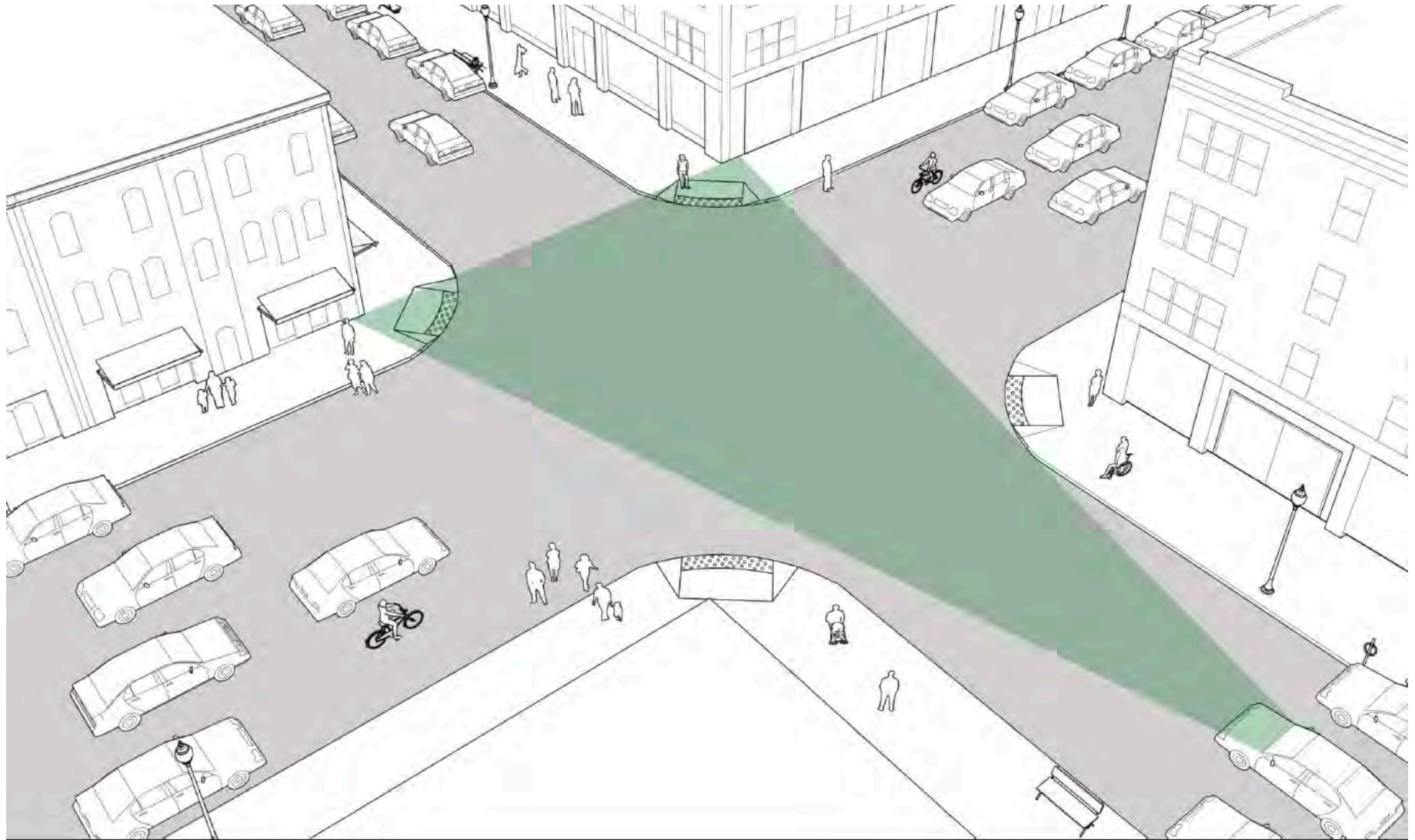
40 KPH

# Driver's Vision



50 KPH

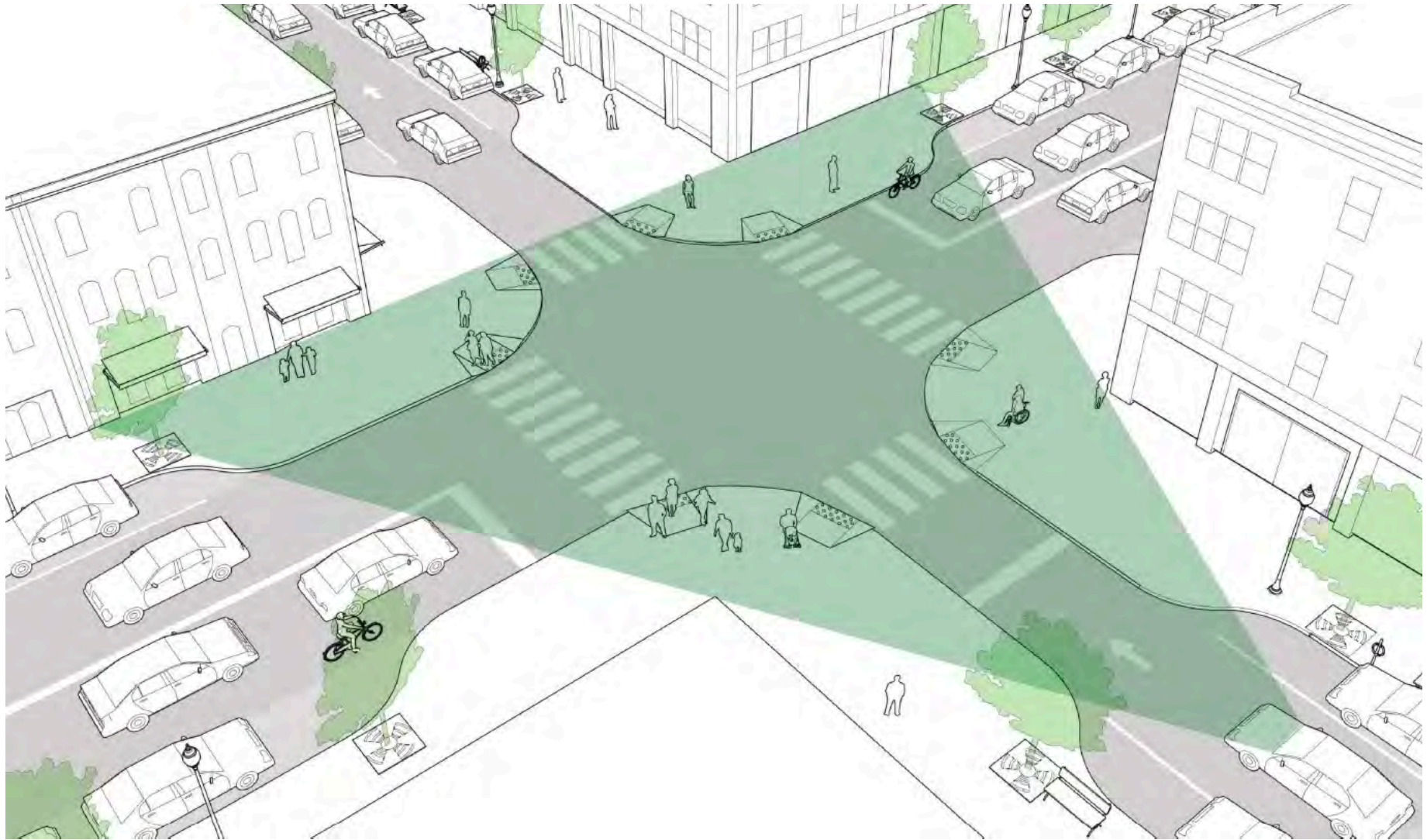
# Sight Distance



Source: NACTO Global Street Design Guide, 2017

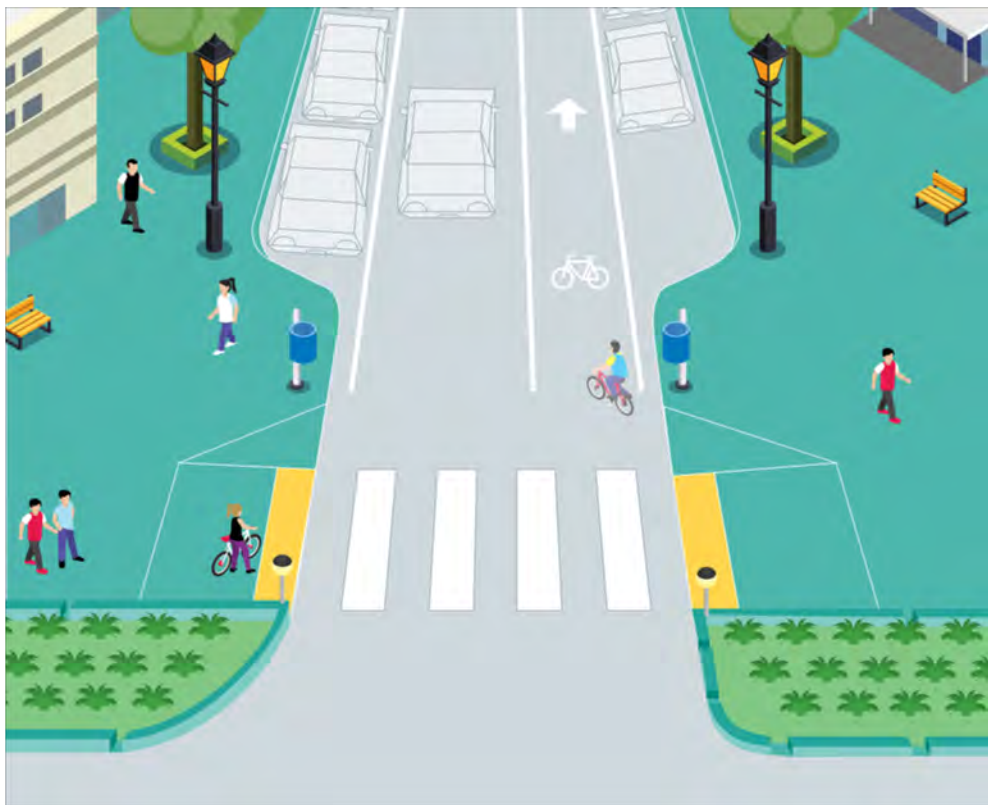


# Sight Distance at slower speed

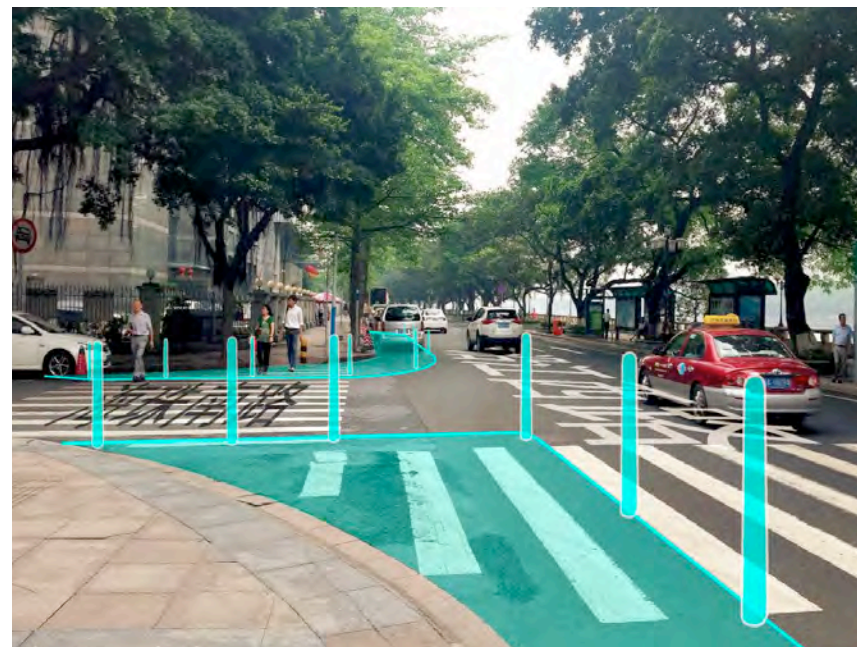


Source: NACTO Global Street Design Guide, 2017

# Bulbs Out to Lower Speed and Provide Larger Pedestrian Reserve Island



Sidewalk extension with Bulbs Out shorten crossing distance



Reducing Turning Radii to lower vehicle turning speed



After

Before

# Examples of Improvements



**BEFORE**



**AFTER**



**AFTER**



LUCIO  
ALQUILA  
EN BLOCK  
4785-2527  
15-6209-7159  
MAIL: lucio27@gmail.com

ALQUILA  
EN BLOCK  
4785-2527  
15-6209-7159

SCHWARTZ  
4821-2200  
ALQUILA

BATERIAS  
POWERBATT

BATE  
AL VARNES 601 - TEL: 4

POLARIZADOS  
BLINDAJE

BEFORE



ALQUILA  
EN BLOCK  
4785-2527  
15-6209-7159

ALQUILA  
EN BLOCK  
4785-2527  
15-6209-7159

**BATER**  
AV. WARREN 601 - TEL.: 4856-2796

**ATFER**





**BEFORE**



AFTER



**BEFORE**



**AFTER**



Times Square, NY



Same pavement material will help to reduce vehicle speed

# Driveway Density

A photograph of a city street scene. In the foreground, a paved sidewalk made of interlocking grey and light-colored bricks runs along the road. A black metal railing is visible on the left. The road has a white dashed line and a white crosswalk. A white van and a white sedan are driving on the road. In the background, there are trees and a building. The sky is overcast.

## **Goal: Minimize Driveway**

- Maximum 2 driveways per 100 meter walkway
- Continuous
- Minimize disruptions to pedestrians



**Not good for Everyone**



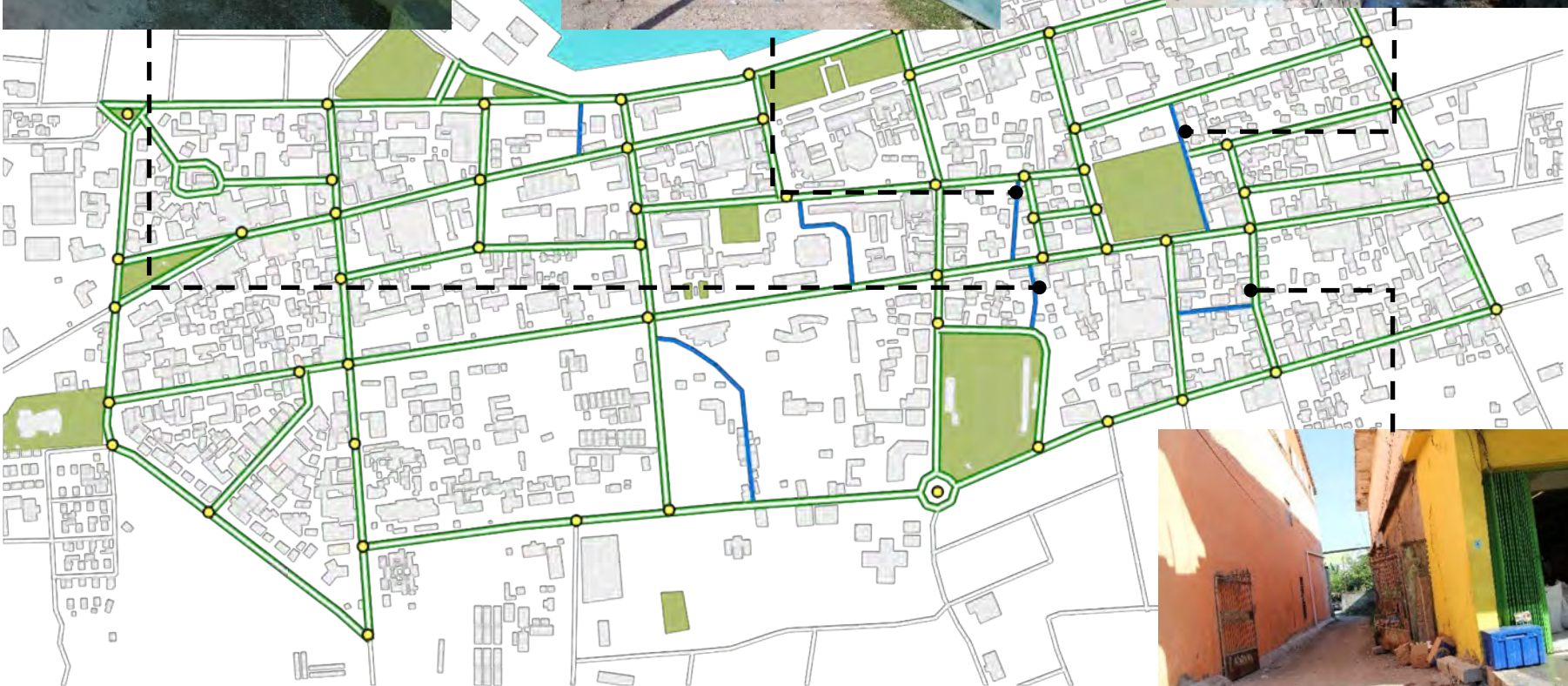
A photograph of a narrow alleyway between buildings. A woman in a dark, patterned dress is walking away from the camera through a metal gate. The gate has ornate scrollwork and a top rail with pointed finials. The alleyway is flanked by concrete walls and buildings. In the background, there are more buildings, a tree, and a motorcycle parked on the street.

## Small Blocks: The Role of Alleyways

### **Goal: Create small blocks to reduce distance**

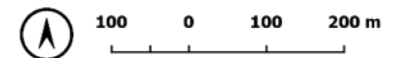
- Safe
- Well-connected
- Secure
- Vehicle-free

# Alleyways in Dili

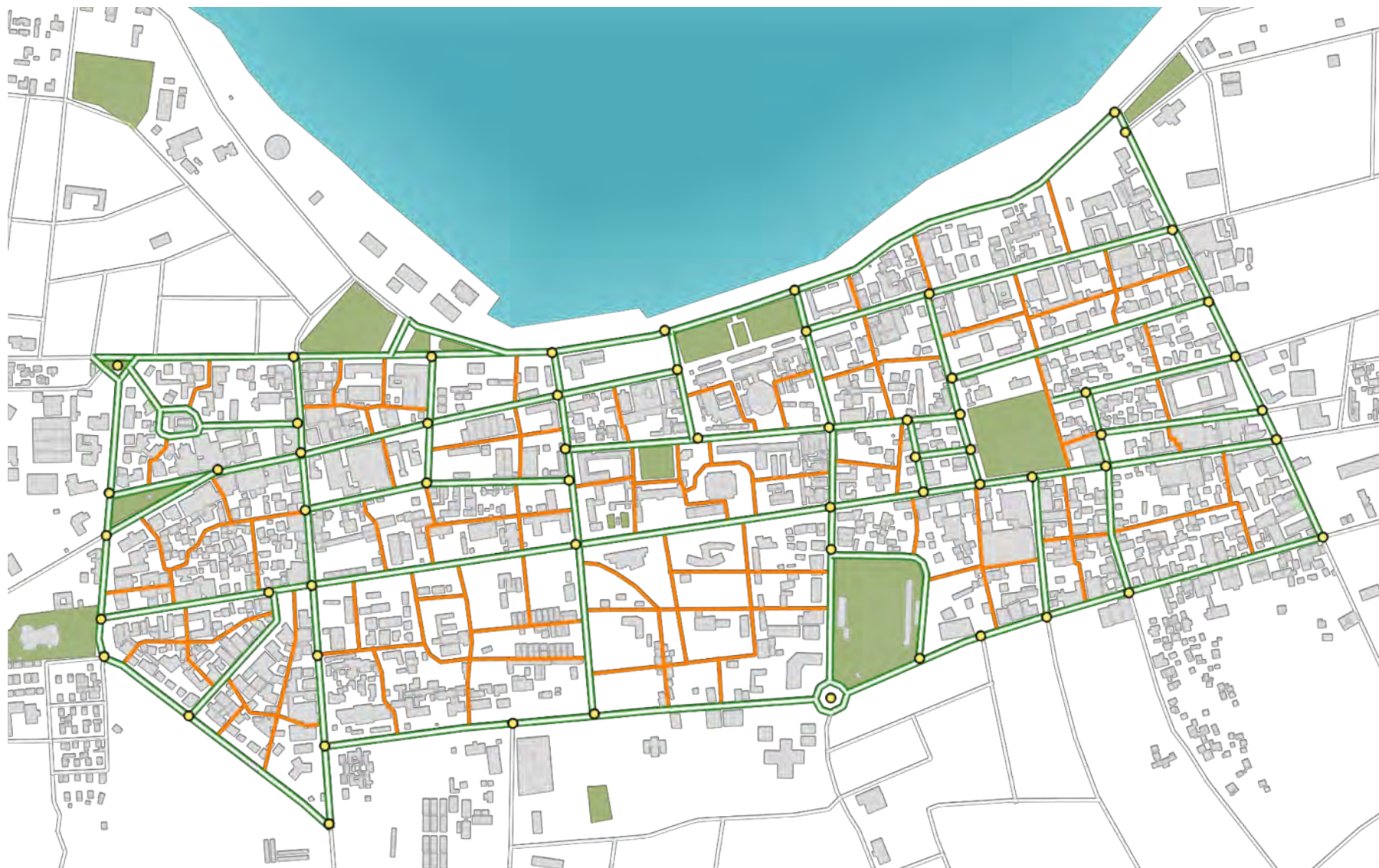


## Legend

- Sidewalk
- Pedestrian Only
- Buildings
- Vegetation
- Water
- Existing Intersection



# Alleyways help to create small blocks



## Legend

— Sidewalk — Pedestrian Only — Buildings — Vegetation — Water ● Existing Intersection



100 0 100 200 m

# Improvements on Alleyways to improve safety and security





## Mural to Add Visual Attraction







Alley and passageways





Alleyway to Connect to the BRT, Guangzhou



# The importance of Shades





CVS  
CENTRE FOR VISION SCIENCE

Covered Crossings and walkways, Kuala Lumpur

# Shades



Mumbai

Source: Trafficalmer

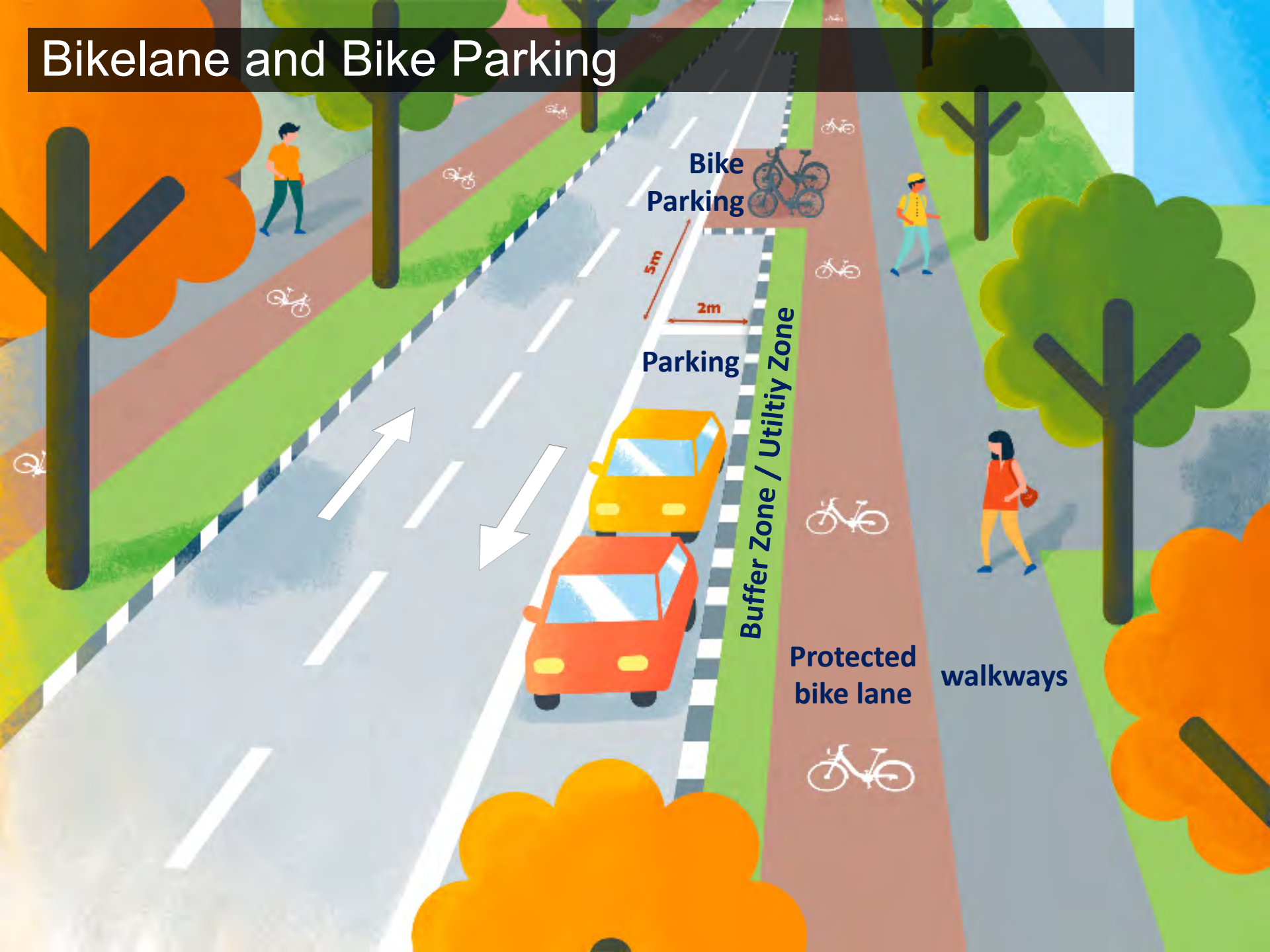
# Bike Facilities

- Protected Bikelane
- Priority at Intersection
- Minimize Conflict
- Bicycle Parking





# Bikelane and Bike Parking





# Parking: Emerging Challenges





Bollards to prevent parking







## Park(ing) day



# Which of the following issues occur in your city?



- A. Lack of universal walkways
- B. Very few safe and wheelchair-accessible crosswalk
- C. Too many driveways
- D. Large blocks in busy pedestrians area
- E. Lack of attractive frontage
- F. No safe bicycle facility
- G. Not enough safe alleys and passageways
- H. Vehicle Parking on sidewalk

**30**

**years from now,**

**I hope cities have  
no highways and  
no flyovers.**

**Cyclists and  
pedestrians will  
rule the streets.**

**Yoga Adiwinartha  
Country Director  
ITDP Indonesia**



**30 YEARS OF  
ITDP**

Credit: ITDP