

Bouaké, Ivory Coast

Partner city

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



Basic Information

Urban area: 120 km²

Population: 800,000 | Growth rate: +3%

Regional capital city

GDP per capita: USD 2,286 (National)

Modal Share:

Motorcycle: 54%

Walking: 20%

Taxi: 11%

Individual car: 10%

Tricycle: 2%

Minibus "Gbaka": 2%

Truck: 2%

Bicycle: 1%

National GHG emissions per capita: 0.98 (tCO₂eq)

Exposure to climate change: HIGH

Context

Bouaké is located at the intersection of two important international road corridors in the centre of the Ivory Coast, connecting Abidjan with Burkina Faso, Mali, Ghana, southern Guinea, and Liberia. The city is also a rail and air travel hub, and home to an important wholesale market of regional food products, which is the heart of its economy.

Transport system

While the main network is well-maintained along the central axes of the National Road Network, the secondary road network is underdeveloped, and the tertiary roads within residential areas is almost not driveable. This results in the isolation and spatial segregation of some neighborhoods. In 2014, only 20% of the 582 km road network had been paved (122km) – mainly in the city centre. Another 23% (135km) was considered passable. There are no parking problems due to the currently low rates of individual motorisation, even though parking on the sidewalk is an issue. However, the wide roads are not designed for parking nor to ensure the safety of cyclists and pedestrians. This situation has a direct impact on road safety.

The majority of the mobility demand has been covered by informal transport since the bankruptcy of the previous public transport company (*Société de Transport Urbain de Bouaké* – STUB) in 2011. Due to the frequent use of butane gas as fuel and the related risk of explosions, informal taxis are a particularly challenging part of the rolling vehicle stock. Minibuses ("Gbakas") represent a smaller traffic share but are more structured.

In this context, public transport service by bus was redeployed in 2020 with several lines operated by SOTRA (Société des Transports Abidjanais). To enhance intercity transport, a regional bus terminal is planned at the outskirts of the city to reduce traffic disruption in the centre. Currently, informal modes (e.g. minibuses with 20 to 30 seats, called Massa / Dianra or Badjan) dominate the interregional transport of people and goods.

The most important mode of motorised transport is two-wheelers (including motorcycle taxis). It is economical, fast, better suited to road conditions and less sensitive to traffic congestion. However, motorcycles and moto-taxis have a predominant presence (60% in 2016) in accidents. Although hard to quantify, walking is an important mode of mobility.

The transport of goods in the urban area is mainly provided by small vehicles (tricycles, pickups, or tarpaulin vans), whose traffic and parking contribute to traffic congestion. Heavy truck traffic and parking, especially those that cross the city in lack of an alternative route, have an extremely negative impact on traffic and on the condition of the roads.

Institutional context

The local authorities most involved in issues to improving urban mobility are the town hall of Bouaké, the Regional Directorate of Transport, and the prefecture. Local institutions do not yet have the means to organise and regulate the transverse and multi-sectoral issues related to mobility. However, the Mayor of Bouaké created a working group on urban mobility (*Groupe de Travail sur la Mobilité Urbaine* – GTMU) in 2022, intending to enhance cooperation and improve planning.

At this stage, the Mairie de Bouaké does not have the capacity to finance mass public transport infrastructure, and there is no demand for such a system. It does not have authority to borrow from international finance sources. No systems and procedures are in place to monitor, evaluate and report on urban mobility. The GTMU will be one tool to improve the monitoring of urban mobility.

Challenges and main aim of the SUMP

Mobility in Bouaké faces several problems at the same time. They include:

- The overall mono-centric organisation of the city, which attracts a lot of urban travel, and the low density of the urban grid which extends travel distances.
- The inadequate quality of the road network, its weak functional hierarchy and its radial organisation which converges towards the city center.
- The improper use of the asphalt-surfaced road (deficient organisation of traffic, management of intersections and parking, serious road safety issues).
- Traffic congestion in the city centre and road safety issues.
- Lack of public mass transport service. The trips from and to certain neighbourhoods are limited to the use of moto-taxis and walking.
- The omnipresence of low-capacity passenger and goods transport service/paratransit sector.
- Lacking local institutional capacities to organise and regulate such transverse and multi-sectoral problems.
- A lack of regulation through the taking of coercive measures and the absence of police power regarding transport.

The challenge for the city of Bouaké today is to be able to adopt a strategy for sustainable urban mobility in line with the Urban Master Plan (SDU). This strategy is expected to consider the current and future challenges linked to climate change and sustainable development and the specific mobility needs of people in vulnerable situations (children, physically disabled, pregnant women, etc.).

The technical assistance contributes to institutional strengthening by collecting data on the current situation, supporting the authorities in identifying the main challenges and best measures to face them, and organising tailor-made workshops on key mobility issues.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 400,000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Municipality of Bouake

Supported activities:

- Implementation of a SUMP

Status of the SUMP process

Project start date: 2021 Q1

SUMP expected adoption date: 2023 Q1

Completed outputs:

- Elaboration of specific Terms of Reference
- Launch of the consulting call
- Evaluation of the proposals
- Selection of the consultant and administrative assignment of the mission (contract signed in January 2021)
- Diagnosis of urban mobility in Bouaké
- Survey on mobility practice in Bouaké
- Mobility scenarios: business as usual, improved, and ambitious
- Modelling of urban mobility
- Choice of a scenario and development of measures
- Creation of a GTMU

Next expected outputs:

- Final report of the SUMP

SUMP key measures and cost estimates

The total cost of the measures, focusing on (1) urban planning, (2) transport organisation and (3) governance, is 18.2 billion CFA francs, or 27.8 million Euros, to be spread over the next 15 years.

The following table lists the measures identified in the SUMP action plan.

| Measure | Cost Estimate (EUR) |
|---|----------------------------------|
| Urban planning | Sub-total: 21,340,000 |
| M01 - Improve strategic junctions and traffic lights | EUR 2,500,000 |
| M02 - Moderate traffic zones (30 and semi-pedestrian zones) | EUR 500,000 |
| M03 - Develop/safeguard road crossings | EUR 500,000 |
| M04 - Plant and decorate pedestrian walkways and waiting areas for public transport | EUR 30,000 |
| M05 - Secure pedestrian routes in neighbourhoods | EUR 560,000 |
| M06 - Pedestrian crossings in the lowlands | EUR 30,000 |
| M07 – Develop the “grand marché” area through reallocating public space, support for itinerant merchants and traders, and cross-section improvement | EUR 1,500,000 |
| M08 - Organise and rehabilitate interurban stations | EUR 2,250,000 |
| M09 - Cycle and pedestrian routes along the main network <i>Including 10 km of sidewalk and 5 km of cycleway</i> | EUR 250,000 |
| M10 - Lorry parking areas organisation | EUR 8,000,000 |
| M11 - Horizontal signs | EUR 720,000 |
| M12 - Redesign the main network to promote safety and mixed use uses | <i>Included in road projects</i> |
| M13 – Bus infrastructure improvements | EUR 3,350,000 |
| M14 – Exchange areas between small-scale transport and buses | EUR 1,000,000 |
| M15 - Motorbike taxis stations | EUR 150,000 |
| Transport organisation | Sub-total: 4,400 |
| M16 - Raise awareness of good transport practices | EUR 50,000 |
| M17 - Institutional transport: study of services pricing and marketing | EUR 300,000 |
| M18 - Strategic study for the sustainability and development of SOTRA in Bouaké | EUR 1,000,000 |
| M19 - Define and implement a traffic plan | EUR 750,000 |
| M20 - Regulate the access of heavy goods vehicles and their circulation in the city | EUR 10,000 |
| M21 – Taxi sector reorganisation | EUR 100,000 |
| M22 – Establish collective taxis lines | EUR 800,000 |
| M23 - Revitalise <i>gbaka</i> minibuses routes and improve their governance | EUR 700,000 |
| M24 – City centre parking management | EUR 170,000 |
| M25 – Evaluate and promote electric motorbike taxis and tricycle development | EUR 150,000 |
| M26 – Motorbike taxi sector regulation and professionalisation | EUR 200,000 |
| M27 – Changing the image of motorbike taxi sector through good practice promotion | EUR 150,000 |
| M28 - Encourage the development of a motorbike taxi booking platform | EUR 20,000 |

| Measure | Cost Estimate (EUR) |
|---|----------------------------|
| Governance | Sub-total: 2,050 |
| M29 - Empowerment of the town hall as urban mobility organising authority | <i>Integrated into M30</i> |
| M30 - Technical assistance for the town hall urban mobility group | EUR 1,000,000 |
| M31 - Entrust the City Council with the joint management of rehabilitation projects | <i>No cost expected</i> |
| M32 - Strengthen the routine maintenance service for rapid interventions | EUR 700,000 |
| M33 - Create a traffic service - Set up a signalling system | EUR 200,000 |
| M34 - Create transport planning service | EUR 150,000 |

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

| Urban transport investment measures | CAPEX Estimate |
|---|----------------|
| Public transport and NMT | EUR 12,420,000 |
| Street shaping urban roads and traffic management | EUR 4,650,000 |
| Other measures | EUR 10,720 |
| Total | EUR 27,790,000 |

Finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process)

| Description | Source of financing | Secured? | Amount |
|--|---------------------------------|----------|----------------|
| Bouaké local financing for SUMP | Commune de Bouaké | Planned | EUR 300,000 |
| National financing under local management for SUMP | Ivory Coast national government | Planned | EUR 5,800,000 |
| National financing for SUMP | Ivory Coast national government | Planned | EUR 12,200,000 |

Projected impacts

| Indicator | Impact 2030 (SUMP vs BAU) | Baseline - 2021 | Projected 2038 BAU | Projected 2038 SUMP scenario |
|--|------------------------------|---|------------------------------------|------------------------------------|
| Total annual GHG emissions (Mt CO₂eq) | -0,012 Mt CO ₂ eq | 0,086 ¹ Mt CO ₂ eq | 0,198 Mt CO ₂ eq | 0,186 Mt CO ₂ eq |
| Annual transport related GHG emissions per capita (kg CO₂eq) | -6,1 % | 98 kg CO ₂ eq / capita | 226 kg CO ₂ eq / capita | 213 kg CO ₂ eq / capita |
| Modal share Increase of the modal shares of trips by public transport, walking and cycling | Not quantified | Formal public transport: 0% Informal public transport: 42% Walking: 20% Cycling: 1% TOTAL: 63% | Not quantified | Not quantified |
| Road safety Decrease of traffic fatalities in the urban area, per 100.000 inhabitants | -2.95 fatalities/100 000 hab | 5.9 fatalities/100 000 hab | 5.9 fatalities/100 000 hab | 2.95 fatalities/100 000 hab |

Insights from practice: perspectives for implementation

Adopting a financially realistic plan is key to move into implementation

The total cost of the measures and actions of the SUMP is 27.8 million Euros, to be spread over the next 15 years. While the amounts to be mobilised seems relatively modest for a SUMP, it is realistic and suited to the identified needs. The objective seems quite attainable provided that the SUMP is supported by a strong political will.

The financing of the SUMP will have to be ensured essentially with the support of the State and donors with EUR 18.6 million from the state own budget or donor programme, EUR 8.8 million as retrocession from donor loans to the local authority and EUR 0.3 million from the local budget.

Highlights in the past year

The SUMP assists Bouaké and Ivorian authorities in improving and securing urban mobility in Bouaké

In 2022, the team in charge of the SUMP focused on developing a scenario, selecting the right measures, and supporting the local authorities in creating the Urban Mobility Working Group (GTMU), leading to the adoption of the action plan during the first meeting of the GTMU in October 2022. As consultants are finalising the full SUMP final report, local authorities are identifying priority measures to implement with the expected financial support of AFD.

A research project to address road safety specifically

Road accident data is collected by the police forces and health workers and automatically updated in an app to show in real-time how many accidents have occurred and where they have taken place. This pilot data collection project is being implemented by the *Institut de Recherche pour le Développement* (IRD, French) and the University of Bouaké, with support of AFD.

¹ Estimated by the MobiliseYourCity Secretariat based on SUMP deliverables.