

CITY FEATURES

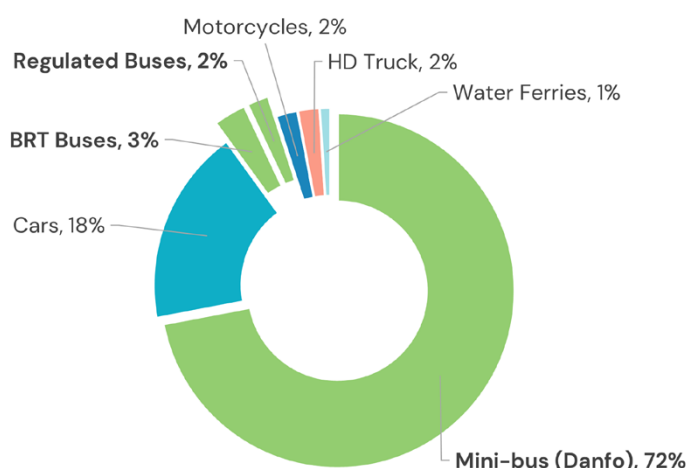


Lagos is Nigeria’s lagoon city with a coastline of 180 km and a land area of 3,577 km. It is a busy port city built on a series of islands and surrounding land on the African West Coast. As the largest city in Nigeria and second most populous city in Africa, Lagos remains an important financial and economic hub, where business, culture and entertainment come together. Due to its size, Lagos has the largest and most extensive road network in West Africa, connecting multiple rural and urban communities and nearby hinterlands. Due to sustained economic growth and a booming cultural and entertainment sector, Lagos has continued to attract businesses and tourists alike due to its sandy beaches, temperate climate, skyscrapers, parks and buzzing nightlife. At a national level, Nigeria is the tenth most petroleum-rich nation in the world. Moreover, the oil and gas sector accounts for 80 per cent of Nigeria’s exports which is between 7–9% of Nigeria’s GDP each quarter.

	Population ¹		Land area		Average temperature
	26,435,406 (2020)		3,577 km²		26–32°C (March) 23–28°C (August)

TRANSPORT FEATURES

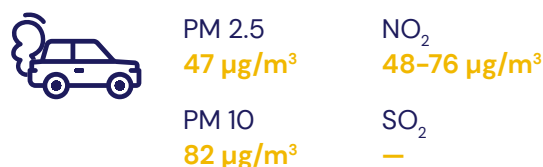
Modal Split²



GHG Emission Levels



Air Pollutant Levels



Lagos is the commercial capital of Nigeria and is considered as a Megacity region covering Lagos State and the most immediate areas of Ogun State. As a result of urban sprawl from neighboring cities, Lagos receives a large volume of migrants daily with no fixed address predominantly via road transport, who commute into the city for economic purposes, causing an increase in demand for transport. To cater to this large volume of economic migrants, there has been a rise in informal transport, especially danfo (minibus taxis) and motorcycles. Both of these modes of transport contribute to increased congestion and road safety concerns. The informal operations are predominantly controlled by the drivers’ union. The ownership and use of motorised private transport has also continued to grow steadily, especially since some private car owners tend to use their vehicles as taxis during their commute trips.

1 Lagos Bureau of Statistics (Abstract of Local Government Statistics, 2020)
2 Lagos Metropolitan Area Transport Authority (LAMATA)

BUS SYSTEMS OUTLOOK³

Bus Trips Features



Number of annual bus trips
 2019 **532,485** (BRT)
 — (non-BRT) 2021 **341,001** (BRT)
313,536 (non-BRT)



Average time
2 hours



Trips by purpose

Return home **44.3%**
 Business **33.4%**
 Social **9.6%**
 Shopping **7.9%**
 Recreation **4.9%**



Average distance
35 km

About 70% to 77% of these trips are by bus based public transport, while the rest is largely by private cars. The rail and water transport modes account for less than 1% of the trips (LAMATA, 2014). Organized public transport services exist in the form of Bus Rapid Transit (BRT), the LAGBUS and the corporate taxi scheme which were introduced a decade ago as part of the government's effort to make Lagos a global and competitive megacity. The BRT was introduced to replace the private sector driven mini-buses known as Danfo and Molue. It was estimated that there is about 75,000 such mini-buses in Lagos metropolitan area.

Fleet and Infrastructure



Number of buses
1,864



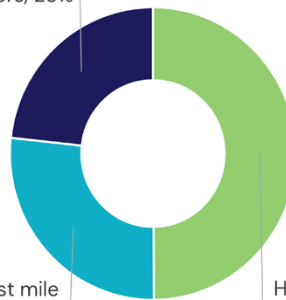
Number of routes
3 BRT
742 non-BRT



70 BRT bus stops
100 bus shelters
3000 conventional bus stops
4 bus depots (BRT)

Buses by fleet type

BRTs (high capacity), mass transit corridors, 23%

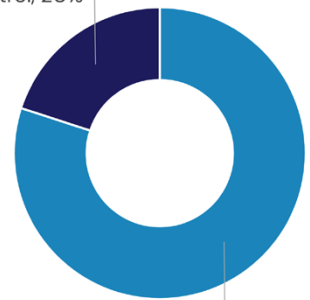


First and last mile buses (micro buses), 27%

High and mid capacity buses, standard routes, 50%

Buses by fuel type

Petrol, 20%



Gasoline, 80%

Quality of Service

The bus routes are convenient for the various trips and accessible to commuters from neighbouring areas. The frequency of the service is high during peak hours, with buses running every 10 minutes; however, it is low during off-peak periods. The buses run on manual scheduled time as the Intelligent Transport System (ITS) is undergoing maintenance and infrastructure upgrade.

The BRT has 80% segregation with less interference from other modes of transport, thus, experiencing minimal traffic jams and time lost, which saves travel time by 60%. The buses are affordable and safe for all, including people with disabilities.



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Existing Business Model⁴

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

A **BRT, High and Midi Capacity Buses, First & Last Mile:** A contract management model where government procures the buses and entrusts them to private companies, while the bus maintenance is carried out centrally by the original equipment manufacturer that is engaged by LAMATA.

A **BRT, High and Midi Capacity Buses:** The second model is the bus franchise model where the operator procures the buses and carries out the maintenance of the buses. The operator is the owner of the buses and has the responsibility for the maintenance and scrapping of the buses at depreciation.

C-D **Danfós/minibuses (large but informal model):** Danfós are owned by private operators who are registered under one of the Union bodies known as National Union of Road Transport Workers (NURTW) or Road Transport Employers Association of Nigeria (RTEAN)⁵. Danfós pay daily dues and other levies as a member. They require the Hackney permit, driver's license and LASDRI certification license to operate on the routes. However, there is no enforcement of such from the Ministry of Transport. The Ministry only enforces their membership and allocation to a Zone or Branch of the Union which is leveraged to operate on the assigned routes.



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⁴ Based on Accelerating a market transition in Latin America: New business models for electric bus deployment, P4G, Zebra and Dalberg, 2020

⁵ NOTE: both unions NURTW and RTEAN have been banned in Lagos whilst the new committee managing their affairs is now Lagos State Park and Garages whilst RTEAN is managed by Lagos state park administration, the committee reports to the Lagos State Ministry of Transport.

OPPORTUNITIES AND CHALLENGES FOR ADOPTION OF E-BUS FLEETS



Opportunities

- E-mobility study is expected to have a positive impact on climate change, by reducing GHGs emission and improving air quality.
- Encouraging public private partnership. Private investment can result in efficiency gains and increased consumer welfare if appropriate organisational, institutional, and regulatory conditions are met.
- Optimal investments in transportation infrastructure should maximise the present value of user benefits, net of capital and maintenance costs, while efficient operations should minimise costs.



Challenges

- Technical: Knowledge gaps in the transport professionals, absence of appropriate data, and ineffective infrastructure.
- Financial: Lagos is facing challenges with funding and financing, development of feasibility studies and business cases, and procurement methodologies.



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Acknowledgements

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Publisher

ICLEI – Local Governments for Sustainability. e.V. © 2023
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The publication should be cited in full as: "ICLEI – Local Governments for Sustainability (2023). TUMI E-bus Mission City Network – Profile: Lagos, Nigeria. 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/>