

# Bouaké, Ivory Coast

Partner city

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



## Basic Information

Urban area: 120 km<sup>2</sup>

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 (tCO<sub>2</sub>eq)

Exposure to climate change: HIGH

## Context

Bouaké sits at the crossroads of two major international road corridors in central Ivory Coast, linking Abidjan with Burkina Faso, Mali, Ghana, southern Guinea, and Liberia. As a key rail and air hub, the city also hosts a central wholesale market for regional food products, forming the backbone of its economy.

## Transport system

While the primary road network is well-maintained along the key national routes, secondary roads remain underdeveloped, and tertiary roads in residential areas are often impassable, leading to isolation and spatial segregation in some neighbourhoods. As of 2014, only 20% of the city's 582 km road network was paved (122km), mainly in the city centre, while 23% (135km) was deemed passable. Although individual motorisation rates are low, parking on sidewalks is a persistent issue. The city's wide roads lack dedicated parking spaces and fail to accommodate pedestrian and cyclist safety, contributing to road safety concerns.

Since the bankruptcy of the *Société de Transport Urbain de Bouaké* (STUB) in 2011, informal transport has dominated public transport supply. Informal taxis, often fuelled by butane gas, pose significant safety risks, while minibuses ("Gbakas") account for a smaller yet more structured share of transport services.

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

The most important mode of motorised transport is two-wheelers (including motorcycle taxis). It is economical, fast, suited to road conditions and less sensitive to traffic congestion. However, motorcycles and moto-taxis are involved in 60% (2016) of traffic crashes. Although hard to quantify, walking is an essential 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 congestion. Heavy truck traffic and parking, especially those crossing the city lacking an alternative route, negatively impact traffic and road conditions.

## Institutional context

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

Bouaké cannot finance mass public transport infrastructure or access international finance sources, and there is no demand for such a system. No systems and procedures exist to monitor, evaluate and report on urban mobility. The GTMU will be one tool to improve the monitoring of urban mobility.

## Challenges and the main aim of the SUMP

Mobility in Bouaké faces several problems simultaneously, including:

- The city's mono-centric organisation attracts many urban trips, while the low density of the urban grid increases travel distances.
- The inadequate quality of the road network, its weak functional hierarchy, and radial structure converging towards the city centre.
- The inadequate use of asphalt-surfaced roads (deficient organisation of traffic, management of intersections and parking, and severe road safety issues).
- Traffic congestion in the city centre and road safety issues. Lack of public mass transport service. Trips to and from specific neighbourhoods are limited to moto-taxis and walking.
- The presence of low-capacity passenger and goods transport service and paratransit sector.
- Lacking local institutional capacities to organise and regulate those problems.
- A lack of regulation through coercive measures and the absence of authority control.

Bouaké's challenge is to adopt a strategy for sustainable urban mobility in line with the Urban Master Plan (SDU). This strategy considers 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 authorities in identifying the main challenges and measures to address them and organising tailor-made workshops on key mobility issues.

## Support from the Partnership – Mobility Planning

### Project description

**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 development process

**Project start date:** 2021 Q1

**SUMP approval date:** 2023 Q1

**Completed outputs:**

- Terms of Reference drafting
- Receiving and evaluation of the proposals
- Selection of the consultant and administrative assignment (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
- Final report of the SUMP

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)
<b>Urban planning</b>	<b>Sub-total: 21,340,000</b>
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 2,250,00
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 – Organise the lorry parking areas	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

Measure	Cost Estimate (EUR)
M14 – Exchange areas between small-scale transport and buses	EUR 1,000,000
M15 - Motorbike taxis stations	EUR 150,000
<b>Transport organisation</b>	<b>Sub-total: 4,400</b>
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 taxi lines	EUR 800,000
M23 - Revitalise <i>gbaka</i> minibus 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 the motorbike taxi sector through good practice promotion	EUR 150,000
M28 - Encourage the development of a motorbike taxi booking platform	EUR 20,000
<b>Governance</b>	<b>Sub-total: 2,050</b>
M29 – Empowerment of the town hall as an 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 a 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
<b>Total</b>	<b>EUR 27,790,000</b>

## Finance leverage

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

Description	Source of financing	Secured	Amount
Bouaké pilot projects on road safety	European Union	Secured	EUR 595,000
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
<b>Total annual GHG emissions (Mt CO<sub>2</sub>eq)</b>	-0,012 Mt CO <sub>2</sub> eq	0,086 <sup>1</sup> Mt CO <sub>2</sub> eq	0,198 Mt CO <sub>2</sub> eq	0,186 Mt CO <sub>2</sub> eq
<b>Annual transport related GHG emissions per capita (kg CO<sub>2</sub>eq)</b>	-6,1 %	98 kg CO <sub>2</sub> eq / capita	226 kg CO <sub>2</sub> eq / capita	213 kg CO <sub>2</sub> eq / capita
<b>Modal share</b> 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% <b>TOTAL: 63%</b>	Not quantified	Not quantified
<b>Road safety</b> 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 moving into implementation

The total cost of PMUD measures and actions is 27.8 million Euros over the next 15 years. While the amount to be mobilised is low for a SUMP, it is realistic and suited to the identified needs. The objective seems attainable, given a strong political will supports the PMUD.

PMUD financing needs to be ensured primarily with the support of the State and donors, with EUR 18.6 million from the state's budget or donor programmes, EUR 8.8 million as retrocession from donor loans to the local authority and EUR 0.3 million from the regional budget.

## Perspectives for implementation

### Bouaké will continue receiving support to move into implementation

AFD financed a road safety pilot project in Bouaké under the MobiliseYourCity funding. AFD committed 55 million EUR to the SUMP implementation, involving road upgrade and safety, support to bus operation, non-motorised transport and technical assistance. This will also include a 15 million EUR grant from the EU envisaged from the MIP envelope.

## Support from the Partnership - Implementation Support 1

### Project description

**Technical Assistance:** Road safety pilot project and data collection in Bouaké

**Funded by:** European Commission

**Funding amount:** EUR 180,000

**Implemented by:** IRD

<sup>1</sup> Estimated by the MobiliseYourCity Secretariat based on SUMP deliverables.

**Local counterpart:** Municipality of Bouake

**Supported activities:**

- Identify crash-prone areas and crash causes, and measure the extent of the consequences for people's health
- Collect crash data from different sources, including the police, firefighters and hospitals, to produce reliable real-time statistics on road safety.
- Develop a crash and trauma monitoring platform: The technical assistance included the development of an APP called "Traffic Data Collect" to digitise activities by the stakeholders in the following areas:
  - » Data collection (longitudinal, cross-sectional studies).
  - » Surveys (field, online, telephone).
  - » Security -Digitalised Road.
  - » Computerized User File (Associations, NGOs ...).
  - » Computerized Patient File (Medical and Medico-Social Environments).
- Development of an online tool for visualising statistics on the most recent data: An [online tool](#) was developed alongside the app deployment to visualise real-time crash data and severity. It also generates additional statistics for public officials and decision-makers.

## Challenges on the pilot implementation

**Staff turnover, data entry workload, and integration with medical teams hinder the long-term effectiveness and reliability of the data collection system.**

The successful application adoption by field agents and the absence of technical or network failures highlight the project's effectiveness. However, several challenges emerged. Frequent staff rotations require ongoing training to ensure continuity in data collection. Additionally, some agents perceive data entry as an added workload, underscoring the need for sustained motivation and awareness efforts. Lastly, integrating emergency data collection with medical teams remains a key area for improvement to enhance the system's reliability and completeness.

## Insights from practice: key pilot projects takeaways

### Enhancing Coordination, Awareness, and Emergency Response in Bouake

The digitalisation of crash data in Bouake presents a significant opportunity to enhance road safety, provided it is developed collaboratively with all stakeholders and adapted to local conditions. Strengthening multisectoral coordination, particularly with the health sector, is essential for improving prevention and victim care. Raising awareness among data collection agents is also key to ensuring this task is considered a valuable tool rather than an additional burden. Additionally, promoting the proper use of helmets among riders and passengers of two-wheelers is crucial to reducing head injuries. Finally, improving pre-hospital care and emergency response services is vital to increasing survival rates and minimising the long-term impact of road accidents.

## Perspectives for scaling

### Ensuring Sustainable Road Safety Improvements in Bouake

This pilot project offers a valuable opportunity to enhance road safety in Bouake and serves as a potential best practice for other African cities. However, ensuring its sustainability beyond the technical assistance phase remains a key challenge, mainly due to the need for continuous training of new personnel and effective stakeholder coordination. Long-term sustainability will enable the city to build a historical data repository, facilitating the assessment of road safety trends and the impact of policy measures over time.

## Support from the Partnership: Implementation Support 2

### Project description

**Technical Assistance:** Road safety improvements around schools

**Funded by:** European Commission

**Funding amount:** EUR 415,000

**Implemented by:** AMED

**Local counterpart:** Municipality of Bouake

**Supported activities:**

- The pilot project allows for addressing road safety alongside the PMUD implementation, leveraging data, and involving engaged stakeholders in the topic. The project engaged relevant stakeholders including the Municipality, Ministry of Transport, Ageroute, Ministry of Education, NGOs, universities, and health and security stakeholders. Pilot projects, like the Observatory (IRD/Bouaké University) and pilot actions in schools, will play a key role in demonstrating impact, fostering support, and creating momentum for broader engagement.
- Conduct a diagnostic of mobility challenges and propose necessary infrastructure improvements, followed by road safety awareness programmes for children in local schools. The cost per school for this initiative will range between 40,000 and 60,000.

## Institutional challenges – Role of local authorities in implementing the SUMP

**The road safety challenge in Bouaké is multifaceted and requires a comprehensive approach.**

As a cross-cutting public policy, road safety involves governance coordination among multiple stakeholders, including local authorities, health services, and law enforcement. The complexity lies in addressing issues such as improving infrastructure by reducing black spots, changing behaviours like promoting helmet use in the population and ensuring adequate emergency care systems. Additionally, reliable data is crucial to inform decisions and measure the effectiveness of interventions. Despite these challenges, road safety is a priority for the city's residents and decision-makers, making it a critical area of focus within the SUMP.

## Insights from practice: key pilot projects takeaways

### Effective coordination is key to the pilot implementation to improve road safety

This project has improved road safety in school zones through targeted actions in data collection, pilot infrastructure interventions, and road risk education. The key to its success has been effective coordination among stakeholders, which provides valuable insights for strengthening road safety decision-making bodies, such as a road safety council. To sustain stakeholder engagement, it is crucial to highlight the impact and results achieved while outlining a roadmap for future implementation in additional schools.

## Perspectives for scaling

### Ongoing funding is being secured from AFD with a European grant to advance key initiatives further.

This includes addressing infrastructure issues, such as identifying black spots, anticipating risks to road surfaces, and continuing the development of the data platform with a strengthened role for the Municipality. In schools, the focus will be on securing dozens of schools across the city, standardising infrastructure, and educating students on road safety. Additionally, governance efforts will continue by supporting local authorities, enhancing the capabilities of local NGOs, and tackling specific issues like helmet use on motorcycles and motorbike taxi behaviour.

## Highlights in the past year

### A research project to address road safety specifically

Road crash 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 the support of AFD.

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