



# freedom to move: transportation in African cities

Writer: Lee Middleton

## CONTACT

Ntombini Marrengane  
African Centre for Cities  
Environmental & Geographical Science Building  
Upper Campus, University of Cape Town  
Pvt Bag X3, Rondebosch 7701,  
Cape Town, South Africa

Tel: +27 (0)21 650 2881

Email: [ntombini.marrengane@uct.ac.za](mailto:ntombini.marrengane@uct.ac.za)  
Web: [www.urbanafrika.net/auri](http://www.urbanafrika.net/auri)

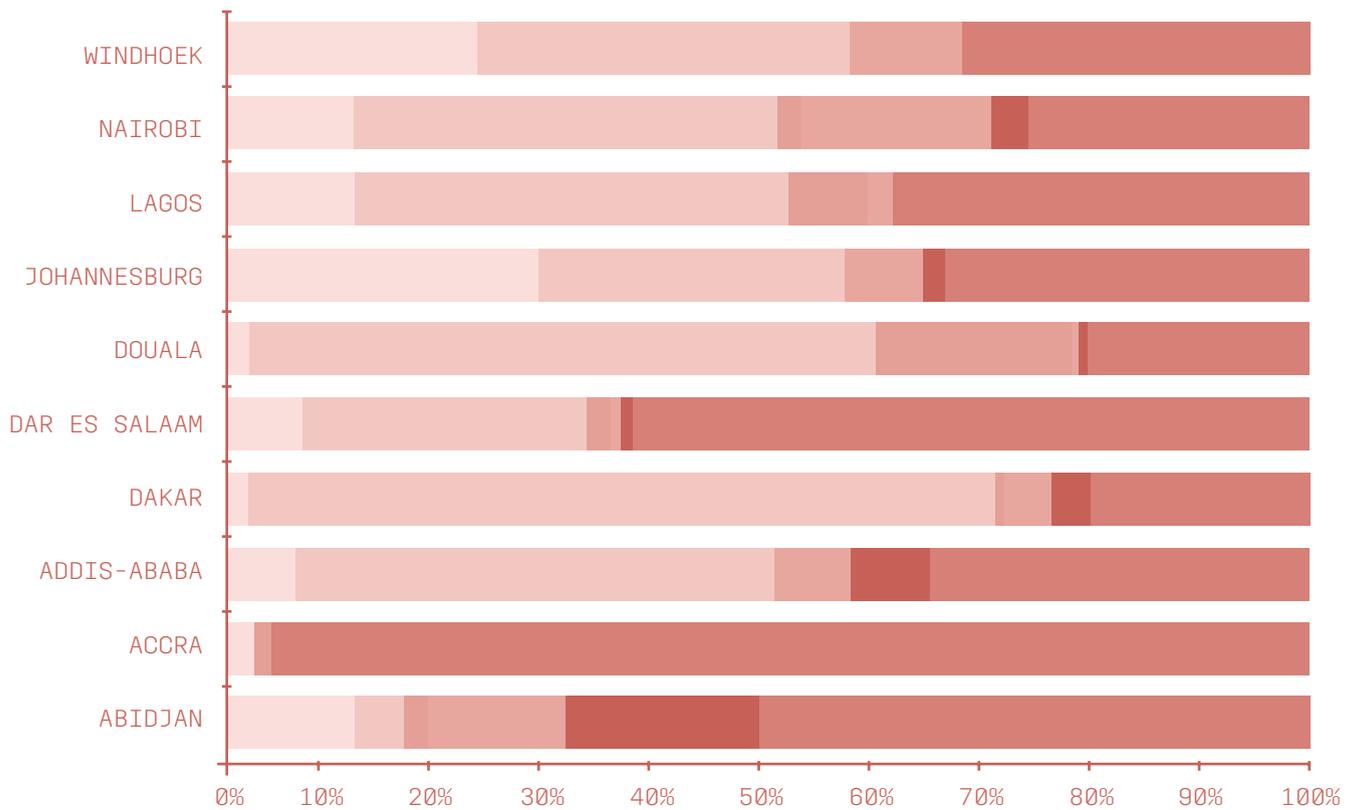
POLICY BRIEF

06

AFRICAN  
URBAN  
RESEARCH  
INITIATIVE

Initiative Africaine de Recherche Urbaine

**WITH PUBLIC  
TRANSPORTATION  
INFRASTRUCTURE AND  
REGULATORY FRAMEWORKS  
PLANNED AT NATIONAL  
LEVEL, HOW CAN LOCAL  
AUTHORITIES IMPROVE  
URBAN TRANSPORT  
SYSTEMS IN A WAY THAT  
STRENGTHENS ECONOMIC  
COMPETITIVENESS AND  
MEETS RESIDENTS' NEEDS?**



### TRANSPORT MODAL SHARE OF THE CITIES

Source: Cisse, Y. 2012.

## EXECUTIVE SUMMARY

Public transportation in African cities is often dysfunctional. Common problems include inefficiency, high costs, safety non-compliance, uncomfortable facilities and limited options. To improve urban mobility, and make cities more productive and inclusive, local authorities should be involved in land use and city planning as well as development incentives. Actions that can be taken at the local level include expanding existing infrastructure to create dignified and safe spaces for non-motorised vehicles; collecting travel survey data to better understand system failures and needs for transformation; and linking spatial planning with transportation infrastructure. The Sustainable Development Goals (SDGs) provide a new framework to diversify transport in a way that does less harm to the environment.

“

To improve urban mobility,  
and make cities more productive  
and inclusive, local authorities  
should be involved in land use  
and city planning as well as  
development incentives

”



## RECOMMENDATIONS

Policymakers and government officials need to:

- Diversify transportation infrastructure to enable the dignified and safe mobility of pedestrians and cyclists. This will meet the needs of the majority of urban dwellers, while also building a socially inclusive city.
- Collect travel survey data to help city officials better understand and plan for the transport needs of city dwellers, especially the poor.
- Link infrastructure and spatial planning so that new city development is planned around public transport infrastructure. This is a complex process requiring strong political leadership. Effective spatial planning can improve transportation options, stimulate economic productivity, contain sprawl, and reduce traffic congestion and greenhouse gas (GHG) emissions.

	Percentages of households reporting positive expenditure on transport	Percentages of households budget spent on transport for households with positive expenditures (%)	Absolute monthly expenditure on transport for households with positive expenditure (US\$)	Percentages of average household budget needed to pay for 60 one-way trips per month (%)	Percentage of first household budget needed to pay for 60 one-way trips per month (%)
Abidjan	77	10.1	31.47	10.5	42.9
Acra	95	6.0	16.36	-	-
Addis Ababa	87	3.3	3.83	6.3	18.6
Bamako	-	-	-	-	-
Conakry	-	-	-	-	-
Dakar	92	4.3	15.-8	3.1	11.3
Dar es Salaam	92	11.6	12.04	11.6	53.2
Douala	77	4.0	6.94	10.4	23.5
Kampala	81	7.4	13.08	7.8	41.0
Kigali	80	4.4	14.55	5.1	46.0
Kinshasa	49	2.8	5.43	10.1	31.0
Lagos	58	13.8	14.44	7.5	105.2
Nairobi	61	10.1	25.97	7.5	33.6
Ouagadougou	3	5.5	0.30	8.9	35.8
Average	90	6.5	13.29	8.0	32.7

### SPENDING ON URBAN TRANSPORT AS A SHARE OF HOUSEHOLD INCOME

Source: Kumar and Barrett, 2008.

# INTRODUCTION

---

Africa's urban public transportation systems are generally dysfunctional.<sup>1</sup> Distances between residential areas and economic centres are often long, there is traffic congestion and transport is expensive (the average household can just afford one round trip daily,<sup>2</sup> and the poor often not even that).<sup>3</sup> Vehicles are overcrowded, uncomfortable and poorly maintained, and drivers often ignore safety standards. Although Africa has fewer than 3% of the world's motor vehicles, the continent experiences 11% of the world's road fatalities.<sup>4</sup> Africa is the continent with the lowest GHG emissions; however, emissions are increasing due to transport-sector fossil-fuel use. This contributes to air pollution, which is responsible for some 49 000 deaths a year.<sup>5</sup> Pedestrians and cyclists share space with motorised vehicles, resulting in frequent accidents. Pedestrians account for two-thirds of fatalities.<sup>6</sup>

Informal transport, mostly in the form of minibus taxis,<sup>7</sup> dominates the sector. This massive industry, which accounts for 72% of Johannesburg's daily trips and 90% of Nairobi's public transport,<sup>8</sup> is unregulated across Africa.<sup>9</sup>

Informal transport provides an important service but is troubled by unpredictable fares, schedules and routes; poor maintenance; lack of licensing (drivers and vehicles); recklessness; and safety concerns ranging from harassment to armed violence.<sup>10</sup> Drivers are incentivised to maximise revenue via full loads and quick turnaround times; however, they often disrespect passengers' needs, safety and time.<sup>11</sup> To address some of these concerns, motorcycle taxis have become increasingly common in many African cities.<sup>12</sup> Some governments are trying to formalise and/or regulate motorcycle taxis, but enforcement is weak and safety is a problem.<sup>13</sup>

Africa is experiencing rapid urbanisation.<sup>14</sup> This places strain on the already inadequate transport system and pushes the boundaries of urban sprawl.<sup>15</sup> The poor suffer from the lack of urban mobility. In contrast, private vehicle use is increasing among the middle classes, adding to traffic, GHG emissions and road accidents.<sup>16</sup>

## MEETING EXISTING TRANSPORT NEEDS

African cities continue laying new roads and highways, despite the fact that new roads reduce the amount of productive urban space and increase dependence on cars, which emit GHGs.<sup>17</sup> The short-term savings on road-based transport make it an attractive option; however, the long-term recurrent costs, such as maintenance, traffic accidents and social exclusion, are heavy.<sup>18</sup>

The majority of people in cities commute by walking and cycling.<sup>19</sup> Pedestrians are forced to share space with street traders and motorised transport, resulting in a lack of dignified and safe spaces for pedestrians.<sup>20</sup> Local authorities need to urgently make provisions for walking and cycling across African cities.<sup>21</sup>

Motor vehicle volumes and congestion should be addressed first. Local authorities need to improve their land-use planning and place restrictions on motor vehicle users, vehicles and/or road infrastructure (especially in crowded parts of city centres).<sup>22</sup> Using “smart” systems such as

Traffic Demand Management and Intelligent Transport Systems can also help to alleviate congestion.<sup>23</sup> To better integrate and manage motorcycle transport, risk-taking behaviour (for example, too many passengers, breaking traffic rules and helmets not being used) should be controlled through regulatory laws and enforcement.<sup>24</sup>

Methods to provide dignified, safe spaces for pedestrians and cyclists include better control of motorised vehicles, as well as defining separate spaces for pedestrians, cyclists and cars. Safety must be integral to every step of the design process<sup>25</sup> and the design should be done with an understanding of the physical environments involved.<sup>26</sup> Existing road segments near city parks and entertainment centres can be targeted first. Converting parking spaces to create sidewalks and cycle lanes is a next step.<sup>27</sup> Improved conditions for walking and cycling will encourage car owners to park in designated areas outside of city centres, saving drivers the hassles of inner-city congestion and insufficient parking space. A safe and

diverse urban transport system that accommodates non-motorised forms of mobility will go a long way in making cities more people-friendly and inclusive.

## UNDERSTANDING THE PATTERNS

A study of the continent's major urban transportation systems found that most policy decisions appeared to be responses to political pressures as and when they arose.<sup>28</sup> An effective urban transport policy strategy relies on an evidence-based understanding of specific system inefficiencies and local bottlenecks.

Data on passenger movements and requirements will give local authorities a better understanding of where the system is failing. Monitoring via cell phones, the internet, satellites, drones and curb-side cameras should be explored as faster and potentially cost-effective survey methods.

The public should be involved in discussions on the system's problems and inequalities and how to reform it.<sup>29</sup> Creating

platforms where the public and other interested parties can interact is an important part of understanding and addressing mobility challenges and trends.

Planners and administrators should directly engage with the systems: they should get on the trains, ride in taxis, listen to traffic reports, interview drivers and passengers, and immerse themselves in the day-to-day reality of city mobility.

<sup>1</sup> Kumar & Barret 2008; Pirie 2014

<sup>2</sup> Kumar & Barrett 2008: xiii

<sup>3</sup> Sietchiping 2012: 186, citing UN-Habitat 2010

<sup>4</sup> Stockholm Environment Institute 2013: 1

<sup>5</sup> Stockholm Environment Institute 2013: 1-2

<sup>6</sup> Kumar & Barrett 2008: x

<sup>7</sup> UN-Habitat 2014: 37

<sup>8</sup> Pirie 2014: 135

<sup>9</sup> Kumar & Barrett 2008: xi

<sup>10</sup> Kumar & Barrett 2008; Pirie 2014

<sup>11</sup> Kumar & Barret 2008: xii

<sup>12</sup> Sietchiping 2012: 184-185

<sup>13</sup> Sietchiping 2012

<sup>14</sup> UN-Habitat 2010

<sup>15</sup> Kumar & Barrett 2008: ix

<sup>16</sup> Ibid.

<sup>17</sup> Sietchiping 2012: 183

<sup>18</sup> UN-Habitat 2014: 20

<sup>19</sup> Pirie 2014: 139; Sietchiping 2012: 183

## LINKING SPATIAL PLANNING AND TRANSPORTATION INFRASTRUCTURE

As transport infrastructure plays a key role in shaping urban space, linking spatial planning and transport infrastructure (roads, transport systems, utilities and social infrastructure)<sup>30</sup> is critical. More efficient and productive use of land limits urban sprawl, thereby reducing travel time, costs and fuel consumption. This, in turn, can lead to massive energy savings, reduced GHG emissions, greater economic productivity and more inclusive, liveable cities.<sup>31</sup>

This level of planning must take place with a long-term view across multiple authorities and requires strong political leadership.<sup>32</sup> An important step involves improving the coordination between transport and spatial planning within the municipality and across different spheres of government.<sup>33</sup> Additionally, local authorities should gain a good understanding of the property industry to constructively move the city towards unified spatial planning.<sup>34</sup>

To link spatial planning to transport infrastructure, the volume of available

infrastructure must be assessed and areas for future infrastructure development must be prioritised according to a spatial planning framework.<sup>35</sup> Priority areas can be defined as those within a certain radius of existing (or planned) public transport corridors, stations or nodes; areas with populations that require greater access and inclusion; and areas targeted for densification. Local authorities can then actively support development applications in priority areas by creating fiscal and non fiscal incentives for investment.<sup>36</sup>

Additional incentives should be created for mixed-use building development, including low-income housing that is close to public transport infrastructure.

With local authorities, department heads need to engage with various participants, including the private sector, the property industry and civil society.<sup>37</sup> Partnerships and processes must be developed to facilitate cooperation and innovation between local government, the private sector and civil society.<sup>38</sup>



## BUS RAPID TRANSPORT IN AFRICAN CITIES

Inspired by Latin American successes in places like Bogota and Medellin, African cities, including Accra, Lagos, Kampala, Dar es Salaam, Johannesburg and Cape Town, have in recent years developed bus rapid transport (BRT) systems. Since its opening in 2008, the Lagos BRT Lite has succeeded in reducing fares, waiting times and journey times for 200 000 passengers a day. In its second year, the following outputs were recorded: 113 million passenger movements, 2 000 jobs, a reduction in travel time by one third and a 20% cut in GHG emissions. These successes have required great political skill and commitment to deal with the informal operators. Cities such as Johannesburg have worked to partner with the existing minibus taxi industry.

Source: Pirie 2014



## HEAD TO THE LIGHT

In 2015, Africa's first light rail system was launched in Ethiopia's fast-growing capital city, Addis Ababa. An open line running 17km from the industrial south to the city centre will soon be joined by a second east-to-west line of the same length. For a relatively affordable six Ethiopian birr (\$0.27) per ride, the system will carry 60 000 passengers an hour, hopefully reducing some of the congestion and fumes choking the capital's streets. A Chinese loan funded 85% of the US\$475 million cost, and Shenzhen Metro Group and Chinese Railway Engineering Corporation will be running the system until 2020.

Source: The Economist

# CONCLUSION

---

Despite decades of research and policymaking, African cities have made little progress in improving mobility,<sup>39</sup> raising the question: what can be done at the city level to improve the functionality, inclusivity and sustainability of urban transport systems? The recently articulated SDGs include a specifically urban goal, providing a new framework to focus on infrastructure investment in a diverse transport system that could serve all (some examples of transport systems include, a mix of trains, trams, buses and paths for pedestrians and cyclists),<sup>40</sup> and new civic priorities that validate diversifying transport in a way that does less harm to the environment.<sup>41</sup> Interventions by cities must engage land-use planning and service delivery authorities to integrate structures and processes for an effective transport system. Strong local government leadership that takes a holistic view of urban transportation issues is essential.

“

What can be done at the city level to improve the functionality, inclusivity and sustainability of urban transport systems?

”

# REFERENCES

<sup>20</sup> Pirie 2014: 140

<sup>21</sup> Sietchiping 2012: 184

<sup>22</sup> Stockholm Environment Institute 2013: 2

<sup>23</sup> Stockholm Environment Institute 2013: 2-3

<sup>24</sup> Sietchiping 2012: 186-187

<sup>25</sup> Stockholm Environment Institute 2013: 2

<sup>26</sup> Ibid.

<sup>27</sup> Sietchiping 2012: 187

<sup>28</sup> Kumar & Barrett 2008: 35

<sup>29</sup> Pirie 2014: 144

<sup>30</sup> Todes 2012, citing UN-Habitat 2009

<sup>31</sup> Sietchiping 2012: 188

<sup>32</sup> Ibid.

<sup>33</sup> Todes 2012: 164

<sup>34</sup> Ibid.

<sup>35</sup> Todes 2012: 163

<sup>36</sup> Todes 2012

<sup>37</sup> Todes 2012: 164

<sup>38</sup> UN-Habitat 2014: 51

<sup>39</sup> Pirie 2014: 133

<sup>40</sup> Quartz 2015; Sietchiping 2012: 184

<sup>41</sup> Pirie 2014: 144

Cisse, Y. 2012. Policy & Regulatory Solutions to Public Transport in Africa. Presented at the UNEP Regional Workshop on Promoting Sustainable Transport Solutions for the African Union of Public Transport. 7-8 August 2012 in Nairobi, Kenya. Accessed at <chrome-extension://laookkfknppbbblfpciffpaejjkokdgc/dashboards.html>

Klopp, J.M. & Paller, J.W. 2015. How Africa can build inclusive, safe and sustainable cities. Quartz Africa. Available: <http://qz.com/522253/how-africa-can-build-inclusive-safe-and-sustainable-cities/> [2015, October 14].

Kumar, A. & Barrett, F. 2008. Stuck in traffic: Urban transport in Africa. Africa Infrastructure Country Diagnostic. Washington, DC: IBRD.

Pirie, G. 2014. Transport pressures in urban Africa: Practices, policies, perspectives. In Africa's Urban Revolution. S. Parnell & E. Pieterse, Eds. London: Zed Books.

Sietchiping, R., Permezel, M.J. & Ngomsi, C. 2012. Transport and mobility in sub-Saharan African cities: An overview of practices, lessons and options for improvements. *Cities*. 29 (3): 183-189.

Stockholm Environment Institute. 2013. Transport and environment in sub-Saharan Africa. Policy Brief. Stockholm: SEI

Sub-Saharan Africa gets its first metro. 2015. The Economist. 22 September 2015. Available: <http://www.economist.com/news/21665199-addis-ababa-has-opened-first-part-new-light-rail-system-sub-saharan-africa-gets-its-first-metro> [2015, October 12].

Todes, A. 2012. Urban growth and strategic spatial planning in Johannesburg, South Africa. *Cities*. 29 (3): 158-165.

UN-Habitat. 2014. The State of African cities: Re-imagining sustainable urban transitions. Nairobi: United Nations Human Settlements Programme.