

CLOSING THE DISTANCE:

HOW AFFORDABLE BICYCLES TRANSFORM RURAL ACCESS IN AFRICA

SUMMARY

Across Sub-Saharan Africa, governments are investing in schools, clinics, water systems, and markets. Yet, for millions of rural households, these remain out of reach simply because people cannot physically get to them. Mobility is the missing link between investment and access.¹

Sixty to seventy percent of people still live in rural areas, on their farms and ancestral homes. Lack of access to transport – also described as mobility poverty – creates a major barrier to health, education, economic opportunities, jobs, and markets. Governments often invest in urban transport systems and e-mobility, but more than a billion people in Africa still walk as their main form of transport and lack affordable ways to reach essential services and markets.² This mobility poverty is the foundation of every other dimension of rural poverty. The Sustainable Development Goals of universal health coverage, universal education, and clean water all depend on people having physical access to these amenities.

Rural transport receives a fraction of national transport budgets, yet enabling affordable rural mobility is among the highest-return public investments governments can make to improve access to economic opportunity, services, health, and education.

Such investment does not have to wait for large infrastructure grants or road investment programmes. Modern, durable bicycles can provide such access while closing both the mobility and poverty gap.³

Several African governments are currently revising national transport policies. This brief presents evidence that affordable, quality bicycles are practical, scalable, and cost-effective tools for improving access in rural areas. Drawing on evidence from multiple African countries, including one of the few long-term randomized controlled trials in the rural mobility field, this policy brief outlines the policy actions available to governments now.



KEY MESSAGES

- **Rural mobility plays a foundational role in development.** While affordable, reliable mobility is a lifeline for rural communities, much global investment in mobility is concentrated in cities.⁴
- **Walking remains the most common mode of travel in rural areas.** This becomes a major barrier to opportunity.^{5,6}
- **Quality bicycles are proven, cost-effective mobility solutions** – for governments and for individuals.⁷
- **The cost of bicycles presents the biggest barrier** to bicycle ownership and use in rural Africa.⁸
- **Enabling affordable rural mobility** is among the highest-return public investments governments can make to improve access to economic opportunity, services, health, and education.
- **Smart policy reforms can rapidly expand access to bicycles** – such as eliminating duties on purpose-built bicycles and spare parts, and supporting financing solutions for bicycle purchases.

WHAT THE EVIDENCE SHOWS

Rural access gaps are now measurable and publicly documented. Evidence on the impact of affordable, quality, durable bicycles in rural Africa has grown substantially over the past decade. World Bicycle Relief's comparative outcomes assessments across five communities in Zambia, Zimbabwe, Kenya, and Malawi – involving nearly 1,800 participants – provide one of the most comprehensive multi-country datasets on bicycle access and its effects available from Sub-Saharan Africa. These outcomes assessments are complemented by a two-year randomized controlled trial (RCT) in Mumbwa, Zambia, and by market system assessments across West and Southern Africa. Together, these studies show consistent impacts of bicycles across settings.

See the evidence at worldbicyclerelief.org/idinsight

¹ UNHABITAT and Walk 21, *Action Guide: Walking and Cycling in Africa*, Working Paper (2021).

² Laurence Palk and others, 'Travel Time to Health-Care Facilities, Mode of Transportation, and HIV Elimination in Malawi: A Geospatial Modelling Analysis', *The Lancet Global Health*, 8.12 (2020), pp. e1555–64, doi:10.1016/S2214-109X(20)30351-X

³ Emmanuel Kamuna and Chris Chirwa, 'Legacy, Bicycle Production, and Dedicated Lanes. Chipata, Zambia', in *Cycling Cities: The African Experience* (www.cyclingcities.info, 2025).

⁴ Gina Porter, 'Living in a Walking World: Rural Mobility and Social Equity Issues in Sub-Saharan Africa', *World Development*, 30.2 (2002), pp. 285–300, doi:10.1016/S0305-750X(01)00106-1

⁵ Jack S. Benton and others, 'Walking Is Our Asset': How to Retain Walking as a Valued Mode of Transport in African Cities', *CITIES*, 137 (2023).

⁶ UN-Habitat, 'UN-Habitat'.

⁷ Denis Mwiba, 'Malawi's Bicycle Economies. Mzuzu, Malawi', in *Cycling Cities: The African Experience* (www.cyclingcities.info, 2025).

⁸ Winnie Sambu, Gail Jennings, and Alisha Myers, 'Bicycle Mobility in Southern Africa: A Market System Investigation into Demand and Use', unpublished paper delivered at Southern African Transport Conference (2023), *Southern African Transport Conference*.

EVIDENCE AND KEY STATISTICS

FINDING 1:

Bicycles significantly improve access to essential services across countries.

- With a bicycle, people can travel to markets more often, choose fresher produce, access better prices, and sell their own produce more quickly.
- With a bicycle, people do not always travel farther, but travel better. People travel for at least three hours, sometimes five, by bicycle.
- People using bicycles made seven fewer trips to water sources per month, carrying larger quantities per trip.
- Bicycle use translates directly into at least one additional hour per day of productive activity.⁹
- Community health workers equipped with bicycles can reach 63% more households per month than those on foot, and bicycle access can reduce travel time to health facilities by up to 49%.¹⁰

FINDING 2:

A bicycle is not a one-off “donation” but a durable, intensively used economic asset in which communities invest.

- Once someone has a bicycle, they treat it as a highly valuable asset, keeping it for many years and using it – and sharing it – intensely. As many as 85% of households share their bicycle to help others access health care or markets.¹¹
- Purpose-built bicycles with reinforced steel frames, heavy-gauge spokes, and load-bearing rear carriers for rural African terrain are not occasional-use items. GPS tracking data on users in Mumbwa, Zambia, showed people now cycle an average of 20 kilometres per day, six days per week, carrying loads of up to 50 kilograms over sandy, unpaved roads.¹²
- Five years after uptake, 99% of riders still had their bicycles, and 76% were using them daily or several times per week.¹³
- Keeping a bicycle running costs annually a fraction of a single round trip by motorized transport.¹⁴

FINDING 3:

Bicycles generate multidimensional impact.

- In Kenya, health workers with bicycles reached 92 out of every 100 targeted households, compared to 50 out of every 100 for those without. In Uganda, health workers who received bicycles more than doubled the distance they traveled (up 117%) and the number of clients served (up 108%).
- Women are more likely to depend on regular travel for their livelihoods as traders and vendors, yet are least likely to own the household bicycle. They are hardest hit by high prices and given incomes nearly 30% lower than men’s, on average.¹⁶ When women receive a bicycle directly, they tend to share it with the whole household – meaning that her bicycle benefits more people than one given to a man.¹⁷
- Bicycles require no fuel and need minimal maintenance, insulating rural households from fuel price shocks and keeping them mobile through economic and climate disruption.

KEY STATISTICS

- For every \$1 invested in a bicycle, there is a \$14.7 return in economic benefits over 5 years, including higher household consumption, increased asset accumulation, and multiplier effects.¹²
- Households receiving bicycles saw 43% higher monthly income than otherwise identical households without one – rising to 77% higher for community health workers two years on.¹⁹
- Two years after receiving a bicycle, farmers and entrepreneurs had accumulated \$575 USD more in household assets than the control group – a 28% gain, on an asset costing a fraction of that to maintain.²⁰
- For every \$100 invested in bicycles, children gain an average of 17 additional days of schooling.

\$1

INVESTED

\$100

INVESTED



\$14.7

RETURN
IN ECONOMIC
BENEFITS



17

ADDITIONAL
DAYS OF SCHOOLING
CHILDREN GAIN

^{9,10,11,12} Frazer Bwala and others, Mobilized Communities Impact Evaluation, Endline II Report (IDInsight, 2025).

¹³ Gathogo, Sambu, & Machingura, Endline Evaluation of Hwange Mobilized Communities (World Bicycle Relief, 2025).

¹⁴ AMREF. AMREF Kenya WBR Report (AMREF, Nairobi 2024).

¹⁵ Sambu, W. & Namakula, S Impact of Buffalo Bicycles on community health work: CHEWS in Lira and Mayuge, Uganda. (World Bicycle Relief, 2025).

¹⁶ UN Women. Equality will be achieved when women and men are granted equal pay and equal respect (2022).

¹⁷ Mazuba Mushota Mafwenko, Investigating Bicycle Usage and Impact through In-Depth Qualitative Data in Mumbwa District (World Bicycle Relief, 2025).

¹⁸ L.J. McManus and K. Ahmed, WBR Cost-Effectiveness Analysis (World Bicycle Relief, 2025).

¹⁹ Sebele and others, Mobilized Communities Impact Evaluation.

²⁰ Bwalya and others, Mobilized Communities Impact Evaluation.



EVIDENCE IN PRACTICE

Mumbwa District and Southern Province, Zambia

Mumbwa illustrates what rural immobility looks like in practice – and what changes when it is addressed.



WITHOUT BICYCLES

60 MIN

AVERAGE TIME WALKED
TO REACH A MARKET

94 MIN

AVERAGE TIME WALKED TO
REACH A HEALTH FACILITY

2 HR

AVERAGE TIME WALKED
TO REACH SCHOOL

WITH BICYCLES

33%

DECREASE IN TRAVEL
TIME TO MARKET

44%

DECREASE IN TRAVEL
TIME TO HEALTH FACILITIES

28%

DECREASE IN SCHOOL
ABSENTEEISM

In Uganda, import duties, VAT, and infrastructure levies add around 30% to the cost of a bicycle by the time it reaches a retailer. On a basic, durable bicycle priced at US\$79–\$105, that amounts to US\$20–\$30 per bicycle – significant where more than 70% of non-owners cite price as the barrier, and where the average household spends less than US\$14 a month on transport. Rwanda's combined tax burden exceeds 50%; in Ghana, stacked taxes produce an effective rate of between 40% and 80%.

This is hard to defend as development policy. Uganda's own 2012 NMT Policy acknowledged that reducing bicycle taxes – as Kenya and Madagascar have done – would increase ownership, yet the policy was never acted upon. More striking still: The same tariff frameworks that tax durable bicycles as ordinary consumer goods have in many cases granted exemptions to electric vehicles – a technology priced out of reach for most rural Africans. The transport option used by the rural poor is taxed; the one used by urban middle-income consumers is incentivised.

High taxes also make bicycles expensive to keep. Spare parts carry the same duty burden as complete bicycles, and repairs can be frequent. Lowering duties on parts would make a practical difference to households trying to keep a bicycle on the road.



SOUTH AFRICA'S SCHOLAR TRANSPORT POLICY: WHEN DISTANCE BECOMES A RIGHTS ISSUE

According to South African law - confirmed by a 2015 court ruling - when a child lives more than five kilometres from their nearest school, the government must provide transport. The reasoning is straightforward: If a child cannot get to school because of distance, their right to education is being denied, and the state must act. By 2024/25, nearly 900,000 learners were benefiting from the programme – though funding pressures mean around a quarter of those who qualify still cannot access it.

The policy is currently under review, with government weighing the distance threshold, costs, and how to better include learners with disabilities.

The lesson is not about scholar transport specifically but the logic behind it. If distance prevents people from exercising a basic right – whether that's education, healthcare, or economic participation – then governments have a responsibility to help close that gap. That argument applies directly to rural communities across Africa where health clinics, markets, and schools are beyond walking distance and no affordable transport exists. A bicycle is not a school bus. But the same policy approach – set a distance threshold, establish an obligation, fund a practical solution – transfers directly to rural access issues.

CASE STUDIES

TAXED OUT OF REACH: HOW IMPORT DUTIES PRICE RURAL COMMUNITIES OFF THEIR BICYCLES

Import taxation is a significant and under-recognised reason that quality bicycles are unaffordable. Bicycles are classified as finished consumer goods under regional customs frameworks and taxed accordingly – without recognising that they function as essential access infrastructure for rural populations.

RECOMMENDATIONS AND IMPLEMENTATION ACTIONS

Affordable bicycles are still marginal in most national rural access strategies – not because the evidence is lacking. There are four persistent barriers: bicycles are treated as relief rather than infrastructure, keeping them out of transport budgets and national strategies; high import duties of up to 45% price out the rural poor who need them most; funding flows through short-term donor grants that cannot build the maintenance ecosystems needed for durability; and bicycles have no clear institutional home.²¹

Closing this gap is not a task for Transport Ministries alone. Finance, Health, Education, and Agriculture ministries each hold a lever that can unlock rural mobility. These three priorities set out clear action steps, most requiring no new legislation.

PRIORITY 1: Increase affordability

Lead: Ministries of Transport; Ministries of Finance

- **Cut import duties** on durable bicycles and spare parts to zero or no more than 5% through a cabinet or ministerial decision – no legislation required. Zambia has done this; the mechanism exists. This is the fastest, cheapest policy lever available, with immediate impact on affordability. *(Transport, with Finance)*
- **Expand consumer financing mechanisms.** Support public-private partnerships that expand access to affordable financing for durable bicycles through financing, payroll-deduction schemes, savings groups, agricultural finance, microfinance, women's lending groups, and employer-supported financing. These mechanisms can dramatically expand bicycle ownership while strengthening local bicycle markets and reducing dependence on grant-funded distribution. *(Finance, with Transport)*
- **Encourage commercial banks and microfinance institutions** to develop dedicated bicycle loan products, and include bicycles within existing productive-asset financing programmes. *(Finance)*
- **Support agricultural lending programmes** that include bicycles as an eligible productive asset, linked to harvest cycles and farm input finance. *(Agriculture, with Finance)*

PRIORITY 2: Recognise bicycles as essential mobility infrastructure

Lead: Ministries of Transport; Health; Education; Agriculture

- **Commission a national review** of existing bicycle policy, duties, and programmes – a low-cost first step that unlocks more substantial reform. *(Transport)*
- **Add bicycles to existing ministry/sector budgets** – recognise bicycle procurement and basic maintenance as eligible expenditure within community health worker programmes, school access initiatives, and agricultural extension services where active systems are already in place. No new programme design required. *(Health, Education, Agriculture)*
- **Recognize mobility as an essential component of universal health coverage**, and integrate mobility planning into primary healthcare expansion – including budgets for community health workers' bicycle maintenance and replacement, not just initial procurement. *(Health)*
- **Align with PAAPAM** – the Pan-African Action Plan for Active Mobility – endorsed by AU Transport and Energy Ministers in April 2026. Embed rural utility cycling in national implementation plans and use the framework to access technical support and climate adaptation funding under AU Agenda 2063. *(Transport)*

- **Adopt a national active mobility policy** that explicitly covers rural utility cycling – not just urban cycling – with a ring-fenced budget line and a designated ministry lead. Alternatively, integrate a rural mobility chapter into existing national transport strategies. *(Transport)*
- **Budget for mobility from the start.** Require a mobility access plan, with bicycle provision costed, for every new rural health facility, school, or agricultural extension programmes. Bicycles should be in the budget at design stage, not an afterthought when donor funding runs out. *(Health, Education, Agriculture)*
- **Implement initiatives that improve girls' school attendance** through affordable mobility, and integrate mobility planning into new school development and location decisions. *(Education)*
- **Recognize transport as a critical agricultural productivity input**, and promote mobility solutions that strengthen farmer access to markets. *(Agriculture)*

PRIORITY 3: Build sustainable rural mobility ecosystems

Lead: Ministries of Transport; Development Finance Institutions

- **Issue a road design directive** requiring all new rural road construction and tarring projects to include a minimum safe provision for cyclists and pedestrians as a condition of funding approval. Low cost to mandate; establishes the principle before formal standards are developed. *(Transport)*
- **Develop procurement standards** for purpose-built durable bicycles to enable government purchasing at scale, with quality assurance built in. *(Transport)*
- **Embed maintenance and spare-parts access** in multi-year planning cycles so bicycle provision is sustained across budget cycles, rather than dependent on short-term grants that leave no maintenance ecosystem behind. *(Transport, Health, Education, Agriculture)*
- **Shift from funding isolated distribution programmes toward strengthening national mobility systems** – prioritizing market development, local assembly, mechanic training, spare parts networks, blended finance, and technical assistance to governments. *(Development finance institutions, development partners)*

CONCLUSION

Rural Africa's challenge is not simply building more schools, clinics, or markets, but ensuring people can reach them. Affordable mobility is the missing link between infrastructure investment and service delivery. As this brief shows, the evidence is available, and the policy tools already exist. What remains is the shift from isolated bicycle projects to national mobility systems that put affordable transport within reach of every rural household.

About this series: This is part of a policy brief series drawing on available evidence on bicycle mobility, including World Bicycle Relief's evidence base. Subsequent briefs address refugees, host communities and bicycles, gender and mobility, bicycles and climate resilience.

For more about World Bicycle Relief, visit: worldbicyclerelief.org

For more about this series, contact: Alisha Myers, Impact and Learning, amyers@worldbicyclerelief.org.

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²¹ World Bicycle Relief and JAA, *Zambia Bicycle Market System Assessment*.