

Kumasi, Ghana

Partner city

Status of the project: Completed preparation of the Sustainable Urban Mobility Plan



Basic Information

Urban area: 2,603 km²

Population: 2,945,000 (2021 census) | Growth rate: + 4.00%

Region capital city

GDP per capita: USD 4,700 (National)

Motorised Modal Share (Road Space Usage)

Formal public transport (Bus): 15%

Informal public transport (Trotro): 53%

Private cars: 14%

Taxis: 12%

Freight vehicles: 1%

Other (LDV): 4%

(For all modes, not only road)

NMTs: 16%

Private cars/bikes: 20%

Public transport: 63%

National GHG emissions per capita: 1.5 (tCO₂eq)

Exposure to climate change: MEDIUM

Context

Since the 2010s, more than half of Ghana's population (precisely 57%) has lived in urban areas. Despite their rapid expansion in size and population, most cities lack infrastructure, including transport infrastructure. In the last few years, institutions have been unable to cope with the rapid urban transition. Ghana has started seeing the side effects of rapid urbanization, including congestion, unregulated urban expansion, and limited access to services and affordable housing.

Kumasi is the second largest city in Ghana. The greater Kumasi Metropolitan Area (gKMA) is the result of multiple extensions of the city's perimeter, including inner Kumasi (KMA) and 6 additional municipalities and districts. It covers a total land area of 2,582km² with a total population of 2,945,000 in 2021. Kumasi is set to increase to about 4,200,000 in 2030 and about 6 million inhabitants by 2040. The population density is expected to substantially increase, as urban sprawl, while built-up area in gKMA already increased from 681km² in 2017 to 819km² in 2021.

Rapid urbanisation in Ghana has implications for urban mobility. Severe traffic congestion and road safety issues are the consequence of over-reliance on low-capacity passenger vehicles, inadequate traffic management, heavy dependence on informal public transport services, insufficient facilities for walking and cycling, occupation of roads by hawkers, and so on.

The predominant mode of transport in Kumasi is *trotros*, minibuses carrying between 14 and 23 passengers, and shared taxis which take four passengers. These vehicles do not provide scheduled services and operate with the 'fill and go' principle, preventing passengers from planning their trips effectively.

Their large number compensates for the limited capacity of these vehicles. Distribution of cars on routes depends on the preferences of the operators, usually linked with the conditions of the roads, leading to an uneven distribution of transport services.

The SUMP diagnosis conducted in 2022 identified that *tro tro* is the dominant public transport mode in Kumasi (50% of total trips), followed by shared taxis (6%), *pragias* (5%). Private vehicles account for only 17% of the total trip number. The city received in 2017 60 buses from the Ministry of Transport for the introduction of a mass transit service (pilot BRT), and 20 of them were in operation in 2022. Offer delivered from these buses is very limited, with not more than two rides a day per route.

The different Metropolitan, Municipal, or District Assemblies (MMDAs), which are part of gKMA, are empowered by law with legislative responsibilities to make policies, including the enabling legislative instruments, to provide leadership for local transport policy and planning, pass common bye-laws on passenger transport and facilitate a fair and efficient regulatory environment by offering priority to operators using traffic management measures. The fact that the mandate over urban mobility is scattered among the various MMDAs forming gKMA represents a challenge for adopting and implementing an holistic mobility system over gKMA territory.

There is an existing Greater Kumasi Urban Development Master Plan, sponsored by JICA and coordinated by the Spatial Planning Department of KMA in collaboration with the 6 adjoining Assemblies that formed the Greater Kumasi Metropolitan Area. While there has been a lack of formal coordination among these bodies, the Departments of Transport within the MMDAs regulate paratransit through various measures, including registering 24 unions' vehicles, driver, and route registration. However, coordination among the MMDAs remains a challenge. Additionally, MMDA issues stickers to paratransit vehicles to summarise registration data. It's important to note that illegal operators, known as "wawa," also exist within the system.

At the national level, the Ministry of Roads and Highways and the Ministry of Transport (MoRT) are responsible for road infrastructure, while the Ministry of Railway Development is in charge of the mass-transit railway.

The local governments cannot borrow from international finance sources based on the Local Government Act of 2016. Systems and procedures are partially in place to monitor, evaluate and report on urban mobility.

The main urban mobility challenges Kumasi is facing are described below:

- Poor integrated land use planning and control procedures. This results in urban sprawl, traffic congestion on major roads, and poor road safety.
- Poor traffic management and the poor condition of the existing road network, connected with
- While the road network is generally well developed and structured, with an outer ring road for transit flows, there are significant issues with traffic management. The network has adequate capacity for current demand; however, traffic jams are frequent. This congestion is mainly due to behavioural problems, including illegal parking, *trotros* stopping on the carriageway, and road encroachments, alongside issues like the misuse of road space and inadequate pedestrian continuity.
- Inadequate facilities and general inefficiency of the public transport system, which cannot meet the demand.
- The institutional framework is not optimised for mobility operators and organisations. This affects profitability, the enforcement of policies, and the prevention of fleet renewal.
- The exhaust gas causes excessive air pollution from a fleet of vehicles that is mainly old and poorly maintained.
- Uncontrolled occupation of public space by shops.

The main aims of the SUMP are to produce a high-quality document, ready for adoption by the different assemblies of the gKMA, that identifies different measures to:

- Introduce mass transit public transport and regulate paratransit for more efficiency, safety, and affordability of public transport services
- Improve traffic management and safety measures, particularly reducing traffic congestion in the city centre.
- Improve pedestrian/Non-Motorized Transport facilities for walkability and safety.
- Improve the institutional and financial framework, given greater effectiveness in planning, designing, building, regulating, and operating the mobility system in the city.

- Improve the technical capacity of the professionals in transport and GHG reduction.
- Build capacities of local experts and other mobility actors in Kumasi to implement, monitor, and revise the Sustainable Urban Mobility Plan, serve as advocates of sustainable urban mobility planning, and transfer gained knowledge and experience with other cities in Ghana or the subregion.

The technical assistance contributes to institutional strengthening by inter alia, providing training sessions on selected topics.

Support from the Partnership

Technical Assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 500,000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Kumasi Metropolitan Assembly (KMA)

Supported activities:

- SUMP for Kumasi (including support for inception, diagnosis, vision and strategic objectives, scenario development and action planning, financing requirements and public participation)
- Specific mission: Establishment of an observatory of urban mobility data and GHG emissions

Status of the SUMP development process

Project start: 2021 Q1

SUMP Project completion: 2024Q1

SUMP Project adoption: 2024 Q1

Completed outputs:

- Signature of a Memorandum of Understanding between a delegate of the Kumasi Metropolitan Assembly (KMA) – representing the different Greater Kumasi Metropolitan Area (GMA) assemblies and AFD.
- Support for the tender and selection of consultants
- Inception phase and inception report
- MobiliseDays.
- Diagnosis phase.
- Vision/scenario phase.
- Action plan.
- Final SUMP report.

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate (in million USD)
Active modes of mobility	USD 120,300,000
Quality sidewalks	USD 120,000,000
Shared bicycle system	USD 300,000
Road infrastructure, traffic management, parking offer	USD 133,900,000
Urban safety and environment improvement	USD 13,000,000
Traffic management in the city centre	USD 4,000,000
Centralised traffic management centre	USD 1,000,000
Inner ring road dualisation	USD 22,000,000
Development of critical link roads	USD 93,000,000
Development of on-street parking	USD 600,000
Development of a multi-storey car park	USD 300,000
Public transport	USD 739,500,000
Hierarchisation and restructuration of the public transit network	USD 3,500,000
BRT system development	USD 502,000,000
Quality bus services development	USD 174,000,000
Trotro services enhancement	USD 60,000,000
Institutional arrangements	USD 4,000,000
Institutional framework enhancement	USD 4,000,000
Regulation and enforcement enhancement	USD 0
TOTAL	USD 997,000,000

Projected impacts

Indicator	Impact 2035 (SUMP vs BAU)	Baseline - 2022	Projected 2035 BAU	Projected 2035 SUMP scenario
Total annual GHG emissions (Mt CO₂eq)	-0,13 Mt CO ₂ eq -18.57% compared to BAU	0,37 Mt CO ₂ eq	0,7 Mt CO ₂ eq	0,57 Mt CO ₂ eq
Access Increase in the proportion of the population living within 500 meters or less of a public transport stop	+20.1%	62.1%	62.1%	82.2%
Modal share Increase in the modal share of public transport (among motorised modes)	Public transport: +5%	Public transport: 76%	Public transport: 60%	Public transport: 65%
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	+ 1.2%	21.1%	16.2%	17.4%

It is important to note that the difference in the modal share of motorised transport between men and women is expected to decrease from -4% in the 2035 Business-as-Usual (BAU) scenario to -1% in the 2035 Projected SUMP scenario. This indicates a predicted improvement in gender equality in access to transport.

Insights from practice: lessons learned from SUMP development process

The SUMP diagnosis brings new insights into Kumasi's current mobility situation and future trends.

After thoroughly analysing Kumasi's urban mobility system, several key takeaways emerged that provide insights into the city's transportation network's strengths, weaknesses, opportunities, and threats.

- Kumasi is experiencing strong population growth and urban sprawl, which is expected to increase housing demand and urban development. This growth will likely lead to more congestion, higher travel times, and saturation in the city centre.
- Car ownership rates are expected to rise in Kumasi, particularly as the gender gap between men and women gradually decreases. This will lead to even more competition for urban space and reduced space for public transport stations and terminals.
- The current public transport system in Kumasi is working well and is affordable for passengers, but it faces significant challenges. For example, there are conflicts between different modes of transport and a lack of coordination between transport and urban planning.
- Kumasi's road network is relatively complete and logical, and the roads are of good quality where most urgent maintenance works have been done. However, there is a lack of alternatives to the road network, and the traffic conditions in the city centre around Kejetia market are difficult.
- Kumasi faces both opportunities and threats in terms of its urban mobility. Some opportunities include the existence of DOTs and transport unions, the population's acceptance of public transport, and investors' interest in Kumasi. Threats include inadequate space and pressure on land use for public transport terminals, the risk to the economic model of trotros, affordability, and fast unplanned growth of the metropolis.
- Regarding context, the World Bank is preparing the Kumasi Urban Mobility and Accessibility Plan (KUMAP), which will implement a BRT system in Kumasi. The World Bank has been involved in the SUMP and participated in the Mobilise Days and the Action plan presentation in Kumasi.
- The BRT project is captured in the SUMP proposal. The World Bank is considering organising their board for the KUMAP in July 2025 and is conducting an institutional assessment with the local authorities and development partners.

Perspectives for SUMP implementation

Implementation perspectives in Kumasi have been challenging due to Ghana's payment default situation, which began in 2022. This has limited ability to prepare for new activities. However, with the country on track to exit this situation through debt restructuring, there is renewed optimism for future progress.

Highlights in the last year

The main highlight of 2024 is the completion and adoption of the Kumasi SUMP in March 2024.

Last updated in December 2024