SSATP
Africa Transport Policy Program

TRANSNATIONAL REPORT

African cities facing the urban mobility crisis

The challenge of national mobility policies in Benin, Burkina Faso, Mali and Togo confronted with the proliferation of motorised two-wheelers.

An international partnership supported by:

AFD
African Union
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Sound policies lead to safe, reliable, and cost-effective transport, freeing people to lift themselves out of poverty and helping countries to compete internationally.

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The SSATP gratefully acknowledges the contributions and support of member countries and its partners.

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Acknowledgements

Under the guidance of Ibou Diouf, World Bank Transport Practice Manager of West and Central Africa and former Program Manager of the Africa Transport Policy Program (SSATP), this report was produced by the consortium Transitec Consulting Engineers – Nodalis under the framework of SSATP's Urban Transport and Mobility pillar. The report was prepared by a team led by Julien Allaire in collaboration with Alioune Thiam, Pablo Salazar Ferro, Kader Dicko, Stanislas Bamas, Elio Guarino, Marie Roger, Sophie D'Almeida, Maëva Chew, Guézéré Assogba, François Boulanger and Nadège Djossou. The team is grateful for all the comments received from reviewers.

Table of contents

Page

Table of boxes

Page

List of figures

Page

List of tables

Page

Acronyms

AFD	French Development Agency
ANaTT	National Agency for Land Transport
AOMU	Urban Mobility Authority
BRT	Bus Rapid Transit
CCVA	Motorized Vehicle Road Worthiness Testing Center
CEDEAO	Economic Community of West African States
CEMAC	Central African Economic and Monetary Community
CET	Common External Tariff
CETUD	Dakar Executive Board on Urban Transport
CNSR	National Center for Road Safety
COMESA	Common Market for Eastern and Southern Africa
CREDD	Strategic Framework for Economy Recovery and Sustainable Development
DAGL	Autonomous District of Greater Lomé
DIRMO	Department dedicated to Road Infrastructure and Mobility
DTRF	Department dedicated to Road and Rail Transport
DRTT	Regional Land Transport Directorate
DTT	Department dedicated to Land Transport
EAMAU	African School of Architecture and Town Planning
EASI	Enable, Avoid, Shift, Improve
EBRD	European Bank for Reconstruction and Development
EDSBF-IV	4th Demographic and Health Study in Burkina Faso
EMTASUD	Survey on Mobility Transport and Access to Services in the Dakar Conurbation
FCFA	Franc of the Financial Community of Africa
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Geographical Information System

GTMU	Urban Mobility Working Group
HTS	Household Travel Survey
INDC	Intended National Determined Contribution
INSD	National Statistics and Demographics Institute (Burkina Faso)
INSTAT	National Statistics Institute (Mali)
JICA	Japan International Cooperation Agency
LAMATA	Lagos Metropolitan Area Transport Authority
LOTT	Framework Law on Land Transport
MI	Ministry of Infrastructure
MIE	Ministry of Infrastructure and Equipment
MINEFID	Ministry of Economy, Finance and Development
MIT	Ministry of Infrastructure and Transport
MTMU	Ministry of Transport and Urban Mobility
MTMUSR	Ministry of Transport, Urban Mobility and Road Safety
MVA	Motor Vehicle Administration
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
ODUO	Urban Transport Observatory of Ouagadougou
OICA	International Organization of Motor Vehicle Manufacturers
ONASER	National Road Safety Office
OPTIS	Ouagadougou Public Transport Implementation Study
PAG	Government Action Plan
PAMO	Ouagadougou Mobility Support Project
PAMOSET	Project to Support the Modernization of the Transport Sector
PCS	Public Service Contract
PDU	Urban Mobility Plan
PIDU	Urban Infrastructure and Development Project
PND	National Development Plan

PNDES	National Economic and Social Development Plan
PNHDU	National Policy on Housing and Urban Development
PNSR	National Road Safety Policy
PNTITD	National Policy for Transport, Transport Infrastructure and Accessibility
PTDIU	Transport and Urban Infrastructure Development Project
RDA	Regional Development Agency
SDAGO	Master Development Plan for Greater Ouagadougou
SDAU	Urban Master Plan
SDG	Sustainable Development Goal
SOTRACO	Ouagadougou Public Transport Company
SOTRAL	Lome Public Transport Company
SSATP	Sub-Saharan Africa Transport Program
TVM	Motor Vehicle Tax
UEMOA	West African Economic and Monetary Union (WAEMU
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
VOC	Volatil Organic Compound
WHO	World Health Organization

Preamble

If towns and cities are regarded as the engines of economic growth, urban transport and mobility are the energy that fuels their operation. For that reason, one of the three pillars of the African Transport Policy Program (SSATP) focuses on urban transport and mobility, with the objective of supporting African decision-makers in drawing up policies for efficient, safe and sustainable urban transport, in full coherence with Sustainable Development Goal no. 11: "make cities and human settlements inclusive, safe, resilient and sustainable". The expected outcome of this pillar is to achieve universal access to safe and sustainable transport for the continent's urban populations.

As part of the implementation of its third development plan (DP3), covering the period from 2015 to 2020, the SSATP launched a pilot scheme to support the development of transport policies with the aim of improving accessibility and mobility in Africa's urban areas.

The first step in this process was to draw up Working Document no. 106 entitled "Policies for sustainable mobility and accessibility in urban areas of Africa."[1] This paper describes an approach called the "EASI conceptual framework" which comprises a set of specific policy actions grouped into four areas of strategic intervention: Enable, Avoid, Shift, Improve. Under each of these strategic categories, specific measures are proposed that could be adopted by African cities to develop a sustainable transport policy.

After the paper was validated and published, a further experimental framework was defined to implement the guidelines in eight countries (Senegal, Guinea, Côte d'Ivoire, Ghana, Nigeria, Rwanda, Kenya, Ethiopia) to start with, in 2018, followed by four other member countries in 2019 (Mali, Burkina Faso, Togo and Benin).

This report focuses on a cross analysis of the work conducted simultaneously in 2019 in the four West African countries mentioned above. The methodology adopted is described below.

In each of the countries, under the authority of the ministries in charge of urban mobility, the Consultant produced a diagnostic report and organized a national mobility forum involving all public and private institutional players (at central and local level), civil society and technical and financial partners. Conducted under the supervision of the pertinent ministries and local authorities, these national workshops provided the opportunity to discuss the experts' recommendations in more depth and to define the elements of reform required to enable implementation of a sustainable urban mobility policy. This exercise made it possible to propose, for each country, a draft urban mobility policy letter, a national strategy document in line with the EASI concept (Enable-Avoid-Shift-Improve), and a priority action plan for implementation.

A sub-regional workshop was organized in Bamako on 6 and 7 February 2020 with a view to promoting the sharing of experience and enabling a comparative analysis of the methods and results. It was attended by delegations from the four countries covered by this SSATP support program, creating an opportunity to define a shared vision of urban mobility, both for the capital cities and for the secondary cities, and to identify areas of transnational cooperation.

This report is based on the work conducted in the four countries and offers a common interpretation of the situation in the four countries (Benin, Burkina Faso, Mali and Togo), supported by an analysis of the specific local contexts and national situations.

[1] Stucki M. (2015), Politiques de mobilité et d'accessibilité durables dans les villes africaines, [Sustainable accessibility and mobility policies in African urban areas], SSATP Working Document no. 106, available online at: https://www.ssatp.org/sites/ssatp/files/publications/SSATPWP106-Urban%20Mobility_FR.pdf

Introduction

Mali, Burkina Faso, Togo and Benin are experiencing rapid urban growth, supported by strong demographic growth. Between 2018 and 2030, the cities in these four countries are expected to have an extra 17 million inhabitants. By 2030, the populations of Ouagadougou and Bamako are expected to double: these two capitals will reach 5.4 and 4.6 million inhabitants, respectively. Lomé and Cotonou are forecast, with lower growth rates, to reach roughly 3 million inhabitants. These metropolitan areas will need to restructure to meet the challenges inherent to their size. However, their growth-related challenges should not overshadow those of the other, so-called secondary cities. Although urban migration and growth tend to center on the capitals, the secondary cities, which are much smaller, will by 2030 see increases in population exceeding the capacity of their infrastructure systems. An extra 10 million inhabitants will move to urban areas that often lack infrastructure and basic urban services.

Planning and managing this urban growth are thus key challenges facing the leaders of all countries in Sub Saharan Africa. While the figures may seem alarming, it is possible to make them a driver of economic growth and of improvements in living conditions, without causing environmental degradation. Unfortunately, the current observation is that Sub Saharan Africa, unlike the Asian countries, is urbanizing without becoming wealthier.

Planning and managing urban mobility are, theoretically, essential to taming rampant urbanization, primarily by channeling it along transport infrastructure and by increasing density, thus creating an economy of scale and a more competitive city. But this lies within a context that extends far beyond the mobility lever, which primarily consists of providing transport services and catering for people's daily mobility habits.

In recent years, motorbikes have increasingly been used for day-to-day transport in the urban areas of the four countries studied. The core trend towards mass use of motorbikes is similar in all four countries, although their situations currently differ. In Benin and Togo, in the absence of reliable, alternative public-transport services, motorbikes are used as taxis, and motorbike taxis offer users high accessibility at a cheap cost. In Burkina Faso, motorbikes are now established as households' dominant individual transport mode. Lastly, in the case of Mali, although informal collective transport has kept an important role, motorbike ownership remains high and is constantly growing in households and the urban economy.

Governments have no control over the rise of motorbikes – which is coupled with car ownership in the most affluent households – but are starting to better evaluate their negative externalities, i.e. congestion, the high rate of serious road accidents, air pollution, and energy dependency.

Clearly, the sustainable structural solution is still to efficiently mesh urban planning and mobility planning. As this option has a mid- and long-term timeframe, short- and mid-term levers must also be operated, with options for correcting and countering certain trends. Current forecasts for vehicle fleet growth (motorbikes and cars) in the next 10 years, are unsustainable.

The urban structure of capitals in Sub Saharan Africa – a legacy of colonization – is generally very monocentric. Daily flows converge on city centers, which contain most economic, administrative and retail activities, whereas the outskirts host the residential districts. The result is high daily commuter flows, with journeys lengthening as the outskirts become more urbanized; and sharp falls in peak-time traffic speeds, thus affecting cities' productivity.

Given the vehicle-fleet growth rate, business-as-usual scenarios for these capitals predict the failure of a policy based solely on building new road infrastructure. On the one hand, there will be increasingly few public resources for this type of response. On the other hand, if such infrastructure is built, it will attract many more cars and soon become saturated. In addition, it carries dreadful health implications relating to the lack of road safety and to air pollution, but also to harmful economic effects such as dependency on oil and on imported vehicles. The large urban areas are thus in a crisis situation, which calls for a new approach in the very short term. Secondary cities are still relatively unaffected, but the current situation – a mimicking of the capital cities – points to worrying prospects and demands a paradigm shift.

Given this dynamic, it is satisfying to see that the four countries studied have begun to make encouraging changes to their urban-mobility policies. Visions of urban planning are starting to emerge, aimed at creating secondary centers in the capitals to better distribute traffic flows; mass transit schemes are being explored;

traffic-control initiatives are in progress, etc. However, given the complexity of such topics, it is essential to embed these segmented approaches in national visions of urban mobility. These visions must: (i) formulate a overarching, coherent framework for all stakeholders, to ensure synergy and a complementary fit between urban-mobility actions; (ii) lay the legislative, regulatory and institutional foundations needed to allocate powers, chiefly between local and national authorities; (iii) ensure that the envisaged actions are funded; and (iv) provide a strategic framework for formulating and executing projects.

By aligning with national development plans, and with a view towards achieving by 2030 the Paris Climate Agreement commitments and the sustainable development goals (SDGs), national urban-mobility policies can become vehicles for transforming cities, by making them more liveable and economically more attractive.

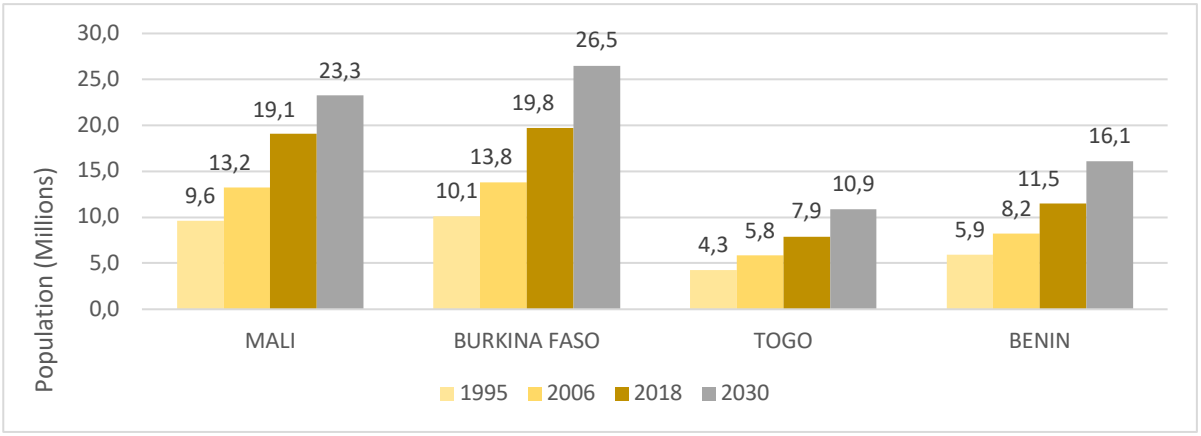
1. A similar manifestation of the crisis in all four countries

1.1 Rapid and uncontrolled urban growth

1.1.1 Cities in the midst of a demographic and economic boom

The four countries in the study – Mali, Burkina Faso, Togo and Benin – have been experiencing very strong demographic growth, especially since the mid-1990s. The annual population growth rate has been above 2.5% for more than 20 years. By 2030, these countries will see their populations increase by 21.9%, 33.8%, 37.9% and 28.6% respectively compared to 2018.

Figure 1: Populations of Mali, Burkina Faso, Togo and Benin between 1995 and 2030



Source: United Nations Population Division, 2018.

This demographic growth is coupled with urbanization. Burkina Faso, with 29% of its population living in urban areas in 2018, had a lower urbanization rate than its neighbors (in West Africa, the average urbanization rate is 45.6%); and by 2030, is expected to reach 37%. The rate in Benin, the most urbanized of the four countries, will rise from 47% to 54% (see Table 1).

Table 1: Urbanization rate and annual urban growth in Mali, Burkina Faso, Togo and Benin

		MALI	BURKINA FASO	TOGO	BENIN
Urbanization rate (%)	2018	42%	29%	42%	47%
	2030	51%	37%	49%	54%
Annual urban growth rate (%)	2018	4.9%	5.0%	3.7%	3.9%
	2020-2025	4.6%	4.8%	3.6%	3.7%
	2025-2030	4.3%	4.5%	3.5%	3.6%

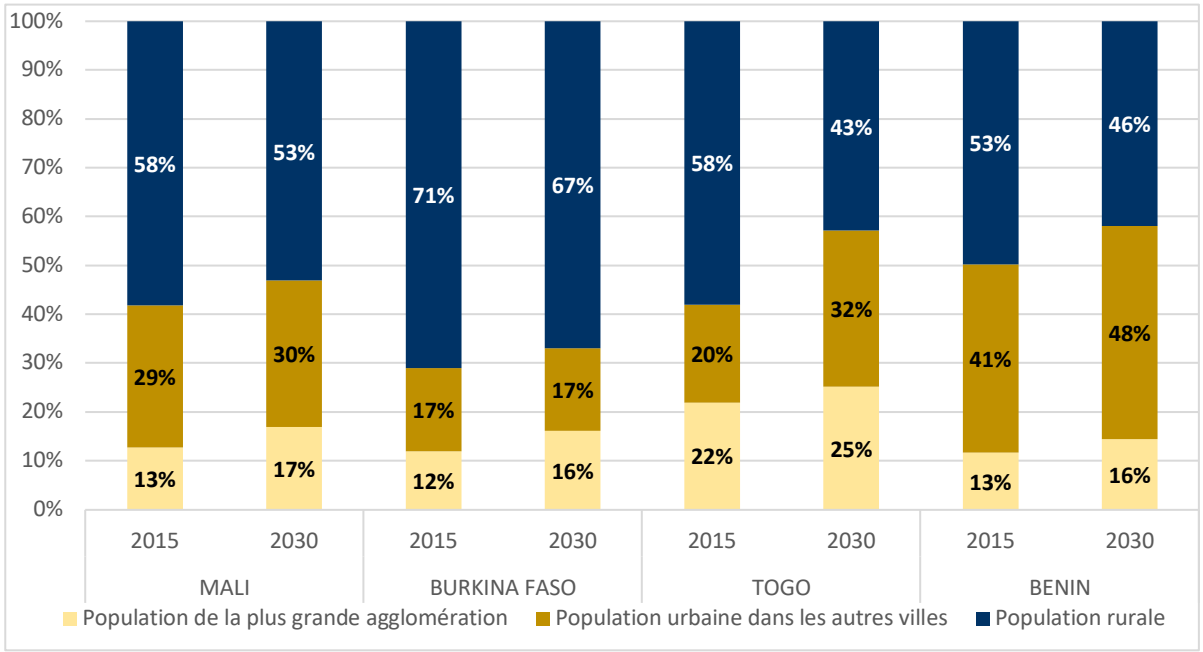
Source: United Nations Population Division, 2018.

Although the urban population is expected to rise at a rate of between 3.5% and 4.8% in the 2020s, the urban transition will not be complete by 2030. Urbanization will continue, driven by the poorly regulated expansion of existing metropolitan areas, the development of small cities, and the formation of urban areas through the merging of densely populated districts.[2]

The urban structure in the countries studied will likely not change fundamentally. In Mali, Burkina Faso and Togo, the administrative capital hosts the political functions and is also the national engine of economic growth. The capitals of these three countries will retain their primacy and absorb a large share of new urban dwellers in the next 10 years (Figure 2: Share of population living in the largest urban area and the other cities in the four countries studied, in 2015 and 2030. Figure 2). Lomé, which already accounts for 22% of the Togolese population, will reach the 25% mark by 2030, hosting a further 750,000 residents. However, population growth outside Lomé metropolitan area will exceed one million residents. In Burkina Faso and Mali, urban-population growth forecasts see Ouagadougou and Bamako account for 16% and 17% of the national populations, hosting a further 1.9 million and 1.5 million extra inhabitants respectively.

In Benin, administrative and economic functions are shared between Greater Cotonou and Greater Porto-Novo, which are currently still distinct urban areas.[3] The former's population could grow by nearly one million inhabitants by 2030. But the two urban areas – 25 km apart – as well as Ouidah and Sèmè-Kpodji are tending to merge into one metropolitan area around Lake Nokoué, which would total more than 16% of the national population.

Figure 2: Share of population living in the largest urban area and the other cities in the four countries studied, in 2015 and 2030



Source: UN Habitat. The values for the largest conurbation in Benin are the sum of the data for Cotonou and Abomey-Calavi.

Population growth in large urban areas will intensify existing pressure on infrastructure systems and public services. Transport and mobility challenges will be much greater, given the number of daily journeys generated in these cities with multimillion populations.

[2] Per the expression used by Moriconi Ebrard, F., D. Harre and P. Heirings (2016).

[3] Africapolis considers separately the conurbations of Cotonou (which comprises Abomey-Calavi and Cotonou) and Porto-Novo.

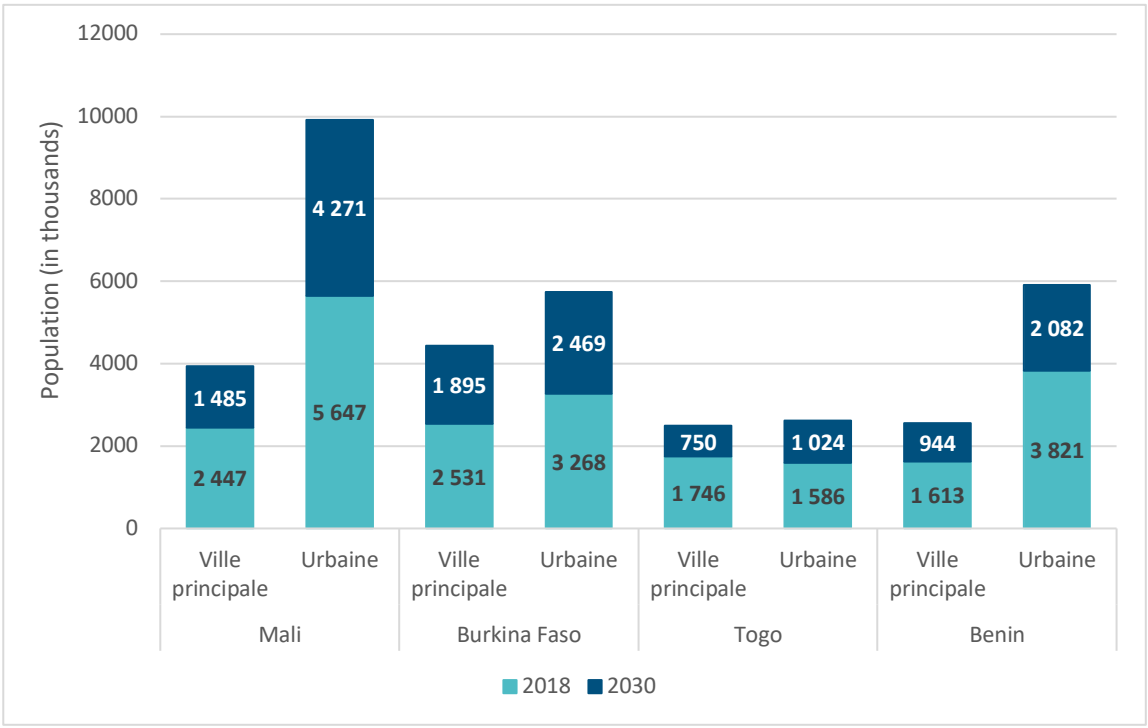
Table 2: Population, area and density of the main cities in Mali, Burkina Faso, Benin and Togo[4]

Country	City	Population in 2015 (millions)	Area (km²)	Density (inhab/km²)	Estimated population in 2030 (millions)
Mali	Bamako	2.782	499	5,571	5.432
Burkina Faso	Ouagadougou	2.299	406	5,667	4.610
Togo	Lomé	1.733	353	4,913	2.949
Benin	Cotonou	1.527	358	4,266	2.647

However, the growth impetus in the large urban areas must not overshadow the development of the other urban centers in the four countries studied. The so-called secondary cities, as well as smaller towns, will see very rapid growth as a further 4.3 million inhabitants will need to be accommodated in towns of Mali, 2.5 million in Burkina Faso, 1 million in Togo and 2.1 million in Benin (Figure 3) between 2018 and 2030. Demographic growth in these cities, which currently have very limited infrastructure systems and mobility services, is a major national challenge.

In the countries studied, the growth of secondary cities between 2015 and 2030 is strikingly dynamic. In Burkina Faso, Bobo-Dioulasso could double in size to reach 1.3m inhabitants by 2030. In Mali, two cities (Sikasso and Segou, which in 2015 had 280,000 and 215,000 inhabitants) will probably exceed the 500,000 mark by 2030, as will Parakou in Benin (260,000 inhabitants in 2015). These cities will also need to invest heavily in infrastructure and transport services.

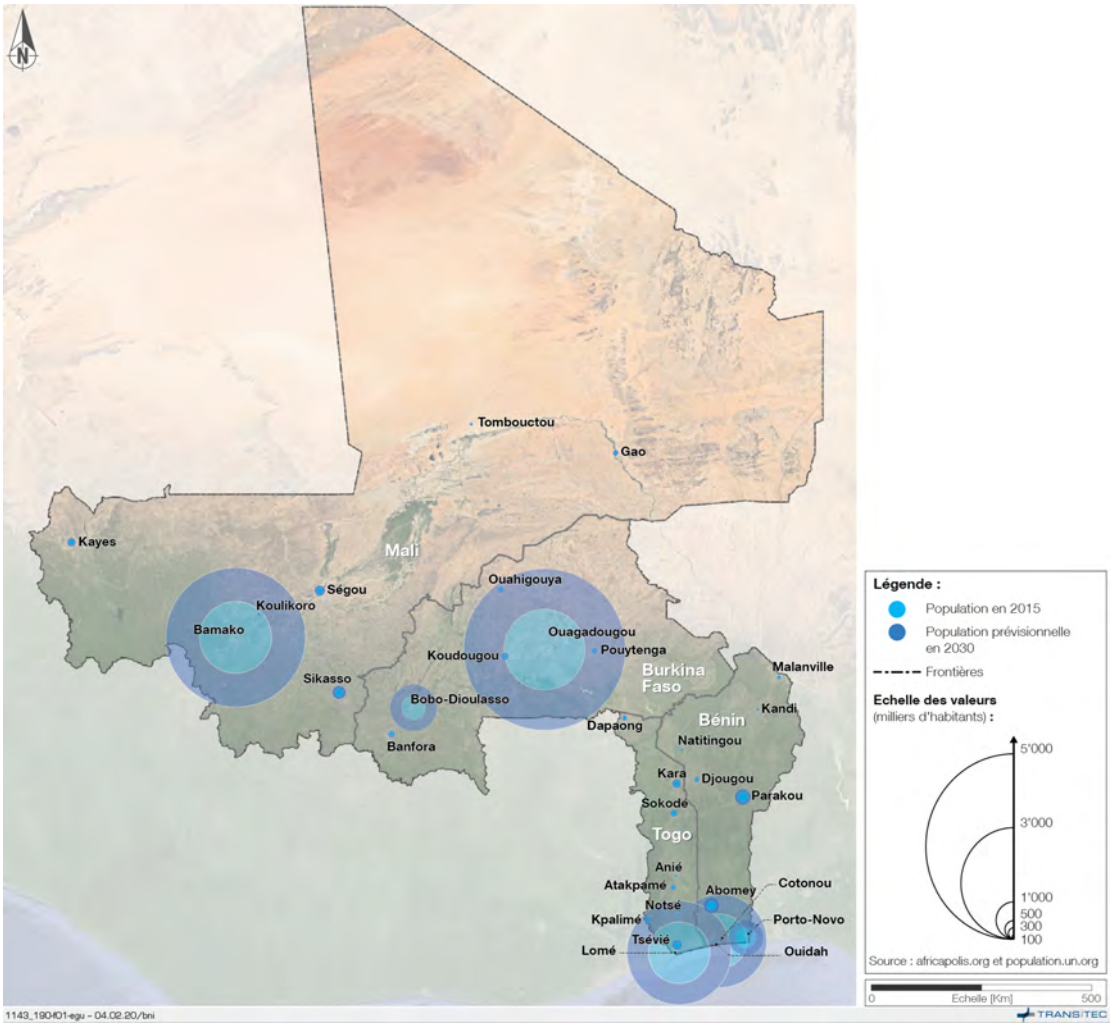
Figure 3: Projection of population growth in the main city and other urban areas between 2018 and 2030



Source: UN Habitat, 2018.

[4] The population, area and density data are from Africapolis. The 2030 population projection was calculated on the basis on the 2015 population (per Africapolis), to which the UN Habitat growth rate estimates were then applied.

Figure 4: Population of the major cities in Mali, Burkina Faso, Togo and Benin in 2015 and 2030 projection



Source: Transitec, 2020.

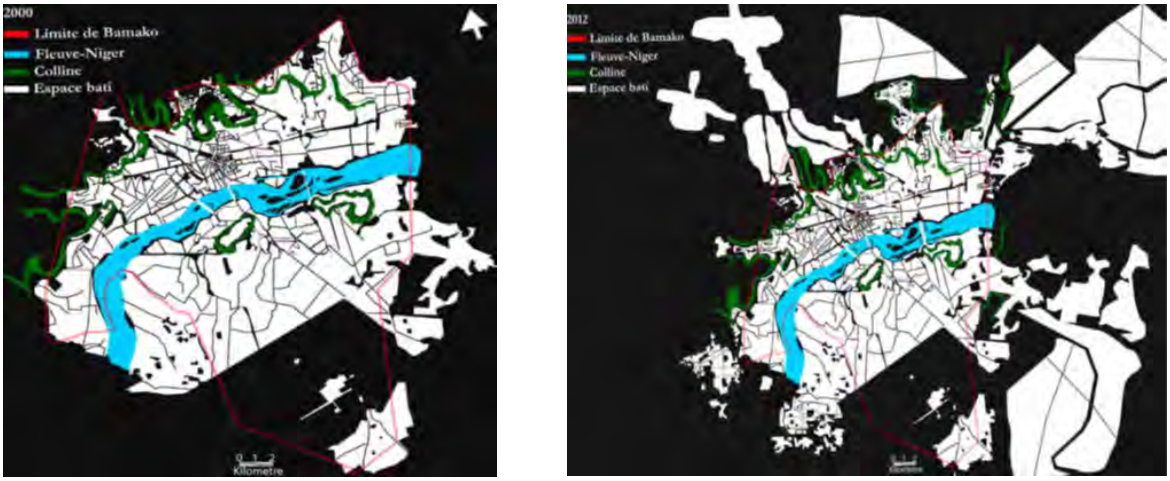
1.1.2 Expansion of urban areas is increasing transport needs

Urban development, driven by demographic pressure, largely occurs as informal housing – the main mode of accommodation for newcomers to urban areas – around residential districts on the outskirts of cities. Areas of unplanned settlements are thus multiplying on city limits. Formal public- and private-sector stakeholders can also contribute to a spatial expansion through urban development projects that do not always comply with basic urban planning rules.

This expansion of urban areas is causing journey distances to lengthen quickly. A trend accentuated by the fact that, as they develop, the large urban areas are staying monocentric.[5] Economic and administrative activities remain in the city center whereas residential districts are on the outskirts, based on the rationale of extending the existing urban area rather than increasing its density. In the coastal cities of Lomé and Cotonou, this phenomenon is accentuated by the city center's seafront location, so the city can only grow inland (Lake Nokoué being a further constraint for Cotonou). Projects to build new districts, such as Ouaga 2000, Lomé 2, and ACI 2000 in Bamako, are struggling to create new centers of the intended size. The city centers still host the great majority of commuter journeys, with distances lengthening as the outskirts develop. This concentration of metropolitan-area functions (markets, bus stations, administrative centers, etc.) is thus a major challenge to cities' functional organization. With the rise of individual motor-vehicle ownership, cities are increasingly facing a burden of heavy peak-time congestion as people enter or exit the city center.

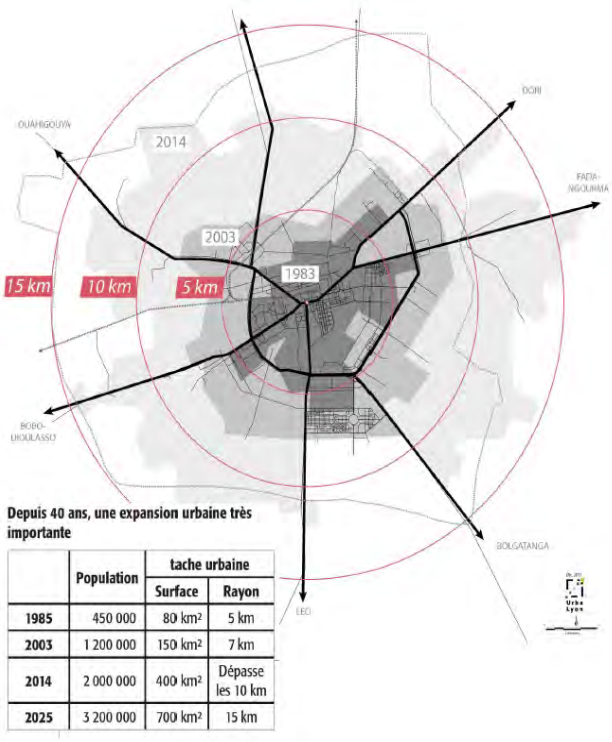
[5] Though Cotonou-Abomey Calavi has a special shape due to topographic constraints.

Figure 5: Change in the Bamako urban area between 2000 and 2012



Source: Hamadou B. Yalcouye (2015), L'étalement urbain : quelles perspectives pour Bamako. [Urban sprawl: the future in Bamako]

Figure 6: Expansion of Ouagadougou between 1983 and 2025



	Population	tache urbaine	
		Surface	Rayon
1985	450 000	80 km²	5 km
2003	1 200 000	150 km²	7 km
2014	2 000 000	400 km²	Dépasse les 10 km
2025	3 200 000	700 km²	15 km

Source: UrbaLyon, Municipality of Ouagadougou, 2015.

Figure 5 and Figure 6 illustrate the urban expansion of Bamako and Ouagadougou, showing how these urban areas expanded very fast in the 2000s. Bypassing natural obstacles (River Niger, hills, etc.), Bamako practically doubled in area. This trend of capital-outskirts urbanization continued in the following decade, still to the same monocentric model, which is reinforced by the constraint of crossing the River Niger.

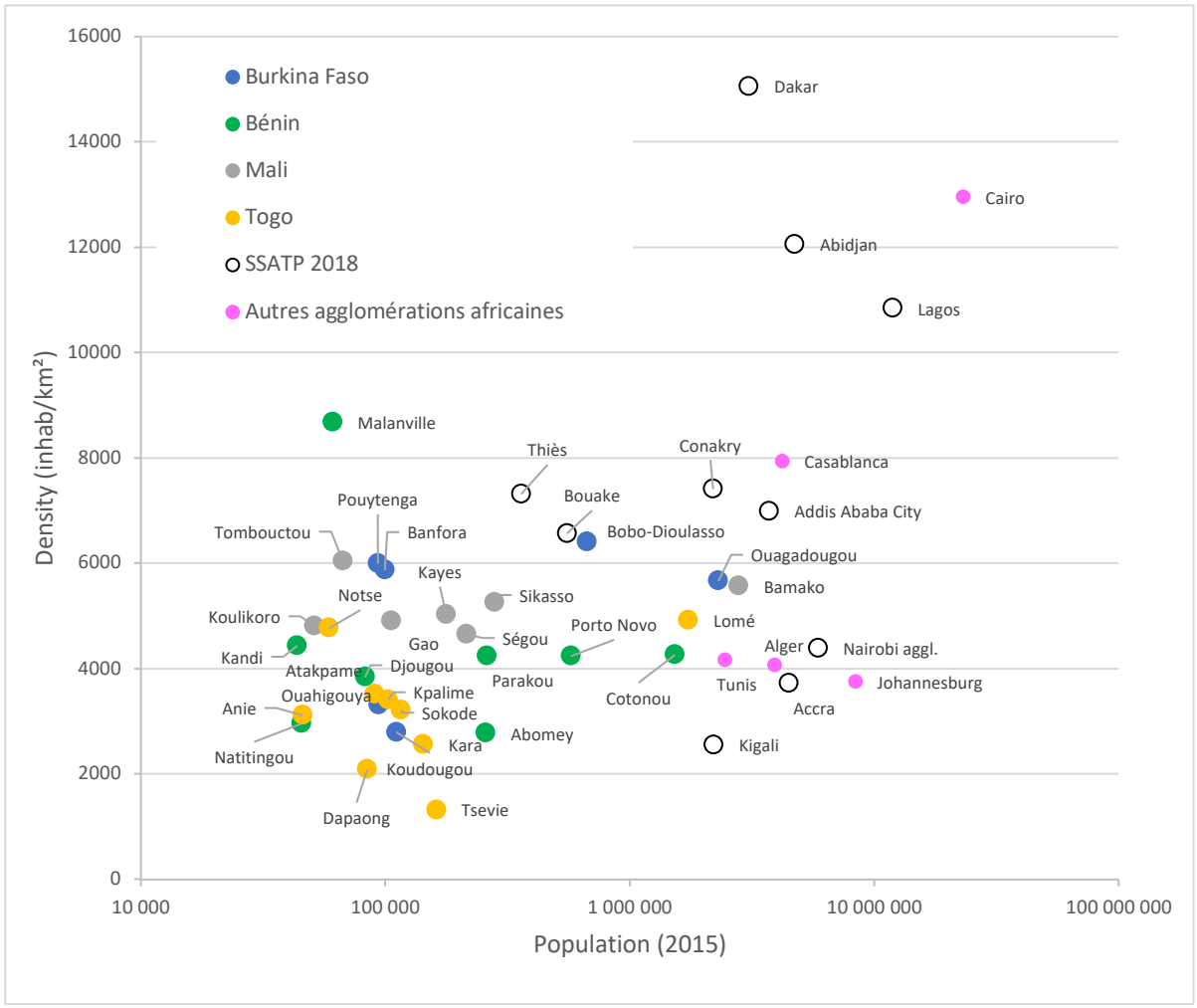
International experience shows that the individual motorization of transport reduces urban population density. Yet this density is a major factor in the viability of a multimodal mobility system. It promotes short-distance journeys and enhances the appeal of public transport.

In the countries studied, densities are still relatively low compared to other capitals in the sub-region. Figure 7 shows that Bamako and Ouagadougou (with 5,600 and 5,700 inhabitants/km^2 respectively) have a density half that of Abidjan and 2.5 times below that of Dakar. The urban areas of Greater Nokoué and Lomé are even less dense than the capitals of Mali and Burkina Faso. As for the other cities in Benin and Togo, they are less dense

than those of the two Sahel countries in the study. In Benin and Togo, densities vary between 2,000 and 4,500 inhabitants/km², while in Burkina Faso and Mali they vary between 4,500 and 6,500 inhabitants/km².

In Ouagadougou, a trend of falling average density is already being observed in the conurbation. There are few natural obstacles to urban growth, and the city has expanded extremely fast. Crossing the capital in 2003 was a 14 km trip, but by 2014 it was 20 km. The urban area has grown beyond the administrative boundaries of the municipality of Ouagadougou[6] and the 2025 density projection for Ouagadougou is 4,500 inhabitants/km².

Figure 7: Density of urban areas in Africa according to population (2015)



Source: Africapolis.org.

1.2 Two tiers of motorbike ownership

The four countries in the region are developing different models of motorbike ownership and use. In Mali and Burkina Faso, the motorbike is developing as an individual vehicle in urban and rural areas. In Togo and Benin, it is widely used as a taxi. Fleet growth thus appears to be lower in the coastal countries than in the Sahel countries. But car ownership is higher in Togo and Benin.

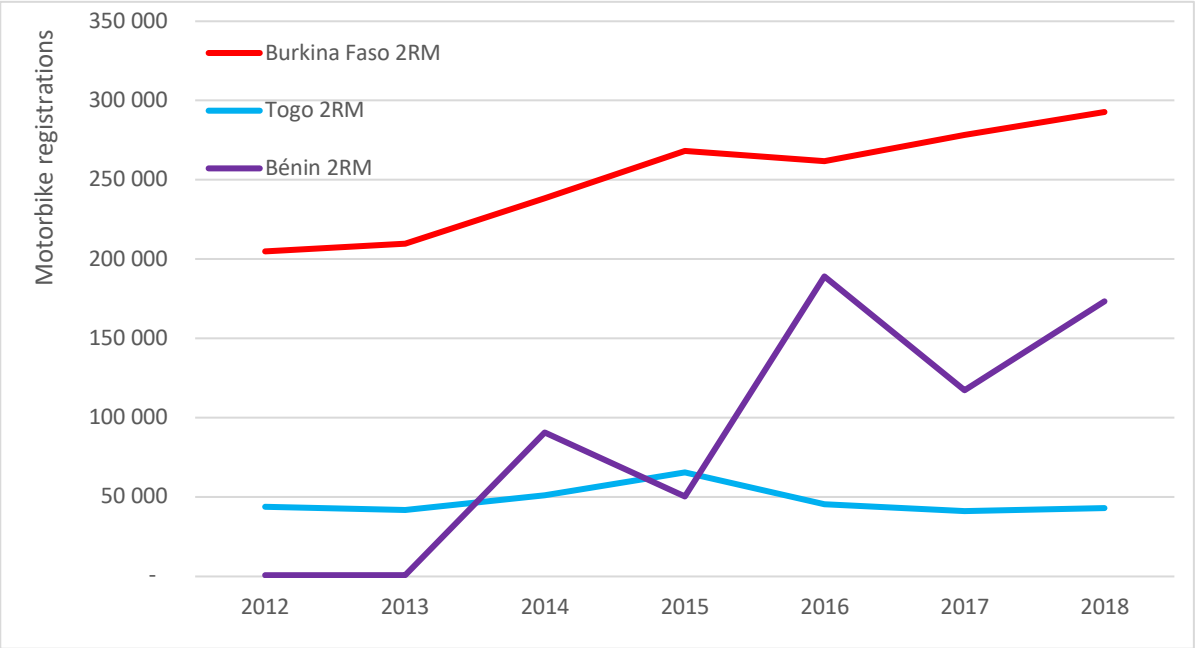
1.2.1 Very rapid fleet growth

The number of vehicle registrations (motorbikes and cars) have different trajectories in the four countries studied. Motorbike registration in Togo is relatively stable (47,000 vehicles a year on average) but is rising fast

[6] Source: Africapolis.org.

in Burkina Faso: +5.2% a year on average between 2012 and 2017. Over this period, Burkina Faso registered 1.46 million motorbikes versus 0.33 million in Togo. In Benin, the registration of motorbikes became compulsory at the start of 2017, so the statistics primarily reflect this catch-up in the registration of vehicles in circulation, as inspection programs were carried out in the preceding years to ensure motorbike owners complied with the new requirement (Figure 8).[7]

Figure 8: Registrations of motorbikes between 2012 and 2018 in Burkina Faso, Togo and Benin



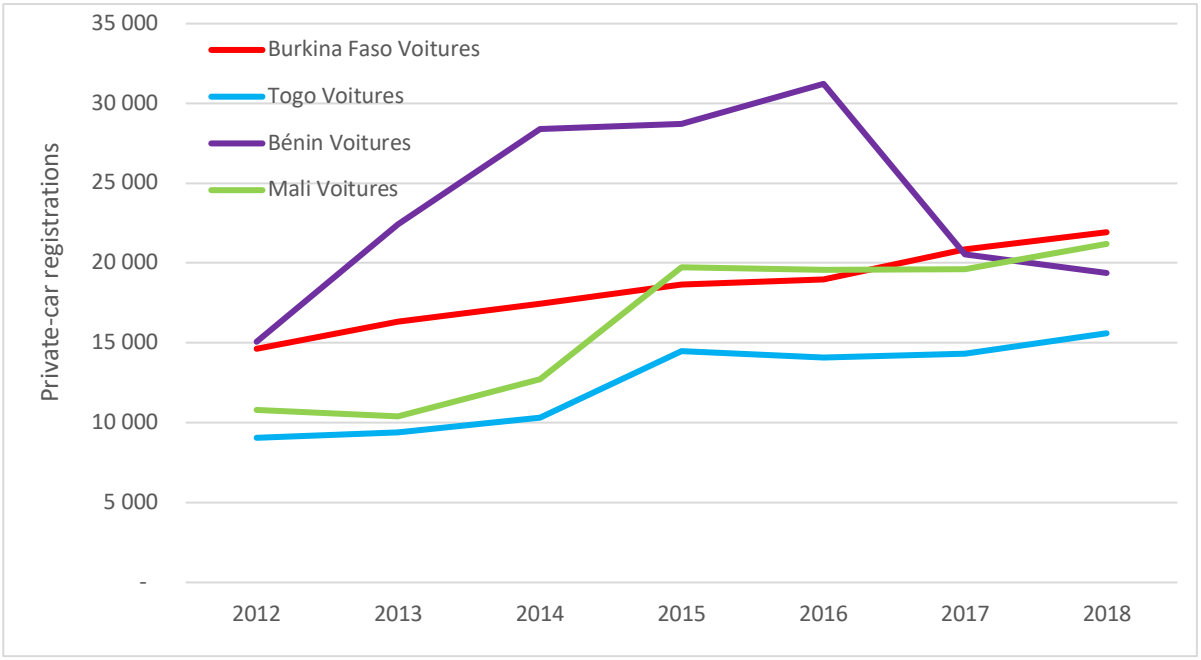
Sources: Burkina Faso: INSD, 2017 (the 2018 figure is an extrapolation); Togo: DTRF, 2019; Benin: ANaTT, 2018. Mali data not available.

In recent years, growing numbers of motorized tricycles have been registered in the countries; these are included in the motorbike statistics. Originally introduced to transport merchandise, they are increasingly used to carry people, particularly in secondary cities. In Burkina Faso, the customs service registered 100,000 motorized tricycles between 2012 and 2018, of which 71% in Ouagadougou and 28% in Bobo-Dioulasso. Their use is raising safety issues everywhere.

As for private cars, the number of registrations has grown constantly in Burkina Faso (+6.1% a year from 2012 to 2018) while Mali and Togo saw very rapid growth (+10.1% and +8.1% respectively in the same period), with a jump in 2015 (Figure 9). Since then, the latter two countries have respectively registered 20,000 and 15,000 private cars a year. In Benin, registration growth was strong until 2016, reaching 31,000 units; then, due to the economic climate, the figure fell quickly to around 20,000 in the next two years.

[7] Each motorbike owner must pay 11,500 FCFA for this compulsory registration.

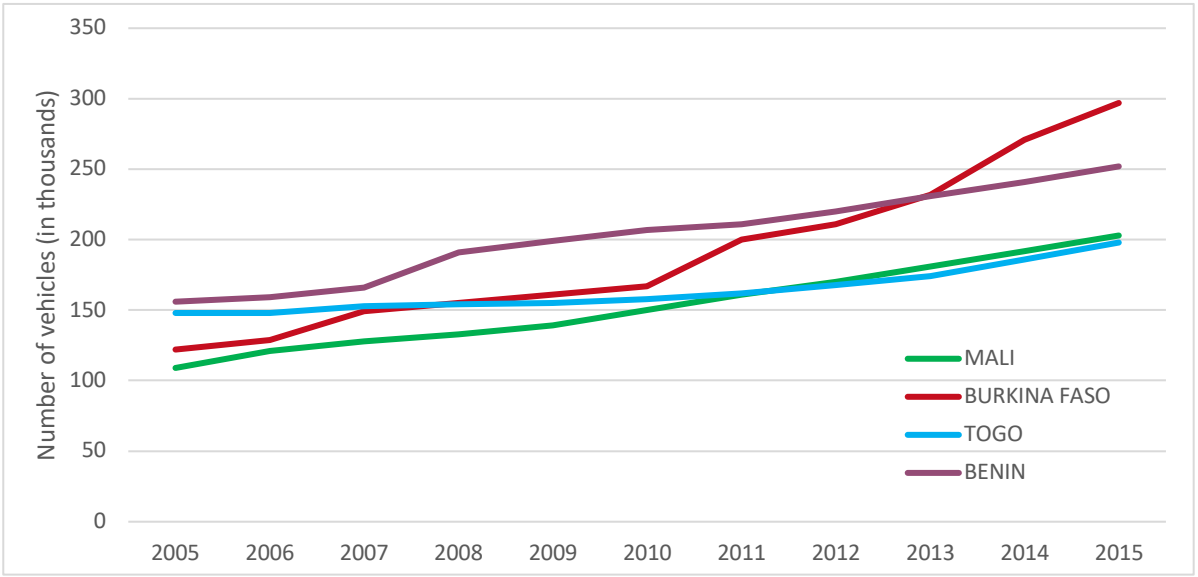
Figure 9: Private-car registrations between 2012 and 2018 in Mali, Burkina Faso, Togo and Benin



Source: Burkina Faso: INSD, 2017 (the 2018 figure is an extrapolation); Togo: DTRF, 2019; Benin: ANaTT, 2018; Mali: DTT, 2019.

In the four countries studied, the car ownership rate remains low but the number of cars in circulation is growing strongly, according to data from the International Organization of Motor Vehicle Manufacturers (OICA). In the 10 years from 2005 to 2015, the car fleet in Burkina Faso grew at a very fast rate (+9.3%/year). In the same period, the annual rate was +5.5% in Mali, +4.9% in Benin and +3.0% in Togo (Figure 10).

Figure 10: Vehicle fleet (four wheels or more) in Mali, Burkina Faso, Togo and Benin between 2005 and 2015

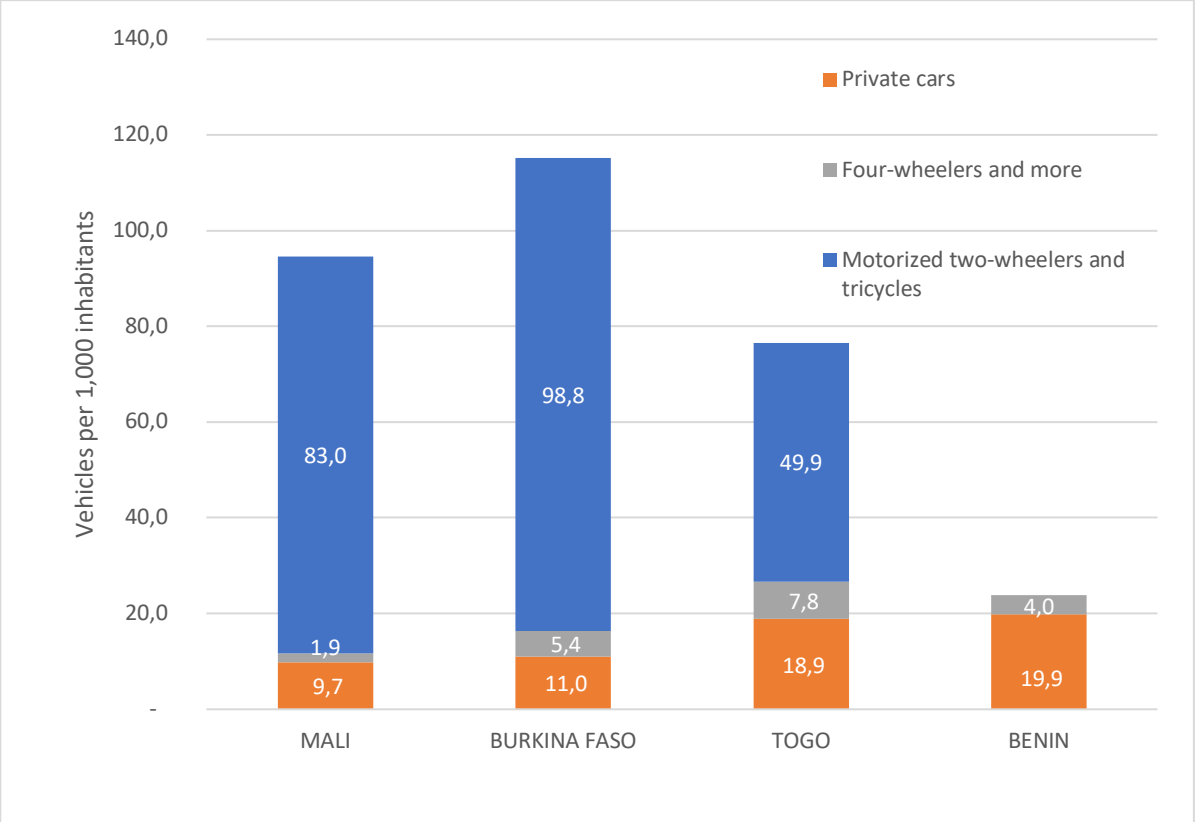


Source: OICA, 2019.

Despite higher growth rates, the two Sahel countries did not reach the number of cars per 1,000 inhabitants as in Benin and Togo (see Figure 11); however, the motorbike-ownership rate appears to be higher, probably

because motorbike taxis are less common. In Burkina Faso in 2015, there were 98 motorbikes per 1,000 inhabitants.[8]

Figure 11: Vehicle-ownership rates in Mali, Burkina Faso, Togo and Benin in 2015



Source: OICA, 2019; INSD, 2017 (motorbikes in Burkina Faso); the motorbike figures for Mali and Togo are estimates based on registration data.

The data from the Mali statistics institute show the national trend towards motorbike ownership: the rate rose from 17% of households in 2001 to 57.9% in 2017. Burkina Faso had the same ownership rate during the 2000s, suggesting that the two countries were on the same trajectory.[9]

Figure 12 shows the vehicle-ownership rates in urban and rural households in the four countries. In rural areas, car ownership rates are very low. But regarding motor-vehicle ownership, urban and rural areas differ only slightly (in Mali, Togo and Benin) – even though the standard of living in urban households, which is nearly twice as high as in rural ones, should allow them to own several vehicles.[10] Further, it is notable that urban households devote a bigger share of their budget to transport: 11.2% in Bamako and 12.2% in Cotonou in 2015, versus a rural average of 4.9% in Mali and 8.2% in Benin.

According to data from living-conditions surveys, motor-vehicle ownership is highest in Mali's cities, due in particular to the situation in Bamako, where, in 2018, 22.3% of households owned a car and 72.2% a motorbike.[11] Ownership rates are lower by far in Togo and to a lesser degree in Benin – a situation partly explained by motorbike taxis' role in these two countries' urban transport systems.

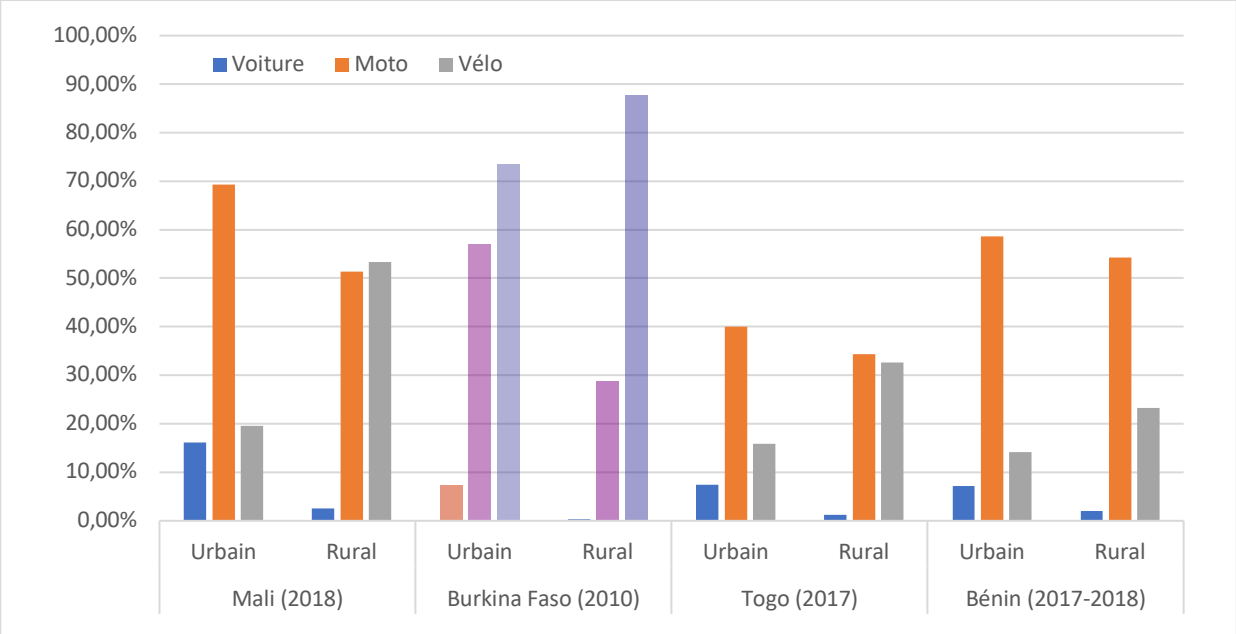
[8] The statistics directory of the country's National Statistics and Demographics Institute (INSD) (2017) gives the number of 689,800 motorbikes in circulation in 2010. Considering the information on new registrations at our disposal, this level was likely exceeded in 2015, without counting bikes that dropped out of circulation.

[9] 23% of households owned motorbikes in 2003, 30% in 2005 and 32% in 2007, according to the INSD (2011), "*Le Burkina en Chiffres*".

[10] In Mali, urban households have an income of 175,000 FCFA/month, versus 101,000 FCFA/month in rural households. In 2015, urban households devoted 9.3% of their budget to transport (i.e. about 17,000 FCFA/ month) versus 4.9% in rural areas (i.e. slightly under 5,000 FCFA/month). The share of spending on transport (6.7% nationally in 2015) is far smaller than that devoted to food (61.8% nationally) but is similar to spending on other items: housing, running water, electricity, gas.

[11] 6th Demographic and Health Survey in Mali (EDSM-VI), 2018.

Figure 12: Vehicle-ownership rates in households



Source: Mali: EDSM-VI Mali – 2018; Burkina Faso: Multi-Indicator Demographic and Health Survey (EDSBF-MICS IV) – 2010; Togo: Survey on Malaria Indicators – 2017; Benin: Demographic and Health Survey - 2017-2018 from national institutes' statistics collected through household living-conditions surveys.

1.2.2 The imported-vehicle dynamic

Except for a few motorbike-assembly plants, vehicles in circulation are practically all imported. Vehicle importation is governed by two main principles: the payment of custom duties and the introduction of complementary regulations often based on the age of imported used vehicles.

The countries in the West African Economic and Monetary Union (UEMOA) share a common external tariff (CET) that has regulated foreign trade with third countries since 2000. In 2015, it was amended and extended to the Economic Community of West African States (CEDEAO). Passenger cars and motorbikes, being in the consumer-goods category, are taxed at: 20% (customs duties), 1% ("statistical tax" – levied on taxis) and 1% (community solidarity levy: CSL) for fully-assembled vehicles.

The CET, compared to other customs unions on the continent, is lower than that of the Common Market for Eastern and Southern Africa (COMESA),[12] which applies a 25% rate to finished goods; and that of the Central African Economic and Monetary Community (CEMAC),[13] which applies a CET of 30% to cars.

Added to these taxes are VAT (18%) and a registration fee: taxes on an imported private vehicle therefore total roughly 45%-50% of its value. This is why used vehicles, with their low face value, are preferred in order to buy a car more cheaply. However, they are a big factor in air pollution and increase the risk of road accidents. West African countries are thus seeking a balance between reducing the average age of imported vehicles and meeting their citizens' mobility needs. Importing and maintaining used vehicles also helps to generate customs revenues and create jobs.

Benin is currently the only country of the four to have introduced an age limit for imported used vehicles, based on its date of first entry into service abroad. A decree from 2000 states: "no used vehicle can be imported into the Republic of Benin unless its time in service is less than 10 years for private vehicles or less than 13 years for

[12] This customs union comprises the following countries: Burundi, Comores, Djibouti, DRC, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe.

[13] CEMAC's members are: Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon, Republic of the Congo. Per its nomenclature: category I: basic goods - 5%; category II: raw materials and capital goods - 10%; category III: intermediate and sundry goods - 20%; category IV: consumer goods - 30%.

utility vehicles. Prior to registration, it must undergo a physical and technical inspection by the relevant Transport Ministry department."

In Mali, imported cars are taxed according to engine size and vehicle age, but these levies are not dissuasively high (buyers must pay 5,000 FCFA per hp unit for vehicles up to two years old, plus 5,000 FCFA for each further two-year period).

Burkina Faso[14] and Togo[15] are looking at limiting the age of imported used vehicles, especially since Ivory Coast put a ban in December 2017[16] on imported private vehicles and taxis over five years old; minicars and vans over seven years old; and coaches and trucks over 10 years old.

The consequences of limiting the age of imported used vehicles may be measured in light of changes in Senegal, where it was set at five years in 2001. But this made vehicles far more costly for the Senegalese, and President Macky Sall, just after he was elected in 2012, raised the limit to eight years. This measure caused vehicle imports to soar (Table 3). From 2011 to 2012, the number of imported vehicles rose from 14,300 to 26,300 (+83.7%) and the customs service collected revenues on imported vehicles of 23 billion FCFA, versus 18.7 billion the year before (+22.5%). Growth in vehicle imports continued in the following years, fueled by economic growth.

Table 3: Used-vehicle imports and customs revenues in Senegal (2011 – 2014)

	2011	2012	2013	2014
Number of imported used vehicles (in units)	14,317	26,303	28,612	33,118
Customs revenues from used vehicles (in billions of FCFA)	18.7	23.0	26.5	29.1

Source: http://www.douanes.sn/fr/node/385

1.3 Capital cities are facing an emergency situation

1.3.1 Soaring traffic and inadequate regulation

Jams causing ever-worse paralysis

Business and political capitals host most of the countries' motor vehicles. In Mali in 2018, about half the cars in circulation were registered in Bamako.[17] In Burkina Faso between 2012 and 2017, about 39% of motorbikes and 85% of cars first entered circulation in the Centre region, whose chief city is Ouagadougou.[18] Although there is no data, Benin and Togo have similar trends.

This fleet growth has increased traffic, which the capitals' road system is struggling to support. In Ouagadougou, for example, the number of people going into and out of the central business area grew by 10% between 2011 and 2014, reaching 600,000 entries or exits. At this rate, the road system will need to cope with double the number of journeys by 2030.[19]

The low number of asphalt roads restricts the choice of routes, and jams are becoming increasingly problematic on the main arteries. This situation is exacerbated in Cotonou by the narrow land belt between Lake Nokoué

[14] In Burkina Faso, import taxes are currently inversely proportional to vehicle age, thus encouraging the importation of older vehicles that produce more pollution and potentially burn more fuel. In 2015, passenger-car imports generated 39.4 billion FCFA; and motorbikes, 29.5 billion FCFA. These imports weigh negatively on the country's balance of trade.

[15] Where import taxes vary according to vehicle engine size.

[16] Decree no. 2017-792 of 06 December 2017.

[17] Based on car technical inspection records: see Regional Land Transport Directorate (DRTT) in Bamako, annual report, 2018.

[18] 2017 statistics directory of Burkina Faso's National Statistics and Demographics Institute (INSD).

[19] Municipality of Ouagadougou, 2014.

and the ocean, which reduces the number of roads to the city center and the port; the same is true of Bamako, where the Niger River can only be crossed via three bridges, which have become bottlenecks.

This has heavily affected vehicle speed. The journey times of motorists and public-transport users (and, to a lesser extent, of motorcyclists) have lengthened at peak times, which are also lasting longer.

Notable efforts have been made in recent years by the ministries in charge of infrastructure in Bamako, Ouagadougou and Lomé to asphalt the primary network, i.e. the national roads that serve as arteries, and city-center streets inside the ring roads (if these exist). In the 2000s, interchanges, some of them oversized, were also built (in Ouagadougou and Bamako). They were intended to resolve congestion problems while giving a "modern" image; but they sometimes contribute to road-system dysfunction, being oversized in some places, undersized in others, and rarely arranged in a functionally logical hierarchy. The emblematic districts given specific economic- or administrative-development status (Ouaga 2000, ACI 2000 in Bamako, or Lomé 2) have often received excessive investment in roads. In the other districts of these capitals, secondary and tertiary streets are practically all dirt roads (the proportion of non-asphalt roads in the four capitals studied exceeds 75%).

Investment is continuing, with projects led by central governments or local authorities. In Cotonou, central government's Action Program 2016-2021 includes a project to asphalt and pave streets (237 km of roads are due to be developed or rehabilitated), supervised by the Ministry of Living Environment and Sustainable Development. In Ouagadougou, the municipality is heading a project to surface 145 km of roads.

But given the cost of new infrastructure, the capitals are also trying to address the emergency in other ways. Since July 2019, Bamako has been testing one-way traffic at peak times on the five main arteries that support 80% of traffic, in order to ease the flow of commuter traffic. This measure, aimed at saving 20 minutes on a 45-minute trip, was taken by the Urban Mobility Working Group (GTMU). The municipality of Ouagadougou has adopted a strategy, which has borne fruit, of diverting transit flows onto two bypass routes: the inner boulevard ring and the outer beltway.[20]

In Cotonou, heavy-vehicle traffic was banned from some critical arteries at morning peak times, as their substantial flows were aggravating congestion on most of the city's roads. Studies have been launched to address traffic-management problems. Lastly, the government has announced relocations of traffic-generating hubs to spread commuter flows. (see Box 1).

[20] This strategy contained city-center traffic growth: the number of inbound and outbound vehicles remained stable, according to the 2016 counting program. Municipality of Ouagadougou, 2016.

Box 1: Relocating activities and managing transit flow in Greater Cotonou

Since the 1950s, the conurbation of Cotonou has seen high economic and demographic growth, which has resulted in extensive and rapid urban sprawl, absorbing Sèmè-Kpodji to the east and Abomey-Calavi to the north. In 2018, the urban area totaled 1.8 million inhabitants in 350 km², i.e. a density 2.5 to three times lower than those, for example, of the Dakar or Abidjan areas. This uncontrolled urban sprawl has included the development of hubs with very different functional roles: the main economic and administrative activities in Cotonou, university education and a residential area in Abomey-Calavi, and industrial and trading activities in Sèmè-Kpodji.

This configuration is accentuating the demand for mobility, and creating mass commuter travel, a source of rising congestion on the few asphalt arteries. These poor traffic conditions are aggravated by regional and international transit traffic, which all passes through the city center, as no alternative route exists.

To prevent imminent gridlock, the government, as part of its Action Program 2016-2021, has taken a proactive approach, implementing major projects designed to:

- reduce demand for home-work travel, through projects to relocate or restructure large traffic-generating hubs: creation of an administrative center in Calavi, denser social housing, relocating the airport and the Dantokpa wholesale market;
- and reduce disruption due to freight traffic crossing the city center, through better organization and investment in road infrastructure: northern bypass and port link road, new organization of port access and parking.

This approach, a novelty in the region, will likely reshape the conurbation and is expected to enable greater control of mobility demand and improved traffic conditions. However, it remains to be supplemented by the development of a mass public transport service, which does not exist at present; this would provide a real alternative to motorbikes, inhabitants' main means of (individual or collective) transport in the urban area.

Inadequate organization and ineffective traffic management

Generally speaking, traffic organization is very limited, and jams form well before the system reaches its theoretical capacity. This is due to various factors:

- the very poor design of the roads, which do not promote optimal space occupation by the various uses (driving, parking, drop-off, delivery, etc.);
- insufficient traffic control and real-time logistics management systems;
- a very old vehicle fleet (trucks, cars and motorbikes), with frequent breakdowns and accidents that are particularly disruptive on strategic arteries at peak times;
- users' behavior, which often breaches the highway code. Drivers probably know very little about the code; and in some urban areas, very few intersections are equipped with traffic lights,[21] traffic signs or road markings. Motor vehicles often force their way through with no consideration for pedestrians wanting to cross the road or walking on the hard shoulder.

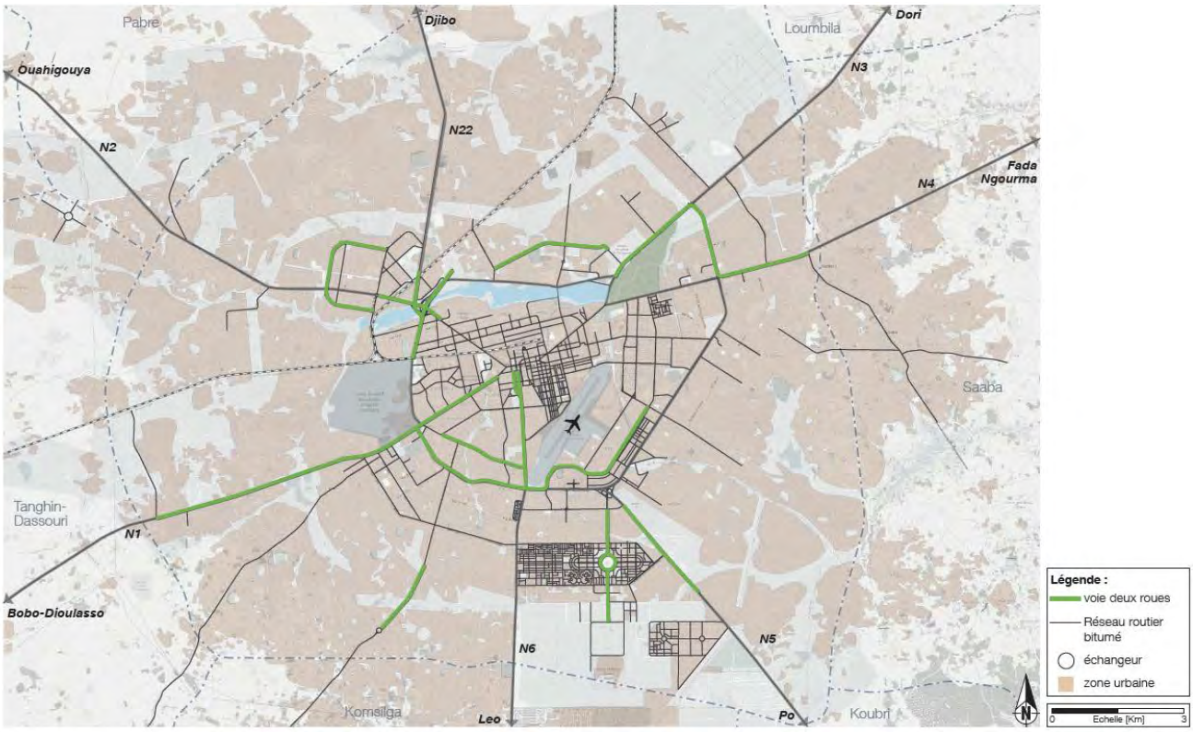
With the development of motorbikes, traffic is particularly dense and flow management is complicated, especially on main roads of the city center. Motorbikes drive side by side without respecting safe distances, and thread their way between the cars. Accident rates are particularly high at peak times on the busiest roads. The helmet-wearing requirement for drivers is spreading throughout Benin and Togo, where police checks are frequent, but this is not yet true of Burkina Faso or Mali. However, in the countries where motorbike taxis are widely used, the passenger rarely wears a helmet, and this is mostly tolerated.

Ouagadougou took the decision to separate traffic flows on 71 km of arterial roads, by creating bicycle/motorbike lanes (Figure 13). These facilities are aimed at better organizing flows and reducing the risk of accidents. But they are reaching their limits: on these roads, 75% of public space is allocated to car traffic, even though it accounts for only 16% of usage. The other 25% is used by 82% of users: motorcyclists and

[21] Ouagadougou and, to a lesser extent, Lomé are relatively well equipped compared to Cotonou and Bamako.

cyclists.[22] The authorities do not envisage giving more space to motorbikes, for fear of further encouraging this mode of transport which largely accounts for the disastrous road-safety record.

Figure 13: Dedicated motorbike/bicycle lanes in Ouagadougou



Source: Transitec, 2019.

And yet in the four countries studied, as in most African cities, non-motorized transport modes – and walking, specifically – have a very important place in everyday transport (estimated at more than 50% in Greater Lomé). But active modes are generally given very little consideration in transport planning, infrastructure building or traffic organization.

Pedestrians are ignored

Most of the roads in cities have no pedestrian facilities. Only a few arterial roads have sidewalks; and when these do exist, they are typically misused. As sidewalks are often clogged up with illegally parked cars and motorbikes, merchants and retail premises, pedestrians are forced to walk in the road. Pedestrian crossings, when they exist, are insecure: lengthy, low visibility, unsatisfactory markings, no central islands; so, pedestrians must adapt to the traffic. At crossroads with traffic lights, pedestrian movements are often uncontrolled, or the lights are out of order. On secondary roads, pedestrians walk on dirt surfaces which sometimes become impracticable when it rains.

When forced onto the road, pedestrians mix with motorized traffic, which poses serious safety problems, exposing pedestrians to the highest risks. According to a report by the World Health Organization (WHO), published in 2013, 37% of road accident-related deaths in Africa are pedestrians. In Bamako in 2015, 40% of road-accident deaths were pedestrians.[23]

Although walking has a particularly poor image among decision-makers and the general public, the same is true of bicycles. And yet these are still very common, especially in the capital of Burkina Faso. According to counts done in 2016 in the municipality of Ouagadougou, bicycles represented 13% of flows. The predominant mode back in the 1980s, they remain widespread due to the freedom they offer and their low cost, but use is falling as they are now seen as old-fashioned compared to motorbikes.

[22] Urban Transport Observatory of Ouagadougou (ODUO), 2016

[23] African Development Bank (2018) - *Etude pour l'amélioration de la sécurité routière dans le District de Bamako*.

Figure 14: Sidewalks congested by parked vehicles in the absence of organized spaces, in Lomé

Figure 15: Sidewalks congested by merchants in Ouagadougou

Figure 16: A pedestrian walking on a main road in Bamako

Figure 17: "Bike lanes" dedicated to two-wheeled vehicles in Ouagadougou

Source: Transitec, 2019.

Few data available to enable traffic management

In some capitals, data have been collected in recent years as part of infrastructure construction projects (as in Benin, for the northern bypass); but other urban areas have put in place a data-collecting method and regularly conduct studies of variations in traffic. This is particularly the case in Ouagadougou which, since 2011, has carried out three rounds of data collection to monitor how traffic is changing in the center of the conurbation (see Box 2).

Box 2: Traffic monitoring and management in Ouagadougou

The city of Ouagadougou is witnessing rapid urban expansion, driven by strong demographic growth. The development of the urban area has brought an increase in people that the road system struggles to keep moving fluidly. Economic and administrative activities are concentrated in the central business district, while the residential districts are developing on the outskirts of the metropolitan area, so commuter flows saturate the roads at peak times.

In 2011, the municipality of Ouagadougou thus began, as part of the Ouagadougou Mobility Support Project (PAMO), an initiative aimed at ultimately improving traffic conditions and the long-term accessibility of the city center. This initiative, based on optimizing the operation of existing road infrastructure, yielded a traffic strategy that promoted diverting transit flows to two bypass routes: the inner boulevard ring and the outer beltway.

At that time, the disciplines of traffic management and urban road operation were in their infancy, and transferring knowledge was a focal point of the study.

The technical departments of the municipality of Ouagadougou, and the staff trained for the study thus conducted two rounds of counting at the main city-center crossroads in 2014 and 2016, using the same methodology as in 2011. The purpose of the data collection was to:

- advance knowledge and monitoring of travel habits and inform the Urban Transport Observatory (ODUO), serving as a decision support tool for road-infrastructure management and investment planning;
- assess changes to, and the modal mix of, traffic on arterial roads in Ouagadougou city center and on bypass routes, and thus assess the impact of the measures taken thus far;
- refine the traffic strategy and envisage paths to optimization.

The counts showed that the increase in traffic had mainly transferred to the inner boulevard ring but also to the large axial arteries, whereas city-center traffic had fallen, thus confirming the adopted strategy.

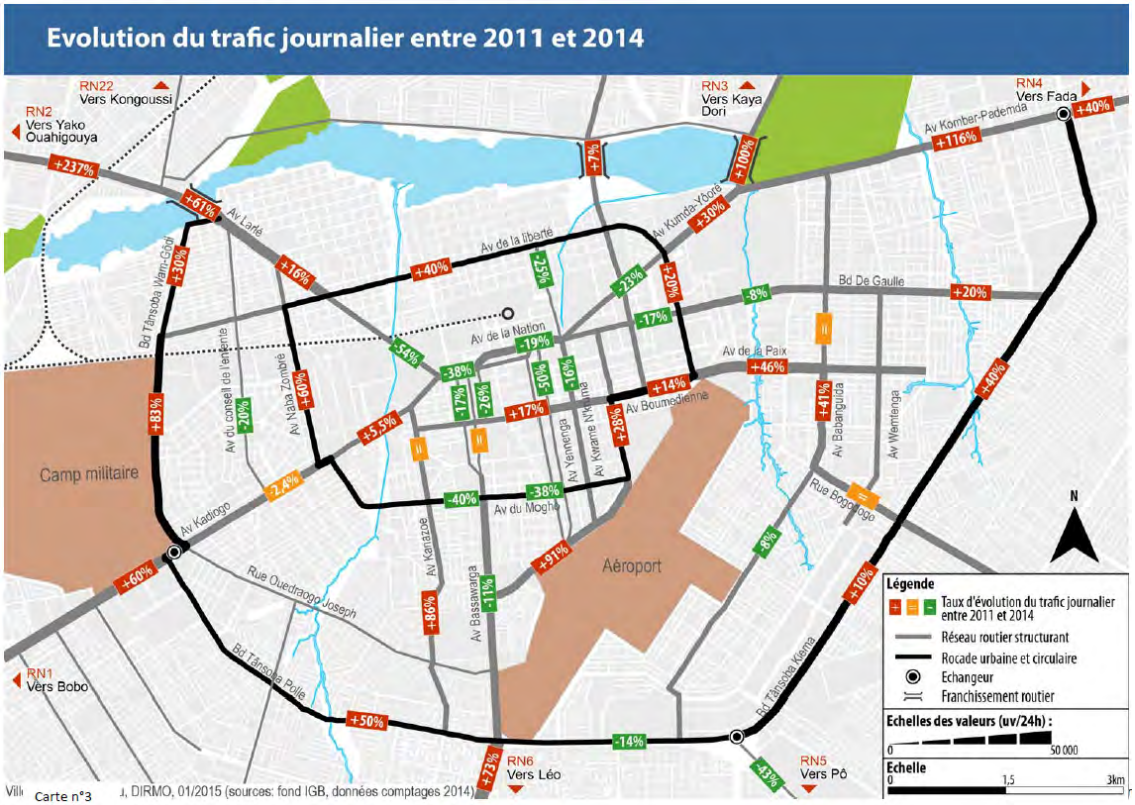
To supplement this, a three-tier hierarchy of the system was established to strike a balance between circulatory and urban functions for each tier of roads; and to prioritize investment targets. A road surfacing scheme is being drawn up in order to pinpoint priorities and envisage a capital road upgrade program lasting 5-7 years.

As the municipality of Ouagadougou has crossroads with traffic lights, the traffic count results are also serving to optimize management and control of these junctions where there is still plenty of potential for improving traffic conditions.

The design characteristics of a crossroads or road, and the space allocated to each transport mode (active modes included), depend on its function as determined by the road hierarchy.

Road profiles and the geometry of standard crossroads have thus been drawn up according to the road tier and have been coupled with thematic factsheets. These factsheets are intended to help take account, in road design, of the various uses inherent to urban space. They list questions to consider; essential watch points; and paths to explore regarding solutions and innovations related to individual motorized modes and their parking, to active modes, to collective transport, to the use of space adjacent to roads and to local activities, and to trees and landscaping.

Figure 18: Variation in daily traffic in Ouagadougou city center between 2011 and 2014



Source: Municipality of Ouagadougou, 2014.

Figure 19: Variation in daily traffic in Ouagadougou city center between 2014 and 2016

Source: Municipality of Ouagadougou, 2016.

Parking: a little-used tool for control

In all four capitals, there is very limited management of parking. It is mainly spontaneous, sometimes on private unbuilt land. Vehicles often congest public space alongside roads, infringing on the space for pedestrians. Growth in the number of vehicles in circulation is exacerbating the pressure on public space in city centers, and parking is increasingly problematic near flow-generating hubs. The vicinity of the central markets, where delivery vehicles as well as consumers' and residents' vehicles are parked, is particularly chaotic.

When responsibility for parking was incorporated into law, the decentralization process allocated it to municipalities; but very few are introducing policies that make it possible to optimize public space and generate sufficient revenues. The challenges are concentrated in their center; but policies for paid parking are rare. Ouagadougou stands out with relatively well-organized motorbike parking in the city center: paid motorbike parks are run by authorized "parkers" who pay a tax to the city council in return for operating a portion of public space. A 2015 municipal order set the parking-service prices in Ouagadougou, based on the type of vehicle and of parking facility (Table 4). But these set prices are not necessarily adhered to by the "parkers", most of whom operate without official municipal accreditation.

Table 4: Parking prices set by Ouagadougou municipal council (FCFA)

<table>
<tr><th rowspan="2">Parking category</th><th rowspan="2">Place or activity</th><th colspan="3">Direct</th><th colspan="3">Subscription</th></tr>
<tr><th>Bi-cycle</th><th>Motor bike</th><th>4-wheel vehicles</th><th>Bi-cycle</th><th>Motor ke</th><th>4-wheel vehicles</th></tr>
<tr><td rowspan="4">Social</td><td>Schools, universities, vocational training schools</td><td rowspan="3">25</td><td rowspan="3">50</td><td>100</td><td>500</td><td>1000</td><td rowspan="3">Contractual clause to be negotiated</td></tr>
<tr><td>Cemeteries, morgues</td><td>100</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>Health training schools and pharmacies</td><td></td></tr>
<tr><td>Weddings, christenings</td><td rowspan="4">50</td><td rowspan="4">100</td><td rowspan="2">200</td><td rowspan="4"></td></tr>
<tr><td rowspan="2">Public administration, yaars and markets</td><td>Public administration</td><td>500</td><td>1500</td></tr>
<tr><td>Yaars and markets</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td rowspan="2">Sundry spontaneous events</td><td>Ceremonies</td><td rowspan="2">500</td></tr>
<tr><td>Leisure, concerts and entertainment</td><td>100</td><td>200</td><td></td></tr>
<tr><td>Long-stay parking</td><td>Bus station</td><td colspan="2">100</td><td></td><td colspan="2">200 (more than one day)</td></tr>
</table>

Source: Municipal order 2015-033 dated 30 April 2015.

1.3.2 Collective transport at the end of a cycle

In a context of growing traffic jams, the four capitals studied have no structural public transport system offering a quality service. Bamako and Cotonou have no institutional public transport service; Ouagadougou and Lomé have a public transport company but, with fleets of just a few dozen buses in operation, their activity is marginal. In Bamako there is a particularly large supply of informal collective transport, the minibus being the main mode of motorized transport. On the one hand, the institutional bus networks do not benefit from a framework ensuring their long-term existence; on the other hand, informal transport services are developing to varying degrees to meet mobility needs, following a trend widely observed elsewhere towards increasingly small capacity vehicles. Table 5 shows the trends for the existing transport modes.

Table 5: List and operating trend of public-transport modes in the cities studied

Country	City	Motorbike taxis	Tricycles	Shared taxis	Minibuses	Bus	Mass transit
Mali	Bamako	↗	→	↗	→		Pre-faisability study (BRT, cable transport
	Kayes	↗	→	↘			
Burkina Faso	Ouagadougou			→		↗	Faisability study
	Bobo-Dioulasso	→	↗	→		↗	
Togo	Lomé	↗	↗	→		↘	
	Kara	↗		→			
Benin	Cotonou	↗	↗	↗			
	Parakou	↗		→			

Legende	
	Non existent
→	Steady
↗	Increasing
↘	Decreasing

Struggling institutional operators

Ouagadougou and Lomé are the only capitals that still have an institutional urban bus service: SOTRACO and SOTRAL, respectively. In Bamako, the last three companies to sign concession agreements with the Transport Ministry ceased operating in 2005. Since then, the only public transport service has been "SOTRAMA" minibuses run by informal operators. Cotonou has had only one failed attempt by a private operator, in 2012 (see Box 3).

Box 3: BenAfrique, the classic scenario of a failed private operator in Cotonou

BenAfrique, a private sector company, signed a partnership with the municipality of Cotonou to deploy a public transport service in the city. No public subsidy was paid to acquire vehicles or offset the operating deficit. Within a year the company's 50 buses stopped running, following a well-known scenario. the company had initially set a fare of 200 FCFA per trip, whatever the distance, but operating revenue did not cover operating costs.

At first, these new buses attracted passengers, but the lack of timetable reliability and excessive journey times, due to congestion, soon made the service unattractive. After poor financial results the operator raised fares to 300 FCFA, and the service became uncompetitive compared to zémidjan motorbike taxis. Less than a year after the service began, the company shut down.[24]

[24] H. Kingbee, Benin: *BenAfrique, fin précoce pour une entreprise qui a fait rêver*, La Nouvelle Tribune, September 2013

Since SOTRACO and SOTRAL were established, in 2003 and 2008 respectively, they have not developed an enduring service offering, and they still play only a very small role in the capital's mobility system: with less than 10,000 passengers a day, the Togolese company has a modal share of under 1% in Greater Lomé. The situation is similar in Ouagadougou, where buses are not viewed as a system component either, and the network has not reached the critical mass needed to secure its long-term future:

- no measures have been taken (dedicated bus lanes, priority at traffic lights, built/signed stops, etc.) to improve bus operating conditions
- the bus fleet is too small to achieve the critical mass enabling a quality service to be developed across its assigned area (companies sometimes have one or two buses per line)
- the quality of the buses is too low for more than five years' operation.

The number of buses in operation shrinks very quickly (there were fewer than 10 in Ouagadougou in 2017) and, as they are stuck in traffic jams, they can no longer guarantee regular frequencies or journey times. The image of buses soon deteriorates, and they are only used by people with no alternative.

SOTRACO and SOTRAL, companies operating under private law with public and private shareholders, each have an agreement with their supervising ministry, under which their operating deficit is covered. Although these agreements reflect a clear intent to support the operators' activity, they are not designed to improve performance. Furthermore, subsidies for investment (to acquire vehicles) and for operation are considered separately. Investment is irregular, arising from opportunities (with a foreign partner)[25] or political risks (following student protests). The operator is handed a fleet of vehicles and must manage to achieve an operating profit while maintaining attractive fares. This rationale, which is illusory given traffic conditions, leads to network inconsistency, which considerably impairs its image. In recent years the two bus companies have had a partnership framework offering them longer-term perspectives, but unfortunately it does not ensure the future of their activities or encourage them to improve performance.

Institutional public transport fares aim to be competitive compared with those of informal transport providers, and especially for students. The SOTRACO bus trip fare is 200 FCFA in Ouagadougou, but the student pass costs 3,000 FCFA / month. By way of comparison, a motorbike taxi ride costs 100-200 FCFA in Bamako and Cotonou, depending on distance. A shared-taxi ride in Bamako costs 300-500 FCFA depending on distance and occupancy rate, and a SOTRAMA trip costs 150-200 FCFA depending on the destination (within Bamako or outskirts). The fare gap is not big enough – except on long trips – to compensate for the institutional transport's irregularity and lack of flexibility.

[25] Sale of buses with preferential financing (export credit); donations of used vehicles, etc.

Box 4: Creation, decline and revival of public transport companies in Ouagadougou

Since the 1980s, institutional public transport services in African capitals have found it very hard to survive. The history of bus networks in Burkina Faso shows the lack of long-term deployment of a public service and sheds light on the issues around the current crisis.

Between 1961 and 1984 the city of Ouagadougou saw several – fruitless – attempts to create bus companies. In 1961, France's cooperation agency donated three buses to Ouagadougou for public transport; they stopped operating two years later. Later attempts initiated in 1969, 1976 and 1981 proved inconclusive.

In 1984, the national public transport company X9 was set up to operate an urban public transport network in Ouagadougou and Bobo-Dioulasso, but also inter-city and international services, so that revenue from the latter two market segments would cover the urban service deficit.

X9 ran 30-40 buses for 10 years. Like many public urban transport companies, it was privatized in 1994 as part of the Structural Adjustment Program. The recommendation was to deregulate the market, rather than have a service operated by companies accused of poor management. However, competition from other transport modes, operating conditions made tougher by traffic growth, the fares applied, and weak management by the public authorities caused the private companies to fail. The Alpha Omega transport company (SOTRAO), which stemmed from this privatization in 1997, inherited 35 vehicles before folding in 2002 due to its chronic operating deficit, with just two buses in service. In 2003, the Ouagadougou public transport company (SOTRACO), with shareholders both public (central government and municipality of Ouagadougou) and private (private transporters and a bank) was set up to replace SOTRAO. It began operating with a fleet of 40 buses[26] and a single-ticket fare of 200 FCFA. But here too, they suffered from fleet shrinkage due to the very low quality of the buses and to poor maintenance. Following repeated breakdowns, SOTRACO's fleet had decreased to 25 vehicles by 2006, and to 20 vehicles in 2007. Ten years later, only eight vehicles were still operating in Ouagadougou. This level of service, far too inadequate to be attractive, was maintained to stop the company from failing, and the operating deficit was covered by the authorities.

Following student demands in 2018, the Ministry of Higher Education, Scientific Research and Innovation donated 75 buses to SOTRACO to develop services to the university sites. This new fleet enabled the company to bounce back by developing new services in Bobo-Dioulasso and Koudougou. As after each recapitalization of public-transport companies, the challenge now is to find a business model that can reduce the operating deficit, and to secure long-term financial support from the authorities making it possible to grow the fleet, facilitate bus movement to increase their commercial speed, and plug the operating deficit while maintaining acceptable fare levels.

Public-transport performance: poorly evaluated and largely overlooked

Although some delegating authorities oversee the performance of the services delivered by institutional public transport operators, by monitoring indicators of service and passenger numbers (Box 5), these indicators are rarely used to set operators' contractual targets or calculate a subsidy to cover the operating deficit.

[26] Acquired with a loan of approximately 4 billion FCFA granted by Belgium to Burkina Faso.

Box 5: Monitoring of data on SOTRAL's network operation in Lomé

In Lomé, institutional transport is provided solely by SOTRAL (Lomé Transport Company). A limited company incorporated in 2006, it gradually took shape with the creation of a practically all-public shareholder base, then began operating in 2013. SOTRAL is today overseen by three supervisory authorities: the municipality of Lomé, the Ministry of Infrastructure and Transport, and the Ministry of the Economy and Finance.

In 2019, SOTRAL operated 11 scheduled lines and seven university lines and charged competitive, subsidized fares. Its hub-and-spoke network is relatively extensive, covering much of Greater Lomé, though some districts are still not served. But SOTRAL has severe operating difficulties due to its ageing, inadequate vehicle fleet. The lack of reliable vehicles has heavily affected its service quality, which has directly impacted ridership. Bus transport in Lomé currently has a very poor reputation. It is viewed as transport for “poor people." It thus currently plays a very minor role in Lomé residents' mobility (less than 1% of public transport trips).

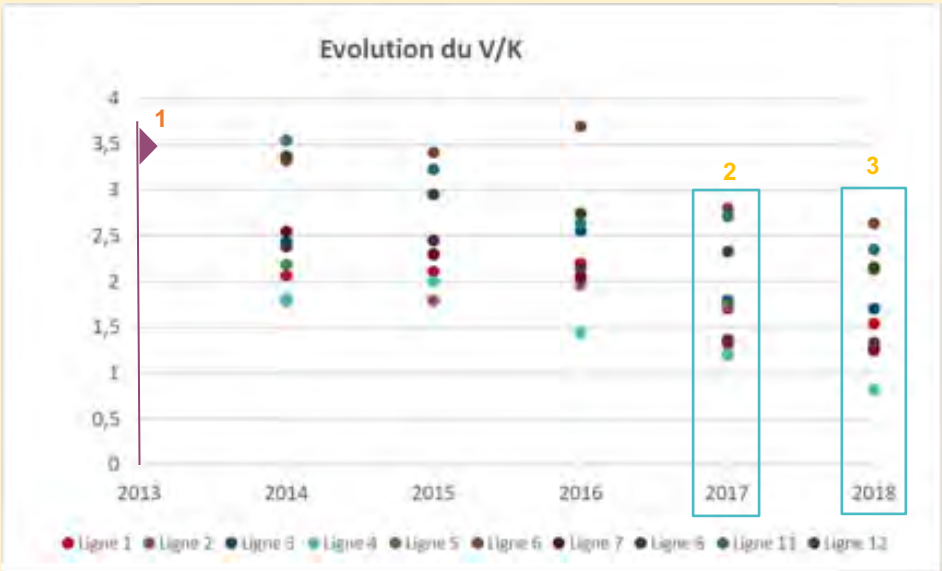
Since its creation, SOTRAL has collected operating data through:

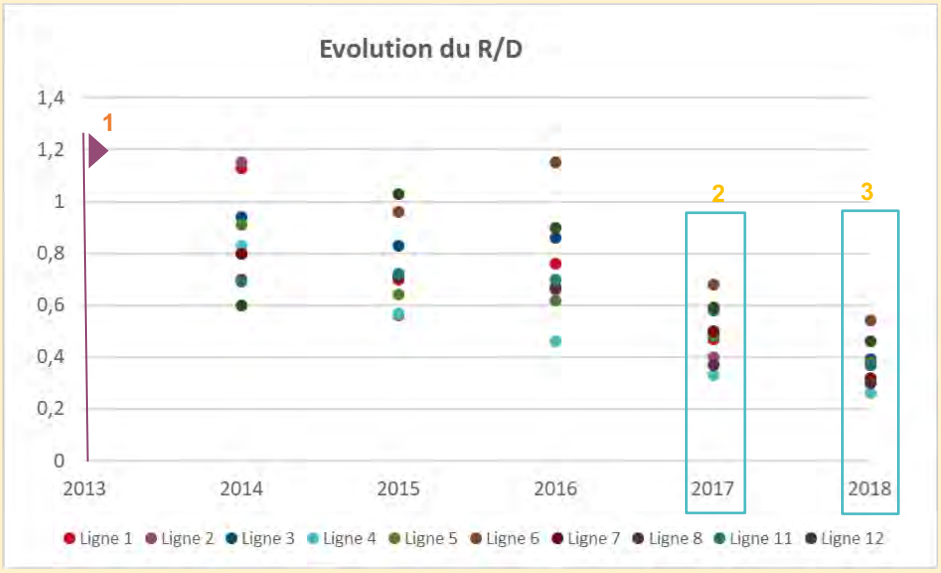
- monthly operation tracking, with data for each bus line covering revenue, spending, passenger numbers, vehicle fleet, etc. These data also yield operating ratios: Revenue / Spending (R/D) and Passenger / Kilometer (V/K);
- and an annual user satisfaction survey.

These data sets are essential tools for:

- tracking operation. They should be used by the supervisory authorities to measure the operator's performance and potentially provide support. By way of illustration, SOTRAL's difficulties with its ageing and inadequate vehicle fleet are reflected in its R/D and V/K ratios, which is a warning sign (Figure 20);
- highlighting certain mechanisms that influence network operation. In particular, this serves to encourage investment that could expand SOTRAL's service offering. For example, lines 1, 3, 6 and 7, which delivered the best service levels in the first years of operation, also had the highest V/K and R/D ratios (better passenger numbers and financial balance) (Figure 20).

Figure 20: SOTRAL's main operating ratios





Source: SOTRAL

1 SOTRAL starts operating in 2013.

2 Operating difficulties related to the ageing and inadequate vehicle fleet lead, among other things, to fewer runs / day on most SOTRAL lines in 2017 – with a direct impact on the operating ratios.

3 The difficulties continue and worsen, prompting SOTRAL to further reduce its service quality. In 2018, frequency and number of runs / day decrease on nearly all lines: operating ratios continue to deteriorate.

Informal shared transport: highly developed in Bamako

In Ouagadougou and Lomé, there are still a few shared taxis. The number of such vehicles is relatively low, and decision-makers overlook their contribution to public transport. Yet in Lomé, they account for 7% of daily trips.

Bamako stands out from the other three capitals in terms of informal collective transport. Services comprise a myriad of minibuses, modified pick-up trucks, shared taxis, motorized tricycles, etc. "Sotramas", minibuses with an average of 18-20 seats, have dominated the transport system but are now losing ground. An estimated 3,000 Sotramas are currently in service, but they are gradually being replaced by smaller and less expensive vehicles, particularly shared taxis, of which there are an estimated 9,000.[27] These taxis operate on either scheduled lines set by the workers' unions or routes at the client's request.

Vehicles are often very old, with multiple technical problems. In 2007, the average minibus age was 15 years.[28] The fleet is renewed or expanded by used vehicles acquired by business operators (self-employed professionals or civil servants). These owners then supply the vehicles to professional drivers, on a "worker pays" basis, consisting of collecting a set daily fee from the drivers. Services operate on a "next-in-queue" basis.[29] This system is run by the transport unions, in the three main city-center stations and the smaller ones on the outskirts, with no real supervision by the authorities. Programs to improve the Sotramas' service have been introduced recently (the "Sotrama ring" funded by the World Bank, aimed at making collective transport services flow better by prioritizing minibuses on the streets around the central business district).

Generally speaking, informal modes are largely self-regulated; the unions and associations act as regulators. Although regulations exist, the public authorities conduct no oversight, except for collecting municipal fees and fees related to transport permits.

Projects for integrated networks and mass transit

[27] The number of "Durunis" (converted pickups) has fallen sharply since the factory that made them closed.

[28] Kumar & Barrett (2008). op. cit.

[29] Drivers wait in the departure station until they have enough passengers to make the trip profitable. Once it is full, the vehicle sets off towards a different station, and another vehicle begins to fill up at the departure station. If a passenger leaves the vehicle en route, the driver looks for another passenger to increase profitability.

In a context of rapid and uncontrolled urban growth, mass transit projects can be catalysts for transforming urban mobility and ways of structuring urban development. Such projects aim to provide a credible alternative to individual motorized transport modes, primarily through advantageous operating conditions that offer considerable time savings to populations along the corridor and improve accessibility to urban services and jobs. Such projects can also be used as tools to control urban sprawl. High density along the corridors is highly recommended with a view to increasing land values, with the extra value captured to fund projects and thereby boost demand.

In 2019, the municipality of Ouagadougou, supported by Swedish partners, began a vast project to modernize its public transport network. The aim is to help reduce congestion and to attract current motorbike users by offering them a comfortable, safe way to travel. A feasibility study is in progress to estimate the potential passenger numbers and the business model of such an integrated system, which could be structured around one or two bus rapid transit (BRT) lines.

In Bamako, Mali's president is also leading a BRT project as part of a partnership with a Turkish company.[30] Technical studies are under way for a central bus-only lane. For the moment, just one line is planned between the outskirts and the city center, 21 km long. The first estimates put the cost at 170 million USD, including the purchase of vehicles. In addition, Mali's authorities are considering several responses to the city's congestion problems. One is a cable transport project being explored to connect the city center with an overlooking hill called Point G, where a hospital and a university are located. Another is a river transport project costing 1.15 billion FCFA, with three boat buses operated by the Compagnie Malienne de Navigation.

In Ouagadougou as in Bamako, these projects are demanding a broader rethink of the mobility system and its governance; and are thus becoming vehicles for the institutional reforms needed in order to implement the projects and secure their long-term future. In Cotonou and Lomé, no high-capacity public transport project is on the drawing-board yet. But the metropolitan-level structuring of institutions currently in progress could help trigger action.

1.3.3 Motorbike taxis: a flexible transport mode, culturally embedded in Lomé and Cotonou

As the public authorities have been unable to deliver an institutional public transport offering in line with demand, informal transport provides a large proportion of daily trips: shared taxis, minibuses, motorbike taxis and motorized tricycles coexist and tend to compete.

In Ouagadougou and Bamako, motorbike taxis are banned. But in Mali's capital, with the approval of the Bamako district council, a private company, Teliman, offers an application that connects customers with motorbike taxi operators.

In Benin and Togo, motorbike taxis have been widespread since the early 1990s. They are highly competitive, offering flexibility, geographic coverage, accessibility (particularly on non-asphalt roads), attractive journey times, and relatively affordable fares. It is estimated that there are nearly 12,000 in Cotonou and 18,000 in Lomé. The sector has acquired an important socio-economic role, as it is one of the biggest job creators. Motorbike taxi driver is an attractive profession as it provides an above-average income. It is a substitute or transitional job for many young people, qualified or not, in a context of high unemployment.

The average daily income of a motorbike taxi driver can reach nearly 5,000 FCFA in Cotonou, versus an average wage in Benin of roughly 3,900 FCFA. In Lomé, a driver's daily income can reach nearly 3,200 FCFA versus an average wage in Togo of nearly 2,800 FCFA. Most motorbike taxis are operated informally, however, which is now generating important issues of road safety, public health, and traffic, as well as social and economic impacts.

Table 6: Comparison of motorbike taxi presence and regulation

[30] The partnership was signed in December 2019.

	Existence of regulations	Enforcement of regulations	Number of motorbike taxis in capital	Population in urban area (millions of inhabitants)	Average daily income of motorbike taxi driver	Average daily income per capita
BENIN	**Yes,** since 1989[31]	Low (except driver wearing helmet and jacket)	**12,000**	0.68	**5,000**	3,850
BURKINA FASO	**Motorbike taxis banned in 2012**	**Enforced**	**X**	2.5	**X**	3,080
MALI	**Motorbike taxis banned**	Low	**Unknown** other than TELIMAN (200 vehicles)	2.22	**X**	3,570
TOGO	**Yes,** since 1996[32]*	Low (except driver wearing helmet)	**18,000**	1.64	**3,200**	2,820

Source: National data.

The public authorities in Togo and Benin have realized that the sector needs to be regulated but they are still not sufficiently involved in organizing and professionalizing it. There is little or no enforcement of the laws passed in the 1990s, except for the driver having to wear a helmet (Togo) or a helmet and jacket in Benin. In addition, the high degree of informality makes dialogue with motorbike taxi drivers difficult. They are represented by a multitude of unions, which are affiliated to national "union collectives."

More recently, private operators have emerged in the motorbike taxi landscape, for example in the form of Uber-inspired systems – Teliman in Mali and Gozem in Benin and Togo – or other types of initiative such as Olé Togo, which assembles and leases out motorbikes intended as taxis. These operators could play an important role in professionalizing the sector by contributing to enforcement (on fares, jackets, etc.) and promoting safety (Box 6).

[31] Wearing of helmet and jacket, driving license, papers, taxes.

[32] Wearing of helmet and jacket, driving license, papers, taxes.

Box 6: Olé Togo: digitization drives market concentration

Togo's first motorbike taxis appeared in Lomé in the early 1990s, following the structural adjustment programs that led to reductions in the public sector workforce and the privatization of public companies. This situation was exacerbated by the socio-political and economic crises of 1992, marked by an unlimited general strike by public sector and transport workers. From then on, the number of motorbike taxi drivers grew, becoming an essential part of daily transport and mobility. Despite the creation of union organizations and the signing of an interministerial order regulating motorbike taxis,[33] there is very little oversight of this business activity.

In 2014, the Informal Sector Organization Department (DOSI) ran a program to professionalize motorbike taxis, aimed at converting drivers into businessmen. A top-up health insurance scheme was planned to guarantee them better working conditions. Ultimately the initiative did not materialize, and professionalization has tended to advance through private initiatives based on digital technology.

Two private business operators recently tried to create a digitized service for passenger transport, making fare calculation transparent and offering a safer service for users. Since 2018 Gozem, a company with a Uber-inspired smartphone application, allows customers to know the price in advance, eliminating the need to negotiate the fare. This initiative, which began with nearly 1,200 drivers, saw its driver base fall sharply when the Olé Togo project emerged in March 2019.

Olé Togo is led by a Chinese company that owns the sub-region's first motorbike assembly plant, in Notsè, 90 km north of Lomé. Roughly 2.6 billion FCFA has been invested to produce between 2,000 and 3,000 "made in Togo" motorbikes each month. The contract signed with Togo's government stipulates that 25% of the assembled motorbikes must be sold in Togo. A partnership has been set up with the motorbike taxi unions to supply drivers with robust, suitable motorbikes in order to professionalize the sector.

In February 2020, the Olé Togo system had more than 4,300 member-drivers. The motorbikes, fitted with electronics and a geolocation system, are rented out for 2,000 FCFA a day, which covers vehicle maintenance and repairs. Working six days a week, drivers earn between 80,000 and 86,000 FCFA a month, i.e. more than twice the minimum wage in Togo (35,000 FCFA). They can also change bikes after three years and change jackets every six months. This project also features other innovations – health insurance, life insurance, support for drivers injured on the job – which should further increase the membership base each year.

1.3.4 Little knowledge about household mobility

No capital city has recent data from household travel surveys (HTS). The most recent survey of this type in Bamako and Ouagadougou was conducted in the early 1990s. And yet HTS, which are done in European cities about every 10 years, give a particularly helpful snapshot of how people move around day-to-day. Dakar recently conducted an HTS (see Box 7) which showed the scope of travel by foot in the conurbation; the role played by unregulated taxis on city outskirts; and the transport modes used by each socio-economic category of household.

[33] Order no. 001/MCPT/MIS dated 04 January 1996.

Box 7: The Dakar household travel survey

In 2014, with a view to updating the Dakar Urban Mobility Plan, the Dakar Executive Board on Urban Transport (CETUD) commissioned a major survey across the Dakar area to qualify and quantify the transport behaviors of the city's residents: the Survey on Mobility, Transport and Access to Services in the Dakar Conurbation (EMTASUD).

This exhaustive survey (budget: 250 million FCFA) quantified and qualified the population's characteristics, their access to basic services and to transport, their daily mobility (reasons and journey composition: time, space, mode) and share of household budget spent on transport. The survey covered a sample of 13,415 people aged 11 and over across the Dakar Region, i.e. 3,176 households. The questionnaires completed by each household were supplemented by qualitative interviews to gather users' appraisal of their access to facilities, their daily mobility needs, mobility spending in their budget, their perceptions of transport modes, and their mobility restrictions and barriers.

The EMTASUD echoed the first HTS conducted in 2000 in Dakar and allowed assessment of changes in demand (according to income, gender, place of residence, etc.) and in mobility habits in the urban area. In the longer term, it will feed into the planned creation of a mobility observatory. The data collected on the accessibility of basic facilities and differing household situations are used to precisely assess and quantify the impact of planned transport projects on Dakar residents' mobility and access to facilities.

1.4 Secondary cities: the need to anticipate

1.4.1 A varied typology of secondary cities

The size and area of influence of secondary cities in Africa can vary greatly depending on their history, their location, and their role in the country's economy and administrative and political structure. We therefore propose a typology to better understand the diversity and similarities of these urban centers (Table 7).

Some so-called secondary cities may have played an important role in precolonial history, for example Kayes in Mali or Parakou in Benin, or even during the colonial era. They may thus have been far larger, relative to the capital, than they are now. They may also enjoy an advantageous location: either as a border city benefiting from formal and informal trade with the neighboring country; as simply a stopover city along an international corridor; or even as a junction city, like Kayes and Bobo-Dioulasso, where several corridors intersect, and the conurbation benefits from its location as a trading post between the metropolitan areas of the sub-region.

Other cities benefit from a vibrant economy derived from the exploitation of natural resources (mining, etc.), or simply the region's farming sector. In this case, the regional capital becomes a strategic point for the rural economy, which can sell, or even process, local produce there. As with Parakou in Benin, secondary cities in this case are strategic points for rural development. Some urban areas also benefit from public investment, such as Kara; or private investment that provides an industrial base. Besides agriculture and textile activities related to cotton production, Bobo-Dioulasso also has activities in the mechanics, metallurgy and chemicals sectors.

Lastly, secondary cities are generally administrative centers hosting several public institutions (police, customs, devolved and decentralized services). Decentralization has sometimes strengthened a city's political weight in its region, as a decision-making center. This is true of all the cities studied. As regional centers, secondary cities typically benefit from the presence in their area of healthcare or university centers, which secure jobs over the long term; or even of garrison towns, if the central government locates military bases there.

Some small urban areas develop on the back of a single economic sector (commercial agriculture, industry, mining), which makes them highly vulnerable to the national or international context of their specialty. Administrative functions, however, act as an urban-growth stabilizer. Public investment in urban infrastructure, while supporting the urbanization process, contributes directly to economic growth in the territory. Some urban areas, such as Kara in Togo, are receiving notable resources from central government to develop secondary urban centers.

Table 7: Typology of secondary cities studied

	Characteristics	Kayes (Mali)	Bobo-Dioulasso (Burkina Faso)	Kara (Togo)	Parakou (Benin)
History	Heritage city (pre-colonial urban legacy)	X	X		X
Geography	Border city	X			
	Stopover or junction city	X	X	X	X
Economy	Natural resources (mining, etc.)				
	Trading center (for agricultural activities in the region)		X		X
	Industrial center		X		X
Politics	Administrative center	X	X	X	X
	Hospital center		X		
	University center			X	X
	Garrison town				

Depending on which category secondary cities fall into, flows in the territory can vary greatly:

- Large transit flows pass through border cities or stopover cities. And the decline in rail traffic is further increasing the switch of goods transport to roads, thus increasing the challenge.
- Cities that serve as trading centers for their region see structural flows (albeit not daily ones) of passengers and goods from the outskirts to the central market.
- Cities with industrial activities or a large administrative, hospital and university centers will see a number of urban commuter trips between residential districts and districts with high concentrations of jobs.
- Cities with few economic and administrative activities have smaller commuter flows. Therefore, short-distance flows predominate.

1.4.2 Largely unplanned urban development

In terms of urban development, secondary cities sometimes have planning documents stemming from national programs that may have been launched by ministries responsible for urban planning; or from an international partnership, in the case of the larger cities (Bobo-Dioulasso, for example). Their growth, however, is largely uncontrolled and their urban areas sometimes sprawl towards surrounding villages, replicating metropolitanization on their own scale. The figures in the following boxes illustrate the urban forms of these secondary cities. The four cities are located on the main routes, although Kayes and Bobo-Dioulasso retain an urban structure developed on either side of a river route, historically used for goods transport and trade.

1.4.3 A very limited mobility offering

Secondary cities have practically no data on the demand for transport, yet it would very helpful to measure the situation compared to large urban areas. As mentioned above, mobility issues can differ greatly according to the type of city. Transit-flow management and goods-vehicle parking can be a big challenge in stopover cities. A low number of formal jobs reduces daily commuter flow. In this case, there are more short-distance journeys, and many of them are made on foot, particularly among the poorest and youngest, and women. However, numerous journeys may be linked to rural areas supplying the markets, or to people living on the city outskirts coming for urban services (healthcare, administration, etc.).

Secondary cities generally have very few surfaced roads, making motorbikes and motorized tricycles more practical than non-motorized ones. The road network generally centers on the main roads (or road) running through the city. These national or international transport corridors attract a concentration of transit traffic and intra-urban journeys, and this mix poses big problems for organizing these different flows, and also for road safety. These issues are sometimes deemed so penalizing for the conurbation's development that bypass projects are proposed.[34]

Motorization in secondary cities is at a far less advanced stage, as we saw earlier, and thus takes a different form than in the capital. There are practically no private cars, and households own fewer motorbikes. Bicycles and the intermediate transport modes used in rural areas (animal-drawn carts, in particular) are far more common.

Except in Bobo-Dioulasso, which has seen a bus network return in recent months, and except for the few buses supplied by SOTRAL to the university in Kara, public transport is limited to what informal operators offer. When residents cannot travel by foot, they can use old shared taxis and motorbike/tricycle taxis. The latter two vehicles, introduced in recent years in Mali and Burkina Faso, provide cheaper services than shared taxis. But to the public authorities, they represent an extra accident risk. Informal transport services have a strong presence around cities' central hubs (market, bus station, etc.).

In the four cities studied, motorbikes are gaining ground, particularly in the form of motorbike taxis (Table 8). Bobo-Dioulasso stands out for its rapid growth in motorized tricycle use for collective-transport services. These services are developing to the detriment of shared taxis, whose number is stable or even decreasing, as in Kayes.

[34] Although this new infrastructure may reduce nuisances related to transit – due to trucks in poor condition – in city centers, it may also divert economic benefits that the city crossing possibly brings to some shopkeepers, who would have every interest in relocating their shop along the corridor. Bypasses in small conurbations may thus heavily penalize urban life.

Table 8: Public-transport modes and trends in the cities studied

Pays	Ville	Motorbike taxis	Tricycles	Shared taxis	Minibus	Bus	Mass Transit
Mali	Kayes	↗	→	↘	-	-	-
Burkina Faso	Bobo-Dioulasso	→	↗	→	-	↗	-
Togo	Kara	↗	-	→	-	-	-
Benin	Parakou	↗	-	→	-	-	-

Legende	
-	Non-existent
→	Steady
↗	Increasing
↘	Decreasing

Box 8: Kara: the regional metropolitan area in northern Togo dominated by motorbikes

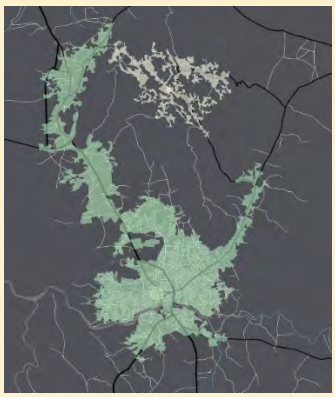


Figure 21: Urban area of Kara, extension of built fabric

Figure 22: Urban form of Kara, satellite image, 2020

The city of Kara (population: 113,000), the chief city of both the Region of Kara and the Prefecture of Kozah, occupies second place in Togo's urban ranking. It is viewed as the result of a political will to create a regional capital in northern Togo, able to host most administrative services and act as a counterweight to the capital Lomé. It has received new infrastructure and economic investment since the 1970s, as part of the Togo President's "major projects" policy.[35] Located on the Lomé-Ouagadougou corridor, it was chosen to host the country's second university and several government agencies.

With the River Kara running westward through the city, it has spread in a largely concentric manner around the main roads, over an area exceeding 9,000 hectares. This disorderly urban development has occurred without a land-use plan or urban development plan. The local authorities do not have the resources to formulate or execute planning documents.

Mobility in Kara has not been studied, except for university research. But analysis of day-to-day mobility shows that the transport modes used to access urban amenities vary primarily according to the socio-economic status of households and individuals. Walking is preferred by schoolchildren, students, civil servants, and less affluent shopkeepers. Most passenger transport is provided by 3,000 motorbike taxis; highly suited to the country's socio-economic situation, they are proliferating and taking over the urban space of Kara, where the roads in outlying districts are in very poor condition. Only the main road network and some secondary roads are surfaced, but they are insufficiently and irregularly maintained, so the

[35] Gnassingbé Eyadéma's home region was Kara.

network is barely practicable by vehicles other than motorbikes, which now heavily dominate the city's mobility system. There is no conventional urban transport, but Kara university's few buses give students an alternative. Urban taxis short of customers in the city have become "bush taxis," whose essential purpose is serving the villages around the city and small towns in the region of Kara.

There are few existing plans to improve travel conditions in Kara, except for a project to build a bypass for heavy trucks, to help decongest the city and improve road safety. The only noteworthy initiatives are the Urban Infrastructure and Development Project (PIDU), which includes developing and lighting some roads and sidewalks to increase the use of active modes; and a 2015 study by Lomé Transport Company (SOTRAL) to identify possibilities for developing a public transport network.

Box 9: Kayes, a stopover city where motorized tricycles dominate the transport options

Figure 23: Urban area of Kayes, extension of built areas[36]

Figure 24: Urban form of Kayes, satellite image, 2020

Located 495 km northwest of Bamako, Kayes is the capital of the oldest administrative region of Mali. The city covers 22,190 sq km with an estimated population (2019) of 361,000 inhabitants (source: INSTAT). Like Mali's other main cities, Kayes is seeing high urban growth, at an average rate of +7.8% a year. This points to a population of about 959,000 inhabitants by 2030, with significant challenges for urban infrastructure: roads, sewerage, healthcare centers, schools, etc.

Kayes was the cradle of the kingdom of Khasso, which existed from the late 17th century until the French colonialists entered the region in the 1850s. The city became the first capital of French Sudan (now Mali) in 1892. This historical legacy continues to shape the political, cultural and tourism-related reputation of the city, which remains a major crossroads in the sub-region. The local economy benefits essentially from freight and passenger transport activities around the Dakar-Bamako, Nouakchott-Bamako and Kayes-Diéma road corridors. This role is, however, undermined by the closure of rail services on the Dakar-Niger line.

The urban mobility problems stem less from congestion than from an obvious shortage of transport infrastructure and facilities. There are far too few asphalt roads, which reduces the possibility of collective transport services in some districts and villages on the outskirts, which are inaccessible during flooding. Informal public transport is the only service available, with a growing share of motorized tricycles (about 1,400 versus roughly 300 taxis), which carry both people and goods. The municipality of Kayes is endeavoring to exercise its responsibilities in terms of organizing urban transport and road maintenance. But its human, material and financial resources are too limited to meet the many challenges.

Nevertheless, a favorable outlook is taking shape for the city, which could fairly quickly regain its role as an international transport hub. In 2019, Mali's government kicked off several infrastructure and transport projects to restore the city's connectivity and revive its economic and social development. As part of this push, Kayes Dag Dag international airport has resumed commercial flights between Kayes and Bamako, operated by an airline consortium of Afrikayes Air and Air Burkina. Rehabilitation works on the Didiéni-

[36] Africapolis: https://www.africapolis.org/explore, viewed in 2020

Kolokani-Kati section of the RN3 national road, which links Kayes and Bamako, are due for completion in 2020. In addition, Mali and the World Bank have agreed a financing deal to revive national rail services between Diboli (on the border with Senegal) and Bamako via Kayes. There are also current plans to revive the Dakar-Bamako rail link between Senegal and Mali.

The municipality of Kayes, despite low human and financial resources, is formulating an economic recovery strategy based on vehicle parking schemes in conjunction with neighboring rural municipalities. The idea is to divert the high number of heavy trucks which, on their way through the customs scanner post, park chaotically and cause an accident risk. The construction of a secondary center on the outskirts, thanks to support from the Kayes Regional Council, is envisaged to alleviate traffic flow in the city center.

Box 10: Bobo-Dioulasso: motorbikes and motorized tricycles are pushing spatial expansion

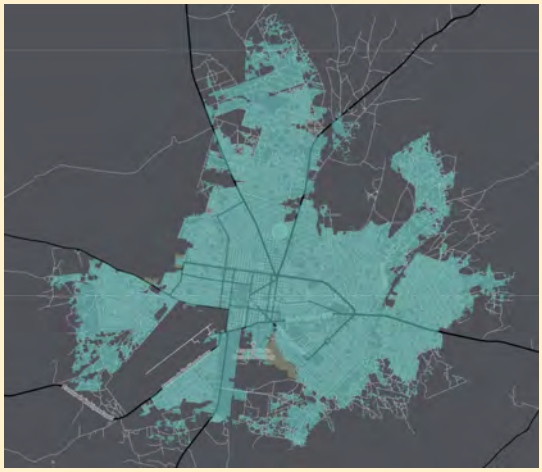


Figure 25: Urban area of Bobo-Dioulasso, extension of built area

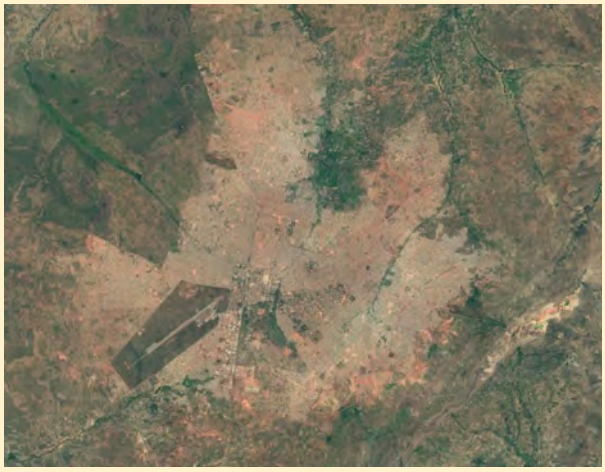


Figure 26: Urban form of Bobo-Dioulasso, satellite image, 2020

Burkina Faso's second-largest urban center after Ouagadougou, Bobo-Dioulasso stands at the intersection of the international routes to Niger (RN1), Ivory Coast (RN7 and Ouagadougou-Abidjan rail line), Mali (RN8, RN9 and RN10) and Ghana (RN 27). It is thus strategically located for the country's industrial activity. The municipality has seen rapid population growth, to slightly more than one million inhabitants. In parallel with this demographic change, the city has expanded. Between 2012 and 2019, Bobo-Dioulasso grew in area[37] from 8,649 to 27,000 hectares.[38] This expansion is directly affecting urban mobility by lengthening journey distances and thus increasing travel time and costs for city residents. In 2019, the city was 20 km wide.

The municipality has planning documents specific to the urban area: the municipal development plan 2017-2021 and the Bobo-Dioulasso Urban Program for Mobility and Sustainable Development, as well as a department dedicated to road infrastructure and mobility (DIRMO). By addressing the overarching challenge of facilitating access to public services, the municipality is executing a policy aimed at developing urban road infrastructure and public transport, as well as traffic management and road safety.

In Bobo-Dioulasso, most trips are made on two-wheeled vehicles, which give users flexibility on a road network that is largely non-asphalt except for the primary routes, including six main arteries. These vehicles allow door-to-door mobility and move fairly quickly in traffic. In 2010, 43% of trips were made on motorbikes, 23.7% on foot, 17% by bicycle, 8.3% by private car, and 8% by taxi.

In 2012, Burkina Faso's government banned the commercial use of motorbikes for passenger transport in Ouagadougou and Bobo-Dioulasso.[39] The city's informal transport consists primarily of about 1,000 shared taxis, which serve established lines into the city center. The development of motorized tricycles has

[37] ATEF, (2016), *Etude sur la problématique de la sécurisation foncière en zones péri-urbaines des villes de Ouagadougou et de Bobo-Dioulasso : état des lieux, enjeux et défis*, 154 p.

[38] Land-registry department, municipality of Bobo-Dioulasso.

[39] Decree no. 2012-559 dated 05 July 2012.

generated competition with informal taxis on the latter's traditional lines. An estimated 3,000 motorized tricycles are in circulation in Bobo-Dioulasso. In 2015, the municipality attempted to regulate this self-organized service by introducing an annual parking tax of 10,000 FCFA per tricycle.

Bobo-Dioulasso is one of the few secondary cities to have a collective public transport network. Since 2018, SOTRACO has operated about 20 buses on 14 lines (11 scheduled, two student, one intercity line).[40]

When the public buses entered service, the authorities decided to make greater efforts to raise awareness around compliance with the ban on operating motorbike taxis, and motorized tricycles too. This situation prompted protests by the motorized tricycle operators' union.

Box 11: Parakou, an urban center with uncontrolled development, where zemidjans (motorbike taxis) dominate the mobility landscape

Figure 27: Urban area of Parakou, extension of built area

Figure 28: Urban form of Parakou, satellite image, 2020

Parakou is Benin's third-largest urban center, with 255,000 inhabitants in 2017. The chief city of one of the country's main farming regions, it stands at the intersection of several major international transit routes (to Burkina Faso, Niger, Togo and Nigeria). Regional, national and international traffic must all pass through the city, giving it a strategic role in Benin's economic development.

However, it has little infrastructure or public services, which limits local economic potential. The road network is largely unsurfaced, and the few asphalt roads are in very poor condition. For now, travel demand in the city remains limited, there are few private cars, and congestion is practically non-existent.

There is almost no organized public transport, except for commercial individual transport provided mainly by motorbike taxis and, to a small degree, by "Benin Taxi" automobiles. Motorized tricycles transport goods, and bush taxis carry passengers to towns and villages on the outskirts.

Spaces reserved for pedestrians are inadequate and often impracticable, as they are congested and in poor condition. Inhabitants prefer to travel on "*zémidjan*" motorbike taxis, even for short trips given their high flexibility – they can operate on seriously degraded roads. But fares are still very high for a large share of the population, particularly over significant distances: 100-200 FCFA for 1-5 km, and up to 400 FCFA for longer journeys. Such spending weighs heavily on the budgets of the most vulnerable households, reducing their access to economic opportunities and basic services. "*Zémidjans*" cause noise and pollution, as well as a considerable number of accidents.

Several actions have already been scheduled to meet these challenges: the extension, and upgrading of 68 km, of Parakou's road network; and a project for bypass and cross-city routes with financial support from the African Development Bank. In addition, measures to organize the "*zémidjans*" and improve road safety

[40] SOTRACO annual report, 30/06/2019.

have been implemented. In 2017, a reform was started around motorbike taxi registration and organization of the sector. Motorbike taxi drivers are now required to take out insurance and wear helmets. Some 3,500 motorbike taxi drivers have registered with the city council, and the helmet rule is generally respected.

Nevertheless, long-term planning of urban development and mobility – of a coherent, if not integrated, nature – is still lacking. If Parakou does not formalize urban density targets, create an organized collective transport service or promote active mobility (the city's topology would suit bicycles very well), the city risks seeing mobility growth that is both insufficient for local economic development and excessive in terms of noise, environmental and health consequences.

In addition to planning, it is necessary to arrange financial support for the municipality to improve urban mobility. In theory, the decentralization policy transferred a set of responsibilities to the municipalities, which in law have become the main organizers of mobility. Yet this transfer was not coupled with sufficient budgetary resources or a strengthening of local resources. The municipality of Parakou is thus struggling to exercise all its responsibilities. Except for the municipal department that handles traffic light maintenance, the Infrastructure and Transport Ministry still manages road maintenance directly.

1.5 Cities' economic role and the externalities burden: a core concern for them

Due to their strong demographic growth, Africa's cities will play a key role in national economies. But the mobility crisis is impairing their competitiveness and the sustainability of their development model. A recent World Bank report[41] stated that these cities are particularly expensive for both households and businesses; this directly impacts their productivity and reduces their appeal to foreign investors. Central to this analysis is the inefficiency of transport systems. In the authors' view, structuring the transport system and organizing the land market are the two main challenges that must be met so cities can act as growth engines for national economies. The unwanted effects relating to negative externalities – air pollution and road accidents – even further increase the need to move quickly to resolve this crisis situation, which is also driving energy consumption and greenhouse-gas emissions.

1.5.1 The economic challenge facing cities

On a constant currency basis, GDP grew considerably in the four countries from 1990 to 2018, multiplying by 3.9 in Burkina Faso, 3.1 in Mali, 2.9 in Benin and 2.2 in Togo. However, as shown in Table 9, the changes are relatively modest in proportion to the number of inhabitants, in purchasing power parity terms.

Table 9: GDP/capita (in USD) and annual growth rate calculated by decade (1990 – 2018)

	1990	2000	2010	2018	Annual growth rates		
					1990-2000	2000-2010	2010-2018
Benin	1,462.68	1,666.47	1,818.78	2,151.54	1.31%	0.88%	2.12%
Burkina Faso	844.34	1,075.40	1,423.38	1,761.23	2.45%	2.84%	2.70%
Mali	1,274.09	1,465.76	1,875.19	2,055.62	1.41%	2.49%	1.16%

[41] Lall, Somik Vinay; Henderson, J. Vernon; Venables, Anthony J. 2017. *Africa's Cities: Opening Doors to the World.* Washington, DC: World Bank. © World Bank.

Togo	1,298.48	1,235.46	1,241.92	1,574.02	-0.50%	0.05%	3.01%
Sub Saharan Africa *	2,647.40	2,492.73	3,290.93	3,533.41	-0.60%	2.82%	0.89%

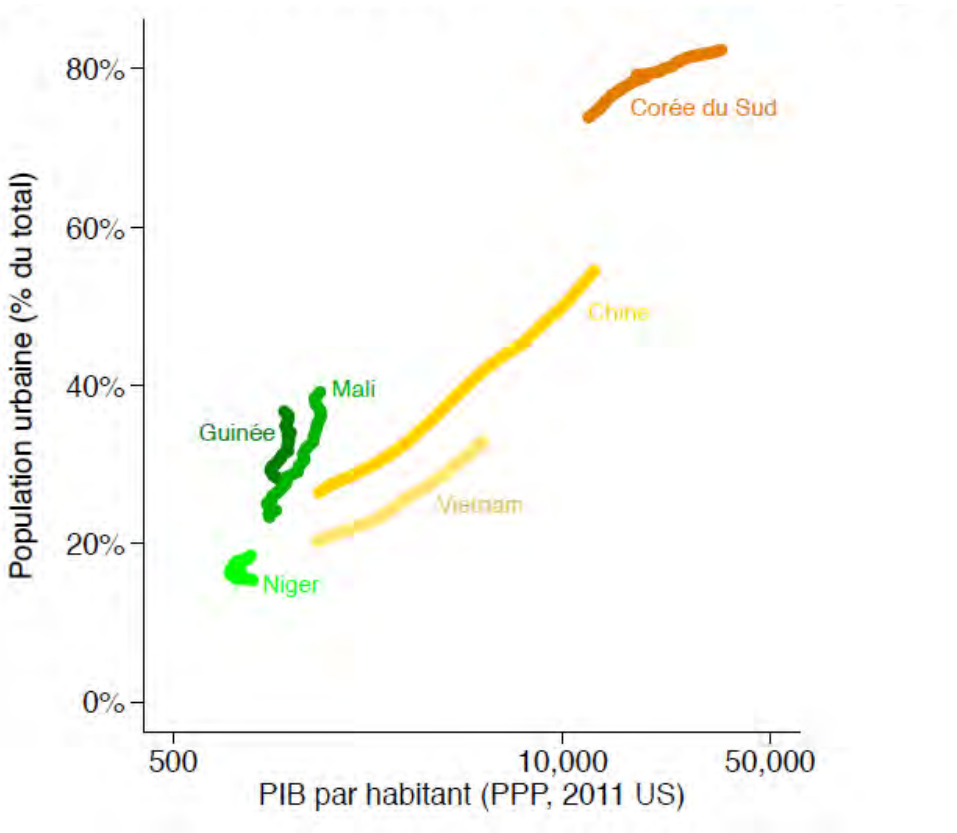
*excluding high incomes

Source: data.worldbank.org.

The urban growth that we described earlier has not generated the same economic vitality as seen in the other continents: GDP per capita remains low, and economic growth is lower than urban growth. In Mali, the urbanization rate has exceeded 40% but GDP is markedly below that of other countries with the same level of urbanization.[42] This phenomenon of "urbanization without growth" is presented in Figure 29. In theory, cities exploit the advantages of specializing business activities in their area; productivity gains are achieved by economies of scale which foster economic growth, etc. The cities keep growing and contributing to economic growth, until the negative externalities of overpopulation and congestion outweigh the positive externalities of urban density.

[42] World Bank. 2018. *Bamako, An Engine of Growth and Service Delivery*. World Bank.

Figure 29: Variation in GDP relative to urbanization, by country



Source: Henderson, V. and Nigmatulina, D. (2016). *The Fabric of African Cities: How to Think about Density and Land Use*. Project, 20 April, London School of Economics.

However, African capitals do not play this growth-engine role, even though the capitals of the countries studied play a major role in their country's economy. The report *Bamako, an Engine of Growth and Service Delivery*, published in 2018, considers that if Mali were to separate from its capital, its GDP would fall by 36%. The figure for Burkina Faso, according to the same source, is 47%.

Africa's capitals display suboptimal models of economic activity that are directly linked to their urban structure. Firstly, economic activity continues to be dominated by non-tradable goods and services, which are relatively well protected from international competition, and which induce high costs arising from the inefficiency of the economy. Overall, compared to the other developing countries with similar income levels, goods and services cost 20%-31% more for Africa's urban households.

But the high expense of African cities is closely related to the failings of transport systems and land markets. Economic activity and markets are always clustered in city centers, which is not the case in other cities of comparable size worldwide. This concentration is explained by a need to be close to the labor market and amenities, but also by the inefficiency of metropolitan mobility systems.

Investment in infrastructure – which is too low and poorly adapted, especially in the field of transport – has not increased the economic potential of urban areas and has done nothing to prevent the rising cost of living. African cities are thus 29% more expensive than those in countries with a similar income level. The continent's urban households, proportionate to GDP per capita, have higher costs, primarily due to the cost of housing, which is 55% higher than observed in other regions (*Africa's Cities: Opening Doors to the World* report). In addition, travel is also extremely expensive for people who have to ride long distances in minibuses or on motorbike taxis. Businesses suffer directly from the same problems, but also indirectly because they must pay higher salaries to recruit competent people.

The current dynamic, which thus tends to keep cities in the "under-development trap" is amplified in Africa's secondary cities, which have no business center and do not benefit from the main cities' international integration.

Although, according to this report, the first thing to do is regularize the land market, clarify ownership rights and introduce effective urban development policies, it is vital to reform the mobility system. To truly unlock cities' economic potential, it is essential to implement this reform in conjunction with transforming transport systems. Through proper management and investment in the urban transport sector, it would be possible to halt the current trend and exploit the positive effects of economies of concentration. By fostering access to economic opportunity, urban mobility planning and organization can genuinely help reduce households' spending on transport as well as the cost of housing. Reducing goods travel times and logistics costs will also have the effect of increasing inhabitants' purchasing power.

Box 12: Bamako, a capital that does not play its growth-engine role

In 2018, the World Bank produced a study on Bamako District, on the city's economic productivity and the quality of its public services. The analysis was based on the development of the urban area and the level of people's accessibility to services.

Cities – by their density of housing, jobs and services – are areas that foster opportunities and productivity. But Bamako's urban development is fragmented, which prevents it from deriving maximum benefit from the advantages associated with the city's growth.

Mali's capital is a major hub for the whole region of West Africa, and the destination for the rural exodus and for migrants from the wider region and all over Mali. It is an attractive space, acting as the country's main hub for jobs and services. But despite the demographic explosion, the city's economic productivity is not rising.

The city's development has resulted in fragmented urban expansion. Growth occurs through the discontinuous urbanization of land on the outskirts: newly built plots that are not directly adjacent to existing developed zones. This urban formation does not guarantee fair access to essential services across the urbanized area.

Jobs are clustered in the city center, which widens inequalities between residents nearer and further from the center. The primary constraint of this spatial organization is inhabitants' journeys and their access to jobs and services. The rarity and poor quality of road infrastructure, congestion, insufficient coverage by collective transport, and unaffordability of motor vehicles are all barriers to suburban residents' mobility.

The World Bank has made recommendations in order to make Bamako an engine for growth and service delivery:

- **Mesh land use and transport infrastructure**: when a city evolves, it must gain in density. The institutions must regain control over land management and their investment capability. To bring people closer to opportunities, it will be necessary to improve the quality of roads and better manage public spaces.
- **Fund and manage more efficient public services**: to enable investment, public revenue sources must be consolidated and increased. Systems for contracting with service providers must also be put in place.
- **Invest in urban institutions**: better metropolitan-scale coordination between the competent authorities in each administrative tier and strengthening the capability of local administrations will allow an urban planning system to be formulated and implemented.

1.5.2 Little-known but high negative externalities: pollution, congestion, accidents, etc.

Very high number of road traffic deaths

In Burkina Faso, Togo, Benin and Mali, as in many other low-income countries, poor road safety is one of the leading causes of death. These four countries have some of the world's highest death rates, far above the global average of 18 deaths/100,000 inhabitants.[43] The World Health Organization's global status report on road safety in 2018 highlighted a strong correlation between the risk of a fatal road accident in a country and its income level. The risk is three times higher in a low-income country (27.5 deaths/100,000 inhabitants) than in

[43] World Bank, 2016

a high-income country (8.3 deaths/100,000 inhabitants). This figure is particularly high given the number of vehicles in circulation: worldwide, low-income countries are home to only 1% of motor vehicles but record 13% of fatal road accidents.

Although road-safety and awareness-raising measures have been taken, their impact has been lessened by the rapid increase in motor vehicle ownership. In its 2018 report, the WHO found that no low-income country had seen a drop in fatal road accidents.

Table 10: Comparison of road-traffic death rates

	Africa (average)	Benin	Burkina Faso	Mali	Togo
Road-traffic death rate (deaths / 100,000 inhabitants)	26.6	27.5	30.5	23.1	29.2
Deaths by road-user category					
% motorcyclists	9%	57%	Data not available	41%	72%
% pedestrians	40%	17%		27%	
% cyclists	4%	< 1%		5%	
% passengers or drivers of other vehicles	47%	28%		27%	28%

Source: WHO, 2018.

Pedestrians, cyclists and users of motorbikes and motorized tricycles are the most vulnerable road users, and those most affected by road deaths. Despite forming the great majority of road users, they are given little consideration, or even overlooked, in road planning and design efforts. A dedicated space for pedestrians is rarely included in road developments, forcing them to walk on the edge of the road. Moreover, pedestrian crossings are unsafe: long, poorly visible, with unsatisfactory markings and no refuge island, they force pedestrians to adapt to the traffic. At crossroads with traffic lights, pedestrians are often uncontrolled, or the lights are out of order. Furthermore, newly created interchanges have been designed primarily for vehicle traffic, with no thought for pedestrians crossing the road, which is therefore particularly dangerous. In Bamako, at least 40% of road accident-related deaths are pedestrians.[44]

The causes of road accidents can be multifactorial, but are generally:

- **excess speed**: speed heavily influences the risk of accident, but especially injury severity and the probability of death. Burkina Faso, Togo and Mali have introduced speed limits – 50 km/h in urban areas, and 90 km/h in rural areas – but local authorities can change them. Checks are mainly done by simple observation or sometimes with mobile speed cameras.
- **the influence of alcohol**: only Burkina Faso and Mali have set maximum blood alcohol levels for motor vehicle drivers.
- **failure to wear a safety belt**: it reduces the driver's and front passenger's risk of death by 45%-50% in an accident. In Burkina Faso and Togo, belt-wearing is compulsory for car drivers and passengers; in Mali, it is only compulsory in rural areas. In Benin, belt-wearing is not regulated.
- **failure to wear a helmet**: head injuries are the leading cause of trauma and death in users of motorbikes and motorized tricycles. Wearing a good helmet can cut the risk of fatal injury by 42%, and of head injury by 69%. Although helmet-wearing is compulsory in the four countries studied, motorbike taxi passengers in Togo and Benin do not comply, while in Burkina Faso and Mali neither drivers nor passengers comply.

[44] *Étude pour l'amélioration de la sécurité routière dans le District de Bamako* [Study for the Improvement of Road Safety in the District of Bamako], Infrastructure and Urban Development Department of the African Development Bank, 2018.

In the latter two countries, the various prevention and repression measures have failed to ensure compliance with helmet-wearing regulations.

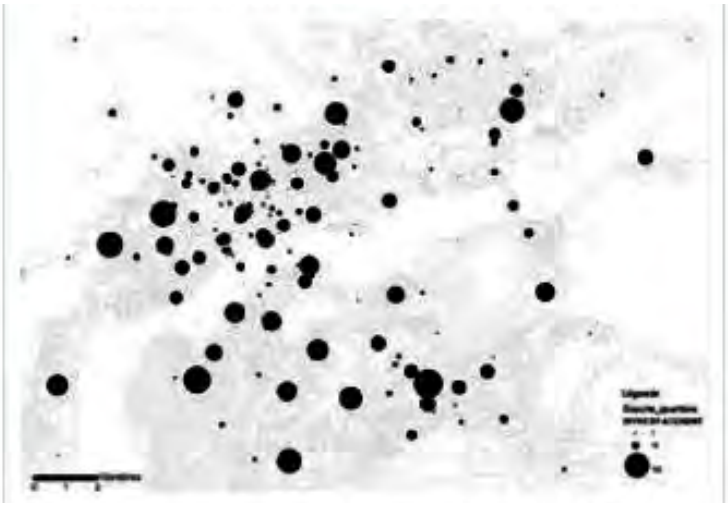
- **the high proportion of motorized two-wheelers:** their modal share in the four countries is one of the main reasons for the high death rate. Burkina Faso is among the 10 countries with most road-accident fatalities worldwide.
- **dangerous behaviors**: infringements of the highway code, which drivers often do not know, and usage disputes due to competition for traffic lanes in the event of congestion or poor road conditions. Few motorbike drivers have done theoretical and practical training; most of them learn with a friend or relative. As a result, they do not know the highway code or understand road signs. Furthermore, the police are not authorized to check whether motorbike drivers have a license, and few highway-code offences are punishable, except for ignoring a red light or stop sign, or wrong-way driving.[45] Using a phone while driving is an aggravating factor in accidents.

The African Development Bank carried out a study to improve road safety in Bamako. The city's road-accident rate is rising, despite the creation in 2009 of the National Road Safety Office (ONASER). In 2015, the 2,645 accidents recorded in Bamako District resulted in:

- 156 deaths, 50% which were on motorbikes and 40% pedestrians.
- 2,018 seriously injured and 1,434 slightly injured, of which 70% were on motorbikes and 25% pedestrians.

These figures again reflect the vulnerability of pedestrians and motorbike drivers. The study also geolocated all the accidents.

Figure 30: Geolocation of accidents by district and road in Bamako



Source: ADB (2018), *Étude pour l'amélioration de la sécurité routière dans le District de Bamako*. [Study for the Improvement of Road Safety in the District of Bamako]

Nearly two-thirds of accidents (59%) occurred away from intersections, which may be explained by the presence of law enforcement at crossroads. On the main roads studied, light vehicles make up the highest proportion involved in accidents, varying between roughly 20% and 30%. Compliance with behavioral traffic rules was also investigated, as shown in the table below.

[45] *Ibid.*

Table 11: Assessment of compliance with behavioral traffic rules on main roads in Bamako

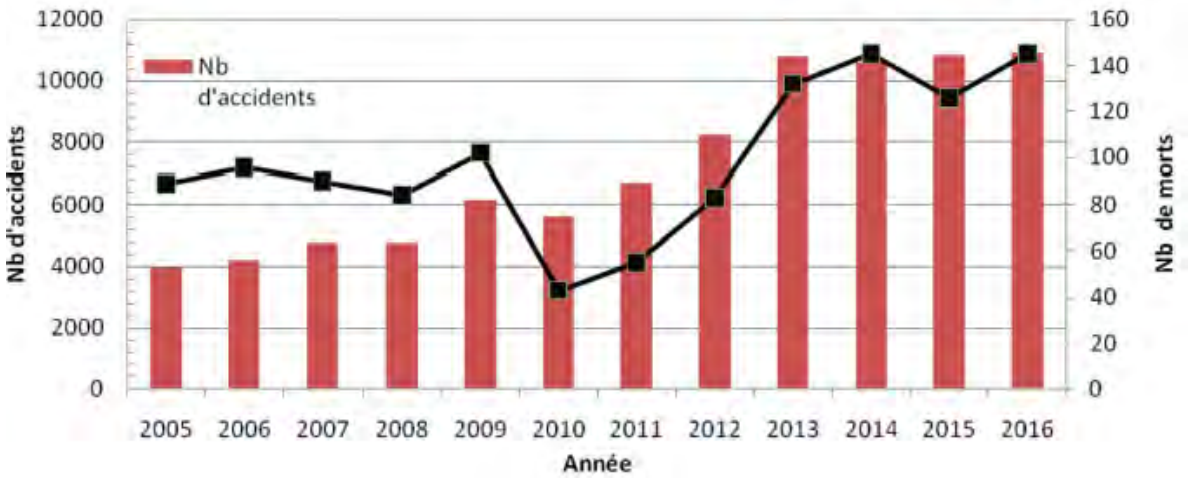
	50 Km/h	Port du casque	Port de la ceinture	Alcool	Pistes motos	Feux rouges	Priorité intersec -tions	Passages piétons
Règlementation	Oui	Oui (?)	Non	Oui	Oui	Oui	Oui	Oui
Respect	Bon	Nul	Nul	?	Moyen	Bon	Moyen	Nul
Formation	Faible	Nul	Faible	?	Moyen	Moyen	Faible	Nul
Répression	Nul	Nul	Nul	Nul	-	Correct	Moyen	Nul

Source: ADB (2018), *Étude pour l'amélioration de la sécurité routière dans le District de Bamako*. [Study for the Improvement of Road Safety in the District of Bamako]

Only speed limits and red lights were observed. Helmet and safety-belt wearing, motorbike lanes, and priority at intersections are all behavioral rules with considerable room for improvement, through training and awareness-raising.

In Burkina Faso, the national police's figures underscore the correlation between accident growth and traffic growth. The number of accidents almost tripled between 2005 and 2018, reaching 13,000 recorded cases (a large proportion of accidents are amicably settled between the protagonists, so these figures are likely below the reality). ONASER recorded 191 fatal road accidents in 2018 in Ouagadougou, i.e. twice the 2005 figure. However, as all casualties are not taken to a care center, some deaths are probably not attributed to road accidents. Figure 31 below shows the variation in road accidents and related deaths, per the police's figures, between 2005 and 2016.

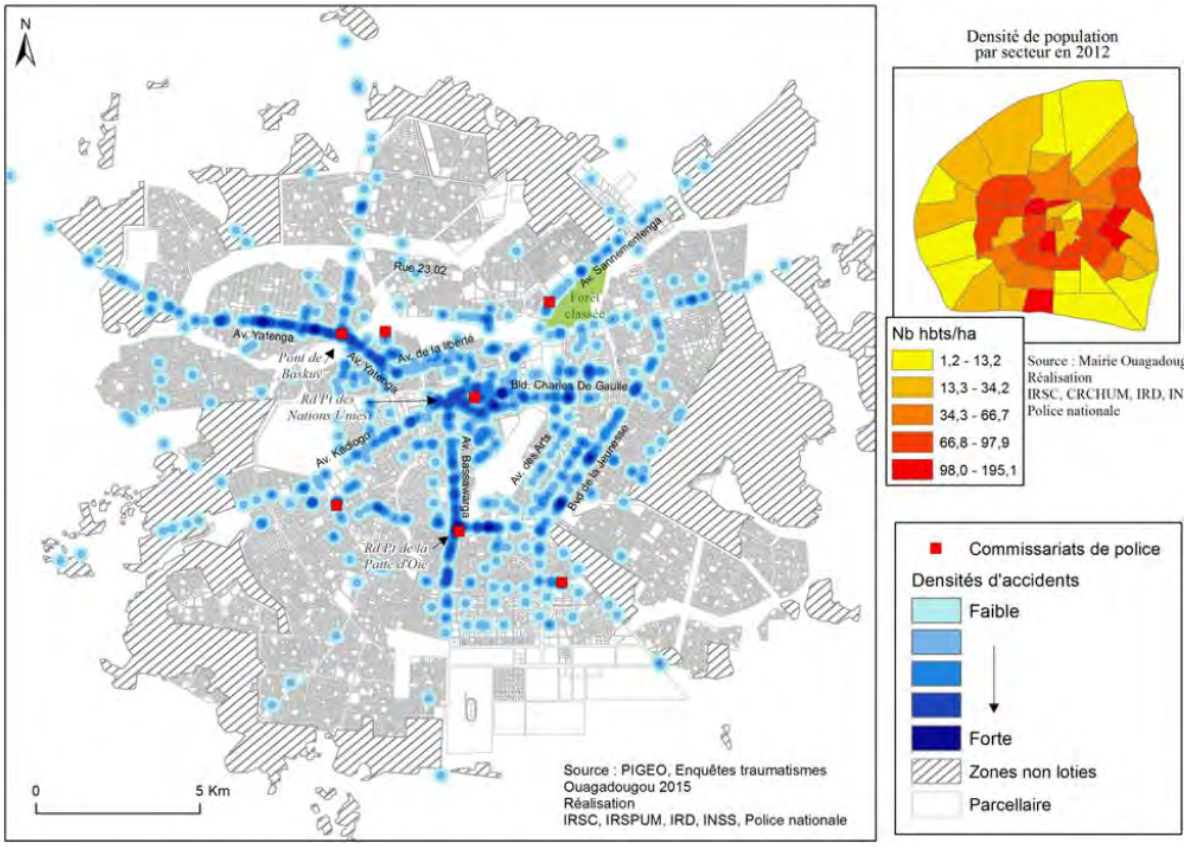
Figure 31: Variation in number of road accidents and related deaths in Ouagadougou, 2005-2016



Source: National Police, taken from: Nikiema, A., Bonnet, E., Sidbega, S. & Ridde, V. – 2017.

An accident map was produced in 2015 (Figure 32) based on the "traffic accident analysis record" forms. Crossroads on main arteries and the beltway see the most accidents and are thus the network's hot spots. This high accident frequency is primarily due to the density of traffic, where large numbers of motorbikes and bicycles travel in mixed traffic or on narrow cycle lanes.

Figure 32: Map of road accidents in 2015



Source: Nikiema, A., Bonnet, E., Sidbega, S. & Ridde, V. – 2017.

According to this study's authors, "*in the survey of casualties admitted to the trauma emergency department of Yalgado University Hospital, 80% were users of two-wheeled vehicles, mainly aged under 30*." A draft decree to institutionalize the "traffic accident analysis record" is being considered, to obtain road-safety data that more closely reflects reality.

Box 13: Road safety in Burkina Faso

In its 2018 report on road safety, the WHO evaluated that there were more than 5,600 road accident-related deaths in 2016, i.e. a rate of 30.5 deaths per 100,000 inhabitants in 2016 due to poor road safety. These figures are well above the statistics supplied by the National Road Safety Office, which estimated that 878 people died in road accidents that year.

According to these figures, Burkina Faso has one of the world's highest rates of mortality due to poor road safety. Half of deaths on the roads are vulnerable users: pedestrians and users of two-wheel vehicles. As the statistics system of the National Road Safety Office (ONASER) is faulty, its data do not permit confirmation of the values produced by the WHO's model. ONASER only recorded 878 road deaths in 2016, whereas the WHO put the figure at 5,686. Some specialists in African road safety think the WHO figures are heavily overestimated.

Burkina Faso has two road-safety planning documents:

- the road safety policy document, adopted by the government on 17 February 2009, which is intended as a reference and guidance tool for all road safety actors. It must provide a framework for mobilizing and rationalizing interventions to prevent traffic accidents and mitigate their consequences.
- the national road safety action plan 2011-2020, approved by the Bureau of Ministers of the National Road Safety Council and approved by the General Meeting of this body, chaired by the Prime Minister, on 26 July 2011. The national road-safety action plan has five strategic pillars: improving road-safety management, embedding a road-safety culture through training and information, improving the

technical condition of vehicles, improving the quality of road infrastructure, and formulating and implementing a communications strategy.

The actions that followed adoption of these statutory texts did not meet Burkina Faso's main road-safety challenges to rigorously enforce: the requirement for drivers of motorbikes of engine size greater than 50 cm^3 to have the A and A1 licenses; speed limits (50 km/h in urban areas, 90 km/h elsewhere); and the wearing of a helmet and safety belt. A strong political will is needed to significantly reduce road accidents and their consequences.

Air pollution: serious consequences on health

Very few African cities monitor air quality. In West Africa, only Dakar has deployed daily measuring stations, while some metropolitan areas have conducted occasional campaigns. In the countries studied here, only Bamako has done this type of measuring, in 2004. And in all four countries, like elsewhere on the continent, there are practically no laws regulating pollutant concentration quotas.

Air pollution is caused mainly by vehicle traffic, domestic fires, waste incineration and, to a lesser degree, industrial activities. In measurements for the Polca project in 2004,[46] Bamako, for example, greatly exceeded the WHO alert level for nitrogen dioxide (NO_2) concentration. This pollution comes mainly from fuel combustion by vehicle engines. Pollution spikes were observed at morning and evening peak times, while emissions were minimal at night.

Table 12: Contributions to total emissions of main air polluters in Bamako

	CO	COV	NOX	PM10	SO2
Total (t/year)	85,019	24,297	11,074	28,972	4,587
Road traffic (%)	22.2	58.4	82.1	43.3	51.9
Domestic combustion (%)	77.2	40.5	7.4	47.6	3.9
Hydrocarbon depots (%)	-	0.2	-	-	-
Thermal power plants (%)	0.1	0.0	4.0	0.3	33.5
Waste incineration (%)	0.4	0.8	3.5	8.8	10.3
Air traffic (%)	0.1	<0.1	2.9	<0.1	0.4

Source: Ginger-Burgeap, 2019.

As shown in Table 13, fuel consumption by road traffic was the leading cause of VOC, NO_X and SO_2 emissions in Bamako in 2004. In this category, the main causes were the use of old second-hand vehicles, motorbikes with two-stroke engines, fuel quality, and the use of adulterated fuel oil.

As for particulates, road traffic is again one of the main polluters, but the (mainly dirt) roads[47] produce large amounts of suspended dust in the city during the dry season. According to the study by the Ministry of Environment and Sanitation (MEA) and the World Bank (2009) in Bamako, roads alone generated roughly 80,000 tons of PM10 particulate matter in 2008.

[46] *Pollution urbaine en Afrique de l'Ouest* [Urban Pollution in West Africa], Cathy Liousse and Corinne Galy-Lacaux, 2010.

[47] At that time, there were 334 km of asphalt roads in a capital network estimated at 1,525 km.

Table 13: Summary of emissions in Bamako in 2008

Air emissions by category	PM10 particulate matter	Nitrogen oxide NO_X	Sodium dioxide SO_2	Volatile organic compounds
Vehicles	757 tons	3,244 tons	1,293 tons	12,696 tons
Industry and Residential	97 tons	194 tons	802 tons	
Domestic energy	19,139 tons	1,881 tons		
Roads	79,524 tons			

Source: Extract, *Etude de la Qualité de l'Air à Bamako* [Study of Air Quality in Bamako], MEA and World Bank, December 2009.

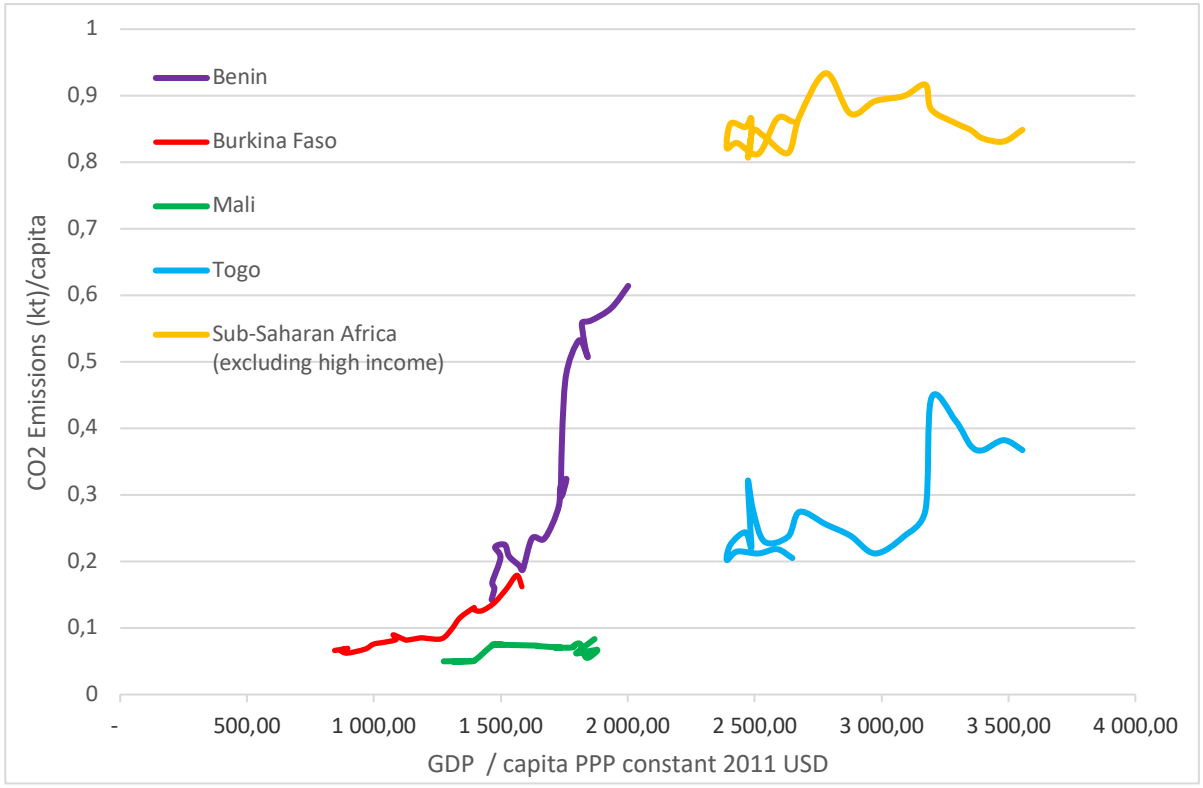
In the four countries studied, the combined effects of demographic growth, urbanization, motorization and the use of poor-quality fuels generates pollution that may eventually pose serious public health problems.

1.5.3 Economic impacts of fuel consumption and CO_2 emissions in the transport sector

The economic growth described above has led to increased greenhouse-gas emissions, but trends in the four countries differ. As shown by Figure 33, Benin and (to a lesser extent) Togo recorded high increases in CO_2 emissions per capita over the same period. CO_2 emissions per capita were multiplied by four, whereas GDP per capita rose by a third. Economic growth in Burkina Faso and (to a lesser degree) Mali seem to have a far lower energy intensity. The rise of greenhouse-gas emissions is largely connected to growth in the transport sector. In Benin and Togo, between 2010 and 2014, the transport sector accounted for nearly 70% and 78% respectively of their CO_2 emissions.[48] The motorization of urban travel is contributing strongly to this rise in greenhouse-gas emissions. There is a high risk of oil dependency becoming embedded in these net fuel importing countries.

[48] Source: data.worldbank.org: Series EN.CO2.TRAN.ZS.

Figure 33: Growth in GDP growth/capita and greenhouse-gas emissions/capita (1990 – 2014)



Source: World Development Indicators (data.worldbank.org).

Urban mobility development based on individual motorized transport weighs on the countries' balance of trade. Fuel imports over the period 2010-2018 represented, on average, more than 25% of the value of goods imported into Mali and Burkina Faso, versus roughly 17.5% in Benin and Togo.[49] The situation is particularly serious when the price of oil is high on the international market.

If one adds the value of imported private vehicles and motorbikes, the macroeconomic impact of urban transport increasingly based on motorbikes and cars is proving to be a handicap for the countries in question.

[49] Ibid.: Series TM.VAL.FUEL.ZS.UN.

2. National policies for urban mobility: an imperative

The four countries in the study are facing a crisis particularly with regards to the traffic conditions in their capital cities. In recent years, numerous developments have taken place at institutional level and new projects have been launched. However, the proposed approaches are often taken in response to the urgency of the situation or opportunistically in the context of a partnership, rather than as part of a long-term vision which would then be translated into a strategy and rolled out in a coordinated manner by those concerned.

In view of the mobility crisis which we described in the previous section, we propose implementing an eight-step process for bringing about change, based on the work of John Kotter. This process was originally proposed for companies, however, in Figure 34, we have adapted it with the aim of implementing an urban mobility policy.

Figure 34: Eight steps for bringing about change

Source: Transitec, 2020.

Step 1: Create a sense of urgency

In the countries concerned, relatively little is known about the economic and social issues relating to the current mobility situation or the consequences in terms of road safety and air pollution. The lack of measurement tools is preventing decision-makers from correctly appraising the scale of the problems. Based on simple findings and in light of ad hoc urban development trends, it is important that the highest levels of government are made

aware of the urgent need to take action to improve urban mobility and to make every effort to ensure that these findings are shared as far as possible with the political and technical leaders.

Step 2: Form a national coalition around an interdepartmental committee

Given all the ministries that have a role to play in ensuring the success of an urban mobility policy, it is essential to set up a an interdepartmental coordination committee, under the authority of the Prime Minister, which can collaborate on the definition and validation of a policy vision, on the one hand, and on its implementation and monitoring, on the other. The policies pursued by the different ministries responsible for town planning and housing, transport and infrastructures, local authorities, the police, energy and the environment must be able to work together to meet the stated vision.

Beyond institutional responsibility, the interdepartmental coordination committee will need to assemble a cohesive team to direct the change. This guiding coalition will therefore have to bring together competent and motivated individuals who will contribute as much energy to developing this interdepartmental mechanism as they will to making changes within their respective agencies.

Step 3: Define an urban mobility vision and a strategy for bringing about change

This step for defining a shared vision is essential because it must, on the one hand, clarify the general approach, and on the other, compel the institutions to take action in the right direction even if this means that certain disruptions are necessary. Finally, it must ensure the involvement of each ministry, specialized agency and local authority. In many countries, differences of opinion undermine the drive for sustainable mobility and result in inefficient public spending.

In this step, the objective is to clearly create one, unified image of the future of urban mobility, which is appropriate, attractive and attainable. It must form part of a national development policy, even if this means that the policy must be changed.

The work carried out with the support of the SSATP through national forums, bringing together a multitude of participants to discuss the recommendations made by a team of experts, was a step in this direction. Based on the discussions conducted under the distinguished patronage of the Minister for Urban Mobility, a policy letter, an urban mobility strategy and an action plan were proposed so that the work of the interdepartmental committee could begin in order to start implementing strategic reforms as quickly as possible, thus enabling the realization of promising projects.

Step 4: Communicate the vision

Once the vision and strategy have been developed, they must be widely communicated among all parties involved. Defined in a simple way, they should be explained by means of communication documents, examples or accessible references. The vision must be widely presented in all kinds of meetings, conferences and events. To ensure the best possible understanding by as many people as possible, it should be repeated and referred to on a regular basis.

It is essential that words be put into action. Decision-makers must lead by example wherever they can. For instance, if the mobility policy promotes walking and two ministerial meeting venues are located at a distance of 800 meters apart, the minister should walk to the meeting and explain that “it’s good for your health, just as fast, and reduces fuel consumption.” Not to do so would create inconsistencies that would undermine the implementation targets of this vision. No doubt there will be comments such as “walking is for the poor; ministers always travel by four-wheel drive.”

So it is important to minimize any inconsistencies between the vision and the actions of leaders, and to leave the dialog open with the various actors and the general public in terms of the actions to be taken in line with the defined vision.

Step 5: Empower the stakeholders (local authorities, technical agencies, etc.) to broaden the action

While the definition of a vision and appropriate communication have certainly enabled many stakeholders to reflect on the stated perspective, various structural obstacles still need to be removed. Where urban mobility is concerned, this usually involves the distribution of powers which, often in Africa, neither gives local players the possibility to take action with a territorial approach, nor does it give state players the means to adopt a multimodal policy.

Therefore, numerous reforms are required to improve the distribution of powers, particularly by strengthening the metropolitan levels, while at the same time empowering the local authorities. Then, financial resources must be made available to enable project leaders to plan, regulate, delegate to partners or implement metropolitan urban mobility policies that are in line with the national vision. It is also necessary to contribute to capacity-building both within local and metropolitan authorities as well as in ministries and technical agencies. Staff training is an essential element to enable implementation of the urban mobility strategy. At the same time, promotions and wages within local governments or semi-public agencies must be aligned with the efforts required to implement the national vision.

Step 6: Create quick wins

Quick wins (or short-term wins) make it possible to capitalize on the vision and proposed strategy, and thus, to develop long-term projects which will have a far more resounding impact. Quick wins ensure that the efforts of all those working to achieve this vision are sustained, and they provide a way to silence cynics and critics. The more numerous these opponents, the more these small victories need to increase so that they fully play their role as examples.

To meet these objectives, a quick win must be visible, unambiguous and clearly related to the effort to change. For example, putting pedestrian crossings with speed bumps in front of a school to reduce the risk of accidents should be done in such a way that the bumps are not too high otherwise they could be criticized because “they damage cars and reflect a vision which is far too ambitious and unrealistic,” and the pedestrian crossings should not then disappear after three months otherwise it will be said that they were just a publicity stunt, and that the vision is not sustainable and only serves to meet the personal objectives of a few ambitious people.

Quick wins have many virtues. Firstly, they enhance the sense of urgency and therefore keep up the pressure to take action. Early lessons can also be learned from projects that did not go as planned. Finally, they can help to attract partners or beneficiaries who will then become true supporters of the urban mobility policy.

Step 7: Consolidate gains and emphasize the change

Progress in the implementation of reforms or projects must be monitored by the interdepartmental committee. This will make it possible to consolidate what has been achieved and to sustain the pace of change. It could be that resistance becomes apparent where it was not expected or that interdependent relationships between institutions make the implementation of the urban mobility policy more complex. Launching an operation to transform the urban mobility policy will necessarily have consequences in other fields of activity which will lead to political trade-offs: in relation to urban development and land management strategies, industrial and commercial strategies, the transport sector, public-private partnerships or the management of local authorities. There is no doubt that the effort required to achieve the targeted outcome will be greater than that initially imagined.

However, it will be important to persevere by capitalizing on short-term wins, momentum for reform and new partnerships, and indeed to extend the scope of reforms. Additional resources will need to be summoned, certain overly burdensome legacies will need to be eliminated, and decision-makers will need to be mobilized to exercise a certain degree of leadership to bring projects to fruition.

Step 8: Anchor the new practices in a new urban mobility culture

Implementing the urban mobility strategy and vision must bring about a cultural change. This will not happen on its own to start with. But it should come about by the end of this first cycle and open the way to the next one. Thus, in the capital cities studied, it is clear that one of the key elements in implementing a new urban mobility policy is the sustainable development of reliable and attractive public transport systems. Once mass transport projects have been set up, it will no longer be possible to design new road infrastructures without considering the integration of public transport services. Similarly, developing the road system without providing shaded sidewalks will no longer be possible.

Implementing this new urban mobility policy should then allow even more substantial changes to be considered. The national strategies are based on a 2030 horizon. However, implementation of the action plan is scheduled to take place by 2025. Plans are underway to review the strategy mid-term and to enhance it with more ambitious projects such as the development of mass transport systems in the secondary cities, the development of more robust systems in the capital cities, and the move away from diesel or even fossil fuels.

3. The essential components of a national policy

The implementation of a new national urban mobility policy is based on certain essential components which will be described in this section. The work carried out within the framework of the SSATP's support for national governments has made it possible to take stock of the national and local contexts in the different countries, and of the initiatives conducted by the different stakeholders involved. By describing the different components of the mobility policies, we seek to highlight the positive trends at national level and to underline the aspects that deserve particular attention from governments in order to set up a proactive, multimodal policy encompassing all the components of urban mobility.

3.1 A 2030 vision for urban mobility which is sometimes lacking

3.1.1 Integrating urban mobility into the national development policy (or five-year plan)

The four countries in the study have drawn up national strategic documents defining the economic and social development trend over a minimum period of five years. These plans are globally aligned with the objectives of the 2063 Agenda adopted by the African Union, the 2030 Agenda setting out the 17 sustainable development goals (SDG), and the COP21 goals.

Table 14: Recent national strategic documents

Country	Plan or strategic planning document	Period
Mali	Strategic Framework for Economic Recovery and Sustainable Development (CREDD)	2019-2023
Burkina Faso	National Economic and Social Development Plan (PNDES)	2016-2020
Togo	National Development Plan (PND)	2018-2022
Benin	Benin's National Development Plan (PND)	2018-2025

In Mali, the Strategic Framework for Economic Recovery and Sustainable Development (CREDD 2019-2023) is based on a new long-term vision known as "Mali 2040." It forms part of the development vision, aiming for inclusive growth and structural transformation of the economy.

In Burkina Faso, the National Economic and Social Development Plan (PNDES 2016 – 2020) aims to "*transform the structure of Burkina Faso's national economy*" while maintaining "*strong and inclusive growth through sustainable consumption and production patterns."*

In Togo, the National Development Plan (PND) 2018-2022 aims to make Togo "*a mid-income country economically*" by 2030; "*and, in social and democratic terms, solid, stable, inclusive and open to the world.*"

In Benin, the main objective of the 2016-2021 Government Action Plan (PAG) "Benin Révélé" (investment program) is to "*boost Benin's economic and social development in a sustainable way.*" It comprises 26 actions divided into three main categories, and 45 structural projects, particularly in infrastructures. This program continues in Benin's National Development Plan (PND) 2018-2025 which was adopted in 2018, and the aim of which is to achieve "*strong, inclusive and sustainable economic growth of around 10% by 2025.*"

These strategic documents, sometimes referring to infrastructure projects or to forecasts in terms of urban development policy and the living environment, should serve as a basis for the national urban mobility policy.

3.1.2 Urban mobility: under-represented in sectoral policies

The countries in the study generally have sectoral transport policies which are often carried out with the support of international partners either in defining the strategy or investing in the activity program. However, the bulk of the projects concern the development of intercity road infrastructures within regional integration corridors or projects helping to make certain regions accessible. Thus, in Benin, the transport sector strategy for the 2007-2011 period does not deal with urban mobility.

The same is true in Mali, where a new National Policy for Transport, Transport Infrastructures and Accessibility (PNTITD) was drawn up in 2013 as a continuation of the 2020 Transport Infrastructure Development Plan and the Policy Paper on the Transport Sector, dated 2008.

Burkina Faso is an exception because within the framework of the Project to Support the Modernization of the Transport Sector (PAMOSET) and the Transport and Urban Infrastructure Development Project (PTDIU) – two programs financed by the World Bank – a considerable component was oriented towards urban mobility projects in Ouagadougou.

In Togo, sectoral programming work is in progress – precisely to define the transport sector's national priorities.

3.1.3 Urban mobility issues mentioned in the Nationally Determined Contribution (NDC)

Two out of the four countries have made commitments to the COP21 within the scope of the United Nations Framework Convention on Climate Change (UNFCCC) which mentioned contributing to the transport sector to mitigate the country's greenhouse gas (GHG) emissions.

Burkina Faso's Intended National Determined Contribution (INDC) plans to reduce GHG emissions through a collective transport project in Ouagadougou (20 km of infrastructure: "Modal transfer" project), and by substituting 10% of the consumption of super fuels by biofuels and 5% of the consumption of diesel thanks to the creation of bioethanol production units.

For its part, Togo has committed to making a 20% cut in its fossil fuel consumption by 2030 "by improving the road system, promoting collective transport, reducing the average age of imported vehicles (to 5-7 years) and promoting active modes of transport (bikes, walking, developing cycle routes)".

Mali and Benin do not mention urban mobility projects or even the contribution of the transport sector to the national mitigation effort. In the process of revising these commitments under the Paris Climate Agreement, it is quite conceivable that the national urban mobility policy could be formulated with a view to significantly reducing the increase in greenhouse gas emissions.

3.2 Developing institutional frameworks

3.2.1 Clarity in the breakdown of powers at ministerial level

Among the four countries in the study, two models are apparent: one where the ministry of transport is separate from the ministry of infrastructure (in Mali and Burkina Faso) and one where transport and infrastructures come under the authority of the same ministry (in Togo and Benin).

In this second case, urban mobility is placed under the authority of a powerful ministry which has a significant annual budget; however the subject of urban mobility can be relegated to second or even third place, as the attention of managers is focused on investments in infrastructures.

Although the ministries of transport in Mali and Burkina Faso are small compared to their ministries of infrastructure and facilities, they have nevertheless taken the lead in the subject of urban mobility by mentioning mobility directly in the title of their ministries (Table 15). In this way, they can help influence investment programs through the development of a clear strategy and an effective partnership with local authorities.

Table 15: Powers of urban mobility ministries

Country	Ministerial title	Infrastructures	Transport	Urban mobility	Road safety
Mali	Ministry of Transport and Urban Mobility	No	Yes	Yes	Yes
Burkina Faso	Ministry of Transport, Urban Mobility and Road Safety	No	Yes	Yes	Yes
Togo	Ministry of Infrastructure and Transport	Yes	Yes	Yes	Yes
Benin	Ministry of Infrastructure and Transport	Yes	Yes	Yes	Yes

3.2.2 Existence of a legal and regulatory framework on transport and urban mobility

Sectoral legislation covering transport mainly regulates the management of infrastructures (the development and maintenance of road systems) and shapes the transport service offer. This legislation dates from the end of the 1990s and the start of the 2000s and is generally divorced from the reality of the current situation (in Mali, the legislative foundations are even older).

In Benin, no distinction is made between intercity and urban transport, no provisions exist regulating parking, and the highway regulations are unsuited to the development of active mobility or intermodal travel.

In Burkina Faso, the 2008 Framework Law on Land Transport (LOTT) sets the legal framework for urban transport. It underlines the fact that planning, organization, management, monitoring/evaluation of urban transport must be carried out in compliance with the legislation on the distribution of powers between the government and the other stakeholders involved in development.

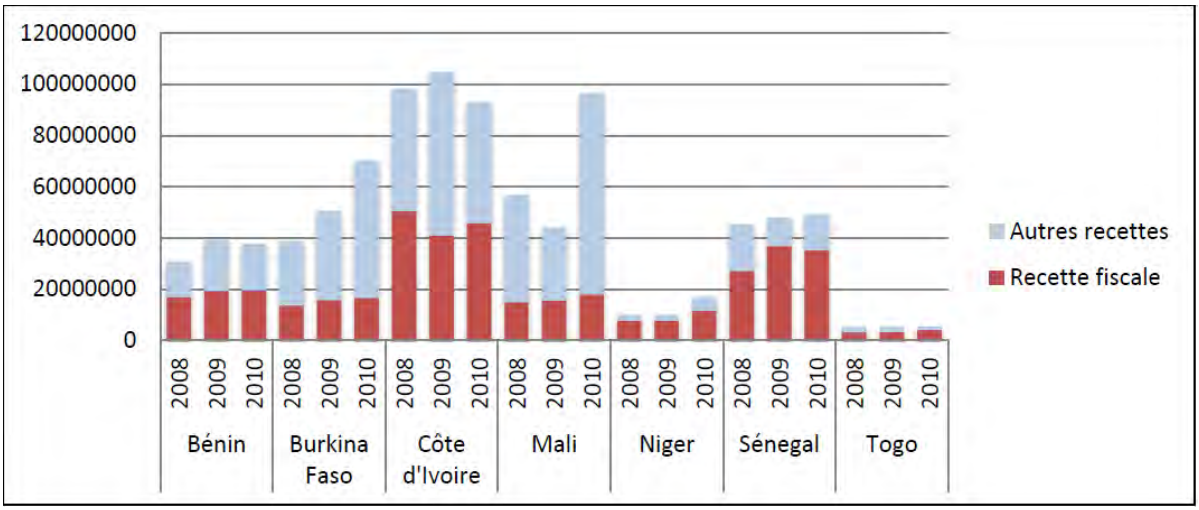
The Togolese government, supported by the World Bank, has launched a wide-ranging reform program which particularly touches upon the field of transport. The legal framework which dates from the end of the 1990s, suffers from a lack of hierarchy between the different legal standards (law, decree, order), and needs to be updated.

3.2.3 Distribution of powers between the government, its agencies and the local authorities

The decentralization processes in the four countries in the study are at different levels of advancement but are all currently going through a cycle of reinforcement. With the exception of Togo where the process has been halted for several decades, the countries in the study began their decentralization processes in the early 1990s. Decentralization has generally taken the form of a transfer of powers, but without providing the necessary means to exercise these powers, and in a context in which the capacities of local governments have proven to be too weak. The authorities do not directly collect taxes and are extremely limited in setting tax rates and tax bases.

Different patterns of decentralization can be observed among the countries in the study. Mali and Burkina Faso have provided their local authorities with more financial resources, with a large share in transfer payment, whereas in Benin, at the end of the 2000s, there was an equal share of funding from fiscal resources and from additional revenues. Togo is distinguished by the limited resources made available to local authorities.

Figure 35: Development of the share of local tax revenues in the overall resources of local authorities, 2008-2010



Source: Hochet el al. (2014). Livre blanc de la décentralisation financière dans l'espace UEMOA *[White paper on financial decentralization in the WAEMU region].*

The effective transfer of powers has often been held back by the central authorities which consider that local governments are unprepared and poorly trained… In the mid-2010s, the governments sought to better tackle these obstacles by creating Support Funds for the development of local authorities. In all three countries, these funds base equalization on population and poverty, and incorporate a local authority performance index. A few years later, this development was accompanied by reforms.

In Burkina Faso, a third decentralization cycle was established in 2018 by the Ministry of Regional Administration and Decentralization to enable the local authorities to access new sources of funding. A local tax reform is also being planned.

In Mali, a national policy framework document on decentralization was validated in 2017. It is accompanied by a 2017-2021 action plan and the adoption of basic texts on decentralization. Government support is planned along with financial resources.[50]

In Benin, the government also intends to reinforce decentralization (Action 45 of the Government Action Plan – PAG) by supporting local authorities in taking charge of the role assigned to them by the decentralization texts.

In Togo, decentralization was relaunched in 2019 with new laws and municipal elections. This should be seen as a great opportunity to clarify the roles of the different institutions by allocating powers to the appropriate territorial levels and establishing coordination mechanisms between public actors.

[50] 331 billion FCFA francs (45% mobilized by the government, 40% by technical and financial partners and 15% by the local authorities themselves)

3.2.4 Existence of a metropolitan entity responsible for urban mobility

There is a common trend among the four countries in the study towards the creation of metropolitan entities in capital cities. Some of these entities were created at the instigation of local authorities such as the SMIB of Bamako (association of local authorities) which brings together 24 municipalities and the district of Bamako or Greater Ouaga's inter-municipal project, which brings together 8 municipalities and was initiated by the municipality of Ouagadougou. In both cases, the local authorities have benefited from a legal framework allowing inter-municipalities to be established, and have come together to tackle metropolitan challenges: urban planning, waste management, sewage systems, funeral services, etc., and of course urban mobility.

These metropolitan entities, which are veritable institutional innovations, are still in the gestation phase. First of all, the national regulatory framework isn't completely stabilized yet and, secondly, decisions have not yet been made about funding their administration, investments and service operations. The Autonomous District of Greater Lomé (DAGL), created at the instigation of the government, is at the same stage of development as the locally created entities. Its decision-making body also includes government representatives and representatives from the municipalities. (Box14).

In Benin, the legal instruments that exist to support inter-municipal cooperation are not currently being used. However, the creation of a metropolitan entity in Greater Nokoué, bringing together the municipalities of Abomey-Calavi, Cotonou and Sèmè-Kpodji, is being studied particularly with a view to meeting the challenges of urban mobility. At this stage, only Ouagadougou is planning to create a specific authority in charge of urban transport: the Greater Ouaga Transport Council. This body, attached to the "Greater Ouaga" entity, is in the creation phase, led by the municipality of Ouagadougou.

An inter-municipal dynamic in the major cities is essential if the challenges of urban mobility are to be tackled. Although the wider urban area would appear to be the relevant scale, modes of governance need to be defined quickly and these entities must be provided with the necessary financial resources. The State government and the local authorities must be able to work together to implement these new authorities quickly, and priority should be given to urban transport in order to organize the inter-municipal area.

Table 16: Creation of metropolitan entities in the capital cities

Pays	Entité métropolitaine en charge du développement urbain		Entité métropolitaine en charge des transport	
	Nom	Date de création	Nom	Date de création
Bamako	SMIB	2019	-	-
Ouagadougou	Grand Ouaga	2020	CTGO	2020
Lomé	DAGL	2019	-	-
Cotonou	en cours de réflexion		-	-

Box14: Creation of an Urban Mobility Organizing Authority in Lomé

In Togo, the Ministry of Infrastructure and Transport brings together the country's expertise in transport and infrastructure planning and management. Be that as it may, no competent entity exists which corresponds to the scale of organization required by urban transport, i.e. at the level of the Lomé urban area and that of the main secondary cities. However, in 2019, the government of Togo seized the opportunity offered by the acceleration of the decentralization process to create the Autonomous District of Greater Lomé (DAGL), an inter-municipal structure on the scale of the Lomé urban area. Therefore, the DAGL would appear to be the right institution to take on the role of urban mobility planning in the form of an Urban Mobility Authority (AOMU), as:

- it is currently being created by the Ministry of Regional Administration, Decentralization and Local Authorities, which will facilitate the rapid establishment of the AOMU: legislation defining the powers has been written and the structure is in place. A General Secretary is standing in on an interim basis while waiting for a Governor to be appointed.

- it covers an area that is consistent with the subject of urban mobility, i.e. the urban area of Lomé, which accounts for the vast majority of daily journeys. Indeed, an AOMU must cover a sufficiently large area (but must include urban continuity) in order to avoid fringe effects and the need to manage interfaces.
- its decision-making body includes government representatives and representatives from the municipalities. This organization will facilitate the involvement of local authorities (as the subject of urban mobility is now almost exclusively dealt with by the State government and the ministries).

Therefore, for Togo, turning this AOMU into a reality will involve:

- firstly, adding the competencies of the AOMU to those of the DAGL, i.e. to start with:
  - urban mobility planning (all modes of transport)
  - supervising and organizing public transport services, whether or not they are contracted, as well as managing intermodal transport hubs
  - the traffic strategy (traffic plan and lighting control strategy).
- then, ensuring the functioning of the AOMU through the creation of a department within the DAGL which must have adequate human and financial resources in relation to the powers mentioned above. The financial resources should ideally take the form of a dedicated budget line (annexed to the DAGL budget) to promote the sustainability of resources and move towards financial autonomy in the longer term.

Once in place, the AOMU will become the most appropriate entity to support the draft Urban Travel Plan of Greater Lomé desired by the Togolese government. Finally, by extension, the creation of an AOMU within the DAGL opens up the prospect of generalizing this principle at the level of the inter-municipalities of Togo's secondary towns.

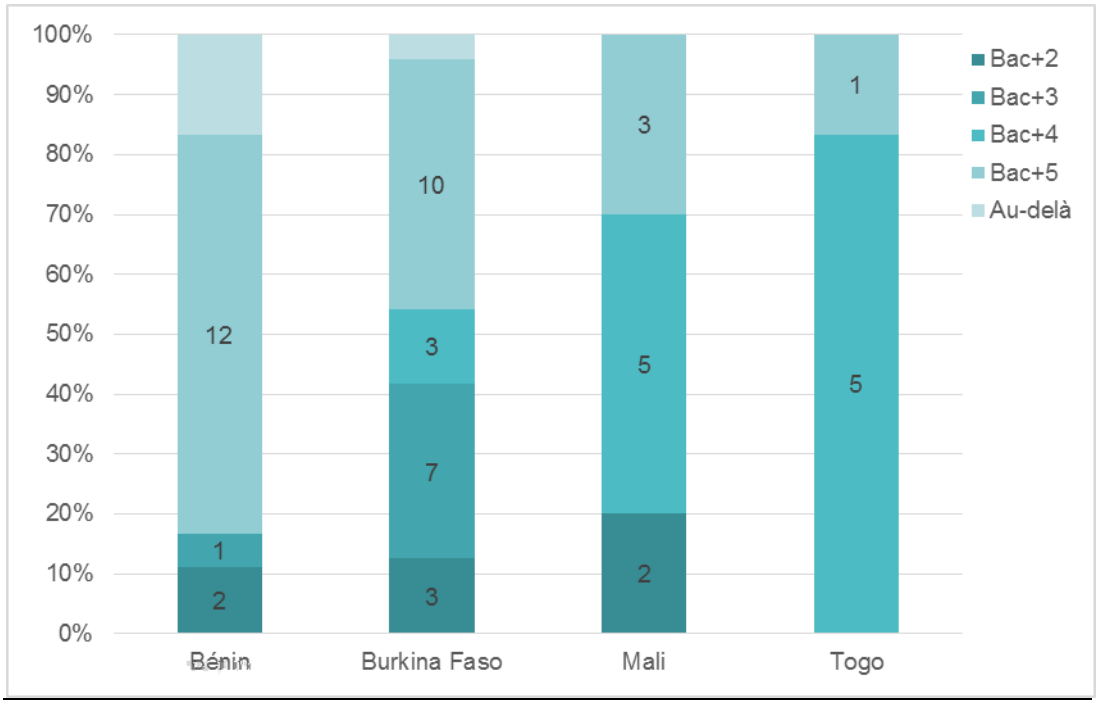
3.3 Strengthening human resources

3.3.1 Level of training of government executives and senior managers of companies in the sector

There appears to be a good level of training of government officials and municipal agents in the countries in the study. During the national forums held in November 2019, 58 government officials and municipal agents were asked about their university education. Half of them had been educated to Bachelor's degree level, while the other half had continued to Master's degree level or beyond. 81% of those questioned had completed their entire university education in their home country. The others had pursued their studies either in the West African sub-region (14%) or in Europe (5%).

In terms of their academic backgrounds, there is wide disparity among respondents to the questionnaire. In the four countries, lawyers, economists, geographers, town planners and engineers work side by side in handling urban mobility issues. However, it is highly likely that those present at the national forum are not truly representative of the public service in the area of transport and mobility. There is generally a predominance of civil engineers in the transport sector and a lack of lawyers, town planners or economists. This means that infrastructure construction issues are given more importance than the management of public services. It would be necessary, in the different ministries in charge of urban mobility and the local authorities, to assess the needs in terms of professional skills in order to consider additional recruitment.

Figure 36: Higher education levels by nationality of Forum participants



Source: Transitec survey, November 2019.

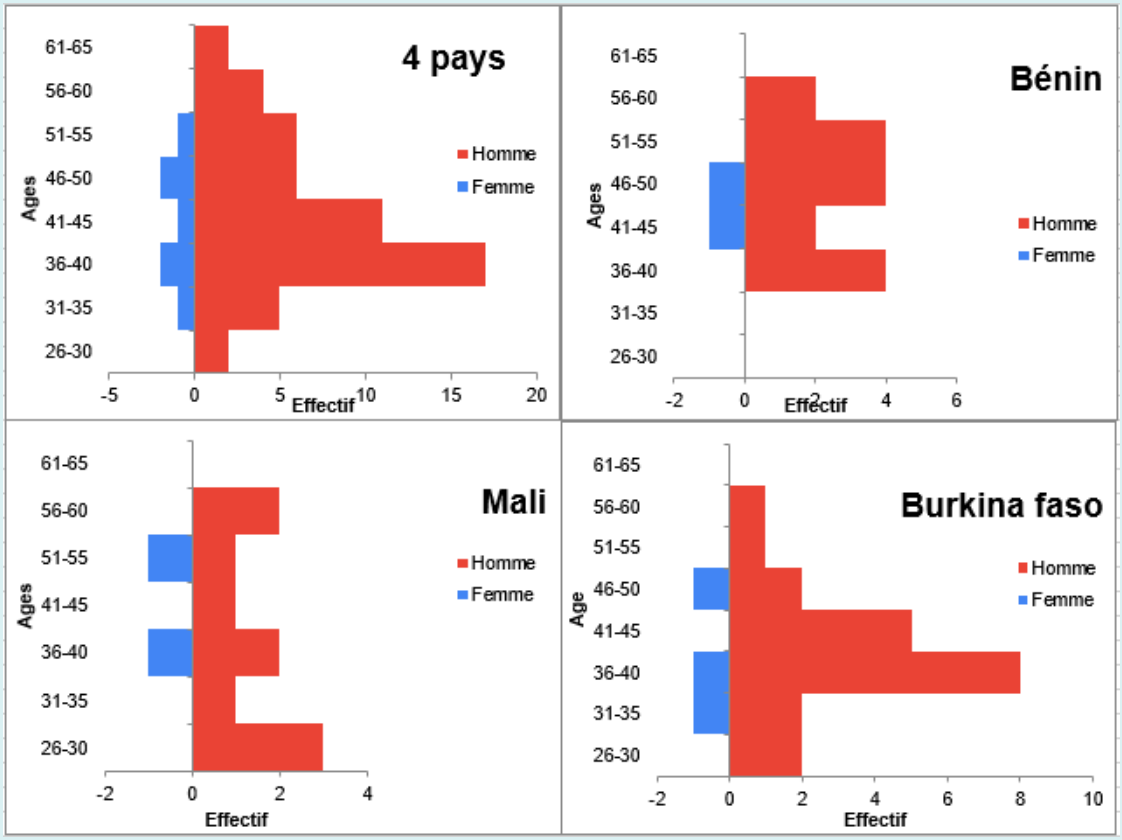
Box 15: Academic background of forum participants

National urban mobility forums were organized in November 2019 in each country of the study in order to present the diagnostic undertaken as part of this study and to discuss a list of recommendations intended to renew the urban mobility policy. Between 40 and 100 people gathered at these forums which, for the most part, were opened by the minister in charge of urban mobility.

The participants were mostly representatives from the ministry in charge of urban mobility, partner ministries, technical agencies, local authority representatives (20%) and private sector representatives (21%). They were asked to fill in a questionnaire about their individual professional background in order to take stock of the skills that exist in the different institutions, along with the training requirements. In total, 127 people answered the questionnaire with unequal participation depending on the country (51 responses from Benin, 40 from Burkina Faso, 24 from Mali and 12 from Togo).

One of the first observations concerns the gender and age of the participants. Only 14.8% of the participants at the four national forums were women, and only 20% of participants were under 36 years of age. Figure 37 below shows an age pyramid of respondents with civil servant or municipal officer status. Burkina Faso is distinguished by a large proportion of civil servants between the age of 36 and 45 (58%), while 55% of Benin's officials were older than 45.

Figure 37: Age pyramid of respondents with civil servant or municipal officer status



Source: Transitec survey, November 2019.

3.3.2 Existence of initial training

The study of urban mobility is complex and there are few introductory training courses covering its various components. A multidisciplinary approach is still very rare in African universities, with the exception of town planning courses which discuss the complexity of towns. However, the curriculum is evolving and in the sub-

region countries, certain engineering courses are starting to introduce the topic of mobility from a town planning, sociology or economics perspective. This trend, which has been witnessed for several decades now in Europe, is certainly to be encouraged to facilitate dialog between the different professions. Also to be noted is the creation, in 2015, of a Master's degree devoted to "*Transport and Sustainable Mobility in African Cities*" at the African School of Architecture and Town Planning (EAMAU) (see Box16).

Box16: Master's degree in Transport and Sustainable Mobility at the EAMAU in Lomé

In 2015, a Master's degree entitled "*Transport and Sustainable Mobility in African Cities*" was created at the African School of Architecture and Town Planning (EAMAU) in Lomé. The aim of this degree is to train high-level executives, equipped with the skills to meet the specific requirements of African towns and cities in terms of mobility and transport. The EAMAU, an intergovernmental institution of higher education and research, which brings together the countries of the WAEMU and the CEMAC, benefits from the expertise of its partners: Senghor University of Alexandria, CODATU and the CNAM school of engineering.

The aim of this vocational, hands-on training course is to train transport specialists so that they are capable of implementing urban mobility policies and action plans in African towns and cities. For three months, students attend lectures, take part in workshops and benefit from the sharing of experiences by professionals from all over Africa and Europe. At the end of the theoretical training course, the students carry out a four-month internship and write a thesis for their professional Masters which, in principle, allows them to be directly operational in the field.

62 students have graduated since 2015. All of them came from French-speaking Black Africa and have very different backgrounds. Some were completing their initial training while others were supplementing their qualifications during their professional careers. Students of the four graduating classes of the Master's program (with 15 or so students per year) said that at the end of the course, they had acquired the knowledge and key tools to analyze the different aspects of mobility and travel, to develop and operate a collective transport network and guide mobility and urban transport decisions in order to contribute effectively to the concrete operationalization of sustainable development, taking environmental, economic and social dimensions into account.

3.3.3 Further training for central government executives and local authorities

Various further training courses are available for managers from ministries and local authorities. These courses are generally organized as part of projects funded by international donors (World Bank, AFD, JICA, GTZ, BID, KOICA, etc.). The training courses are organized by the funders themselves or by engineering offices and experts in the field. Certain towns and cities have also benefited from training programs as part of decentralized cooperation agreements or a WAEMU program.

The topics covered generally directly concern mobility, planning and the resulting documents, road system maintenance and infrastructure, traffic management, sustainable mobility and road safety. However, the courses may also cover related subjects: contracting (public procurement, public-private partnerships), sources of pollution and their impact on the environment (air quality management, climate change, environmental impact studies) or IT tools (GIS).

Nevertheless, the managers said that they would like to take part in more training courses. 68% of the civil servants questioned expressed the feeling of being little, or only partially, trained in the issues related to urban mobility. As Figure 38 shows, they would like to develop their skills in areas such as planning, institution building, traffic and parking management or road safety.

Figure 38: Training requirements of participants at National Urban Mobility Forums

Source: Transitec survey, November 2019; the number between brackets corresponds to the number of questionnaires answered per country.

3.3.4 Technical support by national structures provided to local authorities

Wider support could also be given to local authorities to enable the implementation of urban mobility policies. In Mali, the Regional Development Agencies could play a significant role in this respect (see Box 17).

Box 17: Regional Development Agencies, a tool at the service of regionalization in Mali

Following the serious security and political crisis of 2012-2013 and the signing of an Accord for Peace and Reconciliation in 2015, a reinforced decentralization policy based on regionalization has been set in motion to rebuild a new Mail, with respect for diversity and national unity. Regional Development Agencies (RDAs) are emerging in this context with the aim of encouraging local and regional development by providing assistance to the project management of local authorities in the areas of planning, preparing development actions, mobilizing tax revenue, etc.

In response to a political commitment which has been confirmed at the highest level, the RDAs are public establishments with an administrative character that are placed under the supervision of the Ministry of Decentralization and the local authorities. They receive subsidies from the government, local authorities, and, depending on the circumstances, technical and financial partners. Each RDA is led by an Executive Director who is appointed by the Chairman of the Regional Council. The RDA's activities are governed by a regional Board of Directors made up of elected local officials and representatives from the government's decentralized technical services, the private sector and civil society. Every year, an Annual Conference of RDAs is held under the auspices of the supervising Ministry to examine the progress report of all the RDAs, ensure the consistency of their actions and approve the government's budgetary allocations to agencies.

From their creation in 2015 to the present day, the RDAs have demonstrated their effectiveness in terms of drawing up local land-use policies, putting together local development plans and running different frameworks for encouraging dialog and social intermediation. They also participate in the implementation of Government-Region planning contracts and monitor the implementation of planned investment projects. In a context where many qualified young people are unemployed, the RDAs have made it possible to develop local expertise to serve the needs of the people.

As is the case of all emerging structures, the RDAs are still facing a growth crisis. Limited financial, human and material resources mean that it is not possible to meet all the development requirements of the local authorities. The RDAs still need to carve out a place in the institutional landscape by focusing on collaboration and complementarity with the government's central and decentralized services. The mechanisms for triggering advisory assistance to local authorities also need to be assessed to encourage the demand for services from local elected officials and to anchor the provision of project management assistance in the decentralization principles.

3.4 The necessary collection of data

3.4.1 Funding the collection of data

The data collected in the different countries is clearly insufficient for implementing a multi-modal policy in the capital cities or in the country's other cities and towns. Table 17 shows the type of data collected in the different capital cities. The data available in the secondary towns is virtually non-existent. Despite the mobility crises described above, the local authorities dispose of very little information that can be used to measure and respond to the phenomenon.

Table 17: Data available in the different urban mobility sectors

	Pratiques de mobilité	Transports collectifs	Trafic	Stationnement	Modes actifs	Modèle	Externalités		
	EMD, Répartitions modale, spatiale, temporelle et selon les motifs	*Données d'exploitation (itinéraires et arrêts, niveau de service, etc.)*	*Comptages et enquêtes origine-destination*	*Rotation et occupation*	*Comptages et enquêtes de satisfaction*	*Modèle multimodal (trafic et transports collectifs)*	*Sécurité routière*	*Qualité de l'air*	*Egalité femme / homme*
Lomé, Togo		● annuel	●				● annuel		
Bamako, Mali	● 1993	● 2010 et 2019	● 2015 et 2016				● ● 2019	● 2004, 2008 et 2019	
Ouagadougou, Burkina Faso	● 1992	● annuel	● 2011, 2014, 2016				● ● 2015, 2020 (étude IRD)	● 1997	
Cotonou, Bénin			● 2016 (contournement N)			● 2016 (contournement N)	● annuel		

As part of a national policy, it is essential to provide funding for data collection campaigns which can be carried out at sufficiently regular intervals in order to evaluate the development of phenomena and the impact of the public policies implemented. Such campaigns should focus on the mobility demand, traffic, parking, public transport and negative external factors.

3.4.2 Existence of a data management policy and use of modern data collection tools

At present, although Mali has a transport observatory and Burkina Faso a statistics office that collects all of the country's transport data, none of the four countries has a system in place for managing collected urban mobility data. Centralizing such data could facilitate studies and research, and make it possible to develop indicators published regularly in "urban mobility observatory"-type documents, as the municipality of Ouagadougou is planning to do.

In all areas and particularly that of transport, new technologies exist that facilitate the collection of data. Whether for paratransit transport, road safety or to measure traffic or levels of air pollution, etc.; more and more data can be collected at no great cost thanks to the use of new digital tools. Using apps on smartphones, protocols can be set up and data stored easily to improve knowledge and facilitate government action.

Making data freely available (open data) is still given very little consideration at this stage. However, in the same way as OpenStreetMap - a databank containing geodata collected by multiple contributors - the urban mobility authorities could rely on this type of collaborative tool to gather urban and mobility data. At this stage, Bamako is the only capital to be registered in the Open Cities Africa[51] project, but mobility is not currently the subject of any specific work.

Finally, developing the use of new technologies could make it possible to move swiftly to real-time information systems for passengers on collective transport networks, as well as for users of private vehicles.

3.5 Integrated town and transport planning

3.5.1 Existence of town planning documents in the capitals

The four capital cities are at different stages where town planning is concerned. Bamako and Cotonou do not have any recent documents. The Master Development Plan for Greater Ouaga (SDAGO) of 1999 was revised in 2018, whereas in Lomé, the Urban Master Plan (SDAU) was completed in 2015 (see Box 18). Like the SDAGO, it proposes a polycentric development model to reduce commuter flows towards the center of the conurbation. However, like its counterpart in Burkina Faso, the risk with the SDAU is that it will never be officially approved.

Table 18: Master plans and sustainable mobility plans

Pays	Schéma Directeur de Développement urbain			Plan de Mobilité Urbaine/ Schéma Directeur		
	Nom	Date (dernière mise à jour)	Mise en œuvre	Nom	Date (dernière mise à jour)	Mise en œuvre
Bamako	SDAU	2002	(non approuvé)			
Ouagadougou	SDAGO	2018		PDU		(envisagé)
Lomé	SDAU	2018		PDU		(envisagé)
Cotonou	SDAU	(en cours)		PDU	(en cours)	

Box 18: Deployment of Urban Master Plans in Togo's towns and cities

The government in Togo has kicked off an ambitious policy to deploy Urban Master Plans (SDAU) for all towns and cities with more than 5,000 inhabitants. To date, nearly a quarter have already been produced by the Ministry of Urban Affairs, Urban Planning, Housing and Public Health (MVUHSP). However, the deployment of Urban Master Plans faces a lack of funding which is slowing down the production and updating of documents and is also facing implementation problems.

The Urban Master Plan for Greater Lomé was in the process of being drawn up in 2019 to replace the former document dating from 1981. A previous attempt to update this document in 2015 met with some difficulty when it came to ensuring its approval by the Council of Ministers. The Council did not recognize the legitimacy of the document and prevented it from being approved by public and private stakeholders. However, the dynamic generated by accelerating decentralization and the creation of the Autonomous District of Greater Lomé (DAGL) has provided a sound basis to allow the process of updating the Urban Master Plan to be restarted. To enable the document to be completed, the following milestones must first be met:

- Drafting of operational urban planning documents: the Urban Planning Code, which is currently being drawn up, and adaptation of the Urban Master Plan into a Detailed Urban Plan.

[51] https://opencitiesproject.org/

- Provision of a binding dimension to the Urban Master Plan so that projects that do not comply with its content can be considered illegal and annulled. The Urban Master Plan must therefore serve as the source of information for urban mobility planning documents – particularly the Urban Travel Plan of Greater Lomé – in order to ensure that urban planning is linked to transport.
- Strengthening of the capacities of local authorities to assess urban planning documents by ensuring the availability of financial resources and the necessary skills within their departments. These resources should make it possible to monitor building permit procedures and set up regularization mechanisms in the event of non-compliance with legislation.

Failure to implement Master Plans represents a major threat in all the countries. In Mali, for example, about a hundred towns and cities had urban master plans in the 2000s but they were rarely implemented and many became obsolete without being revised. The local authorities did not have the human resources required to steer the planning process, or the financial resources necessary to implement investments.

In Burkina Faso, an urban development program led by the Ministry of Town Planning and Housing has recently made it possible for the regional capitals to have urban master plans. Once again, the main challenge is to encourage their implementation despite limited human and financial resources. However, support has been provided to encourage local leaders to take responsibility (Box 19).

Box 19: Development of Urban Master Plans in Burkina Faso

In 2011, Burkina Faso drew up Urban Master Plans (SDAU) in all the regional capitals (12) apart from Ouagadougou and in the urban municipality of Pouytenga with the financial support of the World Bank through the "Regional development centers" project.

These Urban Master Plans are tools for planning the development of urban areas in the medium and long term (15 to 20 years). They form part of the national policy on housing and urban development (PNHDU) and the national land-use policy.

They have defined priority investments in each of the towns and cities amounting to 155 billion FCFA of investments in the road network between 2019 and 2023. These urban master plans therefore offer a valuable basis for mobility planning.

Based on this experience, the Ministry of Town Planning and Housing has produced a guide for drawing up Urban Master Plans with the aim of standardizing the methodologies for developing them, and placing an urban planning tool at the disposal of local elected officials. This guide, which is written for urban municipalities, the ministries concerned by urban issues and engineering offices, describes the approach to be taken in order to develop realistic, coherent and efficient Urban Master Plans for the development of Burkina Faso's municipalities.

3.5.2 Existence of urban mobility planning linked to urban planning

None of the capital cities have recent mobility planning documents with a multimodal approach. At best, such an approach is under consideration, but nowhere has it actually been initiated. In Togo, an Urban Mobility Plan (PDU) was launched in 2016 by the Ministry for Urban Mobility as part of a decentralized cooperation, but it was halted due to a lack of resources. It started up again in May 2018 with the new Urban Mobility Plan committee, at the same time that Lomé joined the MobiliseYourCity program.

No conurbation-wide mobility plans exist, as such, in Ouagadougou. However, Ouagadougou Municipal Council has placed urban mobility as a priority on its agenda over the 2016 – 2021 mandate. Urban mobility is articulated in a vision revolving around four mobility projects (Box 20) which have been identified to improve the living conditions of Ouagadougou residents. They form part of a strategic plan aimed at integrating urban planning and mobility.

In Cotonou, although the creation of urban master plans (SDAU) and urban mobility plans (PMU) are becoming an increasing priority for the authorities, these two planning exercises, where they have been initiated, do not

appear to have been linked together. An urban mobility plan for Greater Nokoué is currently underway. It will be combined with the asphalt resurfacing program planned for the urban area and will enable the creation of a functional hierarchy of the road network and a traffic management strategy. However, at this stage, the plan aims primarily to organize motorbike and car traffic without a multimodal vision.

In Bamako, there are no urban mobility planning documents at this stage.

Box 20: Planned urban mobility initiatives (extract from the Ouagadougou Municipal Council's 2016 – 2021 mandate plan)

Four mobility projects are planned:

- **Traffic fluidity in the city of Ouagadougou:**
  - Create a body to organize urban transport and make it operational
  - Reinforce vertical and horizontal traffic signals (traffic lights, road markings, etc.)
  - Set up a plan for traffic and parking in the downtown area and in the secondary centers (traffic and parking areas)
  - Organize road safety awareness campaigns (IECs) and promote traffic safety guides
  - Step up checks and fines for traffic offenders
  - Boost traffic regulation personnel (manpower, training, consideration)
  - Facilitate driver education training in secondary schools, leading to a driver's license
  - Create a traffic monitoring center.
- **Upgrade road infrastructures:**
  - Make street improvements in the city's downtown area
  - Reinforce patching of road surfaces
  - Resurface the streets with binding materials, paving stones in city districts
  - Lay out paved pedestrian areas along road shoulders
  - Reprofile dirt roads / lay out dirt roads (25 km/city district/year)
  - Lay out and asphalt roads (35 km of newly asphalted roads).
- **Enhance public transport:**
  - Increase the density of the collective transport network and strengthen the fleet of urban public transport
  - Revamp bus stops to include multimodal transport (motorbikes-bicycles-cars and buses)
  - Create bus corridors in anticipation of the roll-out of BRT or high-level service buses and, in the long term, a tramway
  - Take persons with reduced mobility into consideration when revamping transport infrastructures.
- **Improve parking infrastructures:**
  - Identify and lay out parking areas for heavy vehicles at entrances to national roads
  - Restore and build three public bus stations (Ouagarinter, Tampouy, Bobo road)
  - Reorganize the layout of private stations
  - Set up a sales yard for second-hand vehicles
  - Set up a municipal vehicle pound.

3.6 Setting up funding schemes

3.6.1 Spending oriented towards road investments

Significant financial resources are being mobilized in the four countries for the construction of road infrastructures. For example, in Burkina Faso in 2018, 14.5% of government tenders were directed towards the funding of road projects at national level. Some of these infrastructures are built in urban areas without giving any real consideration to the development of a global vision of mobility on a conurbation-wide level.

As concerns public transport, very little financial resources are allocated to this area. Apart from the one-time investment in bus stations, only Burkina Faso and Togo contribute to the financing of public transport operators through subsidies (of around 2 billion FCFA for SOTRACO and 0.5 billion for SOTRAL every year).

The implementation of mobility policies encouraging the development of collective transport requires the mobilization of budgetary resources to manage and plan urban mobility on the one hand, and to develop public transport, on the other. This necessary change in public spending can be achieved by reallocating part of the budgets currently earmarked for road infrastructures, and by mobilizing new financial resources.

3.6.2 The need to fund mobility services

The setting up of a Road Fund in the different African countries has enabled tax resources to be mobilized in order to fund road maintenance. However, the taxation mechanisms differ from country to country (levying of fuel tax and intercity toll rates in Togo, levying of road tax by customs, tax levied on imported goods and heavy goods traffic in Benin). Even if the revenues generated are insufficient in relation to the overheads, these mechanisms have made it possible to provide dedicated resources for funding road maintenance. This should serve as an example for the financing of public transport and urban mobility management.

The taxation of fuel is not an easy measure to implement in countries where the trade in contraband fuel from Nigeria diverts buyers from the formal market. But there are other ways in which resources can be mobilized from contributions by vehicle owners, particularly by motorized two-wheelers which scarcely make any contribution to funding an urban mobility policy.

In Burkina Faso, a motor vehicle tax (TVM) was introduced on 1 January 2019 to finance the local authorities. This tax is payable by owners of vehicles traveling on the nation's roads, with the exception of motorbikes. The annual rate – based on engine cubic capacity – is somewhere between 7,000 FCFA and 30,000 FCFA for private vehicles. Truck owners have to pay an annual tax ranging from 20,000 to 50,000 FCFA. Motorized two-wheelers are not yet subject to this tax, but this would be a desirable development in order to generate more resources. This new tax revenue is not directly assigned to funding urban mobility but could make it possible for local authorities to become more involved in this area.

Similarly, the implementation of an on-street pay parking system for cars and motorbikes could act as a disincentive while encouraging the use of alternative modes of transport and generating financial resources which could be allocated to managing mobility. The Transport Fund set up in Lagos (Box 21) is a particularly inspiring example.

Box 21: Transport Fund financing LAMATA in Lagos

The Transport Fund was introduced in 2007, five years after the creation of the Lagos Metropolitan Area Transport Authority (LAMATA) to cover the costs of maintaining transport infrastructures in the Lagos metropolitan area.

The Transport Fund is financed by revenues from licenses (including driver's licenses, license plates and vehicle registrations), bus franchises and fees paid by the operators (toll revenues in particular). The Motor Vehicle Administration (MVA) is one of the main sources. It contributes a percentage of revenues from

licenses, road taxes, driver's licenses and car registration documents. The MVA currently contributes 6.6 million USD, i.e. 50% of LAMATA's revenue, and plans to increase its contributions.

During the first phase of the LUPT program, a large share of the financing for LAMATA came from Lagos State: the annual average between 2005 and 2010 was 5.27 million USD from the Lagos State government and 5.06 million USD from the Transport Fund which started disbursing resources from 2007 onwards. Contributions from the Transport Fund gradually increased from 2.27 million USD in 2007 to over 8 million USD at present. In 2011, with the start of LUTP2, the balance was reversed, showing the rising role of the Fund. For the LUTP2, the Transport Fund contributes on average 7 million USD, while Lagos State contributes 6.5 million USD on average per year – without taking 2011 into account when there was no contribution from the Lagos State government.

Table 19: Contributions to LAMATA by the Lagos State government and the Transport Fund (2005-2014)

Year	Contributions by the Lagos State government (US$)	Contributions by the "Transport Fund" (US$)	LAMATA's annual operational budget (US$)
2005	5.63 million	-	5.63 million
2006	4.50 million	-	4.50 million
2007	2.29 million	2.27 million	4.56 million
2008	6.78 million	5.26 million	12.04 million
2009	5.65 million	6.73 million	12.38 million
2010 (end of LUTP)	6.78 million	5.98 million	12.76 million
2011 (start of LUTP2)	-	6.32 million	6.32 million
2012	5.90 million	6.17 million	12.07 million
2013	7.11 million	7.45 million	14.56 million
2014	6.3 million	8.29 million	14.68 million

Therefore, a major part of the funding of LAMATA's operations can be attributed to the Transport Fund. In 2009, when the Transport Fund's contribution exceeded that of Lagos State for the first time, LAMATA was already able to meet 60 percent of its operational funding requirements itself. The role of the Transport Fund is often underlined to express the need for LAMATA to be financially autonomous.

3.7 Organizing a private sector intervention framework

3.7.1 Professionalization of paratransit transport services and modernization of the fleet of vehicles

Several initiatives are currently underway in certain countries with a view to professionalizing paratransit in order to improve the services offered to residents. The program conducted in Dakar in the 2000s is used as a point of reference in the sub-region. Led by the public transport authority – the Executive Council of Urban Transport in Dakar (CETUD) – the program made it possible to renew a fleet of extremely outdated vehicles and better organize the city's informal transport operators. The network was restructured to improve its performance in terms of providing regional services and the frequency of those services without neglecting the issue of ensuring the financial sustainability of the initiative for the operators. Though not yet perfect, the initiative has made it possible to improve service and to protect the health of professionals in the sector, not to mention the program's very satisfactory economic and financial profitability (repayment rate of almost 99%). This type of program has recently been launched in another format in Bamako, targeting the drivers of Sotrama minibuses (see Box 22). However, it could also be introduced in other towns and cities where it could target drivers of shared taxis.

Box 22: The Sotrama renewal program in Bamako: professionalizing the sector as part of a public-private partnership

Since independence, institutional public transport companies in Bamako – both publicly and privately owned – have experienced repeated failures and none of them have been able to remain operational over the long term. If they were not simply liquidated, they migrated towards intercity transport, allowing the paratransit sector to gradually make its presence felt.

The offer of public transport services in the Mali capital is therefore limited to the informal operation of 18 to 22-seat minibuses known as Sotramas, a name[52] taken from one of the country's short-lived institutional transport companies. Drawing on the Dakar model, the Ministry of Transport and Urban Mobility (MTMU) has initiated a program to professionalize these informal actors which is supported by a renewal of the fleet of vehicles that will allow their role to be defined within a modern and tiered public transport network.

The aim is to migrate from an informal management of micro companies to an organization formed around cooperatives or economic interest groups which operate on networks that are contracted out by government agencies based on a public service delegation approach. Operation of the hundreds of current lines will be reorganized, and the offer will be adjusted to include more comfortable and larger vehicles with seating/standing capacity totaling 45 persons. A reform of the legal, financial and institutional framework will make it possible to ensure the success of the operation both from the point of view of the quality of the service and in terms of economic and financial considerations.

On 1 March 2019, the Mali government concluded an agreement with an industrial and financial partner with the aim of renewing approx. 3,000 Sotramas before 2025, based on a model comparable to the one set up by the Senegalese government almost 20 years ago when implementing a similar policy in Dakar and other towns and cities. To meet the objective of creating employment, this partnership stipulates that the vehicles will be assembled in Mali. In addition, the industrial partner is committed to ensuring the availability of replacement parts and to organizing an after-sales service to enable efficient preventive maintenance and repair of the vehicles.

[52] The "Société des Transports du Mali" (SOTRAMA) *[in English: the Mali Transport Company]* which was created in 1978, had been unable to increase its vehicle fleet as planned and so, in order to honor its commitment to do so, the company managers came up with the idea of allowing independent informal owner-drivers to use the company branding subject to payment of a daily membership fee of 1,000 FCFA. This then allowed drivers of "chartered" minibuses to operate services on network lines contracted out to them in complete legality. This is the meaning behind the term "Sotrama" which come to designate any minibus vehicle intended for urban transport.

3.7.2 Contracting schemes for operating public transport, etc.

The improvement of institutional transport services, particularly through the development of mass transport infrastructures, requires the provision of a clear intervention framework for the operator. This framework must make it possible for the operator to have revenues that are appropriate for maintaining the desired level of service over time, even while assuming the industrial and commercial risk of operation. By means of a defined operating contract based on performance indicators, it could be possible to develop a quality service while controlling public expenditure.

This contractual framework does not necessarily imply resorting to private companies to operate the public transport network – although that still remains an option to be considered if the market permits. With the help of public service contracts (Box 23), the delegating authorities can rely on existing public companies. By means of service or management contracts, these companies can also benefit from the technical expertise of international operators who are often reluctant to invest in the markets in question.

Box 23: Feedback about the implementation of public service contracts in emerging economies

Public Service Contracts (PSCs) have been implemented to improve the performance of public services in the many countries where the authorities had not opted to delegate these services to the private sector. This approach has been particularly encouraged in the former socialist countries where the authorities remain attached to public service management. One of the donors, the European Bank for Reconstruction and Development (EBRD), promotes PSCs among its municipal clients in the European Union, Central Asia and Caucasus.

PSCs have made a significant contribution to improving the services, by defining:

- A working environment with long-term stability which is necessary to offer the most efficient transport services possible, by including:
  - all costs related to the service provided throughout the duration of the contract
  - operational parameters and performance targets
  - a pricing system and the organization of invoicing and revenue collection
  - a basis for indexing variable costs throughout the duration of the contract (wages, consumer prices, energy expenses, etc.)
  - the municipality's obligations to provide quality services
- The tasks and responsibilities of both parties
- The advantages for the authorities:
  - a clear definition of the public transport service provided
  - fixed budgets for public transport
  - a price-quality ratio for transport operations
- The benefits to the operator:
  - a clear definition of the operator remuneration modes
  - long-term planning guaranteeing payments over a given period
  - the reduction of political interference in the daily management and operations
  - access to loans for investment funding
  - transparency and increased financial stability.

3.7.3 Mobilization of start-ups

There is great potential for developing the digital economy in African countries. The necessary skills are available locally and several companies are already emerging on the continent that are developing taxi or motorbike taxi services through an app. This is the case, for example, with Teliman in Bamako, GoZem in Cotonou, and OléTogo Lomé.

These apps, which are easily attracting an audience, can play an important role in professionalizing and organizing the sector. In addition, they can also reduce tax evasion once tickets are paid for electronically. Therefore, it is important that the public authorities adapt their system to encourage the development of these new services.

3.7.4 Development of a transport industry (vehicle assembly unit)

A country's transport policy is often linked to its industrial policy. This is not currently the case in the countries in question. The cycle and motorbike industries which were able to exist back in the 1980s in Burkina Faso have virtually all disappeared to the benefit of imported Asian motorbikes. However, through the establishment of an urban mobility policy, it is possible to encourage the emergence of an industrial fabric that creates jobs and can meet the strategic objectives of mobility.

3.8 Specific responses to environmental, health and social consequences

3.8.1 Road worthiness testing of vehicles in circulation

The countries in the study each have their own motorized vehicle road worthiness testing centers (CCVA) which have become veritable institutions, and the tests conducted are now anchored in the practices of many motorists. However, there is still considerable room for improvement. In each country a non-negligible share of vehicle drivers do not comply with the frequency of the tests; motorbikes are generally exempted from any procedures, and no air pollution measurement systems have been put in place. The countries also lack procedures for receiving imported vehicles. Developing such procedures could allow the CCVAs to play an even more significant role in enforcing safety and air pollution standards.

3.8.2 Road safety policies

In recent years, road safety policies have been defined in the various countries and implemented by specialized agencies, but not all of these policies have been equally successful. The policy conducted in Benin (see Box 24) has been particularly successful. National urban mobility policies must be able to link up with road safety policies as much as possible in order to rapidly improve travel conditions in urban areas.

Box 24: Road safety in Benin

Like other countries in the region, Benin has a very high road accident rate with nearly 6,000 accidents in 2015, i.e. approx. 16 a day. These accidents were caused by failure to comply with traffic regulations, the dilapidated state of the fleet, the high number of heavy goods vehicles, the poor state of the roads and the lack of lighting and signals. In addition, the medical and emergency services have limited resources, which also increases the mortality rate in the event of an accident. Vulnerable users – pedestrians and motorbike riders – are the most affected.

Figure 39: Key figures relating to accidents in Benin in 2015

Source: National Center for Road Safety.

The National Center for Road Safety (CNSR) directs the national policy on the subject. During the early 2010s, substantial annual reductions in accident rates were observed thanks, for example, to the strong mobilization and awareness-raising of civil society, to studies and training, and also to the action of the police forces which played a critical role, including in the systematic collection of data.

At the time, considerable improvements in user behavior were observed: increased use of seat belts and wearing of helmets by users of motorized two-wheelers. It was only passengers of motorbike taxis that did not comply with the safety rules.

To further reduce the rate of accidents, morbidity and mortality, it was deemed necessary to change from a set of single initiatives to an integrated and systemic approach. Therefore, a 2019 – 2030 National Road Safety Policy (PNSR) was drawn up in Benin and approved with the technical and financial support of Handicap International / Humanity & Inclusion (HI). This policy focusses on six areas:

- Strengthening the decision-making and executive bodies
- Strengthening the strategic management of services in all areas of road safety
- Promoting a secure technical environment from the design to the construction of infrastructures and equipment
- Strengthening a culture of road safety behavior
- Improving care for victims of road accidents
- Developing a partnership with the private sector and NGOs to increase resources for road safety.

Conclusion

Mali, Burkina Faso, Togo and Benin are all faced with the same challenges: an explosion in the demand for mobility in a context of rapidly growing urban populations and limited economic growth. The towns and cities are evolving quickly, driven by the sum of individual choices, without urban planning having a strong impact on how they are structured. The motorbike is becoming the dominant mode of transport, and urban mobility is tending to become inefficient, unequal, polluting and dangerous.

By following an ad hoc scenario, governments risk forcing their towns and cities down an unsustainable trajectory, causing difficulties for the urban population and reducing the economic attractiveness of the capital cities. As the mobility crisis starts to take hold in these metropolitan areas, urgent action is needed to build momentum for the shift in national urban mobility policy to a multimodal, equitable, safe, accessible and less polluting.

The national governments and certain local authorities have already undertaken initiatives in this respect. However, if they are conducted in isolation without a long-term vision, they are likely to be ineffective. It is therefore essential to define a national policy that encompasses all the components of urban mobility, to bring all the players involved together, and to provide them with the means to bring about change. The work carried out with the support of the SSATP has made it possible to support the governments in defining such a strategy.

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Annexes

Annexe 1 : Recommendations for the policy for sustainable accessibility and mobility in cities of Mali

EASI	Thème	Recommandation	Echelle	Qui ? *Quelle institution pour piloter la mise en œuvre ?*	Avec qui ? *Quelle institution es impliquée / consultée ?*	Comment ? *Comment mettre en œuvre ?* *Quelle est la prochaine étape ?*
Enable	Gouvernance	Définir une politique de mobilité urbaine et actualiser les cadres législatif et règlementaire pour la mettre en œuvre	National	Ministère en charge de la mobilité urbaine, DNTTMF	MATD Collectivités territoriales ADR SMIB	_ Elaborer la lettre de politique du secteur des transports _ Elaborer la lettre de politique des déplacements urbains pour Bamako _ Elaborer des directives nationales pour les villes secondaires _ Conséquemment, actualiser les dispositions législatives (loi d'orientation) et les décrets et arrêtés d'application
Enable	Financement	Etablir des mécanismes de financement pérenne pour la mobilité urbaine	National	Ministère en charge de la mobilité urbaine, DNTTMF	MEF MIE	_ Réaliser une étude sur le financement des services de transport, notamment en ce qui concerne la gouvernance

Enable	Planification multimodale	Redynamiser l'Observatoire des Transports afin de doter le ministère d'un appareil statistique fiable sur la mobilité urbaine	National	Ministère en charge de la mobilité urbaine, DNTTMF	SMIB DRCTU ADR	_ Octroyer les moyens nécessaires pour mener à bien sa mission _ Elargir le champ de l'Observatoire des Transports pour étudier la Mobilité (il s'agirait ainsi de disposer de données sur la demande de déplacement, les modes actifs, etc.) _ Identifier pour chaque ville les dates des dernières campagnes de comptages et enquêtes statistiquement significatifs et analyser les éventuelles mises à jour ad hoc qui auraient pu être faites _ Définir le type de données à collecter en priorité et lancer des campagnes de collecte de données dès que les opportunités inhérentes se présentent _ Veiller à ce que les données produites par ailleurs soient disponibles pour l'Observatoire des Transports
Enable	Gouvernance	Créer une Autorité Organisatrice de la Mobilité Urbaine pour le Grand Bamako en institutionnalisant le GTMU	Bamako	Ministère en charge de la mobilité urbaine, GTMU	SMIB District de Bamako	_ Définir le fonctionnement de cette AOMU, notamment son modèle de gouvernance _ Réaliser une étude sur les responsabilités pouvant être dévolues à une telle autorité en indiquant les attentes des différents acteurs en ce qui concerne les aspects stratégiques et tactiques _ Elaborer une feuille de route présentant une évolution progressive de l'AOMU en commençant par une instance technique sous la tutelle du « Grand Bamako » et qui monte en puissance

						_ Inclure dès le début des responsabilités sur les modes actifs (marche à pied notamment)
Enable	Gouvernance	Doter les villes secondaires de groupe de travail sur la mobilité urbaine entre collectivités territoriales et état pour une meilleure gouvernance de la mobilité urbaine	Villes secondaires	Ministère en charge de la mobilité urbaine, DNTTMF	Collectivités territoriales ADR *Intercommunalités, quand elles seront créées*	_ S'appuyer sur les ressources du MTMU d'une part et les services techniques des collectivités locales d'autres part _ Définir une feuille de route progressive qui, en lien avec le processus de décentralisation, permettra à un développement de capacités au sein des communes des villes secondaires
Enable	Société civile	Etablir un cadre de concertation sur la mobilité urbaine entre les institutions et les comités de développement des quartiers de Bamako	Bamako	SMIB	Municipalités, District de Bamako, DNTTMF, CADD, MIE, ADR, DNFPCT, OCB, RECOMA, ASCOMA	_ S'appuyer sur des liens déjà créés pour d'autres politiques publiques pour amorcer une dynamique de concertation et de consultation permettant aux habitants de s'organiser pour donner leur avis sur les enjeux de la mobilité urbaine _ Passer progressivement de projets d'information à des projets de concertation pour réussir une appropriation des projets et enjeux par les habitants
Avoid	Planification multimodale	Intégrer une planification stratégique de la mobilité urbaine dans les Schémas Directeurs	National	MHULS	MATD Collectivités territoriales DNTTMF ADR	_ Evaluer les démarches de planification précédentes _ Lancer un programme pour mettre à jour les Schémas Directeurs d'Urbanisme, notamment en identifiant les territoires fonctionnels des villes, en s'appuyant sur

		d'Urbanisme et lancer des démarches de planification de la mobilité urbaine				des experts locaux pour accompagner la définition des termes de référence de ces plans et en encourageant dès le début du processus la participation de la société civile dans l'identification des besoins _ Lancer des démarches de Plans de Mobilité Urbaine Soutenable à Bamako et dans une ou plusieurs autres grandes villes du pays _ Lancer dans une ou deux villes une étude exhaustive sur le stationnement dans les centres-villes et étudier les possibilités de mise en place de nouvelles formes de stationnement payants dans les centres-villes
Shift	Planification multimodale	Développer des projets d'amélioration des conditions de déplacement à pied et mener des campagnes valorisant la marche à pied	National	Ministère en charge de la mobilité urbaine, DNTTMF avec CADD et GTMU	Collectivités territoriales ADR DNR AGEROUTE DNU	_ Libérer les espaces dédiés aux déplacements piétons et faciliter les traversées piétonnes grâce à des sites de démonstration et des mesures pilotes _ Définir de standards d'aménagement des trottoirs dans le cadre de nouvelles infrastructures routières _ Créer de passages piétons visibles et sécurisés (potentiellement avec des ralentisseurs, des ilots centraux, des feux de circulation, etc. _ Lancer des campagnes d'information, d'éducation et de communication (prospectus et/ou espaces à la télévision) sur les enjeux de sécurité routière autour des modes actifs _ Valoriser ce mode avec l'implication des

						plus hauts responsables afin de le débarrasser de l'étiquette de "mode pour les pauvres" _ Réaliser des événements comme des "journées sans voiture" ou "journées des piétons" sur des lieux emblématiques comme l'anneau Sotrama (à Bamako), le Mont Koulouba ou autour du marché des villes
Shift	Transport public	Mettre en place un réseau de transport capacitaire intégrant les services de minibus en place dans l'agglomération de Bamako	Bamako	Ministère en charge de la mobilité urbaine, GTMU	DNTTMF District de Bamako SMIB Organisations professionnelles	_ Réaliser une étude de faisabilité concernant le développement de lignes de transport de masse (en s'appuyant sur les pré-études réalisées dans le cadre du Métrobus, du projet porté par la Mairie du District, etc.) _ Mener une étude de restructuration globale du réseau de minibus qui pourra être mise en œuvre en même temps que le programme de professionnalisation et de renouvellement du parc de minibus _ Investir dans la restructuration des gares routières _ Réaliser une étude détaillée d'un réseau de transport intégré combinant tous les modes admis pour la capitale (transport de masse, bus, minibus, taxis, etc.)

Shift	Transport public	Etudier les possibilités techniques et financières de développer un réseau de transport fluvial	Bamako	COMANAV	DNTTMF GTMU SMIB	_ Réaliser une étude de faisabilité en tenant compte de l'étude de faisabilité du projet d'aménagement urbain des berges du fleuve Niger à Bamako et de la composante transport fluviale de l'étude envisagée du SDU du Grand Bamako _ Mettre en place un cadre de concertation avec les communautés qui travaillent sur le fleuve _ Elaborer une règlementation relative au transport fluvial
Shift	Transport public	Développer des réseaux de minibus dans les villes secondaires structurés autour des axes principaux	Villes secondaires	Ministère en charge de la mobilité urbaine, GTMU	DNTTMF ADR Organisations professionnelles	_ Limiter le développement des systèmes actuels fondés sur une concurrence exacerbée et une logique de rentabilité individuelle en suspendant la délivrance de nouvelles autorisations de transport _ Etudier la faisabilité de projets de professionnalisation des acteurs dans quelques villes en s'intéressant notamment au modèle économique des différents modes de transport utilisés
Shift	Planification multimodale	Evaluer les initiatives du GTMU pour pérenniser les solutions de gestion des flux motorisés entre les deux rives	Bamako	Ministère en charge de la mobilité urbaine, Observatoire de la Mobilité	GTMU Collectivités territoriales	_ Donner les moyens humains, matériels et financiers à l'Observatoire des Transports pour lancer des études _ Mettre en place, au sein de l'Observatoire des Transports, un comité de suivi et d'analyse des initiatives du GTMU lancées en aout 2019 _ Pérenniser l'action du GTMU et la coordonner avec une étude sur l'analyse

						des flux motorisés à Bamako _ Lancer des analyses de flux entre la Rive Droite et la Rive Gauche en heure de pointe _ Revoir les priorités pour les transports collectifs _ Etudier et dégager des perspectives pour l'anneau "Sotrama" _ Revoir la signalétique en place _ Lancer une étude sur le transport de marchandises _ Elaborer un plan de circulation générale et le mettre en œuvre.
Improve	Transport public	Amorcer un processus de renouvellement du parc des véhicules de transport public artisanal par minibus de Bamako en s'appuyant sur les syndicats et organisations en place	Bamako	Ministère en charge de la mobilité urbaine, GTMU	DNTTMF District de Bamako SMIB ADR Organisations professionnelles	_ Suspendre la délivrance de nouvelles autorisations de transport _ Disposer d'un inventaire clair sur la quantité de véhicules, leur type ainsi que leur âge _ Réaliser une étude de faisabilité d'un programme de renouvellement des minibus qui soit basée sur une analyse du modèle économique des opérateurs _ Créer des espaces de discussion entre les acteurs institutionnels et les acteurs privés _ Mettre en place la réglementation nécessaire pour créer des incitations et des contraintes
Improve	Planification multimodale	Etablir une stratégie nationale spécifique vis-à-vis	National	Ministère en charge de la mobilité	ADR	_ Considérer à la fois la circulation en deux et trois-roues, leur stationnement sur voirie et dans des parcs spécifiques et les enjeux de sécurité routière _ Etudier la politique industrielle et la

		des motos et des tricycles		urbaine, DNTTMF		politique d'importation vis-à-vis de ces véhicules (relever les taxes sur les motos, etc.) _ Définir une réglementation concernant les services de mototaxis en limitant leur couverture territoriale aux zones où ses services sont pertinents et en veillant strictement au respect des règles de sécurité routière
Improve	Gouvernance	Proposer une réglementation distinguant les services de taxi à la demande et ceux de taxi collectif afin de moderniser les services de taxis	National	Ministère en charge de la mobilité urbaine, DNTTMF	ADR Organsations professionnelles OCB District de Bamako SMIB	_ Dresser un bilan de la situation des taxis actuels dans Bamako et une ville secondaire pilote _ Accompagner les acteurs dans un processus de professionnalisation distincte pour chaque catégorie : taxis à la demande et taxis collectifs _ Développer une réglementation adaptée qui place ces services en complémentarité du réseau de transport public (par minibus, bus et à terme, transport de masse) _ Inciter à la création de compagnies modernes de taxis destinés à une catégorie sociale capable de payer des tarifs plus chers pour un meilleur service en termes de confort, de sécurité et de rapidité _ S'appuyer sur de nouvelles technologies (applications de réservation en ligne, etc.) pour garantir la rentabilité des services

Improve	Environnement et qualité de vie	Améliorer la qualité des carburants et encourager l'utilisation de véhicules moins polluants	National	Ministère en charge de la mobilité urbaine, DNTTMF	MEADD MIE	_ Restreindre l'utilisation de carburants de mauvaise qualité pour les transports de passagers en contrôlant la distribution et réalisant des contrôles techniques périodiques _ Interdire l'importation des motos avec des moteurs deux-temps (Djakarta) _ Fixer des limites d'âge pour l'utilisation des véhicules de transport collectif _ Définir un âge limite des véhicules importés d'occasion (à 5 ou 8 ans si l'on prend exemple sur les pays voisins) _ Mettre en place des stations de mesure de la qualité de l'air _ Installer des centres modernes de contrôles techniques permettant de contrôler les performances des véhicules automobiles

Annexe 2 : Recommendations for the policy for sustainable accessibility and mobility in cities of Burkina Faso

EASI	Thème	Recommandation	Echelle	Qui ? *Quelle institution pour piloter la mise en œuvre ?*	Avec qui ? *Quelle institution es impliquée / consultée ?*	Comment ? *Comment mettre en œuvre ?* *Quelle est la prochaine étape ?*
A. Enable	1. Efficience de la Gouvernance	Créer un comité de coordination interministérielle sur la mobilité urbaine	Nationale	MTMUSR/DGMU	Ministère de l'Habitat et de l'Urbanisme (MUH) Ministère des Infrastructures (MI) Ministère de l'Environnement, de l'Economie Verte et du Changement Climatique (MEEVCC) Ministère de l'Economie, des Finances et du Développement (MINEFID) Ministère de l'Administration Territoriale, de la Décentralisation	_ Renforcer la coordination interministérielle et le rôle stratégique du MTMUSR _ Créer un Comité Interministériel de suivi sous l'égide du Premier Ministre et piloté par le MTMUSR _ Confier à ce comité le suivi de la politique nationale de mobilité urbaine et la vérification de sa concordance avec les autres politiques nationales, ainsi que les engagements internationaux de l'Etat dans les négociations relatives au changement climatique, notamment. _ Organiser des réunions régulières (2 à 4 par an) _Organiser des Comités techniques pour mettre en œuvre les décisions du Comité Interministériel

					et de la Cohésion Sociale (MATD)	
A. Enable	1. Efficience de la Gouvernance	Parachever la création du Conseil des Transports du Grand Ouaga (CTGO), Autorité Organisatrice des Transports Urbains de la capitale	Ouagadougou	Commune de Ouagadougou	autres communes du grand Ouaga MTMUSR/DG MU MUH MI MEEVCC MATD MINEFID SOTRACO ONEA	_Entériner sa création et ses fonctions via le cadre législatif et réglementaire _ Définir ses ressources financières et humaines qui doivent être pérennes _ Mettre en place une procédure de présentation au CTGO pour avis de non-objection des projets, pour toute intervention sur le périmètre du Grand Ouaga par des maîtres d'ouvrage, afin de s'assurer de leur cohérence avec la politique locale portée par le CTGO

A. Enable	1. Efficience de la Gouvernance	Favoriser la création d'un Comité de Coordination de la Mobilité Urbaine (CCMU) dans les communes chefs-lieux de région	Régionale	Communes chefs-lieux de région avec le soutien de MTMUSR/DGMU	Les directions régionales des Transports, des Infrastructures, de l'Urbanisme, de l'Éducation Nationale et de l'Environnement ONEA Police Nationale	_ A l'initiative de la commune, créer un CCMU instaurer un dialogue entre les maîtres d'ouvrages pour tout projet de création, réaménagement de voiries, etc. _ Organiser des rencontres régulières (4 par an) pour présenter la mise en oeuvre des documents de planification, des nouveaux cadres réglementaires, des projets d'infrastructures sur le territoire concerné, etc. _ Offrir un cadre de dialogue entre les collectivités locales, les délégations ministérielles sur le territoire, les maîtres d'ouvrage nationaux _ Le CCMU aura la responsabilité d'organiser le dialogue avec la société civile locale. Le CCMU définira ainsi le degré de participation de la société civile à la planification de la mobilité urbaine

A. Enable	1. Efficience de la Gouvernance	Renforcer les capacités de la DG MU au sein du MTMUSR et des autres acteurs concernés	Nationale	MTMUSR/DG MU	MINEFID	_ Doter le MTMUSR d'un appareil de suivi statistique qui comprend une cellule SIG qui sera mis à profit des communes dans leurs actions _ Réaliser des enquêtes ménages déplacements à Ouagadougou et Bobo-Dioulasso pour disposer de données sur les pratiques de déplacement, collectées selon des méthodologies internationales. _ Construire une base de données nationales, au rythme de la collecte de ces données _ Permettre la réalisation de guides méthodologiques par la DG MU pour rendre plus opérationnels les textes (lois, décrets, etc.) relatifs à la mobilité urbaine (aménagement de voirie, gestion de la circulation, organisation des transports, etc.). Ces documents seraient destinés aux fonctionnaires centraux et territoriaux _ Financer la réalisation d'études copilotés par la DG MU et les communes sur des thématiques nationales ou locales permettant d'enrichir la connaissance des acteurs nationaux sur des problématiques particulières. _ Mettre en place des formations à destination des collectivités locales et des autres ministères _ Développer des partenariats avec les universités pour enrichir l'analyse des données collectées _ Créer un service de documentation et d'archivage interne à la DGMU et renforcer la collaboration avec la DAD
A. Enable	1. Efficience de la Gouvernance	Développer des filières professionnelles etuniversitaires sur les métiers de	Nationale	MTMUSR	MINEFID MI MESRSI	_ Evaluer les besoins de formation des différents métiers de la mobilité urbaine (ingénieurs, cadres administratifs, conducteurs, mécaniciens, informaticiens…). _ Etudier la possibilité de créer un centre de formation technique national dédié aux métiers du transport et de la mobilité urbaine (voirie, circulation, stationnement, transport public, etc.).

		la mobilité urbaine				_ Réaliser un inventaire des cursus nationaux existants. _ Développer une filière Mobilité Urbaine au sein de l'ENTP _ Encourager les échanges et renforcer les liens et les relations entre les professionnels de la mobilité urbaine et les chercheurs et universitaires afin de favoriser une contribution du secteur professionnel à la recherche. La création d'un laboratoire de recherche sur la mobilité urbaine devra être étudié par le MTMUSR en association avec le MESRSI.
A. Enable	1. Efficience de la Gouvernance	Permettre un meilleur recouvrement de la fiscalité locale et créer des mécanismes de financement nationaux destinés à la mobilité urbaine	Nationale	MTMUSR/DGMU Communes chefs-lieux de région	CCIM AOT MI MINEFID	_Accroître le budget destiné à la mobilité urbaine en redistribuant l'allocation des ressources entre investissement routier et mobilité urbaine notamment _Améliorer le recouvrement de la fiscalité locale pour accroître le rendement de différentes taxes dont le produit est destiné aux budgets des collectivités locales (utilisation du domaine public, taxe sur la publicité, taxe sur le stationnement, TVM, etc.). Les communes pourraient ainsi augmenter leurs ressources afin d'investir et/ou gérer la mobilité urbaine. _ Etudier le rendement de différents mécanismes fiscaux pour lever de nouvelles recettes à travers: -La mise en place d'une nouvelle taxe sur les cartes grises ou sur -L'extension de la Taxe sur les Véhicules à Moteur (TVM) aux motos
B. Avoid	2. Efficiance de l'usage des sols	Consolider le processus de mise en œuvre et d'évaluation des schémas directeurs d'aménagement	National	Communes chefs-lieux de région	MTMUSR MUH MI	_ Renforcer les compétences et les ressources aussi bien financières que techniques de ces structures afin de consolider le processus de mise en oeuvre et d'évaluation des SDAU _ Accompagner les différents services des communes chefs-lieux de région dans la mise en oeuvre des SDAU à travers l'apport d'une expertise multi-sectorielle permettant notamment de mieux saisir les enjeux

		et d'urbanisme (SDAU)				
B. Avoid	2. Efficiance de l'usage des sols	Mettre en place un mécanisme de taxation basé sur la valorisation foncière	Nationale	MUH MINEFID	MTMUSR MI	_ Documenter la valorisation foncière constatée le long de nouveaux axes bitumés et étudier la mise en place de taxes spécifiques liées au bitumage de voiries, telles qu'une majoration des droits de mutation après la réalisation d'une rue couverte, une surtaxe sur les revenus fonciers, etc. Il conviendra d'impliquer le MTMUSR et la commune de Ouagadougou qui pourra constituer un terrain d'expérimentation pour cette taxation, notamment dans le cadre du projet « 145 km de voirie ». _ Etudier la possible captation de la valorisation foncière le long des corridors de transport public. A cette fin, il s'agira : - d'inventorier les terrains de propriété publique le long des axes de transport de masse prévu à moyen terme pour relier les pôles secondaires et le centre-ville. - d'étudier la possibilité de réaliser des opérations immobilières permettant une valorisation foncière de ces terrains publics. _ Mettre en place une taxe sur le foncier non bâti
B. Avoid	2. Efficiance de l'usage des sols	Définir un cadre pour la mise en œuvre de politiques locales de stationnement	Régionale	Communes de Ouagadougou et de Bobo-Dioulasso	MTMUSR Police Municipale	_ Conduire une étude sur le stationnement des voitures, des taxis et des motos dans le centre-ville de Ouagadougou. Celle-ci permettra de déterminer les besoins en stationnement, d'évaluer la faisabilité de la mise en place de parc de stationnement hors voirie, de définir les tarifs de stationnement selon les zones concernées et de réglementer par la suite le stationnement sur voirie par la prise d'arrêtés et par de la matérialisation des espaces dédiés sur voirie. _ Etudier la modernisation de la collecte des recettes de stationnement des parkings municipaux à travers un système digital dans un périmètre spécifique au centre de l'agglomération ainsi que la délégation de la gestion du

						stationnement à des acteurs privés. _ Etudier la définition et la mise en place d'aires de stationnement destinées aux gros porteurs et aux bus à Bobo-Dioulasso ainsi que la construction de gares routières sur des formats de concession, afin de bénéficier d'investissement privé.
C.Shift	3. Efficience du système de transport multimodal	Améliorer la gestion de la circulation et de la régulation à Ouagadougou et dans les capitales régionales en favorisant une meilleure cohabitation entre les modes	National	Communes MTMUSR	AOTUO MI Commune SOTRACO	_ Mettre à jour le plan de circulation. à Ouagadougou prévoyant l'insertion de voies de bus sur certains axes _ Affiner la stratégie de régulation lumineuse tricolore et en organiser une gestion centralisée _ Déployer du marquage au sol et de la signalisation verticale. _ Capitaliser sur le savoir-faire développé et l'expérience acquise à Ouagadougou4, à travers notamment des sessions de formation organisées par la DGMU à destination des agents en charge de la voirie et de la mobilité au sein des communes chefs-lieux de région _ Définir au niveau local une hiérarchisation de la voirie et un schéma de couverture du réseau primaire répondant à une vision stratégique _ Planifier l'entretien de la voirie communale et l'amélioration des conditions de circulation sur le réseau de voirie secondaire _ Offrir une assistance technique aux communes chefs-lieux de région désireuses de conduire une étude de circulation dans leur périmètre communal ou de définir un plan de circulation _ Renforcer la communication sur les textes réglementaires et leur vulgarisation. _ Définir des profils de voirie et de géométrie de carrefours-types, et de leurs variantes pour offrir un cadre de référence national sur la base du travail déjà réalisé par la commune de Ouagadougou

C. Shift	3. Efficience du système de transport multimodal	Réaliser des aménagements en faveur des bus sur certains axes majeurs dans les villes disposant de services de transport public.	Communes	Communes AOT	MTMUSR MI SOTRACO Syndicats de taxi CCMU	_ Réserver des voies de circulation aux bus sur les axes majeurs et d'intégrer des aménagements en faveur du transport public dans le cadre de nouveaux projets routiers. _ Acquérir et déployer un système de régulation lumineuse permettant de donner la priorité aux bus aux carrefours à feux ainsi qu'un système de signalisation horizontale et verticale _ Intégrer dans la planification la réalisation de pôles d'échanges multimodaux (PEM pour favoriser le rabattement des piétons, cyclistes, motocyclistes…) vers les transports en commun. Des espaces de stationnement aussi bien pour les automobiles que les motos et les vélos devront être aménagés au sein de ces PEM. _ Prévoir des aires de stationnement et de retournement pour les bus afin de réduire les kilomètres haut-le-pied réduisant de fait les coûts d'exploitation et de maintenance. _ Aménager des arrêts de bus pour les usagers garantissant à la fois des montées/descentes sécurisées et des conditions d'attente satisfaisantes (abri-voyageurs, système d'information voyageurs, aménagements en faveur des personnes à mobilités réduites…). _ Adapter le cadre réglementaire pour contrôler le stationnement illicite sur les zones d'arrêts de bus et les voies de bus.
C. Shift	3. Efficience du système de transport multimodal	Redéfinir le mode de contractualisation de l'opérateur de transport public	National	MTMUSR	SOTRACO CTGO Communes	_ Redéfinir le contrat de l'opérateur de transport public autour d'objectifs pluriannuels sur la base d'indicateurs de performance et d'une rémunération au juste coût. _ Définir la subvention annuelle sur la base d'une production kilométrique, d'un nombre de véhicules en circulation, etc. _ Définir des objectifs de fréquentation pour les publics spécifiques pour lesquels des tarifs sociaux sont destinés. _ Améliorer la qualité de service pour amener une évolution de

						tarif permettant à la SOTRACO de réduire son déficit d'exploitation
C. Shift	3. Efficience du système de transport multimodal	Organiser et professionnaliser les services de transport artisanal (taxis collectifs, tricycles, etc.)	National	MTMUSR/DGMU	Syndicats des taxis et des tricycles Communes Police Municipale	_ Emettre une réglementation spécifique à la professionnalisation des acteurs du secteur du transport artisanal et à mettre en oeuvre un programme de professionnalisation (formations, voyages d'études, mutuelle, permis, carte professionnelle, etc.) afin de favoriser leur organisation en Groupement d'Intérêt Economique (GIE) ou en coopératives, etc.. _ Mettre en place un programme de renouvellement du parc de véhicules de taxis - aujourd'hui vieillissant et généralement utilisant illégalement du gaz butane _ Favoriser la mise en place de zones de stationnement et de chargement et définir des zones de restriction de circulation sur la base d'une étude du modèle économique des taxis _ Appliquer plus strictement le décret n° 2012-559 ou l'adapter à partir d'une analyse de la situation dans les différentes villes du pays, particulièrement à Bobo Dioulasso où les tricycles prolifèrent à l'encontre du décret qui interdit leur exploitation à titre onéreux _ Etudier les enjeux de sécurité routière et l'impact social de ces services de tricycles (une majorité de femmes utilise ces services). _ Maintenir fermement l'interdiction des moto- taxis (2-roues) à Ouagadougou et à Bobo-Dioulasso et d'encourager les autres communes urbaines à bien organiser les services de mototaxis,

						en prenant notamment exemple sur la commune de Fada N'gourma qui a mis en place un dispositif particulier. _ Vérifier l'application de la réglementation par la police municipale.
B. Avoid	4. Efficience de l'usage de la voirie et des véhicules	Valoriser et sensibiliser à l'usage des modes actifs et standardiser les aménagements en leur faveur sur l'espace public	National	MTMUSR/DGMU	MI MUH Ministère des Sports et Loisirs Communes Acteurs de la société civile	_ Mener des campagnes de valorisation de l'usage de la marche et du vélo, notamment sur les campus, les grandes écoles, les lycées et les collèges ainsi que dans les villes de l'intérieur où l'usage des modes actifs est resté plus important _ Elaborer une charte de l'espace public redéfinissant les principes le régissant _ Développer un outil de standardisation des aménagements urbains et de voirie prenant en compte les modes actifs afin de les sécuriser (trottoirs, pistes cyclables, bandes cyclables, traversées piétonnes, phase piétonne aux carrefours à feux « appelées » à l'aide de boutons poussoirs…). _ Mener des campagnes de sensibilisation à la cohabitation sur la voirie et à la vulnérabilité des usagers des modes _ Mieux valoriser l'usage de vélos à travers la mise à disposition

						d'équipement (parkings abrités et gratuits, etc.) notamment pour faciliter la gestion du dernier kilomètre depuis les arrêts de transport en commun, de taxi-collectifs et depuis les gares routières
A. Enable	4. Efficience de l'usage de la voirie et des véhicules	Définir une stratégie industrielle et d'indépendance de véhicules qui réduise la dépendance énergétique du système de transport burkinabè	National	MTMUSR	MEEVCC MINEFID CCVA	_ Redéfinir la nomenclatuire des genres et carrosseries des véhicules en fonction du gabarit, de la cylindrée, de la source d'énergie, des niveaux d'émissions, etc. et en accordance avec une politique nationale de réduction des dépenses énergétiques et d'amélioration de la qualité de l'air. _ Limiter l'age d'importation des véhicules. _ Suggérer un système de taxation des véhicules basés sur leurs performances énergétiques aux autres pays membres de l'UEMOA _ Etudier la faisabilité de la création d'une industrie du vélo et du vélo électrique qui puisse à terme être préféré aux deux-roues et trois-roues motorisés, importés, actuels. En développant une telle industrie, le Burkina Faso pourra générer des emplois et développer ses capacités exportatrices vers les pays voisins.

D. Improve	4. Efficience de l'usage de la voirie et des véhicules	Définir et mettre en œuvre une stratégie nationale ambitieuse pour la sécurité routière	National	DGMU ONASER	CCIM Police Communes Institutions du système de santé publique Associations Compagnies d'assurance	_ Définir une stratégie nationale de sécurité routière, comportant un volet spécifique sur les accidents en zone urbaine au plus haut niveau de l'Etat en s'appuyant sur un cadre législatif et réglementaire opérationnel puis la mettre en œuvre. _ Valider au Comité de Coordination Interministériel la stratégie _ Rendre systématique la collecte par la Brigade Nationale des Sapeurs-Pompiers (BNSP) et les hôpitaux des données d'accidentologie à partir des Bulletins d'Analyse des Accidents de la Circulation (BAAC), dans toutes les communes chefs-lieux de région. _ Transmettre à l'ONASER les données issues des BAAC qui s'emploiera à en extraire des statistiques qui pourront être transmises à la DGMU pour qu'elles soient intégrées à l'appareil de suivi statistique. _ Définir pour chaque niveau de la hiérarchisation de la voirie une limitation de vitesse _ Mener une campagne d'information auprès du grand public sur le code de la route et la sécurité routière par des émissions de télévision, de radios, les journaux, des panneaux publicitaires, d'interventions en milieux scolaires _ Implanter des centres d'éducation sur la sécurité routière dans les différentes communes chefs-lieux de région _ Rendre obligatoire l'obtention d'une épreuve théorique relative au code la route et de la sécurité routière pour tout conducteur de véhicule motorisé _ Renforcer les dispositifs de contrôle par la police sur la sécurité des véhicules, le port du casque, le port de la ceinture, la souscription à une assurance, le permis de conduire, etc. _ Mobiliser des ressources auprès des compagnies d'assurance.

D. Improve	4. Efficience de l'usage de la voirie et des véhicules	Instaurer des mesures de lutte contre la pollution de l'air	National	MTMUSR MEEVC	CCVA	_ Publier un arrêté d'application pour fixer les niveaux d'émissions des véhicules automobiles et des deux-roues motorisés. _ Promulguer un texte imposant le contrôle des deux-roues motorisés par les centres du CCVA. _ Mettre en place un dispositif de contrôle de la qualité des carburants vendus en station-service _ Publier un arrêté interdisant l'utilisation de véhicules diesels dans les centres-urbains et limiter leur importation sur les critères de niveaux d'émissions et d'âge. _ Mettre en place des systèmes de mesure régulière de la qualité de l'air à Ouagadougou et Bobo-Dioulasso afin qu'elles disposent à terme d'un dispositif d'alerte et d'information de la population

Annexe 3 : Recommendations for the policy for sustainable accessibility and mobility in cities of Bénin

EASI	Thème	Recommandation	Echelle	Qui ? *Quelle institution pour piloter la mise en œuvre ?*	Avec qui ? *Quelle institution es impliquée / consultée ?*	Comment ? *Comment mettre en œuvre ?* *Quelle est la prochaine étape ?*
Enable	1. Gouvernance	Mettre à jour la législation des transports pour distinguer la mobilité urbaine et spécifier le rôle de l'Etat et de ses émanations dans ce domaine	Nationale	MIT	MPD, MCVDD, Communes	_ Préparer et soumettre au Parlement un projet de loi sur la mobilité urbaine : o clarifiant les responsabilités respectives des différentes institutions (ministères, agences, collectivités locales) o pour l'ensemble des modes y compris la mobilité douce, o et créant les outils juridiques nécessaires à une planification et une gestion efficace (par exemple pour avoir des plans de circulation unifiés entre voies nationales et locales, pour le stationnement, pour spécialiser et calibrer des voies par mode, etc.). _ Préparer et publier les décrets d'application de la nouvelle loi, notamment concernant l'usage de la voirie, les plans de circulation unifiés, le stationnement.

Enable	1. Gouvernance	Institutionnaliser et opérationnaliser la coopération intercommunale pour la mobilité urbaine pour le Grand Nokoué	Grand Nokoué	Présidence initialement, puis MDGL avec les communes concernées	MPD, MIT, MCVDD, MDGL, ACV-DT, ANaTT, Communes	_ Lancer une assistance technique pour définir et opérationnaliser l'appui de l'État aux communes en matière de mobilité urbaine, et spécifiquement à pour la création de, et l'appui à, l'EPCI du Grand Nokoué. Cette assistance pourra comprendre une première phase d'études de préfiguration et une deuxième phase d'appui à la mise en oeuvre. _ Créer par décision des communes un Établissement Public de Coopération Intercommunale (EPCI) du Grand Nokoué, et lui transférer les compétences pertinentes des communes de Cotonou, Abomey-Calavi, Sèmè Kpodji, Ouidah et Porto Novo sur l'organisation et la gestion de la mobilité urbaine. _ Mettre en place les organes de gouvernance de l'EPCI (son conseil), voter et doter son budget _ Doter l'EPCI de capacités techniques et opérationnelles par le recrutement d'un personnel propre (ou mis à disposition par les communes ou un ministère) et par la contractualisation de l'assistance de l'"agence" pour la mobilité urbaine.
Enable	2. Financement	Définir et financer un programme national de renforcement des communes et intercommunalités pour la mobilité urbaine	Nationale	Présidence, puis Ministère ou Agence à définir	MPD, MIT, MCVDD, MDGL, ACV-DT, ANaTT, Communes	_ Définir les grandes lignes d'un programme national pour la mobilité urbaine, désigner une institution pilote pour sa préparation, et solliciter l'appui de partenaire(s) technique(s) et financier(s) pour le mettre en oeuvre sans attendre la mobilisation de nouvelles recettes fiscales. _ Créer ou désigner, pour sa mise en oeuvre, une "Agence nationale" de la mobilité urbaine (ou toute autre entité jouant ce rôle, définie au cours d'une étude de préfiguration institutionnelle), soit en la créant soit en attribuant les compétences et budgets nécessaires à une agence existante.

Enable	2. Financement	Accroître la taxation des modes générant les nuisances les plus élevées (notamment les deux- et trois-roues) pour permettre le financement des transports collectifs et des mobilités actives	Nationale	MEF	MIT, MEDDPN, Communes	_ Lancer une étude pour déterminer l'instrument fiscal le plus adapté (rendement fiscal, facilité de contrôle, impacts sociaux et redistributifs, etc.) pour la mobilisation de nouvelles ressources destinées à promouvoir le transport public, tout en rendant plus coûteuse la possession et/ou l'utilisation des VP et surtout des motos _ Prévoir des dispositions spécifiques pour les motos-taxis, tels qu'un crédit sur les droits d'enregistrement communaux égal au montant de la taxe _ Inclure ce nouvel instrument dans le projet de loi de finances et y allouer ses produits au secteur (aux communes, aux EPCI, et/ou au budget de la nouvelle "Agence de la mobilité" ou autre institution choisie suite à l'étude institutionnelle) _ Définir et mettre en oeuvre un plan de communication et de déploiement progressif de cette mesure fiscale
Avoid	5. Planification multimodale	Intégrer des obligations sur la mobilité urbaine dans les textes et documents d'urbanisme	Nationale	MCVDD	MIT, ACV-DT, Communes	_ Introduire des dispositions contraignantes sur la mobilité urbaine dans le projet de loi portant code de l'urbanisme qui est en préparation, avec les objectifs suivants: - minimisation de la demande de déplacement par la mixité des usages et le rapprochement des zones de logement et d'emploi, - incitation à la densité, condition du développement de transports collectifs efficients, - planification d'emprises adaptées à une mobilité multimodale. _ Revoir les schémas directeurs d'aménagement et d'urbanisme (SDAU) actuellement en préparation dans quelques villes béninoises pour s'assurer qu'ils prennent en compte les principes de la PNMUD / le cadre EASI _ Amender les SDAU les plus récents pour s'assurer qu'ils

						prennent en compte les prinicpes de la PNMUD / le cadre EASI
Avoid	5. Planification multimodale	Préparer et mettre en œuvre des plans de mobilité urbaine dans les villes principales, et un plan de circulation pour le Grand Nokoué	Grand Nokoué, Villes régionales	ACV-DT	MIT, CNSR, Communes, Police	_ Préparer un plan de circulation pour le Grand Nokoué, tenant compte des projets du PAG _ Préparer des plans de mobilité urbaine dans les villes principales (hors Grand Nokoué) _ Préserver les emprises foncières identifiées dans les documents de planification, qui seront nécessaires à une mobilité urbaine multimodale

Avoid	5. Planification multimodale	Concevoir et mettre en place un programme visant à favoriser l'utilisation du vélo et des voies piétonnes	Nationale	MCVDD	ACV-DT, Communes, Ministère de la Santé, CNSR, Police	_ Matérialiser des pistes cyclables et des voies piétonnes pour bien démarquer les différentes mobilités, sécuriser leur usage (représentant le principal obstacle actuellement à ce type de mobilité), éventuellement promouvoir leur utilisation sportive ou récréative _ Appliquer les indications/ réglementation de sécurité routière pour pouvoir avoir une mobilité plus fluide et intégrée _ Mener une campagne de sensibilisation, notamment sur les bénéfices sanitaires de ce type de mobilité, auprès d'une opinion publique de plus en plus préoccupée par les questions de santé _ Prendre en compte les besoins des personnes à mobilité réduite dans les aménagements urbains à réaliser
Shift	3. Transport public 4. Secteur privé 5. Planification multimodale	Créer des lignes structurantes et attractives de transport collectif à l'échelle du Grand Nokoué	Grand Nokoué	MIT initialement, puis EPCI du Grand Nokoué	Communes, SIRB, ACV-DT, ANaTT, MEF, Partenaires techniques et financiers	_ Réaliser une enquête ménages-déplacement, y compris une enquête de préférences déclarées, pour calibrer au mieux l'offre future et sa tarification _ Réaliser un complément à l'étude déjà réalisée sur le transport lagunaire pour vérifier la compétitivité « coût/temps » et les conditions de faisabilité financière d'une ligne entre le débarcadère de Ganvié à Calavi et le marché Dantokpa _ Réaliser une étude de définition, de faisabilité technique et financière, et de structuration contractuelle d'un réseau de « dorsales » de transports collectifs par autobus, connectant pôles d'échange et grands générateurs de trafic, à un tarif attractif, et avec un service express utilisant le futur contournement nord et le barreau vers le port _ Valider le plan de financement du nouveau service, y compris une subvention forfaitaire d'équilibre s'il y a lieu, et l'inscrire dans la programmation financière du programme d'appui aux communes pour la mobilité urbaine

						_ Recruter un partenaire privé par appel d'offres selon les modalités définies à l'issue de l'étude _ Dans la conception des nouvelles voies revêtues, prévoir des zones d'arrêt adaptées, et là où c'est possible, envisager des couloirs prioritaires et/ou des systèmes de signalisation donnant la priorité aux bus _ Réaliser une étude prospective sur de futurs transports collectifs en site propre (routiers, de type BRT, ou ferroviaire) pour identifier les emprises à préserver pour la réalisation future de ces investissements
Shift	3. Transport public 5. Planification multimodale	Organiser des pôles d'échange	Grand Nokoué	MIT initialement, puis EPCI du Grand Nokoué	Communes, ACV-DT	Inclure dans les études de préfiguration du transport collectif, la conception physique et opérationnelle de pôles d'échange intermodal
Shift	3. Transport public 4. Secteur privé	Contractualiser avec des grands employeurs et générateurs de trafic pour donner plus rapidement une échelle viable au mode collectif	Grand Nokoué	MIT initialement, puis EPCI du Grand Nokoué	Tous ministères concernés, employeurs privés	Négocier un partenariat avec quelques grands employeurs pour les faire contribuer au financement du service en contrepartie d'engagements de desserte
Improve	5. Planification multimodale	Réaliser le contournement nord et le barreau vers le port, et les	Grand Nokoué	Présidence, SIRB	MPD, MIT, MEF, Partenaires techniques et financiers	Mobilisation des financements nécessaires

		interdire aux deux-roues				
Improve	4. Secteur privé 6. Gestion des externalités	Améliorer et uniformiser la régulation des motos-taxis	Grand Nokoué, Villes régionales	À identifier (ANaTT, MIT ?)	ANaTT, MIT, CNSR, Police, Communes	_ Mettre sur pieds une base de données répertoriant l'ensemble des motos-taxis du pays _ Développer un programme de couverture sociale pour les motos-taxis : mener une étude de faisabilité qui doit s'inspirer du programme ARCH _ Proposer aux acteurs du secteur des motos-taxis un package leur octroyant certains avantages liés à l'amélioration de leur situation (assurance, uniforme, macarons, …) à prix subventionné _ Définir et mettre en oeuvre un programme d'imposition du port du casque aux passagers (code de la route, contrôles progressifs, vente de deux casques de qualité imposée avec les motos neuves, promotion de l'usage de la charlotte sur le modèle des moustiquaires) _ Systématisation de l'enregistrement et de la redevance et instauration d'un système d'identification des motos-taxis par macarons digitalisés _ Obliger les conducteurs de zéms à la détention du permis de conduire 2 et 3, en réduisant toutefois le coût d'accès à ce permis _ Encourager la création de fédérations, collectifs de motos-taxis
Improve	6. Gestion des externalités	Mesurer la pollution de l'air dans les villes	Grand Nokoué, Villes régionales	MCVDD & CNSR	Communes, syndicats de motos-taxis, police	_ Créer des stations de mesure de la qualité de l'air permanentes _ Effectuer des contrôles gratuits d'émissions de manière volante ou lors des visites techniques _ Mener simultanément des campagnes de sensibilisation et de communication avec les mairies et les syndicats de taxis-

						motos pour notamment la diffusion des bonnes pratiques d'entretien des motos

Annexe 4 : Recommendations for the policy for sustainable accessibility and mobility in cities of Togo

EASI	Thème	Recommandation	Echelle	Qui ? *Quelle institution pour piloter la mise en œuvre ?*	Avec qui ? *Quelle institution es impliquée / consultée ?*	Comment ? *Comment mettre en œuvre ?* *Quelle est la prochaine étape ?*
Enable	1. Gouvernance	Créer une autorité organisatrice de la mobilité du Grand Lomé assurant l'exercice de l'ensemble des compétences afférentes à la mobilité urbaine	Grand Lomé	DAGL avec le soutien de : MATDCL, MEF & MESR (pour la formation des resssources humaines)	MIT, Comité de projet du PDU & partenaires pour la formation des resssources humaines (EAMAU, Universités de Lomé et de Kara, UCT, CODATU, CNAM,…)	- Créer au sein du DAGL un service en charge de la mobilité urbaine. - Compléter dans les textes les compétences dédiées au DAGL en matière de mobilité urbaine : > planification de la mobilité urbaine (tous modes de transport confondus) ; > encadrement et organisation des services de transports publics conventionnés ou non ; > gestion des pôles d'intermodalité ; > stratégie de circulation (plan de circulation et stratégie de régulation lumineuse). - Définir puis mettre en œuvre des cursus de formation continue pour assurer la formation des agents en charge de la mobilité urbaine - Doter le DAGL d'une ligne budgétaire spécifique sous forme de budget annexe dédié à la mobilité urbaine.
Enable	1. Gouvernance	Dans les villes secondaires, doter les collectivités locales d'organes de gestion de la mobilité urbaine pour assurer	Villes secondaires	Intercommunalités avec le soutien de : MATDCL, MEF & MESR (pour la formation des resssources humaines)	MIT & partenaires pour la formation des resssources humaines (EAMAU, Universités de Lomé et de Kara,	- Créer les intercommunalités dans les principales villes secondaires et les doter d'un organe décisionnel. - Créer des services de mobilité urbaine au sein des intercommunalités, et leur allouer des ressources financières. - Définir puis mettre en œuvre des cursus de formation continue pour assurer la formation des agents en charge de la mobilité urbaine.

		l'exercice des compétences			UCT, CODATU, CNAM, etc.)	
Enable	1. Gouvernance	A l'échelle nationale, créer des comités de projet pour améliorer la coordination entre les acteurs de la mobilité	National	MATDCL	MIT, MVUHSP, MPDC, DAGL ou intercommunalités, SOTRAL, etc.	- Créer un comité interministériel MIT / MVUHSP / MATDCL / MPDC et organiser des rencontres régulières pour garantir l'interaction entre les projets et identifier ceux à porter auprès des bailleurs de fonds. - Créer des Comités de projets associant les entités locales ou opérationnelles (DAGL, intercommunalités, SAFER, SOTRAL,...) aux projets du MIT en matière de création / réaménagement de voirie, création d'arrêts, SLT,… - Instaurer une procédure de validation par les institutions participantes.
Enable	2. Financement	Identifier les sources de financement et créer des mécanismes de financement dédiés à la mobilité urbaine	National	MEF & MIT	MSPC, MVUHSP, MPDC, MEDDPN	- Faciliter la gestion du recouvrement des impôts et des taxes des véhicules afin de garantir leur perception en s'appuyant sur une gestion matérialisée et/ou informatisée et assurer le contrôle associé. - Identifier les sources de financement existantes et mobilisables qui découlent directement ou indirectement de la mobilité, puis les ajuster. - Etudier l'opportunité de mettre en place de nouvelles taxes relatives à la mobilité urbaine et mobiliser la présence des bailleurs de fond. - Flécher les sources de financement vers la mobilité urbaine et établir les structures en charge de les mobiliser et de les gérer : le DAGL pour le Grand Lomé, l'intercommunalité dans les principales villes secondaires et la SAFER spécifiquement pour l'entretien routier urbain au niveau national (moyennant un extension de son périmètre d'action). - Accompagner la disparition progressive de la

						suvbention du carburant à l'horizon 2030 en veillant à protéger les populations modestes de l'augmentation du coût du transport et des produits de première nécessité.
Avoid	5. Planification multimodale	Réaliser des documents de planification de la mobilité et des transports et assurer leur suivi et évaluation	National	DAGL ou intercommunalités avec le soutien de MIT	MEDDPN, MSPC, MPDC, MVUHSP, DOSI, Syndicats de transport non conventionnés	- Réaliser le Plan de Déplacements Urbains du Grand Lomé. - Réaliser les Plans de Déplacements Urbains des chefs-lieux des régions, où le déploiement d'un réseau de bus est envisagé et le développement du vélo est à initier : Kara, Sokodé, Kpalimé, Atakpamé, Tsévié. - Organiser la collecte de données sur les pratiques de mobilité et le parc de véhicules à l'échelle nationale. Définir l'organisme en charge du traitement et de la mise à disposition des données. - Créer un Observatoire de la Mobilité Urbaine chargé d'assurer le suivi des mesures inscrites dans les Plans de Déplacements Urbains.
Avoid	5. Planification multimodale	Finaliser les schémas d'urbanisme et mettre en place les ressources techniques, financières et humaines pour assurer leur mise en application	National	MVUHSP	MATDCL, DAGL ou Intercommunalités, MIT, SOTRAL	- Poursuivre le déploiement des Schémas Directeurs d'Aménagement et d'Urbanisme et assurer leur approbation, en priorisant les principales villes secondaires qui n'en disposent pas encore ou pour lesquelles les documents sont obsolètes : Atakpamé, Sokodé et Dapaong. - Mettre en place les décrêts d'application du code de l'Urbanisme - Décliner les SDAU en Plans d'Urbanisme de Détail - Renforcer la capacité des Mairies à faire instruire les documents d'urbanisme en assurant la mise à disposition des ressources financières et humaines nécessaires

Shift	3. Transport public	Renforcer les ressources de la SOTRAL pour développer une offre performante de transport public	Grand Lomé	SOTRAL, MIT	MEF, MPDC, DAGL	-Indexer la subvention de la SOTRAL sur la production kilométrique annuelle et sur des indicateurs de performance contractuels. - Solliciter les bailleurs de fonds pour bénéficier de leur appui afin de renforcer le parc de bus de la SOTRAL et aller au-delà des investissements déjà engagés. - Créer un deuxième dépôt de bus à Lomé dans le but de réduire les coûts d'exploitation de la SOTRAL liés aux haut-le-pied.
Shift	3. Transport public	Réaliser des aménagements en faveur des bus en ciblant les axes à enjeu sur certains axes majeurs du Grand Lomé	Grand Lomé	DAGL	SOTRAL, MIT	- Réaliser des voies réservées aux bus sur les axes disposant d'une largeur de voirie suffisante, déjà identifiés par la SOTRAL, en anticipation de la hausse de trafic. - Réaliser des études ciblées sur les axes les plus contraints et en priorisant les lignes structurantes afin de proposer des mesures de traitement des points noirs du réseau. - Acquérir et déployer un système de priorité bus aux carrefours à feux (système e détection et prise en compte des bus par les controleurs de feux).
Shift	3. Transport public	Déployer du transport public dans les principales villes secondaires, en s'appuyant sur la SOTRAL	Villes secondaires	MIT	SOTRAL, Intercommunalités	- Créer des filiales de la SOTRAL (avec un nom et une gouvernance spécifiques) dédiées à l'exploitation des futurs réseaux de Kara, Sokodé, Atakpamé, Kpalimé, Tsévié et organiser la reprise du réseau universitaire de Kara par SOTRAL/Kara - Déployer un réseau de bus urbain à Kara, sous forme d'expérimentation - Déployer un réseau de bus urbain sur les villes de Sokodé, Atakpamé, Kpalimé, Tsévié

Shift	3. Transport public	Organiser dans l'espace les stations de transport non conventionné pour faciliter la prise en charge des usagers en articulation avec le réseau de la SOTRAL	Grand Lomé et principales villes secondaires	DAGL ou intercommunalités et MIT	SOTRAL, DOSI, Syndicats des transports artisanaux, communes	- Recenser les stations de taxis-motos et taxis-ville existantes et définir de nouvelles stations. - Aménager les principales stations et les principaux PEM : abris, signalétique, commodités pour les conducteurs. - Réaliser des Pôles d'Echanges Multimodaux (PEM) en articulation avec le réseau de bus de la SOTRAL et les projets de réorganisation de réseau.
Shift	3. Transport public	Accompagner les usagers pour favoriser l'usage du transport conventionné	Grand Lomé	SOTRAL	DAGL	- Mettre en œuvre un système d'information aux voyageurs (couplé à un Système d'Aide à l'Exploitation: SAE) qui puisse proposer des informations en temps réel sur smartphone et aux arrêts. - Lancer des campages de communication valorisant l'image du transport public.
Shift	4. Secteur privé	Encadrer les taxis-motos et les tricycles pour évoluer vers une professionnalisation de la pratique	National	DOSI	MIT, DAGL ou intercommunalités, SOTRAL, DSR, Syndicats, CFE, ANPE, MSPC	- Elaborer et adopter une réglementation pour les tricycles en les orientant vers le transport de marchandises. - Mettre en place un zonage des taxis-motos afin de les orienter vers des services de rabattement et une desserte fine des quartiers - Faire appliquer la réglementation en matière de sécurité routière et organiser des campagnes de sensibilisation. - Faire appliquer la réglementation pour une professionalisation des taxis-villes, des taxis-motos et des tricycles en procédant à l'enregistrement systématique des conducteurs auprès du CFE et de la DTRF. - Lancer un programme de professionnalisation des

						opérateurs de transport artisanal pour s'assurer de leur appropriation de la réglementation et les inciter à se à se fédérer en entreprises.
Shift	4. Secteur privé	Encadrer les taxis-ville pour améliorer leur complémentarité avec le réseau de transport conventionné	National	DOSI	MIT, DAGL ou intercommunalités, SOTRAL, DSR, Syndicats, CFE, ANPE, MSPC	- Revoir le principe actuel de ligne de taxis-villes pour les orienter vers des liaisons interurbaines ou inter-quartiers et améliorer la desserte transversale non couverte par le réseau de bus - Faire appliquer la réglementation en matière de sécurité routière et organiser des campagnes de sensibilisation. - Faire appliquer la réglementation pour une professionalisation des taxis-villes, des taxis-motos et des tricycles en procédant à l'enregistrement systématique des conducteurs auprès du CFE et de la DTRF. - Lancer un programme de professionnalisation des opérateurs de transport artisanal pour s'assurer de leur appropriation de la réglementation et les inciter à se à se fédérer en entreprises.O15
Improve	5. Planification multimodale	Standardiser la prise en compte des modes alternatifs sur l'espace public	National	MIT, Etat et communes (selon gestionnaire de voirie), MATDCL pour la formation	MCIDSPPCL, SOTRAL, MSPC, MVUHSP	- Réaliser une charte de l'espace public qui établit les références en matière d'aménagement et prend en compte l'ensemble des usages : circulation tous modes, commerces, stationnement, assainissement, etc. - Développer les aménagement en faveur des modes alternatifs en milieu urbain :

						> sur le réseau routier existant (requalification) ; > sur le réseau routier projeté en assurant la prise en compte systématique des modes alternatifs en amont de la réalisation de nouvelles infrastructures (consultation des documents de planification et de la Charte de l'espace public). - Former des agents municipaux pour améliorer la gestion de l'espace public en charge du stationnement et de l'occupation par les commerçants.
Improve	5. Planification multimodale	Intégrer des aménagements cyclables et promouvoir la pratique du vélo, particulièrement dans les villes secondaires	Grand Lomé et principales villes secondaires	MIT	DAGL ou intercommunalités et associations	- Constituer un réseau cyclable en réalisant des aménagements sécurisés pour les vélos sur les axes structurants offrant une emprise suffisante - Etablir des Schémas Directeurs Cyclables, portés par des référents vélo identifiés dans chaque ville, qui définissent : les liaisons cyclables à développer, une priorisation, le type d'aménagement et les besoins opérationnels. -Développer les services d'accompagnement à la pratique du vélo : stationnement sécurisé, services annexes au sein des administrations (douches, casiers, etc.), promotion du vélo auprès du Grand Public et campagne de sensibilisation à la sécurité routière.
Improve	5. Planification multimodale	Assurer la pérennité du réseau routier en renforçant les processus d'entretien et de réhabilitation de la voirie	National	MIT & MEF	SAFER, AGETUR, AGEROUTE, CERFER, ANASAP, SOTRAL, MVUHSP	- Etablir une catégorisation de la voirie en milieu urbain et répartir la compétence des institutions en matière d'entretien et de réhabilitation. - Mobiliser des ressources financières spécifiquement dédiées à l'entretien et à la réhabilitation du réseau routier et les affecter aux institutions compétentes. - Faciliter la mise en oeuvre opérationnelle de l'entretien et de la réhabilitation du réseau routier : > réactivation et généralisation des brigades d'entretien routier dotées de fonds spécifiques ; > déploiement d'un programme de réhabilitation.

Improve	5. Planification multimodale	Améliorer la gestion de la circulation et mettre en place une stratégie de régulation à Lomé pour favoriser une meilleure cohabitation entre les modes	Grand Lomé	DAGL	MIT, SOTRAL	- Etablir un plan de circulation du centre-ville élargi du Grand Lomé. - Mettre en place une stratégie de régulation lumineuse.
Improve	5. Planification multimodale	Organiser le stationnement dans le centre-ville de Lomé, le matérialiser et le réglementer	Grand Lomé	Communes	DAGL, MIT, SOTRAL, DOSI, Syndicats des transports artisanaux	- Définir une politique de stationnement public sur le centre-ville élargi du Grand Lomé et la mettre en œuvre : matérialiser le stationnement et mettre en place sa gestion par les communes (réglementation et moyen de contrôle)
Improve	6. Gestion des externalités	Intégrer des mesures de protection de la santé publique avec le développement des infrastructures et des services pour la mobilité urbaine	National	MIT, MEDDPN	MSPC	- Mettre en œuvre le Plan d'Action de l'étude sur la sécurité routière « Formulation de politique nationale et de définition de stratégie et de programme de promotion de la sécurité routière au Togo » (Ministère des Infrastructures et des transports / Banque Mondiale – SSATP / SITRASS / LAET – Avril 2019). - Réaliser des études d'impacts pour tous projets de développement d'infrastructures et de services de transports urbains, qui intègrent les questions socio-économiques, de pollution atmosphérique et accoustique et de sécurité routière. - A Grand Lomé, investir dans des équipements de mesure de la pollution atmosphérique, mettre les données à disposition de l'Observatoire de la Mobilité Urbaine et proposer une communication grand public.

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