



DIAGNOSTIC STUDY

Policies for Sustainable Accessibility and Mobility in Urban Areas of Mali

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Policies for sustainable mobility and accessibility in cities of Mali



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Table of Contents

Page

Introduction	10
1. Urban mobility issues in Mali	11
1.1 Urban development at the national level	11
1.1.1 General presentation	11
1.1.2 Demographic data and the socioeconomic context of Mali	12
1.1.3 Main cities	14
1.2 Vehicle use at national level.....	17
1.3 Urban mobility assessment	20
1.3.1 Bamako: an increase in two-wheeled travel and ownership.....	20
1.3.2 Assessment of a secondary city: Kayes	32
1.4 The regulatory framework and the institutions involved in urban mobility.....	33
2. The challenges for each priority theme	37
2.1 Institutional framework and urban transport management.....	37
2.2 Funding sources devoted to urban transport management	40
2.3 Performance and ridership of public transport	43
2.4 Private sector participation in urban transport management.....	44
2.5 Multimodal planning and the functioning of city centers.....	45
2.6 Transversal themes.....	47
Appendix – Interpretation grid for the governance matrix	51
References	52

List of figures

Page

Figure 1 Changes in the urbanization rate of Mali between 1960 and 2014	12
Figure 2 Population and location of the major cities of Mali	13
Figure 3 Scene of the mobility situation in Bamako.....	14
Figure 4 Changes in access to urban services in Mali, compared with continental averages, and Changes in the competitiveness of Bamako compared with other Sub-Saharan capitals	14
Figure 5 Administrative boundaries of the District of Bamako	15
Figure 6 Metropolitan boundaries: region of Koulikoro, Kati Cercle and the Special District of Bamako.....	16
Figure 7 Changes in the urban area of Bamako 1980-2012	16
Figure 8 Total number of vehicles in use in Benin, Burkina Faso, Mali and Togo from 2005 to 2015 (in thousands)	18
Figure 9 Road infrastructure of the primary network, Sotrama Ring Road	25
Figure 10 Infrastructure of lesser roads in the Sans-Fil quarter	25
Figure 11 Road infrastructure of Bamako	26
Figure 12 Shopkeepers occupying the sidewalks of a main road	27
Figure 13 Pedestrians walking on the road (main road).....	27
Figure 14 Motorcycles using sidewalk space for parking	27
Figure 15 Waste accumulated and stored on the roads.....	27
Figure 16 Cars parked on the sidewalk in Bamako	27
Figure 17 Occupation of pedestrian space by street vendors in Kayes	27
Figure 18 Structure of the bus and minibus system of the 1990s	30
Figure 19 Monitoring at the stations	30
Figure 20 Uncomfortable waiting and transport conditions in Bamako	30
Figure 21 Sotrama Ring Road.....	31
Figure 22 Transport by tricycle and shared taxis in Kayes.....	33
Figure 23 Chronology of institutions in Mali.....	34
Figure 24 Urban transport governance matrix in Bamako.....	38
Figure 25 Urban transport governance matrix in secondary cities (Kayes exemple)	39
Figure 26 SWOT analysis of the institutional structure of urban mobility in Mali.....	40
Figure 27 Comparison of tax revenues and spending (in %) of the local authorities in various African countries	41
Figure 28 Urban mobility financing in Mali.....	42
Figure 29 SWOT analysis of urban mobility financing in Mali	42
Figure 30 SWOT analysis of the performance and ridership of public transport.....	43
Figure 31 SWOT analysis of the participation of the private sector in urban transport management.. ..	44
Figure 32 SWOT analysis of multimodal planning and the functioning of city centers	46

Glossary

ADR	Agences de Développement Régional
AGEROUTE	Agence d'Exécution de l'Entretien des Routes
ANASER	Agence Nationale pour la Sécurité Routière
AOTU	Autorité Organisatrice des Transports Urbains
AR	Autorité Routière
CN- ASCCRM	Coordination Nationale - Syndicats et Associations des Chauffeurs et Conducteurs Routiers du Mali
CPAU	Cellule de Préfiguration de l'Agence d'Urbanisme de la Métropole de Bamako
DNR	Direction nationale des routes
DNTTMF	Direction Nationale des Transports Terrestres, Maritimes et Fluviaux
DRCTU	Direction de la Régulation de la Circulation et des Transports Urbains
EASI	Enable, Avoid, Shift and Improve (Permettre, Eviter, Reporter et Améliorer)
FER	Fonds d'Entretien des Routes
FNTM	Fédération Nationale des Travailleurs du Mali
GMTU	Groupe de Travail sur la Mobilité Urbaine
INFET	Institut National de Formation en Équipement et en Transport
INSTAT	Institut National de la Statistique
MATD	Ministère de l'Administration Territoriale et de la Décentralisation
MHULS	Ministère de l'Habitat, de l'Urbanisme et du Logement social
MIE	Ministère des Infrastructures et de l'Équipement
MSPC	Ministère de la Sécurité et de la Protection Civile
MTMU	Ministère des Transports et de la Mobilité Urbaine
SMIB	Syndicat Mixte Intercollectivités de Bamako
SNTP	Section Nationale des Transports Privés
SYNTRUI	Syndicat des Transporteurs Urbains et Interurbains

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Introduction

Urban transport and mobility form one of the pillars of the African Transport Policy Program (SSATP), whose objective is to provide African decision-makers with the tools to develop affordable, safe and sustainable urban transport in Africa for primary and secondary cities. This fits into Sustainable Development Goal No. 11: *“Make cities and human settlements inclusive, safe, resilient and sustainable.”* The expected outcome of this pillar is to provide secure, universal access to sustainable transport for urban populations.

To achieve this, the SSATP has launched a program to craft a set of policies designed to improve accessibility and mobility in urban areas of Africa, based on an empirical study in a representative sample of cities in the region. That study led to the publication of Working Document No. 106, titled **“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 in four categories: Enable, Avoid, Shift, Improve. The paper proposes specific measures that could be adopted by African cities in each of these categories.

As a follow-up to this publication, an additional work program was established to implement these guidelines in eight program-member countries. The goal is to foster the emergence of a political vision for urban mobility and transport.

The present study aims to prompt a change in thinking about accessibility and mobility, and to raise awareness among decision-makers so that they will implement strong policies, strategies and operational practices that make an effective contribution to improving transport and mobility in urban areas of Africa.

This report aims to identify the main mobility and accessibility issues in Malian cities by analyzing five priority themes:

- Strengthening the institutional framework for urban transport management;
- Bolstering funding sources devoted to urban transport management;
- Improving the performance of public transport and increasing ridership;
- Fostering meaningful participation of the private sector in urban transport management;
- Improving multimodal planning and the functioning of city centers.

It was drafted after a first mission to Bamako and, later, in Kayes to gather data and talk with the local and national stakeholders. It is the result of an in-depth analysis based on the EASI conceptual framework. It includes a diagnosis of urban mobility in Mali, based on the existing literature, the data obtained, and interviews. This assessment report precedes a recommendations report that will be finalized following an urban mobility workshop to be held in Bamako before the end of the year.

¹ Stucki M. (2015). Policies for Sustainable Accessibility and Mobility in Urban Areas of Africa. SSATP Working Paper no. 106. Available online: https://www.ssatp.org/sites/ssatp/files/publications/SSATPWP106-Urban%20Mobility_IO.pdf

1. Urban mobility issues in Mali

1.1 Urban development at the national level

1.1.1 General presentation

Mali is a landlocked country in West Africa with a total surface area of approximately 1.24 million sq. km. It shares borders with Algeria, Nigeria, Burkina Faso, Ivory Coast, Guinea, Senegal and Mauritania. A large share of its territory, almost 51%, comprises desert lands.²

The following table introduces some indicators of comparison with the 3 other countries covered by this study:

Table 1 | Statistical data on the four pilot countries of the study

	BENIN	TOGO	BURKINA FASO	MALI	SOURCES
DEMOGRAPHY					
National population (million, 2018)	11,5	7,9	19,8	19,1	World bank
Population projection (million, 2030)	16,1	10,9	26,5	23,3	UN-Habitat
Population density (pop. / km ² , 2018)	102	145	72	16	World bank
URBANIZATION					
Rate of urbanization (% , 2018)	47%	42%	29%	42%	World bank
Urban growthy rate (% , 2018)	3,9%	3,7%	5,0%	4,9%	World bank
Urban areas of more than 300'000 inhabitants (2018)	4	1	2	2	World bank
ECONOMY					
PIB per inhabitant (\$PPA, 2018)	2 421	1 761	1 975	2 314	World bank
Economic growthy rate (% / year, 2013-2018)	5,4%	5,3%	5,5%	5,2%	World bank
Proportion of the population living below the international poverty line (PPA, % de la pop.)	49,5% (2015)	49,2% (2015)	43,7% (2014)	49,7% (2009)	World bank
Human development index (0-1 scale, 2018) 0 - low, 1 - strong human developpement	0,515	0,503	0,423	0,427	UNDP
PUBLIC FINANCE					
State budget (in billions FCFA / US\$, 2015)	1 507 2,50	806 1,34	1 516 2,52	1 785 2,97	Financy law 2015
Proportion Budget / Population (in FCFA, 2015)	139 666	117 922	82 168	100 174	Financy law 2015 Africapolis
GOVERNANCE AND BUSINESS					
Doing Business (Distance from the border, 2019) 0 - Lowest performance, 100 - Highest performance or "border"	51,4	55,2	51,6	53,5	Doing Business World bank
Corruption perception index (1-100, 2016) 1 - Low transparency or High corruption, 100 - High transparency or Low corruption	36	32	42	32	Transparency International
MOTORIZATION					
Petrol / Diesel Prices (US\$ / L, 2016)	0,72/0,72	0,71/0,71	0,98/0,86	1,12/0,98	World bank
Private vehicules in use (2015)	210 000	140 000	200 000	170 000	OICA
Motorization rate (private vehicules / 1 000 inhabitants, 2015)	20	19	11	10	OICA - World bank
Road accident mortality (mortality / 100 000 inhabitants, 2016)	28	29	31	23	World bank
Rate of households owning a motorcycle and/or scooter (%)	56,1%	36,8%	35,8%	55,0%	EDSM-VI Mali 2018

² FAO (2015). Aquastat country profile – Mali. Food and Agriculture Organization of the United Nations. Rome, Italy.

The country’s economy depends directly on activities of the primary sector (food production, livestock and cotton production, etc.) and the export of natural resources. Mali has been experiencing a serious security and political crisis since the coup d’état of March 2012, which has had a negative impact on the country’s growth (0.8% decline in 2012³). During the period from 2014 to 2016, economic growth was estimated at 6.3%,⁴ demonstrating a certain amount of economic recovery. However, this dynamic remains fragile due to the security situation. The consequences of the crisis of 2012 thus explain the very low school enrollment rates, as well as low levels of access to urban services, including mobility.

Slow development and weak investment have impacted most sectors of activity. Recent estimates indicate a GDP of 827 USD,⁵ a value comparable to that of the other countries covered by this study (Benin, Burkina Faso and Togo). Although Mali remains one of the poorest countries of the continent,⁶ it has nonetheless experienced some improvement: the percentage of the population of Mali living below the poverty line dropped from 56% in 2001 to 47% in 2014.⁷

One of the sectors most affected by the crisis is urban mobility. The lack of public investment (by the national and local authorities), combined with still-significant population growth and a tendency toward urban sprawl, is worsening an already critical situation, much in need of reform.

1.1.2 Demographic data and the socioeconomic context of Mali

According to the most recent World Bank data, the population of Mali is approximately 16.5 million,⁸ with a growth rate that remains high (around 2.7% per year) and which is showing no signs of abatement. Population growth has come with high rates of urbanization. In 1960, it was 11%; in 2014 it was 36%.

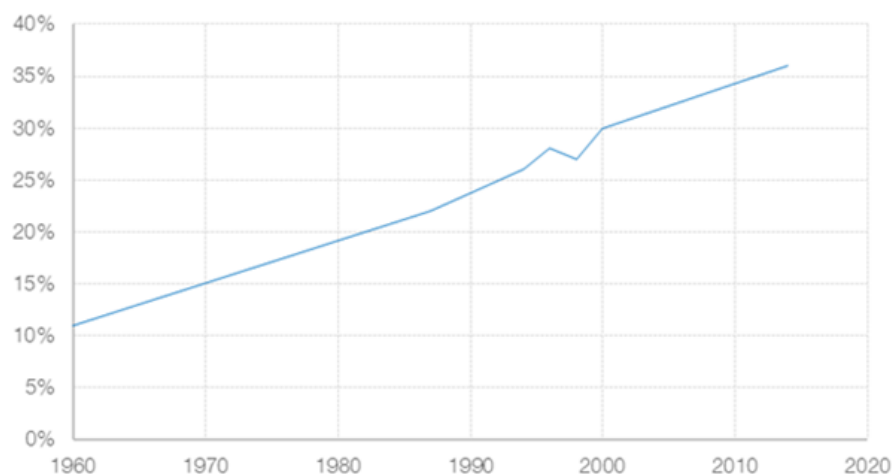


Figure 1 | Changes in the urbanization rate of Mali between 1960 and 2014⁹

The process of urbanization is due in part to the natural growth rate, but it can mainly be explained by migration from rural areas to secondary cities, and then to the major cities, as people seek job opportunities and access to health and education services.

The table and Figure 2 below present the population data for 2015 and the estimates for 2030 of the main cities of Mali. With 2.2 million inhabitants, Bamako, the capital of Mali, represents more than one-third of the country’s urban population.

³ UNECA (2018). Country profile – Mali. United Nations – Economic Commission for Africa. Addis Ababa, Ethiopia.

⁴ UNECA (2018). op. cit.

⁵ According to World Bank public data in 2017.

⁶ The average GDP of Africa is close to 1,200 USD

⁷ UNECA (2018). op. cit.

⁸ The World Bank (2018). Bamako - An engine of growth and service delivery. The World Bank. Washington D.C., United States.

⁹ Data: The World Bank (2017).

Table 2 | Population of the major cities of Mali

According to UN-Habitat			
City	Population in 2015	2030 estimate	Growth rate % (between 2015 and 2030)
Bamako	2,219,000	4,794,000	5.3%
Sikasso	305,000	741,000	6.1%
According to INSTAT			
City	Population in 2017	2030 estimate	Growth rate % (between 2017 and 2030)
Bamako	2,352,001	4,660,000	5.4%
Sikasso	554,236	1,045,000	5.0%
Gao	147,994	370,000	7.3%
Kayes	361,105	959,000	7.8%
Koulikoro	172,126	305,000	4.5%
Ségou	260,449	387,000	3.1%
Timbuktu	113,788	407,000	10.3

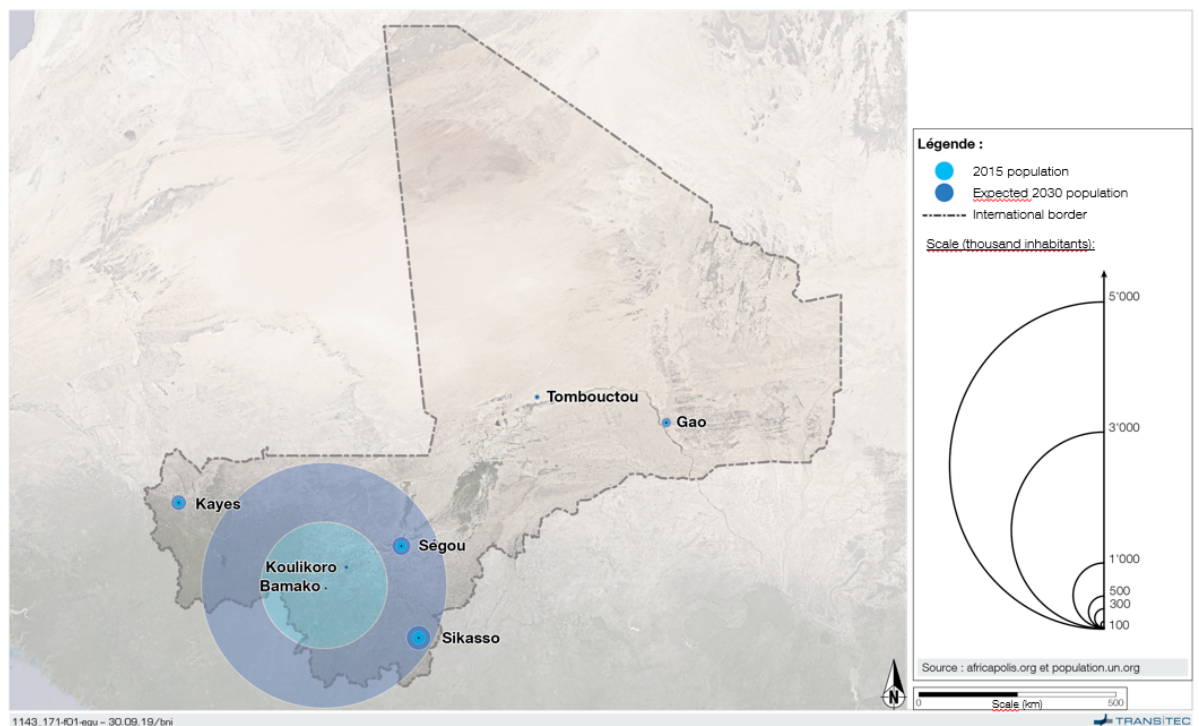


Figure 2 | Population and location of the major cities of Mali

The growth of the cities has exacerbated urban problems. Bamako, especially, is experiencing the endemic problems typical of West African capitals: proliferation of precarious neighborhoods, a lack of network infrastructure (water, power, transport, etc.), difficulties managing urban services, etc.

1.1.3 Main cities

Bamako



Figure 3 | Scene of the mobility situation in Bamako

The strong population growth observed at the national level is also found in Bamako. According to official data from INSTAT, between 2009 and 2017, the population went from 1,800,000 inhabitants to more than 2,300,000. This population growth has increased the pressure on urban services, including infrastructure and urban transport, which often struggle to keep up.

According to a report by the World Bank published in 2018, the range of primary services offered in Bamako was below that of cities such as Abidjan, Accra and Lagos.¹⁰ In spite of its importance for the national economy, the capital has not managed to become more competitive over time, or to provide urban services to its inhabitants. Even though the situation has clearly improved in the past few years, it hasn't improved enough to make up for so many years of lost time. Figure 4 illustrates the situation and compares the case of Mali and Bamako with those of other cities in Sub-Saharan Africa (Abidjan, Accra, Tananarive, Conakry, Dar es Salaam, Freetown, Gaborone, Harare, Kinshasa, Lagos, Maputo, N'Djamena, Niamey and Ouagadougou). According to this report, Bamako is not playing its role of driving economic growth and providing services.

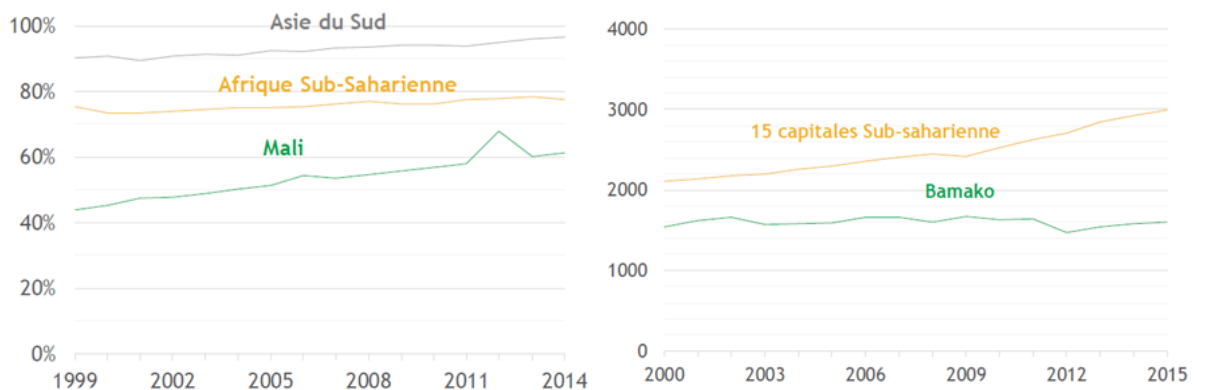


Figure 4 | Changes in access to urban services in Mali, compared with continental averages, and Changes in the competitiveness of Bamako compared with other Sub-Saharan capitals¹¹

¹⁰ The World Bank (2018). op. cit.

¹¹ The World Bank (2018). op. cit.

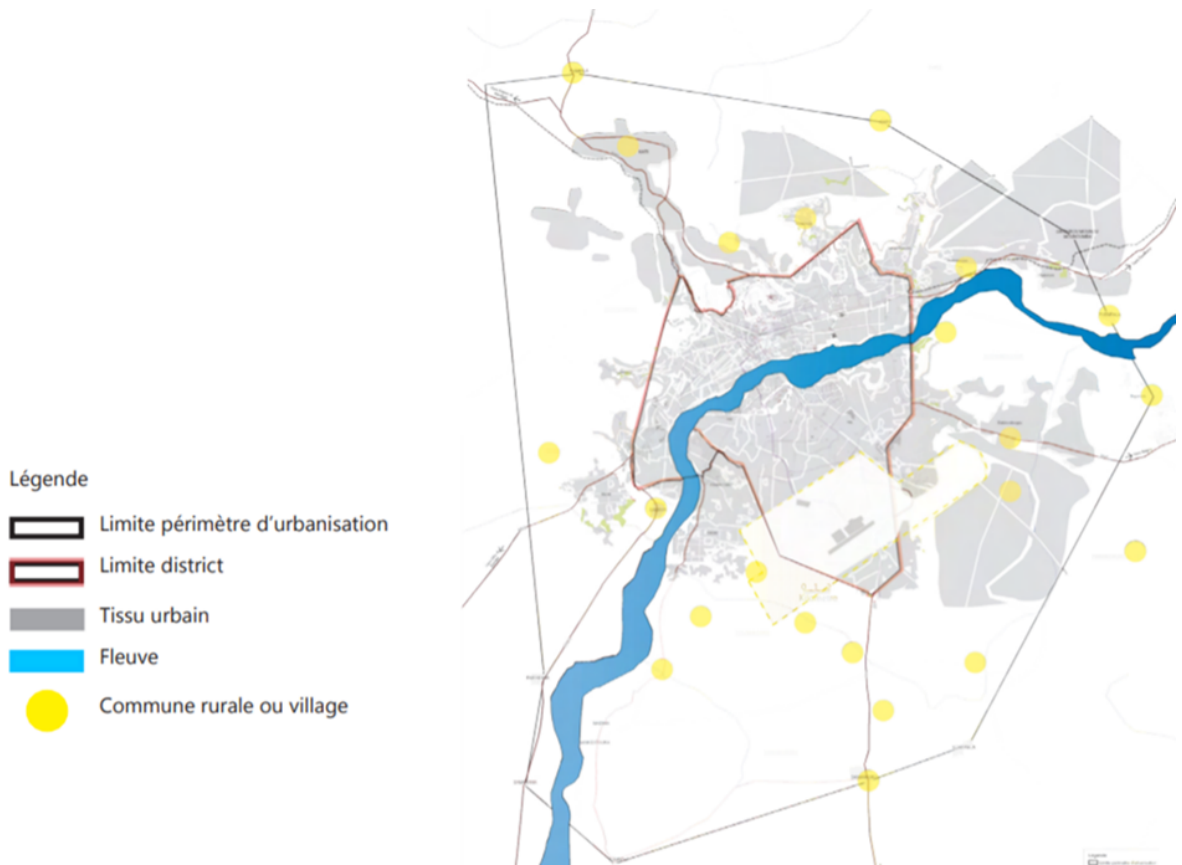


Figure 5 | Administrative boundaries of the District of Bamako

Average population densities have been estimated at 8,300 inhabitants/sq. km, with significant differences between the left bank of the river (where the city center is located, hemmed in to the north by the hills), and the right bank, to the south¹². In general, outside of the city center (which has some high-rise buildings), the city is made up of three-story buildings.

There has been strong growth on the outskirts of the city, boosted by the development of unplanned residential areas. The average density is intermediate in relation to the other capitals of the region (see Table 3).¹³

Table 3 - Comparison of average urban densities for cities in Africa

City	Dakar (Senegal)	Douala (Cameroon)	Abidjan (Ivory Coast)	Bamako (Mali)	Ouaga. (Burkina Faso)	Cotonou (Benin)	Lomé (Togo)
Average density (inhab/km ²)	17,700	16,700	13,700	8,300	6,200	6,100	4,400

In the urban area, six municipalities, grouped together in the District of Bamako, have a total surface area of approximately 26,750 hectares (see Figure 5). The Kati Cercle, covering more than 115,000 hectares¹⁴ in the administrative region of Koulikoro, surrounds the capital. Within the Kati Cercle, comprising 37 municipalities, regulation has not succeeded in controlling urban expansion.

¹² The World Bank (2018). op. cit.

¹³ Demographia database, consulted in August 2019.

¹⁴ Ateliers de Cergy (2014). Ateliers de Cergy – Bamako, Mali.



Figure 6 | Metropolitan boundaries: region of Koulikoro, Kati Cercle and the Special District of Bamako

The urban structure of Bamako is monocentric, which results in a large proportion of daily commuting: the inhabitants of the residential neighborhoods located on the outskirts of the city commute in the morning to the city center, where most of the jobs and urban services are found. In the evening, the traffic flows in the opposite direction. The river acts as a natural barrier and physical obstacle for the city, exacerbating the situation. With only three bridges to connect the two riverbanks, they create bottlenecks and the road infrastructure quickly reaches maximum capacity. The congestion then spreads to the city's main streets.

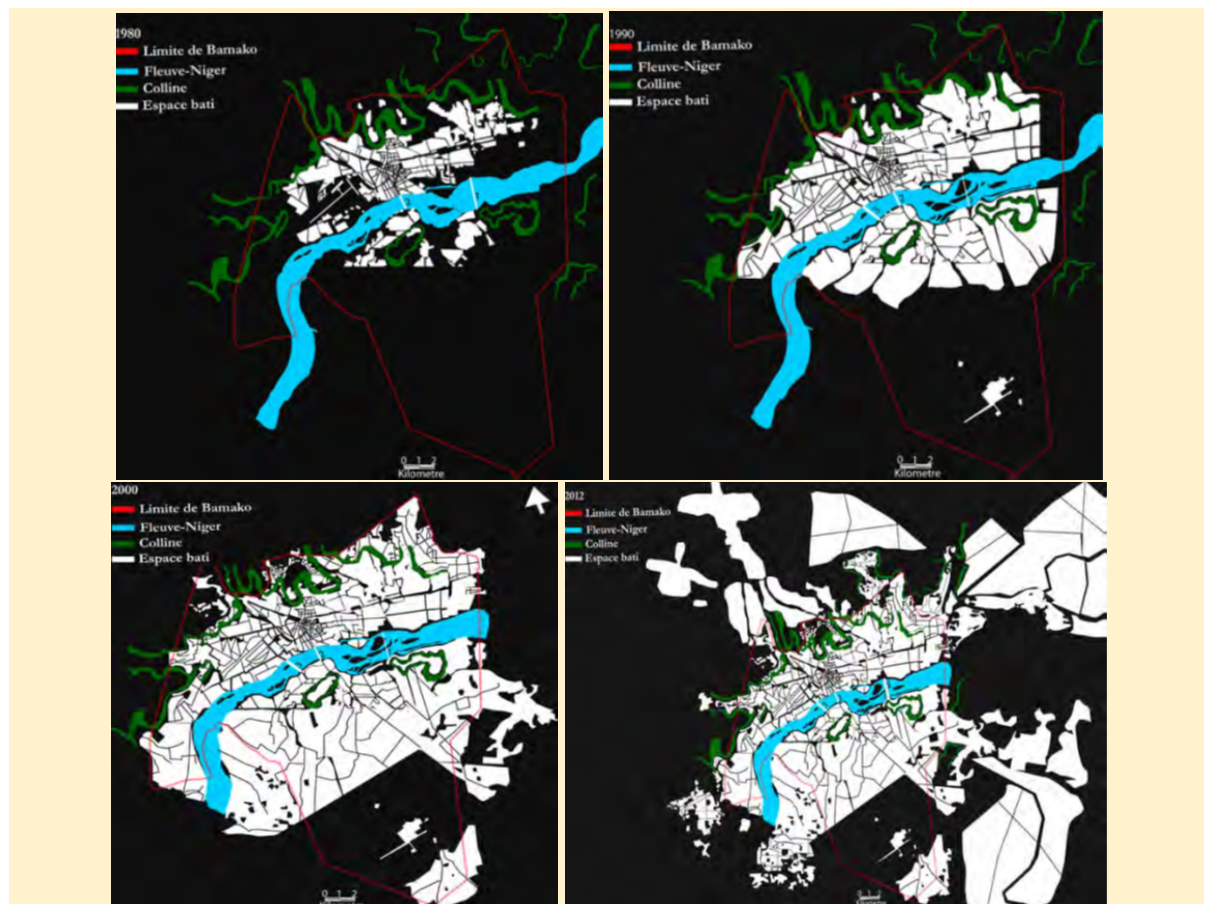


Figure 7 | Changes in the urban area of Bamako 1980-2012

Secondary cities

■ Sikasso

Sikasso is the capital of the third administrative region. It is also the second-largest city in Mali by population, currently estimated at 554,000 inhabitants, according to official data from INSTAT (2017). Located 375 km southeast of Bamako, the city is built around the Mamelon of Sikasso, an artificial hill, and lies at the crossroads of coastal countries (Togo, Benin, Ghana and Ivory Coast) and landlocked countries (Burkina Faso and Mali). The urban master plan, which expired in 2005, has not been updated. As a result, the city has developed in a piecemeal manner. The city also suffers major problems due to the insufficiency and lack of maintenance of the urban infrastructure and facilities.

■ Ségou

Ségou, the capital of the region of the same name, is located about 235 km northeast of Bamako. The region has one of the lowest urbanization rates (9% in 2017) with approximately 260,000 inhabitants in its urban area, according to data from INSTAT. The city depends mainly on fishing and small-scale farming, in addition to the sale of pottery. The city's planning framework ended in 2006. Since then, there has been no strategic plan, and sprawl has grown due to a lack of control by the local authorities. Like most of the secondary cities in Mali, walking and motorcycle taxis are the main modes of mobility in the urban transport landscape.

■ Kayes

Kayes¹⁵ is the capital of the region of the same name. The city is 495 km northwest of Bamako, not far from the Senegal border. Its population is approximately 361,000 (INSTAT), and rising quickly: 7.8% per year, which is much higher than the growth rate of the region overall, with combined rural and urban growth at 3.0% per year. Data on the urbanization of the Kayes region, in terms of urban landcover, is still rare and very limited, which means that it is difficult to quantify the urban sprawl phenomena.

Kayes is a hub for international transport, especially for traffic between Senegal and Mali. However, the infrastructure is not in good condition: there are major deficiencies in the road network connecting Kayes and Bamako compared with the road infrastructure bound for Senegal, which is in better shape. The recent shutdown of rail services on the Mali side has considerably accentuated the city's connectivity problems and its economic and social development.

■ Timbuktu

Timbuktu is more than 1,000 kilometers away from Bamako, in the desert area in the north of the country. The capital of the region of the same name, it now has approximately 32,000 inhabitants, whereas in the 15th century, its permanent population was estimated at more than 100,000. The population of the Timbuktu Cercle is estimated at 113,000 inhabitants. Known for its strategic position in the history of the Sahara, the city has since lost its relative importance.

For several years now, the region has been suffering from serious security problems, which have slowed down or even stopped its urban development. It is currently hard to access.

The city is listed as a UNESCO World Heritage site, thanks to its three large mosques, which face problems of general maintenance.

1.2 Vehicle use at national level

■ Motor vehicles with four or more wheels

Currently, the number of cars on the road in Mali, across all categories, is difficult to evaluate, especially since unused vehicles are not removed from the list of registered vehicles. However, for passenger cars and heavy vehicles, the files of registrations and technical inspections kept by the DNTT provide data giving a more realistic view of the situation. Thus, based on data provided in its 2018 activity report by the Regional Department of Land Transport of the District of Bamako, concerning automotive inspections (see Table 3), we can estimate at **approximately 108,000 the number of vehicles¹⁶ in use in Bamako.**

¹⁵ Kayes was chosen by the Urban Mobility and Transport Ministry as the secondary city to be visited as part of this project.

¹⁶ Given that transport vehicles (passengers and goods) go in for technical inspections twice a year and that at least a quarter of all vehicles fail to undergo these inspections.

Table 4 - Automotive inspection files¹⁷

Vehicle type	Number of vehicles				Technical inspection (Million CFA francs)	Follow-up inspection (Million CFA francs)	TOTAL (Million CFA francs)
	Present	Fit for use	Follow-up required	Late			
Tractor-trailers	24,235	21,238	2,952	45	169.9	8.3	178.2
Minicars and Taxis	50,424	46,089	4,112	223	276.5	8.6	285.2
Passenger cars	70,611	60,848	5,424	4,339	280.9	9.5	290.4
2018	144,570	128,175	11,788	4,607	727.3	26.4	753.8
2017	120,791	107,820	6,809	6,162	626.6	14.0	640.7
2016	111,900	102,159	4,624	5,117	588.9	9.2	598.2

At national level, according to data from the International Organization of Motor Vehicle Manufacturers, the total number of vehicles in use is 203,000 automobiles (not including motorized two-wheelers). This represents a car ownership rate of approximately 12 vehicles per 1,000 inhabitants. According to this data, we can consider that nearly half of all vehicles in use are registered in Bamako.

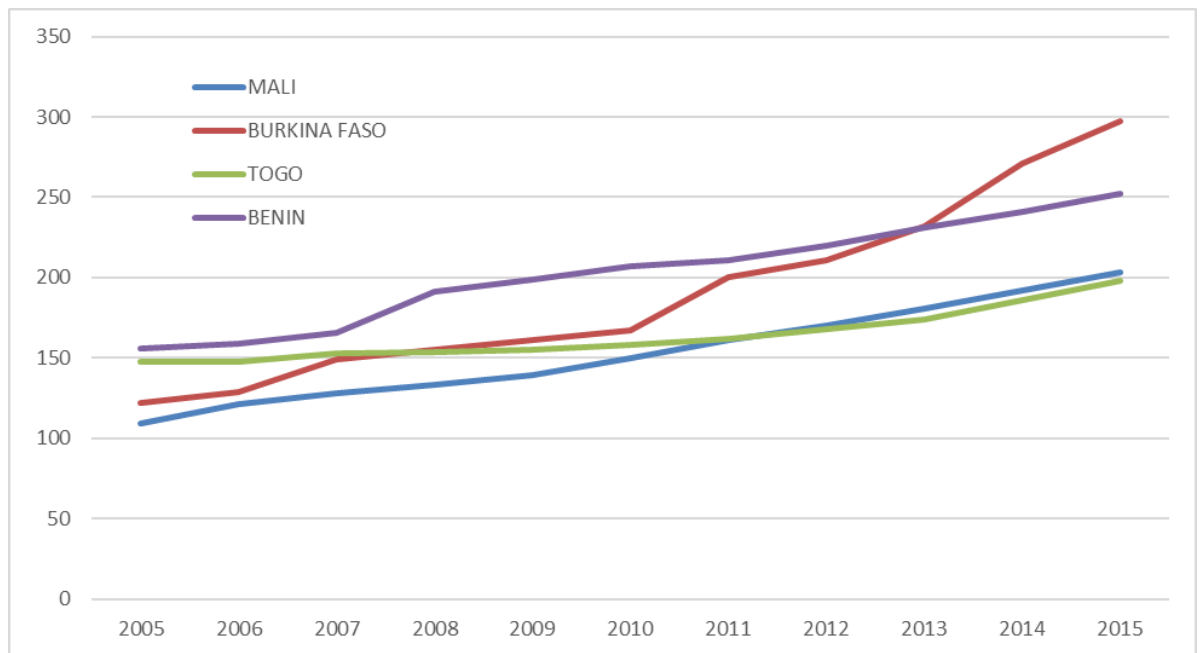


Figure 8 | Total number of vehicles in use in Benin, Burkina Faso, Mali and Togo from 2005 to 2015 (in thousands)¹⁸

¹⁷ DRTT/Bamako, Activity Report 2018

¹⁸ Source: OICA

■ Household ownership of two-wheelers

The phenomenon of motorized two- or three-wheelers (motorcycles, tricycles and mopeds) is much more difficult to quantify. The number of vehicles in use is not quantified officially.

INSTAT nonetheless considers that motorcycles are an easily measurable indicator of living conditions. Therefore, it attempted to measure the motorcycle ownership rate at national level in 2001 and 2017. These rates were estimated at 17.0% and 57.9%, respectively. *“In the space of two decades, the rates have practically tripled. This jump is due to the accessibility of two-wheeled vehicles from Asia at very affordable prices. An analysis by place of residence shows that regardless of the place, more than half of non-poor households own at least one motorcycle. In poor households, the lowest rate of ownership is found in Bamako (32.5%), versus 53.2% in rural areas.”*¹⁹

An analysis by region shows that, in Sikasso, households own more motorcycles than in the other regions. For the year 2017, this rate was 75.0%, followed by Bamako (66.2%), Koulikoro (63.2 %) and Ségou (60.5%). The lowest motorcycle ownership rates were in Timbuktu (31.1%) and Gao (24.8%).

Table 5 - Trends in household motorcycle ownership by region (%)²⁰

Année	Kayes	Koulikoro	Sikasso	Ségou	Mopti	Tombouctou	Gao	Bamako	Ensemble
2001	7,3	13,5	17,0	26,8	15,4	4,7	12,5	27,7	17,0
2006	23,4	26,7	47,8	38,5	29,0	8,5	17,1	42,5	32,1
2009	34,8	44,7	49,6	46,3	35,1	15,7	22,6	48,1	40,6
2011	42,6	48,3	60,2	52,8	44,5	21,6	33,5	54,9	48,6
2014	35,6	48,0	61,7	60,4	46,5	10,4	23,4	59,9	48,2
2015	41,5	56,5	71,4	59,2	43,7	19,2	24,0	63,8	52,2
2016	48,0	61,3	74,3	55,7	45,5	27,5	35,2	63,2	54,9
2017	52,5	63,2	75,0	60,5	52,4	31,1	24,8	66,2	57,9

¹⁹ INSTAT, Consommation, pauvreté, bien-être des ménages : avril 2017 – mars 2018

²⁰ INSTAT, 2018

1.3 Urban mobility assessment

1.3.1 Bamako: an increase in two-wheeled travel and ownership

Existing data

The following tables show the existing national and local data on urban mobility:

Data	Scope/area	Mode and year of acquisition	Owner/custodian of data	Availability and format of data	Regular updates	Comment
Land use						
Spatial distribution of population and jobs	National and Bamako	Population and housing general census Bamako study 2030 vision	INSAT Atelier de Cergy	Report 2009 available online District of Bamako/CPAU	Yes for INSTAT (1976, 1987, 1998 et 2009)	Three-volume study (Demographic series, Habitat series and Economy series) presented in 16 thematic reports Cergy workshops : map on the growth of the urban task in Bamako
Travel demand						
Modal split	Bamako	Household-mobility survey, 1993 Tramway study, 2010	District of Bamako	-	No	Occasional collections: last household-mobility survey in 1993
Origin-Destination data	-	-	-	-	-	-
Traffic						
Traffic counts	National and Bamako	Counts	National Road Authority (DNR)/ Road Data Service (SDR)	Reports available on SDR	Yes	Data regularly update but do not take into account transport dimension; fill rate not considered
Parking						
Occupation and rotation data	Bamako	Tramway feasibility study (Serue, Transitec & Nogha 2009)	District of Bamako	-	No	Occasional collections

Public transport						
Route itineraries and stops	Bamako	Tramway feasibility study (Serue, Transitec & Nogha 2009) SIFI study (Eco-Access, 2019)	DNTTF SIFI	Report available on DNTTF and SIFI	No	Occasional collections
Level of service						
Users satisfaction data	non-existent	-	-	-	-	-
NMTs						
Pedestrian/bicycle counts	non-existent	-	-	-	-	
Users satisfaction data						
Models						
Traffic model	non-existent	-	-	-	-	
Transport model						
Externalities						
Road Safety	National and Bamako	BAD study, 2019 District of Bamako/DRCTU Data collected ANASER	BAD study, 2019 District of Bamako/DRCTU Data collected ANASER	BAD (available online) District of Bamako/DRCTU Data collected ANASER	No	Occasional collections despite the existence of ANASER and the transports observatory
Air Quality	Bamako	2019 2004 et 2008	UE/Ginger-Burgeap, 2019 OMS (2004 et 2008)	District of Bamako/DRCTU Data published in OMS reports of international comparison	No	Data about emissions and fine particles
Gender issues						

	Mobility needs	Public transport	Traffic	Parking	NMT	Model	Externalities		
	<i>Modal split, origin-destination, trip purpose, etc.</i>	<i>Operational data (route itineraries and stops, level of service, etc.)</i>	<i>Traffic counts and surveys</i>	<i>Rotation and occupation data</i>	<i>Pedestrian / bicycle counts and user satisfaction survey</i>	<i>Multimodal model (traffic and public transport)</i>	<i>Road Safety</i>	<i>Air quality</i>	<i>Gender issues</i>
Lomé, Togo		● annual	●				● annual		
Bamako, Mali	● 1993	● 2010 et 2019	● 2015 et 2016				● 2019	● 2004, 2008 et 2019	
Ouagadougou, Burkina Faso	● 2011, 2014 et 2016	● 2011	● 1992, 2011, 2014, 2016 et 2018		● 1992		● 2017	● 1998	
Cotonou, Benin			● 2016			● 2016	● annual		

Legend

- No data available
- One-time data collection
- Regular updates

- Regular updates and public availability
-

A household mobility survey was conducted in Bamako, in 1993. The number of daily trips was estimated at 3.00 journeys per person. Though this information is old, it still sheds light on how mobility has been organized, historically.

Table 6 | Modal shares in 1993²¹

Mode	Percentage
Walking	56%
Bikes and similar	2%
Passenger cars	9%
Motorcycles	17%
Minibuses, pickups and similar	11%
Public buses	5%

With such a level of mobility, and the current population of Bamako, it means that more than 6 million trips are made in the urban area every day. A non-negligible share of these journeys are commutes between the center and the outskirts, due to the importance of the city center, located on the left bank. Although the bridges are used in a one-way configuration during peak hours to keep the traffic moving, crossing the river is slowed by bottlenecks.

A few questions remain:

- In terms of motorized travel, what is the impact of the increased use of motorcycles? Some data suggests an internal distribution for individual transport modes that would be 20% for cars and 80% for motorcycles.²²
- When more households own two-wheeled vehicles, does walking decline as a share of mobility?
- Has the disappearance of public buses affected the modal share of collective transport? Or have minibuses absorbed the equivalent share of passengers of the bus companies that have shut down?

A largely unsurfaced, heavily used road system

The total length of the road system in the District of Bamako has been estimated at 1,600 km, of which 350 km are paved.²³ The city center has a higher density of paved roads than the other parts of the city. The main road network is relatively well structured, with thoroughfares of 2 x 2 lanes, or even 2 x 3 lanes.

One of the main problems of the city is the north-south link, crossing the river that separates the two banks of Bamako. There are only three bridges (the Martyrs Bridge, south of the city center, the King Fahd Bridge, west of the city center, and the China-Mali Friendship Bridge, east of the city center) crossing the river, whereas a large number of links connect the east and west sides of the city.

Travel (of all types) in Bamako is significantly different between the left and the right banks. In 2011, river crossings during peak hours were estimated at between 40,000 and 60,000 vehicles per hour²⁴ – before the construction of the third bridge. The construction of this third bridge has reduced transit traffic, which at the time was estimated at 48% of the traffic flows in the city center.

²¹ Data from the household mobility survey of 1993 : Olvera, L. D., Plat, D., & Pochet, P. (2013). The puzzle of mobility and access to the city in Sub-Saharan Africa. *Journal of Transport Geography*, 32, 56-64.

²² Sibidé (2011). op. cit.

²³ Sidibé (2011). Mobility in the District of Bamako. Plateforme des partenaires de Bamako. Angers, France.

²⁴ Sidibé (2011). op. cit.



Figure 9 | Road infrastructure of the primary network, Sotrama Ring Road²⁵



Figure 10 | Infrastructure of lesser roads in the Sans-Fil quarter²⁶

The increase in car ownership and constraints involved in crossing from one side of the river to the other have resulted in certain road sections becoming heavily congested. These hotspots include: Boulevard du Peuple, Avenue AlQoods and Avenue Zayed. Figure 11 shows the main road infrastructure.

The capacities of the urban area's primary network are reduced by road congestion. Although the roads are often wide enough, capacity is reduced because the sidewalks are occupied by solid waste that builds up on the sidewalks, street vendors or parked cars or motorcycles. Pedestrians are thus forced to walk on the road.

²⁵ Source: Eco-Access, 2019

²⁶ Source: Eco-Access, 2019

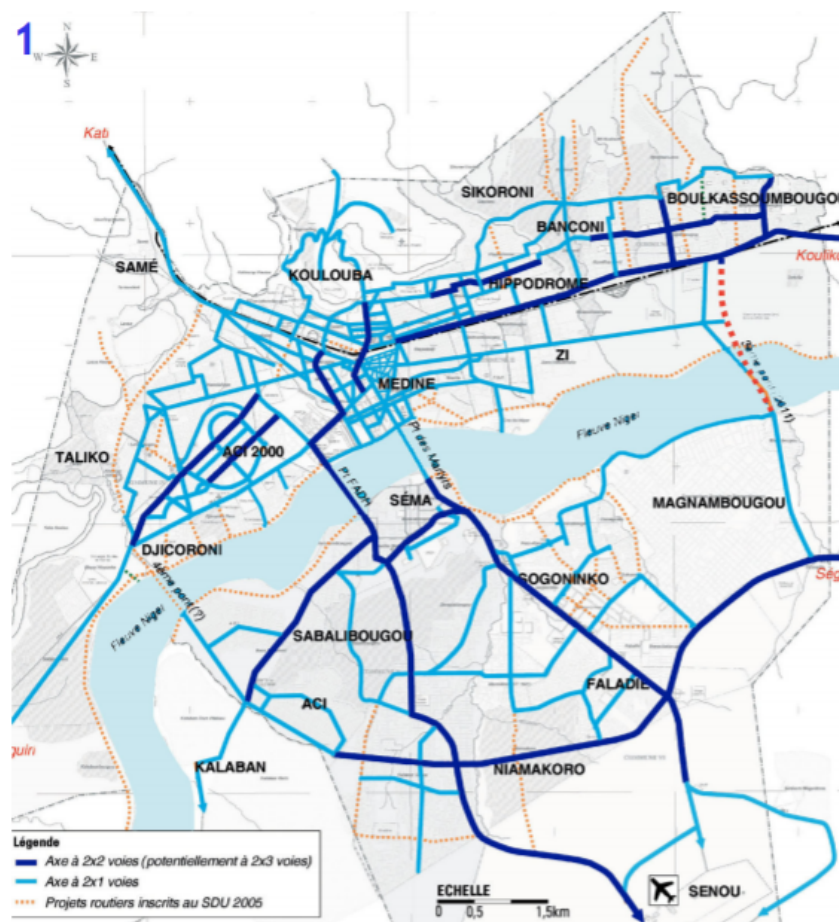


Figure 11 | Road infrastructure of Bamako ²⁷

Dangerous environment for pedestrians

Pedestrians are not taken into account in the planning efforts, and they face difficult walking conditions. As described above, on the main roads, where sidewalks exist, pedestrians are forced to walk on the road (Figure 12 and Figure 13). On the secondary roads, the situation may be more complex. No space is devoted to pedestrians and sidewalks are rare. In unplanned settlements, a relatively high density is combined with a flagrant lack of infrastructure. Pedestrians walk on dirt surfaces which may become impassable when it rains. Open-air sewage systems only exacerbate the problems and make walking even more unpleasant.

Conflicts between modes of transport are common: pedestrians block motor vehicle traffic, endanger themselves and increase the number of road accidents. According to data from 2015, in Bamako, 156 people died in traffic accidents, 2,018 people were seriously injured and 1,434 were slightly injured.²⁸ At least 40% of the deaths were pedestrians.²⁹ The authorities indicate that at least a quarter of the accidents (fatal or not) occur on the main roads.³⁰

Car ownership rates likely to rise very quickly

The data shows car ownership rates (excluding motorcycles) that remain low in the city: growth is probably still to come. According to the estimates mentioned above, the car ownership rate is around 46 vehicles per 1,000 inhabitants.

²⁷ Source: Ateliers de Cergy, 2014

²⁸ African Development Bank (2018). Study for the improvement of road safety in the District of Bamako.

²⁹ African Development Bank (2018). op. cit.

³⁰ The roads monitored were: Avenue Al Qoods - Route de Koulikoro, Avenue de la CEDEAO, Avenue de l'OUA, Route de Samé, Route de Ségou, Route Nationale 5, Avenue Martin Luther King.



Figure 12 | Shopkeepers occupying the sidewalks of a main road



Figure 13 | Pedestrians walking on the road (main road)



Figure 14 | Motorcycles using sidewalk space for parking



Figure 15 | Waste accumulated and stored on the roads



Figure 16 | Cars parked on the sidewalk in Bamako



Figure 17 | Occupation of pedestrian space by street vendors in Kayes

Concerning motorized two-wheelers, although in the late 1990s the number of households with one or several motorcycles was estimated at 30%, this percentage went up to 60% in 2012.³¹ According to INSTAT, this percentage rose from 27.7% to 66.2% for Bamako and from 17.0% to 57.9% for the entire country between 2001 and 2017. Bamako’s rate now exceeds that of cities known for having lots of motorcycles: Lomé (38%), Cotonou (55%), and that of Ouagadougou (estimated at 65% in 2010).³²

The number of motorcycles in Bamako has risen almost exponentially: assuming 6.4 people on average per household, the number of motorcycles can be estimated at more than 250,000.³³ The vehicle ownership rate (including both motorcycles and cars) can be estimated at more than 150 vehicles per 1,000 inhabitants.³⁴

Finally, goods vehicles play a large role in congestion and the deterioration of living conditions. Because there is no bypass route around the city, these vehicles have no alternatives, even if their final destination is not the center of Bamako. It is estimated that at least 300 tractor-trailers go in and out of the city every day, but there are no plans for traffic, parking or storage solutions.³⁵ With projected economic growth, the needs in terms of goods transport will keep increasing.

The repeated failures of public and private institutional transport companies

Initiatives for public transport since the country’s independence have focused solely on the capital, Bamako. They are characterized by a succession of failed public and private companies. The first structured public transport company, the Société Nationale des Transports Urbains de Bamako (STUB), founded in 1962, collapsed in 1968, leaving a vacuum to be filled by private companies such as the Compagnie Malienne des Transports Routiers (CMTR) and the Société de Transports du Mali (SOTRAMA).³⁶ Bamabus (Sotraca SA) and Tababus provided urban passenger transport from the early 1990s to 2000. The last wave of private companies for structured urban transport in the District began in 2003, with concession agreements signed between the District Council and the companies Bani-Transport, Diarra-Transport, Gana-Transport, and others. However, no companies, whether public or private, were able to survive in the long run. They either shut down or migrate towards intercity transportation, letting the informal sector gradually take over in the city.

Table 7 - Founding/Dissolution of urban transport companies from 1960 to the present

Urban transport companies	Founding Dates - Dissolution Dates
Société des Transports Urbains Bamako (STUB)	1962 - 1968
Compagnie Malienne des Transports Routiers (CMTR)	1970 - 1976
Société des Transports du Mali (SOTRAMA)	1978 - 1985
SOTRACA SA (BAMABUS), Tababus	1993 - 1998
Bani-Transport, Diarra-Transport, Gana-Transport	2003 - 2005

Paratransit services as the only option

³¹ Pochet et al. (2017). Private and public use of motorcycles in cities of Sub-Saharan Africa. Public Transport Trends 2017, pp.103-105.

³² Pochet et al. (2017). op. cit.

³³ This estimate is probably low, since certain households have more than one motorcycle.

³⁴ Kumar & Barrett (2008). op. cit.

³⁵ Ateliers de Cergy (2014). op. cit.

³⁶ SOTRAMA, founded in 1978, was unable to expand its fleet as planned. In order to meet their obligation to enlarge the fleet of vehicles, the company’s managers decided to charge independent drivers 1,000 CFA francs per day to use the name SOTRAMA on “chartered” minibuses that could, perfectly legally, operate the routes on the network that had been granted to them. This is why the name SOTRAMA has come to mean any minibus used for urban transport.

The city's public transport depends almost entirely on paratransit services. Public bus services are nonexistent. The array of services includes a plethora of minibuses, modified pickups, taxis (which combine shared transport services with on-demand transport services), motorized tricycles and motorbike taxis. Quality is low because investments are not always made to upgrade the vehicles, resulting in ageing fleets plagued by technical problems. In 2007, the average age of minibuses was estimated at 15 years.³⁷ Since then, the trend has not changed.

The minibuses, called Sotramas, with an average capacity for 18 to 20 passengers, dominated the system previously, but their share is gradually shrinking as they are replaced by taxis and other vehicles with smaller capacities. The trade unions estimate that there are currently around 3,000 vehicles in use, but there is a complete lack of reliable, recent data.

The services run on a first-come, first-served basis. The drivers wait at the departure station until they have enough passengers to make the trip profitable. Once full, the vehicle leaves for another station and the next vehicle starts to fill up at the departure station. During the trip, if a passenger exits the vehicle, the driver tries to find another passenger to pick up along the way, in order to increase the profitability of the trip. Managers at each station monitor the arrivals and departures (see Figure 19).

In Bamako, there are three main stations in the city center or nearby (see Figure 18):

- Railda: starting point for approximately 26 routes.
- Médine: starting point for approximately 14 routes.
- Terminus Vox: starting point for approximately four routes.

In the outlying areas, there are relatively fewer stations. Furthermore, there are no standardized bus stops, in terms of design or placement. Conditions are far from ideal for waiting users.

The bus stations also have operational issues. The public bus stations created by the municipalities are generally taken over by the transport trade unions, instead of being run by station management boards comprising representatives of the public authority, transport operators and shopkeepers.

Alongside the public bus stations, several private stations have developed, located in vacant lots or on the sides of the main roads. These bus stations are also run by the unions. And, understandably, each union focuses on its own interests, thereby creating a system in which their interests take precedence over any kind of overall organization strategy.

³⁷ Kumar & Barrett (2008). op. cit.



Figure 18 | Structure of the bus and minibus system of the 1990s



Figure 19 | Monitoring at the stations



Figure 20 | Uncomfortable waiting and transport conditions in Bamako

Programs were launched to improve the minibus service. One of these initiatives, funded by the World Bank, was the “Sotrama Ring Road,” (see Figure 21). Initially, the project aimed to reduce traffic congestion for collective transport services by giving priority to minibuses on the streets surrounding the central business area; followed by the possible creation of a dedicated north-south bus lane. The project also took pedestrian traffic into consideration and included programs to pedestrianize certain streets in the city center. However, the results have been disappointing due to uncontrolled occupation of the land and the failure to enforce reserved usage.

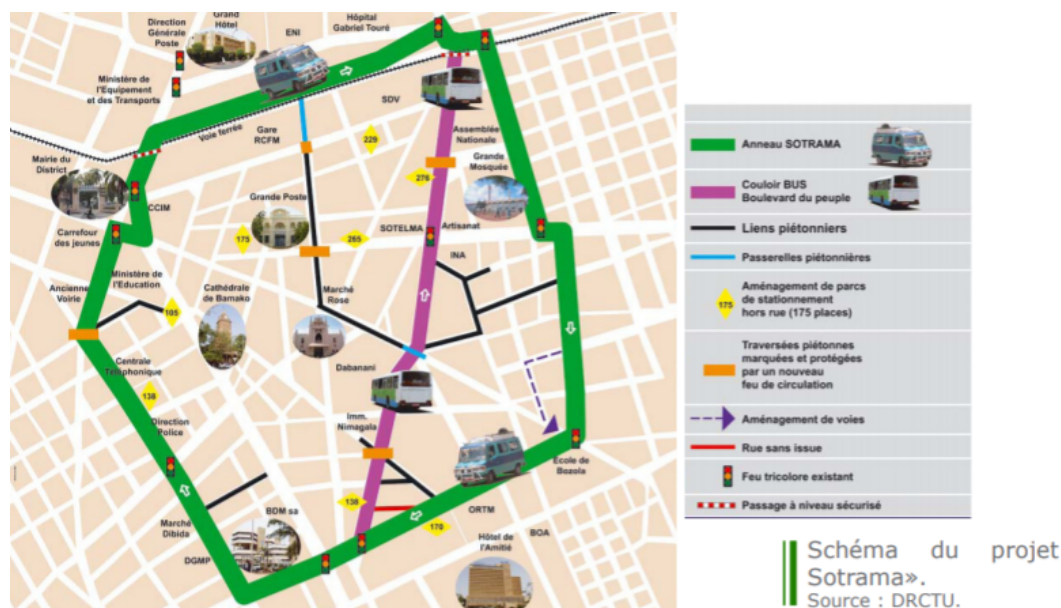


Figure 21 | Sotrama Ring Road³⁸

The operating practices are the same as for other informal services, driven by the daily search for income from ticket sales. And when supply outweighs demand, one strategy is to reduce the size of the vehicle, in order to reach its capacity more quickly and cut operating costs. This is the main factor behind the surge in shared taxis, but it also explains the accelerated growth in the use of motorbike taxis.

Shared taxis have become key players, even the main player, in collective transport. The unions, as well as the Department of Urban Traffic and Transport Management (DRCTU), estimate that there are currently about 9,000 taxis on the city’s roads. The operation of taxis combines:

- on-demand transport services (like conventional taxis)
- shared taxi services on ad-hoc routes (defined by the first user and ending when the last passenger departs)
- taxi services on regular routes.

Without appropriate regulation, drivers can switch at will between the different types of services; their choices depend mainly on opportunities to increase their daily income.

Paratransit modes of transport are mostly self-regulated; the unions and associations play a significant role, as they have replaced the regulatory body. Although regulations do exist, the public authorities fail to enforce them. Moreover, they are insufficient and fail to reflect the situation in the field.

Under these circumstances, paratransit services are the only viable solution for the city and for users. The resulting network is not optimized and several sections – including some close to the city center – have overlapping services. They fail to offer good quality, while generating considerable negative externalities (congestion, accidents, pollution, CO₂ emissions, etc.).

Planning documents and initiatives to transform mobility

One of the direct consequences of the security and socioeconomic crisis of 2012 is a lack of strategic planning documents for the city. In the transport and urban planning sectors alike, documents have not been updated or implemented.

The Master Development Plan of Bamako from 1981 was revised in 1990 and 1995 and remains the reference document for urban planning and development. The last revision, in 2002, has not been approved. During the decade to 2010, a project titled “Bamako 2030” devised a strategy for Greater Bamako which led to the creation of a support unit to set up a planning agency. It also created the

³⁸ Source: Ateliers de Cergy, 2014

SMIB (association of local authorities) to pool efforts for the planning and management of public services at a scale larger than that of the district.

More recently, the formation of a Working Group on Urban Mobility (GTMU), an initiative of the Urban Mobility and Transport Ministry, demonstrates renewed interest in the subject of mobility.

This working group could take inspiration from a report released by the World Bank, titled “Bamako: An Engine of Growth and Service Delivery”, which lists a few recommendations on urban transport:

- Better management of land will need to be integrated with reforms and investments relating to the transport system.
- Improving the walking experience of people.
- Finding solutions or a strategy to deal with the travel of goods which competes for the limited road space and increases congestion in the city.
- Understanding the failures of large bus companies and the operating model of paratransit services.
- Using information technologies to improve the general level of accessibility.

Summary for Bamako

Key observations and challenges

- No updates of strategic planning documents.
- High population growth rates and uncontrolled urban sprawl, resulting in increased pressure on urban services, including mobility.
- Importance of the city center as a catchment area for urban mobility and as a transit zone.
- Difficulties connecting the Left Bank and the Right Bank (currently only three bridges); the river acts as a major obstacle.
- Road infrastructure requiring major investment to make up for lost time; the situation is more complicated in the secondary and tertiary networks.
- Very rapid growth of vehicle ownership, especially motorcycles.
- Active transport, such as walking, is not taken into account in mobility planning, even though it represents more than half of daily trips.
- Nonexistent institutional transport services, including buses.
- Dependence on paratransit modes of transport for motorized mobility and lack of appropriate regulation for these modes.
- Lack of data on the impacts of the transport of goods.

Areas to monitor

- Complexities in the relations between the national and local authorities.
- Level of congestion which, while still acceptable, is on the rise.
- Results of the initiatives launched by the GTMU.
- Increase in the number of shared taxis to the detriment of Sotramas and Durunis.

1.3.2 Assessment of a secondary city: Kayes

In Kayes, walking is the main mode of transport, which is more the result of unmet demand due to the absence of suitable supply, than the result of a choice between various options that are available to all. Furthermore, among the modes of transport used for household mobility, the share of motorcycles is growing (over 50% of all households own a motorcycle, generally a Jakarta or Sanili, while the least poor households often own two motorcycles).

Public transport mainly consists of tricycles (approximately 1,400, according to estimates by the city government), used for the transport of passengers and goods in the city and surrounding areas.

A context of uncontrolled competition is creating difficulties for taxis. In 2002, there were between 500 and 600 taxis on the road, according to the taxi drivers' union of Kayes. In 2013, they were down to only 300 taxi drivers registered with the union. Dump trucks (about 200 vehicles) and pirogues supplement the public transport services, but with a smaller share. These operators have the same profile: most are illiterate and untrained, ignorant of the rules of the road, using very old vehicles.

None of the urban or intercity transport operators have proper parking areas or garages. Sometimes they occupy housing plots along the main thoroughfares, causing traffic problems and the risk of accidents.



Figure 22 | Transport by tricycle and shared taxis in Kayes

The mobility problems in Kayes are caused less by overcrowding than by the insufficiency of the road infrastructure and transport facilities, with a painfully inadequate proportion of asphalt roads which limits the services available. And the neighborhoods and villages on the outskirts of the city are often inaccessible due to flooding, the lack of roads or unmaintained roads. The city authorities try to maintain the municipal roads, but resources are limited. Despite the existence of an Urban Master Plan (1998-2023) that called for two main arteries going from the city's edge to its center, there is no traffic plan. This situation amplifies the fierce competition between the various transport operators in the city of Kayes, further exacerbated by the price liberalization policy.

1.4 The regulatory framework and the institutions involved in urban mobility

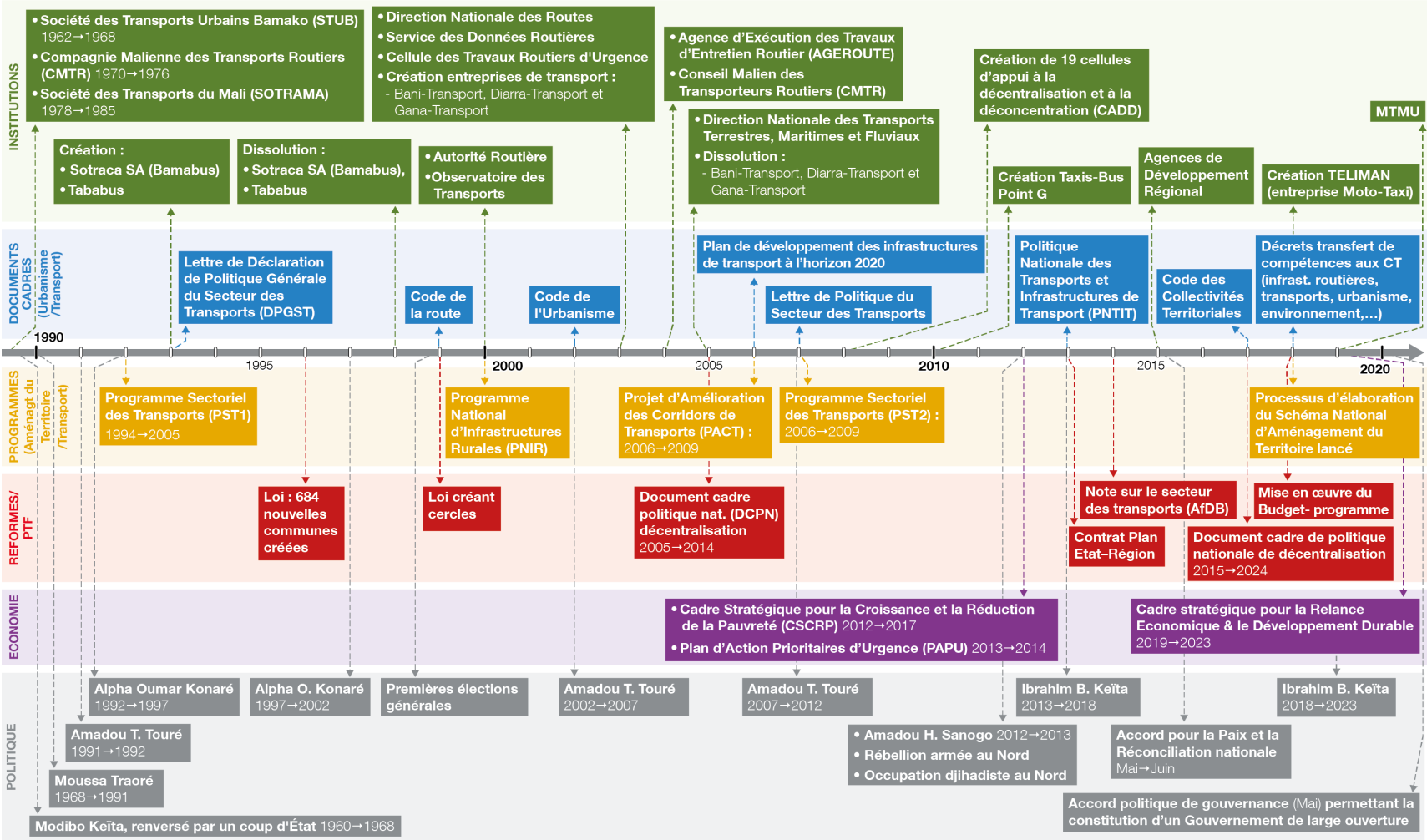
Regulatory framework and framework documents

■ Legislative framework

- Law 2017-051 of October 2, 2017 on the Local Authorities Code
- Law 02-016 of June 3, 2002 laying down the general rules on urban planning
- Decree 2019-331 of May 13, 2019 laying down the specific areas of responsibility of the members of the Government
- Decree 2018-705 /P-RM of September 4, 2018 laying down the details of the powers concerning transport matters transferred to the local authorities
- Decree 2018-234 /P-RM of March 6, 2018 laying down the details of the powers concerning road infrastructure transferred to the local authorities.

■ Framework documents

- Framework document on the national decentralization policy, August 2017
- Strategic Framework for Economic Recovery & Sustainable Development, 2019-2023
- Plan for the Development of Transport Infrastructure, at national level, 2006.
- Policy paper of 2007 for the Transport Sector, at national level, defining the Transport Sector Program (PST1) for the period from 2007 to 2015. The document covers all forms of transport in the country, including urban and rural transport. Apparently, this document has not been updated.
- National Policy for Transport and Transport Infrastructure, 2013



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Figure 23 | Chronology of institutions in Mali

The main ministries and national agencies

Regarding urban mobility, there are two different ministries involved. One is responsible for transport services and the other for infrastructure. Depending on ministry reshuffling, they are sometimes grouped in the same department. This is the preference expressed by many stakeholders, who find this configuration more logical.

■ Urban Mobility and Transport Ministry (MTMU)

Pursuant to Decree no. 2019-0331 of May 13, 2019 on the areas of responsibility of the members of the Government (Article 17), the MTMU develops and implements policies for both domestic and international transport and accessibility. To achieve this goal, the MTMU takes the initiative and the responsibility for the transport development policy, the regulation and control of road transport and the organization, upgrading and management of the modes and systems of transport. It is also in charge of improving all aspects of road safety in conjunction with the Ministry of Public Security. The MTMU also devises policies for improving urban mobility, promotes public transport in urban centers and oversees implementation by the various stakeholders involved.

Within the MTMU, the National Department for Land, Sea and River Transport (DNNTMF) is in charge of developing national policies in all areas of road, rail, sea and river transport. It also coordinates and oversees affiliated external and regional departments and public and private organizations that help implement these policies. It is responsible for transport infrastructure other than roads (river docks, parking lots, terminals and bus stations of municipal scope).³⁹

The National Road Safety Agency and the Malian Council of Road Transport Operators (CMTR) are public entities reporting to the Urban Mobility and Transport Ministry.

A working group on urban mobility (GTMU), was created in July 2019 on the initiative of the MTMU. This working group includes technicians from the Urban Mobility and Transport Ministry, the Ministry of Infrastructure and Facilities (MIE), representatives of the Governor of the District of Bamako, of the Bamako District Council, of the six other towns in the district and of the surrounding municipalities. The urban transport operators of Bamako are also represented in the group. The GTMU working group is tasked with making proposals to improve urban mobility in the metropolitan area of Bamako. Four main projects are planned in the medium term, with three concerning public road transport, and the fourth a water taxi project. The long-term measures are more strategic and concern several components of the system.

The MTMU holds annual transport meetings to assess the progress of the devolved projects and to seek appropriate measures to ensure that they are implemented properly. For 2019, the theme was “Transport and Urban Areas: Challenges and Prospects.”

■ Ministry of Infrastructure and Facilities (MIE)

In order to implement the national policy for the development of transport infrastructure and facilities, the MIE takes the initiative and the responsibility for designing and building road infrastructure, bridges and tunnels, railways, airports, inland ports and facilities of national interest. It is also in charge of the maintenance of road infrastructure. The Road Building and Maintenance Agency (AGEROUTE) as well as the Road Authority (RA), which operates as a Road Maintenance Fund (FER) for countries in the sub-region (Senegal, Ivory Coast, Guinea, etc.), are under the supervision of the MIE.

With the integration of the two ministries (MIE and MTMU), the National Institute for Training in Facilities and Transport and the Unit for Planning and Statistics in the Facilities, Transport and Communications Sector fall under their joint supervision.

³⁹ DNNTMF, Law no. 02-057 of 16/12/2002.

■ **The Ministry of Regional Administration and Decentralization (MATD)**

The MATD prepares and implements the national policy for regional governance. It coordinates and oversees the activities of the government representatives in the devolved and decentralized administrative districts. It facilitates the exercise of the powers devolved to the local authorities and monitors the legal compliance of their decisions. It ensures that the development policies and programs of the local authorities are consistent with those of the central government.

The Regional Development Agencies (ADR) are technical bodies under the supervision of the MATD, with a portfolio of actions, allocated resources and strategic partners, for the purpose of providing long-term assistance to the local authorities in their roles as project owners. The agencies are intended as a tool for adapting to the specific needs of the various local authorities. Planning contracts⁴⁰ are signed with the regions in order to reach the development goals.

■ **The Ministry of Housing, Urban Planning and Social Housing**

The Ministry of Housing, Urban Planning and Social Housing takes the initiative and the responsibility for developing and monitoring the utilization of housing and urban planning tools. It is tasked with facilitating the harmonious development of urban areas by implementing measures to provide as many people as possible with access to decent housing. It is also in charge of establishing the construction and urban planning rules and monitoring their application, and of implementing the program for the development of cities and the rehabilitation of spontaneous settlements.

■ **Ministry of Public Security and Civil Protection (MSPC)**

The MSPC plays a significant role in the delivery of urban transport services by establishing and enforcing rules for public security and civil protection. For example, in Bamako, the Traffic Enforcement Brigade (CCR) checks the validity of vehicle registration documents and drivers' licenses. The MSPC is also closely involved in improving road safety, in conjunction with the MTMU.

Local authorities

■ **Municipalities**

Municipalities have powers in connection with economic, social and cultural development. They are in charge of creating and managing public facilities for municipal purposes, including municipal road infrastructure, public transport and traffic plans. Municipalities are also in charge of managing all matters of municipal interest, such as the land use plan and the development of the municipal space. They also have the power to create municipal public services and to decide how they will be managed.

- As a decentralized administrative entity, **the District of Bamako** encompasses six urban municipalities, each governed by a mayor with specific local prerogatives. Although elected by the District Council, the District Mayor has no hierarchical authority over the six other mayors. The District is supervised by the ministry in charge of local authorities, while the municipalities are subject to the oversight of the Governor of the Special District of Bamako, a devolved administrative entity with the same scope. The District Council includes the Department of Urban Traffic and Transport Management (DRCTU), its technical department.
- The **SMIB** (association of local authorities) was created in 2018 to administer the “Greater Bamako” strategic planning project until 2030. The SMIB groups together the six municipalities of the district, plus the Bamako District Council and the 18 local communities in the vicinity of Bamako.

⁴⁰ Six regions already have one, for a total cost of over 19 billion CFA francs: Sikasso, Ségou, Mopti, Timbuktu, Gao and Kidal. The contracts for Kayes, Koulikoro and the District of Bamako are pending.

2. The challenges for each priority theme

2.1 Institutional framework and urban transport management

The current institutional framework lacks clear delineation. On the one hand, the ministries have overlapping powers, and on the other hand, the distribution of responsibilities between the central government and the local authorities is not always precisely defined. The lack of resources appropriated to the local authorities accentuates the difficulties. Unable to exercise their powers, they find themselves in competition with the government to take emergency measures.

- **Overlapping powers between the different ministries.** The main ministries involved in urban transport – Transport, Infrastructure, Security and Local Authorities – perform their missions without necessarily coordinating amongst themselves. From an operational point of view, this obviously engenders difficulties, particularly in terms of the coherence of infrastructure projects.
- **A poorly defined scope of action for the District of Bamako.** The District and the municipalities represent two legally autonomous levels of local government that cannot impose decisions on each other. The responsibilities of these two levels overlap in numerous areas. Law no. 96-025 of February 21, 1996 giving special status to the District of Bamako, makes it responsible for the development plan, whereas Law no. 95-034 of April 12, 1995 on the Local Authorities Code, makes the municipalities responsible for creating a land use plan consistent with the Kati Cercle plan.
- **Institutional fragmentation that prevents metropolitan governance.** The metropolitan area of Bamako encompasses 29 municipalities in addition to the six located within the District of Bamako. This institutional fragmentation prevents planning and management of public transport services at the metropolitan level. The creation in 2018 of the SMIB, which groups together the six municipalities of the district, plus the Bamako District Council and 18 outlying communities, raises the hope of possible coordination at the metropolitan level, in matters concerning land use planning and roads. Unfortunately, public transport is not one of the responsibilities of the SMIB for the time being.
- **An unfinished decentralization process.** The decentralization process is based on the 1992 constitution and on a 1995 law, cited above. The local authorities do not have sufficient human and financial resources to exercise their powers. Furthermore, the powers relating to the road system and sanitation have not been transferred. The absence of a formal transfer by the Council of Ministers has created a legal vacuum that reduces the local authorities' ability to plan, manage and coordinate the road system.
- **Attempts at coordination at the national and metropolitan levels.** In 2001, given the crisis of urban transport and the desire of the stakeholders to find a framework for cooperation to rehabilitate the sector and cope with rising demand for mobility in the District of Bamako, the central government decreed the creation of the National Council for Public Passenger Transport (CNTRAP), under the authority of the Transport Ministry. In the District of Bamako, the Governor issued Order no. 018/HC-DB of June 26, 2001 creating the Regional Council for Public Passenger Transport (CRTRAP). The central government is required to consult with these bodies on matters such as the choice of routes to serve and their technical operating procedures, the signing of agreements between the local authorities and approved transport operators, and monitoring the performance of these agreements. It can also make suggestions. But the CNTRAP and the CRTRAP have never been able to operate properly, due to the lack of ownership of the system by its stakeholders.⁴¹
- **A political commitment to resolve urban mobility issues.** In July 2019, the Urban Mobility and Transport Ministry brought together the stakeholders involved in urban mobility in the capital. This coordination effort made it possible to set short, medium and long-term joint objectives that can be used as a basis for institutional reform and better operational coordination.

⁴¹ In 2018, a motorcycle taxi company called Teliman was granted an authorization by the District Council without the CRTRAP being consulted first. The same situation occurred for the agreement signed on August 24, 2019 between the District Council and the Chinese company ZEV (Zhanzhi Kangsheng International Trading Beijing Co., Ltd.) to add 50 buses to the current system for a pilot phase combined with a feasibility study.

Domain	Urban planning	Public transport						Public spaces				
		Institutional public transport (formal collective services)	Road-based services stations & ranks	Paratransit (informal collective services)				Road network infrastructure	Traffic management	Parking	Non-motorised modes	
				Bus services (regular lines)	Urban minibus	Collective taxi	Mototaxi				3-wheelers	Walking
Strategic level <i>What do we want to implement? What resources are available to do so?</i>	Policies / Plans	District/CPAU + MATD/ADR + MHULS/DNU	Non-existent									
	Financing	State (MEF)	MTMU & District	Almost non-existent (in theory, DNTTMF)		Unions Associations	Non-existent (in theory, MIE/DNR)	MTMU	Non-existent			
Tactical level <i>What services ought to be developed to achieve objectives? How to go about it?</i>	Regulation	Law 02-016 that defines general urban planning rules	State and Local government (Traffic code)	Non-existent	State and CT (Traffic Code and Local Government Code)		Non-existent	MSPC/CCR				
	Licences Permits Contracts	Communes (signature) / DRU (instruction)	Contracting between authorities and operators			MTMU/DRTT						
	Fares				Almost non-existent (in theory, MTMU/DNTTMF)		MIE/AR					
	Infrastructure, Facilities	State (MEF)		Local government	Operators		MIE New infrastructure: DNR Communal roads: Bamako local government	MIE/DNR	Non-existent	MIE/DNR	Non-existent	
Operational level <i>How to produce services in an efficient manner?</i>	Operations / Maintenance		Bamako local government & unions / operators			MIE/AGERROUTE & Local government	State (DNR)			Non-existent		

Problematic	Responsibilities are not assigned, not performed or conflicts between stakeholders hamper any type of action
Not satisfactory	Responsibilities are not sufficiently clear and conflicts between stakeholders are possible
Satisfactory	Responsibilities are clearly defined
Not pertinent	

- MATD Ministry of Territorial Management and Decentralisation
- MEF Ministry of Economy and Finance
- MIE Ministry of Infrastructure and Facilities
- MHULS Ministry of Housing, Urban Planning and Social Dwelling
- MSPC Ministry of Security and Civil Protection
- DNR National Office of Roads

- DNTTMF National Office of Land, Maritime and River Transport
- DRTT Regional Office of Land Transport
- DNU National Office of Urban Planning
- DRU Regional Office of Urban Planning
- ADR Agency for Regional Development
- AR Road Authority
- CCR Road Traffic Company (Police)
- CPAU Urban Planning Agency Pre-configuration Group
- CT Local Governments

Figure 24 | Urban transport governance matrix in Bamako

Domain		Urban planning	Public transport				Public spaces					
			Institutional public transport (formal collective services)	Road-based services stations & ranks	Paratransit (informal collective services)			Road network infrastructure	Traffic management	Parking	Non-motorised modes	
					Minibus (interurban)	Collective taxi	3-wheelers				Walking	Bicycle
Strategic level <i>What do we want to implement? What resources are available to do so?</i>	Policies / Plans	State services (DRU) and City of Kayes	Non-existent	Cited in the SDAU of the city but not respected	Non-existent of not operational							
	Financing	City of Kayes (eventual support from State)	State	Lack of resources explains why operators develop individual ranks	Non-existent		State and City of Kayes (for communal network)	Limited because of lack of resources				
Tactical level <i>What services ought to be developed to achieve objectives? How to go about it?</i>	Regulation	Law 02-016 that defines general urban planning rules	City of Kayes and Regional Office of Land Transport	City of Kayes and Regional Office of Land Transport	City of Kayes and Regional Office of Land Transport		Non-existent	State and CT (Traffic Code and Local Government Code)				
	Licences, Permits and Contracts	Collaborative between Commune and DRU	Contract between authority and operators	Non-existent	City of Kayes and Regional Office of Land Transport							
	Fares					Non-existent						
	Infrastructure, Facilities	Commune Urbaine de Kayes			Individual operator's ranks are often temporary areas belonging to the city or operator's terrains	Non-existent (in theory, City of Kayes is responsible)		MIE and City of Kayes (for communal network)	City of Kayes	Non-existent	National Office of Roads	Non-existent
Operational level <i>How to produce services in an efficient manner?</i>	Operations / Maintenance			City of Kayes and unions/associations	Operators		MIE/AGEROUTE and City of Kayes (for communal network)	State and City of Kayes	Non-existent			
Observations			Proposed change to the 2018-003 law pertaining to distribution of responsibilities between Commune and State	Proposed change to the 2018-003 law pertaining to new responsibilities for the Commune								

Figure 25 | Urban transport governance matrix in secondary cities (Kayes example)

Strengths	Weaknesses
<ul style="list-style-type: none"> ■ Strong interest on the part of the government in urban mobility issues ■ The recent creation of the SMIB (Greater Bamako) 	<ul style="list-style-type: none"> ■ Overlapping powers at the level of the District of Bamako ■ The lack of resources (financial, human and material) preventing the effective implementation of programs. ■ Few initiatives for secondary cities.
Opportunities	Threats
<ul style="list-style-type: none"> ■ Set-up of a working group on urban mobility. ■ The decentralization process and the objective of transferring budgetary resources to local authorities. 	<ul style="list-style-type: none"> ■ The lack of coordination between the institutional stakeholders. ■ The tendency to create new institutions for every problem, instead of relying on existing institutions.

Figure 26 | SWOT analysis of the institutional structure of urban mobility in Mali

2.2 Funding sources devoted to urban transport management

- **Tax revenues for road transport** are mainly based on fuel consumption, as well as road tolls and weighing fees. Fees for road use make no distinction between urban transport and general transport. These resources are managed by the Ministry of Infrastructure and Facilities through the Road Authority (RA), which collects:
 - The equivalent of 35 CFA francs per liter of fuel purchased.
 - The revenue from the tolls on the national roads.
 - The axle load fees.

The Road Authority only handles funding; it is not involved in the execution. The funding is made available to AGEROUTE for the construction of new road infrastructure and, to a lesser degree, for road maintenance. The local authorities do not have access to the funds.

- **Revenue from the implementation and operation of collective modes of transport, as well as from vehicle registrations**, goes directly into the public coffers. One portion of the revenue is collected from the services of the DNTTMF (in 2018, 850 M CFA francs in the District of Bamako), while another portion corresponds to Road Safety taxes levied on behalf of the ANASER on driver's licenses, vehicle registrations and license plates (400 M CFA francs, in the District of Bamako).
- **The local authorities do not currently have enough resources to meet the needs for investment.** Although local taxes represent a lower share of their resources than in other countries in the sub-region, the local authorities of Mali contribute a higher share to overall public spending. In order to facilitate the decentralization process, a gradual transfer of budgetary resources from the central government to the local authorities has been announced: the government has committed to transferring 30% of its budget revenue by 2018.

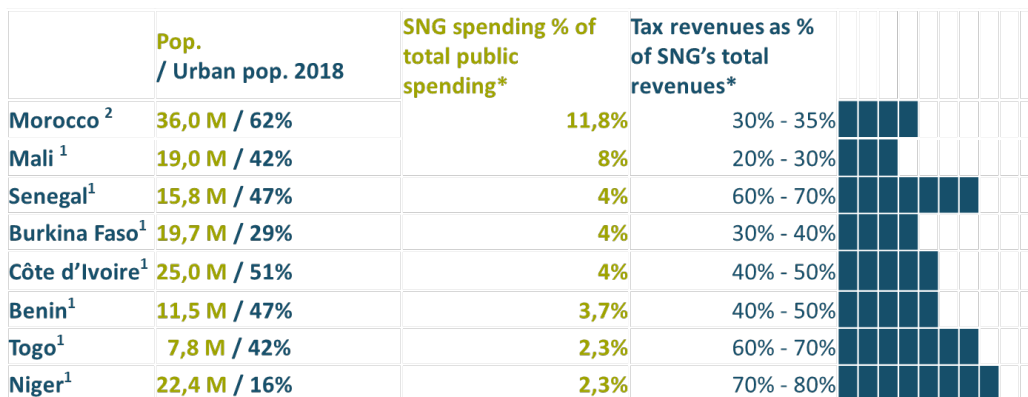


Figure 27 | Comparison of tax revenues and spending (in %) of the local authorities in various African countries⁴²

■ **Investment in public transport is exclusively private and insufficient.** Obeying the logic of the informal economy, private owners tend to invest little in the system. As a result, services do not get upgraded and the level of quality remains low. The assistance provided by the central government to purchase new vehicles is often limited to VAT exemption for new vehicles, but this advantage is not very relevant to collective transport services, which mostly operate used vehicles. Currently, urban transport services are exclusively informal, and therefore financed by private sources:

- Self-financing (majority) through personal and/or family savings (almost always to acquire used vehicles).
- Gift from a family member.
- Lease by the vehicle's owner: “work and pay”.
- Infrequent use of bank credit: financial institutions are wary, as the paratransit operators lack guarantees.

Yet the need for financing is high. Upgrading the vehicles on the road requires a financial effort, but this is beyond the reach of the current operators. Therefore, institutional stakeholders must provide support.

⁴² Hochet et al. (2014). Livre blanc de la décentralisation financière dans l'espace UEMOA (White Paper on Financial Decentralization in the West African Economic and Monetary Union).

The following diagram presents the financing circuit in Mali:

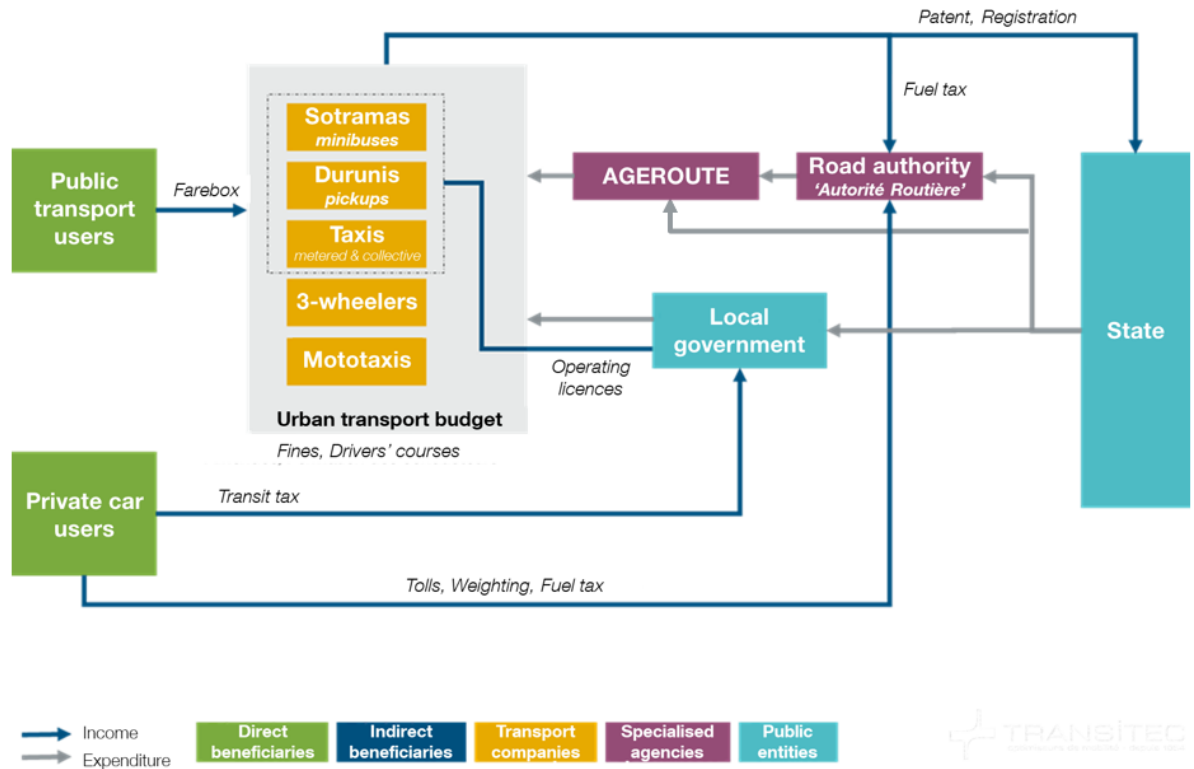


Figure 28 | Urban mobility financing in Mali

Strengths	Weaknesses
<ul style="list-style-type: none"> Commitment of the central government to the search for (outside) financing sources for projects and programs. An agency with resources devoted to road maintenance and investment. 	<ul style="list-style-type: none"> Lack of financial resources within the urban transport sector. Difficulties in the transfer of resources to the local authorities.
Opportunities	Threats
<ul style="list-style-type: none"> New urban transport projects in the form of public-private partnerships (metro-bus, tramway, etc.). 	<ul style="list-style-type: none"> Problems in the entities' ability to absorb the mobilized funds.

Figure 29 | SWOT analysis of urban mobility financing in Mali

2.3 Performance and ridership of public transport

As is the case in many cities of Sub-Saharan Africa, public passenger transport services in the cities of Mali have never been the focus of policies that are well designed and implemented effectively and efficiently.

- **No institutional public transport services.** Like in many African cities, institutional public transport has not survived the method of public management, excessively low fares, congestion and/or competition with paratransit. The deployment of a higher-capacity transport system will require the implementation of all the support measures required to guarantee the performance of public transport.
- **Self-organized paratransit services that are efficient for the operators.** The ability of the informal transport sector to adapt and organize itself means it can offer its users a minimum level of services: mixed transport, service to isolated, outlying neighborhoods, on-demand service, etc. However, this is undertaken in infringement of the regulations, i.e., not having the required administrative documents, using front persons, not complying with safety standards, etc. Furthermore, the services provided are low-quality, in old vehicles that pollute excessively, etc. The efficiency of these services is mainly assessed in terms of the revenue they generate for the operators.
- **In Bamako, an attempt to improve the performance of Sotrama.** With the Sotrama Ring Road, the district has sought to improve the performance of paratransit services by reserving lanes around the city center for the exclusive use of minibuses. However, this initiative was not ultimately successful, as the reserved space was used for other activities.
- **A trend towards smaller-capacity vehicles...** Shared taxis and motorbike taxis have developed dramatically in Bamako over the past few years. In order to become more profitable, the operators have changed the type of vehicles they use. Increased congestion may amplify this trend, which has already been observed in other cities on the continent.
- **...especially in the outskirts.** Although the minibuses do venture out into the outlying areas, where transport services are difficult to provide due to the nonexistence or poor quality of the road infrastructure, they do not, however, serve all of the neighborhoods. Thanks to their flexibility and low cost, motorized two-wheelers and tricycles have developed, becoming a favorite mode of transport for people in Bamako.
- **Secondary cities dependent on paratransit services.** In secondary cities, the few services available to people are shared taxis, tricycles used to transport about ten passengers and motorbike taxis. They are not subject to any planning or oversight. The central government and the municipal authorities are content to collect the taxes and fees levied on them. Users with no means of transportation of their own, such as a car, bike, motorcycle, moped, etc., have no other choice but to use paratransit services, which are uncomfortable and unsafe.

<p>Strengths</p> <ul style="list-style-type: none"> ■ Existence of paratransit services. ■ An attempt to allocate lanes to minibuses in the city center, from which lessons must be learned. 	<p>Weaknesses</p> <ul style="list-style-type: none"> ■ No institutional public transport in Bamako or in the secondary cities. ■ Difficulties in the transfer of resources (funding) to the local authorities. ■ Very weak involvement of the public authorities in the regulation of paratransit services.
<p>Opportunities</p> <ul style="list-style-type: none"> ■ Mass transit projects or projects to upgrade the minibuses in operation could unite the stakeholders around the goal of professionalizing the sector. 	<p>Threats</p> <ul style="list-style-type: none"> ■ Development of shared taxis, tricycles and motorbike taxis that make the services even harder to organize. ■ Self-organization of paratransit that is hard to reform.

Figure 30 | SWOT analysis of the performance and ridership of public transport

2.4 Private sector participation in urban transport management

Paratransit service organizations

The participation of the private sector in urban transport management can mainly be seen in paratransit services. The associations representing the profession serve as facilitators of coordination and dialogue.

- **The drivers of Bamako belong to two large unions**, with one representing 90% of all drivers. Other smaller unions exist, particularly in the secondary cities. The unions are organized in a pyramid structure: the committees from a city are divided into sections; next, the sections meet to coordinate at the regional level, and, finally, the regional level is represented at the national level.
- **As there is little or no institutional regulatory framework, the unions play the role of the authorities and become the de facto organizers of the urban collective transport sector.** With excessively easy access to the profession, as is the case in Mali, the unions often opt to control the stations and corresponding routes and introduce certain restrictions on the vehicles, owners and drivers.
- **The Malian Council of Road Transport Operators (CMTR) facilitates dialogue between the central government and the private sector.** This public entity, created by a law and managed by the transport operators, is subject to the supervision of the MTMU. It plays an important role as an intermediary between the government and the transport operators. The CMTR groups together urban and intercity transport operators. Although the CMTR aims to represent the stakeholders of the sector, the ties with the transport unions are unclear, creating a potential source of conflict. It nonetheless offers the advantage of representing the transport operators in dealings with the central government and local authorities.

The participation of civil society

Civil society – understood as a broad range of players including users, shopkeepers, NGOs, university and research institutes and others – is underrepresented and not well organized on the subject of urban mobility.

- **The Bamako neighborhood development committees** address a very wide range of subjects, and not just urban mobility issues. The authorities estimate that there are currently 70 neighborhood development committees in the city. These committees are recognized by the District of Bamako, making them the intermediaries between residents of the neighborhoods and the District authorities. As part of this process, public consultations are organized. To date, none has been on the theme of mobility. Nevertheless, the committees have initiated their own discussions with the transport unions, which informally consult them on a regular basis, on the subject of speed limits and service hours.
- **Consumer associations and NGOs are not involved in urban mobility matters.** Two consumer associations exist, but they do not get involved in the subject of urban mobility. Likewise, there are no NGOs that address these subjects. However, experiments involving citizen participation in drinking water projects were conducted recently through a civil society coalition at the national level. These could serve as a bridge to encourage more participation in subjects concerning mobility.

<p>Strengths</p> <ul style="list-style-type: none"> ■ Transport unions for dialogue with the authorities. ■ Neighborhood associations (committees) and dialogue underway between stakeholders of civil society. 	<p>Weaknesses</p> <ul style="list-style-type: none"> ■ Lack of associations for urban mobility. ■ Low visibility of existing civil society entities and little recognition of the interlocutors.
<p>Opportunities</p> <ul style="list-style-type: none"> ■ Process under development, not too late to include civil society. 	<p>Threats</p> <ul style="list-style-type: none"> ■ Lack of comprehension of the challenges of urban mobility.

Figure 31 | SWOT analysis of the participation of the private sector in urban transport management

2.5 Multimodal planning and the functioning of city centers

Urban planning

Over the past 20 years, a significant change has occurred in urban planning in Mali. Previously, the thinking was mainly in terms of economic sectors, and development was on a project-by-project basis, rather than through the implementation of a strategic plan.

- **Numerous urban master plans were developed, but they were rarely implemented and never updated.** 101 cities in the country had urban master plans, but very few actually implemented them, and many became obsolete. The last urban plan of Bamako expired in 2005, and it has not been updated since.
- It has been decided that the central government, through a **National Land Use Policy**, will develop a **vision for urban development**, and that the local authorities will make it operational through Urban Plans to be laid out in Sectoral Development Plans. These Urban Plans are to include a section on urban mobility.
- **A process has been put in place for the local authorities to approve the projects.** The Municipal Council must always be consulted on any development or facility projects led by the central government or by any other authority or public or private body within the municipality. According to the municipal elected officials and civil servants, this is not always the case. Likewise, the Municipal Council is also required to obtain the opinions of the village councils and portions of neighborhoods and/or entire neighborhoods before any deliberations on topics including the road system, public transport, etc.⁴³
- **The local authorities have insufficient human resources to manage the planning process.** For the most part, the central government bears responsibility for planning, with the exception of the District of Bamako, which very recently created a support unit to set up a planning agency. Thus, in practice, the local authorities are the project owners, but inconsistencies remain, due in particular to the funding mechanisms.
- **The creation of an inter-municipal structure for Greater Bamako** has brought the strategic planning process to the metropolitan level. Since 2010, studies have focused on the sustainable urban development of Bamako (World Urban Forum 2010 and the Ateliers de Cergy in 2014, etc.), leading to an initiative called “Bamako Horizon 2030” to be implemented by the recently created SMIB.

Planning of urban mobility

- **The cities of Mali have no Urban Mobility Plan**, nor any projects to develop one. The institutional responsibility for such planning has not been determined. The decentralization process, which is recent and still ongoing, has focused mainly on reorganizing responsibilities for planning and building infrastructure, rather than on subjects in connection with transport services.
- **Urban mobility issues are only addressed on a project-by-project basis** (often having to do with infrastructure), and, as the projects do not follow a strategic plan, they can at times be inconsistent with each other. This situation increases the likelihood of conflicts between institutions. For Bamako, examples include:
 - The fourth bridge to the west of Bamako, to link Kati Road to Kalaban Road, demonstrates the urgency of connecting the two banks of the city without overloading the streets in the city center.
 - The traffic management projects recently announced by the GTMU, which aim to reduce congestion in the central areas where the city’s activities are concentrated.
 - The tramway project, which began in 2010 as a stated objective to meet current demand and provide mass transit solutions as growth in mobility is expected. This project was designed to guide the development of the city along two main roads.

⁴³ Decree no. 2017-_ 0818/P-RM of 26.09.2017 approving the framework document of the national decentralization policy and its action plan 2017-2021.

- **Several large-scale projects are currently in competition in Bamako.** Supported by foreign partners, they are all seeking to solve the city’s mobility problems. Although some are compatible with each other, this is not the case for all of them. Selecting and coordinating them are major challenges for Bamako. Some of the main projects include:
 - A system of reserved-lane public transport in the District of Bamako, supported by Chinese donor institutions.
 - A Bus Rapid Transit system for Bamako, a project of the president supported by a Turkish cooperation agreement.
 - Water taxis linking the two banks of the city, supported by South African financing.
 - Upgrading of the minibuses on the city’s streets, with support from India.
- **The secondary cities get less large-scale projects than Bamako.**

Multimodal organization

- **Active modes of transport are insufficiently taken into consideration in local area planning and public space management.** One of the main problems for multimodal organization in Mali is that active modes, particularly walking, are not taken into consideration, even though walking accounts for at least half of all trips. When sidewalks exist, they are taken over for commercial purposes or as parking for motor vehicles. On the outskirts of cities, there are practically no spaces set aside for pedestrians. A large majority of the secondary and tertiary road systems are unsurfaced, and pedestrians do not have priority and are not protected, even though they represent the largest share of mobility. No campaigns to raise awareness about pedestrians or cyclists in urban mobility have been launched in Mali.
- **Parking and traffic are poorly managed.** Parking is not managed in terms of either space or time. Drivers enjoy excessively lax rules about parking in pedestrian areas. Tractor-trailers, minibuses and other collective modes of transport, as well as cars and motorcycles, push pedestrians from their designated spaces. The problem is especially acute in busy areas: spaces near markets and health centers become de facto parking lots, with little to no charge or regulation. There are no high-capacity parking lots (either public or private) in urban areas.
- **There is a real lack of traffic management in Malian cities.** In the District of Bamako, the last traffic plan dates back to 1988, and it was limited to the city center. In Bamako, traffic jams are becoming so problematic that the GTMU is devoting greater to traffic management issues.

<p>Strengths</p> <ul style="list-style-type: none"> ■ Vehicle ownership rates and the level of congestion have not yet reached the critical threshold. 	<p>Weaknesses</p> <ul style="list-style-type: none"> ■ The Urban Master Plans are obsolete. ■ No tools for planning of mobility, traffic or parking. ■ The public space is managed to the benefit of businesses, without consideration for pedestrians (or active modes in a broader sense).
<p>Opportunities</p> <ul style="list-style-type: none"> ■ Prospects for stronger involvement of the local authorities in the planning process and in the implementation of plans. ■ Creation of the SMIB (association of local authorities) which will bring the planning process up to the metropolitan scale. ■ Several projects underway or in the pipeline that may bring structure to the transport systems. 	<p>Threats</p> <ul style="list-style-type: none"> ■ Uncontrolled expansion of urban areas ■ Risk of a swift rise in the number of motorized two-wheelers on the road.

Figure 32 | SWOT analysis of multimodal planning and the functioning of city centers

2.6 Transversal themes

Environment and quality of life

African countries are not the world’s top emitters or polluters, yet some air quality measurements reveal a serious situation. For example, according to 2004 and 2008 data, the concentration of NO_x often exceeds WHO standards (see figure below). The concentration of NO_x in the air is linked to the quality of fuels, especially diesel.

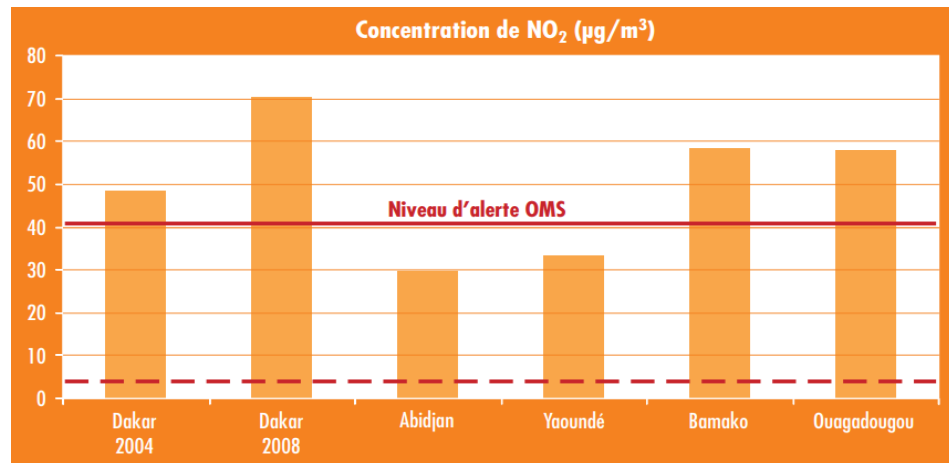


Figure 33 | Concentrations of NO₂ in some African cities (source : Liousse and Galy-Lacaux, 2010)

Similarly, measurements of particulate matter in the air show higher levels than international standards. Black carbon generated from inefficient fuel combustion are reaching critical levels in Bamako:

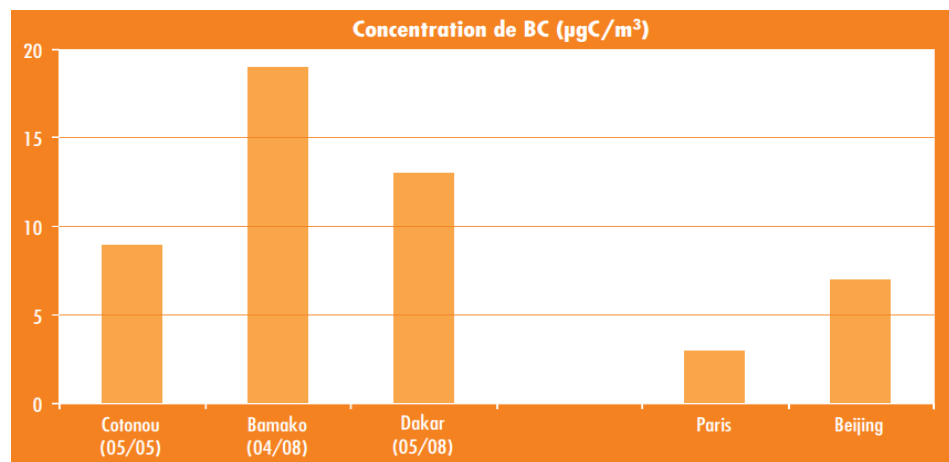


Figure 34 | Black carbon concentrations in some cities (source: Liousse and Galy-Lacaux, 2010)

A study of air quality in Bamako (Ginger-Burgeap, 2019) found that road traffic is one of the major contributors to air pollution.⁴⁴ It accounts for 82% of NO_x, 58% of VOC, 52% of SO₂, and 43% of PM10 emissions.

The study also found that the contribution of road traffic to SO₂ emissions is directly attributable to the consumption of unrefined, sulfur-rich fuels.

⁴⁴ Pollutants measured: carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides (NO_x), air pollutants (PM10) and sulfur dioxide (SO₂).

Without urgent and sustained action over time, conditions will only worsen. As part of its 2018 Green Climate Fund commitments, Mali is therefore addressing the transport-related emissions and pollution. The country has planned the following actions for urban transport:

- Monitoring of emissions from motor vehicles (including motorized tricycles and motorbikes) through comprehensive technical inspections
- Renewal of the vehicle fleet along with prohibition of the importation of used vehicles exceeding a specific age
- Use of biofuels
- Development of carpooling
- Promotion of electric means of transport
- Development of an urban and peri-urban transport system, including high-capacity public transport

The ultimate aim is to adapt to future climate change. Currently, environment and quality-of-life issues in the mobility sector tend to be overshadowed by urgent day-to-day matters. Nonetheless, it has been shown that pollution is a major public health concern.

At present, Malian cities have not yet taken specific actions:

- **Pollution is not measured daily** in Bamako and other major cities. As in most cities in Africa, the car ownership rate is relatively low, but pollution levels are particularly high, partly because of aging vehicles, low-quality fuels and the predominance of motorbikes (which use problematic two-stroke engines). Actions on several fronts, as mentioned above, are needed.
- **Pollution control is being ignored.** Incentives to renew the vehicle fleet and improve fuel quality can be implemented at low cost, considering the benefits. At this stage, these challenges are low on the list of priorities of the country’s decision-makers and local authorities.

Road safety

The data collected by ANASER, despite being fragmented, demonstrates a pressing road safety problem.

Compared with other countries in the region, Mali has rather average results in terms of road safety (see image below). However, the entire region remains an area where traffic fatalities are above the global average.

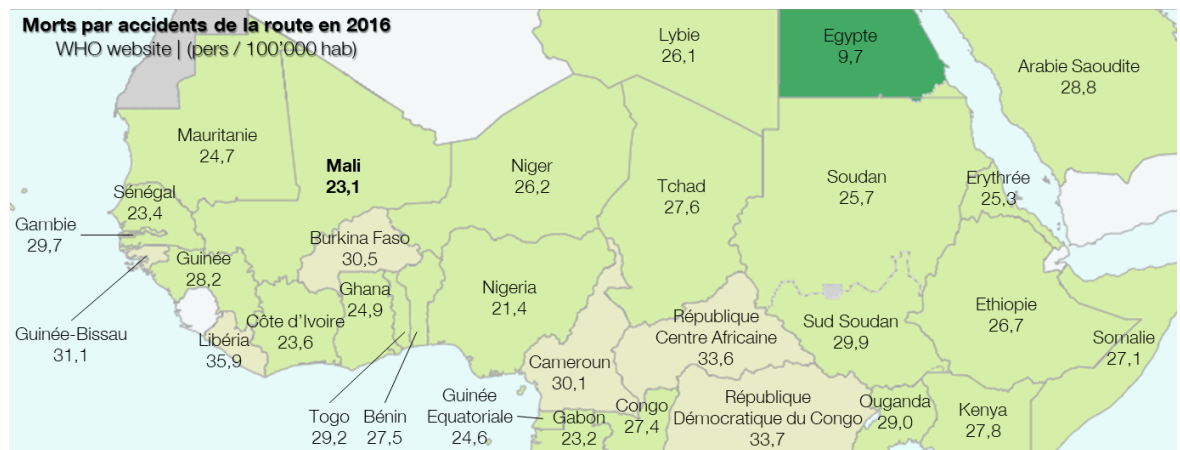


Figure 35 | WHO data on national road traffic fatalities in the region

Data for the District of Bamako show a stark increase in accidents (bearing in mind that some data may be grossly underestimated). For example, between 1995 and 2011, the number of traffic accidents rose from 412 to 2579, peaking in 2007 (2933 accidents). Similarly, the number of deaths increased fourfold (from 56 in 1995 to 194 in 2011).

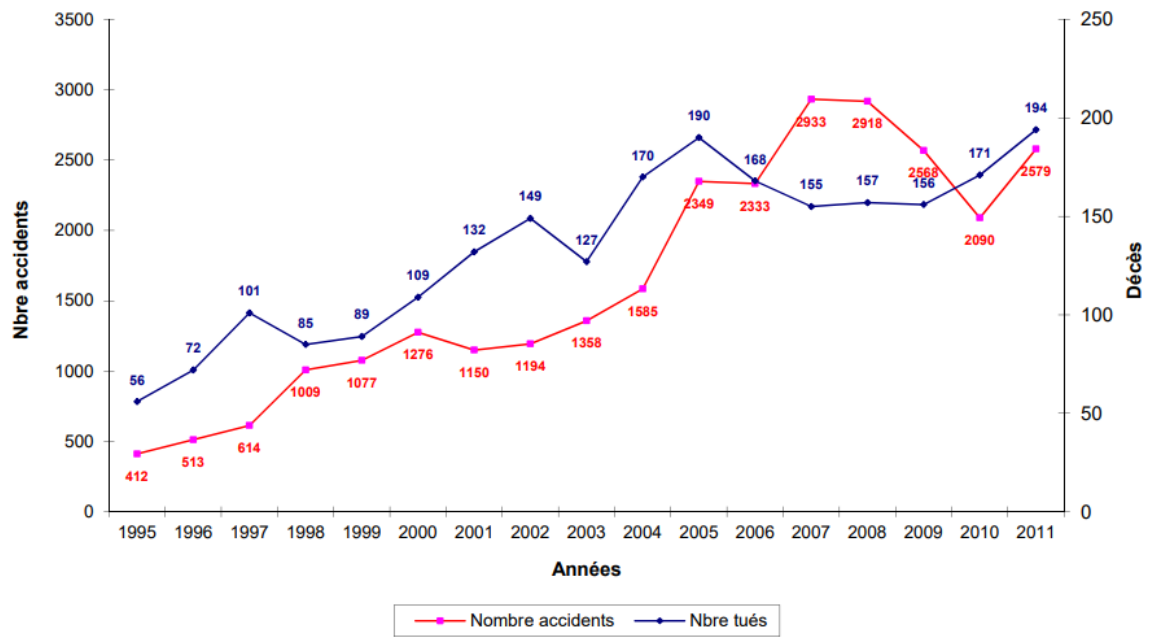


Figure 36 | Change in the number of accidents and fatalities in Bamako between 1995 and 2011⁴⁵

The establishment of ANASER demonstrates that the situation is being addressed. Changes cannot be immediate, especially because of specific circumstances:

- There is considerable **vulnerability of pedestrians and drivers of motorized two-wheelers**, the main victims of traffic accidents. The conflicts between these users and cars, Durunis and, above all, Sotrama minibuses are common and dangerous. Better sharing of road space, with sidewalks available to pedestrians and better parking management, is the basis for improving the situation to protect the most vulnerable users.
- **Rapid increase in the use of tricycles** in secondary cities is a major source of hazard. Vehicle age and overloading, poor road conditions and irresponsible behavior contribute to an already heavy toll. It is necessary to develop appropriate regulations (but not just restrictive) and conduct awareness campaigns about the problem (which ANASER already does).
- **The development of a comprehensive and reliable data collection system** for road safety is a prerequisite for establishing public policy.

⁴⁵ Sanogo (2017), op. cit.

Summary

Mali's urban populations face substantial difficulties in accessing facilities, urban services and job opportunities. While this situation can be reversed without much difficulty in secondary cities, it is extremely worrying in the urban area of Bamako.

Given how difficult it is to get around Malian cities, regardless of the transport mode, an increasing number of personal solutions (cars, motorbikes, motorized tricycles, etc.) are appearing, including low-capacity public transport under the control of paratransit operators. At the same time, soft modes (walking, cycling, etc.) receive little attention in infrastructure projects and urban planning.

In view of the national ambitions of promoting sustainable and inclusive development, it is necessary and urgent to act on each of the themes of the study to drive the desired changes through a new approach to urban mobility and accessibility.

The key challenges revealed by this diagnosis include:

- Managing the distances traveled through a streamlined urban organization.
- Giving preference to larger vehicles for public transport.
- Organizing the public space so that it can be shared harmoniously by all forms of mobility.
- Managing and supporting urban development as well as mobility tools and ensuring complementarity and consistency of actions.
- Finding sustainable funding mechanisms for effective implementation and efficient solutions.

Several actions are underway for this purpose (national decentralization policy with the empowerment of local authorities, setup of the Working Group on Urban Mobility (GTMU), creation of the *Syndicat Mixte Inter-collectivités de Bamako* [association of local authorities], transport projects and updates of master development plans, among others). Urban mobility policy must take all of these challenges into account to make coherent proposals for appropriate action.

Appendix – Interpretation grid for the governance matrix

Sector	Urban Planning	Transport public					Public spaces					
		Institutional collective transport (train, metro, bus, boats, etc)	Bus stations (or bus terminals)	Paratransit		Taxis (shared taxis, mototaxis and three-wheelers)	Road infrastructure and road network	Traffic management	Parking	Non-motorized modes		
				Professionalized	Non professionalized (minibus, shared taxis)					Walking	Cycling	
Strategical level <i>What strategies? With which resources?</i>	Policy and planning	Definition of a general Urban Development Master Plan	Corridor-based or network-based project definition	Bus station (or bus terminals) planning	Network and bus stops definition		Road network infrastructure Master Plan (or similar) definition	Traffic management strategy definition (traffic plan, traffic calming, traffic lights regulation strategy, etc.)	Parking strategy definition	Non-motorized modes policy and related infrastructure plan		
	Funding	Urban project financing	Capital investment and eventual operational deficit financing	Infrastructure financing	Recapitalization or renewal program		Infrastructure and facilities financing					
Tactical level <i>What services ought to be developed? How to go about it?</i>	Regulation	Urban planning regulatory framework	Public transport services supervision and regulation				Builders' standards definition	Highway (or road) code regulatory framework definition and enforcement by responsible entity				
	Licensing, permits and contracting	Drivers' permit	Authority - operator contracting		Operational licensing				Parking operators contracting			
	Fare system		Fare policy for users	Fare policy for operators	Fare policy for users		Tolls		On-the-road or off-road parking fare setting mechanisms			
	Infrastructure, Equipement	Urban networks' infrastructures besides transport infrastructures	Infrastructure project management and vehicle and facility ownership	Project management and infrastructure ownership	Infrastructure project management (bus stops, ranks, etc.)		Road infrastructure general management	Project management for traffic lights facilities and infrastructures	Project management for parking infrastructure construction and/or for parking meters		Project management for sidewalks	Project management for bicycle paths
Operational level <i>How to produce services efficiently?</i>	Operations / Maintenance		Vehicle and infrastructure operations and maintenance	Bus stations (or bus terminals) management, if by a private company or a union	Vehicle operations and maintenance		Maintenance	Traffic lights and road signage maintenance	Operations and maintenance of on-the-road or off-road parking		Cleaning and maintenance of non-motorized modes infrastructures	

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