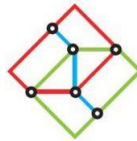


Improving road safety through innovative street design



Chris Kost

November 2019



Transformative
Urban Mobility
INITIATIVE





ITDP

Institute for Transportation
& Development Policy



Promoting equitable and sustainable transport worldwide



✓ Vehicle movement

✓ Parking

✗ Walking?

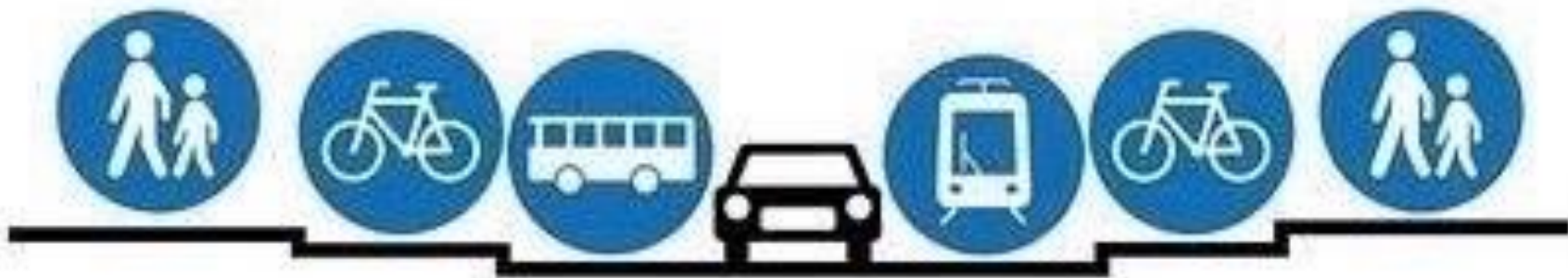
✗ Cycling?

✗ Spaces to meet your friends?

✗ Organised street vending?



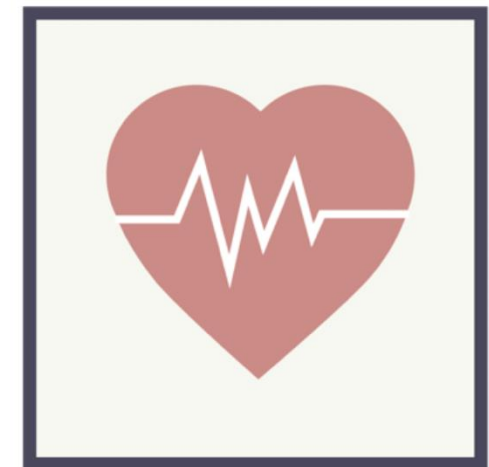
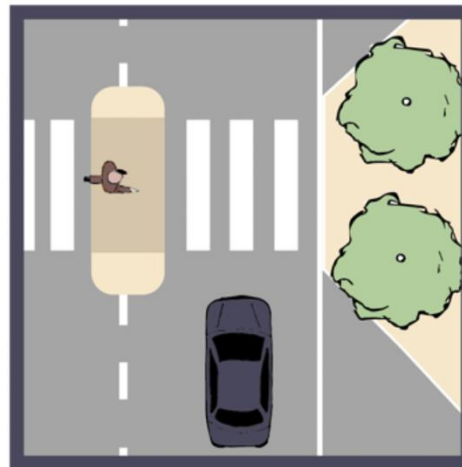
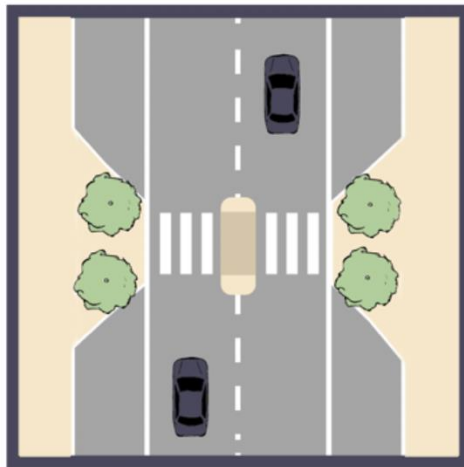
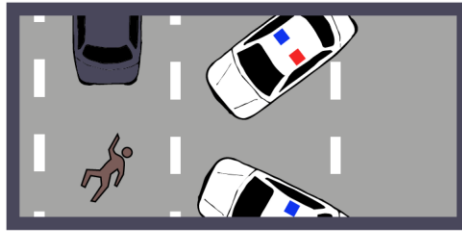
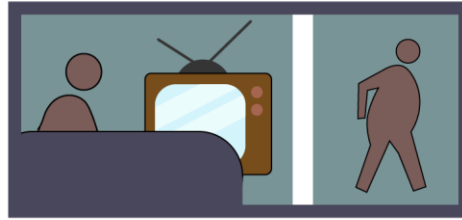
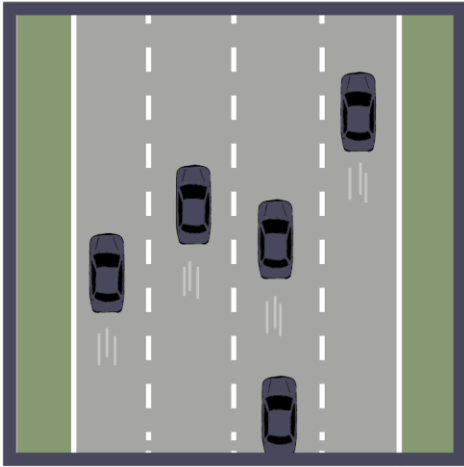
How we usually plan streets



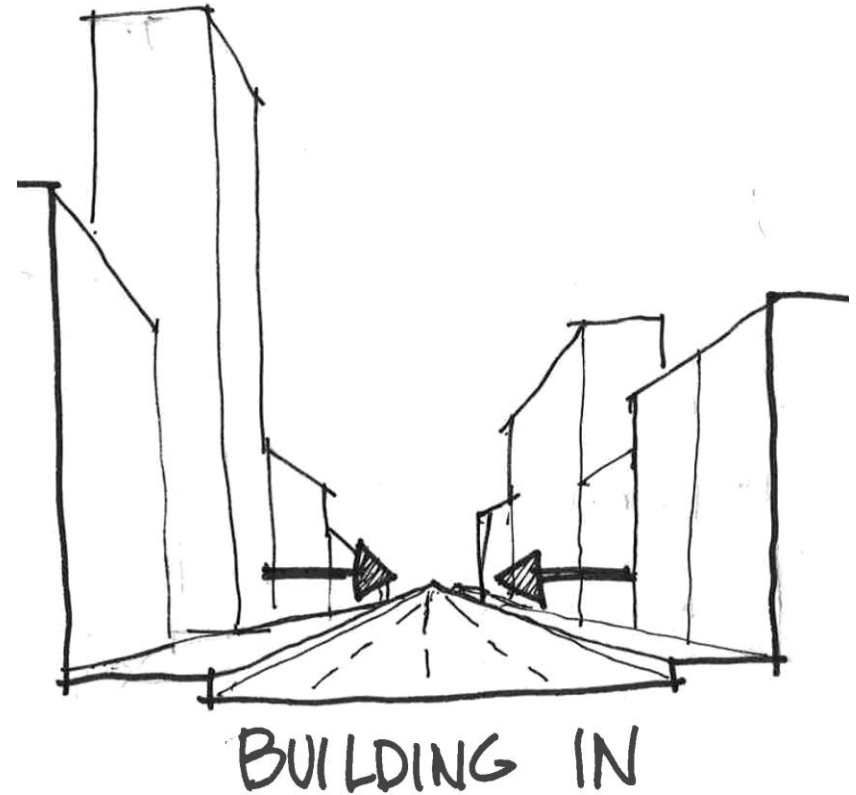
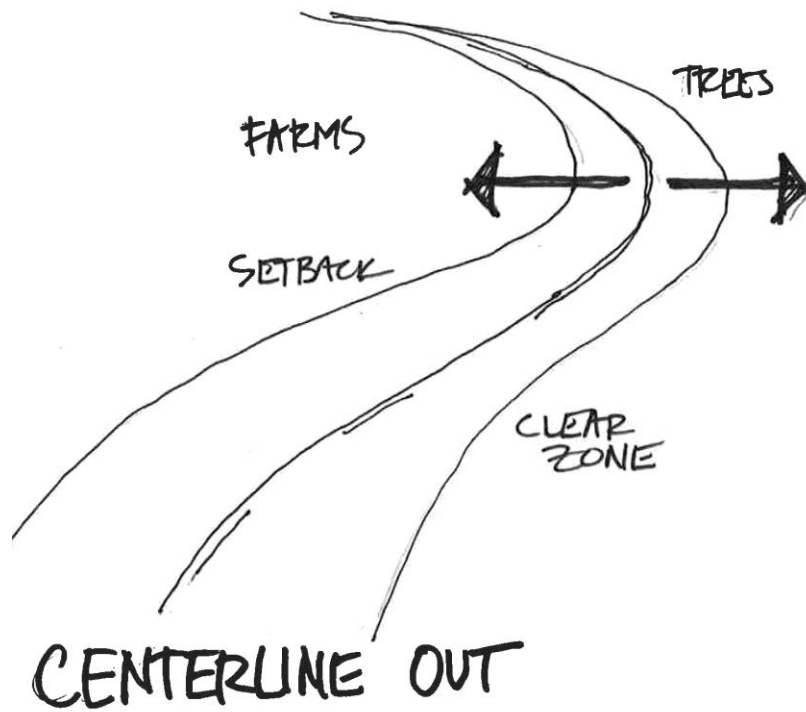
A more equitable approach



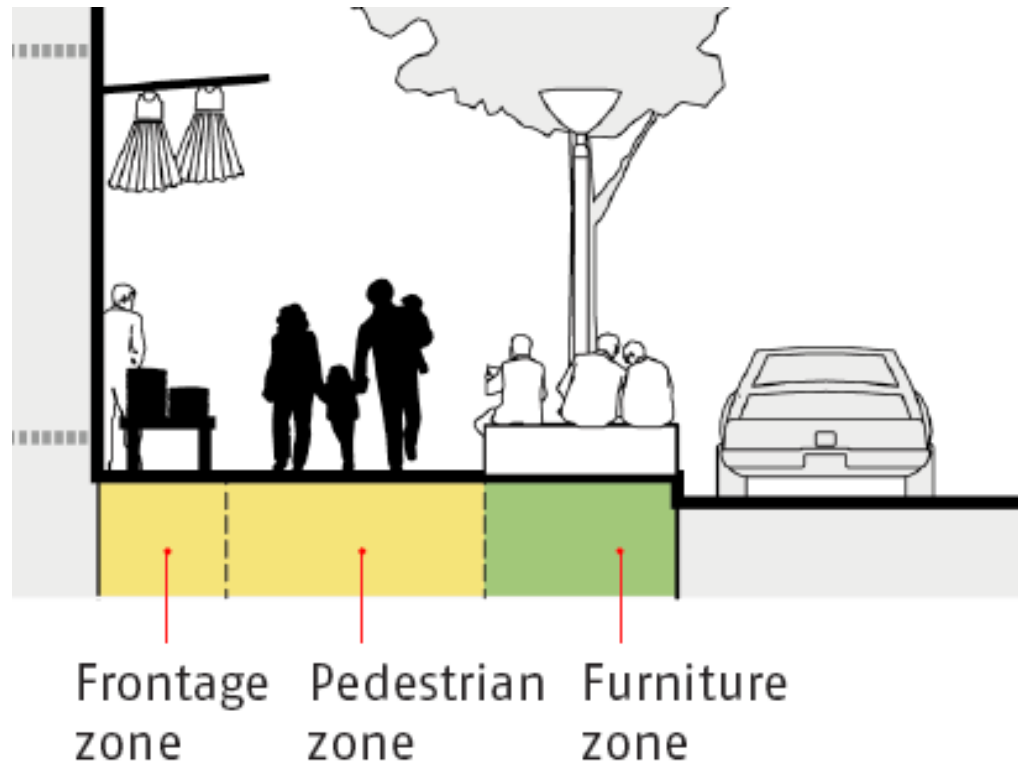
Dar es Salaam



Roads v. streets



Footpath design: the zone system



At least 2 m of clear width for walking

The zone system



Frontage zone

Pedestrian zone

Furniture zone



Addis Ababa



Kisumu



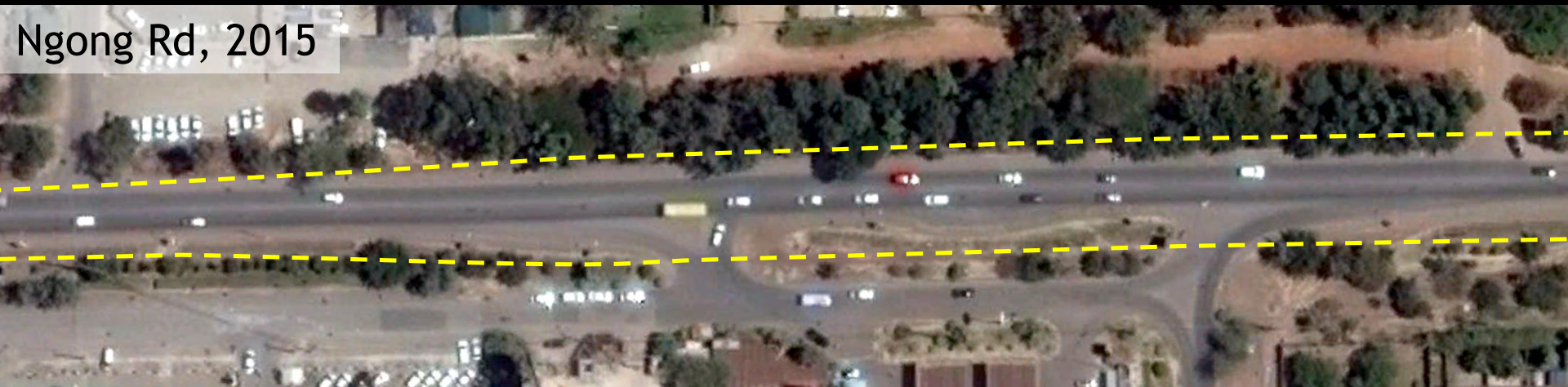
Fences obstruct pedestrian movement



Bollards to protect footpaths from encroachment



Nairobi's disappearing tree canopy



Existing trees can be retained during road improvement projects



EXCLUSIVO
METROBUS

Mexico City



Aksum







BEAUTY SKIN

Supertrans

100 REASONS...
ONE PLACE TO GET IT.

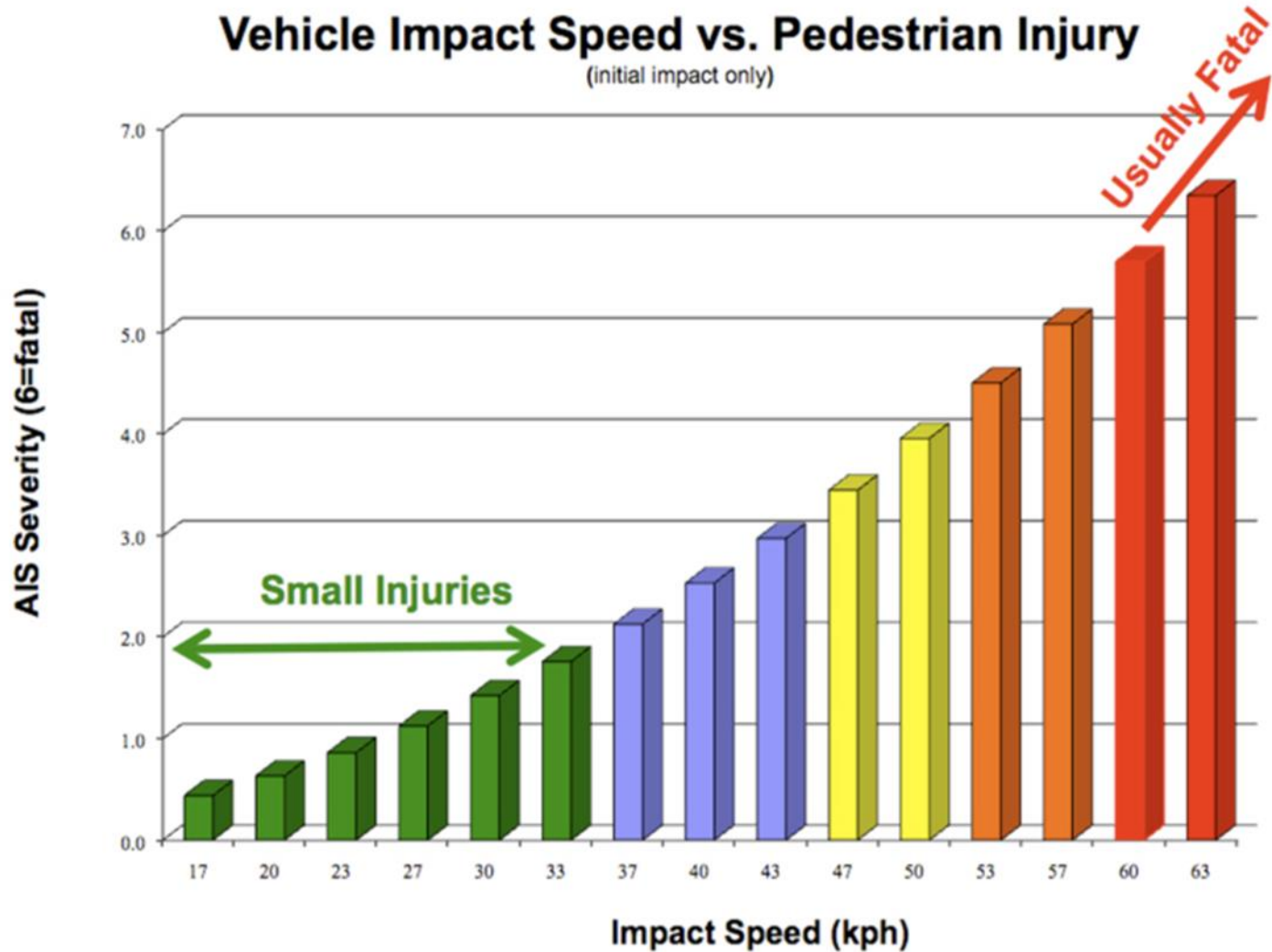
MTN SD-WAN
600
MTN

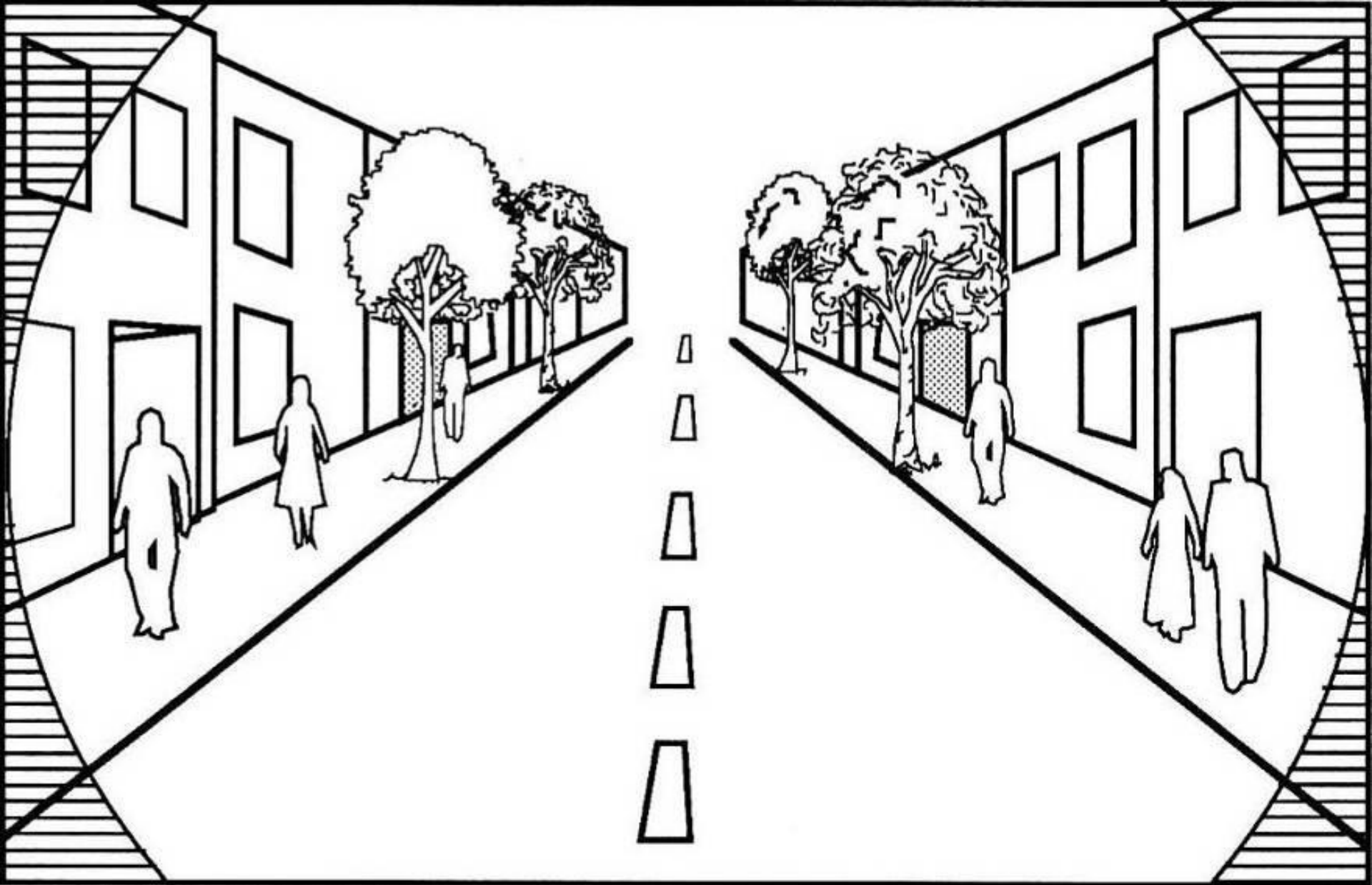
GREEN



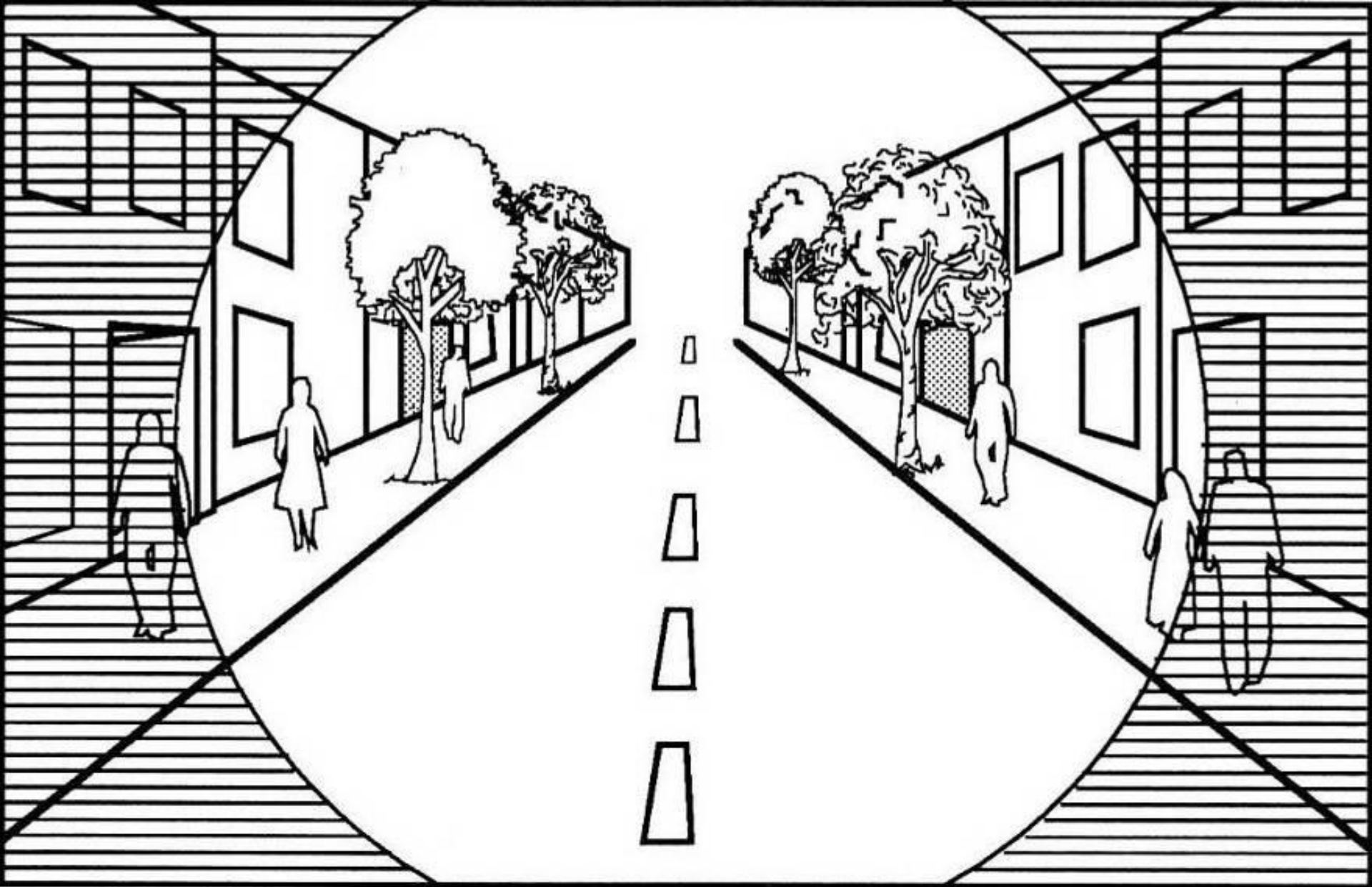
OK
LORREN
LORREN IS THE ONLY BRAND THAT IS APPROVED BY THE NATIONAL BUREAU OF STANDARDS (SABS)

Designing for safety

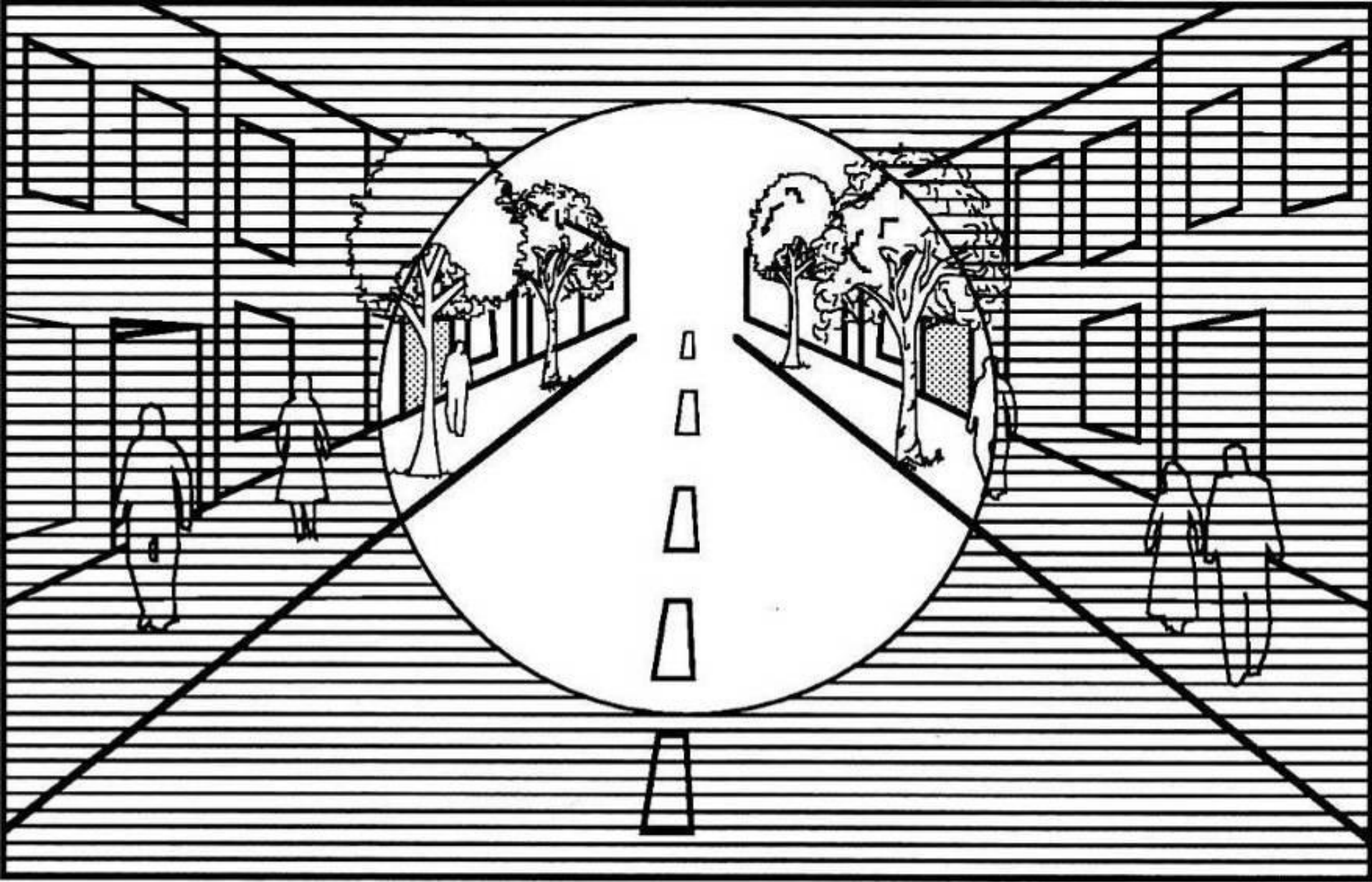




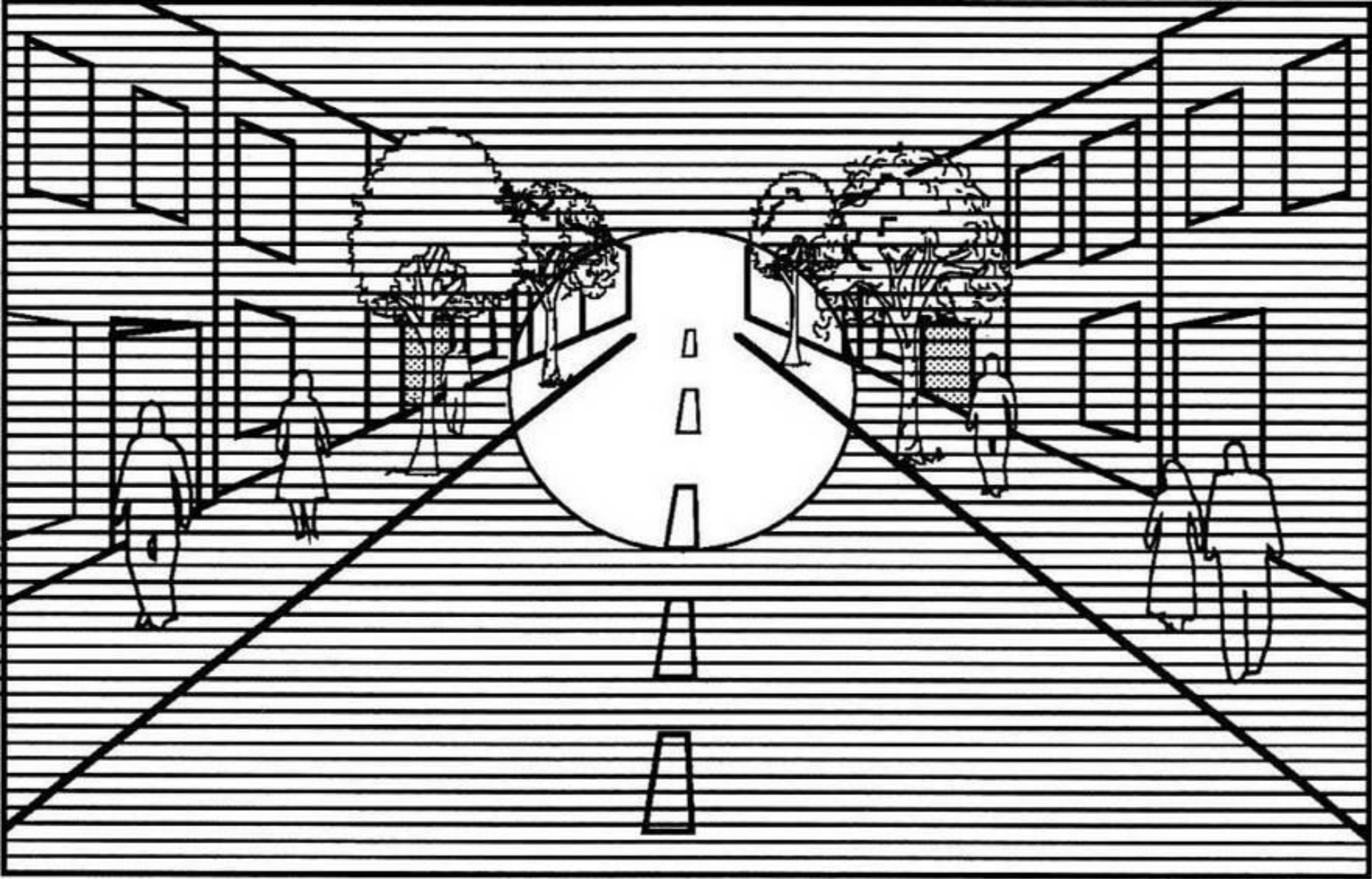
15 km/h



30 km/h



45 km/h



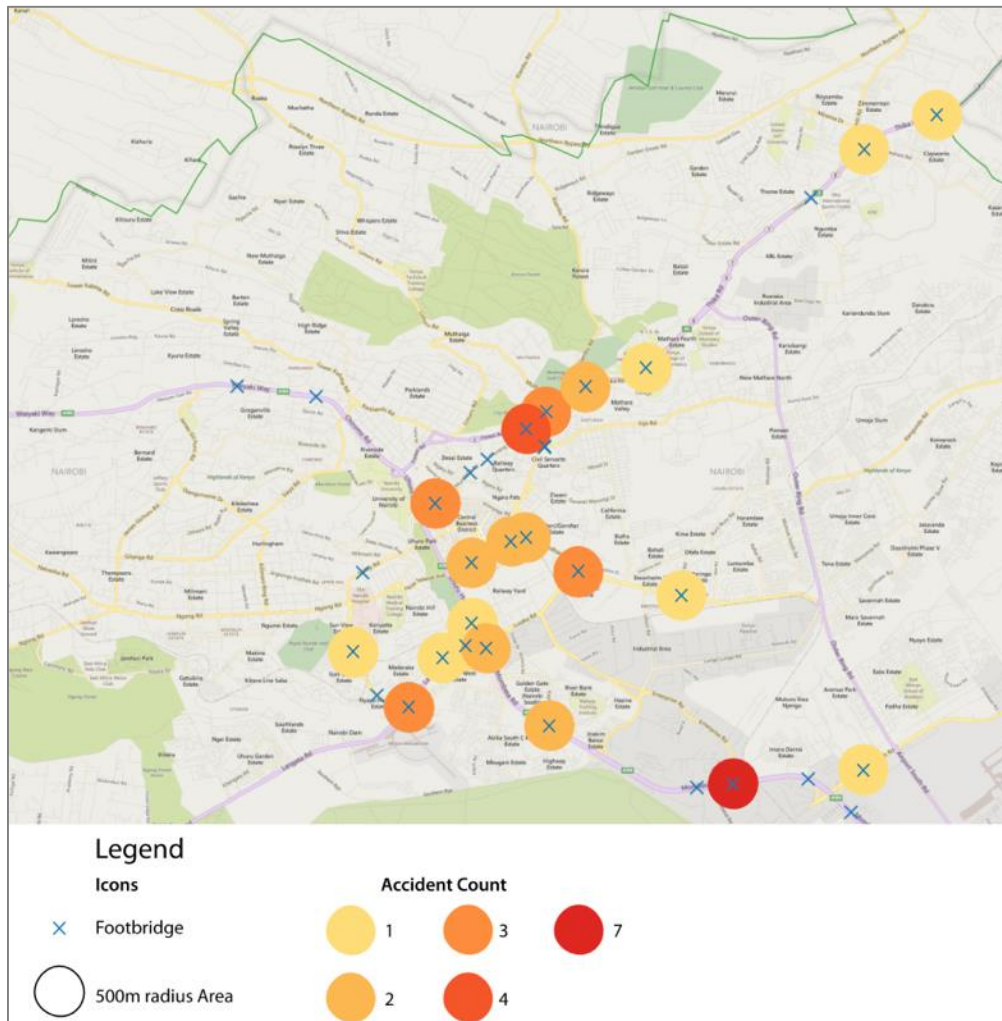
60 km/h

- Increase travel time and distance
- Not accessible to persons with disabilities
- Dangerous at night (and maybe during the daytime too!)
- Elevators and escalators are expensive and break
- Usually obstruct the footpath





Analysis of crash data in Nairobi



- Foot overbridges are not preventing pedestrian deaths at crossing locations

Source: AccidentsKE

Priority for vehicles ...

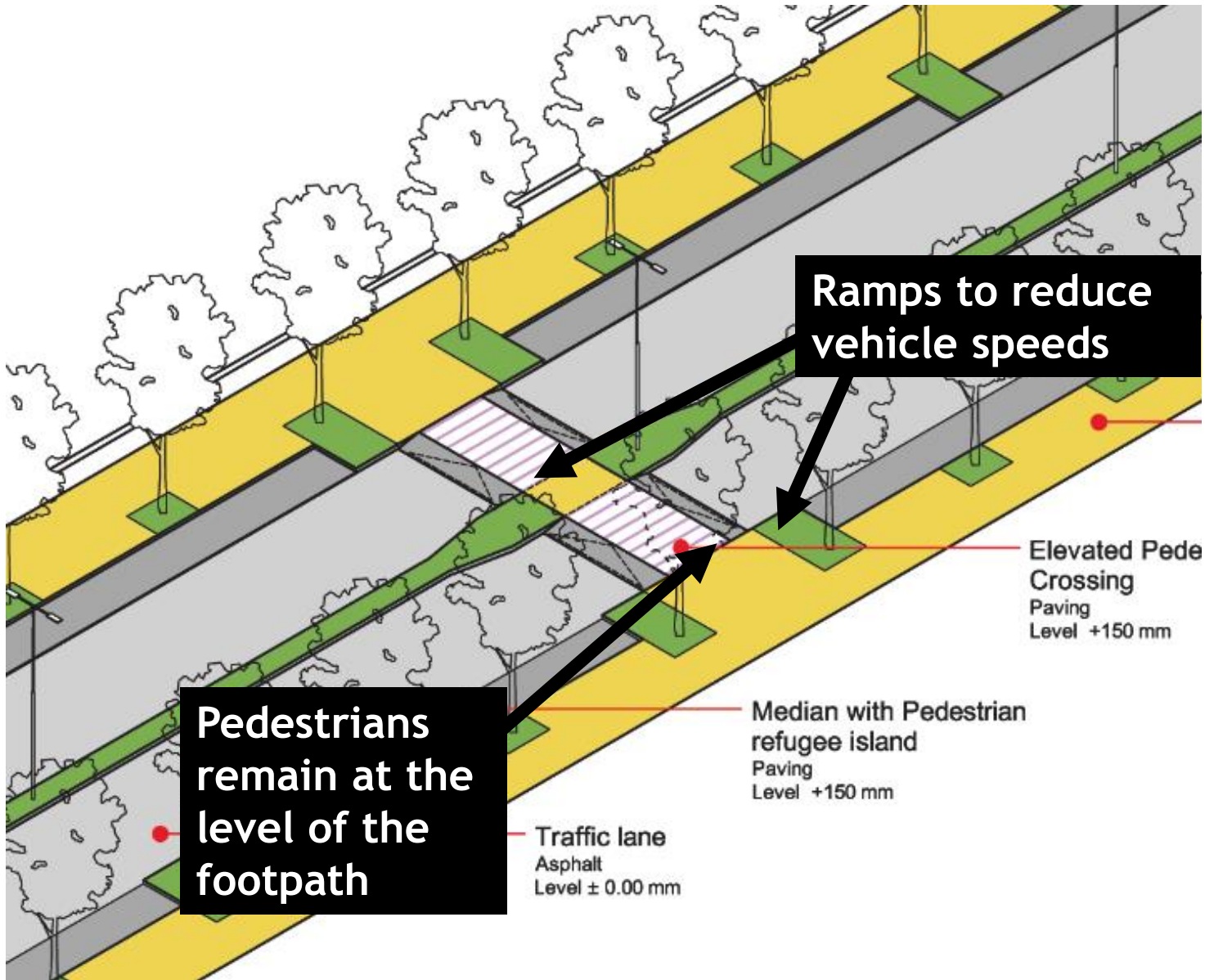


... or priority for people?



Dar es Salaam

Crossing with universal access





Dar es Salaam

Transjakarta at-grade station access pilot

Sarinah

BEFORE



AFTER



Bank Indonesia

BEFORE



AFTER




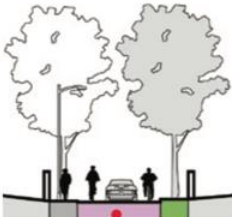

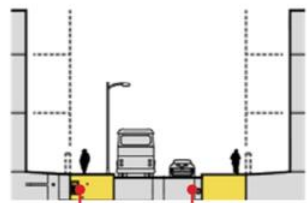

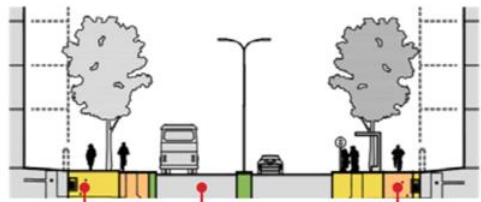


- > 75 percent reduction in time spent accessing the station
- > At Bank Indonesia station, 60% of passengers switched to using the zebra crossing



> Speed limits on urban streets should not exceed 50 km/h

Speed management

Street typology	Speed limit for motor vehicles	Sample cross section
<p>Local streets with shared space. At speeds of up to 15 km/h, motor vehicles, pedestrians, and cyclists can safely mix. Traffic calming is needed to minimise vehicle speeds</p>		 <p>Shared lane</p>
<p>Local and collector streets. Streets with speeds of 30 km/h require separate footpaths. With traffic calming, cyclists can share the carriageway with mixed traffic.</p>		 <p>Footpath Carriageway</p>
<p>Arterial streets. Streets with speed limits of 40-50 km/h require physically separated cycle tracks and footpaths. Traffic calming or signalisation is required at pedestrian crossings.</p>		 <p>Footpath Carriageway Cycle track</p>



Cycle tracks



Physically separated from mixed traffic

Minimum clear width of 2 m

Wide adjacent footpath (4 m)

Smooth surface material

Well-designed cycle tracks can be used by tricycles





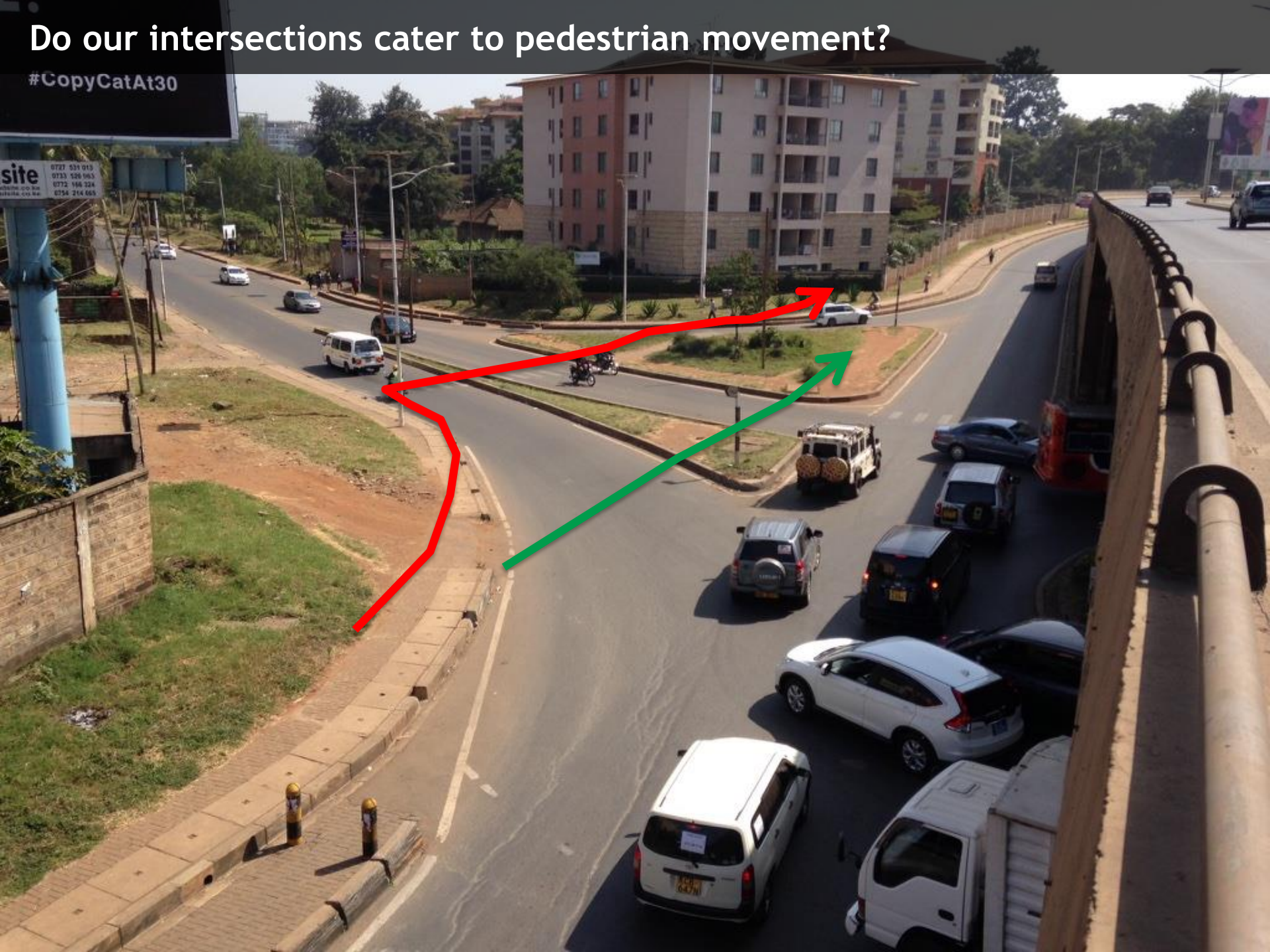
Clear space for walking and cycling behind bus stops



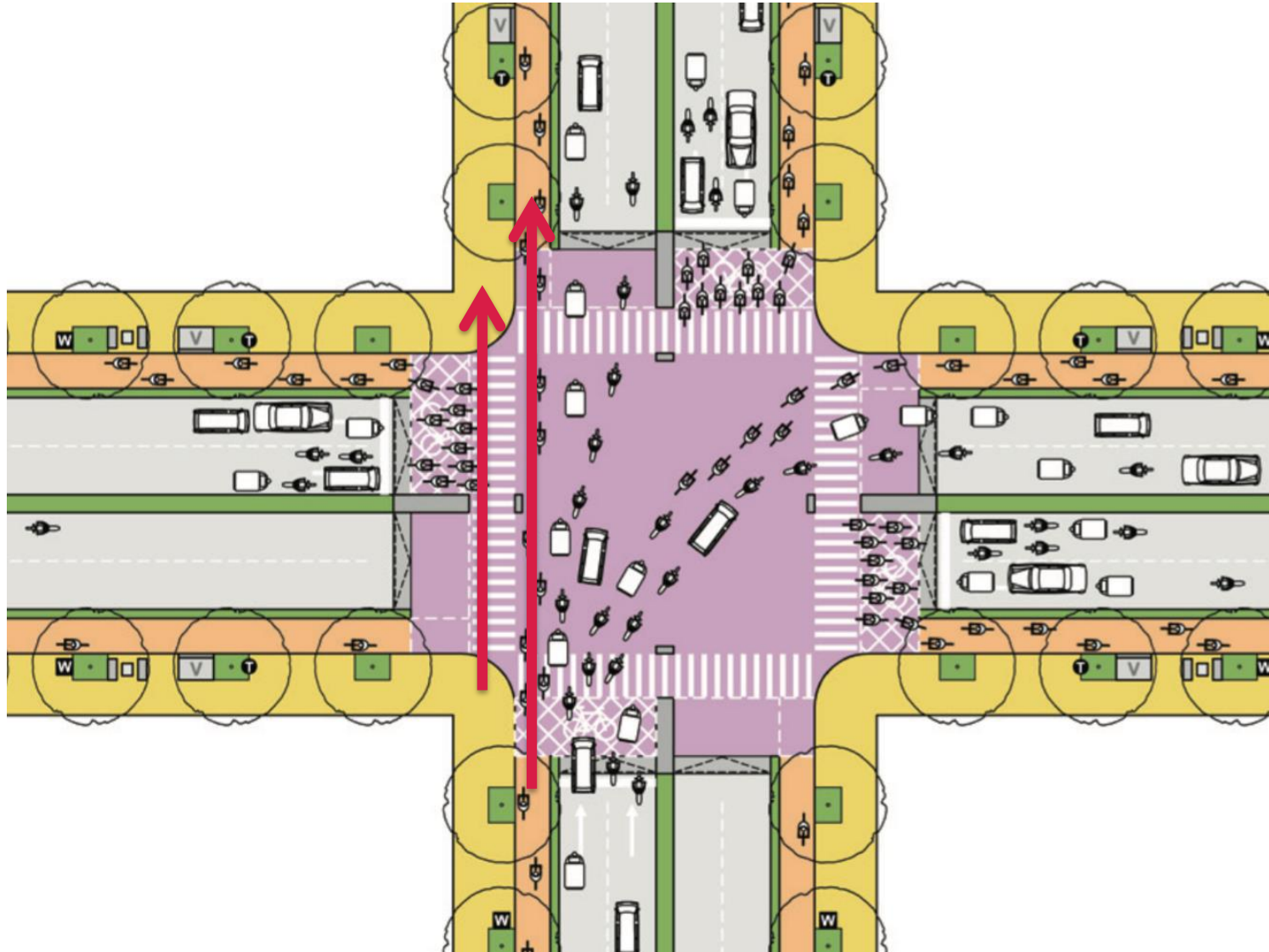
Do our intersections cater to pedestrian movement?

#CopyCatAt30

site
0727 531 013
0733 520 965
0772 186 324
0754 264 665



Direct crossings for NMT users



Direct crossings follow pedestrian desire lines



Barcelona



Excellium PETROL 118.10

Excellium DIESEL 112.80

excellium

LUBRICANTS

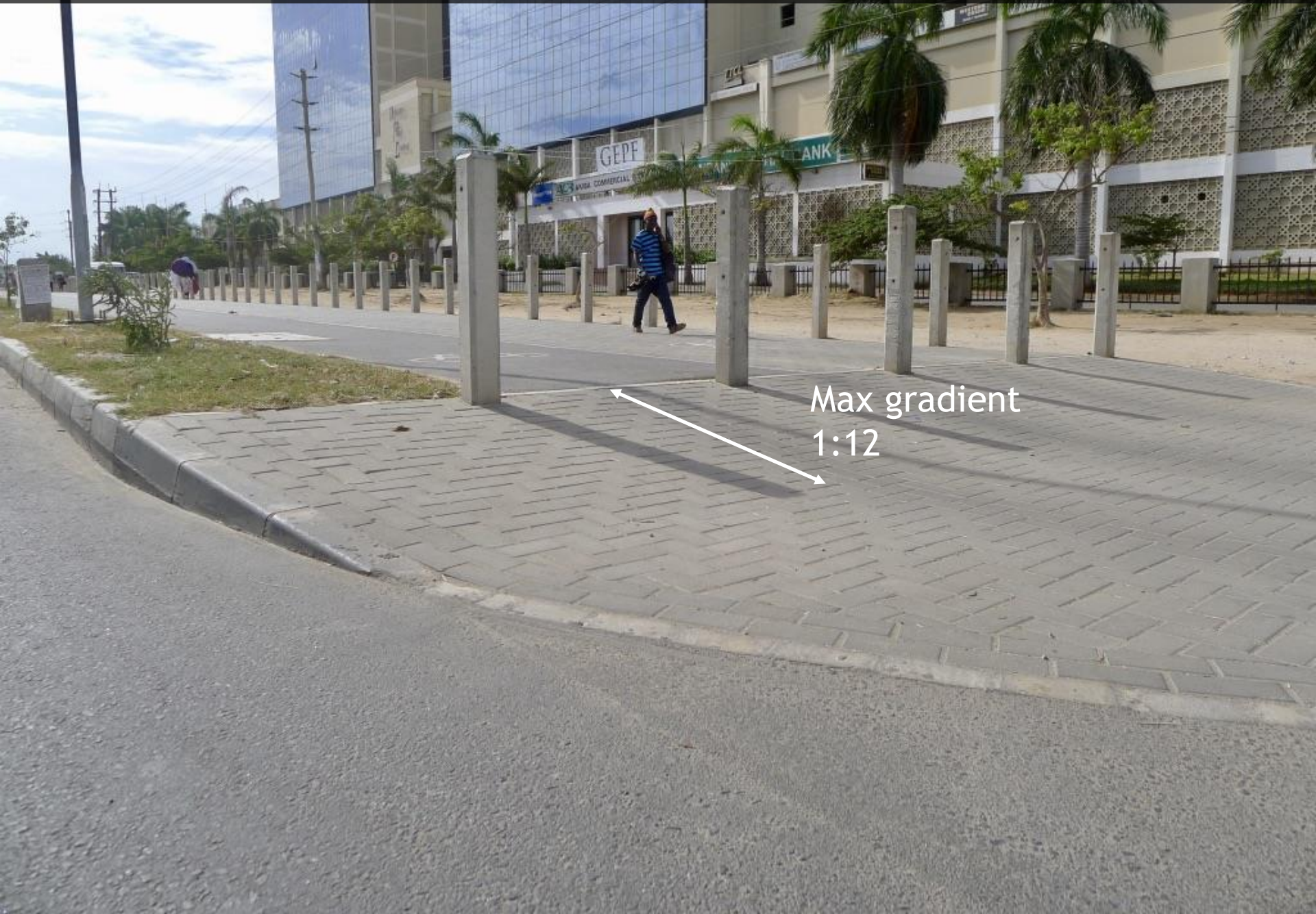
TOTAL CARD

VISA

TOTAL
QUARTZ
auto service

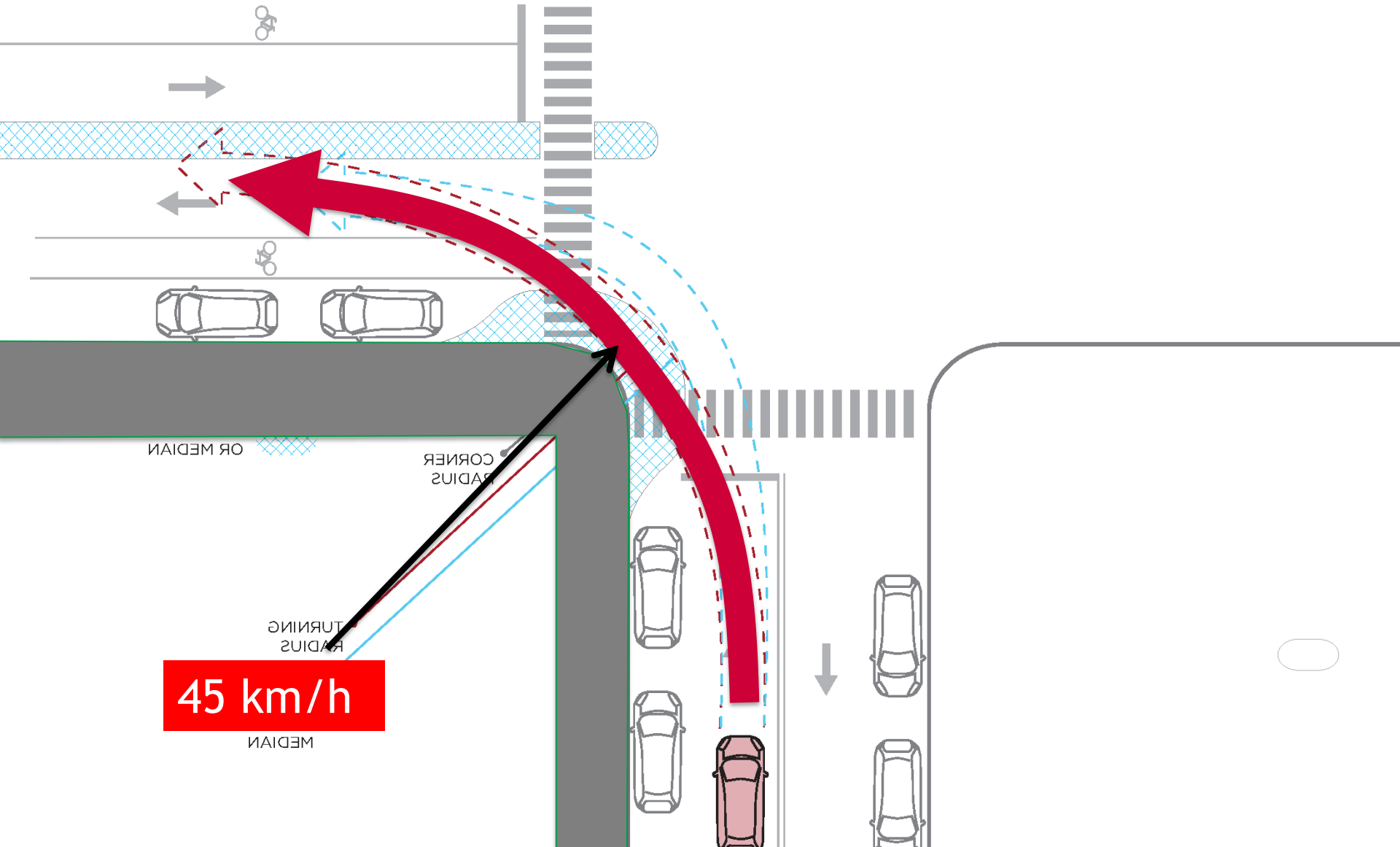
JENGA LET
PLAY NOW

Universal access

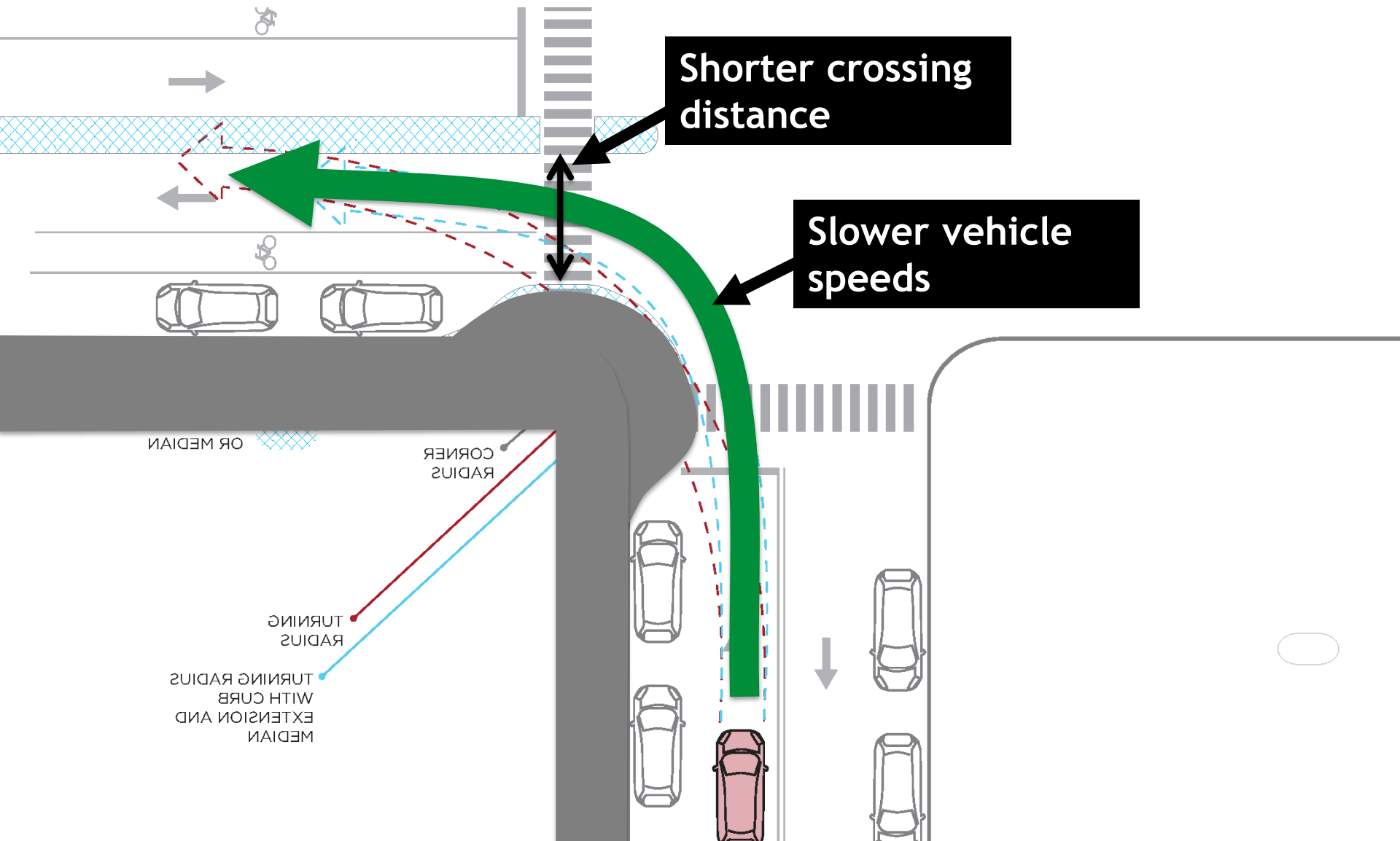


Max gradient
1:12

Turning radius



Turning radius (cont.)



Tactical bike lane & intersection design

Cairo







Thank you

africa.itdp.org

Twitter: @itdpafrica

Streets for Walking & Cycling
Arabic released
French coming soon