Chapter 4

What is it like to walk and cycle in Africa?

95% of roads in Africa fail to provide an acceptable level of service for pedestrians. 93% fail to provide an acceptable level for cyclists.

Walking and cycling in most African cities is not only unsafe but also incredibly uncomfortable. Pedestrians and cyclists are often forced to share space with vehicles moving at very high speeds. A lack of adequate facilities exposes people to high risk of injury or death. Investing in infrastructure that supports principles of universal design can save lives and support walking and cycling a mode of choice.

The comfort levels of walking and cycling can significantly impact people's mode choice, where they have an affordable alternative.[80] A study by Asian Development Bank suggested 81% of citizens in Asia would choose not to walk, as soon as they could afford to, unless the quality of the walking experience improved.[81] Parallel qualitative data for Africa does not yet exist but as income levels rise the impact of individuals "buying their way out of walking and cycling by purchasing a car" risks an intensification of the already strained safety levels, air quality standards and traffic flows.

Motorisation rates in the world are rapidly rising and are predicted to be significant in Africa.[82] It is fundamental that space is used to support comfortable, active and more sustainable modes of transport instead of private motorized transport.[83] Investment in safe and comfortable road infrastructure and urban design has a significant impact on social interaction within neighbourhoods, road safety and accessibility. It can encourage walking and cycling, disincentivise motorized transport and therefore slow the impact of climate change.[84]

For NMT modes to be viable and convenient, NMT users need adequate infrastructure—slow-speed shared spaces, footpaths, cycle tracks, and greenways—on which to travel.

Lagos Non-Motorised Transport Policy, 2018

© Street art of a person walking
Unsplash, Rutendo Petros

4 **Action 4:** Focus on comfortable infrastructure

The International Road Assessment Programme's (iRAP) Star Ratings provide a simple and objective measure of the level of safety provided by a road's design. iRAP has partnerships with 104 countries.[85] iRAP works in partnership with government and non-government organisations to inspect high-risk roads and develop Star Ratings and Safer Roads Investment Plans, provide training, technology and support that will build and sustain national, regional and local capability and track road safety performance so that funding agencies can assess the benefits of their investments.

Star ratings use a robust, evidence-based approach to assess road infrastructure-related risk for four road user groups: pedestrians, bicyclists, motorcyclists and vehicle occupants. iRAP's Star Ratings are the global standard for road infrastructure safety and are embedded into the UN Road Safety Targets.

Star ratings represent the infrastructure-related risk of death or serious injury. A five star street is the safest and most comfortable for people that walk and cycle while a one star street is the least safe. With every incremental improvement in star rating a person's risk of death or serious injury is approximately halved. The World Road Association (PIARC) catalogue of design safety measures estimates that investment in pedestrian facilities can reduce crashes by 13 - 90%, and that investment in cycling facilities can reduce crashes by 10 - 56%.

Star Ratings are very sensitive to traffic speeds. Even if a road has pedestrian and bicycle facilities, a change in the speed will significantly affect the safety outcome.

Star Ratings significantly improve awareness of pedestrian and cyclist safety for those designing, building and maintaining the road network. If used at the design stage for road upgrades, Star Ratings will highlight where a design lacks sufficient safety measures for pedestrians and cyclists. Furthermore, Star Ratings can be used at the network level to track safety progress and performance over time.

Data collected for this report showed that iRAP pedestrian Star Rating infrastructure data had been collected in 9 African countries by 2019. Analysis suggests that:

- 74% of the roads surveyed in these African countries have no sidewalks.
- 92% of the assessed roads have no crossings
- 48% are poorly signed or maintained.
- 55% of roads are categorised as one-star for pedestrians
- 40% are categorized as 2-star
- Only 4% of are categorized as 3-star.

FIGURE 13
Number of respondents in Kenya that would cycle if able

Star Rating

Infrastructure-related risk of death or serious injury

★★★★★ The road has very low speeds (<30km/h) and/or there are good quality facilities which provide protection from traffic and safe crossing points.

★★★★ The road has low speeds (~40km/h) and/or there are adequate facilities which provide protection from traffic and safe crossing points.

★★★ The road has moderate speeds and there are facilities which provide some protection from traffic and safe crossing points.

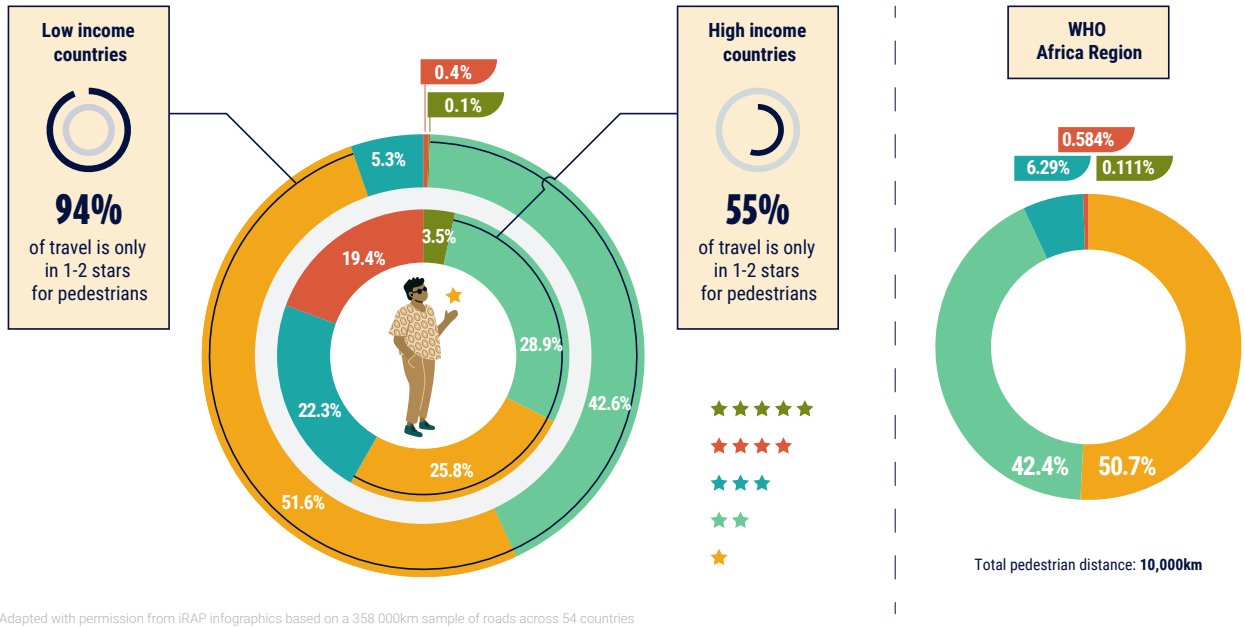
★★ High speeds and the lack of adequate facilities expose pedestrians/cyclists to a high risk traffic environment.

★ Very high speeds and lack of adequate facilities expose pedestrians/cyclists to a very high risk traffic environment.

For pedestrians, roads have sidewalks, pedestrian refuge, street lighting and 50km/h traffic.

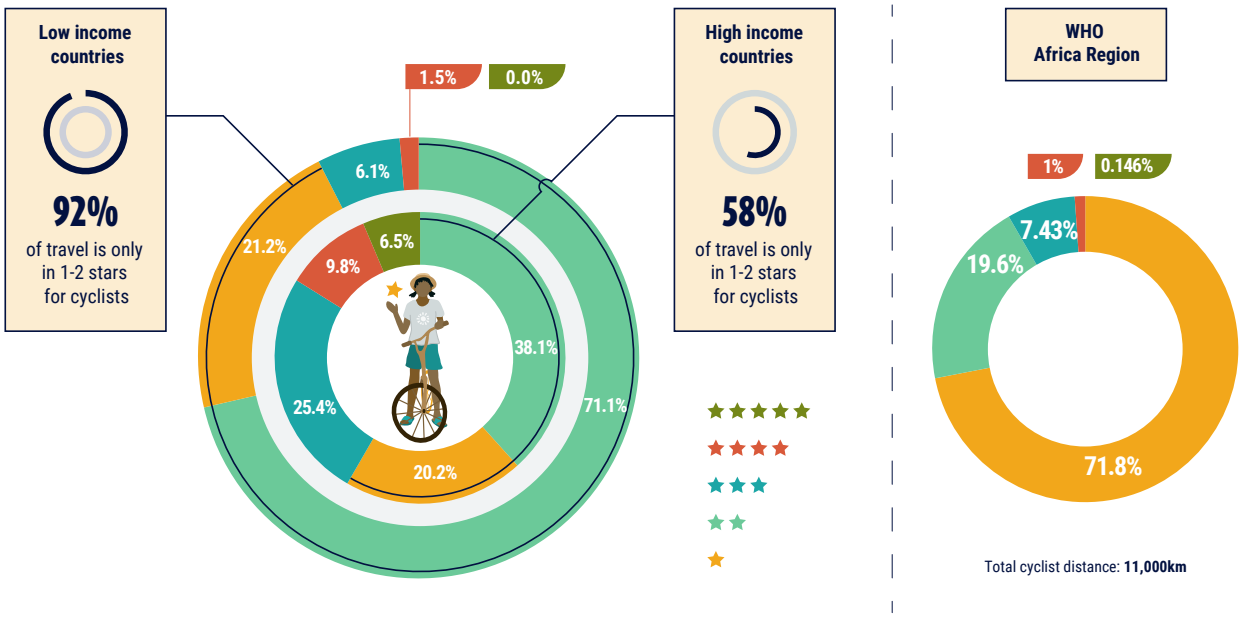
For cyclists, roads includes on-road cycle lanes, good road surface, street lighting and 60km/h traffic.

FIGURE 14 iRAP star ratings for pedestrians



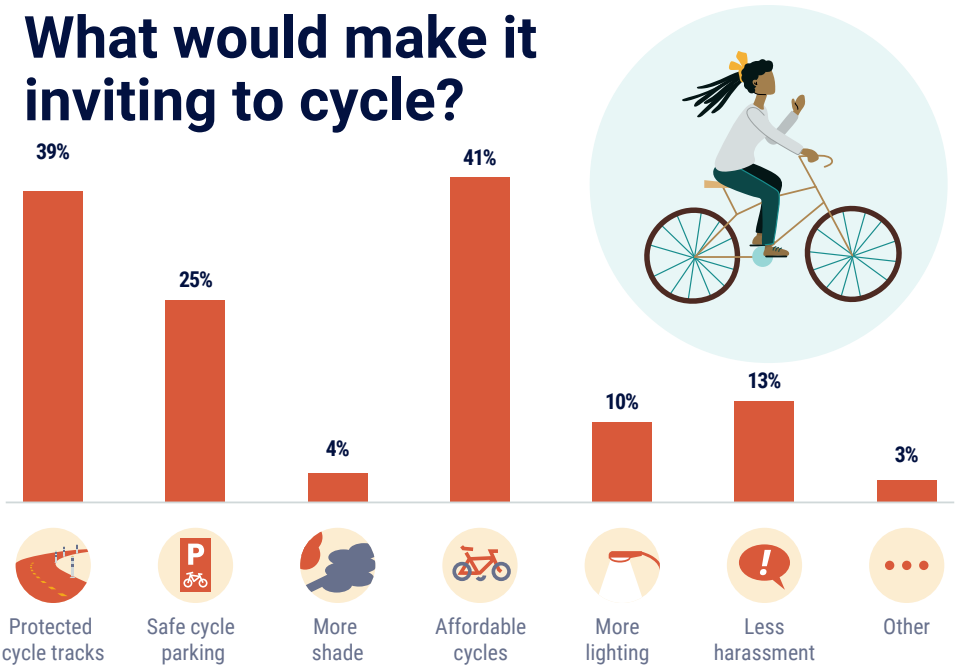
Adapted with permission from iRAP infographics based on a 358 000km sample of roads across 54 countries

FIGURE 15 iRAP star ratings for cyclists



Adapted with permission from iRAP infographics based on a 358 000km sample of roads across 54 countries

FIGURE 16 **Factors influencing choice to cycle in Kenya**



Data collected from a UN-Habitat COVID-19 working paper on mobility in East Africa.

Less than 1% of the roads assessed in Africa to date have reached a 4- or 5-star safety rating for pedestrians.

By 2019 bicyclist Star Rating data had been collected in 5 African countries.

- 4,200 km of roads assessed 47% are one-star for cyclists.
- 46% are two-star,
- Only 6% are three-star - the minimum safe requirement for cyclists.
- Less than 1% of roads assessed in Africa to date have reached the 4- or 5- star rating for cyclists.

Investing in safe, protected bike lanes and appropriate infrastructure creates new cyclists and has multiple positive impacts. In a data collection survey on COVID-19 to measure the impact and challenges on public transport in Kenya conducted in 2021 by UN-Habitat and JICA with support from other partners (Figures 13 and 14), an overwhelming majority of respondents expressed interest in cycling for their daily commutes. [86]

39% of those surveyed indicated that protected cycle tracks would make cycling more attractive. There is currently no data on the quality of infrastructure for cyclists in Kenya but of the 960km assessed for pedestrians, only 29km have a 3 star or higher rating. Other factors that would make it easier to cycle included affordable cycles, safe parking and less harrassment.

Set an action plan to deliver safer infrastructure

> *Is urban planning safety and people-centred? Do residences connect comfortably to public transport?*

It is fundamental that decision makers implement interventions for improving road safety with particular focus on pedestrians and cyclists[87] Evaluating the existing 'level of service' provided to support people walking and cycling identifies the scale, and potentially the location, of any gap where needs are not being met.

"All streets in Africa should have 3 stars or better. With the right policy and investment, we can not only improve comfort levels but also address one of the world's leading public health challenges. We need dedicated sidewalks and cycle lanes, good road surfaces and speed controls as the minimum everywhere in order to make roads safe for all road users."

Monica Olyslagers, Global Innovation Manager & Cities Specialist, iRAP

Locally applicable design standards, as a mandatory requirement, help ensure standards are being met and enforced. According to the country fact sheets in the WHO's 2018 Global Status Report on Road Safety, there are few African countries with comprehensive design standards for active mobility. Of the 50 countries with data, 11 have design standards for the safety of pedestrians and cyclists, 30 have partial standards and 11 have none. In Africa, there are an increasing number of examples where international standards have been adapted and adopted. While these are not without merit, local or regional standards that have been developed with a comprehensive stakeholder engagement process are usually more appropriate.

Road infrastructure and urban development is occurring very rapidly in Africa cities. In order to support the influx of people moving to urban areas new roads can be assessed during the development and planning processes.[88]

Outcome Indicator

Percentage of streets with minimum (3 star) pedestrian standard and bicycling standard.

The provision of dedicated lanes for cyclists will go a long way in alleying the fears of potential cyclists and even attracting more people to use bicycles as a transport mode.

Gaborone City Development Plan (1997 – 2021)

Table 4.1: Comfort Tools and Guidance Materials

Tool
Footpath Design: a guide to creating footpaths that are safe, comfortable, and easy to use.
Global Street Design Guide (Global Designing Cities Initiative, 2018): a comprehensive publication and excellent reference for how to design streets for people.
Urban cycling
Designing for Children
Streets for walking and cycling: Designing for safety, accessibility, and comfort in African cities
Design guidelines for non-motorized transport in Africa
iRAp Road Safety Toolkit
Pedestrian and Bicycle Facility Guidelines (South African national government, Department of Transport): An engineering manual to plan and design safe pedestrian and bicycle facilities.
Streets for walking and cycling
Cycling tool kit
Infrastructure Toolkit for non-motorised users in African Cities: Challenges and Solutions

© At grade crossing, Dares Salaam, Tanzania, UN-Habitat

Case Study: Safer Schools Project, South Africa

Several initiatives are being undertaken to improve safety around schools using iRAP's Star Ratings for Schools and the School Area Road Safety Assessments and Improvements methodology.

In 2014, the Safe Schools project was launched by Zoleka Mandela in South Africa. The project introduced concepts around safe road infrastructure to children, using teachers from Takalani Sesame and Childsafe.[89] The first iRAP assessment conducted with the City of Cape Town found that 77% of the roads around Sivile Primary School were in the highest-risk 1- and 2-star categories.

More than 15% of children attending the school reported that they had suffered road traffic injuries and over 60% said that cars on a busy road called Jeff Masemola nearby drove too fast, making it difficult for them to cross the road to reach the school. The iRAP had analysed the Jeff Masemola highway, providing strong data to back up these accounts.

The project leveraged investment by the City of Cape Town across Sivile and its sister schools. A year later, a safe crossing and traffic lights were introduced at the Primary School.[90] As a result, 1150 school children of Sivile Primary School were able to have a safer journey to and from school everyday.

Case Study: An Urban Planning Code system, Rwanda

In 2019, the Rwandan Government published an Urban Planning Code to define the principles of sustainable urban development and provide a reference for government authorities, planners and professionals who are responsible for the public realm.[91]

The Planning Code sets detailed standards for land use accessibility (e.g. neighbourhoods of more than 5,000 people should have access to junior schools, retail, bus stops and parks within 500 metres and secondary schools, public toilets and city bus stops within one kilometre).

New developments are required by the code to include footpaths, cycle tracks, trees and refuges for road crossings. Primary roads must have sidewalks on both sides and an absolute minimum width of a footway has been set (1.0m) as well as the desired width (2.0m). Urban and neighbourhood parks are required to provide public space functions, such as play facilities and greenspace. Safe access to children and the elderly is necessary as well as seating, shade and security standards. Residential Zones are required to be 'walkable' which includes a continuous network of footpaths, crossings to connect key destinations and a 30 km/h traffic speed limit.

To support the delivery of the code there are regular car-free Sunday events. These are aimed at demonstrating the impact of the Code's principles. There are also a number of pedestrian safety campaigns, led by the Rwanda National Police, that focus on the behaviour of motorists rather than the more common 'victim-blaming' approach, focusing on pedestrian behaviour.

The development of supportive national policy has resulted in several visible changes that have benefited people in Rwanda in the last 5 years.