



‘Our walking is our asset’:

Exploring the way in which walking is valued in pedestrian practice and policy in African cities

June 2021

HVT036 - Walk21 Foundation



This research was funded by UKAID through the UK Foreign, Commonwealth & Development Office under the High Volume Transport Applied Research Programme, managed by IMC Worldwide.

The views expressed in this report do not necessarily reflect the UK government's official policies.

Reference No.	HVT036
Lead Organisation	Walk21
Partner Organisation(s)/ Consultant(s)	University of Manchester, Gail Jennings, UN Environment, UN Habitat, SLOCAT, UN Habitat, Daniel Sauter
Title	'Our walking is our asset': Exploring the way in which walking is valued in pedestrian practice and policy in African cities
Type of document	Project Report
Theme	Low Carbon Transport
Sub-theme	Active Transport
Author(s)	Jack Benton, Gail Jennings, Jim Walker
Lead contact	Jim Walker, Walk21
Geographical Location(s)	Africa
Abstract	
<p>This study reports on two sets of primary data – online survey data and in-depth interviews – to explore how walking is currently valued in transport policy and practice in Africa, and what are the most effective actionable solutions to address the barriers limiting the value of walking. This study addresses recommendations from a recent review into institutional and political factors affecting walking and urban transport policy, which suggested that more insight is needed into the political processes and decision-making in urban transport in Africa.</p>	
Keywords	walking; value; transport policy; sustainable development goals; low-income countries; Africa; pedestrian travel; active transport; non-motorised transport
Funding	UKAid/ FCDO; University of Manchester Global Challenges Research Fund (GCRF) Pump-Priming grant
Acknowledgements	The authors are grateful to all the study participants. We would also like to thank colleagues James Evans, Daniel Sauter, Carly Gilbert Patrick, Janene Tuniz, and Bronwen Thornton for their support and insight. Any datasets generated for this study are available in anonymised form on reasonable request to the corresponding author.

Cover Photo: Walking in the street on Lagos Island, Nigeria. ©Walk21

Citation: Benton, J; Jennings, G; Walker, J (2021) 'Our walking is our asset': exploring the way in which walking is valued in pedestrian practice and policy in African cities. Project Report, funded by UKAID through the UK Foreign, Commonwealth & Development Office, HVT Applied Research Programme.



CONTENTS

Executive Summary	iv
1. Introduction and context	1
1.1 Research objectives	1
1.2 Project scope	2
1.3 Proposed research outcome	2
1.4 Research uptake	2
2. Method and approach	1
2.1 Study design: overview	1
2.2 Sampling, recruitment and analysis	1
2.3 Interviews	3
2.4 Ethics approval	4
2.5 Study strengths and limitations	4
3. Literature review	6
3.1 Retain	6
3.2 Protect	7
3.3 Enable	8
3.4 Evidence gaps	8
4. Findings from surveys	10
4.1 Actions to enable walking	10
4.2 Processes to deliver actions to enable walking	10
5. Findings from interviews	14
5.1 Theme 1: Existing values	14
5.2 Theme 2: Value barriers	15
5.3 Theme 3: Enabling value	16
6. Reflections on findings	19
6.1 Interpretation of findings	19
6.2 Implications for policy and practice	20
6.3 Implications for research	21
7. Conclusion	23
8. References	24

APPENDICES

Appendix A: Walking and Cycling Africa Survey	28
Appendix B: Interview Invitation and Guideline	45



TABLES

Table 1: Characteristics of online survey participants	2
Table 2: Survey responses on nine actions to better support and encourage walking	12
Table 3: Survey responses on the most effective processes to deliver each action	13

FIGURES

Figure 1: Research framework map	3
Figure 2: Street networks analysed for pedestrians, categorised into a Star Rating system	6
Figure 3: Pedestrian fatality rates per 100,000 by country in Africa	7
Figure 4: Footpath BEFORE upgrade by LAMATA	20
Figure 5: Footpath AFTER upgrade by LAMATA	21

ACRONYMS

CETUD	Dakar Urban Transport Executive Council
FCDO	Foreign, Commonwealth & Development Office
HVT	High Volume Transport
IRAP	International Road Assessment Programme
LAMATA	Lagos Area Metropolitan Transport Authority
LMIC's	Low- and middle-income countries
IMC	IMC Worldwide Ltd
NCD	Non-Communicable Disease
NGO	Non-Government Organisation
NMT	Non-Motorised Transport
PIARC	World Road Association
SDG	Sustainable Development Goal
SLOCAT	Sustainable Low Carbon Transport Partnership
SUMP	Sustainable Urban Mobility Plan
SSA	Sub Saharan Africa
UNDA	United Nations Development Account



EXECUTIVE SUMMARY

In African cities, walking is the primary mode of transport for the majority of people, with in the order of 78% of people walking for travel every day (1). People travel for an average of 55 minutes per day on foot, yet data from nine African countries shows that 74% of roads have no footpaths, 92% no crossings, and 48% are poorly signed and maintained (2). Across the continent, in 2019, some 33% of all road traffic fatalities, and 35% of all daily road injuries, were people walking (1). The World Road Association's (PIARC) catalogue of design safety measures estimates that investment in pedestrian facilities could reduce crashes by up to 90% (1).

People walk in African cities mostly to save on the high cost of public transport, where between 30-49% of household income might be spent on travel otherwise (3). Where walking is a main mode, this dramatically limits the range within which people may access opportunities and have the needs of their daily life met. Women and children are more likely to walk than are men and therefore are more disadvantaged.

Nineteen out of 54 African countries have developed walking (usually referred to as NMT, or Non-Motorised Transport) policies and plans in recent years, whether as singular documents or part of broader transport plans (1). Yet, the evidence-base on which policies to improve and secure the walking experience developed, is limited.

Purpose

This research is concerned with trying to understand why walking receives so little policy attention and resource allocation in African cities and attempts to strengthen the knowledge around how walking is measured and valued; unless walking is sufficiently valued, and its value measured in some tangible way, it is likely that the policy and practical attention to walking will continue to be neglected. This research also reports the results of a survey that asked questions around the most effective actions that might enable people to walk in Africa, and what processes are needed to deliver actions to enable walking.

Our intention is that the insights and findings from this research will lead to a greater understanding among practitioners, activists, and decision-makers of the challenges in developing policy that truly attends to the needs of people who walk in African cities, and the barriers to implementing these policies when confronted with competing aspirations and claims on resources.

Method

In order to achieve the objectives outlined above, we first conducted a literature review on work published in Africa with a focus on how walking is valued and how the needs of pedestrians are investigated and met. This literature was sourced from both scholarly work and grey literature. We also collected two sets of primary data:

- an online survey; and
- in-depth semi-structured interviews.

The findings of the survey, above, were used to develop an interview guideline for in-depth interviews with key informants. The purpose of the interviews was not to verify or validate the survey findings, but to deepen our understanding of issues that were raised, particularly with respect to valuing walking, and the barriers and urgency to implementing interventions.

Key findings

Survey respondents reported the following nine actions to better enable walking.

Measurement:

- Better indicators for measuring the impact of investments;
- Collect more data on people walking; and
- More evaluation of the walking environment.



Governance:

- More involvement by communities in sharing what they need and how to improve their walking experiences;
- Commitment by decision-makers;
- Collaborative multi-disciplinary teams; and
- Developing and delivering policy.

Resources:

- More funding; and
- New demonstration projects.

Findings from the interviews are reported under three themes:

- Existing values;
- Value barriers; and
- Enabling value.

Although there is recognition that walking is an essential transport mode for a sustainable future in Africa, walking remains marginalised as a transport mode in policy and practice. Financial motivation was reported as a key driver of the prioritisation of motorised transport modes, as walking is not perceived as making contributions to the way that transport projects are currently appraised in terms of cost or benefit. Further, walking is not necessarily perceived as a transport mode in its own right and therefore something that a transport department should be spending funds on to facilitate or improve. There is also a lack of respect towards people who walk, which partly stems from the perception that walking is a mode only for the poor and is not considered aspirational – either for citizens or governments.

Ineffective policies are a key barrier limiting the value of walking as a transport mode, in part as a result of insufficient capacity and knowledge to write, deliver and monitor the impact of policies effectively and fragmentation of responsibility to oversee the implementation of policies. Also, biases in the current funding system towards motorised transport prevent sufficient funding to be allocated for the range of actions required to increase the value of walking, including infrastructure interventions, but also delivery processes such as data collection and public engagement. These issues are exacerbated outside main city areas.

Despite these barriers, there is optimism that it is not too late for African cities to address the urban and policy challenges around walking. A key enabler to effectively increase the value of walking is to change how success is defined in a way that enables Africa to embrace walking as an asset of what might be curated as 'the African dream', rather than aspire to an unsustainable motorised future as witnessed in developed countries.

The findings indicate that a healthy, safe, equitable and sustainable future for urban Africa can potentially be delivered within existing resources: broadly speaking, the requisite staff, funding, and space already exist, but it is just not equitably allocated. Therefore, solutions that enable the mobilisation of such resources more efficiently and equitably through the exchange of data, methodologies, training, knowledge and best practice, will provide the most effective approach going forward. For example, there are stakeholders within governments and other organisations who are increasingly primed to provide for better walking experiences but lack the knowledge and skills to collaborate between institutions and sectors which is limiting the development of appropriate solutions for walking. This indicates that skills development and technical training of staff locally to plan, deliver, and evaluate interventions in line with locally relevant challenges would provide an effective solution moving forward. Similarly, there are substantial funding imbalances between investment for motorised transport compared to walking infrastructure and services, which indicates that solutions should be viewed as reprioritisation of budgets and funding allocation. Hence, reframing solutions to address the urban challenges in Africa as the mobilisation of existing resources that are



currently inequitably allocated, rather than as a complete overhaul of the system, may be the most optimal approach to facilitate the rapid deployment of suitable solutions.



1. Introduction and context

In African cities, walking is the primary mode of transport for the majority of people, with in the order of 78% of people walking for travel every day (1). People travel for an average of 55 minutes per day on foot, yet data from nine African countries shows that 74% of roads have no footpaths, 92% no crossings, and 48% are poorly signed and maintained (2). Across the continent, in 2019, some 33% of all road traffic fatalities, and 35% of all daily road injuries, were people walking (1). The World Road Association's (PIARC) catalogue of design safety measures estimates that investment in pedestrian facilities could reduce crashes by up to 90% (1).

Yet while walking is widely known and accepted to be the majority mode of transport in African cities (3) (4), only two countries in Africa have country-specific pedestrian infrastructure guidelines (Uganda and South Africa). Further, there is not yet an extensive body of knowledge and scholarly work regarding pedestrian travel (5) (4). Much of the work that does exist takes the form of what Behrens et al (5) describe as 'descriptive, epidemiological and demographic analysis of pedestrian crash causalities'; investigations into the characteristics and needs of pedestrians (particularly those of children and to a lesser extent women); and the analysis of pedestrian infrastructure networks. A recent, and even less studied area is that of pedestrian level-of-service, environment, and walkability assessment methods. The bulk of scholarly work in this research field is produced in South Africa, then Kenya and Uganda (5–7)(4).

As Behrens et al (5) ask (p 10), 'in the face of the overwhelming statistical evidence of the numerical importance of walking and the safety risks with which pedestrians have to contend, [why] does [walking] receive so little policy attention and resource allocation in African cities? This is a question that has long concerned the authors of this Report, and the research reflected here is our attempt to provide one of the pieces of the puzzle that may answer this conundrum. A state of knowledge work published in 2020 (3) reveals that the gaps in knowledge around the needs of people who walk in African cities is still inadequately researched and addressed.

People walk in African cities mostly to save on the high cost of public transport, where between 30–49% of household income might be spent on travel otherwise (3). Where walking is a main mode, this dramatically limits the range within which people may access opportunities and have the needs of their daily life met. Women and children are more likely to walk than are men. Pedestrians face a bewildering array of challenges, from flooded roads to snakes and other dangerous animals, speeding drivers, construction rubble, potholes, storm drains and raw sewers, physical attacks, and lack of shade and resting places. Often what little space they might have in which to walk is crowded in by informal traders and, at times motorcycle-taxis (boda-bodas). Although walking is regarded as a high-value public health intervention in European and US cities, in African cities the exposure to pollutants and motorised traffic renders this moot, although there are few systematic reviews of the challenge to date (3,4). As urbanisation picks up pace, attending to the lack of pedestrian infrastructure becomes ever more challenging, because of the need to retrofit the built and the prevailing regulatory environment, but also claim a share of resources where cities are directing more toward big-infrastructure public transport reform (8).

Nineteen out of 54 African countries have developed walking (usually referred to as NMT, or Non-Motorised Transport) policies and plans in recent years, whether as singular documents or part of broader transport plans (1). Yet the evidence-base on which policies to improve and secure the walking experience developed is limited. In addition to the gaps described above, this research attempts to strengthen the knowledge around how walking is measured and valued – a gap identified by UN Environment research in 2016 (9); unless walking is sufficiently valued, and its value measured in some tangible way, it is likely that the policy and practical attention to walking will continue to be neglected.

1.1 Research objectives

This study takes as its starting point that walking in African cities is currently inadequately understood and planned for, invested in, and supported through policy and other measures. The research reported here



developed out of a survey (funded by UN Environment and UKAID¹) to understand what interventions might be most effective at supporting walking and cycling in Africa – although this particular report does not reflect findings regarding cycling. The aim of the survey was to understand how walking (and cycling) can be more effectively valued and embedded into policy and commitment at local and national levels.

The survey was supplemented with in-depth interviews with key informants, to deepen our understanding into the findings and any urgency or barriers to implementing these interventions; our key interest was to surface insights into the way in which walking is, or is not, valued as a mode.

The primary objective of research, using both datasets, was to understand the barriers to increasing and prioritising the value of walking in transport policy and practice in urban African cities.

1.2 Project scope

The authors acknowledge the complexity of the discourse and agenda regarding promoting walking as a mode within cities divided by histories of colonisation and oppression, and where the current realities are those of inequity, poverty, transport disadvantage, and inaccessibility. There are many arguments to be made for investing in mass transit and more affordable, quality public transport in cities in Africa, and reducing the distances and quantity of walking that these socio-economic and spatial circumstances impose.

However, given the scale of walking as a majority mode of travel in cities in Africa and the extent of its risk for pedestrians in terms of road crashes and fatalities, along with its importance in mitigating obesity, poor air quality, climate change, and road congestion, walking is a mode that will gain rather than lose in importance. The research reported on here therefore does not ask questions of whether walking should be valued and planned for, but how walking could be more evidently valued and planned for.

Geographically, we focus only on cities in southern, west, and east Africa, reflecting the geographic focus of the work conducted by Walk21 and that of the funders. Recruitment of participants was also bounded by established networks within these regions.

1.3 Proposed research outcome

Our intention is that the insights and findings from this research will lead to a greater understanding among practitioners, activists, and decision-makers of the challenges in developing policy that truly attends to the needs of people who walk in African cities, and the barriers to implementing these policies when confronted with competing aspirations and claims on resources.

Our research findings suggest that while there is an increasing cohort of champions for walking, there is no shared or common understanding of the way in which walking is valued, why it should be valued, and how it could be valued. Our intention is that, through research uptake work described below, these insights become part of the policy and implementation fabric and that there is a shift in the way in which the needs of people who walk are served.

1.4 Research uptake

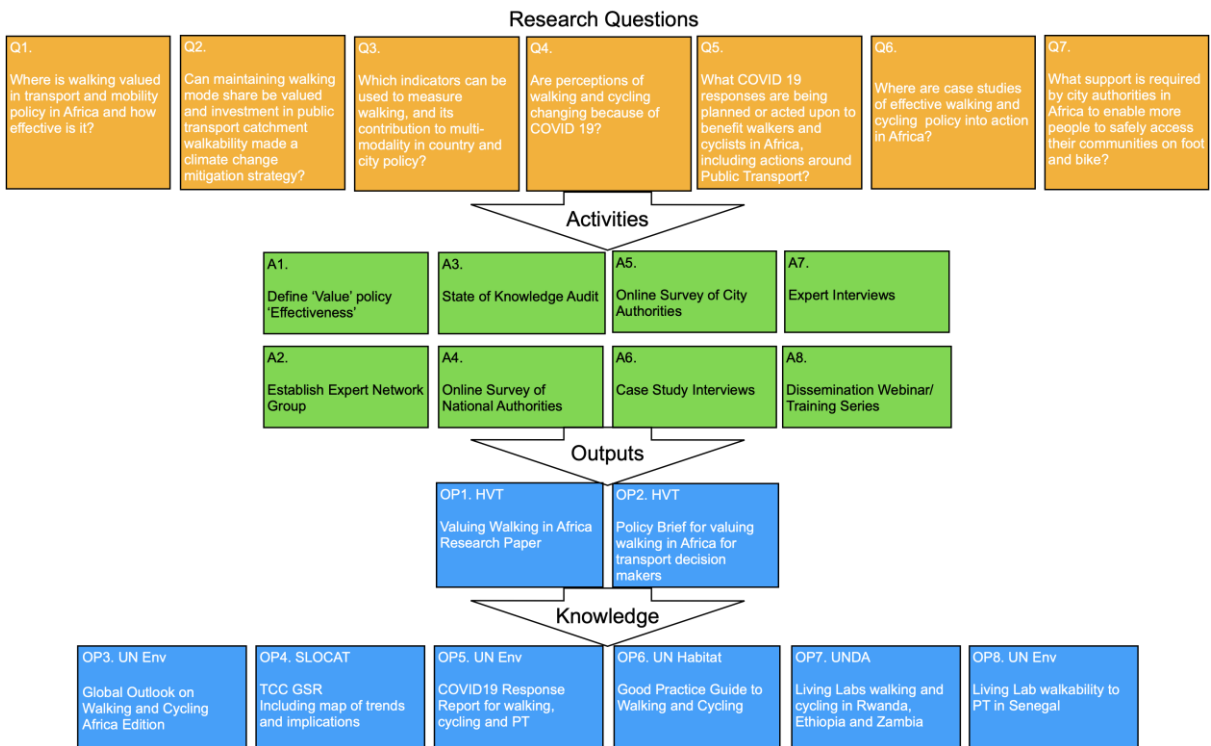
Key outputs of this work are this project report, and a summary policy brief for transport decision makers.

The research has informed eight additional knowledge outputs which are being led by other supportive partners. These include an update of the Global Outlook Report on Walking and Cycling for Africa (UN Environment); a Report on the Impact of COVID-19 on Mobility in African Cities (UN Environment); The Transport and Climate Change Global Status Report (SLOCAT); Good Practice Guide to Walking and Cycling in Africa (UN Habitat); and inputs to the Living Lab investment in walking and cycling committed in Rwanda, Zambia and Ethiopia (UNDA); and SUMP policy development in Senegal (UN Environment, CETUD and MobilizeYourCity).

¹ Titled 'Walking and Cycling Africa Survey'



Figure 1: Research framework map





2. Method and approach

2.1 Study design: overview

In order to achieve the objectives and research outcome outlined above, we first conducted a literature review on work published in Africa with a focus on how walking is valued and how the needs of pedestrians are investigated and met. This literature was sourced from both scholarly work and grey literature.

This literature review, although not exhaustive and not intended to result in a bibliometric output, uncovered a paucity of work based on either literature or primary data. To begin to fill this gap, we collected two sets of primary data, through:

- an online survey;
- in-depth semi-structured interviews.

The online survey set out to understand – at a high level and from the perspectives of people who work as practitioners or researchers in pedestrian travel – how to best meet the needs of people who walk in African cities.

The broad aims of the survey were to identify:

- which policies are most effective at supporting walking (and cycling) in Africa;
- the projects that are improving conditions on the street that could be an inspiration to others; and
- the opportunities to enable agencies to make walking (and cycling) safer and more comfortable for everyone.

The findings of the survey were used to develop an interview guideline for in-depth interviews with key informants, to supplement the survey findings and deepen our understanding of any urgency or barriers to implementing these interventions.

The findings are reported as a narrative – the primary approach to this work being qualitative rather than an attempt to develop statistical generalisation.

2.2 Sampling, recruitment and analysis

2.2.1 Online survey

Participants were recruited through a convenience sampling strategy. Initially, email invitations were sent to all 350 members of an existing network of stakeholders working on transport and mobility issues in Africa. Network members were also encouraged to share the link to the survey beyond the original database with their own networks. A second e-mail was sent to the network thanking respondents for their participation and reminding those who had not participated about the survey deadline. There were no rewards or honorariums for participation in the survey. Data were collected between 20 October and 23 December 2020.

The survey was piloted with several partners to establish whether questions were understood as intended and relevant to the African context. The survey took approximately 15 minutes to complete. Surveys were provided in English and French. The final English version of the survey is included as Appendix A.

In total, 135 participants across Africa completed the survey, and 40 participants partially completed the survey.

Participant characteristics are outlined in Table 1, below. The majority of participants worked for national government (30.4%, n = 41); university/ research (23.7%, n = 32); local non-government organisations (NGOs) (21.5%, n = 29); international NGOs (14.1%, n = 19); and private sector organisations (14.8%, n = 20). The majority of participants worked in the transport (63.8%, n = 83) or environment (52.6%, n = 71) sector. Most participants were from West Africa (33.3%, n = 45), East Africa (26.7%, n = 36) and Southern Africa (26.7%, n = 36). Countries where the highest number of participants worked were Kenya (14.8%, n = 20), Ghana (11.1%, n = 15) and Nigeria (10.4%, n = 14).



Table 1: Characteristics of online survey participants

Characteristic	Total a	Percent b
Organisation type c		
National government	41	30.4%
Provincial/ Regional government	5	3.7%
City/ Local government	7	5.2%
Inter-governmental agency	5	3.7%
International NGO	19	14.1%
Local NGO	29	21.5%
University/ Research	32	23.7%
Development bank/ Financial institution	1	0.7%
Private sector	20	14.8%
Sector c		
Transport d	113	83.7%
Land use planning	17	12.6%
Environment e	71	52.6%
Health	27	20%
Country of work		
North Africa	9	6.7%
Algeria	4	3%
Egypt	3	2.2%
Morocco	1	0.7%
Tunisia	1	0.7%
Southern Africa	36	26.7%
Angola	4	3%
Botswana	2	1.5%
Mozambique	1	0.7%
Namibia	8	5.9%
South Africa	9	6.7%
Zambia	10	7.4%
Zimbabwe	2	1.5%
West Africa	45	33.3%
Benin	2	1.5%
Cote D'Ivoire	3	2.2%
Ghana	15	11.1%
Guinea	2	1.5%
Mali	2	1.5%
Niger	1	0.7%
Nigeria	14	10.4%
Senegal	2	1.5%
Sierra Leone	2	1.5%
Togo	2	1.5%



Characteristic	Total a	Percent b
East Africa	36	26.7%
Ethiopia	9	6.7%
Kenya	20	14.8%
Rwanda	3	2.2%
Seychelles	1	0.7%
Tanzania	3	2.2%
Central Africa	2	1.5%
Burundi	1	0.7%
Cameroon	1	0.7%

a Questions were not compulsory so not all 135 participants answered every question;

b 1 decimal place;

c Participants could select multiple answers;

d Includes participants working in Road Safety and Infrastructure;

e Includes participants working in Sustainability

2.2.2 Survey analysis

Descriptive statistics were used to summarise basic characteristics (counts and percentages) of the survey sample (e.g. organisation type, country of work etc) and responses. As the survey was not intended to test any formal hypotheses, but rather to offer insights with which to develop further understandings, no inferential statistics were performed on the data.

2.3 Interviews

Qualitative, in-depth interviews were conducted with key informants knowledgeable and experienced in transport-related policy and practice in Africa. Experts were recruited through a purposeful sampling strategy. In line with principles of purposeful sampling (10), all participants were selected because of their ability to communicate experiences and opinions in an articulate, expressive and insightful manner, and were willing to take part in the study. This approach suited the present study, rather than probabilistic or random sampling, because obtaining information-rich data to understand this highly complex topic was more important than minimising the potential risk of selection bias.

Using the existing network of 350 stakeholders already working on transport and mobility issues in Africa (noted above), an initial list of 21 key informants was developed. These key informants were purposefully selected to reflect a diverse range of expertise and professions, which included stakeholders from government authorities, non-government organisations (NGOs), universities and funding bodies. Initial email invites were sent to all 21 key informants to request their participation. Thirteen experts agreed to participate in the interviews. Participants were provided with a Participant Information Sheet for approval.

Participants were not sought from sectors outside of those already working on pedestrian mobility, as this formative work focused on insights from those within the sector. Insights from those 'external' to the sector are recognised as being of value, and we look forward to further research opportunities in this regard.

Interviews were conducted between November and December 2020. Participants were interviewed for an hour on average, by voice call or remote online communication (e.g. Zoom), although one interview was conducted via email due to limited availability. Interviews were transcribed in real-time, verbatim, by the interviewer, and were also recorded.

A semi-structured interview topic guide was developed (see Appendix B), which consisted of open-ended questions exploring interviewees' views on the topic of walking as a transport mode in the community, city or country (hereafter referred to as 'region') they work in. All participants were asked the following five general questions about their views on how to prioritise walking as a transport mode in Africa:

- How is walking currently valued?



- What do you think are the most urgent actions that need to be taken to better support walking?
- Why do you think these are the most urgent actions that need to be taken to better support walking?
- What are the biggest barriers to ensuring action is taken to better support walking?
- What do you think are the potential consequences of not acting now to better support walking?

2.3.1 Interview analysis

Depending on the participant responses to these questions, the remainder of the interview was guided by probing questions in the topic guide, partly based around themes identified from the literature review; however, the interviewer allowed for the spontaneous emergence of topics that went beyond these four themes.

The interview transcripts were analysed using thematic analysis, which is a flexible approach involving the coding of frequently occurring themes across the data set (11). Coding was initially completed by the first author of the project, followed by discussion with two other members of the research team with expertise in qualitative research and the topic area. The coding process involved familiarisation with the textual data through repeated reading, identifying codes and synthesising larger thematic categories. Preliminary codes were identified using an inductive approach, where analysis was guided by the data rather than based on any preconceptions from existing evidence and theory (12). Coding was guided pragmatically by the research objectives but also allowed for inductive analysis of unanticipated topics or meanings. Coding predominantly identified semantic subthemes (i.e. representing the explicit and surface meanings of the data), since the primary interest was in experiences explicitly described by participants. However, the identification of latent subthemes (i.e. interpreting underlying ideas and assumptions) also enabled the research team to make sense of recurring themes which were interesting and relevant to the research question, but which were not explained explicitly by participants.

Three themes were identified during the analysis: (i) Existing values (i.e. how walking is currently valued); (ii) Value barriers (i.e. barriers to enable the value of walking); (ii) Enabling value (i.e. actions to enable the value of walking). Interview quotes are presented as the type of organisation the participant works for and the country where they work. For example, '(Local NGO; Kenya)' indicates that the participant works for a Local NGO in Kenya. Interviewees are only quoted when illustrating a particular point.

Interviewees are hereafter referred to as either experts, stakeholders, and interviewees interchangeably. In other words, all interviewees are stakeholders who are experts in their field.

2.4 Ethics approval

In line with the University of Manchester ethical guidelines, this research was exempt from requiring ethical approval because no personal, sensitive, or confidential information was being collected; participants were not from vulnerable or dependent groups; and there was no real risk of participants disclosing illegal or unprofessional conduct. Data have been anonymised for the purposes of this paper.

2.5 Study strengths and limitations

2.5.1 Strengths

This study addresses recommendations from a recent review into institutional and political factors affecting walking and urban transport policy, which suggested that more insight is needed into the political processes and decision-making in urban transport in Africa (13). By focusing on key stakeholder groups working within Africa's complex urban transport institutional system, this study has begun to unlock the nuances and identified key levers of change in the system. As a result, the findings have helped to identify what is necessary to make substantial progress in terms of providing adequate implementation of walking infrastructure and services. The approach facilitated an in-depth understanding of the nuances using rich qualitative data from interviews, whilst also triangulating this insight with quantitative data across a larger and more diverse sample of stakeholders using online surveys.



2.5.2 Limitations

Although the study provides new insights into a diverse range of stakeholders from different organisations, sectors and regions, it is likely that most participants are already engaging with walking issues and therefore may not represent the views of regions doing less for walking. For example, it is unsurprising that stakeholders were more prominent from countries such as Ghana, Nigeria and Kenya where most action on walking is taking place. However, it was promising that countries without policies on walking, such as Angola, Senegal and Zimbabwe, were still represented within the study, therefore indicating that participants were at different stages of progress. Given the relatively short time scale amid a global pandemic, it was difficult to recruit professionals from certain sectors who may have provided different insights, such as those from funding bodies. Exploring the extent to which these findings apply beyond the sectors and regions investigated in this study should be examined in future research with more project resources dedicated to recruiting hard-to-reach stakeholder groups and regions in the poorest countries.

Finally, given the focus on addressing key policy levers to bring about action to support walking, this study did not examine experiences and knowledge from communities who are doing the walking that could have provided additional insights into the most effective solutions, particularly around the inclusion of community groups within transport planning, practices and governance systems.

Limitations in terms of project timeframe and budget mean that this study does not include any participatory-action research or community engagement, and reflects the views and insights of researchers, practitioners, and officials who work within the study arena.



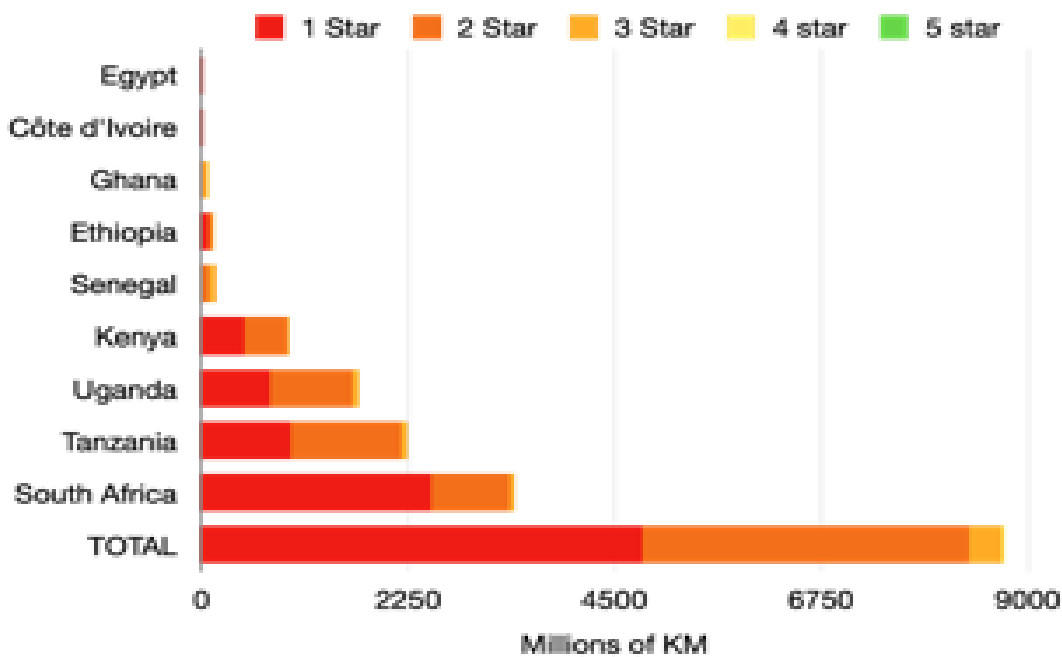
3. Literature review

While global walking rates are declining, walking remains the most common mode of transport in Africa, either in combination with other transport modes (e.g. public transport) or as the main mode itself (14,15). It is estimated that walking makes up between 50% and 90% of daily trips in many African cities (15,16) Hence, rather than trying to increase the uptake of walking, which is the concern of much existing literature focusing on the Global North (17,18), the fundamental challenge in African cities is how to (i) retain, (i) protect and (ii) enable the high proportion of people already walking (1). Our literature scan, presented below, is categorised according to three key challenges above.

3.1 Retain

Although walking is the dominant mode of transport in Africa, pedestrian infrastructure is often inadequate or non-existent (UN Habitat, 2013). Based on available walking infrastructure (both urban and rural) data from nine African countries) (19), 74% of roads have no dedicated footpaths, 92% have no pedestrian crossings and 48% are poorly signed or maintained (Figure 2); which means there is approximately 8.3 million km of inadequate streets for walking in Africa and no doubt many more once the networks in the other 45 countries are also assessed. Where footpaths do exist, they are frequently blocked with parked cars, informal traders or waste, forcing pedestrians to walk on the road alongside motorised vehicles moving at much higher speeds (3,20–22). Moreover, the provision of any walking infrastructure is uneven between neighbourhoods and discontinuous within neighbourhoods, rarely considering the origin and destination of pedestrians (23).

Figure 2: Street networks analysed for pedestrians, categorised into a Star Rating system



Source: (2)

The high proportion of people walking in Africa is largely due to widespread poverty and inequality. Over half of urban Africa live in absolute poverty and 59% live in under-served informal settlements which often lack basic transport infrastructure and services (24). People from lower-income households rely on walking the most (25) which often involves long distances that are not appropriate for walking. Where infrastructure is built, it is not always appropriate or does not serve people's needs or desire lines (26,27). Despite the inadequate provision of walking infrastructure in urban Africa, the majority of low-income urban populations continue to walk out of necessity more than by choice; this is because either they do not own a private motor vehicle, cannot afford public transport, or because public transport is not available (28). However, with the wave of economic growth in Africa, there is a real concern that the substantial number of low-income



populations who currently rely on walking will switch to easier and safer motorised forms of transport as soon as these modes become available or affordable for them to reduce the daily mobility burden they face (8). Private motor vehicles are becoming more affordable, especially with the influx of less expensive second-hand vehicles from developed countries (29). As a result, the modal share of private motor vehicles is escalating rapidly in Africa, thereby creating chronic traffic congestion and placing even higher burden on poor quality and deteriorating roads. This unsustainable shift towards motorisation will have long-term devastating effects for health, the environment and the economy (8).

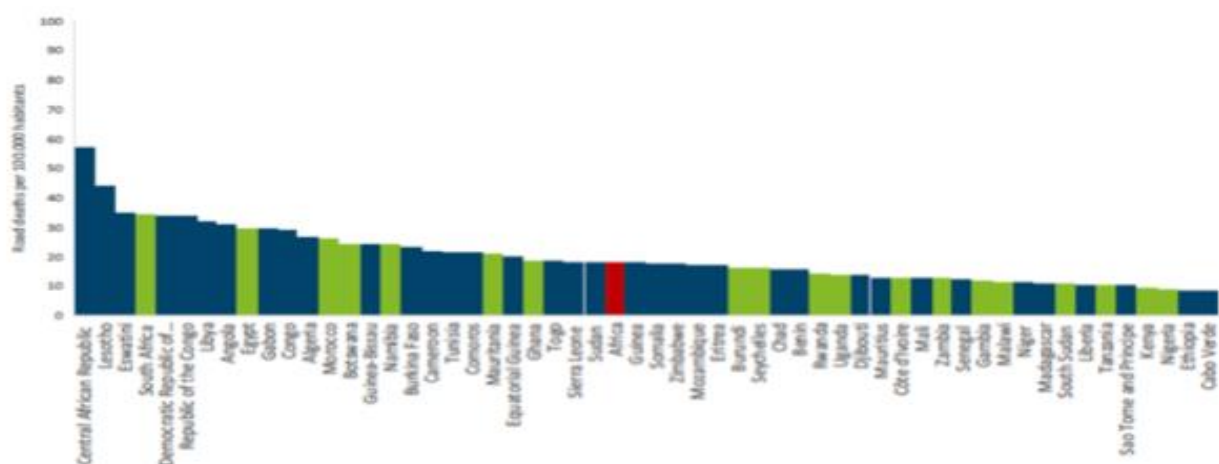
Rapid urbanisation in Africa is accelerating these motorisation trends. Urban areas in Africa have the fastest growing and youngest population in the world (30). This rapid population growth is causing huge pressure on urban transport and mobility systems. However, resource-constrained African governments lack coordinated urban planning to keep up with the pace of population and spatial growth, especially in small- and medium-sized cities where most of the rapid urbanisation is occurring (31). Without the economic development to adequately support this urban growth, the rapid urbanisation of many African cities is unplanned, unstructured and seemingly random (32). This unconstrained urban development creates sprawling cities that are too large and dangerous to manoeuvre by foot, subsequently causing higher dependency on road-based transport. Urban sprawl has the biggest negative impacts on the poorest African households who live on the outskirts of cities that are often detached from transport infrastructure and public transport networks, therefore forcing them to walk even longer distances as cities expand (33).

3.2 Protect

The inadequate provision of walking infrastructure makes walking incredibly dangerous. Africa has the highest levels of road fatalities and crashes in the world, even though vehicle ownership levels are currently the lowest of the six world regions (17,34). On average, walkers account for 33% of road fatalities and 35% of road injuries in Africa (1), although in some countries these ratios are much higher; for example, pedestrians account for 58% of road fatalities in Mozambique (1). In real terms this equates to 84 099 pedestrians being killed in Africa every year (230 a day). This is a consequence of poor infrastructure, driver behaviour, and at times pedestrian risk taking (26,27,34). Alarmingly, these numbers are likely to underestimate the true extent of road fatalities and injuries due to underreporting – in low-income countries by as much as 84%; in middle income 51%, and in high Income countries, 11% (35).

Figure 3 illustrates the average number of pedestrian deaths per 100,000 by country in Africa. The Africa average (27) is coloured red and those with a relevant policy coloured green. Note no evaluation of the impact of the policy effectiveness has been made.

Figure 3: Pedestrian fatality rates per 100,000 by country in Africa



Source: Global Health Data Exchange

Escalating motorisation is not only exacerbating issues of road safety in Africa, but it is also causing wide-ranging adverse effects on human health. Growing air pollution due to increased vehicle use presents a major threat to human health (4,36), with an estimated 17,000 deaths a year in Africa attributable to ambient air



pollution (37,38). Outdoor particulate matter pollution due to motor vehicle emissions is generally much higher in African countries than in other developed countries (4,39) which is partly due to the rapid increase in the import of highly polluting older and poorly maintained diesel vehicles (40). Particulate matter pollution as a result of vehicle emissions is also linked to the rise of non-communicable diseases (NCDs) in Africa, including cardiovascular and cardiopulmonary diseases, lung cancer and respiratory infections (41–44). This is particularly concerning given the large concentrations of people walking, socialising, trading, and living alongside these congested roads.

Even if people can afford private motorised transport, switching from walking to private motorised transport leads to more sedentary lifestyles and physical inactivity (45) thus further contributing to the rise of NCDs in Africa, including cardiovascular disease, diabetes and obesity (4). Given that the majority of people who walk do so to save on the costs of public transport rather than private vehicle travel, this is possibly less of a concern for this study. But nonetheless, as income levels increase and private vehicles become more affordable, Africa's urban population are at higher risk of NCD mortality and morbidity regardless of whether they walk or have the means to drive. While infectious diseases are improving, NCDs in Africa will continue to grow as urbanisation and economic growth continues to accelerate motorisation.

In addition to the harmful health effects of motorisation, there are also clear environmental and economic implications for global warming due to carbon emissions. Increasing dependence on fossil fuel vehicles is no longer a sustainable path for cities across the globe and is hindering Africa's ability to meet the Paris Agreement targets on climate change (14). Low- and middle-income countries (LMICs) are least able to deal with the adverse environmental impacts of climate change, such as floods, droughts and heatwaves (46). Vulnerable groups, such as the poor and young children, are likely to suffer more from these climate extremes (47), thus further exacerbating the already large health and environmental inequities.

3.3 Enable

Prioritising investments in walking can enable walking as a safe, accessible and comfortable transport mode, thus reducing the risk that people will choose not to walk as soon as they can afford to, and mitigating the increasing decline in urban and air quality, and road congestion (48). However, walking remains severely undervalued and underdelivered in urban transport policy and practice in Africa (18). Despite increasing policies for non-motorised transport (NMT) in Africa, only 35% of African countries have a standalone policy for walking and cycling (1), compared with 64% in Europe (19). Transport and land use planning decisions continue to prioritise investments into upgrading and expanding roads, parking and traffic systems that favour private motorised transport, at the expense of walking and other sustainable transport modes, including cycling, electric bikes and scooters, and public transport. African city transport authorities and funding agencies are often attracted to large road-based infrastructure projects because it is perceived as a sign of progress and a means to accelerate economic growth (9). Rarely do the planners of major transport projects consider whether they meet the accessibility needs of the local population, especially in low-income areas and informal settlements where the highest volume of walking trips occurs (3,26,49). These vehicle-centric planning decisions often lead to more road infrastructure than is required and increases dependency on private vehicles, forcing people to give up walking as soon as alternative motorised modes become affordable, and increasing inequalities for the urban poor who cannot afford to access alternatives.

This prioritisation of motorised transport contradicts the fact that walking is the most common mode of transport in Africa. With the synchronisation of increasing road fatalities and injuries, traffic congestion, air pollution, carbon emissions, and physical inactivity, it is clear that urgent change is needed to *retain* the 78% of people already walking for more than 55 minutes every day for transport; *protect* the lives of the 230 pedestrians killed and additional 25 730 people injured while walking every day on African roads; and *enable* walking as an essential, attractive and comfortable transport mode (1).

3.4 Evidence gaps

There is a dearth of research on walking for transport in Africa (see Introduction, and also (50)). Most of the research and policy attention on walking resides in developed countries, especially in North America, Europe and Australia, where the use of the car is widespread (51,52). Therefore, African countries rely heavily on



developed country evidence and expertise, which is unlikely to have relevance to African cities (53), where the focus is on walking mode retention rather than increasing the uptake of walking. Walking in Africa is also uniquely affected by complex demographic, economic, social, geographic and historical conditions that differ to developed countries (54).

There is emerging research on which NMT policies are being developed and case studies of practical efforts aimed at delivering these policies (50). However, there is currently a limited understanding of the underlying barriers and enablers that may influence the development of new transport and urban planning policies and the implementation of existing policies (13). Further, it is recognised that the combined efforts of governments, urban transport planners, engineers, researchers, businesses and civic society are required to develop and delivery policy towards creating better walking environments (47). Whilst there is research on the theoretical basis of stakeholders in transport (28), there are few empirical studies that have conducted in-depth research into the key enablers and barriers to achieving change from the perspective of key stakeholders in urban transport policy and practice in Africa. To align the efforts of these stakeholders to improve conditions for people walking, there needs to be a better understanding of the perceptions of key players in all of these sectors. Specifically, there is a need to identify the key barriers to change (e.g. political pressure), where any cognitive dissonances exist (e.g. where budget allocation to pedestrian infrastructure to protect people does not reflect the high levels of walking and pedestrian fatalities), and contradictions between stakeholders (e.g. different opinions regarding who is responsible for implementing walking strategies). Exploring the reasoning and any underlying cognitive dissonances that explain this disparity could potentially provide actionable and effective solutions to increase walking as a priority transport mode in policy and practice.



4. Findings from surveys

This section below reports on the findings from the surveys (see Section 2.2.1, and Appendix A). The questions and categories were informed by the literature, in particular the 'Eight Steps to Walkable Cities' process learning programme (55).

4.1 Actions to enable walking

When presented with nine actions to better enable walking in their region (See Table 2, below), the overwhelming majority of participants believed that all nine of the suggested actions would help enable people to walk in their region.

These nine actions are:

Measurement

- Better indicators for measuring the impact of investments
- Collect more data on people walking
- More evaluation of the walking environment

Governance

- More involvement by communities in sharing what they need and how to improve their walking experiences
- Commitment by decision-makers
- Collaborative multi-disciplinary teams
- Developing and delivering policy

Resources

- More funding
- New demonstration projects

The following section reports on participants' responses to questions about the most effective processes to deliver these actions, and Table 3 presents survey responses on the most effective processes to deliver each action.

4.2 Processes to deliver actions to enable walking

4.2.1 Measurement

The best ways to develop indicators for measuring the impact of investments in walking, most participants suggested that new indicators are needed; either by developing new indicators specific to their region (46.6%, n = 41) or adapting an existing set of international indicators to make them specific to Africa (45.5%, n = 40).

Only a third of participants reported that any organisation or relevant authority is collecting data on walking in their city/country (either official or non-official data collection) (35.2%, n = 37). Out of the participants who said that no organisation or relevant authority collect data on walking (28.6%, n = 30), the most common reported reason was that walking is not prioritised in their region (55%, n = 11).

When asked about the best ways to collect more data about people who walk, the three most frequently selected responses were to obtain more funding to support data collection (76.3%, n = 71); training to increase capacity to collect data (71%, n = 66); and access to affordable tools to crowdsource data about what people need (66.7%, n = 62).

The best way to evaluate the walking environment, the most frequently selected responses were, to develop new (48.8%, n = 42) or adapt existing (46.5%, n = 40) environment audit tools that are relevant to Africa; and training in how to use environment audit tools (44.2%, n = 38).



4.2.2 Governance

When asked about the most effective ways to help enable communities to share what they need to support people who walk or cycle and improve their walking or cycling experiences, the most frequently selected response was to provide training for existing community groups so they can advocate for walking and cycling (38.2%, n = 34).

The decision makers that the majority of participants wanted more commitment from was predominantly politicians in national government (91%, n = 81), but also local politicians (64%, n = 57). Over half of the participants also wanted more commitment from transport engineers/ planners (59.6%, n = 53) and nearly half wanted more commitment from transport directors (44.9%, n = 40).

When asked about the best way for multi-disciplinary teams to work collaboratively on walking issues, the majority of participants said that training expertise to integrate walking into different disciplines (e.g. transport, planning, health) was the best approach (62.6%, n = 57).

Less than half of the participants reported that there are official policies or strategies in place to support the needs of people who walk in their region (44.7%, n = 46). When asked about the most effective way to develop a new strategy to support walking, the majority of participants preferred to bring together existing government (80%, n = 68) or non-government (58.8%, n = 50) expertise and resources to develop a local strategy; or external additional support from NGOs (58.8%, n = 50).

4.2.3 Resources

Participants were asked about the most effective way to obtain funding to invest in walking infrastructure. Two-thirds of participants said that reallocating existing transport budgets was the most effective way to obtain funding (66.7%, n = 60). Also, over half of participants said that external funding for specific projects was the most effective approach (56.7%, n = 51); most of these participants said that external funding should come from/through development partners (47%, n = 17) rather than banks (27%, n = 10) or NGOs (25%, n = 9).

When comparing participants who worked in government with participants outside of government, a higher proportion of participants working in government preferred external funding for specific projects (69.2%, n = 18) rather than reallocating existing transport budgets (57.7%, n = 15). Whereas a higher proportion of participants working outside of government preferred reallocating existing transport budgets (70.3%, n = 45) rather than external funding for specific projects (51.6%, n = 33).

When asked about how to plan and implement demonstration projects for walking and cycling, most participants said that the most effective approaches were to have access to more Africa-relevant case studies (58%, n = 51); develop new design guidelines and standards of infrastructure (55.7%, n = 49); and develop a network of African practitioners to support cities, governments and agencies with similar challenges (51.1%, n = 45).



Table 2: Survey responses on nine actions to better support and encourage walking

To what extent do you think each of the following would help support and encourage people who walk in your region	Response frequency					Total score ^a
	Definitely not	Probably not	Neutral	Probably yes	Definitely yes	
Measurement						
Better indicators for measuring the impact of investments	0	0	6	31	57	333
Collect more data on people walking	0	1	0	29	64	344
More evaluation of the walking or cycling environment	0	0	7	29	59	337
Governance						
More involvement by communities in sharing what they need and how to improve their walking or cycling experiences	1	0	4	16	73	348
Commitment by decision-makers	0	3	2	28	61	335
Collaborative multi-disciplinary teams	0	0	2	24	68	348
Developing and delivering policy	0	4	5	28	58	330
Resources						
More funding	0	1	2	17	74	352
New demonstration projects	0	2	2	31	58	331

^a Definitely not = 0; Probably not = 1; Neutral = 2; Probably yes = 3; Definitely yes = 4



Table 3: Survey responses on the most effective processes to deliver each action

Actions	Most effective delivery processes ^a
Measurement	
Better indicators for measuring the impact of investments	Develop new Africa-specific indicators; Adapt an existing set of international indicators to make them specific to Africa.
Collect more data on people walking and their specific needs	More funding to support data collection; Training to increase capacity to collect data; Access to affordable tools to crowdsource data about what people need.
More evaluation of the walking environment	Develop new Africa-specific environment audit tools; Adapt existing environment tools to make them specific to Africa; Training in how to use audit tools.
Governance	
More involvement by communities in sharing what they need and how to improve their walking experiences	Training for existing community groups so they can advocate for walking.
Commitment by the following decision makers	National politicians; Local politicians; Transport engineers/ planners.
Collaborative multi-disciplinary teams	Training expertise to integrate walking into different disciplines.
Developing and delivering policy	Bring together existing government expertise and resources; Bring together existing non-government expertise and resources; External additional support from a local or international NGO.
Resources	
More funding	Reallocation of existing transport budgets; External funding for specific projects (especially from/through intergovernmental agencies).
New demonstration projects	Access to more case studies in Africa where walking conditions have been improved; Design guidance and design standards for walking infrastructure; Development of a network of African practitioners to support organisations with similar challenges.

^a All responses were selected by at least 50% of participants unless otherwise stated



5. Findings from interviews

The findings of the survey, above, were used to develop an interview guideline for in-depth interviews with key informants. The purpose of the interviews was not to verify or validate the survey findings, but to deepen our understanding of issues that were raised, particularly with respect to valuing walking, and the barriers and urgency to implementing interventions.

Section 2.3.1 has described the way in which interviews were analysed. This section now reports on this analysis.

5.1 Theme 1: Existing values

Subtheme 1: Irrelevant to economic progress

Interviewees perceived that transport modes that can create an income or attract investment are prioritised over walking because of the perception that “pedestrians don’t build the economy” (City/ Local government; Senegal). For example, investments are prioritised in transport modes that seemingly have clear economic impacts, such as “commuter trains and road systems that enable transport of goods and services that have an economic rationale” (International NGO; International). Therefore, interviewees said walking is not perceived as making contributions to these economic drivers, so priority is given to motorised transport modes that fit into existing conventional transport value systems based on perceived economic drivers rather than human and societal contributions (e.g. health and wellbeing, sustainability):

“How does 3 metres of walking paths help me generate economic wealth? This is the kind of calculation that decision-makers are undertaking.” (International NGO; International).

“We are stuck in this system, where most countries stipulate Level of Service and Cost-Benefit Analysis to prioritise investment; it is written in the rules.” (City/ Local government; SSA).

Subtheme 2: Missing respect

Many interviewees believed that there is an “attitude from the larger community, from pedestrians themselves and motorists, that walking is not something to be respected and to respect” (Local NGO; Zambia). Interviewees believed that the lack of respect stemmed from the “perception that only poor people walk” (City/ Local Government; Nigeria) - and that poor people have less value than those with money:

“And because of this dreaded concept of the value of time [time savings are traditionally a key metric for the appraisal of transport schemes], we need to monetise things. We look at the value of them, the value of life - and then the average pedestrian, even a pedestrian in a multi-modal trip, has a lower value of time than any car user.” (City/ Local government; SSA).

“It is always the case that those who walk are less powerful, and their time and their work is considered to not be urgent; so they can take longer, they can wait until vehicles have passed, they can walk around obstacles.” (University/ Research Uganda).

Therefore, walking “is not considered aspirational” (City/ Local Government; South Africa) and is not even perceived as a transport mode as ‘transport’ implies the mode choices beyond walking:

“The average Nigerian who sees someone walking thinks they are poor; they don't see it as transport.” (University/ Research; Nigeria).

However, some interviewees highlighted that the perception that only poor people walk is misconceived, as walking is required for almost all trips:

“There is this perception that only poor people walk. But we know that is not true. We know that 30-40% of public transport trips start with walking - everyone is walking at some point. Even if you park your car and walk, you are walking.” (City/ Local government; Nigeria).



Subtheme 3: Undervalued and forgotten (by those who do not walk)

Despite the imperativeness of supporting walking as a transport mode, interviewees were aware that walking is not provided for in road design, which they perceived as governments undervaluing walking:

"If they [government] valued it when they designed roads, they would make it easy for people to walk. Even on new roads, you do not see sidewalks, and people have to walk on the roads." (University/ Research Nigeria).

Interviewees recognised that not acting now to support walking will have serious ramifications for future sustainability in urban Africa due to growing motorisation:

"We have a chance now that we won't have again. We don't have a huge car culture, but we will in 50 years' time if we don't work on it now." (City/ Local government Senegal).

"[Regarding potential consequences of inaction] Mobility demand will continue to grow; motorised trips will continue to grow; air pollution will worsen; public health will be impacted negatively; road safety goals will not be easy to achieve." (Inter-governmental agency; Senegal).

Interviewees also acknowledged that walking is not just undervalued in relation to motorised transport, but also cycling:

"Even in advocacy, cycling takes the prime place. Walking is a second thought. We don't acknowledge it as a priority to measure, or to advocate for." (City/ Local government; South Africa).

"When we discuss with the Ministry, and organise a 'walking and cycling day', the focus every time is on cyclists. The expectation is that pedestrians are already served." (Urban planner, Ethiopia).

Three interviewees mentioned that even a global pandemic like COVID-19 was not a sufficient catalyst for Africa to provide for walking as a transport mode, despite the potential for walking to help mitigate the transport burden:

"It's evident, from the response to the Coronavirus, that walking safety is not seen as an emergency. Yet if the value of walking, and open spaces, had been seen as an emergency and valued, this might have been able to help us when this hit us. We could still go to work and the grocery shop." (Local NGO; Kenya).

5.2 Theme 2: Value barriers

Subtheme 1: Ineffective policy

Most interviewees worked in countries where there were existing NMT policies. However, interviewees unanimously recognised that any existing NMT policies were ineffective in delivering action to support walking:

"In transport plans, you see priority statements, that priority will be given to NMT, and they highlight this. But the contradiction is in the effort, the real practice, to actually make sure that the positions advanced in the policy statements are indeed carried through." (International NGO; International).

"We have more people walking, but we have less space; we have our NMT Policy, but no action whatsoever and life just carries on." (University/ Research; Uganda).

One interviewee perceived that "governments promise all this to get the general nod globally" (Local NGO; Kenya) and that political commitments are merely used as a way of attracting investment from inter-governmental organisations, rather than as a means for long-term commitment to action:

"I could compare our government to a dating app – where there are the best pictures, the best selves, to attract investors and the nods from the WHO and the World Bank, that Kenya is really doing their bit. But on the ground, like with the dating app, when you meet the person in person at a cafe, you wonder if this is actually the same person." (Local NGO; Kenya).

"There will be a whole hoo-ha when they [politicians] walk during transport month, but that's it." (City/ Local government; South Africa).



Subtheme 2: Capacity and knowledge

A lack of capacity was recognised by interviewees as a key barrier to successfully implement adequate walking infrastructure into street design due to “little knowledge about designing the approaches to cities” (Urban planner; Ethiopia). Interviewees particularly emphasised the lack of applied design knowledge from engineers:

“Virtually no walking infrastructure is factored in, engineers don't design for walking.” (University/ Research; Ghana).

“An urgent action includes building the capacity, knowledge-wise, with enough resources and staff, around urban street design. This is not common. We have a lot of highway engineers who are designing urban roads. So the knowledge around urban street design is new.” (Urban planner; Ethiopia).

Some participants talked about pedestrian crossings as an example to demonstrate the lack of street design knowledge, suggesting that pedestrian crossings are inappropriately used by engineers as a road safety solution:

“Urgent actions include not doing certain actions: there needs to be an internalisation and action that pedestrian bridge crossings do not work. They are almost always in the wrong location, they are completely unsafe from a security perspective, they are strenuous.” (City/ Local government; SSA).

“So more pedestrian crossings are not the answer; if they are not respected, then more of them do not help. More of what we have is not going to lead us to where people feel safe walking.” (City/ Local government; South Africa).

One interviewee highlighted that the issue of capacity is exacerbated beyond major cities, as “there isn't much capacity in the secondary cities, and in the smaller or rural areas” and “there is little knowledge about designing the approaches to cities, the linkages from dense urban areas to rural” (Urban planner; Ethiopia).

Subtheme 3: Funding priorities

In line with interviewees' perceptions that walking is undervalued in policy and practice, interviewees perceived that there is insufficient funding allocated to walking infrastructure and services in comparison to other transport modes:

“Investment per walking trip is probably lowest of all modes; monetary investment in infrastructure and services, is probably lowest per trip of all the modes.” (City/ Local government; SSA).

“Everyone seems to have an NMT policy, but we need to examine the budget. It's the classic issue: check where an organisation is spending its money. You know that pedestrians are not a priority when you see where the money is being spent.” (City/ Local government; South Africa).

One interviewee highlighted that “competition for funding is also a barrier, so infrastructure takes preference to long-term monitoring and evaluation.” (International NGO; International), which suggests that limited funding prevents the delivery of other actions beyond infrastructure that would increase the value of walking, such as data collection and public engagement.

5.3 Theme 3: Enabling value

Subtheme 1: Redefine success

Despite the challenges, interviewees were optimistic in saying that “changing the narrative of how we measure success, our indicators” (Urban planner; Ethiopia) would result in walking being better supported and invested in:

“If we say we have built X number of km of pedestrian facilities, but our fatalities are high, then that is not a measure of success. The challenge is changing the narrative of how we measure success, our indicators.” (Urban planner; Ethiopia).

“But if we look at it in a transport justice perspective, if we are looking at humans not money, then suddenly we would be investing in pedestrians.” (City/ Local government; SSA).



Interviewees also said that walking contributes many human, societal and environmental benefits, and perceived that strengthening these links would help support walking:

"Rather than developing facilities for walking as being seen as anti-development, even anti-poor, we need to link it to development, to decongestion, people walking is good for health and environmental reasons." (City/ Local government; Nigeria).

"But we need to demonstrate that it's [walking] the right thing to do and sustain it." (International NGO; International).

Some interviewees specifically mentioned that African aspirations should not borrow from those in the developed world, instead suggesting that Africa should appreciate walking as an asset that should be embraced:

"Our pedestrian mode shares are an asset; we need to make noise about it. In Europe it's a struggle to get to 15% mode shares, in Africa we have 40-70% shares. This is an asset." (International NGO; International).

"We need to play to our strengths; we do not need to emulate what is in the west. We can also keep our own traditions. We have been walking, why must we eradicate this? Of course, roads are good for industry and business, but that should not mean we must act as if we should all have cars. That is the American dream, it is not our dream." (Local NGO; Kenya).

As well as redefining indicators for success, the importance of collecting data was emphasised, including baselining and demonstrating impacts on walking outcomes:

"Use a tool like a walkability tool, put your project through the tool and use the results. With the data, you can also have a good baseline, and then conduct a repeat test a year later and show impact. So, an urgent action is then also to collect data." (City/ Local government; Nigeria).

"Urgent actions should focus on providing the evidence: we need to conduct evaluations, demonstrate effects, show impacts, show how variables improve." (International NGO; International).

Interviewees said that data needs to be relevant for transport decision-makers, as data on other aspects such as health was perceived as less important for decision makers to take notice:

"I do think, and this is another barrier - there is a lot of walking research, but not in the right places; it's all from a public health perspective, looking at affected life years, walking more, and eating less, life years saved. But it is not translated into transportation." (City/ Local government; SSA).

"We need to demonstrate that footfall brings business. So as researchers we need to highlight examples, we need to work with decision-makers and give them the evidence they need to take the bold steps [to invest in walking as a way to grow the economy]." (International NGO; International).

Subtheme 2: Take joint responsibility

Although one interviewee said that "we need to get government to listen" (Local NGO; Zambia), interviewees more frequently suggested that "the public sector and the private sector have to work together; government can't do it all." (City/ Local government; Nigeria), indicating the need to align goals between all organisations at different stages of the planning, design and delivery of the transport infrastructure implementation chain:

"Also need to engage from the top: the ministry of transport needs to uncover what goes into their decisions on road designs. For all we know, they might be making provision for pedestrians, but nobody is monitoring the contractors, who then don't factor them into construction." (University/ Research; Ghana)

"We have NMT policies and statements, but it seems that our government doesn't have a say in, for example, how the Chinese construct roads, and maybe they are cutting costs with tactile paving, etc." (Local NGO; Kenya).



Interviewees wanted to see more involvement of communities in government decision making processes, suggesting that governments lack representation of people who are doing the walking and therefore do not understand their needs:

"We need to see more civil society activism. But also, the reality is that there are very few government officials who are not car-captive themselves." (City/ Local government; South Africa).

"It is very important to involve the target groups, to capacitate them, the women, the disabled people. We sit down with them, and say, this is what the policy says, what do you want them to do?" (Local NGO; Zambia).

Subtheme 3: Deliver a quality experience

Interviewees believed that there needs to be more focus on understanding "how pedestrians perceive their walking environment" (City/ Local government; SSA). There was a sense that there is "a complete discrepancy about what we think a pedestrian experience is, and what they actually do." (City/ Local government; SSA). Interviewees expressed the importance of the experience of walking, suggesting that we need to "empathise with the needs of pedestrians" (Local NGO; Kenya) in order to better provide for people walking:

"They [the government] are humans, and if they can understand viscerally the importance of pavements, of street lights, drop kerbs, they would be informed when they have to insist on changes and contracts." (Local NGO; Kenya).

"We also need to change our language around infrastructure for walking, and talk about services: we need benches, security, garbage removal, cleaning, maintenance. If you develop a sidewalk but there is no service to it, it's all lost." (International NGO; International).

A commonly reported intervention to improve the walking experience was to focus on space allocation. In particular, interviewees often said that "finding ways to deal with vendor encroachment" (City/ Local government Senegal) was an important aspect of addressing space allocation issues:

"Government also must make walking attractive to ensure that everyone who is selling on the sidewalk be removed." (University/ Research Nigeria).

"A topic that always comes up is encroachment on pedestrian sidewalks, by construction material or vendors." (Urban planner; Ethiopia).

Some interviewees also highlighted that improving the continuity and coherence of whole walking journeys is important to ensure that walking is an attractive transport mode:

"Addis has already invested well, and the arterial roads are good. But in terms of the whole journey, it is still a nightmare. There are certain segments where all the standards are complete. Revamped and improved. It's really good, and then it gets disconnected, a drastic change, a wide sidewalk to some drop. It must be continuous, connected, and of a standard quality." (Urban planner; Ethiopia).

"I know a lot of people who would like to leave their car behind and walk, but for this, we need to provide public transport and NMT facilities that will attract them." (City/ Local government Nigeria).



6. Reflections on findings

Although there is recognition that walking is an essential transport mode for a sustainable future in Africa, walking remains marginalised as a transport mode in policy and practice. Financial motivation was reported as a key driver of the prioritisation of motorised transport modes, as walking is not perceived as making contributions to the way that transport projects are currently appraised in terms of cost or benefit. Further, walking is not necessarily perceived as a transport mode in its own right and therefore something that a transport department should be spending funds on to facilitate or improve. There is also a lack of respect towards people who walk, which partly stems from the perception that walking is a mode only for the poor and is not considered aspirational – either for citizens or governments.

Ineffective policies are a key barrier limiting the value of walking as a transport mode, in part as a result of insufficient capacity and knowledge to write, deliver and monitor the impact of policies effectively and fragmentation of responsibility to oversee the implementation of policies. Also, biases in the current funding system towards motorised transport prevent sufficient funding to be allocated for the range of actions required to increase the value of walking, including infrastructure interventions, but also delivery processes such as data collection and public engagement. These issues are exacerbated outside main city areas.

Despite these barriers, there is optimism that it is not too late for African cities to address the urban and policy challenges around walking. A key enabler to effectively increase the value of walking is to change how success is defined in a way that enables Africa to embrace walking as an asset of what might be curated as ‘the African dream’, rather than aspire to an unsustainable motorised future as witnessed in developed countries; the so-called “American dream”.

Delivering the change required to provide for walking will require increased responsibility and leadership from national government to take the bold political decisions to make this happen, as is often the case in cities that have made the most progress towards equity and sustainability (56). However, there is recognition that actors in institutions outside of national government must also take responsibility to ensure improved coordination and collaboration across the many disparate entities involved in urban transport. Most importantly, communities must be involved to ensure that context-sensitive solutions are developed that address the real needs of the people walking, and ultimately governments held to account so that they deliver a quality experience as a priority, that makes walking an aspirational transport mode.

6.1 Interpretation of findings

Based on current policy planning and what is implemented on the ground in Africa, it is clear that walking is not prioritised in decision making; a narrative that is frequently observed in the limited existing literature. However, looking deeper into the values, logic and decision-making practices that currently shape walking policy and practice, the present study has found that there appears to be growing awareness of the value of walking in Africa.

There are actions and interventions being implemented to support walking that stem from policies in Africa. However, this study suggests that the development and implementation of policies have largely not yet led to substantive changes in on-the-ground implementation, and there is little record of impact from the measures.

The findings indicate that a healthy, safe, equitable and sustainable future for urban Africa can potentially be delivered within existing resources: broadly speaking, the requisite staff, funding, and space already exist, but it is just not equitably allocated. Therefore, solutions that enable the mobilisation of such resources more efficiently and equitably through the exchange of data, methodologies, training, knowledge and best practice, will provide the most effective approach going forward. For example, there are stakeholders within governments and other organisations who are increasingly primed to provide for better walking experiences but lack the knowledge and skills to collaborate between institutions and sectors is limiting the development of appropriate solutions for walking. This indicates that skills development and technical training of staff locally to plan, deliver, and evaluate interventions in line with locally relevant challenges would provide an effective solution moving forward. Similarly, there are substantial funding imbalances between investment for motorised transport compared to walking infrastructure and services, which indicates that solutions should be



viewed as reprioritisation of budgets and funding allocation. Hence, reframing solutions to address the urban challenges in Africa as the mobilisation of existing resources that are currently inequitably allocated, rather than as a complete overhaul of the system, may be the most optimal approach to facilitate the rapid deployment of suitable solutions.

6.2 Implications for policy and practice

Although the findings cannot be generalised across the whole of Africa, these findings have several important implications for policy and practice moving forward. First, stakeholders recognise that the direct participation of low-income citizens and citizen groups in policy and practice is critical to unstick the paralysis of walking as a transport mode which is undervalued by transport decision makers. The arguments for citizen engagement in urban governance (i.e. inclusive governance) are widely known (57,58). New relationships are required to ensure that citizens are actively involved in decision making for both quick-win improvements and longer-term transport solutions (56). This is critical to address the daily dangers and struggles that the majority of low-income African dwellers have to put up with when walking is not forgotten in the decision-making process, as is often the case with car-captive political decision-makers who are mostly detached from the reality of walking. Mechanisms to facilitate these relationships between governments and low-income communities will require new types of training for those working in governments, as well as new modes of governance to empower communities to have more influence over the environments they walk, such as through tools for communities to share their dissatisfaction with the existing walking environment, which could also provide an impact feedback loop post works. More recently, there are instances of this beginning to change (See Figure 4, below). The before and after images of the new footpath, created by LAMATA in response to a community engagement exercise by Lagos State University to identify gaps in the level of service being provided for people walking.

Figure 4: Footpath BEFORE upgrade by LAMATA





Figure 5: Footpath AFTER upgrade by LAMATA



Lessons can also be taken from other fields and other locations to explore context-relevant examples of how local governments can effectively engage with local citizens to collaborate to shift towards more equitable and sustainable planning and practices, such as climate adaptation planning and implementation (59) – but guarding against an uncritical adoption of ‘best practice’ (51).

The environmental justice framework provides a conceptual framework that is relevant in this context, in that community groups bearing the load of environmental and health burden should be actively involved in the design, analysis and implementation of solutions to reduce such inequalities (60).

A redefined framework of success would help transform the way that walking is valued in Africa. Hence, there is an urgent need to establish a framework of indicators that are relevant to the African context that determines the impact of effective policy and action in Africa. Crude measures which reduce risk and increase the number of kilometres of constructed footpaths are a good start, but there should be an increased focus on the quality of the walking experience, so that safety, accessibility and comfort levels can be integrated into understanding the walking level of service. This indicator framework should be developed locally within existing resources and with feedback from communities to ensure that the issues identified in this study around a lack of community engagement are adequately addressed.

Whilst transport funding is a complex political issue, this study highlighted that the imbalance of funding, rather than just the availability of funding, is a major constraint for African city authorities. Agreeing on a more robust Africa-relevant framework for monitoring success would help rebalance prioritisation of funding. That is, to influence governments and external agencies to commit the necessary financial and technical resources to prioritise walking, there must be measurable targets in place for specific indicators to target Sustainable Development Goals (SDGs). Such measurable targets will help to ensure that the significant investments required can be appraised to ensure they are effective in delivering value and creating change. Establishing this framework for success would enable wiser investment towards training and capacity building to develop the technical expertise and know-how to implement policies and effective solutions on walking.

6.3 Implications for research

It is no secret that data for walking, and mobility in general, is a major issue in many African countries (48), and this study corroborated this lack of data; only a third of survey participants reported that any organisation or relevant authority is collecting data on walking in their region. As a result, there is a lack of information and data on the inadequacy of existing walking conditions (baseline), which means that there are very few



examples of intervention success (9). This data drought leads to even more decision-making bias that overlooks walking compared to the comparative abundance of data on motorised transport. To steer transport planning investments to provide for walking, it is now crucial to identify practical and affordable data collection methods to provide baseline measures of walking distances and time spent walking, trip purposes, experiences and user needs across all African countries, rather than collecting information solely on mode share (which rarely captures walking transport trips). Improving data monitoring and evaluation will facilitate a locally relevant approach that responds to the diversity of challenges within and between Africa countries. This is likely to be an area that will require the support of external organisations to help build up internal capacity and expertise, to establish data monitoring systems that are sustainable in the long-term. For example, the establishment of an African observatory for walking may provide an innovative solution to collect high quality and complete data to enable more effective and efficient investments, particularly in the poorest areas (61).

High levels of walking in Africa are driven predominantly by poverty. Therefore, future research must strive to understand what is going on in the poorest areas of countries in Africa. With 59% of the whole African region living in under-served informal settlements (62), it is likely that many of these people will never be able to afford not to walk. Yet these low-income areas are rarely even mapped or analysed. Future research and conversations must aim to reflect the daily reality of people living in these areas which often lack basic transport infrastructure and services. For example, stakeholders in this study often talked about space allocation and issues associated with vendor encroachment, which are relevant to city centres. However, in informal settlements, particularly in the poorest countries like Central African Republic and Sudan where over 90% of the urban population live in slum households (62), it is important to understand the contextually specific solutions required to address more urgent issues for informal settlements that may differ to major cities. This issue highlights the importance of obtaining baseline understanding across all African countries to ensure responses are tailored to local realities.

Similarly, Africa is not a homogeneous entity; there are 54 countries spread out across five sub-regions, all characterised by a diverse range of economic, political, environmental and cultural contexts. It is therefore likely that countries outside of Africa may experience similar challenges to countries within Africa that allow knowledge exchange and recipes of good practice that can potentially be replicated in African cities. For example, countries around the Equator such as Ecuador and Indonesia may offer potential solutions to equatorial African countries like Kenya and Uganda with similar climates. Different actions will suit different cities depending on the nature and scale of the issues being faced.



7. Conclusion

As one of the key informants interviewed in this research put it: the amount of walking in Africa is an asset but it needs to be embraced and curated into a mobility vision that is inspired, owned, and delivered by those who will benefit from it.

This study found that there is growing recognition amongst African stakeholders of the contributions that walking can have on delivering a healthy, safe, equitable and sustainable future. Actionable solutions to provide for walking in Africa can potentially be delivered quickly within existing means, through the equitable reallocation of space, funding, and expertise. A redefined framework of success that provides African-specific indicators to plan, implement and monitor investments in policies and practices is now needed to provide for walking. Actions to ensure walking can be made safer quickly must be achieved through inclusive governance to involve communities in transport policy decision making.



8. References

1. UN Environment. Walking and Cycling Global Outlook Report: African Edition.
2. <https://www.irap.org/3-star-or-better/>.
3. Porter, G; Abane, A; Lucas K. User diversity and mobility practices in Sub-Saharan African cities: understanding the needs of vulnerable populations. 2020.
4. Tiwari, G; Khayesi, M; Mitullah, W; Kobusingye, O; Mohan, D; Zuidgeest M. Road traffic injury and transport-related air quality in Sub-Saharan Africa: the extent of the challenge. 2020.
5. Behrens, R, Muchaka, P, Salazar Ferro, P, Schalekamp, H and Zuidgeest M. Mobility and access in Sub-Saharan African cities : The state of knowledge and research environments. 2015;(May).
6. Jennings G, Behrens R, Venter C, Zuidgeest M. South Africa Scoping Study Report: transport and social exclusion in African cities. 2018.
7. Figueroa MJ, Fulton L, Tiwari G. Avoiding, transforming, transitioning: Pathways to sustainable low carbon passenger transport in developing countries. *Curr Opin Environ Sustain* [Internet]. 2013;5(2):184–90. Available from: <http://dx.doi.org/10.1016/j.cosust.2013.02.006>
8. Vanderschuren M, Jennings G, Khayesi M, Mitullah W V. Challenges and opportunities for non-motorized transport in urban Africa. In: Mitullah W V., Vanderschuren M, Khayesi M, editors. *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. 1st ed. New York: Routledge; 2017. p. 1–10.
9. UN Environment. Global Outlook on Walking and Cycling 2016 [Internet]. Nairobi; 2016. Available from: <http://www.unep.org/Transport/SharetheRoad>
10. Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Adm Policy Ment Heal Ment Heal Serv Res*. 2015 Sep 22;42(5):533–44.
11. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101.
12. Patton MQ. *Qualitative Evaluation and Research Methods*. 2nd ed. CA, USA: SAGE Publications; 1990.
13. Khayesi M, Litman T, Vasconcellos E, Mitullah W V. Grounding urban walking and cycling research in a political economy framework. In: Mitullah W V, Vanderschuren M, Khayesi M, editors. *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. 1st ed. New York: Routledge; 2017. p. 224–35.
14. SLoCaT. Transport and Climate Change Global Status Report 2018 [Internet]. 2018. Available from: http://www.slocat.net/wp-content/uploads/legacy/slocat_transport-and-climate-change-2018-web.pdf
15. Vanderschuren M, Jennings G. Non-motorized travel behaviour in Cape Town, dar es salaam and Nairobi. *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. 2017.
16. Stucki M. Policies for Sustainable Accessibility and Mobility in Urban Areas of Africa [Internet]. Washington, DC; 2015. Available from: <https://openknowledge.worldbank.org/handle/10986/24089>
17. World Health Organization. Global action plan on physical activity 2018–2030: more active people for a healthier world [Internet]. Geneva; 2018 [cited 2018 Oct 25]. Available from: <http://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf>
18. WHO. WHO Guidelines on physical activity and sedentary behaviour [Internet]. World Health Organization. 2020. 104 p. Available from: <https://apps.who.int/iris/bitstream/handle/10665/325147/WHO-NMH-PND-2019.4-eng.pdf?sequence=1&isAllowed=y%0Ahttp://www.who.int/iris/handle/10665/311664%0Ahttps://apps.who.int/iris/handle/10665/325147>



19. FIA Foundation. Fact Sheet. Non Motorised Transport (NMT) [Internet]. 2016 [cited 2020 Dec 4]. Available from: <http://www.fiafoundation.org/our-work/>
20. Transport Research Laboratory. Scoping study Urban mobility in three cities [Internet]. 2002. Available from: <https://www.ssatp.org/sites/ssatp/files/publications/SSATP-WorkingPapers/SSATPWP70.pdf>
21. Amoako C, Cobbinah PB, Niminga-Beka R. Urban Infrastructure Design and Pedestrian Safety in the Kumasi Central Business District, Ghana. *J Transp Saf Secur*. 2014 Jul 3;6(3):235–56.
22. Amoako-Sakyi RO, Owusu SA, Porter R, Lucas K, Tsoneva E. Meeting the Transport and Accessibility Needs of Low Income Communities in Global South Cities: Cape Coast, Ghana [Internet]. 2019. Available from: <https://intalinc.leeds.ac.uk/wp-content/uploads/sites/28/2019/02/UGANDA-policy-brief-FINAL.pdf>
23. Mitullah W V, Opiyo R. Non-motorized transport infrastructure provision on selected roads in Nairobi. In: Mitullah W V, Vanderschuren M, Khayesi M, editors. *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. 1st ed. New York: Routledge; 2017. p. 90–111.
24. UN Habitat. Slum Almanac 2015/2016: Tracking Improvement in the Lives of Slum Dwellers [Internet]. Nairobi; 2016. Available from: <https://unhabitat.org/slum-almanac-2015-2016>
25. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Glob Heal*. 2018 Oct 1;6(10):e1077–86.
26. Behrens, R; Makajuma G. Pedestrian crossing behaviour in Cape Town and Nairobi. In: *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. Taylor & Francis; 2017.
27. Dada, M; Zuidgeest, M; Hess S. Modelling pedestrian crossing choice on Cape Town's freeways: Caught between a rock and a hard place? *Transp Res Part F Traffic Psychol Behav*.
28. Mitullah W V, Opiyo R. Institutional framework for walking and cycling provision in Cape Town, Dar es Salaam and Nairobi. In: Mitullah W V, Vanderschuren M, Khayesi M, editors. *Non-Motorized Transport Integration into Urban Transport Planning in Africa*2. 1st ed. New York: Routledge; 2017. p. 189–205.
29. Sietchiping R, Permezel MJ, Ngoms C. Transport and mobility in sub-Saharan African cities: An overview of practices, lessons and options for improvements. *Cities*. 2012 Jun 1;29(3):183–9.
30. Pieterse E, Parnell S. *Africa's Urban Revolution*. London: Zed Books; 2014.
31. Chai B, Seto KC. Conceptualizing and characterizing micro-urbanization: A new perspective applied to Africa. *Landsc Urban Plan*. 2019;190:103595.
32. Doan P, Oduro CY. Patterns of Population Growth in Peri-Urban Accra, Ghana. *Int J Urban Reg Res*. 2012 Nov 1;36(6):1306–25.
33. Wang YP, Kintrea K. Sustainable, Healthy and Learning Cities and Neighbourhoods. *Environ Urban ASIA*. 2019 Sep 1;10(2):146–50.
34. Vanderschuren, M; Zuidgeest M. Road safety and non-motorised transport in African cities. In: *Non-Motorized Transport Integration into Urban Transport Planning in Africa*. Taylor & Francis; 2017.
35. Bank W. *Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Countries Country Profiles*. 2019.
36. Kampa M, Castanas E. Human health effects of air pollution. *Environ Pollut*. 2008;151(2):362–7.
37. World Health Organization. *Global Report on Urban Health: equitable, healthier cities for sustainable development* [Internet]. Geneva; 2016. Available from: <https://apps.who.int/iris/handle/10665/204715>
38. World Health Organization. *Burden of Disease from Ambient Air Pollution for 2012* [Internet]. Geneva; 2014. Available from: https://www.who.int/phe/health_topics/outdoorair/databases/AAP_BoD_results_March2014.pdf



39. Naidja L, Ali-Khodja H, Khardi S. Particulate matter from road traffic in Africa. *J Earth Sci Geotech Eng*. 2017;7(1):289–304.
40. UNEP. *Used Vehicles and The Environment. A Global Overview of Used Light Duty Vehicles: Flow, Scale and Regulation* [Internet]. Nairobi; 2020. Available from: <https://wedocs.unep.org/xmlui/handle/20.500.11822/34175>
41. Mbewu A, Mbanya J-C. Cardiovascular Disease. In: Jamison D, Feachem R, Makgoba M et al, editors. *Disease and Mortality in Sub-Saharan Africa*. 2nd ed. Washington, DC: The World Bank; 2006.
42. Parkin DM, Sitas F, Chirenje M, Stein L, Abratt R, Wabinga H. Part I: Cancer in Indigenous Africans—burden, distribution, and trends. *Lancet Oncol*. 2008;9(7):683–92.
43. Dalal S, Beunza JJ, Volmink J, Adebamowo C, Bajunirwe F, Njelekela M, et al. Non-communicable diseases in sub-Saharan Africa: what we know now. *Int J Epidemiol*. 2011 Aug 1;40(4):885–901.
44. World Health Organization. *A Global Brief on Hypertension* [Internet]. Geneva; 2013. Available from: https://apps.who.int/iris/bitstream/handle/10665/79059/WHO_DCO_WHD_2013.2_eng.pdf?sequence=1
45. Frank LD, Saelens BE, Powell KE, Chapman JE. Stepping towards causation: Do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity? *Soc Sci Med*. 2007;65(9):1898–914.
46. Kuylenstierna JCI, Heaps CG, Ahmed T, Vallack HW, Hicks WK, Ashmore MR, et al. Development of the Low Emissions Analysis Platform – Integrated Benefits Calculator (LEAP-IBC) tool to assess air quality and climate co-benefits: Application for Bangladesh. *Environ Int*. 2020;145:106155.
47. Vardoulakis S, Kinney P. Grand Challenges in Sustainable Cities and Health. *Front Sustain Cities*. 2019;1:7.
48. Bruun E, Del Mistro R, Venter T, Mfinanga D. The state of public transport systems in three Sub-Saharan African cities. In: *Paratransit in African Cities*. 1st ed. London, UK: Routledge; 2015.
49. Jennings, G; Behrens, R; Venter, C; Zuidgeest M. *Scoping Study: Transport and Social Exclusion in African Cities*. 2018.
50. Loo BPY, Siiba A. Active transport in Africa and beyond: towards a strategic framework. *Transp Rev*. 2019;39(2):181–203.
51. Jennings G. An exploration of policy knowledge-seeking on high-volume, low-carbon transport: findings from expert interviews in selected African and South-Asian countries. *Transp Res Interdiscip Perspect*. 2020 May 1;5:100117.
52. Bassett, D; Pucher, J, Buehler, R; Thompson, D; Crouter S. Walking, Cycling, and Obesity Rates in Europe, North America, and Australia. *J Phys Act Heal*. 2008;5(6):795–814.
53. Jennings, G; Jobanputra, R; Cap, C; Ankunda, G; Mugume S. *Learning from COVID-19 pop-up bicycle infrastructure: an investigation into flexible and user-led bicycle planning in Cape Town, Nairobi, and Kampala*. 2021.
54. Ancaes PR, Nascimento J, Silva S. The distribution of walkability in an African city: Praia, Cabo Verde. *Cities*. 2017 Jul 1;67:9–20.
55. <https://intalinc.leeds.ac.uk/steps-2/>.
56. Venter C, Mahendra A, Hidalgo D. *From Mobility to Access for All: Expanding Urban Transportation Choices in the Global South* [Internet]. 2019 [cited 2020 Aug 25]. Available from: <https://files.wri.org/s3fs-public/from-mobility-to-access-for-all.pdf>
57. Sagaris L. Strategic participation for change. In: Munoz JC, Paget-Seekins L, editors. *Restructuring Public Transport through Bus Rapid Transit: An International and Interdisciplinary Perspective*. Bristol, UK: Policy Press; 2016. p. 101–26.



58. Wolfram M. Conceptualizing urban transformative capacity: A framework for research and policy. *Cities*. 2016;51:121–30.
59. Ziervogel G. Building transformative capacity for adaptation planning and implementation that works for the urban poor: Insights from South Africa. *Ambio*. 2019;48(5):494–506.
60. Corburn J. Confronting the Challenges in Reconnecting Urban Planning and Public Health. *Am J Public Health*. 2004 Apr 1;94(4):541–6.
61. Røttingen J-A, Regmi S, Eide M, Young AJ, Viergever RF, Årdal C, et al. Mapping of available health research and development data: what's there, what's missing, and what role is there for a global observatory? *Lancet*. 2013;382(9900):1286–307.
62. UN Habitat. *Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements 2013*. Oxford: Routledge; 2013.



APPENDIX A: WALKING AND CYCLING AFRICA SURVEY

Introduction

ID: 141



ID: 3

Thank you for taking the time to fill in this survey about walking and cycling in Africa. The aim of the survey is to identify: which policies are most effective at supporting walking and cycling in Africa; the projects that are improving conditions on the street that could be an inspiration to others; and the opportunities to enable agencies to make walking and cycling safer and more comfortable for everyone.

Your views will help us to target support for city and national authorities across Africa and to understand how we can more effectively value and embed walking and cycling into policy and commitment at both local and national levels.

The results of the survey will inform best practice guides, a policy booklet and a baseline measure of walking and cycling across the continent. This work is being developed in partnership with UN Environment, UN Habitat, Walk21 Foundation and FCDO-HVT program.

Answering this survey will take about 8-10 minutes.

We will not attribute any of your comments by name. We will not link your responses directly to your organisation. Where the data informs the baseline or provides us with an example we would like to document for good practice, we will be in touch directly to discuss this.

If you are working in multiple jurisdictions, please complete a survey for each place you are working - e.g. if you have projects in two cities, please complete the survey for each city.

About You

Page exit logic: Skip / Disqualify LogicIF: #6 Question "What mode would you like to focus on in your answers?" is one of the following answers ("Cycling") THEN: Jump to [page 4 - Current cycling and cycling environment](#)

ID: 5

1) Contact details

ID: 6

What is your full name?: _____



ID: 16

Email Address: _____

ID: 9

What is the name of the organization/authority for which you work (if applicable)?:

ID: 84

2) What type of entity do you work for (as an employee or consultant)? If you work for multiple entities, please select all that apply*

National government

Provincial/regional government

City government

Inter-governmental Agency

International NGO or agency

Local NGO

University/academia/research

Development bank or financial institution

The private sector

Self-employed

Other _____

ID: 22

3) In what field/area do you work? If you work in multiple fields/areas, please select all that apply.

Transport

Land use planning

Sustainability

Environment

Health

Infrastructure

Other – please specify: _____

ID: 26

4) Please tell us which country you work in?*

Algeria

Angola

Benin

Botswana

Burkina Faso

Burundi

Cameroon

Cabo Verde



- Central African Republic
- Chad
- Comoros
- Côte d'Ivoire
- Democratic Republic of the Congo
- Djibouti
- Egypt
- Equatorial Guinea
- Eritrea
- Ethiopia
- Eswatini (formerly Swaziland)
- Gabon
- Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Kenya
- Lesotho
- Liberia
- Libya
- Madagascar
- Malawi
- Mali
- Mauritania
- Morocco
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Sao Tome and Principe
- Senegal
- Seychelles
- Sierra Leone
- Somalia
- South Africa
- South Sudan



- Sudan
- Tanzania
- Togo
- Tunisia
- Uganda
- Zambia
- Zimbabwe

ID: 27

5) Are you responding with information about a country (national level) or a city (local level)?

- National – please specify which country: _____
- Local – please specify which city: _____

ID: 28

6) What mode would you like to focus on in your answers?*

- Walking
 - Cycling
 - Walking and Cycling
-

Page entry logic: This page will show when: #6 Question "What mode would you like to focus on in your answers? " is one of the following answers ("Walking", "Walking and Cycling")

Current walking and the walking environment

In this section, you will be asked questions about current levels of walking and the walking environment in your community/city/country.

ID: 85

7) What are the three most important reasons people walk in your community/city/country?

Rank these three reasons in order of importance, with 1 being most important.

- _____ Distances are near
- _____ Weather is good for walking
- _____ There is a culture of walking (i.e. it's what everyone does)
- _____ It doesn't cost any money
- _____ Lack of alternatives
- _____ To benefit their health
- _____ It is easy and safe
- _____ Don't know
- _____ Other – please specify
- _____ Don't know

Comments:

ID: 86

8) What are the three most important reasons people choose NOT to walk in your community/city/country?

Please rank these three reasons in order of importance, with 1 being most important

- _____ No footpaths or safe crossing points



- Feel unsafe from traffic
- Feel unsafe from crime
- Personal security (e.g. risk of sexual harassment)
- Distances are too far
- Weather not conducive to walking (e.g. too hot/humid/windy)
- Worried what other people will think (i.e. cultural stigma)
- Can afford to catch a bus/taxi
- Don't know
- Other - please specify
- Don't know

Comments:

ID: 36

9) What are the three most important measures to meet the needs of people who walk? Please rank these three measures in order of importance, with 1 being most important.

- Wider sidewalks and footways
- More safe, clear space in which to walk (no clutter, parked cars)
- Better sidewalk/footway condition
- Continuity of infrastructure throughout the area
- Safer road crossings
- Reduced traffic volumes
- Reduced traffic speeds
- Ramps that make it easier to walk steep sections
- Shelter from weather (e.g. planting trees to protect from rain/sun/wind/humidity)
- Lighting
- Safety from crime (e.g. patrolled walking corridors)
- Don't know

Comments:

Logic: Show/hide trigger exists.

ID: 30

10) Does any organisation or relevant authority collect data on walking in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc.

- Yes
- No
- Not sure

Logic: Hidden unless: #10 Question "Does any organisation or relevant authority collect data on walking in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc. "is one of the following answers ("Yes")

ID: 31



11) What data is available? *(Please tick all that apply)*

- Walking mode share
- Purpose and destinations of walking trips
- Distance walked
- Walking infrastructure (e.g. km of sidewalks, number of crossings)
- What people think about walking
- Road safety statistics
- Local project data, e.g. audits, counts
- Other – please specify: _____

Logic: Hidden unless: #10 Question "Does any organisation or relevant authority collect data on walking in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc. " is one of the following answers ("No")

ID: 33

12) Do you know why not? _____

Logic: Show/hide trigger exists.

ID: 37

13) Does your community/city/country involve any of the following stakeholders when developing policies/strategies, projects or other interventions to support walking?

- None
- Local or municipal authorities
- Local Businesses
- Schools
- Police
- Public Transport operators
- Land Developers
- Development partners (e.g. international organisations/experts)
- Vulnerable user groups (i.e. women, older people, children etc.)
- Other - please specify: _____
- Don't know

Logic: Hidden unless: #13 Question "Does your community/city/country involve any of the following stakeholders when developing policies/strategies, projects or other interventions to support walking?" is one of the following answers ("Vulnerable user groups (i.e. women, older people, children etc.)")

ID: 38

14) Which user groups do you involve?

- Women
- Men
- People who care for babies and young children
- People who care for the elderly or people with a disability
- Children and teenagers



People living in low-income communities

Older people

People with disabilities

Refugees

ID: 39

15) What are the current walking policies and actions to support the needs of people who walk in your community/city/country? (These policies are usually part of NMT, or Non-Motorised Transport, policies). *(Please tick all that apply)*

I'm not aware of any policies and actions

There are official policies or strategies in place

There are unofficial policies or strategies in place

A current or previous member of government has made a commitment to improve the walking environment (e.g. signed a pledge)

Approved/official design guidance exists, to ensure the needs of people who walk are met

Design guidance is applied consistently

An action plan (or similar document) exists, with dedicated funding and commitments to support the needs of people walking

Other - please specify: _____

Don't know

ID: 94

16) Who is responsible for implementing walking infrastructure in your community/city/country? *(Please tick all that apply)*

National government (If yes – please specify which departments):

City government (If yes – please specify which departments):

Regional / provincial government

Development bank / financial institution / external funder

Construction / engineering

Private sector organisations (If yes - please specify which organisations)

Other - please specify: _____

Don't know

Page entry logic: This page will show when: #6 Question "What mode would you like to focus on in your answers?" is one of the following answers ("Cycling", "Walking and Cycling")

Current cycling and cycling environment

In this section, you will be asked questions about current levels of cycling and the cycling environment in your community/city/country.

ID: 87



17) What are the three most important reasons people cycle in your community/city/country? Please rank these three reasons in order of importance, with 1 being most important.

- _____ Distances are near
- _____ Weather is good for cycling
- _____ There is a culture of cycling (i.e. it's what a lot of people choose)
- _____ It doesn't cost any money
- _____ Lack of alternatives
- _____ To benefit their health
- _____ It is easy and safe
- _____ Good cycling infrastructure
- _____ Don't know
- _____ Other – please specify
- _____ Don't know

Comments:

ID: 88

18) What are the three most important reasons people choose NOT to cycle in your community/city/country? Please rank these three reasons in order of importance, with 1 being most important.

- _____ No footpaths or safe crossing points
- _____ Feel unsafe from traffic
- _____ Feel unsafe from crime
- _____ Cannot afford a bicycle
- _____ Lack of cycling infrastructure
- _____ Lack of safe cycle parking
- _____ Distances are too far
- _____ The area has too many hills or is difficult to navigate
- _____ Worried what other people will think (i.e. cultural stigma)
- _____ Weather not conducive to walking (e.g. too hot/humid/windy)
- _____ Cultural norms (e.g. gender norms)
- _____ Can afford to catch a bus/taxi
- _____ Other - please specify
- _____ Don't know

Comments:

ID: 46

19) What are the three most important measures to meet the needs of people who cycle? Please rank these three measures in order of importance, with 1 being most important.

- _____ Protected bicycle lanes (i.e. separate from traffic)
- _____ More safe, clear space in which to cycle (no clutter, parked cars)
- _____ A well-connected bicycle network



- Safer road crossings
- Reduced traffic volumes
- Reduced traffic speeds
- Ramps that make it easier to walk steep sections
- Shelter from weather (e.g. planting trees to protect from rain/sun/wind/humidity)
- Lighting
- Secure bike parking
- Don't know

Comments:

Logic: Show/hide trigger exists.

ID: 41

20) Does any organisation or relevant authority collect data on cycling in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc.

- Yes
- No
- Not sure

Logic: Hidden unless: #20 Question "Does any organisation or relevant authority collect data on cycling in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc." is one of the following answers ("Yes")

ID: 42

21) What data is available?

- Cycling mode share
- Purpose and destinations of cycling trips
- Distance cycled
- Cycling infrastructure (e.g. km of bicycle lanes)
- What people think about cycling
- Road safety statistics
- Local project data, e.g. counts or audits
- Other – please specify: _____

Logic: Hidden unless: #20 Question "Does any organisation or relevant authority collect data on cycling in your city/country? This can include non-official data collection produced by non-public sources e.g. private sector, NGOs, academic research etc." is one of the following answers ("No")

ID: 43

22) Do you know why not?

Logic: Show/hide trigger exists.

ID: 47

23) Does your community/city/country involve any of the following stakeholders when developing policies/strategies, projects or other interventions to support cycling?



- None
- Local or municipal authorities
- Local Businesses
- Schools
- Police
- Public Transport operators
- Land Developers
- Development partners (e.g. international organisations/experts)
- Vulnerable user groups (i.e. women, older people, children etc.)
- Other: _____
- Don't know

Logic: Hidden unless: #23 Question "Does your community/city/country involve any of the following stakeholders when developing policies/strategies, projects or other interventions to support cycling?" is one of the following answers ("Vulnerable user groups (i.e. women, older people, children etc.)")

ID: 48

24) Which user groups do you involve?

- Women
- Men
- People who care for babies and young children
- People who care for the elderly or people with a disability
- Children and teenagers
- People living in low-income communities
- Older people
- People with disabilities
- Refugees

ID: 49

25) What are the current cycling policies and actions to support the needs of people who cycle in your community/city/country? (These policies are usually part of NMT, or Non-Motorised Transport, policies).
(Please tick all that apply)

- There are official policies or strategies in place
- There are unofficial strategies in place
- A current or previous member of government has made a commitment to improve the cycling environment (e.g. signed a pledge)
- Approved/official design guidance exists, to ensure the needs of people who cycle are met
- Design guidance is applied consistently
- An action plan (or similar document) exists, with dedicated funding and commitments to support the needs of people cycling
- Other - please specify: _____



ID: 80

26) Who is responsible for implementing cycling infrastructure in your community/city/country? *(Please tick all that apply)*

National government (If yes – please specify which departments):

City government (If yes – please specify which departments):

Regional / provincial government

Development bank / financial institution / external funder

Construction / engineering

Private sector organisations (If yes - please specify which organisations)

Other - please specify: _____

Don't know

Improving commitment and delivery for walking and cycling

In this section, you will be asked for your views (personal opinions) about how walking and cycling could be better supported and encouraged. Please think about your experience and ideas.

Logic: Show/hide trigger exists.

ID: 53

27) To what extent do you think more commitment by decision-makers would help support people who walk or cycle in your community/city/country? *(By 'commitment', we mean that decision-makers actively advocate and/or seek funds for walking or cycling)*

Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #27 Question "To what extent do you think more commitment by decision-makers would help support people who walk or cycle in your community/city/country? *(By 'commitment', we mean that decision-makers actively advocate and/or seek funds for walking or cycling)*" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 89

28) Who are the decision makers from which more commitment is required? Select no more than 3 options

National government

Local politicians

Transport directors

Transport engineers/ planners

Public health professionals

Private sector (please specify which types of organisations):

Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 54



29) To what extent do you think a new strategy would help support people who walk or cycle in your community/city/country? (By 'strategy', we mean any official documented commitment to support walking or cycling, such as policies, action plans, charters, etc)

Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #29 Question "To what extent do you think a **new strategy** would help support people who walk or cycle in your community/city/country? (By 'strategy', we mean any official documented commitment to support walking or cycling, such as policies, action plans, charters, etc)" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 90

30) What do you think are the most effective ways to develop a new strategy to support walking or cycling in your community/city/country? Select no more than 3 options.

- Bring together existing government expertise and resources to develop a local strategy
- Bring together existing non-government expertise and resources to develop a local strategy
- Receive a template for a walking strategy that could be adapted locally by the relevant authority
- External additional support from a local or international NGO to help develop a local strategy
- External additional support from a consultant to help develop a local strategy
- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 55

31) To what extent do you think collecting more data about who is walking or cycling, and what they need, would help support people who walk or cycle in your community/city/country?

Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #31 Question "To what extent do you think collecting more data about who is walking or cycling, and what they need, would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 66

32) What do you think are the best ways to collect more data about people who walk or cycle, and their specific needs, in your community/city/country? Select no more than 3 options

- Access to affordable tools to crowd source data about what people need
- Training to increase capacity to collect data
- More funding to support data collection
- More sharing of existing data between organisations (If yes, please state who):

Agreement with mobile phone companies for big data

Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 57

33) To what extent do you think better indicators for measuring the impact of investment in walking or cycling would help support people who walk or cycle in your community/city/country?

Definitely Not Probably Not Unsure Probably Yes Definitely Yes



Logic: Hidden unless: #33 Question "To what extent do you think better indicators for measuring the impact of investment in walking or cycling would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 67

34) What do you think is the best way to develop indicators for measuring the impact of investments in walking or cycling in your community/city/country? *(These investments could include investment in infrastructure, behaviour programmes, or other initiatives)*

- Use an existing set of international indicators
- Adapt an existing set of international indicators to make them specific to Africa
- Develop new indicators that are specific to your community/city/country
- Other - please specify

Logic: Show/hide trigger exists.

ID: 58

35) To what extent do you think more involvement by communities in sharing what they need and how to improve their walking or cycling experiences would help support people who walk or cycle in your community/city/country?

- Definitely Not
- Probably Not
- Unsure
- Probably Yes
- Definitely Yes

Logic: Hidden unless: #35 Question "To what extent do you think more involvement by communities in sharing what they need and how to improve their walking or cycling experiences would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 68

36) What would be the best way to help enable communities to share what they need, in your community/city/country?

- Access to affordable tools to let people share where they have concerns
- Training for existing community groups so they are able to advocate for walking and cycling
- Support to establish new walking or cycling advocacy groups
- Fund communities so they can make small local improvements
- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 59

37) To what extent do you think more evaluation of the walking or cycling environment would help support people who walk or cycle in your community/city/country? *(By 'evaluation', we mean an assessment of the walking or cycling environment, such as using audit tools that assess characteristics of the walking or cycling environment)*

- Definitely Not
- Probably Not
- Unsure
- Probably Yes
- Definitely Yes

Logic: Hidden unless: #37 Question "To what extent do you think more evaluation of the walking or cycling environment would help support people who walk or cycle in your community/city/country? *(By 'evaluation', we mean an assessment of the walking or cycling environment, such as using audit tools that assess characteristics of the walking or cycling environment)*" is one of the following answers ("Probably Yes", "Definitely Yes")



ID: 69

38) What do you think are the best ways to evaluate the walking or cycling environment in your community/city/country? Select no more than 3 options. (By 'evaluate', we mean to assess the walking or cycling environment, such as using audit tools that assess characteristics of the walking or cycling environment e.g. presence and continuity of sidewalks)

- Access to existing affordable tools to audit the walking and cycling environment
- Adapt existing environment audit tools to make them specific to Africa
- Develop new environment audit tools that are relevant to your own community/city/country
- Training in how to use audit tools
- Unlock data from digital technology sources like mobile phone GPS tracks
- Walking or cycling audits connected to public transport interchanges
- Walking or cycling audits when planning new roads
- Walking or cycling audits when someone has been injured or killed
- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 60

39) To what extent do you think having multi-disciplinary teams to work collaboratively on walking and cycling issues would help support people who walk or cycle in your community/city/country?

- Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #39 Question "To what extent do you think having multi-disciplinary teams to work collaboratively on walking and cycling issues would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 91

40) How do you believe multi-disciplinary teams could best work collaboratively on walking issues in your community/city/country?

- Training expertise to integrate walking and cycling into different disciplines (e.g. transport, road safety, health, planning, sport and recreation)
- Facilitation via an NGO to bring relevant people together
- The development of a network of African practitioners to support cities/governments/agencies with similar challenges
- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 61

41) To what extent do you think new demonstration projects that benefit people who walk and cycle would help support people who walk or cycle in your community/city/country? (By 'demonstration project', we mean any pilot, project, or other investment that has had a positive impact on walking.)

- Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #41 Question "To what extent do you think new demonstration projects that benefit people who walk and cycle would help support people who walk or cycle in your community/city/country? (By



'demonstration project', we mean any pilot, project, or other investment that has had a positive impact on walking.)" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 71

42) What do you think are the most effective ways to plan and implement demonstration projects for walking and cycling that are relevant to your community/city/country? Select no more than 3 options.

- Access to more international case studies where walking and cycling conditions have been improved
- Access to more case studies in Africa, where walking and cycling conditions have been improved
- The development of a network of African practitioners to support cities/governments/agencies with similar challenges
- Design guidance and design standards for walking and cycling infrastructure
- More robust monitoring and evidence of the impacts (whether positive or less so) of previous investments in walking and cycling
- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 62

43) To what extent do you think more finance or funding for investing in walking or cycling infrastructure would help support people who walk or cycle in your community/city/country?

- Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #43 Question "To what extent do you think more finance or funding for investing in walking or cycling infrastructure would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")

ID: 92

44) What do you think are the most effective ways to obtain financing to invest in walking and cycling infrastructure in your community/city/country? Select no more than 3 options

- Reallocation of existing transport budgets
- Allocate new funding to walking from non-transport budgets (if yes, please specify from which budgets):

- External funding for specific projects (If yes, please state from whom):

- Lobbying of the national government for more funds (If yes, please state lobbying from whom):

- Other - please specify: _____

Logic: Show/hide trigger exists.

ID: 63

45) To what extent do you think more promotion of walking and cycling as a sustainable way to travel would help support people who walk or cycle in your community/city/country?

- Definitely Not Probably Not Unsure Probably Yes Definitely Yes

Logic: Hidden unless: #45 Question "To what extent do you think more promotion of walking and cycling as a sustainable way to travel would help support people who walk or cycle in your community/city/country?" is one of the following answers ("Probably Yes", "Definitely Yes")



ID: 93

46) What do you think is the most effective message to promote walking and cycling?

- It is good for your health and well-being
- It is good for the economy
- It is a reliable way to travel to places on time
- It will help with addressing climate change
- Other - please specify: _____

ID: 112

47) To what extent do you think creating resilient infrastructure for climate change related weather events would help support people who walk or cycle in your community/city/country?

- Definitely Not
- Probably Not
- Unsure
- Probably Yes
- Definitely Yes

Examples of good practice

ID: 83

48) We are producing a good practice guide for Africa and would like to feature a range of interesting examples from across the continent. Do you have any examples of good practice that we could feature to inspire others? *Please tick all that apply*

- Commitment by decision-makers to support walking or cycling
- A new strategy to support the needs of people who walk or cycle
- Collection of data about walking or cycling
- Indicators for measuring the impact of investments in walking or cycling
- Involvement by communities in sharing what they need and how to improve their walking or cycling experiences
- Auditing of the walking or cycling environment
- Multi-disciplinary working collaboratively on walking or cycling issues
- Demonstration projects
- Financing or funding for investments in walking or cycling infrastructure
- Promotion of walking or cycling
- Attractive, resilient infrastructure
- Other - please specify: _____
- I'm not aware of any examples

Comments:

Final Questions

There are now just 2 questions left to answer.

ID: 74

49) What are the top three sustainability priorities in the organization /authority in which you work? Select the 3 most important priorities and rank these in order of importance, with 1 being most important.

_____ Improve health and well-being



- _____ Reduce road fatalities
- _____ Improve air quality
- _____ Provide housing and sanitation
- _____ Improve access to renewable energy
- _____ Redress inequalities
- _____ Reduce poverty
- _____ Mitigate climate change (e.g. lower carbon emissions)
- _____ Support local economic growth (e.g. for local shops and traders)
- _____ Build resilient infrastructure
- _____ Don't know

Comments:

ID: 96

50) What share of the transport budget do you think should be allocated to each of the following transport modes? *(The total percentage % of all three transport modes should add up to 100%)*

Transport mode	Cars	Cycling
	—	—

Thank You!

ID: 1

We really appreciate your time and input to the survey. Your answers will help us build some useful resources and guidance for supporting people walking and cycling in Africa. If you have any questions or would like to share further, please be in touch with us directly at network@walk21.com.



APPENDIX B: INTERVIEW INVITATION AND GUIDELINE

Dear xx

We are conducting research regarding the way in which walking (and to a lesser extent cycling) **is prioritised and perceived as a transport mode in policy and practice, and in implementation and promotion.** Despite high levels of walking in Africa, it is rarely safe and welcoming. This project work aims to understand why.

The project team has identified you as a key informant for possible interview. To this end, project team member Gail Jennings will contact you to ask for a one-on-one interview, to be held online, over the course of the next two weeks.

We will acknowledge all contributions but will respect your wishes to be anonymous if required. Once you agree to be interviewed, we will share a confidentiality document for sign-off.

If you have any questions about the research at any time, please contact Jim Walker (jim.walker@walk21.com) or Gail Jennings (gail@gailjennings.co.za).

This work is led by Walk21 Foundation in partnership with HVT, The University of Manchester, Gail Jennings (research consultant), Ian Mills (Qhubeka), and in collaboration with UN Environment and UN Habitat.

Best wishes

Jim Walker and Gail Jennings

Valuing Walking - updated questions for interviewees

Pre-interview

Information we need to obtain before the interview (we should rather spend our interview time looking for insights rather than collecting info we could have already)

- What is the walking mode share of the city/country?
- Whether or not the City / country has a walking/NMT policy/strategy?
- Does the policy make any statements regarding the importance of walking?
- Does any other policy of the City/country make statements regarding the importance of walking?
- Broadly, how is walking portrayed in media/official speeches etc?
- How are decisions made regarding the development and implementation of walking facilities and infrastructure?
- How is the success/failure of this infrastructure monitored and measured?
- What type of data is collected regarding walking?

Interview topics and questions

Overall aim of interviews: to explore perspectives from 15 international stakeholders about how walking is prioritised and perceived as a transport mode in policy and practice, and in implementation and promotion.

We are trying to understand the contradictions and dissonances in policy and practice, and what can be done to align these.

We would adapt the questions on the go, depending on the person's expertise and experience.



Need to include:

- Name of person
- Their area of expertise
- Country
- Agree/disagree whether we can quote them

Overview

- What do you think are the most urgent actions that need to be taken to better support walking? And why?
- What are the biggest barriers to ensuring action is taken to better support walking?
- What do you think are the potential consequences of not acting now to better support walking?

Perceptions, ideology, visions

- Perceptions of walking - awareness of the benefits of walking and attitudes towards current evidence of walking benefits; perceptions of the perceptions: how do the interviewed people perceive the perception of others: population, politicians etc. (e.g. health and well-being, equity, accessibility, climate)
- Ideology - what is SAID about walking, and about pedestrians (victim blaming etc)
- Visions – where do they see the status of walking in 20 or 30 years down the footpath?
- Political will - similar to ideology, above

Policy – influence and collaboration

- What do policies say? Where do they set policy priorities? (include those that may affect walking negatively, e.g., keeping fuel prices low)
- How are policies set up – who is included in the policy-making process? What are the lobbies? What are winning arguments, political leverages? What are politicians afraid of?
- Collaboration: which sectors are working together (safety, health etc.) and which ones should?
- Budgeting - what % of what budget is set aside for walking and how are funding decisions made? *(Suggested additional question: "If you had £1m to spend on transport in your local neighbourhood and could spend it on pedestrians, cyclists, public transport or motorists, how much of it (i.e. what percentage) would you spend on each? READ OUT Pedestrians; Cyclists; Public transport; Motorists.*
- What do you think is the best way to improve walking? E.g. through national laws, city rules, enforcement, asking developers to pay for infrastructure, local business groups, promoting the health benefits etc.
- Are there sufficient personnel & knowledge resources are allocated?

Planning and infrastructure

- How are planning decisions made?
- Is the cost/benefit ratio for transport infrastructure projects currently being assessed? And if so, by what criteria? *(This general question could be specified, e.g. by asking what role do time savings, safety, or health benefits play. It could also be refined according to road user group, specifically pedestrians).*
- Safety planning and enforcement - how is walking safety enforced?
- Infrastructure implementation - what determines where infra is rolled out, and its quality?



Measuring, communication & promotion

- How should walking be measured?
- What types of data do you think are needed to influence commitment and delivery for investments in walking?
- Promotion - how is walking promoted? How should it be promoted?
- Advocacy - what do advocates say about walking?
- Has the COVID Pandemic changed anything for walking?

Overall assessment

- Where are the contradictions and dissonances, and what can be done to align these?

Walk21 Foundation

24 Moorend Road

Cheltenham

Gloucestershire

GL530HD

United Kingdom

Tel: +44 (0)7801 334 915

Email: network@walk21.org

Web: www.walk21.com