Barriers and Opportunities for the Electrification of Popular Transport

Baseline Study

KENYA

2026



GlobalNetwork for Popular Transportation
SHARED-USE MOBILITY CENTER
AFRICA E-MOBILITY ALLIANCE

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Foreword

Integrating popular transport in policy and planning can avoid further increases in per capita GHG emissions by disincentivizing the shift to private car ownership and use and by improving shared mobility and public transport networks. Accelerating the shift to electric vehicles in the sector strengthens popular transportation and local economies by reducing costs for operators, commuters, and governments, creating new business opportunities and generating jobs in the Electric Vehicle (EV) and clean energy sectors. Most importantly, this transition will significantly reduce local air pollution, leading to healthier communities and improved quality of life for residents.

The Global Network for Popular Transportation aims to equip change leaders and strengthen their capacity to work together to make local and national electrification policies and plans inclusive of popular transportation.

These baseline studies were developed by the Global Network for Popular Transportation, a project of the Shared-Use Mobility Center, with support from the Drive Electric Campaign.

Through the work of local consultants, we developed nine country-level baseline studies to better understand the current situation of popular transportation (including 2Ws, 3Ws, minibuses or other vehicles used for this purpose) and electrification, to identify champions, key stakeholders, emerging policies, and opportunities to incorporate popular transport into electrification policy and planning in the following countries:

Kenya, South Africa, Indonesia, Vietnam, Thailand, Chile, Colombia, Mexico, and Brazil.

These baseline studies will help change leaders in the climate and transport fields better understand the benefits of electrifying the popular transport sector, the sector's electrification needs, and policy opportunities to bridge those gaps. The objective of this work is to identify levers that will equip the relevant change leaders (and their local and national networks) with areas for engagement, mobilization and action.

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Acronyms

BAK	Boda Boda Safety Association of Kenya
BAU	Business as usual
BRT	Bus Rapid Transit
CBD	Central Business District
DFC	Development Finance Corporation
DFI	Development Finance Institution
EAC	East African Community
EPRA	Energy and Petroleum Regulatory Authority
EV	Electric vehicle
GDP	Gross domestic product
GHG	Greenhouse gases
ICE	Internal combustion engine
KCB	Kenya Commercial Bank
KEBS	Kenya Bureau of Standards
KES	Kenya shillings
KPLC	Kenya Power and Lighting Company
LFP	Lithium-iron phosphate
MOA	Matatu Owners Association
NDC	Nationally Determined Contributions
NHIF	National Health Insurance Fund (now SHA)
NSSF	National Social Security Fund
NTSA	National Transport Safety Authority
OEM	Original equipment manufacturer
PSV	Public service vehicle
UNEP	United Nations Environment Programme
VKT	Vehicle-kilometers
SACCO	Savings and Credit Cooperative Organization



Figure 1: BasiGo E buses and charging stations. Photo by: Natalia Perez Bobadilla.

Executive Summary

Kenya's popular transport sector is a major part of the country's transport sector. It is the product of decades of underinvestment and a regulatory history that, in failing to provide a formal alternative, allowed matatus, boda bodas, and tuk-tuks to fill the gap and provide daily mobility for tens of millions of Kenyans.

Kenya's popular transport sector – **spanning an estimated 70,000 matatus (buses), 1.5 million boda bodas (motorcycle taxis), and 55,000 tuk-tuks** (3-wheelers) – moves **70–80%** of **urban passengers** and **employs approximately 1.8 million** people directly. The boda boda subsector alone generates an estimated **KES 660 billion annually**; combined with the matatu industry, the broader popular transport sector accounts for a substantial share of GDP. Transport contributes between 11 and 20 percent of national GHG emissions and 67 percent of energy-related CO_2.[1]

Electrification readiness in Kenya is comparatively strong: 81% of Kenya's electricity generation capacity is renewable, and the utility operates a dedicated e-mobility tariff (KES 16/kWh peak and KES 8/kWh off-peak).[2] The country has seen cumulative Electric Vehicle (EV) registrations surge from 1,378 in 2022 to 39,324 by 2025, a 2,700% increase driven overwhelmingly by boda bodas.

Their small vehicle size, high daily utilization, and compatibility with the battery-swap financing model have made them the most commercially attractive mode for electrification, and they represent 94% of all registered electric vehicles in Kenya.[3] Electric buses (168 registered by March 2026) and electric tuk-tuks (1,600 registered) have advanced more slowly, constrained by limited private sector vehicle supply and unresolved fleet-financing structures.[4] The National Electric Mobility Policy was formally launched in February 2026 and includes measures specifically for vehicles used in popular transport. The policy provides targeted incentives for electric two-wheelers (boda bodas) and electric buses (matatus).[5]

However, critical barriers remain. Electric vehicles carry a roughly 50% upfront cost premium over ICE equivalents when including the battery; fewer than 200 public charging stations exist nationwide; the EAC 35% import duty on electric buses persists; most boda boda riders lack access to formal credit; and data on fleet size, utilization, and emissions are fragmented. Addressing these barriers requires SACCO-led financing innovation, corridor-level charging/swap networks, and the deliberate inclusion of popular transport operators in bus rapid transit (BRT) and e-mobility planning.

1 https://www.mogo.co.ke/esg/pdf/boda-boom-report.pdf
2 https://www.epra.go.ke/sites/default/files/2025-09/Statistics-Report-June-2025-Web.pdf
3 NTSA registrations data
4 NTSA registrations data
5 https://www.transport.go.ke/kenya-launches-national-electric-mobility-policy-drive-cleaner-efficient-and-sustainable-transport

Key Insights

Insight 01
Kenya's popular transport laws are largely unenforced

Enforcement of the Michuki Rules (see section 3.1.1) for matatus has eroded, while boda boda and tuktuk regulations remain inconsistent across counties.

Insight 02
Rapid, 2W-led electrification underway

EV registrations in Kenya are growing quickly with e-motorcycles reaching 15% market share in 2025 – but tuktuks and buses need to catch up.

Insight 03
SACCOs as the key intermediary

Kenya's matatu SACCOs and boda boda associations could act as institutional levers for fleet-scale EV transition, but suffer from capital shortages and poor governance.

1 Introduction

Kenya is one of East Africa's largest economies and among the region's most rapidly urbanizing countries. Its urban population was approximately 16.96 million in 2024, or 30% of the national total, and is projected to exceed 50% by 2050.[6] Nairobi alone hosts more than 5 million metropolitan residents and ranks among the world's most congested cities, with average commute times of 53 minutes.[7]

Public transport by formal bus services remains extremely limited. Kenya Bus Services, the principal legacy bus operator in Nairobi, operated only around 3% of the buses in Nairobi in 2005, with no significant change, then leaving the vast majority of trips to the popular transport sector.[8] Urban railway has long since degraded and shut down in Nairobi, with no effective services found in 2018.[9] Bus rapid transit systems, long under consideration and even getting as far as installing stations along Thika Road, have not yet started, with no clear timeline for progress. Against this backdrop, **popular transport is, in effect, the urban mobility system.**

Kenya's transport hierarchy is anchored by matatus in major cities (a mix of 14-seater minibuses and 33-seater buses), and supplemented by boda bodas (motorcycle taxis) and tuk-tuks (three-wheelers). Together, these modes carry over 90 percent of daily motorised trips in Nairobi and the bulk of inter-city and rural connections, although the last updated figures are from a study in 2014.[10] The sector employs approximately 1.5 million people directly. The boda boda subsector alone generates an estimated KES 660 billion annually (approximately 4.4% of GDP), and the matatu industry contributes a further KES 250 billion or more per year.[11]

6 World Bank/Trading Economics; UN-Habitat
7 Current Traffic Index, https://www.numbeo.com/traffic/rankings_current.jsp
8 https://openjicareport.jica.go.jp/pdf/11823093_03.pdf
9 https://documents1.worldbank.org/curated/en/099757201312239151/pdf/P15331109078a901e0af650dd2da651289e.pdf
10 Salon & Gulyani, 2019
11 https://www.mogo.co.ke/esg/pdf/boda-boom-report.pdf; https://businessempires.africa/things-to-consider-before-venturing-into-kenyas-2-billion-public-transport-matatu-industry/

Table 1. Popular transport modes in Kenya.

Mode	Prymary Geography	Transport mode	Estimated fleet size	Estimated daily trips	Share of daily motorized trips (Nairobi)
Matatus	Nairobi, mombasa, Inter-city	Arterial buses	70,000	28,000,000	**66%**
Bodas bodas	Countrywide	Door-to-door motorcycles	1,493,280	17,919,360	**6%**
Tuktuks	Secondary cities; coast	Mixed door-to-door and arterial three wheelers	54,248	1,627,440	**<3%**

Transport is also Kenya's fastest-growing source of greenhouse gas emissions. It accounted for 11.3% of total GHG and 67% of energy-related CO_2 in the 2015 national inventory and consumes roughly 72% of imported petroleum products. Kenya's 2020 NDC commits to a 32% reduction in emissions below BAU by 2030, and its April 2025 NDC raises this to 35% below BAU by 2035, requiring USD 56 billion in international finance. Transport is explicitly identified as a priority mitigation sector, although popular transport is not mentioned directly in any way.[12]

This baseline study maps the landscape for popular transport electrification in Kenya, including the fleet, the workforce, the regulatory environment, the current state of EV adoption, and the barriers and opportunities that will determine the pace and equity of the transition. It draws on academic research, government documents, development-partner reports, and industry data gathered through desk research conducted in early 2026.

2 Methodology

Description of Approach

This baseline study draws on a mixture of established sources, interviews, and government databases. We began by reviewing secondary data from government publications, development-partner reports, academic literature, industry white papers, and news media. This was complemented by a series of eight qualitative key informant interviews (KIIs) conducted with government regulators, operator associations, a private EV company, and a rider association in 2026. NTSA also shared its database of electric vehicle registrations with us. Where quantitative data were unavailable or conflicting, triangulation across multiple sources was used, and uncertainty ranges were noted explicitly. The research was structured around regulatory conditions, popular transport landscape, workforce and organization, and the electrification landscape.

12 https://unfccc.int/sites/default/files/2025-05/KENYAS%20SECOND%20NATIONALLY%20DETERMINED%20CONTRIBUTION%202031_2035.pdf

Sample Size and Technique

Document review: Over 60 primary and secondary sources were reviewed, including government strategies (KNEV, NDC, INTP, Finance Bills), DFI and non-profit reports (World Bank, UNEP, AfEMA, GIZ/BMZ, JICA, AfDB, BII), and operator/ industry reports (primarily EMAK).

Key informant interviews: Eight semi-structured interviews were conducted with stakeholders across government, regulation, operations, and the private sector (Table 2).

Geographic coverage: Primarily Nairobi and Mombasa, with secondary datafrom Kisumu, Nakuru and rural counties.

Table 2. Interviewees for this report.

Actor Type	Organization	Interviewee
Government (national)	National Transport and Safety Authority (NTSA)	Collins Kieng, Manager Registration
Government (national)	Kenya Power	Margaret Gechanga
Government (national)	Energy and Petroleum Regulatory Authority (EPRA)	Silas Sanga, Manager Environment, Health & Safety
Government (national)	Nairobi City County	Grace Ojiayo, Asst Director Environment; Brian Kithee, Transport Engineer
Operator association	Matatu Owners Association (MOA) / Pullman Transit	Jonathan Daniel Onura, CEO
Operator SACCO	OMA Services	George Mureithi Githinji, Director
Rider association	Nairobi Boda Boda Association	Alex Kulema, Chairman
Private EV company	BasiGo	Francis Mungai, Head of Fleet Operations

Limitations and Constraints

- Fleet-size estimates vary widely and are not anchored in a consistent national registry. NTSA registration data distinguishes neither active from scrapped vehicles nor commercial from personal use.
- Matatu populations are widely cited as being 100,000 for the country. However, there is no clear source for this claim. NTSA registrations between 2018 and 2025 find 25,896 buses and minibuses.
- Boda boda population estimates range from 1.2 million to 2.5 million depending on source and year; all figures should be treated as estimates with wide confidence intervals.[13] Assuming a motorcycle lifespan of 8 years and utilizing NTSA registration data, we are using 1.5 million for the purposes of this report (see the Appendix for NTSA data).
- The 2026 National Electric Mobility Policy is newly launched; many implementing regulations and fiscal instruments are still being operationalized. In addition, the 2026 Finance Bill, which proposes a shift from a VAT-zero-rated to a VAT-exempt regime that would effectively raise taxes on electric vehicles, is still under consideration.
- Gender-disaggregated data is sparse; the UNEP/AfEMA 2024 Kenya baseline is the most authoritative source but covers a limited sample.

13 https://pesacheck.org/fact-checking-statistics-about-kenyas-boda-boda-transport-sector-4a66fc677d63

3 Regulatory Conditions

3.1 National Regulatory Framework

The regulatory framework governing Kenya's popular transport sector matters as much for how its uneven application shaped the sector's structure as for what it formally prescribes. The compulsory Savings and Credit Cooperative Organization (SACCO)[14] membership requirement introduced for matatu operators in 2004 created the institutional backbone that today represents the most promising channel for fleet-scale EV transition; a comparable framework has only recently been attempted for boda boda operators and tuk-tuks, but it remains largely unenforced. Thus, all popular transport modes in Kenya are regulated on paper, but enforcement is partial (matatus) and mostly unenforced (boda bodas and tuk-tuks) on the roads.

Kenya's popular transport sector is formally regulated under three interlocking instruments. The Traffic Act (Cap. 403) and Traffic (Amendment) Act 2012 set the foundational rules for vehicle licensing, road offenses, and penalties. The NTSA Act No. 33 of 2012 established the National Transport and Safety Authority as the central regulator for transport operators, including matatus, boda bodas, and tuk-tuks, harmonizing licensing and enforcement.

Table 3: Key Regulations in Popular Transport

Mode	Key Regulations	Assesed Implementation	Bans
Matatus 	Legal Notice 161, 2003 ("Michuki Rules")	**Partly Implemented**	Attempt to ban matatus from CBD between 2022-25; repeatedly delayed[15]
Bodas bodas 	NTSA (Operation of Motorcycles) Regulations, 2015; Nairobi City County (Motorcycle Taxi (Boda Boda) Permit Regulations, 2025	**Mostly unenforced**	Banned from Nairobi CBD during working hours; unofficially repealed in 2023, enforced again in 2025
Tuktuks 	NTSA (Operation of Motorcycles) Regulations, 2015	**Mostly unenforced**	Ban on new tuktuks in Mombasa in 2018; overturned in 2020[16]

14 A SACCO (Savings and Credit Cooperative Organization) in Kenya's matatu sector is a member-owned cooperative that operators are legally required to join, which pools members' savings to provide vehicle financing, route licensing, and collective management functions

15 https://nairobiwire.com/2025/02/nairobi-governor-sakaja-revives-plan-to-ban-matatus-from-cbd.html

16 https://www.businessdailyafrica.com/bd/news/counties/mombasa-court-lifts-joho-tuk-tuk-ban--2201834

3.1.1 Matatu Regulation

Matatus began in the 1930s, were legalized wholesale in 1973, and have faced a varying regulatory landscape ever since.[17] Gang penetration and extortion throughout the 1980s and 1990s led to a series of crackdowns, the most consequential of which is still known as the Michuki Rules. Officially, the Michuki Rules are Legal Notice 161 of 2003 (enforced from February 2004) under then-Transport Minister John Michuki. They mandated speed governors to cap speed at 80 km/h (and 50 km/h in urban areas), seat belts, crew uniforms and badges, certificates of good conduct, compulsory SACCO or company membership, route branding, and a ban on standing passengers. Press accounts initially attributed a 74% reduction in road accidents; however, peer-reviewed NBER analysis found no statistically significant sustained long-term reduction in matatu accident claims, pointing to enforcement tailing off, with additional enforcement efforts in 2018 and 2024.[18]

Operator-reported compliance costs describe a series of government fees and levies. Matatu operators face annual roadworthiness inspection fees of KES 1,050 per vehicle, Road Service License (RSL) costs of KES 3,650 per year, and county parking levies averaging KES 5,280 per month in Nairobi.[19]

3.1.2 Boda Boda Regulation

Boda bodas are regulated under the NTSA Operations of Motorcycles Regulations 2015, which most operators and authorities in the sector have largely ignored. A major SACCO-registration drive was launched in March 2022, when the government waived the KES 5,800 registration fee, requiring riders to hold driving licenses, certificates of good conduct, two helmets and insurance, and to join a registered SACCO, all of which were already in the 2015 regulations. By 2024, the Ministry of Roads & Transport reported 1.8 million registered riders; however, while the 2015 regulations require all boda boda riders to join registered SACCOs, this requirement is not consistently enforced. Many riders operate independently or through informal stages without formal SACCO affiliation, and authorities have not systematically penalized non-compliance.[20]

Boda boda operators pay approximately KES 9,000 per year for third-party insurance and, where applicable, KES 3,000 per quarter for cargo-box permits. NTSA does not require routine annual fitness inspections for motorcycles unless an accident has occurred.[21]

3.1.3 Tuk-tuk Regulation

Tuk-tuks are classified as public service vehicles (PSVs) under NTSA and are included in the NTSA Motorcycle Regulations 2015, but enforcement has been weak. A fresh national registration drive was initiated in 2024. Mombasa County Commissioner Abdirisak Jaldesa launched a targeted registration campaign covering the city's estimated 17,000 tuk-tuks, motivated in part by public safety concerns.[22]

3.2 County-Level Regulation

Kenya's 2010 Constitution and the Urban Areas and Cities Act 2011 devolved transport regulation to county governments. In practice, this has created a patchwork of county by-laws layered on top of national NTSA regulation, with outcomes varying significantly by county. Nairobi is the only county to have identifiable regulations addressing popular transportation, although Mombasa issued fee schedules for tuk-tuks in its annual budget.

3.2.1 Nairobi Regulations

Nairobi County regulations are primarily handled by the Nairobi County City Council. The Nairobi County City Council passed the Nairobi City County (Motorcycle Taxi/Boda Boda Permit) Regulations, 2025, the most substantial overhaul of boda boda regulations in Kenya in recent years – on paper. However, as of April 2026, the Regulations are yet to be fully implemented.[23] In addition, the existing regulations contain contradictions and risks.

- (10) requires that drivers have a Motorcycle Taxi Permit from the

17 Matatu, by Kenda Mutongi

18 "Accidents Down By 73.5 Pc," The Standard, July 22, 2004. https://allafrica.com/stories/200407220708.html. Habyarimana & Jack, https://www.nber.org/system/files/chapters/c13393/c13393.pdf. https://www.standardmedia.co.ke/article/2001451233/nithi-river-accident-a-nation-pays-dearly-for-abandoning-michuki-rules

19 KII: OMA Services, 2026; KII: NTSA, 2026; KII: Pullman Transit, 2026

20 https://hapakenya.com/2022/03/09/government-waives-license-fees-for-boda-boda-operators-as-it-reforms-the-sector/

21 KII: Nairobi Boda Boda Association, 2025

22 https://www.kenyanews.go.ke/tuktuks-registration-drive-aims-to-restore-sanity/

23 https://nairobi.go.ke/nairobi-city-county-moves-to-streamline-boda-boda-sector-with-new-regulations

Directorate of Public Transport in Nairobi City Council. Yet drivers already are required to have public service vehicle (PSV) licenses from NTSA (in the 2015 regulations), which serve the same purpose, creating overlapping requirements.

- (6) requires that drivers be members of SACCOs, which must have a minimum of 300 members: a very large membership and high regulatory burden.
- (7) and (8) require SACCOs to operate within one of five zones in the city. This would restrict drivers and force them to drop passengers off at "zonal borders," which is likely to be highly inconvenient for passengers. It would require them to disembark and transfer to another vehicle mid-journey, adding time and cost, and undermining the door-to-door convenience that makes boda bodas a preferred mode. The regulation does not clarify whether the same SACCO and zonal requirements apply to app-based ride-hailing boda bodas, potentially creating an uneven playing field where app-based operators face fewer restrictions than those operating from traditional stages.
- According to (11), picking up and dropping off passengers would be limited to specified locations, which would represent a significant shift from the current door-to-door service model. Door-to-door service is one of the primary benefits of boda boda usage for passengers across Africa, and as a result, this policy change limiting operations would likely face resistance or evasion.[24]

While the Nairobi Metropolitan Area Transport Authority (NaMATA), gazetted in February 2017, holds a remit spanning Nairobi City County plus four surrounding counties and is responsible for the BRT, it does not have specific regulatory power over popular transport, creating a coordination gap.

3.2.2 Mombasa Regulations

The Mombasa county government's engagement with tuk-tuks has been complicated by tuk-tuks' larger role than in Nairobi. In the Mombasa County Finance Bill 2024, monthly stickers for tuk-tuks were set at 800 KES, and for boda bodas at 200 KES.[25] Tuk-tuks and handcarts were also to pay 50 KES for entering County-owned markets.

3.3 Ongoing Policy Reforms

Nairobi City County gazetted its Bus Route Network in December 2024 and is now piloting a digitization program to test route management and service monitoring. The county is also developing a framework to deploy public charging infrastructure at bus termini, markets, and county parks, as part of a broader plan to enable EV adoption at the local level.[26]

Recently, the NTSA has been digitizing services and internal processes, including smart driving licenses (since 2018), the Transport Integrated Management System (TIMS) for e-permits and online compliance, and real-time PSV tracking from 2023. EPRA also published its Guidelines for Electric Vehicle Charging Infrastructure and Battery Swapping Stations in 2024, and KEBS now enforces a ban on importing used EVs with battery state-of-health below 80%.[27]

24 Courtright & Behrens, 2025
25 https://www.mombasaassembly.go.ke/wp-content/uploads/2024/11/The_Mombasa_County_Finance_Bill-2024.pdf
26 KII: Nairobi City County, 2025–26
27 https://changing-transport.org/the-regulatory-engine-behind-kenyas-electric-mobility-transition/

4 Popular Transport Landscape

Popular transport in Kenya encompasses a diverse ecosystem of modes, growing to fulfill the needs of almost all trip types in the country. **Matatus serve fixed and semi-fixed urban corridors at a lower cost per kilometer, boda bodas provide flexible, traffic-evading last-mile and rural connectivity at a higher cost, and tuk-tuks dominate short-haul trips in coastal and secondary cities.**



Figure 2: Matatu at the transportation hub. Photo by: Natalia Perez Bobadilla.

Together, these modes **handle** an estimated **80% of daily motorized trips in Nairobi** and the vast **majority of public transport in rural Kenya**, where bus and rail services are absent.[28] While no recent nationwide data exists, a recent survey found that 66% of trips in Nairobi were by paratransit (matatus), 17% of trips by car or taxi, and 6% by boda boda, as in *Fig 1*.[29] This represents a significant shift from walking as the main mode of transportation vs cars, matatus, and boda bodas since the JICA / World bank study in 2014, which found around 40% of trips on buses and 4% of trips on boda bodas.[30]

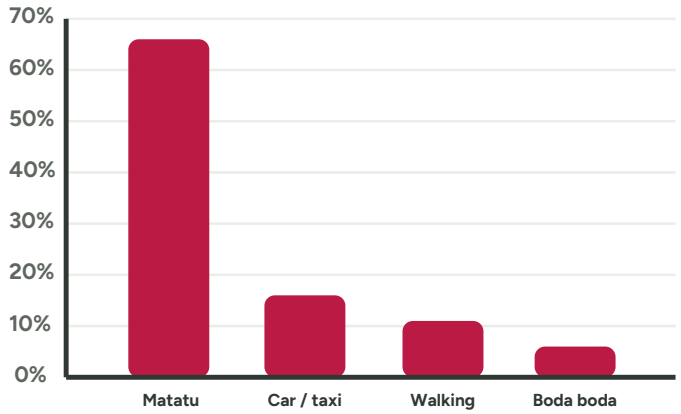


Figure 3: Modal share in Nairobi. Omwamba 2026.

4.1 Popular Transport Typology

4.1.1 Matatus

Matatus are privately owned, SACCO-operated minibuses that form the backbone of urban mass transit in Kenya's major cities. They operate in two primary configurations: 14-seater Toyota Hiace and Nissan Caravan minivans, which predominate on Nairobi's more marginal routes and in secondary cities, and 33-seater minibuses serving longer urban and peri-urban corridors. In many routes in Nairobi, and in inter-city trips, however, both 14-seater and 33-seaters may be found.[31] Matatu fares depend on the route, length, and time of day. OMA, which operates on Kariobangi South amongst other routes, charges a minimum KES 50 per trip, and KES 70 during rush hour.[32]

28 ITDP Africa; Africa is a Country, 2019
29 Omwamba, 2026
30 Salon & Gulyani, 2019
31 Author's observations
32 Interview with OMA

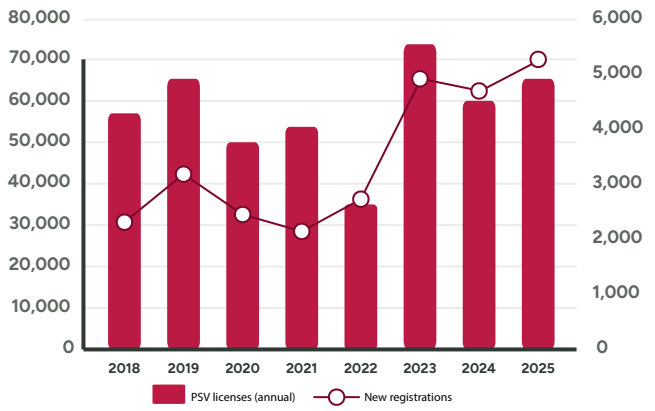


Figure 4: Matatu fleet and growt in Kenya, 2018-2025. Source: NTSA.

The most commonly cited figure for the fleet size of matatus (both minibuses and larger buses) is 100,000 vehicles; however, this figure includes both active and deregistered stock, and has no clear data source. The NTSA also does not regularly and reliably release data on this. There are thus two main data sources: public service vehicle (PSV) licenses, which are annual and are reported on in the news; and vehicle registrations, which are once-off in the year of initial registration.

PSV license issuance data shows significant variation across recent years, partly reflecting the disruption of the COVID-19 pandemic and the subsequent deregistration of inactive vehicles, with a significant dip in 2022 and rebounding the following year. A GIZ in-service fleet study estimated the actively operating Nairobi matatu (minibus only) fleet at considerably lower levels, between approximately 11,056 and 14,789 vehicles.[33] The GIZ study recorded an **average matatu age of 15.9 years from manufacture, with only one percent of vehicles under five years old** at the time of the survey. This underscores the scale of renewal required to support the electrification transition. In Nairobi, the principal matatu corridors include Thika Road, Mombasa Road, Ngong Road, Jogoo Road and Juja Road.[34]

Matatu ownership is largely fragmented — many vehicles are owned by individual investors (including professionals, politicians and church organizations) who hire drivers and conductors on daily-target arrangements. SACCOs provide route licensing access, insurance pooling, and increasingly EV financing.

4.1.2 Boda Bodas

Boda bodas (motorcycle-taxis) have grown substantially over the past two decades to become Kenya's most numerous motorized transport mode by vehicle count. Boda bodas – the motorized variety - entered Kenya after the turn of the century, with very few motorcycle registrations before 2008. That year, then-President Mwai Kibaki dropped import duties on motorcycles, and numbers exploded, nearly tripling within the first year of this policy.[35] Boda bodas extended access in rural areas, previously underserved by the for-profit matatu network, and began competing with matatus for urban trips. They are only partially self-regulated, with stages typically using queuing to ensure an equitable distribution of trip opportunities for members. Two nationwide boda boda associations (the Boda Boda Safety Association of Kenya, which split from the Boda Boda Association of Kenya) provide some representation for members, but, overall, have a limited and uncertain membership.

Fleet estimates vary considerably, ranging from approximately 1.5 million registered riders (World Bank, and our estimate based on an 8-year lifespan) to as many as 2.5 million, reflecting differences in data sources and the extent to which informal operators are captured.[36] The market is led by Bajaj (Boxer 125 and 150 models, accounting for approximately half of new fleet sales), followed by Honda (CG125 and Ace), TVS (HLX), Hero, and Yamaha. Boda bodas have higher vehicle turnover than matatus, driven by the prevalence of asset-loan financing structures and heavy daily usage. Daily vehicle kilometers traveled are high, frequently exceeding 100 km per motorcycle in urban settings, and 150 km for those using ride-hailing apps.[37] In cities, boda bodas serve last-mile, traffic-evading, and delivery functions; in rural Kenya, they frequently constitute the only available form of motorized transport.[38]

Boda boda ownership is a mix of rentals, lease-to-own vehicles (primarily for new motorcycles), and informal loans used to purchase used vehicles.

33 https://www.changing-transport.org/wp-content/uploads/Characteristics_of_the_In-Service_vehicle_fleet_in_Kenya.pdf
34 https://www.changing-transport.org/wp-content/uploads/Characteristics_of_the_In-Service_vehicle_fleet_in_Kenya.pdf; https://www.kenyans.co.ke/news/88903-ntsa-slashes-number-newly-licensed-matatus-half
35 https://nation.africa/kenya/news/kenya-s-boda-boda-nightmare-how-a-2008-law-saw-1-000pc-jump-in-units-sold-4552486
36 https://www.mogo.co.ke/esg/pdf/boda-boom-report.pdf
37 Interview with Stima Mobility
38 https://www.mogo.co.ke/esg/pdf/boda-boom-report.pdf

Lease-to-own (sometimes also called "lipa pole pole", meaning "pay slowly") has been formalized and grown significantly over the past ten years in Kenya with the emergence of Watu, Mogo, and a host of smaller asset financing companies. SACCOs provide some funding for motorcycle loans, but a relatively minimal amount, due to higher down payments (30% vs 10% at asset financiers) and a lack of capital at SACCOs.

The prices of motorcycles are relatively low. The price of a new Bajaj Boxer motorcycle in Kenya generally falls within the KES 150,000 to KES 200,000 range. The exact cost depends heavily on the engine size (e.g., 100cc vs. 150cc) and the specific model variant (e.g., Standard, Heavy Duty, or X models).[39] Electric motorcycles are increasingly competitive, costing between KES 152,000 for a Spiro motorcycle and 220,000 for an Ampersand motorcycle.[40]

These characteristics – **high daily utilization, accessible asset-loan financing, a small vehicle chassis and battery, and a battery-swap model compatible with daily repayment structures – have made boda bodas the fastest mode to transition to electric in Kenya so far.**

4.1.3 Tuk-Tuks

Tuk-tuks (passenger and cargo three-wheelers) entered Kenya similarly after 2000, but have never reached the same numbers as boda bodas. Passenger tuk-tuks have receded from much of Nairobi after an initial growth period. Still, they are prevalent in Mombasa and the broader coastal region, with a growing presence in secondary cities including Kisumu, Eldoret, Thika and Nakuru.

While a 2017 GIZ study estimated approximately 19,600 to 20,100 vehicles, registrations of three-wheelers have increased over the past eight years, and applying a similar average 8-year lifespan to tuk-tuks in Kenya would put the total at 54,248 units.

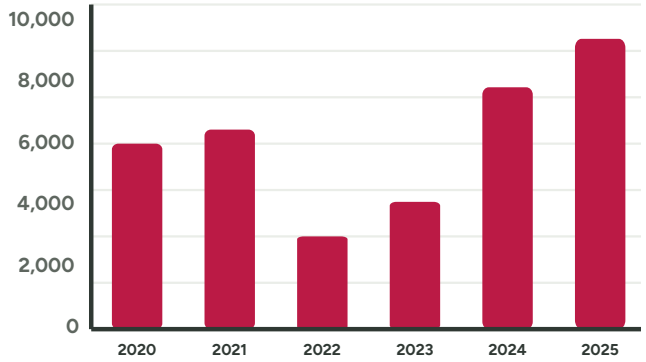


Figure 4: Annual three-wheel registrations. Source: NTSA.

As of December 2024, Mombasa County Commissioner Mohammed Noor claimed the county alone had 15,000 tuk-tuks.[41]

Despite some similarities to the boda boda, in being a smaller, easier-to-finance vehicle with high daily usage, the tuk-tuk sector has seen limited EV uptake. This reflects not weak demand but the comparatively limited private-sector supply of electric tuk-tuks relative to the more mature boda boda EV ecosystem. E-tuk-tuks sold in Kenya by Car & General, for example, cost around KES 900,000 (USD 7,000), compared to Ksh 350,000 for the Bajaj RE (petrol), Ksh 380,000 for the TVS King Deluxe, Ksh 420,000 for the Piaggio Ape City Plus, Ksh 450,000 for the Bajaj Maxima, and up to Ksh 500,000 for the Piaggio Ape City Diesel. Newer models by OEMs such as Rhinggo, however, promise to be cheaper.[42]



Figure 5: Roam e bike charger.
Photo by: Natalia Perez Bobadilla.

39 https://www.bajajauto.com/en-ke/blogs/blog-boxer-125-vs-competitors
40 https://www.mobility-rising.com/p/here-is-the-cheapest-electric-motorcycle-in-kenya
41 "Tuk-tuk registration drive in Mombasa aims to curb theft – Kenya News Agency," https://www.kenyanews.go.ke/tuk-tuk-registration-drive-in-mombasa-aims-to-curb-theft/
42 "Brand New Tuk Tuk Price In Kenya Top 10 Models You Should Consider - Spoonyo", https://spoonyo.com/brand-new-tuk-tuk-price-in-kenya/

4.1.4 Ride-Hailing Apps

Since 2017, ride-hailing apps for cars, boda bodas, and tuk-tuks have become common in Kenya, predominantly in urban centers like Nairobi and Mombasa. Bolt Boda and Uber Boda are the dominant ride-hailing platforms for motorcycle taxis in Nairobi and Mombasa. Little Boda and Faras entered more recently, and the latter has gained traction in recent years. SafeBoda exited Kenya in November 2020 due to COVID-19 but has since re-entered.

Primary research with Nairobi-based operators fills some of the key gaps in data absent from official sources. Pullman Transit reports 250 km per vehicle per day across its city routes (Kangundo Road, Mombasa Road, Thika Road, Utawala corridor), with charging facilities at Komarock Junction and in Machakos town. OMA Services reports 160–210 km per day across routes including Kariobangi South–CBD and Buru Buru–town center, with average one-way route lengths of 9–10 km.

Table 4. Mode Comparison Matrix:

Mode	Est. Fleet Size	Key Brands/ Types	Primary Geography	EV Status (mid-2026)
Matatus 	70,000	ICE: Toyota Hiace, Nissan Caravan EV: BasiGo, Rideence	All major cities; radial Nairobi corridors	168 e-buses (2% of sales in 2025)
Bodas bodas 	1.5 million	ICE: Bajaj Boxer, Honda CG125, TVS HLX, Hero EV: Ampersand, Spiro, Arc Ride, Roam	Nationwide; dominant in rural & peri-urban	43,000+ e-bodas (15% of sales in 2025)
Tuktuks 	54,000	ICE: Bajaj RE, TVS King EV: Rhinggo, TRi	Coast region; Kisumu, Eldoret, Thika	1,600+ (5% of sales in 2025)



Figure 6: E-Mini bus at Basigo.
Photo by: Natalia Perez Bobadilla.

and tuk-tuks, and interviews with industry actors reveal a wide range of estimates.[43] On the whole, boda bodas with vehicles that have been paid off, that are offline, or that are in smaller towns were estimated to drive slightly fewer kilometers per day, around 120 km. Boda bodas using ride-hailing applications, paying off their motorcycles currently, or using electric motorcycles were estimated to drive 150-200 km per day.[44] An additional interview with a leading e-motorcycle company in Kenya revealed daily averages of 155 km per day.[45] For tuk-tuks, data was even scarcer, but an e-tuk-tuk company estimated an average of 100 km per day.

Table 5. Fleet Characteristics by Mode:

Mode	Annual VKT (est.)	Fuel Efficiency	Est. Fuel Cost/Day
Matatus (14-seater)	58,400-91,300 km/yr[46]	6.2 km/L	KES 2,000–3,500
Bodas bodas	40,700 to 67,800 km/yr[47]	40 km/L	KES 700–800 (petrol)
Tuktuks	33,900 km/yr	23.2 km/L[48]	KES 400–700

4.2 Social Implications

The modes serve distinct but overlapping user groups. Matatus carry commuters across the income spectrum along fixed urban corridors. At the same time, boda bodas are the mode of choice for middle-income users, students, market traders and rural residents, particularly for night-time trips or trips into informal settlements. Tuk-tuks serve predominantly short tourist and residential trips in coastal towns. **In aggregate, popular transport constitutes the mobility backbone of Kenya's working majority: those for whom private car ownership is unattainable and formal public transit is absent.**

These modes are popular because they **offer speed, affordability, door-to-door accessibility, and operational flexibility** that formal bus services cannot match. Boda bodas are well-suited to navigating congested urban traffic and reaching unpaved rural roads; however, their higher per-km costs mean matatus are still preferred for daily commutes.

Road safety represents the sector's most severe externality. Kenya recorded over 4,300 road fatalities in 2024, while motorcycle deaths have risen significantly since 2010. Road accidents cost the economy approximately KES 450 billion annually (3% of GDP).[49] Sexual harassment of female passengers on matatus and boda bodas is widely documented. Research shows that women are the primary users of Kenya's matatu system, a pattern consistent across all income and education levels. Women in Nairobi make a greater number of daily trips than men, often combining multiple matatu lines or transport modes, and are more likely to travel for care-related activities. However, a significant percentage of women do not use public transport due to safety fears, and many are forced to commute at night for work, increasing their perceived and actual insecurity.[50] A Flone Initiative survey found that 88% of commuters reported or heard of violence against women and girls on public transport, with inappropriate physical contact and verbal harassment being the most common forms of abuse. These safety concerns significantly affect women's travel choices and underscore the urgent need for systemic change within the sector.[51]

43 KII: Pullman Transit; KII: OMA Services; KII: Nairobi Boda Boda Association; KII: NTSA, 2026
44 World Bank report on Green Wheels
45 KII: Leading e-mobility company. The Nairobi Boda Boda Association estimated approximately 100,000 km per year per motorcycle, however, they did not explain how they came to this conclusion, and this would work out to 295 km per day (assuming 6.5 days a week of work), which was twice as high as sources with access to GPS trackers.
46 KII: OMA Services; KII: Pullman Transit
47 Assuming 6.5 days of work a week
48 GIZ, 2017
49 https://nation.africa/kenya/news/Boda-boda-accident-deaths-increase-/1056-5271068-126s1yx/index.html
50 https://www.gendersteunescochair.com/project/transport-and-mobility-of-care-nairobi/
51 https://www.cleanaircatalyst.org/news/news/gender-equality-kenya-transport

4.3 Workforce, Representation and Organization

4.3.1 Matatu Workforce Profile

The matatu workforce is diverse, consisting of owners, drivers, operators, and touts or station managers. While owners tend to stay out of the limelight and can be difficult to trace, drivers and conductors are well known for working long days under pressure. They typically work shifts of [52]14 to 18 hours under daily revenue target arrangements.

Operator interviews provide ground-level earnings data. In the matatu sector, OMA Services reports driver pay of KES 1,500–2,000 per day under performance-based arrangements; Pullman Transit reports KES 1,000–1,500 per day for van drivers, with the operator employing only two contractual staff (a driver and a conductor) per vehicle. OMA Services employs approximately 20 support staff (mechanics and operations personnel), each earning around KES 25,000 per month.

Gender inequality is rife. Female matatu conductors are more common than female drivers. The UNEP/AfEMA Kenya Baseline Report on Gender and E-Mobility (August 2024) documents harassment, exclusion from SACCO leadership, and lack of appropriate safety equipment, which will need to be actively addressed in any EV transition.[53] Women constitute roughly 10% of the public road transport workforce in Kenya, predominantly as conductors and stage attendants. Among 73 surveyed women transport workers in Nairobi, 67% worked as conductors, 15% as stage attendants, and only 10% as drivers. [54] The sector's structural barriers are severe: 55% of surveyed women worked more than 12 hours daily; 60% were in casual employment without formal contracts; 79% reported experiencing sexual harassment at work; and 81% lacked access to dedicated sanitation facilities. None of the PSV SACCOs surveyed had documented sexual harassment policies, despite the Employment Act 2007 requiring this for employers with 20 or more employees.[55] The fragmented ownership structure, in which vehicle owners, SACCOs, and operators each disclaim responsibility, leaves most transport workers without health insurance, pension contributions, or enforceable labor rights. This will compound the equity risks of any EV transition unless explicitly addressed.[56]

There are at least two key associations operating in the matatu space in Kenya. The Matatu Owners Association (MOA) is the principal matatu lobby and represents vehicle owners. The Matatu Welfare Association (MWA), however, focuses on worker welfare and conditions.

4.3.2 Boda Boda Workforce Profile

The popular transport sector employs an estimated 1.5 million people directly, though this aggregate masks significant variation across modes. Boda boda riders are overwhelmingly young men — 97.4 percent male, and aged predominantly between 18 and 33.[57] There were approximately 1,000 in the BAK women's chapter by 2024.[58]

In the boda boda sector, the Nairobi Boda Boda Association reports average daily gross earnings of approximately KES 1,500 and net earnings of approximately KES 700 after fuel (unsubsidized in Kenya), maintenance, and daily loan repayments. Most riders finance motorcycles through asset loans with daily repayments of KES 300–800 over 18–24 month terms; entry-level ICE motorcycles cost approximately KES 130,000.[59]

Kenya National Boda Boda Association (KNBA) and Boda Boda Safety Association of Kenya (BAK/BSAK) represent boda boda riders. BAK claims 1.6 million riders in 47 counties.[60]

52 A conductor is a person who manages the daily operations of the public service vehicle (matatu) acting as the bridge between the passengers, the driver, and the vehicle owner. Primary duties include calling out destinations, collecting fares, issuing tickets, managing luggage, and ensuring the vehicle adheres to passenger capacity rules. the entry point and collect bus fare from the passengers, whereas the drivers are the one who drive and operate the matatu.

53 https://sustmob.org/EMOB/pdf/EMOB_Kenya_GenderReport.pdf

54 Flone Initiative, 2020

55 Flone Initiative, 2020

56 Kamau, 2021 (IDS/PB/2021/3)

57 https://www.crimeresearch.go.ke/wp-content/uploads/2020/11/Report-on-Boda-boda-Motorcycle-Transport-and-Security-Chalenges-in-Kenya-2018.pdf#15#6

58 https://nation.africa/kenya/news/gender/behind-the-helmet-the-untold-story-of-nairobi-s-most-popular-female-boda-rider-4926530

59 Interview with Nairobi Boda Boda Association, 2026.

60 https://unece.org/sites/default/files/2021-09/ECE-TRANS-WP1-2021-Presentation-11e.pdf

4.3.3 Key Associations and Unions

SACCOs and associations offer important strengths for the EV transition, including grassroots embeddedness, capacity for collective bargaining, and potential to act as fleet-scale procurement intermediaries. Key gaps remain, however: SACCOs can collapse from misgovernance, and they tend to have little capital to deploy. In addition, associations have limited technical capacity to negotiate EV procurement and financing deals, and popular transport operators have been largely excluded from formal transport planning processes.[61]

MOA members are actively engaged in EV fleet operation: the MOA CEO is the founder of Pullman Transit, which operates 18 electric vans and has engaged the government directly on the EV overnight tariff and parking provisions. OMA Services Director George Mureithi Githinji serves simultaneously as EV Chairman in Kenya and as MOA Treasurer. Both operators report that the multi-layer intermediary supply chain between Chinese manufacturers and Kenyan operators significantly inflates EV acquisition costs, and advocate for direct B2B procurement pathways.[62]

5 Electrification Landscape

5.1 Current EV Penetration and Battery Technology

The pattern of EV adoption across Kenya's popular transport modes closely mirrors their structural differences: rapid transition where commercial conditions and private-sector supply align, and limited uptake where supply or financing has not yet kept pace.

The total stock of registered EVs in Kenya grew 28 times between 2022 and 2025. Approximately 90 percent of registered EVs are two-wheelers (electric motorcycles), reflecting the much larger base of the boda boda sector relative to matatus or buses. At the same time, most of the rest are electric bicycles (*Fig 4)*. Electric bus registrations have grown in recent years, reaching 32 in 2024 (representing 2.2 percent of new bus registrations), though the total operating electric bus fleet remains modest in relation to the overall PSV fleet.[63]



Figure 7: Roam E- Motorcycle fleet.
Photo by: Natalia Perez Bobadilla.

61 https://africasacountry.com/2019/06/blind-to-the-matatu
62 KII: Pullman Transit; KII: OMA Services, 2026
63 CS Davis Chirchir launch speech, transport.go.ke, February 2026; EMAK 2025 White Paper; https://africantechfutures.org/insights/future-of-kenyas-ev-market

Battery technology is dominated by lithium-ion (LFP increasingly preferred for Kenyan conditions). Battery-swap is the prevailing operating model for boda bodas — enabling riders to continue operating without waiting for a charge and shifting battery capital costs to the swap station operator. Plug-in charging dominates for electric buses. Lead-acid batteries were used in some early electric tuk-tuks but have largely been superseded by LFP

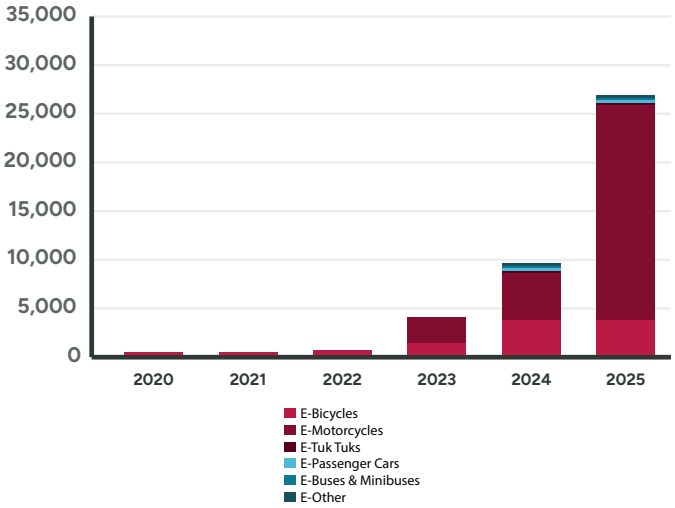


Figure 8: Annual EV registrations by vehicle type.
Source: NTSA.

Confirmed operator-level deployments add texture to these registration figures. OMA Services has operated 18 BYD electric buses within a 32-vehicle mixed fleet for approximately three years — among the longest-running deployments confirmed through primary research in this study — spanning routes including Kariobangi South–CBD. Pullman Transit has deployed 18 electric 18-seater vans for approximately 11 months across Nairobi inner-city and peri-urban routes. Together, these two operators account for around 36 electric PSVs in active revenue service, providing rare multi-year operating data on costs and performance.[64]

5.2 Active Business Models and Key Players

5.2.1 Pay-As-You Drive with BasiGo

BasiGo launched Kenya's first commercial electric bus service in March 2022 with two BYD K6 buses. By August 2025, it had deployed its 100th bus across Kenya and Rwanda, carrying ~20,000 passengers/day. According to BasiGo, their buses had carried 8.07 million passengers and avoided 2,280 tonnes of CO_2 by then. Buses are locally assembled at Kenya Vehicle Manufacturers (Thika).[65]

These buses are made affordable by BasiGo's Pay-As-You-Drive model, which allows SACCO operators to purchase an e-bus without the battery (reducing upfront cost to ~$35,600) and pay a KES 20 / km ($0.16/km) battery-lease fee covering charging infrastructure, energy, and maintenance. In order to afford the upfront cost, BasiGo launched partnerships with KCB and Family Bank to provide loans to operators, much as banks had provided loans to ICE bus owners.[66]

Partner SACCOs include OMA Service Ltd. (12 buses, 100% electric on Kariobangi South–CBD route), Super Metro, Citi Hoppa and East Shuttle. BasiGo secured over $40 million in Series A funding in December 2024 (led by Africa50, BII, US DFC) and has plans to expand to Mombasa and Nakuru.[67] The company reports maintenance costs 40–50% lower than comparable ICE buses, with scheduled service every 15,000 km. Batteries carry a warranty of 1 million kilometers or 10 years (whichever comes first) using CATL lithium-ion systems. The company has 1,000 paid reservations for buses and vans and describes capital availability — rather than market demand — as the primary constraint on its growth rate.[68]

5.2.2 Battery Swapping Electric Bodas

Over 90% of electric motorcycles in Kenya, and by extension over 90% of electric vehicles in Kenya, operate on a battery-swapping model. The idea is simple: the most expensive part of the motorcycle is the battery, which can account for 40-60% of the vehicle's cost. Waiting 2-5 hours to charge is also a significant inconvenience to boda boda riders, who must be ready to take passengers whenever they can (whether online or at a stage). Thus, the battery swap model decouples the battery from the chassis (standing in for the rest of the motorcycle), selling the driver everything but the battery, which remains the ownership

64 KII: OMA Services; KII: Pullman Transit, 2026
65 https://cleantechnica.com/2025/08/04/basigo-deploys-100th-electric-bus-in-east-africa/; https://techtrendske.co.ke/2026/03/18/basigo-electric-bus-expansion-kenya-mombasa-nakuru/
66 https://cleantechnica.com/2022/10/06/kenyas-largest-commercial-bank-kcb-partners-with-basigo-kenya-to-finance-electric-buses-for-public-transport-operators/
67 https://www.basi-go.com/in-the-news/basigo-secures-42m-in-funding-to-scale-public-transport-electrification-in-sub-saharan-africa
68 KII: BasiGo, 2026

of the battery swap network (BSN). When the driver's battery is low, typically 20-40%, they go to a swap station to exchange batteries, which takes a comparable amount of time to refueling. Typically, they pay only for the energy consumed, though some other pricing models have been tried – Zeno, for instance, charges 90 KES per kWh for the first three kWh of the day, and 70 KES per kWh after this. Powerhive is currently offering a single daily unlimited swap package for 450 KES. All major electric motorcycle models in Kenya have partnerships with asset financiers, such as Watu, Mogo, or M-Kopa.

Ampersand, originally founded in Rwanda and expanded to Kenya in late 2022, operates a battery-swap model for e-motorcycles and has deployed over 7,000 e-motorcycles across the two markets. It operates 16 swap stations in Greater Nairobi in partnership with TotalEnergies (Hurlingham, Dagoretti, Mountain View), with CrossBoundary Energy supplying solar power. Financing is available through M-KOPA, Watu, Bboxx and Jali Finance. Ampersand reports a 45% improvement in rider take-home pay versus petrol bikes.

5.2.3 Charging Electric Motorcycles & Tuk-Tuks

The key alternative for electric motorcycle sales has been to sell the motorcycle with the battery. This is primarily practiced by Roam, which is believed to have sold in the low thousands of motorcycles, but unlike other companies, does not publish vehicle deployment numbers. Including the battery means that a Roam motorcycle with a single 3.2 kWh battery costs KES 297,000 instead of KES 150,000 to 200,000 for a petrol Bajaj motorcycle or a similar amount for an electric motorcycle. Buying the Roam motorcycle with two batteries costs KES 416,000**.** In exchange for this higher upfront cost, Roam drivers save significantly more on daily energy payments, around 80% instead of 20-30% for battery-swapping motorcycles.[69] They have also developed Roam Hubs, where drivers can rent an additional battery and/or leave a battery to charge.[70]

5.3 Operator Economics: Evidence from Early Adopters

While exact estimates vary significantly, evidence from early adopters suggests that operators can save significantly on energy and maintenance.



Figure 9: Roam e bike.
Photo by: Natalia Perez Bobadilla.

5.3.1 Electric matatus

The electric matatu business is growing slowly, driven largely by drivers and owners seeking to escape the high cost of diesel (the main fuel used by matatus in Nairobi). Most 33-seater buses so far have been provided by BasiGo since around 2022, although Rideence entered the market in 2025, offering 18-seater vans. In both cases, leasing costs were noted as being higher than with ICE vehicles, with savings to be made in energy costs. While maintenance costs are low in the first year, they rise by the third year of ownership. In particular, sensor system repairs are flagged as uniquely expensive relative to ICE equivalents, which is likely to be the case with EV-specific equipment which the owners are responsible for.[71] In the case of BasiGo, the company covers most maintenance costs in the lease payments.

69 Internal AfEMA research
70 https://www.electrive.com/2023/03/10/roam-opens-large-scale-electric-motorcycle-plant-in-kenya/; https://earthshotprize.org/winners-finalists/roam/
71 KII: OMA Services, 2026

Table 6. Revenues and costs. Full calculations in appendix.

	Revenue	Lease cost	Energy	Maintenance	Deposit	Insurance and fees	Take home
33-seater (OMA / BasiGo)	22,000	8,000 to 15,000	*None*	200[72]	*1,500,000*	800[73]	KES 6,000 to 13,000
18-seater (Pullman / Rideence)	15,000	7,000	2,254	30[74]	*200,000*	450[75]	KES 5,266

5.3.2 Electric boda bodas

Electric boda boda riders report average daily gross earnings of approximately KES 1,500; net approximately KES 700 after expenses. By comparison, ICE motorcycle riders typically spend KES 500-`1000 daily on petrol alone, therefore consuming 40-60% of gross income, whereas electric riders spend around KES 200-450 on energy, resulting in significantly higher take-home pay. From the surveys we conducted, some electric riders report daily savings of up to KES 1000 daily. Monthly maintenance for electric motorcycles is reportedly as low as KES 600. The association reports that **swap station delays, battery weight, equipment durability (rims, wiring), and informal practices at some stations are the main barriers to electric motorcycle adoption — not economics per se**, which riders generally view positively. **A universal battery standard across providers is identified as the highest-priority technical need, but one that faces significant resistance from the current battery swap networks**.[76]

Figure 10: E-bus in maintenance at BasiGo's headquarters. Photo by: Natalia Perez Bobadilla.



5.4 Critical Barriers — Stellenbosch Framework Analysis

The Stellenbosch framework[77] is a system-of-systems modeling approach designed to analyze and simulate the electrification of informal, demand-responsive paratransit systems. We use its prioritization matrix to identify barriers under different conditions, such as weak grids, limited capital, or scarce data. Originally applied to South Africa's minibus taxis, the framework is parameterized and transferable to other informal, demand-responsive systems across Africa, Asia, and Latin America.

72 Assumed annual maintenance costs of KES 75,000 (brakes at 50,000 and tyres at 25,000), as reported.
73 Monthly insurance costs KES 18,910 per vehicle; annual compliance inspection KES 1,000; county parking levy KES 5,280 per month
74 Assumed annual maintenance of KES 10,000
75 Third-party insurance KES 9,200 per month; RSL KES 3,650 per year; city parking permit KES 3,650 per month; annual fitness inspection KES 1,100.
76 KII: Nairobi Boda Boda Association, 2026
77 M.J. Booysen, C.J. Abraham, B.G. Pretorius, A system-of-systems framework for planning the electrification of paratransit, Energy Strategy Reviews, Volume 62, 2025

Context Condition	Primary Challenge Identified Revenue
Grid stability & energy access **Major challenge**	**Access to transformers is costly and difficult, and the cutoff for the e-mobility tariff is too low for electric buses.** For bus charging and battery swap stations with more than 8 or 12 batteries, access to three-phase power from a transformer is critical. However, transformers and the quality of the grid have not kept up in recent years, and companies are often forced to pay $10,000 for a transformer, a sizable investment. EPRA has provided a dedicated e-mobility tariff, charging KES 16 per kWh during the peak hours of 5 AM to 10 PM, and KES 8 per kWh during off-peak hours. The e-mobility tariff must be applied for, and can take months to obtain. It also has a monthly cap of 15,000 kWh, which e-bus operator BasiGo blows past monthly. A dedicated e-mobility liaison office at Kenya Power aims to reduce turnaround time.
Capital constraints & financing gap **Major challenge**	**Asset financiers have been a critical key to consumer finance, but the EV suppliers themselves are heavily capital-constrained.** While the battery swap model allows e-motorcycles to be sold at comparable prices to ICE motorcycles, those being sold including their batteries are 50-100% more expensive. Electric matatus (BasiGo E9 Kubwa ~KES 7.5 m) cost ~50% more than ICE counterparts (~KES 5 m). SACCOs lack the financial tools for EV asset financing, meaning that foreign-owned asset financing companies are the primary beneficiaries of this reliance on motorcycle asset financing. In addition to consumer financing, EVs in Kenya are provided by a range of startups with limited capital. BasiGo registered over 1,000 on their waitlist and has only been able to service a small portion of these; the same goes for e-motorcycle companies, though they are beginning to accelerate. In the matatu space, BasiGo and Rideence were also the only identified providers of e-buses, seriously hampering supply.
Data availability & monitoring capacity **Moderate challenge**	**The data is inconsistent and often unavailable.** NTSA's registration database does not track deregistered vehicles, many boda bodas are not registered as PSVs, and NTSA itself only releases figures upon request. NTSA also does not track VKT, load factors, or fuel efficiency by vehicle class, and the only previous study on these in Kenya (GIZ 2018) is nearly a decade old now. Matatu numbers as counted by PSV registrations have fluctuated significantly over recent years, raising questions about the reliability of this data. Emissions compliance relies on importer declarations at point of entry, with independent field measurement taken by SGS but not released publicly. Finally, Nairobi County's current modal share estimates date from 2019.
Rapid urbanization & infrastructure pressure **Moderate challenge**	**EVs are not yet facing significant challenges from urbanization, but rather are likely to do so in rural areas soon.** While charging and in particular swap infrastructure has grown quickly in urban areas, the economics of swap stations in rural areas are likely to be more challenging. In addition, lower quality roads in rural areas may be harder on electric vehicles if they are not properly adapted for local conditions.
Economic/ industry factors & incumbent interests **Moderate challenge**	Eight motorcycle assemblers and major ICE importers (Toyota, Isuzu, Bajaj) retain significant political influence, particularly through the Kenya Association of Manufacturers. That being said, the fact that they are assemblers and not manufacturers means they do not have the level of political power as practiced in South Africa or Japan in resisting the transition to electric vehicles. The EAC 35% import duty on fully-built electric buses and cars persists despite VAT zero-rating on e-bikes, buses, and Li-ion batteries since the Finance Act 2023.

5.4.1 Policy Reforms

The National Electric Mobility Policy, launched at KICC in February 2026, is the cornerstone of Kenya's EV regulatory landscape. It covers all transport modes, includes provisions targeting boda bodas and matatus (incentives for PSV electrification), and signals 0% excise and VAT zero-rating on electric motorcycles, buses, and lithium-ion batteries. It also calls for green reflective number plates for all EVs, a national EV registry, and EPRA guidelines for charging infrastructure.[78] The policy also prioritizes charging and swap expansion along transport corridors and aims for inclusive growth with social safeguards for informal operators.

However, most of these interventions have already been proposed or enacted in recent years. The off-peak e-mobility charging tariff (KES 8/kWh, 10 pm–5 am) is actively used by fleet operators, though a 15,000 kWh/month cap limits its benefit for larger fleets[79]. Nairobi City County has gazetted its Bus Route Network (December 2024) and is developing a charging infrastructure framework for bus termini, markets, and county parks[80].

EPRA is developing Draft Electric Battery Charging Stations and Battery Swapping Regulations 2025, which will establish licensing standards for charging infrastructure and swap facilities. Tariff review negotiations are ongoing, with a revised e-mobility tariff expected within the next year.[81]

6 Findings, Opportunities and Recommendations

6.1 Key Findings Summary

Kenya's popular transport sector is at an inflection point, with e-motorcycles taking the lead, e-tuk-tuks catching up, and e-buses lagging behind. The energy fundamentals are strong, including an 80% renewable grid, a dedicated e-mobility tariff, and unsubsidized petrol. Private-sector innovation is accelerating, and the policy framework has been substantially upgraded with the February 2026 National Electric Mobility Policy. However, **the EV transition remains concentrated in Nairobi, dominated by two-wheelers, and largely disconnected from the SACCO-based ownership structures that define the matatu and boda boda sectors**.

This reflects a structural reality documented throughout this study. Boda bodas — with high daily utilization, a compatible asset-loan and battery-swap financing model, and a mature private-sector supply chain — have transitioned fastest. Buses and tuk-tuks, despite comparable daily utilization economics that make the case for electrification compelling, face binding constraints in vehicle supply and fleet financing that market forces alone have not resolved. **Unlocking the transition for these modes requires deliberate intervention on both supply and financing, with SACCOs as the institutional channel through which fleet-scale EV transition can most plausibly be delivered at scale.**

The binding constraints are financial (upfront cost premium; SACCO financing gaps), infrastructural (fewer than 200 public charging stations; limited inter-city swap coverage), and regulatory (persisting EAC 35% import duty on e-buses; inconsistent enforcement). Gender inclusion — with women representing under 3% of boda boda riders and largely absent from SACCO leadership — is a justice and efficiency concern that requires deliberate design.

78 https://www.transport.go.ke/kenya-launches-national-electric-mobility-policy-drive-cleaner-efficient-and-sustainable-transport
79 KII: Kenya Power, 2026; KII: BasiGo, 2026
80 KII: Nairobi County, 2026
81 KII: EPRA; KII: Kenya Power, 2026

6.2 Top Opportunities to Advance Electrification

Finding 01
Strengthening SACCO-Led PAYG Financing

Scaling Pay-As-You-Drive and Battery-as-a-Service models through Kenya's matatu and boda boda SACCOs requires strengthening SACCO governance and capitalization.

Finding 02
Corridor Charging/ Swap Networks

Building up the charging and swapping networks with support for transformer financing could help boost both E2&3W growth and charging stations for matatus.

Insight 03
BRT Integration

NaMATA's five BRT lines should be planned and tendered as 100% electric from the outset, with operator transition support to avoid displacing the matatu jobs at risk from route restructuring.

6.3 Strategic Recommendations

6.3.1 Short-Term (2026–2028)

- Operationalize the National Electric Mobility Policy with binding sub-targets for 2- and 3-wheelers and a quota for SACCO-owned electric matatus on at least two BRT corridors.
- Mandate KPLC to publish a quarterly public map of charging and swap sites and EPRA to display EV charging and swapping prices.
- Resolve the EAC 35% import duty anomaly for electric buses and minibuses through a dedicated line item, separate from the existing Finance Bill VAT/excise incentives.
- Remove the 15,000 kWh/month cap on the preferential e-mobility tariff (KES 8/ kWh off-peak). Fleet operators regularly hit this ceiling, negating the tariff's benefit for larger operations. This is the single most-requested policy change among interviewed electric bus operators.[82]
- Require PSV SACCOs to adopt and enforce documented sexual harassment policies as a condition of NTSA operating license renewal, consistent with the Employment Act 2007. Research by Flone Initiative (2020) found no surveyed SACCO had such a policy in place. Integrate gender-disaggregated workforce data into NTSA's annual SACCO reporting requirements.
- Reinstate and enforce the Michuki Rules, integrating EV-specific inspection (battery health, electrical safety) to address Kenya's annual road fatalities.



Figure 11: Roam co-founder showing their e-motorcycle. Photo by: Natalia Perez Bobadilla.

82 KII: BasiGo; KII: Kenya Power, 2026

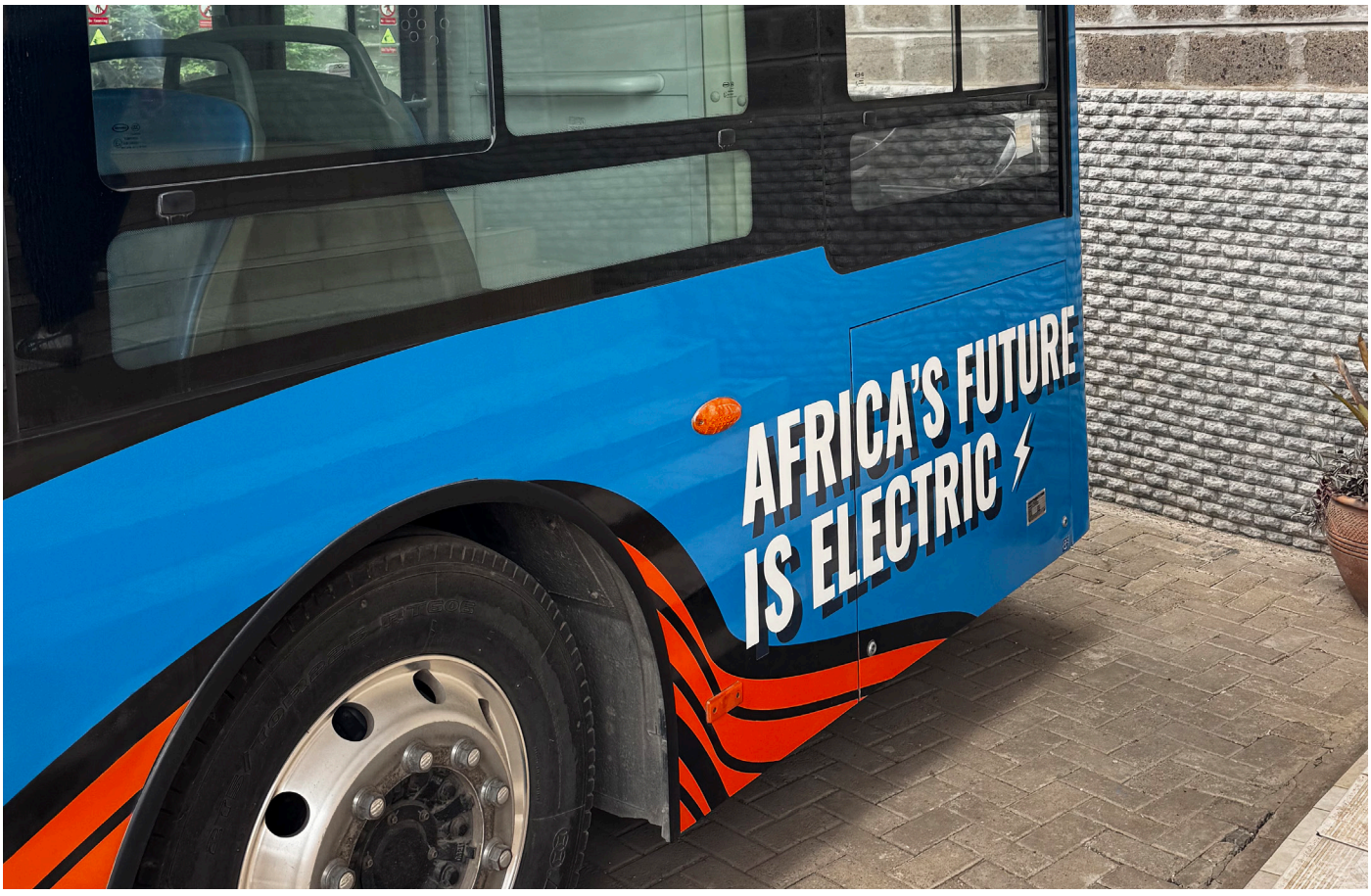
6.3.2 Medium-Term (2–5 Years, 2028–2031)

- Establish a SACCO-led Battery-as-a-Service financing facility backed by DFIs, with risk-sharing for default losses.
- Support transformer financing for charging and swapping sites.
- Complete a national EV data infrastructure: a KNBS–NTSA–KEBS shared registry distinguishing in-service from registered fleet, disaggregated by mode, county, and gender of operator.
- Formalize the employer–worker relationship in PSV SACCOs by enforcing existing NTSA 2014 regulations requiring written employment contracts, and linking SACCO license renewal to verified NHIF and NSSF contributions for drivers and conductors. The current gap leaves the majority of popular transport workers without enforceable labor rights or social protection.[83]
- Deliver the NaMATA BRT corridors with 100% electric buses and SACCO-inclusive operating models.

6.3.3 Long-Term (5–10 Years, 2031–2035)

- Target 100% electric for all newly registered PSV matatus and boda bodas by 2030–2032, aligned with the 35% NDC target by 2035.
- Scale county-level integrated transport authorities modeled on NaMATA to Mombasa, Kisumu, Nakuru and Eldoret.
- Develop a domestic battery recycling and second-life industry to capture the full value chain and prevent waste export.

Figure 12: Roam E bus prototype.
Photo by: Natalia Perez Bobadilla.



83 Kamau, 2021 (IDS/PB/2021/3); Flone Initiative, 2020

Appendix

Key Actors and Stakeholder Map

Priority Government Stakeholders

Category	Actor	Role / Mandate
Government	Ministry of Roads and Transport	Policy lead; launched National e-Mobility Policy Feb 2026
Government	NTSA	Licensing, enforcement, TIMS digital platform
Government	EPRA	E-mobility tariff; EVCI and swap-station guidelines
Government	KRA	Import duties; Finance Bill implementation
Government	KEBS	Type approval; battery SoH standards
Government	NaMATA	Nairobi metropolitan BRT and transport authority
Government	County Governments (Nairobi, Mombasa, Kisumu, Nakuru)	County transport regulation; route licensing
Civil Society	EMAK	Private-sector EV body; 2025 White Paper
Civil Society	MOA / MWA	Matatu owner and worker lobbies
Civil Society	BAK / BSAK / KNBA	Boda boda associations; 1.5 m riders
Civil Society	ITDP Africa	BRT design and transport equity advocacy
Civil Society	UNEP / AfEMA	Gender and e-mobility; Kenya Gender Baseline 2024
Funders	GIZ	Draft e-Mobility Policy; Changing Transport; TUMI E-Bus Mission
Funders	JICA	NIUPLAN; Ngong Road BRT pilot
Funders	AFD	BRT Line 3 (€347.6 m)
Funders	AfDB	Green Mobility Facility for Africa
Funders	World Bank	Kenya Urban Mobility Improvement Project
Funders	BII / US DFC	BasiGo Series A debt
Funders	Siemens Stiftung	E-mobility pilots (eWAKA, Ecobodaa, Kiri EV)

Private Sector Stakeholders

E-Bus Providers	BasiGo, Rideence
E-Motorcycle Providers	Roam, Ampersand, Spiro, Arc Ride, Tankvolt, Rhinggo, Zeno, and over thirty others
E-Tuktuk Providers	Rhinggo, Solutions Africa, TRi, Tankvolt
Asset Financiers	Watu Credit, Mogo, M-Kopa, Green Wheels

NTSA Data

	2020	2021	2022	2023	2024	2025	(2018-25)
Passenger cars	65,716	72,520	61,354	68,089	109,726	105,987	*640,558*
Pickups and lorries	12,541	13,057	20,976	26,592	14,396	16,284	*138,287*
Buses and minibuses	1,984	1,715	3,080	4,701	4,418	4,850	*25,896*
Other	13,887	20,207	13,955	19,823	12,163	15,873	*110,940*
Motorcycles	246,705	285,203	131,513	70,691	118,308	241,763	*1,493,280*
Three wheelers	5,896	6,350	4,001	5,760	8,182	10,478	*54,248*
Total	**346,729**	**399,052**	**234,879**	**195,656**	**267,193**	**395,235**	***2,463,209***

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