Interventions for safe walking & cycling

Chris Kost
November 2020
Promoting equitable and sustainable transport worldwide.
How people travel

**Nairobi**
- Walk: 40%
- Bus & matatu: 41%
- Motorcycle: 5%
- Car: 13%
- Other: 1%

**Mombasa**
- Car: 3%
- Tuk-tuk: 4%
- Boda boda: 11%
- Public transport: 36%
- Cycle: 1%
- Other: 1%
- Motorcycle boda: 1%
- Tuktuk: 3%
- Matatu: 13%
- Bicycle boda: 1%
- Bicycle: 3%
- Car: 6%

**Kisumu**
- Walk: 53%
- Bicycle: 3%
- Car: 6%
- Motorcycle: 6%
- Other: 1%
- Bicycle boda: 1%
- Tuktuk: 3%
- Matatu: 13%
- Motorcycle boda: 13%
- Boda boda: 11%
How Kisumu residents travel: By gender

**Women**
- Walk, 60%
- Bicycle, 2%
- Motorcycle, 15%
- Matatu, 13%
- Tuktuk, 3%
- Bicycle boda, 2%
- Car, 4%
- Other, 1%

**Men**
- Walk, 44%
- Motorcycle, 11%
- Matatu, 12%
- Tuktuk, 4%
- Bicycle, 7%
- Bicycle boda, 1%
- Car, 8%
- Other, 2%
Vehicle movement
Parking
Walking?
Cycling?
Spaces to meet your friends?
Organised street vending?
Can we just widen the roads?

- Short-term benefits
- Attract more vehicles, making congestion worse
- Compete with public transport
A more equitable approach

How we usually plan streets

A more equitable approach
From highways …
... to urban streets
Elements of the walking & cycling environment

Street design
- Safe, accessible footpaths, cycle tracks, & crossings
- Adequate shade; shelter from rain
- Adequate lighting
- Traffic calming
- Space dedicated to driving & parking

Building design
- Visually active frontage
- Physically permeable frontage
- Complementary uses
- Compact urban form

Network design
- Small blocks
- Prioritised connectivity for pedestrians
- Integration with public transport
Safe streets & public health
Safe streets & public health
Universal access
Designing for safety

Vehicle Impact Speed vs. Pedestrian Injury
(initial impact only)

- Small Injuries
- Usually Fatal

AIS Severity (6=fatal)

Impact Speed (kph)
• 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
• They usually obstruct the footpath
Raised zebra crossing

Ramps to reduce vehicle speeds: 1:10 slope

Pedestrians remain at the level of the footpath (150 mm)
Cycle tracks

- Physically separated from mixed traffic
- Minimum clear width of 2 m
- Wide adjacent footpath (4 m)
- Smooth surface material

Dar es Salaam
Paver blocks = Uneven surface. Use asphalt or concrete.
COVID-19 response

Pop-up bike lanes & shared streets

Berlin
22 km

Bogota
35 km

Oakland, USA
119 km

Paris
50 km

Barcelona
21 km
Street lighting
"The presence of shops gives us a sense of security."

"If ... I were harassed by anyone in the street, the first people I could resort to are shop owners."

"On the main street, people are going and coming and it makes you feel secure. But our street is a different case."
Curitiba: Arcades & active facades along BRT corridors
Network design

× Car-oriented

✓ People-oriented

Dense network of direct short paths to improve accessibility
The gated future of greater Nairobi?
Prioritised connectivity for NMT users

Maximum block size for pedestrians: 100 m
Add transit
Add density
Cut parking
Better quality of life!
Thank you

africa@itdp.org