The ROI of walking in African Cities

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The Return on investment of walking in African Cities

- Environmental benefits
- Health benefits
- Economic benefits
- Social benefits
- Benefit evaluation
Environmental Benefits

Beijing took 5 million cars off the road: Particulate matter dropped 73.2%

Beijing Times, 2015
Environmental Benefits

10% of the car trips in Lagos shift to walking:

4.6 million tonnes of CO$_2$ saved = 177.5 million trees

Particulate Matter (PM) = 7.84 billion Olympic swimming pools
Health Benefits

Physical activity

Obesity Risk Index 2013

Legend
- Extreme risk
- High risk
- Medium risk
- Low risk
- No Data

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<tr>
<th>Rank</th>
<th>Country</th>
<th>Rating</th>
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<tr>
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Health Benefits

Road traffic fatalities

Estimated road traffic death rate per 100,000 people

WHO, 2013
Health Benefits

Road traffic fatalities

- India: 238
- China: 206
- Africa: 157
- Other Asia: 155
- Latin America: 103
- Former Soviet Union: 78
- Middle East: 44
- Eastern Europe: 25
- OECD total: 178

Legend:
- Orange: LDV Occupants
- Blue: Motorized Two-wheelers
- Green: Pedestrian + Bicyclists

EU, 2015
AMEND in Tanzania has shown that introducing sidewalks, speed reductions and traffic calmed crossings can reduce serious injuries by at least 25%, at a cost of around $20,000 per school.
Social benefits

Empowerment of vulnerable groups

Gender equality

Security and Journey quality

Liveability
Economic Benefits

Transport costs
Cicloruta, Bogota

NYC.gov (2015) found that the average amount of money saved by users was $2000 per family per year.
### Benefit-cost evaluation

**NMT-PAT**

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Conventional BCR

Bogota: 10,00
Cape Town: 15,00
Nairobi: 20,00

High value
Break-even

UN Environment, 2019 (unpublished, preliminary)
Comprehensive benefit-cost ratios (BCR)

- Amsterdam***
- Bogota***
- Bogota*
- Cape Town*
- Delhi***
- London**
- Nairobi*

(*UN Environment, 2019; **SQW Consulting, 2007; ***Wittink and Buis 2000)
“the economic justification for investments to facilitate cycling and walking has been undervalued or not even considered in public policy decision-making. Yet, almost all of the studies report economic benefits which are highly significant, with benefit to cost ratios averaging 13:1” (Davis, 2010).
Thank you

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