Smart transport for Africa’s urban future
Can we just build more flyovers?

- Short-term benefits
- Attract more vehicles, making congestion worse
- Compete with public transport
Induced and Latent Demand

Congestion

Source: Jeffrey Tumlin, Nelson\Mygaard
A more equitable approach

How we usually plan streets
Using road space efficiently

3-lane carriageway
- Passenger capacity: 3,000 passengers per hour per direction

2 lanes + elevated road
- Passenger capacity: 4,700

Dedicated lanes for bus rapid transit
- Passenger capacity: 12,000+
Note the difference?
Rapid Transit to Resident (RTR) ratio

\[
\text{RTR} = \frac{\text{km of mass transit}}{\text{Urban population in millions}}
\]

Brazil 2014

\[
\frac{929 \text{ km subway, BRT, LRT}}{89.2 \text{ million people}} = \text{RTR} \approx 10.4
\]

Source: ITDP 2015
Comparing RTR across cities

Rapid Transit Ratio (RTR) - km of rapid transit per million urban residents

- Paris: 76
- London: 55
- Mexico City: 33
- Bogotá: 14
- Cairo: 4
- Dar es Salaam: 4
- Lagos: 3
- Nairobi: 0
At the current growth rate, trips by cars and 2Ws will more than double by 2030.
Nairobi: A better scenario

![Bar chart showing trips per day in 2013, 2031: Status quo, and 2031: Sustainable. The sustainable scenario shows a significant decrease in trips compared to the status quo.](image-url)
A sustainable Nairobi: How do we get there?

100 km of rapid transit

250 km of complete streets

Plus: New city buses, parking management, etc.
In order to stabilise growth in personal vehicle use, Africa’s major cities need **3,700 km** of mass rapid transit over the next 15 years.
What can be built with $1 billion?

86 km of BRT

22 km of LRT

9 km of metro
Rapid transit worldwide
DART BRT, Dar es Salaam
Rapid transit coverage in Dar es Salaam

After BRT phase 1
8% of residents near rapid transit

After BRT phases 1-4
33% of residents near rapid transit
Building high quality BRT

- **Dedicated Right-of-Way**: Bus-only lanes fully segregated from mixed traffic.
- **Busway Alignment**: Bus-only lanes aligned to the middle, not the curb, of a road.
- **Off-Board Fare Collection**: Turnstile-controlled or proof-of-payment fare collection system.
- **Intersection Treatments**: Mixed-traffic is prohibited from making turns across the busway.
- **Platform-Level Boarding**: Station platforms level with bus floors when boarding and alighting.
Bus Rapid Transit:
• High quality
• High capacity
• High speed
• Customer oriented
Not an old bus running in a bus lane!
BRT as an opportunity for the industry
Cities for cars

Build roads
Add traffic jams
Add pollution
Add road deaths
Cities for people

Add transit
Add density
Cut parking
Better quality of life!
Turn the pyramid upside down!

Distribute road space and allocate budgets to give priority to walking, cycling, and public transport over private motor vehicles.
Thank you

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