

CITY FEATURES



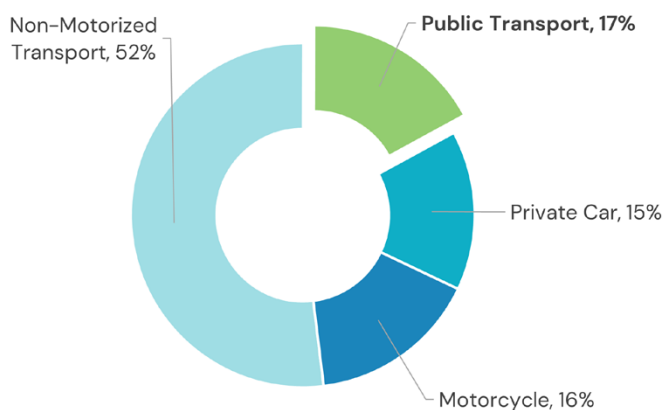
Kigali is the capital city for the Republic of Rwanda, a landlocked country located in central-eastern Africa. Kigali is the commercial and administrative hub and contributes over 41% of the country's GDP. Rwanda is affectionately known as the 'Land of a Thousand Hills' which greatly sums up the topography of Kigali.

Over the past 20–30 years, Kigali has experienced significant spatial growth largely due to internal migration and population increase. Rapid urbanisation has resulted in built up areas increasing from 25 km² to 115 km², contributing to urban sprawl and the many unplanned settlements that populate the city. The city now consists of 3 districts: Nyarugenge, Gasabo and Kicukiro.

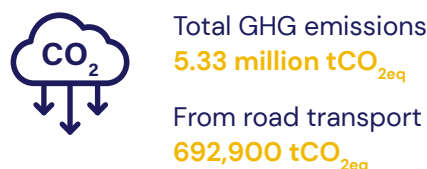
	Population		Land area		Average temperature
	1,132,686 (2012)		730 km²		21–27°C

TRANSPORT FEATURES

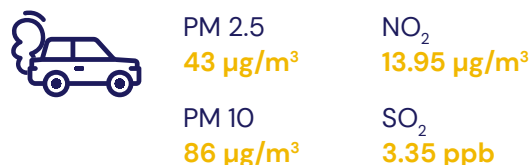
Modal Split



GHG Emission Levels¹



Air Pollutant Levels²



The majority of trips are by non-motorised transport, public transport and motorcycle taxis, which in total make up around 80% of trips. Motorcycle taxi trips dominate public transport use due to their affordability, speed and ability to move through congested roads and traverse over any terrain, reaching communities on the edge of the city which are often not served by formal transport. More than 40% of Kigali residents walk for the first and last mile which can be more than 20 mins to the nearest public transport stage.

The motorisation rate remains low, but continues to grow annually at an average rate of around 12%, with the majority of cars on the road being imported and very old cars. The mean trip length is around 7.4 km, with the average trip length for non motorized transport being 5.8 km.³

1 National Determined Contribution, 2020. Calculations made at the national level

2 REMA (2020). Rwanda Air Quality Progress Report 2020, Kigali_Rwanda

3 City of Kigali Master Transport Plan, 2020 and ITDP, People-Oriented Cities and UN Habitat, Quick Guide to bus sector modernisation, 2020

BUS SYSTEMS OUTLOOK

Bus Trips Features

 Average distance
12 km

 Average time
40 min

Fleet and Infrastructure

 Number of buses
392

 Number of routes
63

 Number of bus stops
382

 Number of bus depots
4

The majority of bus trips are used to travel to work from neighbourhoods on the outskirts of the city towards the Central Business District, and most residents walk to and from bus networks. Further, 88% of bus trips are done by passengers between the ages of 21–45 years old, and 68% of passengers are employed. Around one fifth of passengers interchange where they use more than one bus to reach their destination, and waiting times at the start of their journey, and during interchanges could be long.

Quality of Service^{4, 5, 6}

Although Kigali's bus services stretch across the main areas in the city, with many bus routes allocated, the overall bus services are still insufficient to meet the demand of a growing population. The COVID pandemic, along with the current challenges around rising fuel costs, is negatively impacting bus services resulting in limited availability of buses in operation and/or reduced distances travelled. There is also no time schedule which means that commuters have to wait without any pre-announcement, which results in very long commuting times. However, the City of Kigali and Rwanda Transport Development Agency (RTDA) are committed to improving service quality in the city.

With regards to safety and security perceptions, recent interventions and initiatives to improve public lighting, speed control, road safety campaigns etc., have significantly improved bus riders' positive perceptions. According to a recent academic survey undertaken with 383 bus passengers, a wide majority claimed to feel satisfied with the current levels of safety and security at different stage of the trips.



4 Japan International Cooperation Agency. Data collection survey on Development of Urban Transport in Kigali City, 2013

5 ITDP, People-Oriented Cities and UN Habitat. Quick Guide to bus sector modernisation, 2020

6 Hirwa, P. Assessing perceptions of passengers safety and security. The case of Kigali, Rwanda. 2021

Existing Business Model^{7, 8, 9}

Kigali, backed by the Rwandan government, has made huge progress in reforming public transport since it was first initiated in 2013 in an attempt to better coordinate public transport services in the city. Through this, the formalisation of the minibus and motorcycle taxi industry commenced where operators were required to form cooperatives or establish companies, as well as undergo a licensing process. Despite initial resistance from individual owners and operators, the reform has proven to be effective and beneficial – formalized bus owners were able to get access to credit and biddings to operate routes, and drivers saw an improvement in their working conditions, salaries and social security.

A

Model A: Vertically integrated, private operator in BRT/integrated system

B

Model B: Divided responsibilities in BRT/integrated system

C

Model C: Large, more formal, private operator in traditional service

D

Model D: Small, informal, private operator in traditional service

E

Model E: Government-run system

C

Three bus association or companies operate in Kigali in four zones: Kigali Bus Services (KBS) operates zone 1, Royal Express operates zone 2 and Rwanda Federation Transport Cooperatives (RTFC) operates zones 3 and 4. Following a tendering process, these bus companies were awarded a contract with 5-year licenses to operate in their respective zones. Lead by the first generation services contract, bus companies are required to use cashless payment systems and meet certain high occupancy targets. Private bus companies own, operate, maintain and scrap their bus assets, while the government provides and maintains infrastructure required. Fares are regulated by the Rwanda Utilities Regulating Authority (RURA), and the government subsidises bus operations and a percentage of the fares.

Further, as part of their drive to continuously improve efficiency and quality of bus services, the government is looking to implement second generation contracting model where government payments to the operators would be based on a fixed payment per bus-kilometre. The per-km amount would be revised annually according to changes in fuel prices, inflation, and other factors. Currently, public transport services and bus fares are not integrated. However, as a start, Kigali has digitised their fare system by incorporating smart card payment technologies in all buses.



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7 Based on Accelerating a market transition in Latin America: New business models for electric bus deployment, P4G, Zebra and Dalberg, 2020

8 Japan International Cooperation Agency, Data collection survey on Development of Urban Transport in Kigaliy City, 2013

9 ITDP, People-Oriented Cities and UN Habitat, Quick Guide to bus sector modernisation, 2020

OPPORTUNITIES AND CHALLENGES FOR ADOPTION OF E-BUS FLEETS



Opportunities

- The Government of Rwanda is strongly driving the transition to electric mobility as a lever to decarbonise the transport sector, and have introduced new adjustments to policy and regulations to reflect this.
- A number of fiscal and non-fiscal incentives have been approved to accelerate the use of electric mobility, including electricity tariff for charging stations to be capped at the industrial tariff level, exemptions on VAT and import and excise duties on electric vehicles and related components, among others.



Challenges

- The major challenge remains the lack of funding and subsidy programmes to kickstart e-bus adoption in the city.
- The high capital costs required to purchase e-buses and charging infrastructure, along with the limited knowledge and pilot studies documenting the potential long-term cost benefits of e-bus operations, makes bus operators reluctant to switch to this new technology.



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Acknowledgements

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Publisher

ICLEI – Local Governments for Sustainability. e.V. © 2022
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The publication should be cited in full as: "ICLEI – Local Governments for Sustainability (2022). TUMI E-bus Mission City Network – Profile: Kigali, Rwanda. Bonn, Germany".

About the TUMI E-Bus Mission

Funded by the German Ministry for Economic Cooperation and Development (BMZ), a core group of organizations supports cities in their transition toward electric bus deployment. For more information please contact: tumi-network@iclei.org or visit <https://sustainablemobility.iclei.org/tumi/>