

TUMI E-bus Mission City Network – Profile

GREATER ACCRA METROPOLITAN AREA (GAMA), GHANA



CITY FEATURES



Accra is the capital city of Ghana. Accra forms part of the Greater Accra Metropolitan Area (GAMA) which connects Accra to fringe and peri-urban areas. It is characterised by significant (low density) urban sprawl, with many people residing outside the city centre and commuting daily to the Central Business District (CBD). Accra represents about one-third of Ghana’s annual GDP with the services sector accounting for on average 63% of Accra’s GDP, while the manufacturing industry contributes 20.5%. Due to the Greater Accra Region being the economic and commercial hub of the country, the city experiences a significant daily inflow and outflow of approximately 2.5 million people. It is a port city – during colonial times, the road network was designed to prioritise access to the main economic activities, industrial and port.



Population
2,605,402
(Accra, 2022)



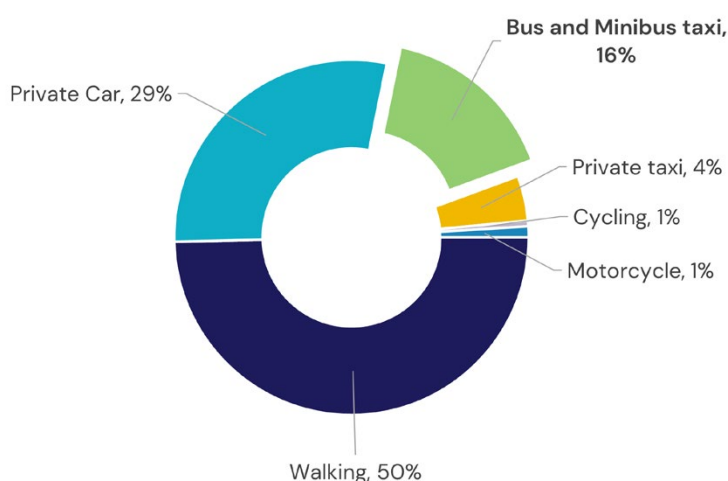
Land area
173 km²
(GAMA)



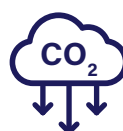
Average temperature
25–29°C

TRANSPORT FEATURES

Modal Split¹



GHG Emission Levels



Total GHG emissions
2.4 million tCO_{2eq}

From road transport
721,656 tCO_{2eq}

Air Pollutant Levels



PM 2.5	NO ₂
49.47 µg/m³	7,311 tonnes
PM 10	SO ₂
81.1 µg/m³	746 tonnes²

Each day, an additional half a million commuters travel into the city to undertake professional, administrative, educational, commercial and industrial activities (World Bank, 2010). Limited mass public transport, rising car ownership rates, and high levels of motorisation mean that the city experiences high levels of traffic congestion. Some of the urban challenges in the transport sector include poor and inadequate development of inter-modal facilities, lack of proper enforcement of transport regulations, limited integration between land use and transport planning.

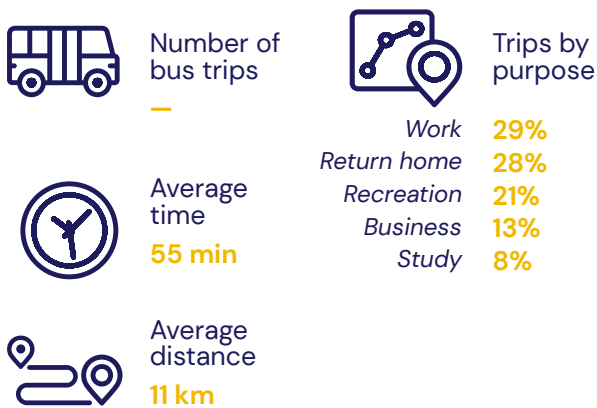
Most of Accra’s population, about 70% make use of the largely unregulated, semi-formal transport system such as the minibus taxis, referred to as tro-tros.

1 <https://www.transformative-mobility.org/assets/publications/1.-TUMI-City-profile-and-story-Accra.pdf>

2 Naidoo S. et. al., (2021), Accra Climate Action Plan Air Quality Annex, Draft Technical Report

BUS SYSTEMS OUTLOOK

Bus Trips Features³



The majority of bus trips take place for purposes of traveling home, to work or for business. This reiterates the fact that, on a daily basis, citizens who live on the outskirts of the city, travel into Accra CBD for work. In December 2016, Accra proudly unveiled the first phase of its BRT system, the Ayalolo Bus Services (ABS) network. The BRT system consists of 245 buses operating in their own Dedicated Bus Lane (DBL) and stops on a limited scale (under 2 kilometres out of 21 kilometers). The other 19 km of ABS run amidst traffic, which currently limits some of the benefits of a BRT system. The Greater Accra Passenger Transport Executive (GAPTE), that manages the ABS network, intends to convert all ABS routes to dedicated lanes. These air-conditioned buses include features such as Wi-Fi, USB ports and an electronic cashless ticketing system.

Fleet and Infrastructure



Quality of Service

The Ayalolo Bus Services BRT line was introduced in 2016 (operated up to May 2018) on the Amasaman to Accra Central Business District (CBD) transport corridor. According to a study done by the International Growth Centre (IGC), the BRT on this corridor allowed for a 7 minute reduction time. The dedicated bus lane for BRTs was only implemented for 2 km of the 21 km route at strategic locations. Where the BRT runs with mixed traffic, no time is saved during commuting. However, the cost of ABS BRT is cheaper than tro-tro, leading to cost saving for travellers using ABS.

Many aspects inhibited the use of the BRT system. These mainly include the electronic bus cards system since most bus users were accustomed to using cash, not knowing how to purchase tickets and top up their cards; and the lack of awareness, since the perception was that the BRT was for wealthier communities. Moreover, there was a low usage (only 9%) by those who were aware of the ABS and the cited reason for this was that the service was infrequent, did not stop at every designated bus stop and the service was slower than other transport options. That being said, the majority of users said that they were satisfied/very satisfied with the service, with the majority noting that it was comfortable and pleasant due to the air-conditioning.



© Alex Johnson, Department of Transport, Accra

3 KOICA. 2016. The transport master plan project in Greater Accra Region: Final Report
 NOTE: the data is valid for public transport in general, not only buses.

Existing Business Model⁴

In December 2016, Accra proudly unveiled the first phase of its BRT system, the Ayalolo Bus Services (ABS) network. The BRT system consists of 245 buses operating in their own Dedicated Bus Lane (DBL) and stops on a limited scale. These air-conditioned buses include features such as Wi-Fi, USB ports and an electronic cashless ticketing system. The Greater Accra Passenger Transport Executive (GAPTE) manages the ABS network.

Metro Mass Transit Limited (MMT) was created in 2003 to provide state operated public transport services. The government is a majority shareholder in MMT. It holds about 45% shares and the rest of the shares (55%) are held by the private sector. There are some 1,049 MMT buses, servicing both intra-city and intercity areas from Accra. These account for 32% of intra-city routes and 33% of bus fleet. The Ministry of Transport is the supervisory body for MMT and therefore, makes important regulatory and operational decisions for the service. Furthermore, there are around 14,000 informally operated buses and minibus taxis in Accra.⁵

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

Ayalolo Bus Services (ABS) buses are operated by private entities but owned by the government.

D

Buses and minibuses in the informal system are owned, operated, maintained and scrapped by the operators themselves.



© nicolasdecorte / Shutterstock.com

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

⁵ https://lab.movinonconnect.com/s/article/Inclusive-new-Bus-Rapid-Transit-BRT-in-Accra-Ghana-1543270030815?language=en_US

OPPORTUNITIES AND CHALLENGES FOR ADOPTION OF E-BUS FLEETS



Opportunities

Low to Zero Emission Targets Realisation – Accra Climate Action Plan:

- Change in Institutional Workflow Processes
- Re-adjustment of Government Budget Structure
 - Cost-Benefit-Analyses
 - Energy Source Carbon Impact Evaluations
- Milestone Gain for Improved Air Quality Implications
 - Green Economy (Including Carbon Pricing)
 - Reduction in Respiratory Tract Infection Cases
 - Reduced Health Spending (Increased Disposable Income)



Challenges

- Technical: Regulatory capacity, unavailability of data and supporting infrastructure.
- Institutional: Gaps in regulation and enforcement and lack of political will.
- Financial: Lack of funding options for a fleet renewal and upgrading existing public transport vehicles with the potential of introducing electric vehicles for public transport.



© Alex Johnson, Department of Transport, Accra

Acknowledgements

Authors: Lauren Arendse, Jehan Bhikoo (ICLEI Africa), Shumaila Afzal (ICLEI World Secretariat)

Contributors: Alex Johnson (Department of Transport, Accra Metropolitan Assembly)

Editors: Sajili Oberoi, Alyssa Chenault (ICLEI World Secretariat)

Design: Olga Tokareva, Laura López (ICLEI World Secretariat)

Publisher

ICLEI – Local Governments for Sustainability. e.V. © 2023
Kaiser-Friedrich-Straße 7, 53113 Bonn, Germany
All rights reserved

Disclaimer

ICLEI developed this profile in consultation with project cities but cannot guarantee the accuracy of the information and therefore cannot be held responsible for any consequences of its use.

The publication should be cited in full as: "ICLEI – Local Governments for Sustainability (2023). TUMI E-bus Mission City Network – Profile: Greater Accra Metropolitan Area (GAMA), Ghana. 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/>