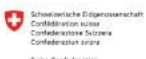


FINAL REPORT

Policies for Sustainable Accessibility and Mobility in Cities of Ethiopia

October 2018

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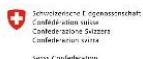
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Policies for Sustainable Accessibility and Mobility in Cities of Ethiopia



Policies for Sustainable Accessibility and Mobility in Cities of Ethiopia

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Acronyms

AACRA	Addis Ababa City Roads Authority
AARTB	Addis Ababa Road and Transport Bureau
AFD	<i>Agence Française de Développement</i>
AfDB	African Development Bank
BRT	Bus Rapid Transit
CNG	Compressed Natural Gas
CSA	Central Statistical Agency
CSTDP	Comprehensive Strategic Transport Development Plan
DVLA	Driving Vehicle and Licensing Authority
ERC	Ethiopian Railways Corporation
FTA	Federal Transport Authority
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GNI	Gross National Income
GTP	Growth and Transformation Plan
HOV	High Occupancy Vehicle
ICT	Information and Communications Technology
IDA	International Development Association
INDC	Intended Nationally Determined Contributions
LRT	Light Rail Transit
LSE	London School of Economics
MoFEC	Ministry of Finance and Economic Cooperation
MoT	Ministry of Transport
MoUDH	Ministry of Urban Development and Housing
NMT	Non-Motorized Transport
PPP	Public-Private Partnership
PSC	Public Service Contract
RG	Regional Government
TA	Transport Authority
TD	Transport Department
TFO	Transport Fund Office
TMA	Traffic Management Agency
TPMO	Transport Program Management Office
TRANSIP	Transport Systems Improvement Project
ULG	Urban Local Governments
ULGDP	Urban Local Government Development Program
UTM	Urban Transport and Mobility
VAT	Value Added Tax

Executive summary

Within the framework of its urban transport pillar, the Africa Transport Policy Program (SSATP) launched an activity to support the development of policies to improve accessibility and mobility in urban areas of Africa, with a first set of eight pilot countries (Côte d'Ivoire, Ethiopia, Guinea, Ghana, Kenya, Nigeria, Rwanda, and Senegal). Six thematic areas have been considered as priorities: strengthening the institutional framework for urban transport management, creating funding sources dedicated to the management of urban transport, promoting the effective participation of civil society in urban transport management, improving multi-modal planning and operation of city centers, improving the performance of public transport (in particular the reform of paratransit services), organizing and implementing National Government assistance for the management of urban transport in secondary cities.

In Ethiopia, this work has been led in close partnership with the Federal Ministry of Transport (MoT) and benefited from strong involvement of the Road and Transport Bureau of the Addis Ababa City Government (AARTB). A diagnostic for each of the six above priority areas helped in identifying most pertinent recommendations to be proposed for Ethiopian cities. These recommendations were widely discussed on 29 and 30 May 2018 as part of the Urban Mobility Forum organized under the auspices of the Ministry of Infrastructure. The report proposes a series of recommendations aimed at responding to main challenges in the urban areas of Ethiopia. The improvement of urban accessibility and mobility is a complex task, and these recommendations aim at mobilizing all stakeholders around them.

Urban mobility has become a critical issue in Ethiopia: the urban population has more than doubled over the past two decades and it is expected to nearly triple within the next two decades – one of the strongest urban population growth rates in the world. This means adding around 27 million inhabitants to Ethiopian cities in 20 years. Ethiopia is also implementing ambitious plans for rapid economic growth, which will mostly come from cities. They require a mobile urban population.

In the last decade, public authorities have engaged in major investments in the capital city, Addis Ababa, to address growing congestion: an LRT was built and partnerships with major donors have been engaged to improve bus services, invest in traffic management and infrastructure, and develop a BRT system.

Yet it is now necessary to tackle the urban mobility issue in other cities as well. The Federal Government's initiative to develop 13 major industrial parks across the country is meant to ensure that economic development is not concentrated in Addis Ababa: insufficient workers' mobility risks hampering the outcomes of this ambitious program; but anarchic growth of motorized mobility modes would likely lead to unsustainable congestion and pollution.

Ethiopian decision makers are thus now at a particular moment to foster sustainable urban mobility policies across the country. The successes and difficulties in Addis Ababa provide lessons for other cities. The Addis Ababa Road and Transport Bureau's strong mandate and capacity is an example that should be replicated, at a different scale, elsewhere. A national program, with quantifiable objectives, would be a key step to support such capacity-building. The lack of coordination between land use plans and enforcement and mobility policies is a critical threat in all cities: there is still time to implement policies and institutional coordination to avoid, in secondary cities, the levels of congestion and pollution of the capital – and attenuate them in Addis. Strengthening the financial soundness and contractual framework of the various public transport operators, public and private, is essential, as are measures to improve peak hour capacities in trunk corridors (whether road or rail). Technical innovation (information technology, new energies) and non-motorized transport should be mainstreamed into policies and action plans.

The recommendations contained in this report identify practical action levers, stakeholders and first steps. The first one is to develop and promulgate a National Urban Mobility Policy. It is a cornerstone of further action, given the federal nature of Ethiopia’s government. The Urban Mobility Forum has come to a consensus about the proposed foundations, objectives, and strategic axes for such a policy, which are presented in section 4.2.

Introduction

Urban transport and mobility is one of the three pillars of the African Transport Policy Program (SSATP), which aims to provide African policymakers with tools to develop sustainable, safe and affordable urban transport in the cities of the continent. The actions of the program thus aim to support the implementation of Sustainable Development Goal 11: "Making cities and human settlements inclusive, safe, resilient and sustainable".

To this end, SSATP has launched a program to support the development of policies to improve accessibility and mobility in urban areas of Africa, based on an empirical study of a representative sample of African cities. **This work led to the publication in June 2015 of the Working Paper No. 106 entitled "Sustainable mobility and accessibility policies in African cities" (Stucki, 2015).**

The "EASI conceptual framework", described in this document, outlines a set of specific policy actions according to four areas of intervention:

- **ENABLE:** to establish an efficient and responsible system of governance capable of anticipating needs, guiding public action and ensuring the integrated management and development of urban transport systems;
- **AVOID:** minimize the need for individualized motorized journeys through appropriate land use, planning and management;
- **SHIFT:** maintain or increase the modal shares of public transport and non-motorized transport such as walking and cycling;
- **IMPROVE:** improve the efficiency and safety of transport modes while minimizing their environmental footprint.

The specific measures proposed may be adopted by African cities on each of these pillars of intervention. The EASI conceptual framework is presented schematically below.

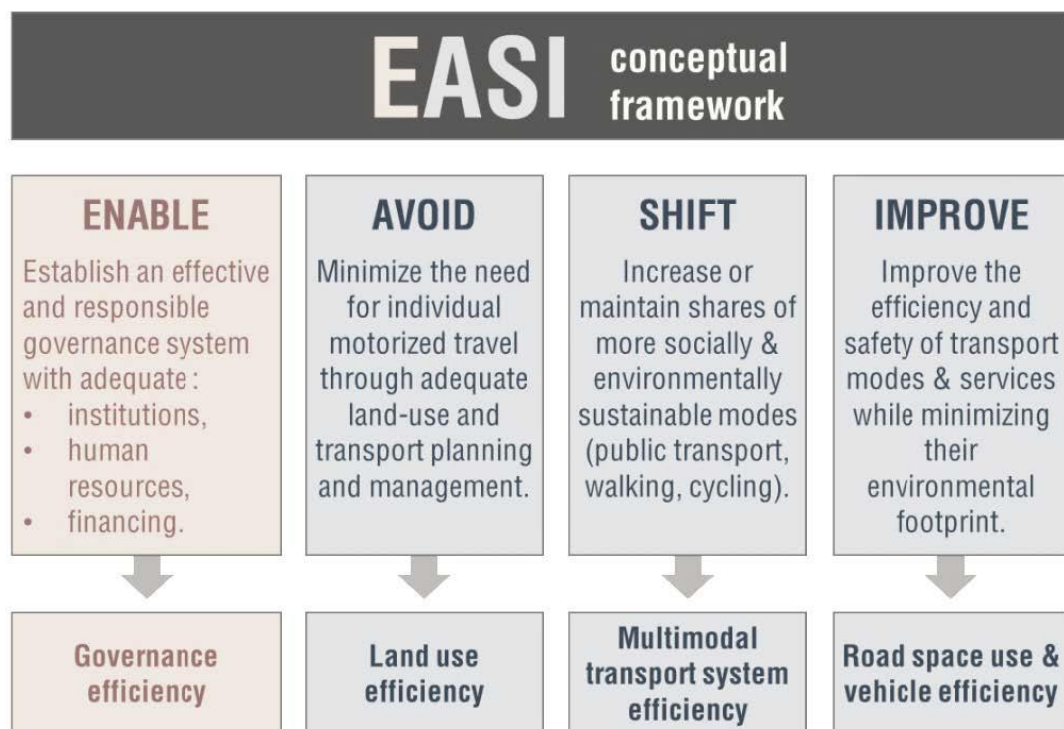


Figure 1 - EASI, a conceptual framework to guide public action towards sustainable accessibility and mobility in African cities

Following this publication, a complementary work program has been defined for the implementation of these guidelines in eight program member countries (Ivory Coast, Ethiopia, Guinea, Ghana, Kenya, Nigeria, Rwanda, and Senegal), the result of the present study.

The methodology used for these studies in the eight countries concerned was the same in order to enable cross-national comparisons and to encourage the exchange of good practices. **This study aims to bring a change in the way of thinking about accessibility and mobility, and to sensitize decision-makers for the adoption of good policies, strategies and operational practices at both the national and local levels that effectively contribute to the improvement of urban transport and mobility in African cities.**

This report therefore proposes to start with a diagnosis of urban mobility in Ethiopia. This was established through the experience of the mobilized experts, field visits to Addis Ababa and Hawassa, interviews with national and local political and technical leaders, as well as an in-depth analysis of the documents and data that have been collected and transmitted.

Led by the Ministry of Transport (MoT), this work focused primarily on the main issues of mobility and accessibility in Ethiopian cities by focusing on six priority areas:

- Strengthening the institutional framework for urban transport management;
- The creation of funding sources dedicated to the management of urban transport;
- Promoting the effective participation of civil society in urban transport management;
- Improvement of multi-modal planning and operation of city centers;
- Improving the performance of public transport (in particular the reform of small-scale transport);
- Organization and implementation of national government assistance for the management of urban transport in secondary cities.

This analysis led to the proposal of a list of priority recommendations, which are intended to be pragmatic and realistic, based on the EASI concept, as well as the drafting of an action plan to transform the mobility conditions for the population living in urban areas.

These recommendations were widely discussed on 29 and 30 May 2018, as part of the Urban Mobility Forum organized under the auspices of the Ministry of Transport, the Ministry of Urban Development and Housing and the National Planning Commission. This forum, introduced by H.E. the State Minister for Transport, brought together around 25 national actors and decision-makers who were invited to discuss these proposals. The results of this consultation are outlined in the last section of this report. The series of recommendations confirmed by the Urban Mobility Forum has been enriched with feedback provided by participants at the Urban Mobility Forum as well as decision-makers.

Further details on the review process and methodology are provided in Appendix 1.

1. Urban mobility issues in Ethiopia

1.1 National urban development

1.1.1 National trends

Approximately 102 million people live in Ethiopia, the second most populous country in Africa after Nigeria. The total population is expected to reach 130 million by 2025, and in 2050 Ethiopia will most probably rank among the ten most populated countries in the world.

Yet, Ethiopia is still much less urbanized than most countries¹: the urban population in 2012 was estimated at only 17.4%, while the average urban population in all countries of the world is 52%, 50% in middle-income countries, and 37% in Sub-Saharan African countries. However, Ethiopia has one of the fastest growing urban populations in the world: it has more than doubled over the past two decades and is expected to nearly triple within the next two decades², adding around 27 million inhabitants to Ethiopian cities.

Fast urbanization is a major challenge for Ethiopia which remains one of the world's poorest countries. Among countries facing similar rates of urbanization – such as Nepal, South Sudan, Sri Lanka and Cambodia – Ethiopia has the lowest gross national income (GNI)³, and indeed one of the lowest in the world⁴. Yet, in a context of scarce resources, managing well the urbanization process will be crucial for the country to sustain economic growth and improve citizens' quality of life by providing adequate infrastructure, services, housing and opportunities for all.

In parallel with the urbanization process, Ethiopia has experienced major positive economic and social transformations over the past decade. The country experiences high rates of economic growth (around 10% annually since 2007-2008), which has helped reduce poverty in both urban and rural areas, with the share of the population below the poverty line falling from 38.7% in 2004-2005 to 29.6% in 2010-2011⁵. Ethiopia is also among the countries that have made the fastest progress on the Millennium Development Goals (MDGs) and Human Development Index ranking over the past decade.

In view of such improvements, the Government of Ethiopia is determined to make urbanization an opportunity to become rapidly a middle-income country. Currently, the Government is implementing the second phase of the Growth and Transformation Plan (GTP II) 2015-2020. One of the strategic pillars of GTP II consists in *“proactively manag[ing] the ongoing rapid urbanization to unlock [Ethiopia’s] potential for sustained rapid growth and structural transformation of the economy”*.

Decisions taken today regarding urban development in Ethiopia will have strong consequences in the future and affect the life of citizens for years to come. National authorities have demonstrated their strong will to proactively manage urbanization and make cities attractive places in which to live and work. In this perspective, building informed urban mobility strategies is most important to effectively contribute to this national effort.

¹ According to the Ethiopian Central Statistical Agency (CSA)

² According to official figures from the Ethiopian Central Statistics Agency, the urban population is projected to nearly triple from 15.2 million in 2012 to 42.3 million in 2037. The Ethiopia Urbanization Review (World Bank, 2015) indicates that the rate of urbanization will be even faster, with a tripling of the urban population by 2034.

³ Ethiopia is 18 % urbanized, with US\$470 GNI per capita, Atlas method. Countries with similar levels of urbanization (18–20 percent) include Nepal, South Sudan, and Sri Lanka with 18 % urbanization and US\$730; US\$1,120; US\$3,170 GNI per capita, respectively; and Cambodia at 20 % urbanization with US\$950 GNI per capita.

⁴ With US\$470 GNI per capita, Ethiopia has the eleventh lowest per capita income in the world.

⁵ Using a poverty line close to US\$1.25/day

Table 1 – Statistical data in the eight pilot countries⁶

	COTE D'IVOIRE	ETHIOPIA	GHANA	GUINEA	KENYA	NIGERIA	RWANDA	SENEGAL
DEMOGRAPHY								
Country population (million, 2016)	23,7	102,4	28,2	12,4	48,5	186,0	11,9	15,4
Country population projection (million, 2030)	28,1	137,1	34,2	16,2	62,8	226,9	16,7	19,6
Country density (pop. / sq. km)	75	102	124	50	85	204	483	80
URBANIZATION								
Urbanization Rate (% , 2016)	53%	20%	55%	38%	26%	49%	30%	43%
Urban Growth Rate (% , 2010-2015)	3,9%	5,0%	3,7%	3,5%	4,3%	4,6%	6,3%	3,6%
Urban areas with more than 300 000 inhabitants (2015)	3	2	4	2	4	42	1	1
ECONOMY								
GDP per capita (\$PPP, 2016)	3 693	1 734	4 293	1 966	3 151	5 861	1 913	2 567
Average economic growth rate (% / year, 2010-2015)	5,8%	10,6%	7,7%	4,5%	6,0%	5,2%	7,5%	4,1%
Poverty headcount ratio w/r to the international poverty line (2011 PPP, % of pop.)	28%	34%	14%	35%	34%	54%	60%	38%
Human Development Index (0-1 scale, 2015) 0 - low , 1 - high human development	0,47	0,45	0,58	0,41	0,56	0,53	0,50	0,49
BUSINESS AND GOVERNANCE								
Doing Business (Distance to Frontier, 2017) 0 - lowest, 100 - highest performance over time or "frontier"	52	46	57	49	63	48	70	49
Corruption Perceptions Index (1-100, 2016) 1 - low transparency or high corruption, 100 - high transparency or low corruption	34	34	43	27	26	28	54	45
MOTORIZATION								
Gazoline Price / Diesel Price (US\$ / L, 2016)	0,93 / 0,93	0,75 / 0,64	0,92 / 0,85	0,9 / 0,9	0,95 / 0,82	0,46 / 0,64	1,17 / 1,13	1,14 / 0,97
Private vehicles in use according to OICA (2015)	430 000	90 000	560 000	N/D	848 000	2 970 000	N/D	340 000
Private vehicles in use according to national data (2015)	640 000	620 000						470 000
Motorization Rate according to OICA (private vehicles / 1 000 inhabitants, 2015)	19	1	20	N/D	18	16	N/D	23
Road Safety Casualties (nb of casualties / 100 000 people, 2015)	24	27	26	28	30	21	33	28

1.1.2 Short description of main cities

The Ethiopian urban system is characterized by the primacy of Addis Ababa, the capital city, over the rest of urban areas. While Addis Ababa counts 3.3 million inhabitants according to the CSA, the nine regional capitals, located on the country's primary transport routes, have a population of less than 500 000 (typically between 100 000 and 350 000 inhabitants, the largest one being Dire Dawa) and the bulk of Ethiopian urban areas host less than 100 000 people (generally less than 50 000 people)⁷.

⁶ World bank, Doing Business, OICA, UNDP, UN Habitat and Transparency International data. Details of sources in the appendix.

⁷ Taking these considerations into account, it should be noted that more than 80% of the Ethiopian population live in rural areas, not in cities.



Figure 2 – Map of Ethiopia⁸

Addis Ababa

The capital city experiences rapid urban growth: Addis Ababa’s population has more than doubled every decade since the 1980s and is expected to reach about 3.7 million inhabitants in 2020. This growth translates into a very fast horizontal expansion at the southern, north-eastern and western borders of the capital city, which is largely uncontrolled in terms of city planning and infrastructure.

Addis Ababa’s territorial expansion has also seen the decline of density in built-up areas from 146 persons per hectare to 136 between 2007 and 2014⁹. Density increased at the city center but decreased in the built-up areas located 4 to 14 kilometers from the center, posing serious challenges in terms of service delivery, particularly regarding urban transport. This density decline is partly due to the construction of large low-density residential areas at the peripheries of the city (government-supported condominium development, cf. map below). Between 2006 and 2012 for instance, more than half of newly built land has been dedicated to the development of single-use residential areas¹⁰.

In Addis Ababa, poverty headcount has declined from 36% in 2000 to 28% in 2011, a remarkable reduction, that however remains weaker than the average trend in poverty reduction for comparable large cities in fast-growing economies. The poverty rate in Addis Ababa is similar to the national average and has not fallen as fast as in rural areas or smaller urban centers. Between 2005 and 2011, wages in Addis Ababa did not increase enough to compensate households for rising food prices which resulted in negative consumption growth for most households in the capital city.

⁸ Source : World bank

⁹ Ethiopia Urbanization Review, 2015

¹⁰ Ibidem

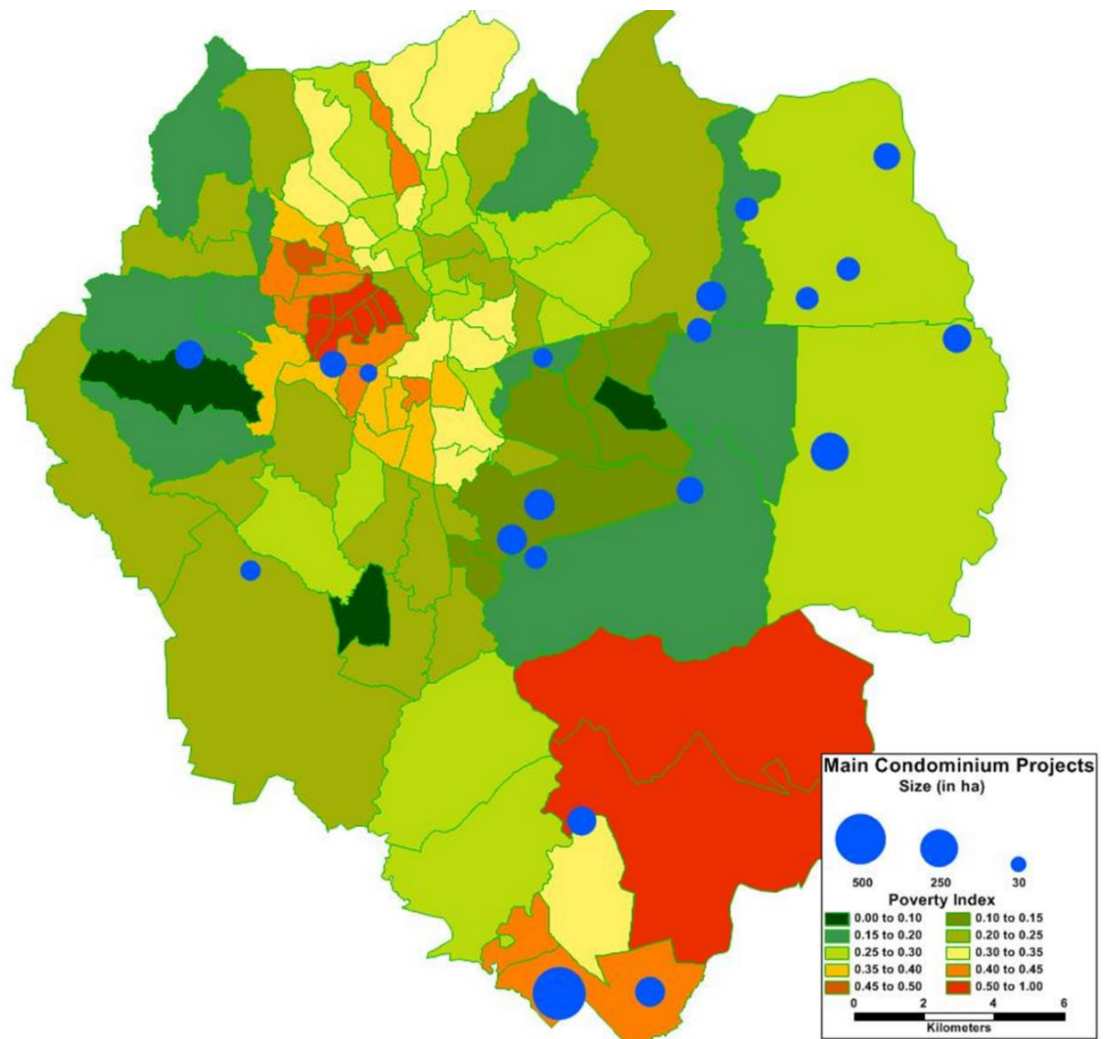


Figure 3 – Addis Ababa poverty and condominium projects map¹¹

Secondary cities

From 1991 onwards, the Ethiopian government encouraged decentralization and favored the development of secondary cities (cf. section “National support to secondary cities”). Until then, secondary cities were merely regional transport and market centers and Addis Ababa hosted up to 23% of the country’s urban population producing 35% of its GDP. Secondary cities have developed opportunities in several areas including manufacturing, and large industrial zones are currently under construction or starting operations near some of them. However, they face important challenges in terms of funding and human capital to build infrastructure and institutions. Moreover, famine, civil unrest in surrounding countries and the lack of a good transport network servicing the country have severely hindered their development.

Nevertheless, the Federal Government and particularly the Ministry of Transport have demonstrated their strong will to counterbalance the weight and power of Addis Ababa by other growth poles, considering that the capital city should be supported by a broader urban network (polycentric growth model) to release the pressure caused by rapid urbanization in Addis Ababa and offer development opportunities in secondary cities.

¹¹ Source: 2016 Addis Ababa Housing Program Department data used by the authors; and Ethiopia Poverty Assessment 2014, World Bank

1.2 Motorization trends

Ethiopia’s motorization rate is currently among the lowest in the world, but it is much higher in Addis Ababa than in the rest of the country. In 2016, there were 6 vehicles per 1 000 people in Ethiopia, which is extremely low, but 130 vehicles per 1000 people in Addis Ababa: more than three quarters of Ethiopian vehicles are registered in Addis Ababa alone¹².

Moreover, the country’s fleet has grown very rapidly in recent years, at 10% annually over the period 2011-2016, and motorcycle ownership has grown even faster, at 25% annually. Nevertheless, car ownership remains a privilege of the wealthiest citizens – and a third of the national fleet consists of freight vehicles, not passenger cars.

As a result of economic growth, there are strong reasons to believe in a continuous, and even more important increase in vehicle ownership in the coming years. Yet, this rapid motorization could become challenging for authorities. Already, private cars carry only a very small percentage of all trips (4% in Addis Ababa in 2014) but together with standard car-based taxis, contribute a majority of vehicle traffic in the capital city. In Addis Ababa, limited road capacity and uncontrolled street-side parking practices tend to favor congestion, with the deterioration of air quality also becoming a main concern.

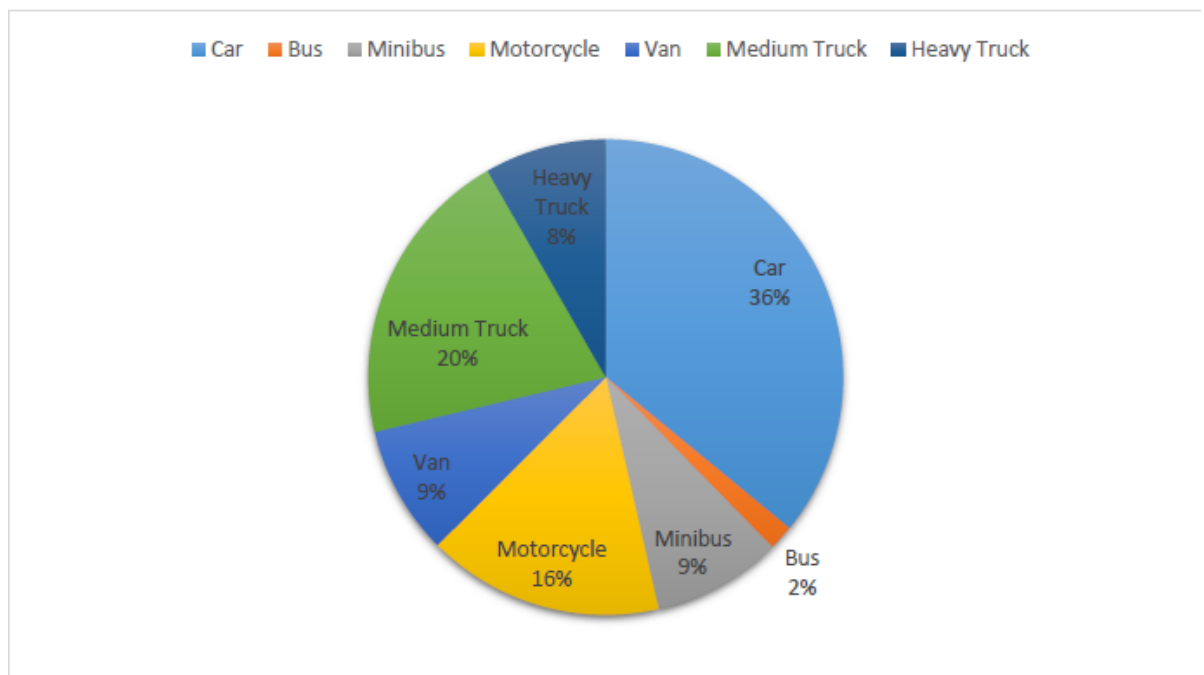


Figure 4 – Vehicle Fleet Constitution in Ethiopia in 2015 (Total Stock: 552 000 units)¹³

Besides, the fleet is old: the average vehicle is over 14 years old. Ethiopia does not have any domestic automobile manufacturing market and imports all vehicles through the port of Djibouti. Unusually high tax rates on importing new vehicles (some imports face a markup of 100 to 200% from taxes alone) and the scarcity of foreign currency encourage the importation of old – sometimes obsolete – vehicles as well as extending the service life of in-use vehicles. As a result, 85% of newly registered vehicles in Ethiopia are used cars, generally already around 10-15 years old.

¹² In 2015, the national vehicle population was around 552,000, among which 426,500 vehicles registered in Addis Ababa alone.

¹³ Source : FTA

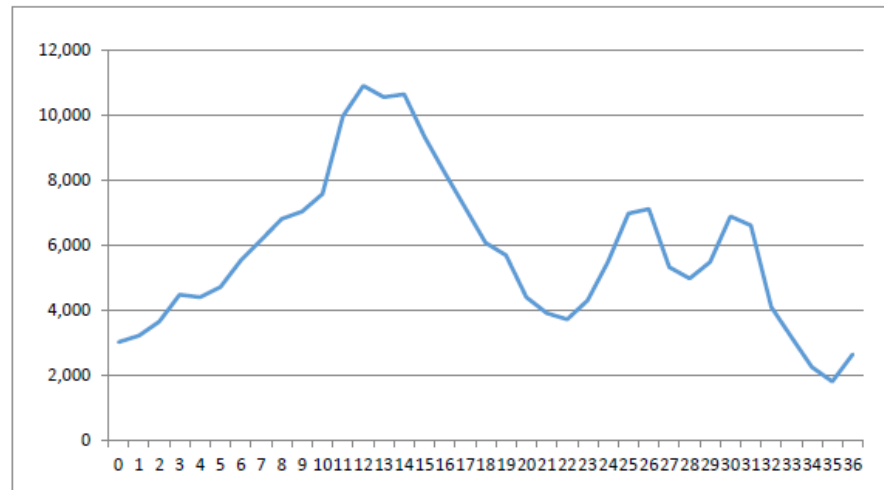


Figure 5 – Age profile of private vehicles in Ethiopia in 2016¹⁴

There is no control, nor restriction on age or performance of imported vehicles, which means that unsafe and dirty vehicles can easily penetrate the Ethiopian automotive market. The management of in-use vehicles is also a challenge: vehicle emissions inspections are inadequate, and the aging fleet lacks maintenance. Improvements in these fields are direly needed.

In Kenya for instance, the Kenya Bureau of Standards contracts with a company which performs “pre-export inspection” in the country of origin, usually Japan. In Ethiopia, motor vehicles are imported from more diverse sources, including Asia, Europe, and the United States, but the Government could contract with a vehicle inspection company with global presence to manage the inspection process on the export side for the Ethiopian government.

1.3 Urban Mobility Challenges

The scarce availability of data in Ethiopia remains a major impediment to identifying and precisely analyzing urban mobility challenges. This caveat is applicable with varying degrees to all issues discussed hereunder, and outside Addis Ababa there is almost no available city-level data at all. Observations below are thus essentially based on a review of the few existing studies, complemented with the consultant’s qualitative observations in the field and through interviews. Section 2.7 provides for more detailed analysis on the availability of urban mobility data in Ethiopia and the opportunities offered by upcoming projects or new technologies.

1.3.1 Main issues in Addis Ababa

Disconnected housing and office construction and transport infrastructure development

The urban developments shown on Figure 3 above, together with reducing poverty (and accompanying motorization), have led to strong increases in citizens’ demand for mobility. For reasons explained in sections 2.1.4 and 2.4.1 below, until today urban developments in Addis have not taken into account, whether in their design or location, their impact on such mobility demand, nor have they been much coordinated with the development of transport infrastructure. Traffic has thus grown rapidly and results today in serious congestion, in a city where neither the road network nor public transport means are yet developed enough.

¹⁴ Source: World Bank

An insufficient road network, despite massive recent investment

According to a note from the World Bank from 2014, "*the road network in the city consists of about 2,900 kilometers of classified roadway, of which only 26 % is paved*"¹⁵. Addis Ababa has been making a remarkable effort to invest in road infrastructure in the past decade. The city spends about US\$260 million per year on new road construction, it represents over 35 % of annual capital investment budget, but only about \$6 million per year is spend on maintenance. Moreover, there is no adequate investment in traffic management to optimize the use of roads and make those investment more efficient. Otherwise, if parking is identified as one of the key "infrastructural" challenges under the 2011 Transport Policy of Addis Ababa, this issue has not been addressed significantly. There is undoubtedly an overutilization of road space by parked vehicles and a lack of off-street parking facilities.

A growing but still insufficient public transport network

In 2014, every day, 2.2 million people were using public transport in Addis Ababa, totaling 3.6 million trips per day¹⁶. Public transport in Addis Ababa currently consists mainly of:

- Minibus-taxis, or "Blue Donkeys" (around 12 000 vehicles);
- Buses operated by the 75 years old municipal company Anbessa (around 400 buses) as well as the newly created municipal bus company Sheger (2 years old, around 200 buses) and the private company Alliance (4 years old, around 125 buses);
- A recently introduced Light Rail Transit (LRT) system (2 lines totaling 31,2 km, 41 single vehicles);
- Midi-buses or "Higer" (around 400 vehicles);
- Taxis (approximately 6 000 vehicles).

Within Sub-Saharan Africa, the public transport system of Addis Ababa appears rather unique:

All – or at least a great majority of – paratransit operators (minibuses, midi-buses, etc.) are regulated in terms of licenses, fares and routes, while a majority of other African cities struggle to regulate informal urban transport operators. This appears to be a clear strength of the system and demonstrates a rather strong enforcement capacity at local level.

Moreover, it is in Addis Ababa that Anbessa, the oldest public bus company on the African continent, was born and has remained in activity for the last 75 years. Even if the municipality-owned bus company faces a difficult financial situation, which affects operations (the number of available buses has been decreasing because of the advanced age of the fleet, maintenance challenges and insufficient funding), it benefits from strong experience and professional, albeit outdated, operational methods. The recent creation, two years ago, of a second municipal bus company, Sheger, definitely benefitted from the experience, human resources and infrastructure of Anbessa.

Addis Ababa is also one of a few cities in Sub-Saharan Africa to have developed and implemented ambitious plans for collective urban transport. The development and construction of the LRT system, which currently transports around 120 000 to 150 000 people daily, was a daring step taken by the Federal Government to promote sustainable urban mobility in the capital city through massive capital investment. Addis Ababa Light Rail is actually the only light rail transportation system in Sub-Saharan Africa¹⁷.

On top of this achievement, the municipality of Addis Ababa is working on a BRT network with six lines already planned. The development of the first pilot line is currently in detailed design phase.

¹⁵ Source: World Bank, 2014

¹⁶ Addis Ababa Household Mobility Survey

¹⁷ In Sub-Saharan Africa, as of now, only South Africa has a functional rail-based system for urban mobility (suburban rail system).

The line will be funded by the French Development Agency (AFD). It will represent 16 km of bus corridor including 12 km of separated right-of-way with a transport capacity of 54 000 passengers per hour per direction (pphph). It could have an impact on more than 400 000 persons in a rather dense, low-income and quickly urbanizing area. The Sheger bus company has been appointed as the future operator.

Despite these developments, the shortage in the supply of public transport remains a major issue and local authorities struggle to meet the growing demand. With the culmination of urban sprawl and growing traffic congestion, the average daily time spent traveling in the city keeps increasing. Despite mass transport projects such as the LRT and soon the BRT, the growing demand for public transport remains vastly unmet (cf. section 2.5.5 Bus and LRT performance for further information). This notably translates into very long waiting lines at peak hours in front of the mini- and midi-bus stations.

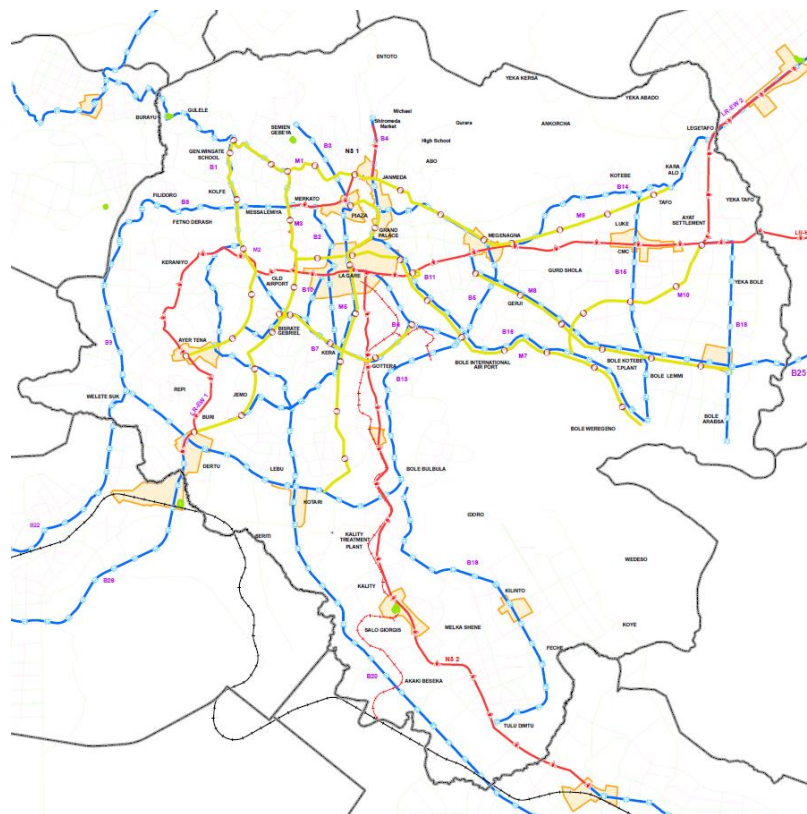


Figure 6 – Addis Ababa regulated transport map¹⁸

A lack of pedestrian and NMT facilities

The lack of pedestrian and non-motorized facilities is a key issue in Addis Ababa where many citizens, particularly the poorest, use walking as their main transport mode¹⁹. Both unaffordability of transport for the poorest citizens and insufficient transport supply for all citizens explain the high proportion of pedestrians in the city²⁰. However, more than 65% of the road network lacks pedestrian walkways. When they exist, sidewalks are often obstructed and have very few pedestrian crossings. As summed up by the General Manager of Addis Ababa City Roads Authority (AACRA), the capital city's roads

¹⁸ Addis Ababa Integrated City Masterplan preparatory documents

¹⁹ A 2011 study estimated that 54% of all trips were performed by walking in Addis Ababa. This number was 29% in the 2014 Addis Ababa Household Mobility Survey; in the same survey, 19% of the people living in Addis Ababa declared that they used walking as their primary transportation mode. For the poorest citizens, this percentage raised up to 33%. In comparison, only 4% of the richest citizens in Addis Ababa used walking as their primary transport mode.

²⁰ Analysis from the Addis Ababa Household Mobility Survey, 2014

were designed “for cars, not for people”²¹ (the outdated road design standards are currently under revision). As a result, 60% of all serious crashes and 73% of all road traffic crash-related fatalities affect pedestrians²². A Non-Motorized Transport (NMT) strategy is currently under development and three routes for bicycles were created by the municipality but they are not functional to this date.

Table 2 – Statistical data in Addis Ababa and Hawassa²³

	Addis-Ababa	Hawassa
DEMOGRAPHY		
Metropolitan population (<i>million, 2015</i>)	4,0	N/D
Percentage of the national population residing in the urban agglomeration (<i>%, 2015</i>)	3%	N/D
Urban population growth rate (<i>% / year, 2015-2020</i>)	3,8%	N/D
QUALITY OF LIFE		
Quality of life in African cities (<i>EPFL-AMB ranking, 2017</i>)	35/100	N/A
Urban mobility Index 2.0 - UITP (<i>grade 0-100, 2014</i>)	N/D	0,0
MOBILITY DEMAND		
Motorization rate (<i>vehicules / 1'000 inhabitants</i>)	240	N/D
Number of trips per day (<i>million</i>)	N/D	N/D
Number of motorized trips per day (<i>million</i>)	2,7	N/D
Number of motorized trips per day per inhabitants (<i>million</i>)	0,7	N/D
Average trip distance (km)	N/D	N/D
Modal split - Personal Vehicles (%)	4%	N/D
Modal split - Public Transport, including paratransit (%)	64%	N/D
Modal split - Non Motorised Transport (%)	32%	N/D
TRANSPORT SUPPLY		
Number of public buses	148	0
Number of paratransit vehicules (<i>taxis excluded</i>)	11 195	N/D
Length of existing urban rail road and/or reserved bus lanes (<i>km</i>)	34	0
Length of planned urban rail road and/or reserved bus lanes (<i>km</i>)	16	0

1.3.2 Main issues in secondary cities

A still extremely low motorization rate, with fast-growing three-wheeler use

In Ethiopian secondary cities, the motorization rate is extremely low and the main transport modes are walking and three-wheelers, also called “Bajaj”²⁴. These vehicles are forbidden in Addis Ababa but permitted in other Ethiopian cities where they appear in large numbers. These vehicles drive on a very undeveloped road network, as the percentage of unpaved road is really high.

²¹ Expression used by Eng. Habtamu Tegegne, General Manager of Addis Ababa City Roads Authority (AACRA), during our interview on the 7th of December 2017

²² Statistics from the Federal Transport Authority

²³ UN Habitat, EPFL-AMB, UITP and national data. Details of sources in the appendix.

²⁴ From the Bajaj Group (global two-wheeler and three-wheeler manufacturing company founded and based in India)

Three-wheelers respond to the mobility needs of the population, in the absence of regular bus systems in most Ethiopian towns, except in main secondary cities such as Dire Dawa, Bahir Dar, Jimma or Hawassa. “Bajaj” vehicles provide individual services (two passengers maximum) and are regulated (licensed, predefined routes and fares). However, they seem to substantially contribute to air pollution, congestion and road accidents. Moreover, it is uncertain whether all “Bajaj” drivers actually apply the fee schedule set by authorities (official fares appear very low compared to actual investment and operations costs).



Figure 7 – “Bajaj” vehicle in Hawassa (the regulated area where the vehicle is supposed to operate is indicated on the sign on top of the vehicle)

Favorable but unused conditions for NMT

Several Ethiopian cities, benefiting from a favorable climate and geography, used to be bicycle friendly. This was particularly true of cities such as Hawassa²⁵. This practice appears to have mostly disappeared in Hawassa, even though the city’s size, flatness and temperate climate, in addition to relatively safe driving/cycling conditions, remain favorable to the use and development of such means of transport. Generally, pedestrian and cycling facilities should be developed and improved in secondary cities to enable the crucial development of Non-Motorized Transport (NMT) modes that appear well-adapted to the morphology of Ethiopian secondary cities and to the needs of their inhabitants.

A new, and critical, need for more organized urban mobility

Ethiopia is currently implementing a key national industrial program including the development of thirteen industrial parks across the country. This is part of the Federal Government’s policy to ensure that industrial development is better spread across the country, when today it benefits principally Addis Ababa. The most advanced industrial zones are the ones located near Mekelle, Hawassa, Mojo and Dire Dawa (all are main secondary cities, except Mojo which is a smaller town located 70 km away from Addis Ababa). In Hawassa, the huge industrial zone (300 ha) located 2,5 km away from the city center has already been inaugurated. The municipality expects the facility to create employment for 60,000 people (not counting their families).

The success of these industrial zones faces a critical challenge in terms of urban mobility: workers must have a mean to get from their residences to their workplace. The municipality of Hawassa, currently running 19 municipal buses, is considering the deployment of approximately 900 buses,

²⁵ We visited Hawassa for the purpose of the present report.

among which 300 passing by the industrial zone, as well as the importation of bicycles from China or India for industrial park workers.



Figure 8 – Hawassa industrial park²⁶

1.4 National Context

1.4.1 Legal and policy framework

Legal framework

Ethiopia’s constitution, formally promulgated in 1995 following the end of the military junta – the Derg – created a highly decentralized, federal structure, in a fundamental shift from the highly centralized system under the Derg.

Ethiopia has three main government levels: federal, regional, and local. Each regional government²⁷ (RG) can create its own local government structure and there are slight variations in the sub-regional structures. RGs have the power to create urban local governments (ULG), of which there are 84 with populations of over 20,000 (excl. Addis Ababa). Given the low level of urbanization outside Addis Ababa, existing ULGs (except for Addis) appear to adequately encompass their urbanized areas.

ULGs are managed by city administrations and have a long list of mandates and responsibilities, which include both “state functions”, funded by budget allocations from RGs, and “municipal functions” which are expected to be fully funded from municipal revenues.

By law, urban transport and urban roads are clearly defined as purely municipal functions, and are thus, in urban areas, clearly considered to be exclusive functions of ULGs.

Further, the legal framework for urban transport in Addis Ababa is specifically set by Law No 43 November 13/2014 on the AARTB, which describes the functions of the Bureau and its various departments (see the detail in 1.4.1 below).

In this framework, the Federal Ministry of Transport acts merely as a regulator and a maker of national policy, as defined by Article 23 of proclamation no. 691/2003 E.C. (see 1.4.2 below for details).

Finally, public transport enterprises like Anbessa, Sheger and the LRT Operator, although fully controlled by respectively, the City Government of Addis Ababa and ERC, must also comply with federal laws and regulations applicable to all public enterprises.

²⁶ Source: Ethiopian News Agency

²⁷ The constitution of Ethiopia refers to “member states”.

Policy framework

At international level, Ethiopia ratified the Paris Agreement in December 2015, which aims at holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit the temperature increase to 1.5 °C. One of the four pillars of the Intended Nationally Determined Contribution (INDC) of Ethiopia to limit its net greenhouse gas emissions includes leapfrogging to modern and energy efficient technologies in transport (utilizing clean and renewable energy). The INDC document also focuses on urban planning transition towards mixed use, compact, and polycentric cities, resulting in shorter distances travelled to reduce transport/traffic related GHG emissions. The authorities plan to reduce emissions by 255 MtCO₂e or 64% compared to “business as usual” emissions in 2030, including 10 Mt CO₂e from transport.

Nationally, the five-year Growth and Transformation Plans form the basis of federal action. A key pillar in the second plan (2015-2020) is to “proactively [manage] the ongoing rapid urbanization to unlock Ethiopia’s potential for sustained rapid growth and structural transformation of the economy”. Improving urban mobility squarely falls within this strategic axis.

Also of relevance, the Government of Ethiopia has developed a Climate-Resilient Green Economy Strategy, including a Transport chapter focusing on leapfrogging to new technologies in transport (some of the axes include: Addis Ababa LRT and BRT, fuel efficiency standards on private vehicles, electric vehicles, electric rail network, etc.).

However, this broad policy framework has not been much translated into mobility- or urban transport- specific policies and plans: there is at the moment no approved national urban transport or urban mobility policy; and at local level, the City Government of Addis Ababa is the only urban local authority to have an explicit transport policy.

The Addis Ababa Transport Policy was approved in 2016 by the City Government and states objectives, policies and strategies in a detailed, yet unquantified nor dated, manner, covering the following areas:

- Integrate land use and transport plan
- Expand transport infrastructure
- Enhance transport service provision
- Ensure traffic safety
- Employ integrated and modern traffic management
- Improve Environment protection and energy use
- Focus on Social Issues
- Strengthen financial capacity
- Capacity building and coordination of transport service providing institutions
- Equip with the necessary legal framework
- Establish regional and international cooperation.

1.4.2 Main stakeholders in urban mobility

Institutional stakeholders at federal level

■ Ministry of Transport (MoT)

MoT oversees the urban mobility sector. The vision of the Ministry is: *“To see the people of Ethiopia enjoy the access of reliable transport services by 2025”*²⁸. The missions of the Ministry are: building the capacity of the sector; and leading and backing the participation of the private sector as well as scaling up efficient and fruitful transport network in an equitable manner across the nation within a short period of time.

The specific powers and duties of the Ministry of Transport as per Article 23 of proclamation no. 691/2003 E.C are the following:

- Promote the expansion of transport services,
- Ensure that the provision of transport services is integrated and are in line with the country's development strategies,
- Ensure the establishment and implantation of regulatory frameworks to guarantee the provision of reliable and safe transporter services,
- Regulate maritime and transit service,
- Ensure that transport infrastructure is constructed, upgraded and maintained,
- Follow up the activities to the Ethio-Djibouti Railways in accordance with the garments concluded between the two countries,
- Enforce the powers and duties formerly given to Ministry of transport and communication on the matters relating to transport sector.

■ Federal Transport Authority (FTA)

The FTA regulates both freight and passenger transport services across the country by setting national standards and plans to be implemented by Transport Departments in each region and municipality. The FTA monitors the activities implemented by Transport Departments at the regional and local levels.

■ Ministry of Urban Development and Housing (MUDH)

The MUDH is in charge of setting federal-level policies for urban planning and development, but also directly implements very large housing construction programs across the country – including a plan for around 750,000 new dwelling units in urban areas over the second Growth and Transformation Plan (2015-2020).

Institutional stakeholders at regional and local level

■ In the capital city: the Addis Ababa Road and Transport Bureau (AARTB)

In Addis Ababa, the main stakeholder in urban mobility is the AARTB, acting as a transport authority for both freight and passenger vehicles. The AARTB is an independent institution within the City Government, which does not depend on the City Manager but is directly supervised by the Mayor of Addis Ababa. Its annual budget is currently around 8 billion ETB (approximately 290 million USD). It is organized in four departments:

²⁸ Official website of the Ministry of Transport: <http://www.motr.gov.et>

- **The Addis Ababa City Roads Authority (AACRA)**, in charge of maintaining and extending the road network in Addis Ababa (currently managing 6,5 billion ETB per year, the largest budget of the AARTB, but also of the municipality itself);
- **The Addis Ababa Transport Authority (TA)**, which organizes the public transport sector in Addis Ababa, regulates all public transport routes and fares, and provides facilities for freight vehicles;
- **The Traffic Management Agency (TMA)**, in charge of reducing congestion and emission levels as well as improving road safety in Addis Ababa;
- **The Driving Vehicle and Licensing Authority (DVLA)**, which regulates and registers all drivers' licenses in Addis Ababa including freight and public transport drivers.

Moreover, the AARTB includes a **Transport Fund Office (TFO)**, a new institution focused on collecting revenues dedicated to urban transport, and a **Transport Program Management Office (TPMO)**, which is an urban transport think tank.

The current strategy of the AARTB focuses on public transport and traffic management through:

- Infrastructure development (roads, bus and pedestrian infrastructure);
- Increase of transport supply (10% increase of the number of buses per year);
- Capacity development (trainings for urban transport institutions);
- Increase of transport funding (notably through the TFO);
- Technical transfer (international cooperation).

The AARTB considers focusing more particularly on the following aspects in the near future: road safety, Non-Motorized Transport (NMT), and the elaboration a parking strategy for Addis Ababa.

■ **In the regions: Transport Departments (TD)**

All regional governments and municipalities have Transport Departments (TD) which work in connection to the Federal Transport Authority. Each within their respective legal mandate, they are in charge, at regional and municipal levels, of implementing the national standards and plans set by the FTA. Unfortunately, they very often lack the required human and financial capacity necessary to fully carry out their responsibilities.

Public transport operators

In Addis Ababa, three main types of players operate public transport:

- **The Ethiopian Railway Corporation**, federal entity which planned and currently operates the Light Rail Transit (LRT) system through the LRT enterprise;
- **The standard and articulated bus operators;**
 - Anbessa, the 75-year old municipally controlled but financially independent bus company traditionally seen as serving the transport needs of lower-income citizens;
 - Sheger, a 2-year old express bus company created by the Municipality (modern glass two-decker buses, less bus stops than Anbessa, substantially higher fares);
 - Alliance, a private bus company providing services in the capital city;
- **The private mini-, midi-bus and taxi operators**, regulated by the AARTB (licensed vehicles with fixed routes and fares). Although these operators are well-regulated and licensed, no summary data could be collected on them, nor was it possible to meet with representatives from corresponding professional associations. In particular, no assessment is available nor could be made of their profitability and average size.

In regions, some towns have formal and regulated bus companies (Dire Dawa, Bahir Dar, Jimma, Hawassa, etc.) but most of them lack basic infrastructure and adequate human capacity to operate them appropriately. The bulk of public transport services is provided by ‘Bajaj’, which are supposed to be licensed and regulated (routes and fares) but strict enforcement seems to remain difficult in some places.

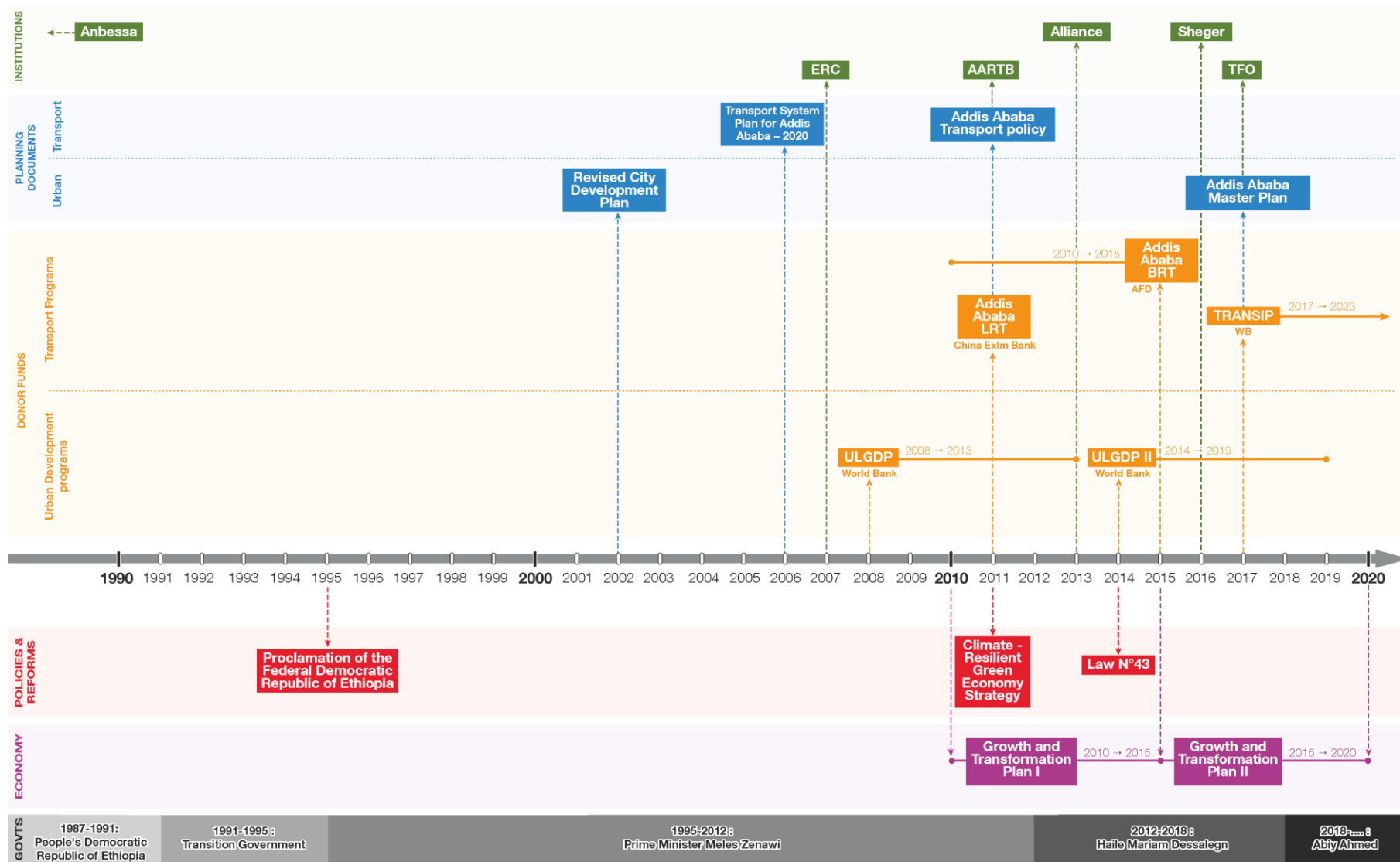
Donor agencies

The World Bank supports the sector through the Ethiopia Transport Systems Improvement Project (TRANSIP), which includes components for both the Federal Government and the city of Addis Ababa:

- Component A: Traffic Management and Road Safety in the City of Addis Ababa (support to TMA, Addis Ababa Traffic Police, AACRA, the Transport Authority, Anbessa and the TPMO);
- Component B: Improvement of Integrated Urban Planning and Transport System (support to the Addis Ababa Land Development and Management Bureau);
- Component C: Road Safety Interventions and Institutional Strengthening of Selected Federal Transport Institutions (support to the Federal Transport Authority, Federal Traffic Police, Ministry of Transport and Ministry of Construction).

The French Development Agency (AFD) provides financial and technical support to the municipality of Addis Ababa (AARTB) for the development of the Bus Rapid Transit (BRT) system. It already financed the feasibility study of the B2 pilot line of the BRT, currently in detailed design phase.

The African Development Bank (AfDB) also recently started operations in the urban mobility sector in Ethiopia with the Integrated Transport Project Phase I which includes components for urban mobility.



1143_171-B-ETHIOPIA-Transport Timeline.ai - 24 10 2018

Figure 9 –Urban mobility timeline in Ethiopia

2. Overview of the priority thematic areas

2.1 Institutional framework for urban transport management

2.1.1 Mandate

Legal mandates for urban transport appear clearly defined (see 1.1.1 above). The Ministry of Transport supervises the development of the urban transport sector at country level and the Federal Transport Authority sets national-interest regulations. In Addis Ababa, following a recent re-organization, the municipality has placed all the powers expected of an urban transport authority in the AARTB, which has four distinct departments each with a clear scope. However, the LRT remains under the authority of the Ethiopian Railways Corporation (ERC) – a federal entity – which is a problem for its coordination with other modes.

In the rest of Ethiopia, the urban transport function (apart from road construction and maintenance) has so far largely remained limited to the regulation of private taxis and Bajaj's. Probably due to the nature of ULGs, the regional and municipal roles in the various urban transport activities (planning, infrastructure development, fare system, regulation, licensing, etc.) appeared, at least in Hawassa, cooperatively dealt with by the municipal and regional staff, working in a spirit of partnership. A more proactive role (creating, contracting, regulating and/or subsidizing a full-fledge bus operator, for instance) may require clarification, at local level, of the responsibilities of each party.

2.1.2 Policy

The recently promulgated Addis Ababa Transport policy includes good principles and strategic guidelines; however, no quantified targets have been defined, which limits the monitoring and follow up of the policy's implementation. The TRANSIP project supported by the World Bank shall include activities for the design of a detailed transport plan for Addis Ababa. However, there is no such policy for secondary cities, which is a main concern for local and regional transport authorities who expressed the need for guidance from the federal government to implement urban transport activities in line with national objectives. This concern is shared by the Ministry of Transport, which has developed a draft "framework strategy for sustainable mobility in emerging cities of Ethiopia". However, the document still needs to be further developed, particularly regarding objectives and expected results.

2.1.3 Capacity

Overall, the capacity of the various stakeholders is good in Addis Ababa (AARTB, bus companies, etc.). However, all stakeholders in the capital city made clear during our interviews that there was still a need for capacity-building in transport management at all levels (driving courses for bus drivers in order to enhance road safety, study tour and trainings on BRT operations for the Sheger company's staff which is meant to operate the future BRT, etc.).

The organization of capacity-building activities is even more crucial in regions, where Ethiopia's lack of professional training in the field of urban transportation results in officials and other stakeholders often lacking basic knowledge and experience in transport management. The officials met were very eager to receive training, participate in study tours and learn from international best practices.

2.1.4 Inter-institutional coordination

At federal level, good institutional coordination between the Ministry of Transport and the Ministry of Urban Development and Housing is key to the development of sound urban transport strategies integrating land use and mobility issues. Both Ministries view urban mobility as essential to their mandate, and both of them have

developed or are in the process of developing urban mobility strategies. While the Ministry of Urban Development and Housing shared its urban mobility strategy with the Ministry of Transport after it had developed it, the process would have benefitted from early consultation and common policy formulation. Concrete solutions can be found to formalize such inter-institutional coordination (constitution of inter-ministerial committees, institutionalization of regular meetings or working groups, etc.)

In Addis Ababa, the level of coordination between the AARTB and the federal government appears insufficient. This is striking in the case of the development of the LRT system, which was promoted, planned and is now operated by the ERC (federal entity) even though the infrastructure is constructed on the capital city’s territory and the railway serves a function (urban transport) that falls within the municipality’s mandate. The federal government and the AARTB have engaged in talks to hand over the LRT to the municipality, but they appear to be stalling on the issue of the LRT’s debt. Hence, no adequate arrangement has been found yet, but this issue remains on the national agenda.

Enhancing the level of coordination between the AARTB and other departments of the municipality also appears crucial for the good integration of urban mobility services among other municipal services.

Regarding regional-federal coordination, it appears that the FTA’s role is weak concerning transport regulation and licensing in the regions, which limits adequate enforcement by regional transport departments and compliance by vehicles’ owners and drivers. Moreover, the relative autonomy of regions in terms of data aggregation on vehicles and road casualties limits data interpretation at federal level by the FTA. The harmonization of data standards across regions would allow the FTA to gather useful and comparable information across the national territory, to better inform policies.

Strengths	Weaknesses
Clear legal mandates generally	Lack of a national urban mobility policy
In Addis Ababa, the AARTB possesses all the mandates of an urban mobility authority and has strong capacity	Lack of quantified targets in local strategies
	Lack of institutional coordination between institutions respectively in charge of urban development and urban mobility
	Very weak capacity to manage urban mobility in secondary city institutions
	The AA LRT, a key infrastructure, planned and operated outside of the AA urban mobility institutions
Opportunities	Threats
AARTB’s capacity that could be leveraged outside of AA	The lack of capacity for urban mobility management in secondary cities that could result in planning decisions with lasting negative consequences
	LRT’s debt that impedes rationalizing the institutional setup

Table 3: SWOT matrix of stakes linked to institutional framework and management of urban transport

Table 4 – Governance Matrix for Addis Ababa

Sector		Urban Planning	Public Transport					Public spaces				
			Institutional collective transport		Bus stations (or bus terminals)	Paratransit (scheduled)	Taxis (passenger cars)	Road infrastructure and road network	Traffic management	Parking	Non-motorized modes	
			Train	Bus							Walking	Cycling
Strategic level <i>What strategies? With which resources?</i>	Policy and planning	AAPC	ERC	TA			AACRA	TMA	TA / TPMO			
	Funding	Municipal budget + loans	National budget + loans	Municipal budget + loans		Self	Municipal budget + loans					
Tactical level <i>What services ought to be developed? How to go about it?</i>	Regulation	MHUD / AA City Government	ERC	TA			MoT					
	Licensing, permits and contracting	Departments in AA City Government	n/a	TA	DVLA				TA			
	Fare system		ERC				TA					
	Infrastructure, Equipement	Various departments in AA City Government	ERC	TA			AACRA	TMA		AACRA		
Operational level <i>How to produce services efficiently?</i>	Operations / Maintenance		Operating company	Anbessa, Sheger, Alliance	TA	Minibus operators	Taxis operators	AACRA	TMA	To be determined	AACRA	
Problematic		<i>Responsibilities not allocated, unexercised or conflicts between actors annihilating the action</i>										
Insufficient		<i>Responsibilities not sufficiently defined and latent conflicts between stakeholders</i>										
Non applicable												

Table 5 – Governance Matrix for secondary cities

Sector		Urban Planning	Public Transport					Public spaces				
			Institutional collective transport (Bus)	Bus stations (or bus terminals)	Paratransit (minibuses)	Taxis		Road infrastructure and road network	Traffic management	Parking	Non-motorized	
						Mototaxis or three wheelers	Passenger cars				Walking	Cycling
Strategic level <i>What strategies? With which resources?</i>	Policy and planning (federal)	MHUD	MoT			MoT		MoT				
	Policy and planning (regional)	Region	Region + Municipality (TD)			Region + Municipality (TD)		Region + Municipality (TD)				
	Funding	Region, municipality, donors	Municipality budget + loans			Self		Municipal budget + loans				
Tactical level <i>What services ought to be developed? How to go about it?</i>	Regulation	MHUD / Region	Region + Municipality (TD)			Region + Municipality (TD)		MoT				
	Licensing, permits and contracting	Municipality										
	Infrastructure, Equipment	Municipality						Region + Municipality (TD)				
Operational level <i>How to produce services efficiently?</i>	Operations / Maintenance		Bus company	Region + Municipality (TD)		3 wheelers drivers	Taxis drivers	Region + Municipality (TD)	To be determined	Region + Municipality (TD)		
Problematic		<i>Responsibilities not allocated, unexercised or conflicts between actors annihilating the action</i>										
Insufficient		<i>Responsibilities not sufficiently defined and latent conflicts between stakeholders</i>										
Non applicable												

2.2 Funding for urban transport management

2.2.1 Current budget and needs

The current annual budget of the AARTB is approximately ETB 8 billion (about US\$460 million), which represents between a quarter and a fifth of the municipality's annual budget (approximately ETB 40 billion). Within the AARTB, the largest budget, by far, is the one of the Addis Ababa City Roads Authority (AACRA) with ETB 6.5 billion per year (among which ETB 6 billion go to road network extension and ETB 0.5 billion to road maintenance). The needs for funding the urban road sector are indeed immense and increasing. Currently, only 19% of the city's land is covered with road but, to meet the growing demand, connect new condominium zones and integrate the BRT infrastructure to the city, AACRA's ambitions for the next two years include the planning and construction of 300 km of road, representing ETB 40 to 50 billion, (US\$1.46 to 1.83 billion), which will need to be in majority financed by borrowing. Regarding other urban mobility subsectors, the financial requirements of envisaged developments will have to be precisely quantified in the future Comprehensive Strategic Transport Development Plan.

It is hardly possible to give numbers regarding the needs required to meet secondary cities' objectives as no comprehensive policy exists at this point. However, the magnitude of the urbanization expected in the coming years likely calls, in any scenario, for significant funding.

2.2.2 Dedicated sources of funding

The AARTB very recently²⁹ created an Addis Ababa Transport Fund Office (TFO), which will manage a fund to which all transport fines and penalties, and advertisement revenue from bus shelters will flow, representing an annual budget of ETB 1.2 to 1.6 billion. TFO moneys are earmarked for use in the urban mobility sector.

Such dedicated funding mechanism does not seem to exist in secondary cities, where sector financing is covered under the general municipal budget obligation.

2.2.3 Donor-dependence

The donor-dependence of Ethiopia in the urban mobility sector is high: important projects such as TRANSIP, implemented under a US\$300 million IDA credit, substantially contribute to financing the sector. The project includes three main components: Traffic Management and Road Safety

The French Development Agency (AFD) also finances activities for the implementation of the BRT project, in cooperation with the AARTB, through a concessional loan of €50 million.

The African Development Bank (AfDB) recently started to contribute to the funding of the sector through the 5-year Ethiopia Integrated Transport Project Phase I which includes components for urban mobility, the construction of roads, and a capacity-building program for the Ministry of Transport and some other authorities relevant to the sector. The program could total up to USD 500 million and will be implemented in phases, with the support of other development partners.

The funding of municipal investments in the rest of Ethiopia is also supported by the World Bank through the Second Urban Local Government Development Program (ULGDP) with a US\$150 million IDA credit.

Given the magnitude of its upcoming urban transition, Ethiopia will need to find additional funding sources. In a context of global climate change, the development and implementation of sustainable mobility policies in developing countries is supported by many donor agencies and green funds. Among them, the Green Climate Fund (GCF), of which Ethiopia was the first developing country government to become an accredited entity,

²⁹ Enacted on December 6th, 2017.

supports developing countries to respond to the challenge of climate change through grants, loans, equity or guarantees, including in the urban mobility sector.³⁰

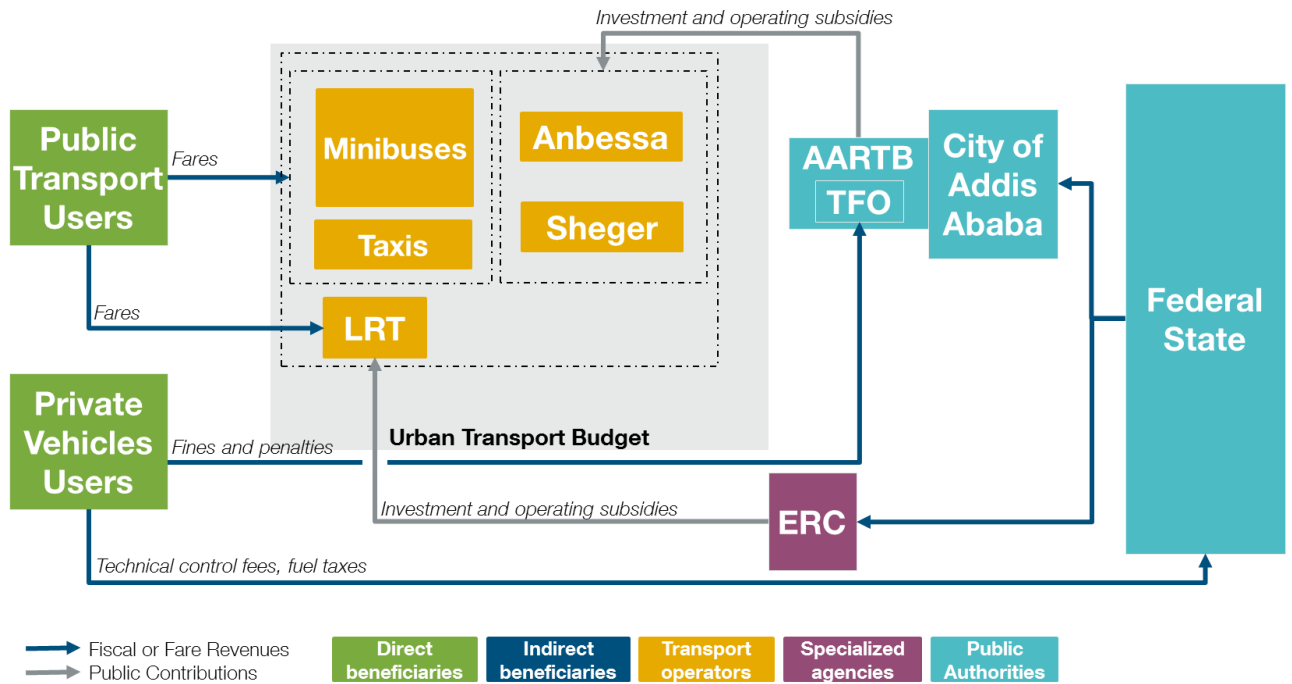


Figure 10 –Financial flows in Urban Mobility in Addis Ababa

Strengths	Weaknesses
Strong financial capacity of AA City Government	Insufficient funding for operation & maintenance could threaten the sustainability and effectiveness of investments
The AA Transport Fund Office	Donor-dependence
Opportunities	Threats
Existing donor support that should be used to create a sustainable financing framework	Huge needs for investment and operation due to the extremely fast urban growth
Climate finance	Low household incomes, thus low capacity to pay public transport fares

Table 6: SWOT matrix of issues and options linked to dedicated funding sources of urban transport

³⁰ However, GCF funding for urban mobility projects remains nascent, as only one such project has been submitted to (and approved by) the GCF Board to this date. GCF funding can be mobilized through various financial instruments including grants and concessional loans. Amounts approved vary greatly, in particular according to the climate impact of the proposed project, but in all cases significant co-financing is expected.

2.3 Civil society participation in urban transport management

2.3.1 Organization of civil society participation in Ethiopia

In Addis Ababa, local participation and accountability is organized around the following scheme: Addis Ababa municipality is divided into 10 sub-cities and 117 woredas. Each woreda is then divided into katanas, which is the lowest level of governance. Each katana has 2 or 3 representatives who report the community’s concerns and requests to the woreda level. These requests can include concerns regarding urban and social services, land use planning and housing issues, etc. It is estimated that Addis Ababa municipality has around 500 katana representatives. A similar mechanism has not been reported for secondary cities.

For some large urban projects, such as road construction causing massive resettlement operations, the Government organizes workshops and stakeholders’ consultations. These processes follow Government procedures implying the elaboration of minutes of meetings which are shared for transparency and broader stakeholders’ consultation. The Ethiopian Institute of Architecture Building Construction and City Development (Addis Ababa University), and more generally representatives of the Addis Ababa University, are often invited to participate in stakeholders’ consultations for such projects. However, it does not seem that NGOs are represented or engaged in such meetings.

2.3.2 Initiatives in the urban mobility sector

Regarding urban mobility, civil society participation in Ethiopia appears relatively diffuse, recent and mostly developed in the capital city. In Addis Ababa, some events can be noted, such as a public presentation held during last September (2017) concerning the launch of the AARTB three-year plan. Some branches of the AARTB also engages in civil society participation activities, mostly through sensitization campaigns. This is the case of the Traffic Management Agency (TMA) which carries out sensitization campaigns on road safety with women’s associations, victims of car crashes, churches, schools, etc. The LRT enterprise also organizes sensitization campaigns around the notion of “civilized passengers” in schools, churches and other sociability places.

Operators have their own associations – minibus and collective taxis drivers’ association in Addis Ababa, “Bajaj” drivers’ associations in secondary cities – but beyond this, civil society participation remains weak and uneven. For instance, main employers such as the new industrial zones do not seem to be formally associated to the decisions related to urban transport management in the various cities where such projects are being developed, which is a main concern regarding future urban and economic development.

Nevertheless, some international NGOs and local research institutes are active in the urban mobility sector, such as 3GI and the World Resources Institute (including funding from Bloomberg Philanthropies on road safety). Ethiopia is also one of the focal country of the New Climate Economy and the LSE Research.

<p>Strengths</p> <ul style="list-style-type: none"> Organized paratransit associations Consultations for large projects with resettlement 	<p>Weaknesses</p> <ul style="list-style-type: none"> Overall weak civil society involvement Lack of consultations at planning level
<p>Opportunities</p> <ul style="list-style-type: none"> Some international NGOs and local research institutes active in urban mobility & also present in Ethiopia 	<p>Threats</p> <ul style="list-style-type: none"> Blockages in key reforms (e.g. professionalization of paratransit with larger vehicles) due to lack of civil society involvement

Table 7: SWOT matrix of issues and options linked to civil participation in urban transport

2.4 Multi-modal planning and operations for city centers

2.4.1 Coordination between land use and transport planning

The level of coordination between land use and transport planning is low in Ethiopia. The rapid urbanization of Addis Ababa has shaped the metropolis in many ways, sometimes through informal development, but also through sub-optimal urban planning and land use, which has largely affected the overall efficiency of the transport system. New condominium housing was for instance planned at the outskirts of the city, with very few connections to transport services, resulting in low accessibility of these neighborhoods (notably keeping their residents far from economic opportunities concentrated in the city center). To help reduce the development of informal settlements and increase the economic efficiency of the city, appropriate planning regulations are needed regarding mixed-use spaces, the increase of permitted land use densities in targeted areas.

In addition, insufficient cooperation between the Addis Ababa Planning Commission and the AARTB does not allow for the planning of transport links between the peripheries and the city center, but also between peripheral urban nodes. Nevertheless, authorities have demonstrated recent awareness on these issues: in Addis Ababa, by considering options to improve the accessibility of condominium housing located in the peripheries of the capital city, and in secondary cities by envisaging the servicing of industrial parks through new bus routes and the provision of bicycles for workers.

2.4.2 Urban and transport planning documents

In terms of urban planning, a Master Plan was recently approved for Addis Ababa but could not be shared with our team. The newly approved Master Plan is restricted to the administrative boundaries of the municipality of Addis Ababa and could not cover the whole of the continuous urban fabric around the city, which spills over to the Oromo Region.

There is currently no updated transport planning document for Addis Ababa but a Task Force has been appointed to elaborate a Comprehensive Strategic Transport Development Plan based on the new Urban Master Plan, the objective being to refine the Urban Master Plan with detailed multimodal transport modelling (activity funded under TRANSIP). The Terms of Reference of the Comprehensive Strategic Transport Development Plan are currently being reviewed and the final document is expected to be completed by 2020 (one-year study and one-year workshops for approval).

In secondary cities, most local authorities have an updated “structure plan” (urban development plan) but it does not integrate mobility aspects.

2.4.3 Route and fare enforcement capacity

The route and fare enforcement capacity of the AARTB appears relatively effective: during our interviews, the AARTB indicated that mini- and midi-buses which do not respect the fixed routes and fares have their licenses removed. In secondary cities, the enforcement capacity of local and regional transport authorities appears weaker, particularly regarding fares for trips performed by “Bajaj”.

2.4.4 Multi-modality

Multimodal transport planning is not implemented in Ethiopian cities: in Addis Ababa, many modes are competing and there is no integration between mini- and midi-buses, buses, the LRT and the future BRT. The public transport network is not hierarchized and, even though their fares and routes are regulated, the mini- and midi-buses do not seem to be taken into consideration in planning documents. In secondary cities, the modal share is dominated by “Bajaj” vehicles (the minibuses and bicycles market shares have been declining over the years).

2.4.5 Non-Motorized Transport

In terms of Non-Motorized Transport (NMT), secondary cities are more promising than the capital city: even though over half of transport trips are performed by walking in Addis Ababa, pedestrian infrastructure is lacking, road design is non-adapted, bicycle access is almost non-existent, road traffic is high and can be dangerous. In comparison, cities like Hawassa appear fairly walkable and cyclable (adapted pedestrian infrastructure and road design, low motorization rate, short distance and good climate). However, less citizens use bicycles as a means of transport (whereas it was a common mode of transport some years ago). Favoring bicycle trips in secondary cities and improving walking conditions in Addis Ababa appear as priorities for the country’s urban mobility.

2.4.6 Urban freight

Urban freight is regulated in Addis Ababa: timing regulation have been set up for transporters to enter the capital city and new infrastructure is planned for them (parking spaces, maintenance areas, etc.) As far as we know, such plans have not been developed for secondary cities.

Strengths	Weaknesses
Enforcement of fares and routes in Addis Ababa	Low or absent integration between land-use and mobility planning and enforcement
Plans for managing urban freight in Addis Ababa	Lack of emphasis on walkability
Opportunities	Threats
Upcoming Comprehensive Strategic Transport Development Plan in AA	Rapid urban development without consideration for multimodal urban mobility
Geography and size make many secondary cities walkable and bike-able	Overwhelming development of bajajs in secondary cities

Table 8: SWOT matrix of issues and options linked to multi-modal and operations in urban transport

2.5 Public transport performance

2.5.1 Characterization of Addis Ababa public transport policy

In comparison with other low-income cities, Addis Ababa has made a rather different choice in terms of public transport policy. The graphs³¹ below illustrate the positioning of the urban transport policy of the city of Addis Ababa vis-à-vis other cities in terms of affordability, financial sustainability, and supply density. Addis Ababa, being part of the lower-income, faster-urbanizing countries shown in the graphs, is constrained in terms of developing extensive and affordable services. Moreover, the public transport system faces main challenges in terms of financial sustainability of its services. However, the graphs demonstrate that, despite the difficulties encountered, Addis Ababa has favored a rather strong-willed policy towards the development of the public

³¹ Calculation method:

- Affordability = prices of collective transport / local per capita income;
- Supply density = metrics of supply density (number of vehicles, length of rail track);
- Budget sustainability = authorities’ financial support to collective transport (subsidies to public transport, except investment in infrastructure) / overall government expenses.

It is to be noted that the graph summarizes the relative effort in the three dimensions for each city, not their absolute performance relatively to other cities.

transport supply rather than a policy focused on reducing the impact of the collective transport sector on public finances.

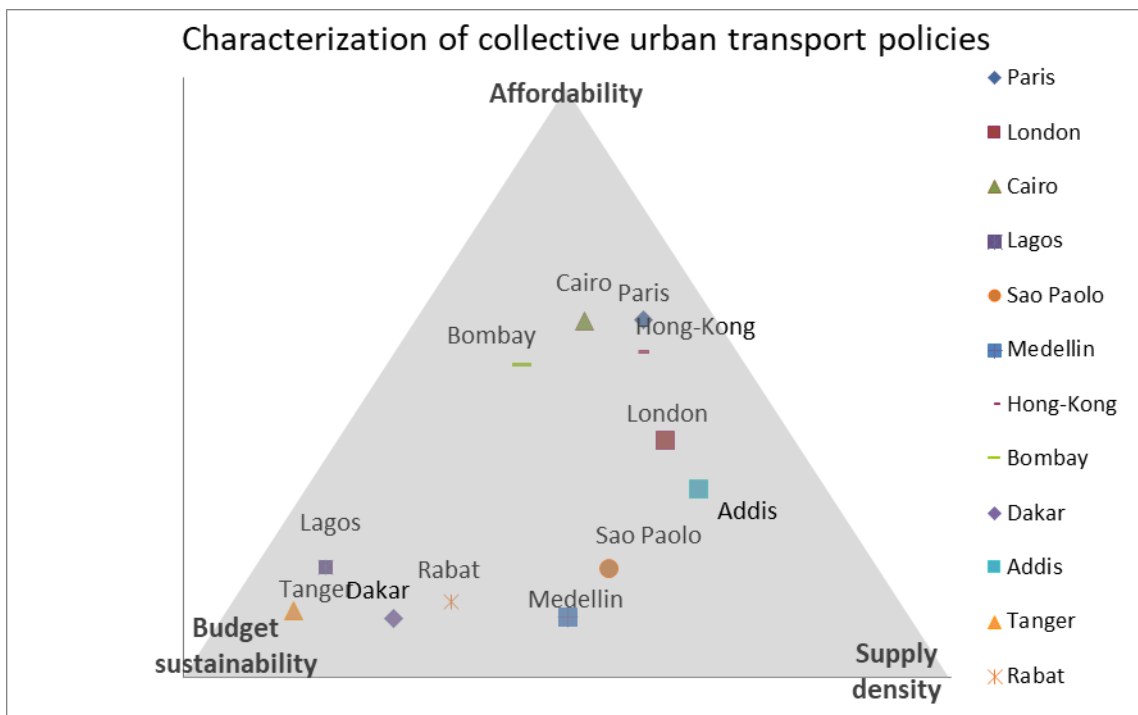


Figure 11 – Characterization of transport policies in different cities

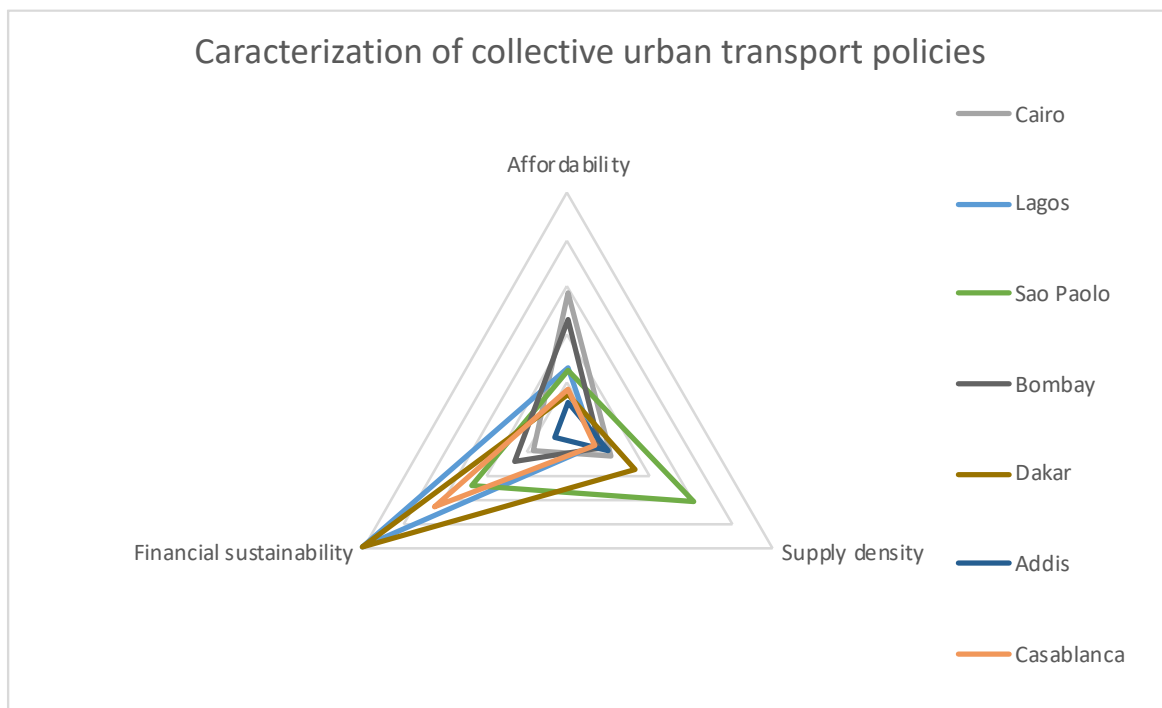


Figure 12 – Characterization of transport policies in Tier 3 cities

2.5.2 Public transport environment and performance

Addis Ababa’s recent urban developments are not conducive to increasing the overall performance of the public transport system: the capital city experiences fast urban growth but even faster territorial expansion. Even though extremely high densities are found near the core center (30% of the population located on 8% of the land, with generally poor living conditions), Addis Ababa’s housing density is decreasing overall, due to the development of large condominium programs at the outskirts of the city. The connectivity of these new residential areas with economic activities at the city center remains erratic and the resulting urban sprawl causes main inefficiencies in terms of mass transport servicing and related costs for residents.

Moreover, despite low motorization rates, congestion levels are high in Addis Ababa which is a main cause of inefficiency and lack of attractiveness of the public transport system. Air quality is significantly decreasing: the concentration of particulate matter (PM) is already 51, which is quite high according to World standards. The general lack of parking spaces for vehicles in the city – which consequently tend to directly park on the road – also causes congestion and road accidents seriously affecting the urban mobility system³².

Road safety is highly problematic in Ethiopia and affects public transport operations. The road fatalities rate of Ethiopia is the eighth highest in Africa and one of the highest in the world: approximately 64 people per 10,000 vehicles die annually on Ethiopian roads. 60% of all serious crashes and 73% of all road traffic crash-related fatalities affect pedestrians. According to the 2014 Household Mobility Survey, the poor comprise over 70 % of pedestrians, and are therefore disproportionately vulnerable to these high accident rates. About 85 percent of fatal accidents are attributed to driver error and 6% are due to vehicle defects.

The lack of modern and adapted transport infrastructure and facilities also seriously affects public transport performance. Bus companies particularly lack modern depots, garages, terminals and parking facilities, both in Addis Ababa and secondary cities. This situation not only reduces the technical and financial performance of the public transport system and thus its attractiveness for users, but also favors traffic accidents: for instance, out of 179 collisions during the first semester of this year, the Sheger bus company has reported 43 collisions around depots themselves³³.

2.5.3 Social performance

In 2014 in Addis Ababa, 33% of the poorest residents (representing 21% of the capital city’s population) used walking as their primary transportation mode, while it was the case of only 4% of the richest residents (representing 1% of the capital city’s population) and of 19% of the people living in Addis Ababa on average.

Counter-intuitively, the share of transportation expenses per capita increases with income, from 6% of expenses for the poorest quintile (and the same proportion for the poorest 28.1%, which corresponds to the population below the poverty line), to 11% for the richest quintile.³⁴ This is probably a consequence of the fact that only the richer can afford to use a larger share of their consumption spending to cover mobility needs.

³² A draft legislation on parking was recently submitted to the city council of Addis Ababa and the municipality will soon start to develop a municipal parking strategy.

³³ Drivers have to refuel their buses at pump stations located outside the depots, but these pump stations are not adapted for such vehicles, which causes

³⁴ 2014 Addis Ababa household mobility survey – statistical tables

Table 9 – General and transport expenses per income quintile³⁵ – Addis.

	Quintile of Household Expense per capita						Below poverty line
	1	2	3	4	5	Total	
Average annual Expenditures (ETB)	3,423	5,510	7,399	10,113	18,903	9,253	3,886
Average annual transportation expenditures (ETB)	200	306	413	667	2 025	741	227
Share of transportation in total expenditures	6%	6%	6%	7%	11%	8%	6%

Affordability of public transport for the poor is low in Addis Ababa as compared to other developing cities: in 2014, 60 monthly public transport trips (one return trip/day) would represent more than half (53%) of the average monthly expenditure of the poorest quintile. Hence, the poorest people in Addis Ababa could make only 7 transport trips in a month with the budget that they allocated to transport.

However, interestingly, the 2014 Addis Ababa household mobility survey revealed that the absence of available transport was the most important reason for people to walk, rather than the lack of money, even in places where the proportion of poor residents is the highest. Similarly, price appears to be a very minor reason for not choosing the bus in the overall population, and even more so for the poor, while factors such as punctuality, frequency and overloading are major reasons for citizens not choose the bus for their transport trips.

Table 10 – Benchmark of affordability indices

	Price of 60 trips as % of the average monthly expenses ³⁶ of 1st quintile	Price of 60 trips as % of the average monthly expenses of population	Number of trips that can be paid for by 15% of average monthly total expenses of 1st quintile	Number of trips that can be paid for by the observed average transportation expenses of 1st quintile
Addis Ababa	53%	19%	17	7
Dakar	55%	15%	16	19
Chennai	19%	8%	49	n/a
Brasilia	59%	6%	15	n/a
Mexico City	19%	3%	48	n/a
Manila	17%	5%	52	n/a

³⁵ Source: 2014 Addis Ababa household mobility survey

³⁶ Benchmark Affordability Index set by the landmark paper: *Affordability of Public Transport in Developing Countries*; Robin Carruthers, Malise Dick and Anuja Saurkar; World Bank Transport Papers; 2005

This tends to demonstrate that a key barrier to increasing access of the poor, and of the overall population, to motorized mobility is the lack of public transport supply (especially of cheaper modes) rather than the price of transport fares. To effectively address the mobility needs of poor citizens – representing around a third of the urban population – and thus to contribute to the overall performance of the public transport system, pursuing efforts towards an ambitious public transport supply policy could thus be an adequate response. Such reflection needs to be refined through further research and a detailed survey regarding the mobility needs of vulnerable sections of the population.

2.5.4 Paratransit performance

Paratransit operators are licensed and have regulated fares and routes in both Addis Ababa and secondary cities. There is some competition between paratransit operators, but the Transport Authority regulates their activities and there is an overall good level of enforcement (licenses are withdrawn from operators if, for instance, they refuse to drive during peak hours).

Paratransit operators represent a very high share of the public transport system in Addis Ababa. As a matter of comparison, when we talk about approximately 400 operational Anbessa buses, 200 Sheger buses and 125 Alliance buses, there are around 12 000 ‘Blue Donkeys’ minibuses operating in Addis Ababa, 6000 collective taxis and 400 ‘Higer’ midibuses. In secondary cities like Hawassa, ‘Bajaj’ three-wheelers represent the bulk of public transport since, as of now, the municipal bus company owns only 19 vehicles.

Authorities are concerned with the negative externalities caused by paratransit vehicles (air pollution, road safety issues) and the organizational complexity of managing them (multiplication of stakeholders to deal with, risk of dilution of authority and information). Nevertheless, it appears difficult to build tomorrow’s public transport system without dealing with these service providers who currently carry the larger share of public transport users.

In countries like Senegal, solutions have been implemented to contract and progressively integrate paratransit operators into the public transit system. The concept included the initial funding of a revolving fund financing the purchase of new minibuses replacing obsolete ones. The new minibuses were then leased to private/individual operators against pre-defined commitments to transport fares, routes and quality of service obligations. This solution has proved quite successful in Dakar.

Box 1 – Formalization of the paratransit sector: the example of Dakar

Since 2005, following the willingness of public authorities to formalize informal minibus activities, the World Bank has been supporting a minibus fleet renewal and contracting program managed by CETUD (*Conseil Exécutif des Transports Urbains de Dakar*), the urban transport authority in Dakar. This renewal and contracting program is organized under a leasing scheme: old “Ndiaga Ndiaye” are being scrapped and replaced by new vehicles based on a personal contribution of operators who have to provide an amount of money corresponding to 25 percent of the vehicle price. Operators have been grouped in economic interest groups collectively responsible for loan repayment. Specialized financial structures were created for this occasion: AFTU (Urban Transport Financing Group, *Agence de Financement des Transports Urbains, Dakar*); FGM (Mutual Guarantee Fund, *Fonds de Garantie Mutuelle, Dakar*); Mec-Trans (*Mutuelle d’Epargne et de Crédit des Transporteurs de la Région de Dakar*, a transport operators micro-credit organization). A concession agreement was given to economic interest groups on a number of routes defined by CETUD. The on-board cash payments to controllers has eventually been replaced by a system of tickets paid by users and the remuneration system of drivers and controllers was replaced by a wage system (instead of the remuneration system directly based on fare receipts).

Thanks to the better organization of operations emanating from this new scheme, the World Bank has made a positive evaluation of the first phase of the program (2005-2008) stating:

- Very good rate of reimbursement with only few delays;
- Faster and more reliable service offered to users because of the rationalization of vehicles movements on routes;
- Fixed fares for users instead of the previous uncertainty;
- Improved profitability for the owners;
- Longer routes reducing the number of trip segments, therefore reducing the number of times users must pay single fares, hence reducing total cost.

2.5.5 Bus and LRT performance

All municipal bus companies face a difficult financial situation in Ethiopia, particularly Anbessa which has experienced a steep increase in human resource costs during the recent period, for both operations and administration. Moreover, the average age of Anbessa’s bus fleet is high (over 10-15 years old) and the company faces many maintenance issues with all vehicles, including new buses for which spare parts must be imported from China. For instance, in May 2016, when a diagnostic of the company was conducted³⁷, 547 buses were identified as non-functional, of which half were reported as waiting for imported spare parts.

The Sheger municipal bus company was created by local authorities to provide citizens with an express bus service (with higher fares) but also to allow for benchmarking between the two operators, to encourage performance. However, benchmarking alone is insufficient to improve the performance of a publicly owned transit enterprise that is not subject, like a private franchise, to periodic tendering on the basis of set specifications. A common solution is to implement a Public Service Contract (PSC) between the public transport authority and the public transport operator. This option is detailed in the recommendations section.

As part of the general upgrading of Anbessa’s operations (increasing the quantity and quality of service, through renewing the bus fleet and modernizing infrastructure and equipment), the Addis Ababa Transport Authority is planning to harmonize all bus fares in the medium term. This fare harmonization would probably lead to an increase of Anbessa fares, which is currently the cheapest collective mode of transport in the city.

³⁷ Cf. Addis Ababa OBA Concept Note, Study “Analyzing the Use of Output-Based Aid (OBA) in Urban Transport”, June 2016, Nodalix Conseil

This could become an issue as the cost of transport is already relatively high as compared to the average daily income (cf. Figure 13).

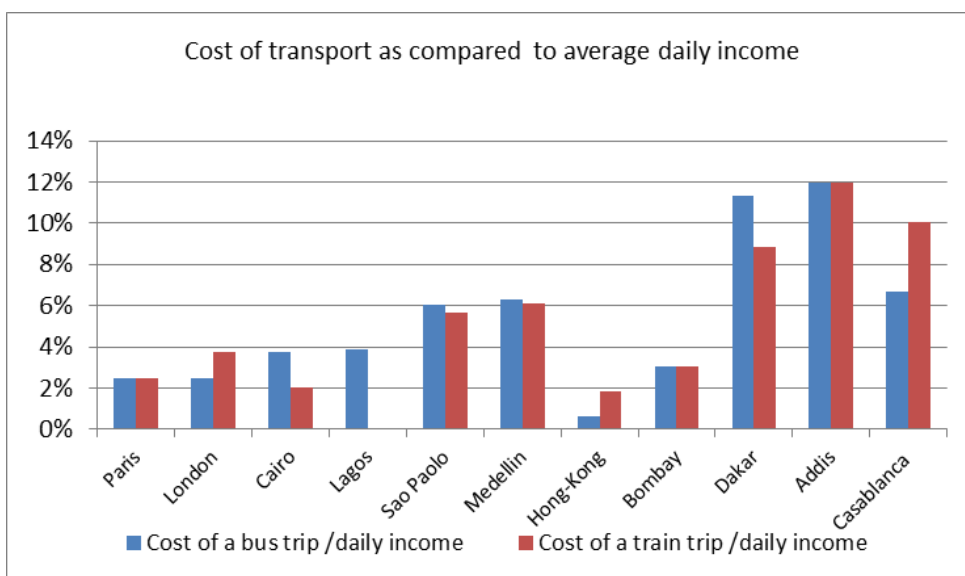


Figure 13 – Cost of transport as compared to average daily income in several cities³⁸

The development of Addis Ababa’s Light Rail Transit System has been a step forward towards improved mobility in the capital city. However, the potential of the LRT infrastructure remains under-used in terms of commercial speed and capacity: while roads are severely congested along the LRT infrastructure at peak hours, the LRT accommodates only approximately 4 000 pphpd (passengers per hour per direction), or 120 000 to 150 000 daily passengers, and the interval between trains at peak hours is around 12 minutes. This situation is partly due to the low number of vehicles (41), on-going snag and maintenance issues (a large portion of the rolling stock stays at the depot/garage) and the specificities of the signaling system (heavy rail-type signaling system which prevents shorter headways, like those achieved by most tramway systems around the world).

Strengths	Weaknesses
Historic bus operator with technical capacity (Anbessa)	Weak financial situation of all operators
Recent or on-going development of separated right-of-way modes in AA (LRT, BRT)	Poorly used capacity of the LRT infrastructure
	High accident rates impair public transport performance
	Low use of public transport is mostly due to insufficient supply
Opportunities	Threats
Improvement program for Anbessa through TRANSIP	Increase in congestion as mobility needs rise
Development of bus priority lanes to improve commercial speeds	Long-term consequences of the deterioration of service and insufficient maintenance in case of continuing financial difficulties of operators
Leveraging paratransit through professionalization and implementation of larger vehicles	

Table 11: SWOT matrix of issues and options linked to public transport performance

³⁸ Source: Nodalis benchmark

2.6 National government support for urban transport management in secondary cities

2.6.1 State of fiscal decentralization

The decentralized nature of Ethiopia’s political organization (see 1.1.1) translates into the local financial framework: approximately 40% of national public expenditure go through subnational governments (regional and local). Further, the share of own-source revenue in subnational governments’ revenue ranges from between 45% (states) to 90% (woredas), giving Ethiopia’s local governments, proportionally to the country’s overall income level, the most decentralized revenue base on the continent. The table below gives a comparative overview of the situation of ten African countries in terms of fiscal decentralization:

Country	SNGs % of Nat'l. Expenditure (approx. %)	SNGs Revenue from Own-source Tax (approx. %)	Major SNG Tax Bases & Sources	Major IGT Sources
Botswana	TBD	10	Property tax	Revenue Support Grant
Burkina Faso	< 4	44	Market tax; Residency tax	General subsidies; Construction grants
Ethiopia	40	states 45 – 80 woredas 80 – 90	Some income taxes; vary by state	Block grants; special purpose grants
Ghana	12 – 15	18	Fees, fines; Property rates	District Assemblies Common Fund (DACF) (5% – 7.5% to SNGs)
Mali	< 3	TBD	Head tax Property sales	Investment fund (ANICT)
Mozambique	< 2	50	Fees; Property sales	Autarquia Compensation Fund (FCA)
Nigeria	50	10	Property tax	Federation Account (approx. 47% to SNG)
South Africa	40+ (TBD)	provinces < 10 (TBD)	Property tax (local)	Equitable share (36% to SNG); conditional grants
Tanzania	27	7	Service levies Fees	Capital Development Grants; conditional grants
Uganda	40+	20	Graduated Personal Tax	Unconditional, conditional, equalization grants (35% to SNG)

Figure 14 – Fiscal decentralization in 10 African countries³⁹

2.6.2 Support mechanisms

Thus far, urban mobility has been managed by municipalities and States with no specific support from the Federal Government (no financial, nor technical support or knowledge/capacity transfer mechanisms from the national to the local level, except some selected/unpredictable cash and asset transfers).

While the local fiscal framework described above does not plead in favor of federal financial assistance to local mobility policies, there remains a dire need for support in terms of implementation capacity. The federal government developed handbooks such as the Urban Development Package and the Urban Good Governance Package to guide local planning, but no such specific document exists for urban mobility.

National government support for urban transport management in secondary cities is however recently emerging as a national priority, as demonstrated by the effort made by the MoT/MoUDH to develop a draft framework strategy for sustainable mobility in emerging cities, to guide urban mobility planning and management at the local level.

Secondary cities lack knowledge and capacity to plan and manage urban mobility at the local level. Interviews in Hawassa suggested that both local and regional staff were aware of their capacity building needs and eager to receive support in this field.

³⁹ Source: USAID country reports

<p>Strengths</p> <p>High fiscal autonomy at local level</p>	<p>Weaknesses</p> <p>No specific support for urban mobility from the Federal Government</p>
<p>Opportunities</p> <p>Donor-supported local development programs that could include support for urban mobility</p>	<p>Threats</p> <p>Hampered success of the national program regional industrial parks in case workers’ mobility is not supported</p>

Table 12: SWOT matrix of issues and options linked to national government support for urban transport management in secondary cities

2.7 Information and Communications Technology (ICT) and Transport

Improvements within the above six priority thematic areas all require significantly improving the collection and use of mobility-related data, whether in Addis where the complexity of the issues to be resolved requires deeper analysis than possible with the available data, or in the regions where barely any data is available. The table below synthesizes the “data situation” that could be observed in the course of the present review.

Data	Scope/area	Mode and year of acquisition	Owner/custodian of data	Availability and format of data	Regular updates	Comments
Land use						
Spatial distribution of population and jobs	Addis Ababa	Unknown	AA Planning Commission	Unknown	No	No data for urban areas outside Addis: national statistics have only regional granularity.
Travel demand						
Modal split	Addis Ababa	2014 household survey	AA Road and Transport Bureau	Household survey data in spreadsheet / database format, not public	No	Will be completed under the upcoming Addis Ababa Comprehensive Transport Planning study
Origin-Destination data			n/a			
Traffic						
Traffic counts	No comprehensive traffic counting campaign. Some traffic counts are done ad hoc for specific road or traffic signalling projects	Ad hoc / for specific projects	AA Road and Transport Bureau	Unknown	No	Will be collected under the upcoming Addis Ababa Comprehensive Transport Planning study
Parking						
Occupation and rotation data			n/a			
Public transport						
Route itineraries and stops	Addis Ababa only	With service changes	State-owned and city-owned operators (Anbessa, Sheger, LRT)	Paper, electronic not public, if any	No	Only available for State-owned and city-owned operators (Anbessa, Sheger, LRT)
Level of service						
Users satisfaction data	Addis Ababa only	2014	AA Road and Transport Bureau	Household survey data in spreadsheet / database format, not public	No	Partial data in the 2014 household survey
NMTs						
Pedestrian/bicycle counts	Addis Ababa only	Not currently available. May be collected under the upcoming Addis Ababa Comprehensive Transport Planning study				
Users satisfaction data						
Models						
Traffic model	Addis Ababa only	Not currently available. Will be developed under the upcoming Addis Ababa Comprehensive Transport Planning study				
Transport model						
Externalities						
Road Safety	National	Unclear	Addis Ababa Traffic Management Agency National Transport Authority	Unclear, not public	In Addis Ababa	Addis Ababa only at the city level, national data is only with regional granularity
Air Quality			n/a			No known plans for collection
Gender issues			n/a			No known plans for collection

Table 13 – Urban mobility data availability

The TRANSIP project funded by the World Bank will include a Comprehensive Strategic Transport Plan study that will include a massive data collection campaign on urban mobility.

On the operational side, TRANSIP also plans the design and implementation of an automated fare system for the municipal bus company Anbessa (e-system for ticketing and fleet management). These devices aim to improve the efficiency of transport operations through better monitoring of transport networks, automated sale process and data monitoring.

Several African cities have chosen to implement “light” systems, i.e. solutions relying on consumer equipment (typically Smartphones and Bluetooth printers), mobile internet connection and a centralized web-accessible data management a Central System, instead of heavy “e-“solutions relying on the installation of specific equipment and telecom infrastructure. Light IT systems can provide very cost-effective SaaS (Software as Service) which can be replicated with other collective transport modes (minibus, taxis and Bajaj operators for instance).

Urban mobility open data platforms are also emerging in many African cities and provide great opportunities for citizens to better plan their transport trips, as well as for policymakers who can access valuable mobility data through such innovative initiatives.

3. Recommendations

The six priority areas presented in the previous section are broadly articulated with the different areas of intervention of the EASI conceptual framework according to the table presented below (Figure 15):

	Enable	Avoid	Shift	Improve
Institutional Framework	Dark Yellow	Light Yellow	Light Yellow	Light Yellow
Dedicated funding sources	Dark Yellow	Light Yellow	Light Yellow	Light Yellow
Civil society participation	Dark Yellow	Light Yellow	Light Yellow	Light Yellow
Multi-modal planning and operations	Light Yellow	Dark Yellow	Dark Yellow	Light Yellow
Public transport performance	Light Yellow	Light Yellow	Light Yellow	Dark Yellow
Support of national government for urban transport management in secondary cities	Dark Yellow	Dark Yellow	Dark Yellow	Dark Yellow

Figure 15 - The six thematic areas of the study and the EASI conceptual framework

In order to best support decision-makers in improving the conditions of mobility and accessibility in Ethiopian cities, this report proposes a series of recommendations aimed at accelerating the implementation of a sustainable urban mobility policy. These recommendations, which have been widely discussed and globally validated during the National Urban Mobility Forum, aim to respond at national and local level to the main challenges of the sector in Ethiopia. The improvement of urban accessibility and mobility is a complex task, and these recommendations aim at mobilizing all stakeholders around these 16 recommendations.

Recommendations are presented in this Section 3 following the EASI framework. They are further presented in the form of a summary table (Table 14, p.73) at the end of Section 4 - Recommendations for implementation. Table 14 regroups recommendations according to the seven strategic axes of the proposed National Urban Mobility Policy. Further, Table 13 identifies, for each recommendation:

- **Current status**
- **lead institutions**
- **other institutions or partners that must be involved**
- **next steps.**

3.1 Recommendations under Governance efficiency (Enable)

Addis Ababa has a fairly structured urban mobility governance system with capable institutions at its helm. AARTB’s departments cover all functions of a metropolitan mobility authority. It would nevertheless benefit from the implementation of specific mechanisms to coordinate urban development and mobility planning (see under 3.2.1 below) and improve operators’ performance. Secondary city governments have wide-ranging legal and financial autonomy to design and implement urban mobility policies, but severely lack human capacity. They also require further guidance and incentives from the federal level to establish an effective urban mobility governance system in Ethiopia.

3.1.1 Policy-level

E1: Prepare and adopt a national urban mobility policy for regional and federal cities

Due to the strong dichotomy in size between Addis Ababa and regional capitals, and the relatively recent phenomenon of fast secondary city growth, Ethiopia has not yet developed a national policy for urban mobility. Local governments lack orientations and guidance to tackle the issue. Remedying this was viewed by National Urban Mobility Forum as a priority.

A national urban mobility policy, in the specific case of medium-size cities, will allow the Federal Government to communicate its objectives and give guidance to regional and local authorities, without being intrusive (regional and local authorities remaining responsible for political decisions related to the implementation of the policy). It would thus play the role of an umbrella policy and specify strategic axes to be developed according to specific contexts of regional and federal cities.

Both the MoT and MoUDH have been working on urban mobility strategies for secondary cities (draft stage). The AARTB has developed and formally adopted, in 2016, an urban mobility strategy for Addis Ababa. However, none of the strategies (local or national) include detailed and quantified targets for their respective implementation. For all strategies, the monitoring and follow-up of implementation can only be effective if quantitative targets or detailed qualitative objectives are set, so that their achievement can periodically be verified. Setting shared quantitative targets also incentivizes the implementation of concrete actions across the various institutions, departments and agencies whose cooperation is needed.

Box 2 – National Urban Transport Policy (NUTP) in 2006 in India

In 2006, the Ministry of Urban Development, Government of India (MoUD) issued the National Urban Transport Policy, to bring about a paradigm shift in the urban transport sector, at the state and city levels, with a special focus on moving people rather than moving vehicles. The guiding principles of the policy were the following:

- Incorporating urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement;
- Encouraging integrated land use and transport planning in all cities so that travel distances are minimized and access to livelihoods, education, and other social needs, especially for the marginal segments of the urban population, is improved;
- Improving access of business to markets and the various factors of production;
- Bringing about a more equitable allocation of road space with people, rather than vehicles, as its main focus.

In a federal country, NUTP 2006 was an opportunity to encourage strong and concrete measures from States and local governments (i) the creation of Unified Metropolitan Transport Authority (UMTAs) in all million plus cities, to facilitate more coordinated planning and implementation of urban transport programs and projects; and (ii) the creation of city or state level Urban Transport Funds (UTF), to help cities managing a transport dedicated capital for investment and centralize revenue related to urban transport, such as fares or taxes; (iii) the use of Comprehensive Mobility Plans (CMP); (iv) high capacity public transport systems being set up through the mechanism of Special Purpose Vehicles (SPV).

The Central Governments gave incentives to the States: financial support for mass transit (until 20% of the capital cost of the project), 50% of the cost of preparing comprehensive city transport plans and detailed project reports, 50% of the cost of project development when through public-private partnerships in order to attract private partners.

This NUTP had a strong impact on Indian urban transport sector as many cities started to develop metro projects, and elaborate urban mobility strategies. Moreover, a community of practice emerged thanks to

support to centers of excellence in university, and facilitation from the Institute of Urban Transport (IUT), professional body working under the MoUD.

In 2014, IUT undertook a comprehensive review of the policy in order to better include components related to Transit Oriented Development (TOD), regional connectivity, Comprehensive Mobility Plans (CMP), service level benchmarks; and insist on the importance of non-motorized transport (walking and cyclist being completely neglected in the overall process of city development) and other low-carbon modes of transport in cities (Light rail, Mass Rapid Transit).

E2: Develop a financial incentive program to incentivize and support actions in regional cities

Even though local and regional authorities have expressed the need to have a detailed national urban mobility policy as a basis for action, their strong financial independence reduces the Federal Government's leverage for implementation: guidelines or targets decided at federal level may rank second to secondary cities' other priorities. To incentivize action under its policy, the Federal Government could set up a national financial incentive program under which for example, ULGs would receive dedicated grants for the implementation of specific measures or reaching certain levels of performance.

For such a program, Ethiopia should seek the help of donor agencies which have financial aid instruments designed to achieve some specific outputs (such as the World Bank's Programs For Results, Output Based-Aid, etc.). For example, the existing ULGDP program could, in a further iteration, base some of its disbursements on mobility indicators.

Box 3 – An example of a financial incentive program targeted at local governments in Morocco

The Fund for the Support of urban and interurban road Transport Reforms (*Fonds d'Accompagnement des Réformes du Transport routier urbain et interurbain* – FSTR) is a financial incentive mechanism created in Morocco in 2007 to encourage the development of mass transit infrastructure in Moroccan cities. The fund supports mass transit projects in cities by funding infrastructure investment. It can also finance initial operating deficit during the three first years of operations of the project, expecting that the mass transit line will then have no operational deficit.

Based on the estimated infrastructure needs of the 10 main cities of the Kingdom, FSTR targets the implementation of a total investment program of about 30 billion MAD (approximately 3.27 billion USD) until the year 2027. The fund's resources come from the State budget and a special purpose account for the Value Added Tax (VAT) managed by the Ministry of Interior.

Projects eligible for the FSTR's financial support include:

- Construction of tramway and BRT lines (including contributions to cover operating deficits up to the third year after the date of operations);
- Creation of dedicated bus lanes and/or facilities designed to improve their commercial speed (such as tricolor traffic signal systems capable of giving priority to buses and trams).

Projects are considered eligible to funding based on allocation criteria regarding notably:

- Strategical, technical, financial and socio-economic pertinence of the project;
- Coordination, planning and implementation modes and processes for the project;
- Emergency of mobility needs in the cities considered.

3.1.2 Institutional level

E3: Design and implement a priority urban mobility management training program to build the capacity of regions and municipalities, with the participation of the Addis Ababa Road and Transport Bureau

One major request expressed by both local and regional authorities in Hawassa was the need for capacity building and training regarding urban transport management at all levels: from the Regional Head of the Transport Department with no background in urban transport, to collective transport operators (bus and 'Bajaj' drivers). Stakeholders met in Hawassa even stated the capacity building issue as far more problematic for them than the funding one, as they explained that they lacked the knowledge and experience to take informed decisions and implement efficient actions to manage urban transport.

With the urbanization pacing up in secondary cities, and large economic development projects such as industrial parks demanding improved urban mobility, it is now urgent for local and regional authorities to become more qualified and progressively autonomous in managing urban transport effectively. Without such capacity, any other measures, in particular financial, risk being ineffective

Training programs, case studies and study tours should be included in donors' program to respond to the human resources' needs of local and regional staff regarding urban transport management. To do so, a first step is to carry out a detailed diagnosis of the target audience of the capacity building program (government officials, public and paratransit operators, etc.) and of their priority needs. However, building capacity within decentralized institutions can be a demanding and lengthy process. An example of an effective program in a federal environment is provided in *Box 4 – "Conseillers en mobilité" – Belgium's initiative to build institutional capacity in urban mobility planning and management* below.

Some alternative and complementary/temporary solutions should thus be tested to provide technical assistance to municipalities and regions, through for instance the AARTB which has acquired valuable experience. In countries like Senegal, at the request of the State or of local authorities themselves, the CETUD (Dakar's urban transport authority) can provide technical assistance to local authorities in regions for the implementation of urban mobility projects.

It is also very important to support regions through measures to clarify the urban mobility institutional set-up.

Box 4 – "Conseillers en mobilité" – Belgium's initiative to build institutional capacity in urban mobility planning and management

At the end of the 1990s, following a significant rise in motorization, most Belgian cities were facing increasing congestion, deterioration in the supply of public transport, and a degradation of the urban environment. Regional and municipal authorities found it difficult to deal with these problems due to a lack of the necessary skills at all levels of the administration.

The Walloon Region, one of the three entities comprising the Kingdom of Belgium, was the first to set up, as early as 1998, a training program for "Conseillers en Mobilité" (Mobility Advisors) aimed at public administrations. The basic training covers the main technical areas related to mobility planning and management. Within the public administration, the role of the advisor is to act as a relay between the different stakeholders (politicians, technical departments, interest groups, users, operators, etc.). The program forms part of the "Charter for Mobility", which commits all stakeholders to develop a municipal or inter- municipal mobility master plan for public and non-motorized transport targeting quality of life and environmental improvements. Prerequisites to obtain funding from the Region for municipal mobility projects (e.g. investments on road or public transport networks) include not only the adoption of a mobility plan, but also training and putting in place at least one advisor within the local administration.

Since 1998, more than 1,000 mobility advisors have been trained and placed in Wallonia, in addition to which there are 300 advisors in the Brussels-Capital region. This network constitutes a community of practice and

exchange, and is supported by regular publications, advanced training, workshops, an annual symposium and regular technical visits.

E4: Implement systematic contracting of public and private transit enterprises

In Addis Ababa, two municipal bus enterprises coexist, and the LRT is managed by a subsidiary of the Ethiopian Railways Corporation. The creation of a second municipal bus company (Sheger) provides not only for a differentiated type of service (express buses, more modern vehicles, etc.), but also allows for benchmarking between the two operators, to encourage performance.

However, benchmarking alone is insufficient to improve the performance of a publicly owned transit enterprise that is not subject, like a private franchise, to periodic tendering on the basis of set specifications. A common solution is to implement a Public Service Contract (PSC) between the public transport authority and the public transport operator which is periodically revisited to encourage the operator to better perform.

PSCs usually define (i) basic service standards and performance metrics; (ii) specific obligations of different parties to support service delivery; (iii) formal coordination mechanisms between institutions; (iv) a framework for short and medium-term business planning; and (v) a methodology for agreeing on the annual subsidies required to achieve agreed service standards and performance targets. Anbessa's and Sheger's operations would benefit from a PSC even if they are governed by the Municipality of Addis Ababa. It would also be very useful to sign a PSC between the Municipality of Addis Ababa and the LRT operation company.

A further solution to improving operations at Anbessa and Sheger would be to have them benefit from the experience of a major private operator through a management contract. A management contract (ideally paired with a Public Service Contract) entrusts key managerial positions in a public company to an experienced private operator, whose remuneration includes a fixed fee and a variable fee based on reaching performance targets.

For private operators, gradually moving from a license-based system to more detailed contracts would enable municipal authorities to leverage existing capacities towards a more hierarchical, higher-quality public transport network. Such contracts could include financial incentives in exchange for stronger commitments from private operators. This is further detailed under recommendation S5 below.

Box 5 – Lessons learnt from Public Service Contracts implemented in emerging economies

Public Service Contracts (PSCs) have been successfully implemented in many countries to improve performance of public services, where the authorities did not choose to tender out services to the private sector. This approach has been particularly encouraged in former socialist countries where authorities remains attached to public management in the utility sector. Among donor agencies, the European Bank for Reconstruction and Development (EBRD) promotes PSC with its municipal clients in the European Union, Central Asia and the Caucasus.

PSCs have been shown to significantly contribute to improved service through:

- Defining stable and long-term framework conditions that are necessary to produce public transport services in the most efficient way including:
 - The planning of all costs related to the service delivered over the lifetime of the PSC;
 - A definition of the operational parameters and the performance targets to be met;
 - A definition of the tariff regime and arrangements for billing/ticketing and collection;
 - The establishment of an indexation basis over the life of the PSC for variable costs (labor, consumer prices, energy costs, etc.);
 - A description of the municipality’s obligations to provide quality service;
- Defining the tasks and responsibilities of both parties;
- Bringing the following advantages for the authority:
 - Clear definition of the public transport services to be delivered;
 - Fixed budgets for public transport;
 - Value for money in transport operations;
- Bringing the following advantages for the operator:
 - Clear definition of the compensation payments to the operator;
 - Long-term planning by guaranteeing these payments for a certain period;
 - Reduction of political interference into daily operations and management;
 - Access to loans for financing of investments.
 - Increasing transparency and public accountability.

3.2 Recommendations under land use efficiency (Avoid)

The level of coordination between land use and transport planning activities is low in Ethiopia and is characterized by a general lack of communication between institutions in charge of designing and implementing such policies, urban development plans that do not always consider mobility aspects, and urban forms and land use that encourage the use of individual motorized transport modes. Promoting sound land use and transport planning and management also means giving stronger priority to addressing the specific needs of the large portion of the population that is economically vulnerable.

3.2.1 Planning coordination

A1: Implement formal inter-institutional coordination mechanisms and consistent procedures for land use, mobility planning and urban development

In most countries, the lack of institutional coordination is a real obstacle to the design and implementation of sustainable urban mobility strategies. Today’s planning and urban development decisions will weigh on the cost of delivering access to services and opportunities for citizens for many years. Reciprocally, mobility infrastructure may affect the urban form: the Addis Ababa LRT, which divides the city into four parts and affects pedestrian mobility, is an example.

In Ethiopia, there is some level of institutional coordination (for instance, the MoUDH prepared an urban mobility strategy and shared it with the MoT, which is also in the process of elaborating such document) but it remains insufficient (the elaboration of a single urban mobility strategy jointly elaborated by both Ministries would have been much more efficient).

At the Addis Ababa municipal level, it is crucial that the AARTB, the Planning Commission and the Land Management Bureau meet regularly to discuss issues related to land use and transport planning at the metropolitan level. At the national level, inter-ministerial coordination between the MoT and the MoUDH is foremost important.

However, a full integration of the urban development and mobility planning functions very rarely exists in cities around the world: each function is very complex in itself and will require its own institutions. Therefore, institutional coordination mechanisms should be explicit and secured. In Ethiopia, this should take place at two levels: there should be a clear institutional duty to coordinate

- At the planning level, to ensure to ensure consistency of mobility, infrastructure and urban development plans
- At the permitting level, in particular to ensure that building permits that are delivered take mobility impacts into account and comply with the requirements in mobility plans

Such coordination will be strong enough only if it is enshrined legally into a strong institution, both at the Federal and at the Addis Ababa municipal levels. Further legal review and consultations are required to determine the exact form and governance of such institutions.

3.2.2 Secondary cities

A2: Develop and promulgate national guidelines for a full integration of urban mobility issues

According to stakeholders met at the MoUDH, most Ethiopian secondary cities have an updated “structure plan” (urban development plan). However, such plans do not take urban mobility aspects into account, which considerably limits their impact.

The first step to remedy this situation is the development of methodologies at national level to guide local authorities in the updating of their local development plans and the integration of mobility aspects. Extensive consultations with stakeholders – including civil society organizations, in particular for vulnerable categories such as women, the disabled, the elderly, etc. – should inform these methodologies.

Without national guidelines, local authorities would most probably face difficulties in performing this exercise and the disparities could be important between regions. This could be done as a flow-on product of the work undertaken by the MoT and MoUDH in building a national urban mobility strategy for secondary cities. Developing such guidelines would greatly benefit from donor support and international experience. To be enforceable, the guidelines will need to be very practical and take into account local conditions and local technical capacity in secondary cities.

Box 6 – Hierarchy of transport plans in South Africa

There are three spheres of government in South Africa: national, provincial and municipal. The country has nine provinces and a total of 257 municipalities. These municipalities fall into three categories. The eight largest cities are classified as metropolitan municipalities (Category A). Outside of these metropolitan municipalities there are 44 district municipalities (Category B), each of which is further divided into local municipalities (Category C). In total there are 205 of these Category C municipalities, most of which have a smaller city or a large town as their core. Local-level municipalities are unitary, which means metropolitan (Category A) and local (Category C) municipal boundaries include the complete functional area of the main urban settlement, as well as nearby and functionally linked smaller urban, semi-rural and rural areas⁴⁰.

The Constitution of the Republic of South Africa prescribes the roles of all three spheres of government, including the transport responsibilities of each sphere and how these responsibilities may overlap. The National Land Transport Act (NLTA, Act 5 of 2009) details the land transport responsibilities of each sphere of government, including such matters as policy, legislation, planning, regulation and funding arrangements. Each sphere is generally empowered to attend to responsibilities at its geographical scale, though there are variations across provinces and municipalities for historical, political and other reasons. The national Minister of Transport may assign responsibilities to different spheres and municipalities as required. In addition, provinces and municipalities may request of the national Minister for land transport responsibilities to be devolved to them. Local municipalities may also create dedicated authorities to encompass all land transport responsibilities within their municipal boundaries. Existing transport authorities are the City of Cape Town’s Transport and Urban Development Authority (TDA) and the eThekweni (Durban) Transport Authority (ETA).

Across all spheres of government, the transport planning cycle spans five years. National and Provincial Land Transport Strategic Frameworks (NLTSF, PLTSFs) provide strategic direction for transport planning in the national and provincial spheres at their respective geographic scale. In the municipal sphere of government transport planning requirements depend on the respective municipality’s category (A, B or C), but in all cases takes the form of a prescribed Integrated Transport Plan (ITP). Minimum requirements for ITPs are determined by the national minister, with additional oversight from provincial ministers (officially called Members of the Executive Committee, or MECs, for each province).

Within the municipal sphere the transport planning authority would be the local transport authority or municipal department responsible for transport. Category A (metropolitan) municipalities are tasked with preparing Comprehensive ITPs (CITPs) so as to take into account the complexity of a large city’s transport system. CITPs must capture a longer-term vision for transport, quantify the existing transport system, and provide strategies for dealing with matters such as infrastructure, good movement and non-motorized transport. These plans must also include a detailed Public Transport Plan (PTP). Category B (district) and C (local) municipalities must prepare District and Local ITPs (DITPs and LITPs), respectively. DITPs are similar to CITPs, though DITPs do not have to be as detailed as the transport systems in districts or smaller cities and towns are unlikely to have the same complexity and features as that of a metropolitan areas. LITPs in

⁴⁰ StatsSA and Municipal Demarcation Board, 2017

turn form part of DITPs, and are again a step less detailed as they would pertain only to a town or rural area’s transport system⁴¹.

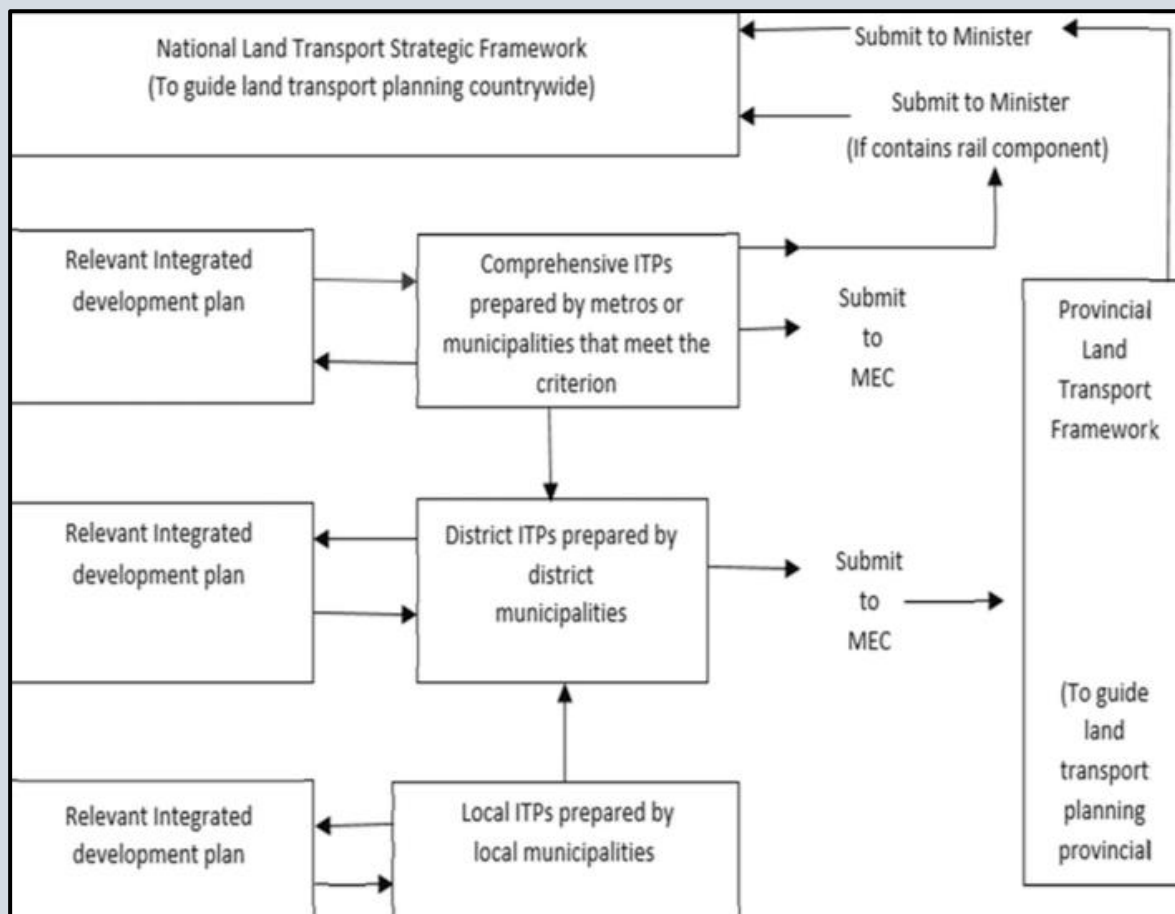


Image 1 - Interrelationship between transport planning requirements across the spheres of government⁴²

It should be noted that for historical, geographical and other reasons there are variations in the organizational structure and resourcing of the many provincial and municipal departments responsible for transport. For similar reasons there are also variations in the institutional capacity of each to perform all their responsibilities. As a result most municipalities across categories have continuously been struggling to complete transport plans timeously and to the desired quality, and thus the National Department of Transport in partnership with the National Treasury is in the process of reviewing the overall planning process to make it less onerous and more challenge-oriented.

3.2.3 Specific needs of the vulnerable

A3: Assess the specific mobility needs of the most vulnerable urban citizens to inform the design of mobility plans

Understanding the specific factors that constrain mobility and thus reduce accessibility for vulnerable sections of the urban population, including low-income households, women and physically impaired citizens, is key to building efficient and inclusive mobility strategies and plans. In particular, poverty is widespread in Ethiopian cities – even though poverty levels in the urban centers are decreasing, the levels of poverty strongly constrain

⁴¹ National Land Transport Act: Integrated Transport Planning Regulations, 2017

⁴² National Land Transport Act: Integrated Transport Planning Regulations 2017

the mobility of a large share of the urban population, with significant impacts on economic and social development.

The case of Anbessa illustrates one of the dilemmas that public authorities face. The municipal bus company “Anbessa” in Addis Ababa is typically viewed as dedicated to low income households. However, its fares remain high relative to the income of a significant portion of the population. Moreover, with the ambition of increasing the quality of service and supply quantity, renewing the bus fleet and modernizing infrastructure and equipment, it is unlikely that fares can – nor should – decrease in the near future. On the contrary, the Transport Authority’s objective to harmonize all bus fares in the medium term could lead to increases. The total impacts for the lowest-income households would however remain positive if fare hikes are accompanied by increased availability of large buses, which remain cheaper to use than collective taxis. However, precise impacts need to be better evaluated to avoid penalizing specific groups.

The Household Mobility Survey conducted in 2014 includes data by income quintiles, which is a first step for investigating the mobility needs of poor households. However, a more detailed survey should be designed to understand their needs (Is there a market segmentation? What kind of trips do they perform? What distance? Would they travel longer distances if they could? Do they need better pavements as they walk a lot? Bicycle lanes and bicycle-sharing systems? More transport supply? A more reliable service? Cheaper fares in specific areas? Etc.) Similar questions could be designed to assess the specific needs of other vulnerable sections of the population, with an emphasis on safety issues and off-peak service for women, and physical accessibility for disabled citizens. Cross-sectional analysis (assessing the mobility needs of poor women/poor disabled citizens) could be particularly telling to identify the current main weaknesses.

While the matter is very complex, and the impact of such studies is uncertain, public policies cannot afford to leave the needs of such large portions of the urban population unaddressed (almost a third of the urban population for low-income households).

Box 7 – Making Public Transport accessible to the urban poor

Addressing the urban mobility challenges of the poor in developing and emerging countries is a complex issue.

One set of possible options is to address the affordability challenges faced by the poor (price barrier), mainly through:

- Reduction of public transport fares;
- Allocation of targeted funds ('mobility funds', free transport tickets, etc.) to poor households.

However, in many low-income countries, public budget constraints typically make an across-the-board reduction of urban transport fares unrealistic since operators need to be compensated so that they keep operating and do not reduce supply. In countries where there exists a general income register, or a special register of the poor, implementing targeted demand-side subsidies can be a solution, but only few developing and emerging countries have such data.

Another set of solutions can be found by looking at the transport supply challenges faced by the poor (availability barrier) through for instance:

- Increasing public transport supply in urban peripheries where mostly poor people live;
- Increasing the supply of a public transport mode mostly used by the poor.

Indeed, in some situations, increasing public transport supply in zones where mostly poor people live or increasing the supply of the cheapest public mode of transport available in the city may have a higher pro-poor impact than lowering transport fares or allocating mobility funds to poor citizens. This is particularly true in low-income urban areas where the poor are compelled to walk or use expensive motorized modes such as taxis (because no public transport mode is available at a reasonable distance from their home with decent frequency).

In Bogota, authorities have used both set of solutions:

- They have introduced user subsidies targeted to the poor (addressing the affordability challenge);
- They have developed public transport services at the periphery of the city (addressing the availability challenge).

A 2016 World Bank Study⁴³ demonstrated that both reforms have jointly had a very high impact on the poor's capacity to access economic opportunities. Moreover, the study showed that:

- Subsidies provided to the poor have been critical to increase their mobility, more so than for other income categories:

⁴³ Guzman L.A & Oviedo D. (2018).

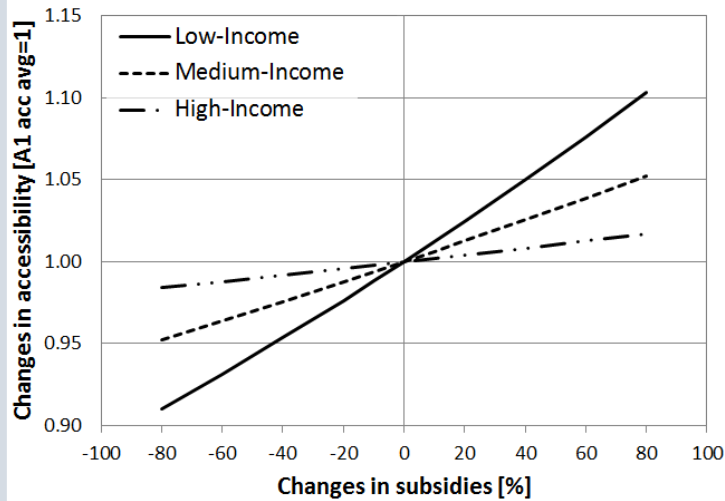


Image 1 - Work-accessibility changes with variation in subsidies in Bogota, 2015

- Public transport supply was increased in peripheral areas, where many poor households live, thus increasing public transport supply for the poor more than for other users. As can be seen in the compared maps below, this has been critical to explaining variations in accessibility, even without the subsidy component:

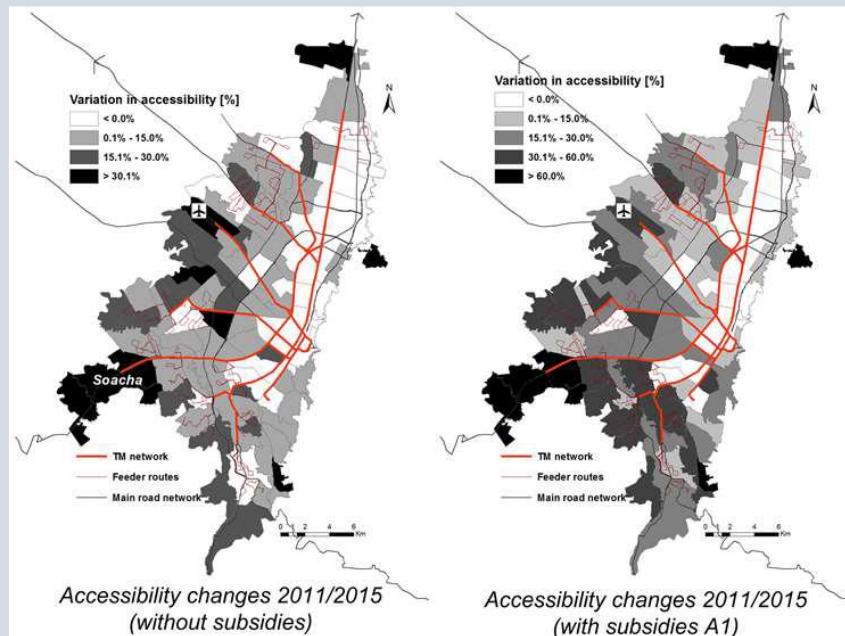


Image 2 - Accessibility changes per area with and without subsidies in Bogota, 2015

3.3 Recommendations under Multimodal Transport System efficiency (Shift)

A shift towards multi-modal transport systems is required in Addis Ababa and secondary cities to make collective motorized transport more efficient. The quantitative evaluation of options for network development would help prioritize investments and implement practical solutions according to their compared cost/ effectiveness/ environmental impacts. Actions towards such a shift should include using trunk infrastructure more effectively in Addis Ababa, focusing on Non-Motorized Transport (NMT) in secondary cities, and generally enhancing the level of service provided by paratransit operators by way of increasing integration into the public transport system.

3.3.1 Multi-modal approach

S1: Enforce Sustainable Urban Mobility Plans at the metropolitan level to prioritize investments according to quantified scenarios modelled

The capital city has developed an Urban Master Plan which acknowledges urban mobility as a key aspect of urban management. However, there is no updated urban transport master plan so far. The Municipality is thus engaged in a process to develop a Comprehensive Strategic Transport Development Plan (CSTDP), for which a tendering procedure has been launched.

In view of the discrepancy between mobility needs and public finance resources, authorities need to prioritize investments in the urban transport sector. The transport modelling exercise in the CSTDP should lead to develop several quantitative scenarios corresponding to, on one side, different levels of financial support to investment and to operation & maintenance, and on the other side, positive mobility and environmental impacts. Detailed urban transport modelling should particularly be the occasion of studying a potential shift towards a hierarchized public transport network (instead of differentiating modes by pricing and type of service, as it is currently done).

Such exercise would help authorities to set objectives for citizens' mobility (quantity and quality of supply), determine the necessary budget for implementing the plan, as well as sequencing and prioritizing actions with the highest impact per ETB.

Box 8 - Urban Mobility Plans in Brazil

Brazil's federal government adopted the National Law on Urban Mobility, which required municipalities with more than 20,000 residents to adopt a plano de mobilidade urbana (or PMU, the Brazilian equivalent of the SUMP) by April 2015. The law concerned more than 3,000 municipalities. The PMU had to be aligned with their urban development master plan, and had to include motorized transport, public transport and active modes. The SUMP will be reviewed every 10 years. Access to federal funding for the construction of transport infrastructure was subject to the creation of a SUMP by the towns and cities in question. The SUMP must adhere to the following guidelines:

- Promote modal shift from private cars to public transport and active modes; towns with no public transport system must prioritize active modes;
- Reduce energy consumption by urban transport, as well as the associated emissions of GHGs and air pollutants;
- Improve road safety, particularly for the most vulnerable populations (children, the elderly, and more generally users of active modes).

The following key aspects must be considered: targets for modal split, emissions reduction, integration policy; planned improvements in public transport; collaborative planning approaches; implementation times; and monitoring and evaluation tools. Belo Horizonte is one of the rare cities that already had a SUMP, dating from 2010. The city is thus preparing to review it in order to meet federal requirements. Generally

speaking, only a few Brazilian cities have the capability and expertise to submit a coherent SUMP that fully meets the federal government’s expectations. An ample share of the 3,000 towns and cities concerned by the law, due to a lack of financial and/or human resources, and sometimes to a lack of political willpower to complete such a project, will submit a document which will not actually make it possible to implement sustainable urban transport planning.

3.3.2 Non-motorized modes

S2: Develop national technical standards and programs to promote non-motorized modes of transport, particularly in secondary cities which still benefit from low motorization rates

Given the large share of walking trips and long walking distances in Ethiopia, developing and improving pedestrian facilities (sidewalks, zebra crossings, etc.) in all cities of the country would have highly positive impacts on all citizens’ mobility at a moderate cost. However, guidelines to design such facilities so that they are effective and implementable at a reasonable cost are lacking. The Federal Government should develop such road and pavement design guidelines and standards.

Moreover, we also recommend promoting a return to the use of bicycles in secondary cities like Hawassa, through the construction of bicycle lanes and promotion campaigns and, potentially, the launch of municipal bicycle-sharing systems. Initiatives such as the one envisaged for servicing industrial parks in absence of alternative public transport means for the moment (imports of bicycles for industrial park workers) should also be encouraged.

The standards for pedestrian and cycling facilities should promote a network approach. Experience from Rwanda and Kenya in particular show that disjointed, piece meal non-motorized infrastructure have little benefit. Safety of pedestrian and bicycling infrastructure should also be a main concern in future plans as road safety has been identified as problematic in Ethiopia (see recommendation on Safety).

Box 9 – Lessons learnt from NMT project around the world

In Kigali, the authorities give a special place to non-motorized modes of transport. For many years, the new road infrastructures built in the agglomeration are accompanied by sidewalks and even sometimes bike paths. In 2016, a pedestrian zone was created in the city center. Over a few hundred meters, a street was cut to traffic to provide pedestrians the opportunity to walk freely. Finally, once a month, the city organizes a Car Free Day. For a few hours on Sunday morning, some major roads are cut off to allow those who wish to walk or cycle to enjoy the streets. Sports activities are organized during these days, and health services propose to measure the tension, etc. These monthly days are an opportunity to communicate about the health benefits of regular physical activity.

Bogota’s (Colombia) less publicized but highly effective public space projects. Undoubtedly, Bogota is known in transport circles for its Transmilenio BRT system. At the same time, the city also started an aggressive campaign to reclaim public space from private users and to build a network of bicycle lanes in the city. These initiatives were based on previous efforts that resulted in strengthened institutions, sustainable financial practices, and a stronger civic culture⁴⁴.

During the 1980’s, Bogota’s public spaces, sidewalks and road space experienced rapid deterioration. Sidewalks became riddled with illegally parked private vehicles, street vendors, and commercial stock⁴⁵. Starting in the late 1990’s, former mayors Enrique Peñalosa and, later, Antanas Mockus, made the reclamation of public spaces a priority. Though their campaigns were at first not welcomed by low-income and high-income residents alike, they were gradually accepted as inhabitants started to acknowledge the

⁴⁴ Salazar J. (2008).

⁴⁵ Martin G. & Ceballos M. (2004).

benefits of these policies. Apart from increased safety and better conditions for pedestrians, they also improved safety and travel speeds for private vehicle users.

Improving public space for pedestrians and cyclists was part of a larger plan to restructure the city's built environment and it was closely linked to the spatial framework implemented in 2000 (Salazar, 2008). The initiative was also presented as a first step to achieving an intermodal transport system that included high capacity buses, conventional buses, private cars, cycling and walking. In this sense, it paved the way for the construction of infrastructure-heavy public transport projects and also for the implementation of pedestrian-only roads in iconic zones in the city.

3.3.3 Efficient and hierarchized public transport system: mass transit

S3: Increase the throughput of public transport trunk corridors, through independently determined technical solutions for increasing peak-hour capacity on the LRT infrastructure

The LRT peak-hour capacity is insufficient, and the potential of the infrastructure remains under-used in terms of commercial speed and capacity. Reasons are multiple and include: a signaling system typical of heavy rail but not well adapted to urban light rail services, with much longer headways than allowed by a simpler line-of-sight system; power supply issues; a lack of vehicles, and insufficient reliability of vehicles that generates excessive down-time; safety issues with people crossing the tracks because of the lack of overpasses, lack of barriers at at-grade intersections, animal crossings, lack of visibility at night; etc. An independent technical expertise could identify the array of technical and investment measures that could address these issues and thus allow for increased transport capacity and overall improvement on the LRT infrastructure. The review should prioritize measures according to their respective ratio of lifetime cost per additional passenger per hour per direction (pphd) at peak hours.

S4: Increase the throughput of public transport trunk corridors, through the implementation of transit/high occupancy vehicle (HOV) lanes in Addis Ababa

Moreover, congestion is becoming a serious issue in the capital city and roads are not hierarchized to favor the transit of public transport vehicles. Implementing dedicated lanes for HOVs (buses, mini- and midi-buses, collective taxis) is a very cost-effective measure to improve the commercial speed of these vehicles and make public transport more attractive to citizens. The AARTB is committed to experimenting with such measures. Results of the two planned Addis experiments should be used to adapt the principle of dedicated lanes to local conditions and accelerate implementation on a large number of road corridors. The implementation of such measures is always politically difficult given that restrictions on road space available to private cars results in opposition by the richer, i.e. more vocal, segments of the population. However local authorities in Ethiopia have demonstrated enforcement capacity (for instance, Addis Ababa has been able to enforce the ban on Bajaj vehicles).

3.3.4 Efficient and hierarchized public transport system: paratransit

S5: Build upon, and improve, paratransit services as a complement to mass transit, to meet the growing demand for urban mobility rather than drive them out of the market

The temptation to progressively drive small business-based paratransit (minibus and Bajaj drivers) out of the market and replace them by mass transport systems (bus, BRT, LRT, metro, etc.) is high in many developing countries, including Ethiopia. There are some examples where such process has taken place, like Seoul, South Korea, but it typically requires very substantial public investments.

While small vehicles generate nuisances (congestion, pollution), they also provide affordable service in places where none other is available. With the explosion of the demand for motorized urban mobility, removing paratransit seems impossible in the short- or medium-term, given the share of paratransit among total transport systems. Participants from the National Urban Mobility Forum observed that the current main problem with paratransit consists in its lack of integration with other modes of transport, and insufficient

vehicle capacity, creating congestion. Hence, redeploying and improving already-existing capacities, rather than gradually driving them out, could be a more rational alternative. Until the country can afford to devolve much higher public funds to public transport, paratransit should be seen as complementary to the mass transport system, and therefore should also be the target of improvement measures.

In some countries, authorities have implemented innovative contracting programs with small transport operators for improving the performance, capacity, security and reliability of this mode of transport rather than driving them out of the market. A significant example is the AFTU experience in Dakar, which converted thousands of van-type operations into minibus ones and has translated into high public satisfaction. These programs were designed in extensive consultations with paratransit operators' associations and typically include a scrapping fee, a significant tax incentive for new vehicles, a financing scheme and the group purchase of higher-capacity vehicles (48 sitting and standing in Dakar).

In Addis Ababa, where paratransit seems to be well regulated (licenses, fixed routes and fares), the implementation of such an improvement scheme appears very feasible. A scenario modelling exercise in the forthcoming Comprehensive Strategic Transport Development Plan could help authorities design it (long-term seat-km volume required, type of improvement required, costs, short- and long-term financial equilibrium, etc.) with a view to use paratransit as complementary to higher-capacity trunk routes operated with standard or articulated buses. In secondary cities, where Bajaj vehicles are sometimes the only public transport mode available, it is impossible to imagine a total replacement in the short to medium term. Solutions to reduce the nuisances caused by this mode of transport could however be explored (for instance, alternative fuels: in Delhi, India, environmental regulations impose three-wheelers to use Compressed Natural Gas).

Box 10 – Capacity building: the example of paratransit in Cape Town

The City of Cape Town implemented the first phase of its MyCiTi Integrated Rapid Transit system over the period 2007-2015. One of the key areas of learning from this first phase of planning and implementation was around the incorporation of paratransit businesses into BRT operations. In particular, the people who owned and operated the more than 900 affected paratransit operations were poorly prepared for the substantial shift from a small-scale minibus business model to collectively run bus operating companies managing an onerous 12-year contract. To its credit the City provided financial resources for paratransit owners to procure legal, financial and organizational advisors. However, these advisors were only part of a transitional negotiation process; once this process was completed the operators were left to their own devices to deal with long-term decision-making and management capacity-building. They had to learn on-the-job how to navigate scheduled, large scale bus operations – a major challenge for most even well trained and experienced operators.

In 2013 the City of Cape Town embarked on the second phase of its MyCiTi project. In collaboration with the first-phase organizational advisory consultant, the municipality decided on a more incremental transition approach for the second phase. The first step was the launch of a pilot express bus service in mid-2014. This service was initially expected to be operated for three years by a new entity, the N2 Express Joint Venture Company, set up between the affected scheduled bus and paratransit minibus operators. Built into the three-year pilot contract was a budget to set up a technical and managerial training program for paratransit operators in the phase 2 contract area of the city. It was envisaged that participants from the paratransit sector would ultimately manage and run the longer term-phase 2 bus operating companies that would be established by the end of the three-year interim period.

In order to identify candidates for the program, each of the 28 paratransit route associations who were involved in the first round of negotiations in the phase 2 contract area were invited to nominate three of their members for training. Thus, in the capacity building program's first year – 2014/2015 – a group of around 90 candidates participated in general management and transport planning courses. The courses were specifically developed and run for this group by the University of Cape Town Centre for Transport Studies. At the end of the first year all candidates underwent assessments and interview processes. As a

result, in the municipal FY2016/17 46 candidates drawn from the initial pool continued into a more intensive and focused program, and were split into management or vocational training streams. The N2 Express Joint Venture, with funding made available by the City of Cape Town, contracted the University of Cape Town for the transport and business management component. A number of other vocational training services providers were engaged in the areas of office management, bus operations and vehicle maintenance, as well as Facilities Management.

While ongoing quantitative assessment provided a basic measure of academic performance across the management and vocational training streams, at the end of each year the University of Cape Town conducted in-depth qualitative assessment sessions with the management stream candidates. Encouragingly, during these in-depth assessment sessions candidates reported that they had changed some of their paratransit business management practices spurred specifically by their participation in the capacity building program.

Reported changes included instituting written – as opposed to verbal – employment agreements between owners and drivers, more detailed tracking of vehicle movements and utilization efficiency, and sharing of information between different businesses and associations. The sharing of information is a significant step, as most of the candidates in the program reported that prior to the program they had never engaged with one another across business and associations in a collaborative manner.

A key challenge heading into the future is that the capacity building program concluded as planned in mid-2017, but the long-term operating entities that were intended to be in place by that point have yet to be established. The consequence is that the new business entities that were intended to absorb the candidates who completed the capacity building program have yet to become a reality. This is largely the result of complex bus operating contract negotiations and has unfortunately left beneficiaries of the capacity building program with unmet expectations. On a more positive note assessment results suggested that they are already thinking of, and in some cases instituting, positive change in their existing circumstances such as applying for positions with other public transport operating companies. This in turn holds potential and brings actual benefits for their current paratransit businesses' employees as well as passengers.

3.4 Recommendations in respect of Road space use and vehicle efficiency (Improve)

Many opportunities exist in Ethiopia to improve the efficiency and safety of transport modes through for instance the use of new technologies for better organizing public transport operations (open data, light IT systems for the management of transport operations, etc.) and enhancing air quality (electric buses, CNG vehicles, etc.) The enforcement of road safety measures and increased vehicular control (technical inspection, import regulations, etc.) should also be a main concern to address in this field.

3.4.1 New technologies

I1: Enhance the efficiency and organization of public transport using new, cost-effective ICT solutions

Many African countries have started using digital innovations to improve the operations and management of small paratransit operators (Digital matatus in Kenya, Transport for Cairo in Egypt, the AccraMobile Initiative in Ghana, etc.) Ethiopia should start looking at ways to create open data about public transport, particularly using Smartphones for data collection and applications development (maps, transit apps, mobile app for locating minibuses, etc.) to better share information with citizens and allow for transport modelling and public policy discussions based on reliable data.

New technologies also allow for the development of very cost-effective SaaS (Software as a Service) IT relying on consumer equipment (smartphones and Bluetooth printers), mobile internet connection, and a centralized web-accessible data management, providing even small operators with affordable tools that can help them considerably improve the efficiency of their operations.

Local authorities in Addis Ababa could benefit from numerous international experiences in Africa. The challenges for implementing this recommendation could however lie in the reliability and still poor connectivity of the mobile network in Ethiopia, and in the need to identify local innovative IT service providers – which are still scarce in Ethiopia.

Box 11 - Leveraging digital technologies to put paratransit on the map: the examples of Digital Matatus and Accra Mobility

Cities in the developing world face a common challenge when they try to better organize their transportation systems: they lack accurate and spatialized information on the existing transportation network. Without a clear picture of what is already in place, it is difficult for local authorities to improve transport services, and for public transport users to navigate their city efficiently. Innovative approaches to solve this problem using digital technologies were recently used in Nairobi, Kenya, and Accra, Ghana.

In both cities, enumerators equipped with GPS-enabled smartphones were dispatched on paratransit routes to collect various types of data on transport services. The use of smartphones made these data collection exercises relatively inexpensive and much more practical to deploy than paper-based surveys (by simplifying data transmission and limiting the need for cleaning up the data manually). This data led to the creation of the first public transport maps ever released in these two cities. In addition, standardized GTFS dataset describing transport services were compiled to allow developers to use this data in web- or smartphone-based applications (for instance, for journey planning).

The Digital Matatu project in Nairobi opened the way for this type of initiative in Africa, using a bottom-up approach based on extensive consultation with transport users and operators, and a strong involvement of academic partners. In contrast, Accra Mobility was implemented directly by the municipality (with support from external partners) to produce data that would assist its department of transport in planning and regulating transport operations falling under its jurisdiction. Several African cities are currently rolling out similar projects (i.e. Transport for Cairo in Egypt), and an international coalition of actors is emerging to mutualize tools, methodologies, and data (see <http://digitaltransport4africa.org>).

Box 12 - Increasing revenue collection through digital ticketing solutions: the case of Dakar, Senegal

In a bid to improve revenue collection for AFTU operators, local tech companies developed a ticketing solution based on the use of digital technologies. A smartphone is used to edit tickets, which are printed on a portable Bluetooth printer. Data on ticket sales and collected revenue is regularly uploaded onto companies' servers using a Wi-Fi internet connection. This allows operators to know precisely how many tickets have been sold, and how much cash they are supposed to receive from the crew at the end of the day. According to one of the companies which equipped 400 bus⁴⁶, operators who adopted this solution reported a 40% increase in revenue – due to a dramatic decrease in revenue evaporation, previously caused by the manual handling of cash. Vehicle owners can therefore monitor the performance of their fleet and drivers via an online platform.

Improving operators' turnover and profitability through better revenue collection opens up possibilities to reinvest a higher share of profit in their activity, and therefore to further improve the service that they offer. In addition, digitizing this process creates a wealth of secondary data that can be used to better plan, operate, and regulate transport services.

⁴⁶ The company Amarante equipped approximately 400 bus with this technology between 2015 and 2017.

3.4.2 Environment

I2: Develop innovative solutions to measure air pollution

Air quality in the capital city is decreasing and the concentration of particulate matter (PM) is already 51, which is quite high according to World standards.

Implementing pollution monitoring devices will help gather data on air quality without which it is difficult to design adequate public policies to respond to health risks.

I3: Assess innovative solutions to improve air quality (technology leapfrogging)

Ethiopia ratified the Paris Agreement in December 2015, which aims at holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit the temperature increase to 1.5 °C.

To design its low-carbon path towards sustainable mobility and help honor the country’s engagements in terms of low-carbon development, Ethiopia could benefit from technology leapfrogging (skipping less efficient/more polluting technologies used by developed countries and move directly to more advanced ones). Given the energy mix in the country, the opportunity to develop electric buses could for instance be explored.

Box 13 –The impact of changing fuel and technologies for auto-rickshaws (India)

Auto-rickshaws, the three-wheel vehicles used daily by Indians for short journeys, have since the late 1950s compensated for inadequate public transport provision and also supplied the existing public transport system. Rickshaws often cover “the last mile” for bus and metro users. They are thus an essential part of urban transport provision in India, and their manufacture has doubled between 2003 and 2010⁴⁷. They now represent 80% of the total number of vehicles in circulation in India and are thus chiefly responsible for emissions of hydrocarbons (HCs), fine particulate matters (PMs) and nitrogen oxide (NOx), with a catastrophic effect on public health. Until 2001, most auto-rickshaws in service were vehicles with two-stroke engines: cheap and easy to repair, but known for their high HC and PM emissions.

In 2001, the Supreme Court in New Delhi required all auto-rickshaws to convert to Compressed Natural Gas (CNG) or Liquefied Petroleum Gas (LPG), and to install four-stroke engines. Four-stroke engines running on CNG make a substantial fuel saving and significantly reduce emissions of PM⁴⁸ and HCs. Moreover, CNG is 30% cheaper than petrol. It is not however a sustainable option: CNG and LPG stations are expensive to roll out and are hence limited to big metropolises.

In recent years, electric rickshaws (e-rickshaws) have entered service in several Indian cities. But these vehicles were banned in August 2014 by the Supreme Court in New Delhi, as there was no law covering their use. Fortunately, in March 2015, the Parliament passed an amendment to the Motor Vehicle Act to allow battery-powered e-rickshaws to run on Indian roads, at certain conditions. Now that the use is regulated, e-rickshaws are a powerful alternative to fossil-fueled rickshaws and make a significant contribution to reducing urban pollution levels, but their impact in terms of GHG emissions may be negative, given India’s energy mix.

India has an ambitious program to make every vehicle electric by 2030 and is encouraging manufacturers of alternative fuel technology. But in 2017, the share of electric vehicles in the Indian car market was only 0.02% according to the International Energy Agency (IEA); China being the world leader, with over 50% of the global market share.

⁴⁷ Mani, A., Pai, M., & Aggarwal, R. (2012).

⁴⁸ 0.015 g/km, i.e. three times less than vehicles with two-stroke petrol-driven engines according to ARAI, 2007)

3.4.3 Safety

I4: Adopt intermediary targets for the implementation of a national road safety agenda, included in the urban mobility national policy

The road safety strategy has set a target to halve the number of death and injuries from road traffic crashes by 2023 and to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030. The achievement of these main targets implies a reduction of fatalities and serious injuries of 10 percentage points each year from the baseline year 2015. The road strategy provides main safety directions to follow in order to reach these targets, but it does not set detailed and quantified intermediary objectives for implementation of the strategy. It is thus recommended to refine the strategy – which is an excellent basis including detailed justifications and good practices regarding road safety – with shorter-term and more concrete qualitative and quantitative targets.

In Ethiopia about 85 percent of fatal accidents are attributed to driver error, while 6% are due to vehicle defects, which means that 91% of fatalities are related to conditions that should be controlled by the drivers' licensing and/or vehicle permitting processes. Hence, sustained efforts must be made by the Government to improve drivers' training and awareness campaigns should be carried out regarding mortality on road, drunk driving, driving behavior towards pedestrian and cyclists, etc.

Moreover, it becomes urgent to implement improved fleet management practices regarding control on age and performance of vehicles (regulations on vehicles import, regular technical control, etc.). Inspections should be allowed anywhere, independently of the region of registration of the inspected vehicle.

Finally, carrying out a hotspot analysis could also be recommended to identify areas where road crashes and fatalities occur with greater frequency in order to design specific safety measures.

4. Recommendations for implementation

4.1 Build on the momentum of the National Urban Mobility Forum

The first National Urban Mobility Forum took place on May 29th and 30th, 2018 in Addis Ababa. Participants from various ministries, regional and municipal governments, operators, and donors (full list in Appendix), openly debated, and proposed adjustments to the draft recommendations from the Consultant’s Interim Report, with remarkably strong involvement.

These adjusted recommendations are those provided in Chapter 3 above.

Participants also reached a broad agreement on priority actions. First and foremost, among all other recommendations, they emphasized the need to adopt a National Urban Mobility Policy. The proposed outline for such a policy was discussed and is provided in section 4.2 below.

The other three recommendations deemed the most critical were (in this order):

- Implement formal inter-institutional coordination mechanisms and procedures for land use and mobility planning and development
- Assess the specific mobility needs of the most vulnerable to inform the design of mobility plans
- Design and implement a priority urban mobility training program for Regions and Municipalities, with the participation of the Addis Ababa Municipality

This is reflected in recommended strategic axes for the National Urban Mobility Policy.

Participants, in working groups, also identified initial actions for each strategic axis under the future policy (section 4.3 below).

Finally, many participants – including the Consultant – felt that, due to the federal nature of Ethiopia’s political and administrative organization, and the cross-sectoral coordination needs for effective urban mobility (in particular, but not only, between ministries and agencies in charge of transport, urban development, environment, and finance), holding a national urban mobility forum regularly – yearly or two-yearly – would considerably help with the effective implementation of a national policy. Such events would be the occasion to measure progress, take stock of difficulties and new needs, and dynamically adjust implementation programs for each of the proposed strategic policy axes.

4.2 Finalize and adopt the national urban mobility policy

The main output of the National Urban Mobility Forum was the consensus reached on the recommended outline of the future National Urban Mobility Policy. The Policy should thus:

- Be firmly grounded in Ethiopia’s national and international policy commitments;
- Define key national objectives;
- Establish priority axes for implementation.

4.2.1 Policy Foundations

The Policy should translate for the mobility sector:

- National Plans:
 - The Second Growth and Transformation Plan 2015-2020 strategic pillar of: “proactively managing the ongoing rapid urbanization to unlock Ethiopia’s potential for sustained rapid growth and structural transformation of the economy”,

- The Climate-Resilient Green Economy Plan;
- And Ethiopia’s international commitments:
 - the Nationally Determined Contribution under the Paris Climate Agreement,
 - progressing towards Sustainable Development Goals.

4.2.2 Policy Objectives

Participants of Ethiopia’s first National Urban Mobility Forum recommended that the National Urban Mobility Policy adopt the following key objectives:

- Give all urban citizens safe, reliable and affordable accessibility to economic opportunities;
- Promote clean and efficient urban mobility to enable sustainable urban growth;
- Enable and incentivize local governments to design and implement sustainable urban mobility strategies.

The first objective enshrines the need to ensure mobility of all urban citizens to achieve Ethiopia’s growth and transformation targets. The second summarizes Ethiopia’s multiple national and international commitments to make its growth sustainable and reduce environmental externalities. The third objective acknowledges the federal nature of Ethiopia, which requires that policy implementation be built on a strong partnership between all levels of government.

4.2.3 Strategic Policy Axes

Reaching the above objectives requires establishing, within the Policy, Strategic Axes for action. Each Strategic Axis must be further translated into programs with actionable measures and **quantitative targets**.

Forum Participants recommended that the National Urban Mobility Policy be organized into the following Strategic Axes:

- Axis 1 - Build the institutional and financial capacity of local stakeholders
- Axis 2 - Integrate and consistently implement land-use and mobility plans
- Axis 3 - Ensure the mobility of the most vulnerable
- Axis 4 - Promote non-motorized transport
- Axis 5 - Improve public transport services
- Axis 6 - Improve urban traffic management and road safety
- Axis 7 - Reduce the harmful impacts of mobility (pollution, carbon emissions, congestion)

Recommendations in this Final Report can form the first set of actionable measures that underlie each Strategic Axis, as per table 6 below.

4.3 Adopt an action plan for each strategic axis

Forum participants, in working groups, developed each strategic axis into pragmatic action plans for the short to medium term, in the format presented in Figure 16 below. The outcomes from this work are presented in Table 14 below.

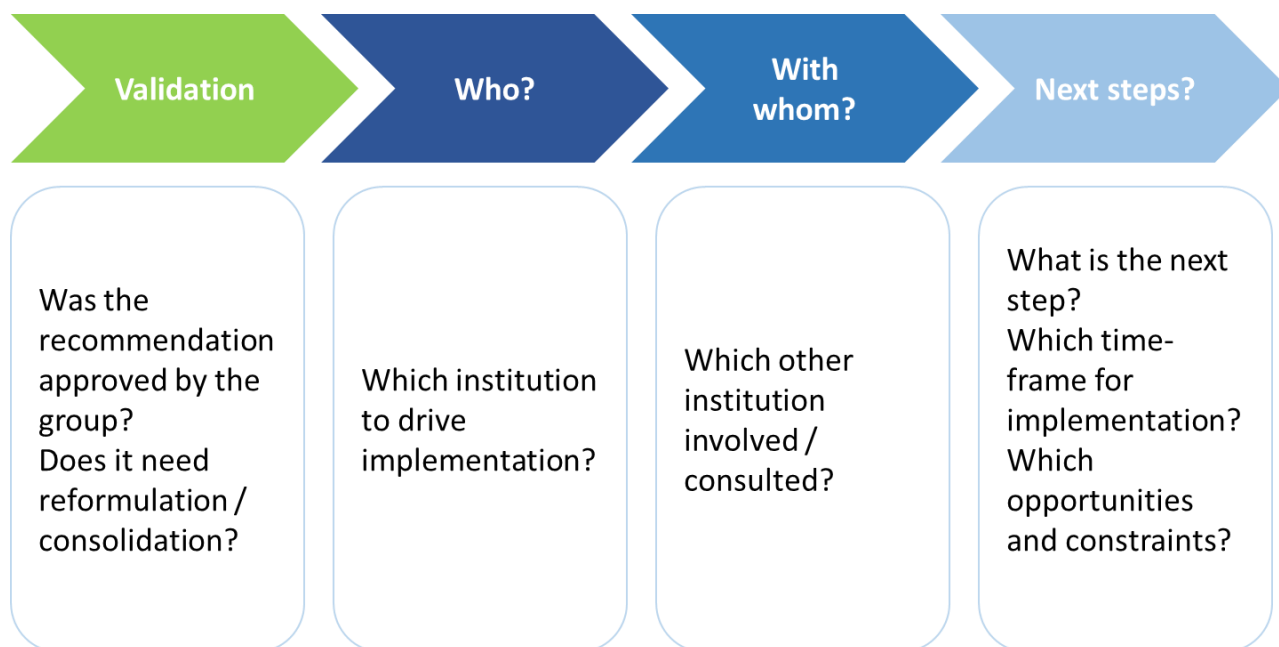


Figure 16 – Framework for the Action Plan

Table 14 – Strategic axes of the National Urban Mobility Policy, corresponding recommendations, and action plan

Strategic Axis	Validation	Current status	Who	With whom	Next steps
Axis 1 - Build the institutional and financial capacity of local stakeholders	Consensus among participants on the first level of priority of this strategic axis	E2 Develop a financial incentive program to incentivize and support actions in regional cities			
		Not started yet	- Ministry of Transport - Federal Transport Authority - Ministry of Finance	- Regions and urban local governments	- Conduct a feasibility study to quantify needs, identify options for such a program, and assess them
		E3 Design and implement a priority urban mobility management training program to build the capacity of regions and municipalities, with the participation of the Municipality of Addis Ababa and AARTB			
Not started yet	- Ministry of Transport - Regions and municipalities	- AARTB, Municipality of Addis Ababa - Academic partners - Donors / consultants (training programs)	- Precisely define the needs of regions and municipalities in terms of capacity building		
A2 Develop and promulgate national urban mobility guidelines for a full integration of urban mobility issues					
Not started yet	- Ministry of Urban Development & Housing (lead)	- Ministry of Transport	- Look at internationally available guidelines and conduct consultations		

Strategic Axis	Validation	Current status	Who	With whom	Next steps
Axis 2 - Integrate and consistently implement land-use and mobility plans	Consensus on the importance of this strategic axis. Attention raised to the fact that land use and mobility plan are one interrelated issue	S1 Enforce Sustainable Urban Mobility Plans at the metropolitan level to prioritize investments according to quantified scenarios modelled	In progress (Tender launched for AA)	- AARTB - Ministry of Transport - Ministry of Finance	- Prepare a plan at metropolitan level
		S2 Develop national technical standards and programs to promote non-motorized modes of transport, particularly in secondary cities which still benefit from low motorization rates	Not started yet	- Ministry of Transport, Federal Transport Bureaus - Regions and municipalities	- Conduct communication strategies to promote NMT - Technical assistance for the construction of bike lanes in secondary cities
		A1 Implement formal inter-institution coordination mechanism and consistent procedures for land use and mobility planning and development	Not started yet	- Ministry of Transport - Ministry of Urban Development & Housing - Joint-venture institution between MoT and MoUDH	- Define clear responsibility and accountability of this joint-venture institution

Strategic Axis	Validation	Current status	Who	With whom	Next steps
<p>Axis 3 - Ensure the mobility of the most vulnerable</p>	<p>Consensus among participants to consider this axis as a national priority The axis was validated but participants underlined the current difficulty to use NMT in most cities of Ethiopia</p>	<p>A3 Assess the specific mobility needs of the most vulnerable urban citizens to inform the design of mobility plans</p> <p>Some data already available (2014 Survey in AA)</p>	<p>- Lead by Ministry of Transport - Regions and regional administrations</p>	<p>- MoFEC, - Central Statistical Agency - National Planning Commission - Ministry of Social Affairs</p>	<p>- Assess the specific mobility needs of vulnerable urban citizens</p>
<p>Axis 4 - Promote non-motorized transport</p>		<p>S2 Develop national technical standards and programs to promote non-motorized modes of transport, particularly in secondary cities which still benefit from low motorization rates</p> <p>Not started yet</p>	<p>- Ministry of Transport</p>	<p>- Federal Transport Bureaus - Regions and municipalities</p>	<p>- Conduct communication strategies to promote NMT - Technical assistance for the construction of bike lanes in secondary cities</p>

Strategic Axis	Validation	Current status	Who	With whom	Next steps	
Axis 5 - Improve public transport services	Consensus among participants for the validation of this strategic axis, which encompasses several key issues: implementation of PSCs and State-owned enterprises, improvement of paratransit services as a complement of mass transit, enhancement of the efficiency and organization using ICT solutions.	E4a Implement systematic contracting of public and private transit enterprises	Not started yet	For PSCs : - AARTB & Regional & Municipal Transport Bureaus For PPPs : - Ministry of Transport	For PSCs - Operators, including ERC For PPPs: - PPP Agency - Private sector - Operators - Consumer associations	
		S5 Build upon, and improve paratransit services as a complement to mass transit, to meet the growing demand for urban mobility, rather than drive them out of the market	Not started yet	- AARTB in AA - Regional Transport Bureaus - Federal Transport Authority (guidelines / strategy)	- Operators, - Private owners, - Companies, - Associations	- Look at guidelines and conduct consultations - Consider donor technical assistance
		I1 Enhance the efficiency and organization of public transport using new, cost-effective ICT solutions	Not started yet	- Regions - Municipalities	- Federal transport Bureaus (outside AA) - Ministry of Communication Information Technology	- Conduct studies on how to redeploy and improve already-existing capacities

Strategic Axis	Validation	Current status	Who	With whom	Next steps
Axis 6 - Improve urban traffic management and road safety	Axis validated by participants from Addis Ababa for LRT/HOV, Road safety seen as a priority by all participants	S3 Increase the throughput of public transport trunk corridors, through independently determined technical solutions for increasing peak-hour capacity on the LRT infrastructure Not started yet	- ERC, reporting to the Ministry of Public Enterprises - AARTB	- Municipality of AA - Ministry of Transport - MoFEC	- Recruit independent auditor
		S4 Increase the throughput of public transport trunk corridors, through the implementation of transit/high occupancy vehicle (HOV) lanes in Addis Ababa Under progress (2 pilot projects)	- AARTB	-	- Evaluate results of pilot projects, draw lessons learnt and prepare a plan for expansion
		I4 Adopt intermediary targets for the implementation of a national road safety agenda, to be included in the urban mobility national policy Under progress (road safety strategy approved for AA)	- Ministry of Transport, from the National Road Safety Strategy	- Municipalities - Regional Transport Office - Private stakeholders	- Discuss and clearly set the targets (especially quantified) in terms of road safety

Strategic Axis	Validation	Current status	Who	With whom	Next steps
<p>Axis 7 - Reduce the harmful impacts of mobility (pollution, carbon emissions)</p>	<p>Consensus among the participants for the validation of this strategic axis</p>	<p>I2 Develop innovative solutions to measure air pollution</p> <p>Not started yet</p>	<ul style="list-style-type: none"> - Municipalities and City Administration - National Metrology Agency - Research Institutes under the University - Ministry of Urban Development & Housing - Anbessa (measure vehicle emissions) 	<ul style="list-style-type: none"> - Regional Environmental Protection Offices, - Ministry of Environment, Forest and Climate Change, - Ministry of Transport (vehicles emissions) - Addis Ababa Environmental Agency 	<ul style="list-style-type: none"> - Consult with manufacturers and operators
		<p>I3 Assess innovative solutions to improve air quality (technology leapfrogging)</p> <p>Not started yet</p>	<ul style="list-style-type: none"> - Ministry of Science and Technology - Ministry of Energy 	<ul style="list-style-type: none"> - Ministry of Transport - MoFEC - Ministry of Water and Irrigation - Council of Ministers (final decision) 	<ul style="list-style-type: none"> - Find an agreement with MoFEC so that the proposal can go to the Council of Ministers - Consult manufacturers and operators

Appendices

Appendix 1 – Review process and methodology

The process leading to this final report and the recommendations it formulates, is presented schematically in the flowchart on the next page.

The Consultant started this assignment by submitting a Country Approach Document presenting the intended methodology, after carrying out a preliminary desk study of available documentation.

During a first field mission, this methodology was discussed with the beneficiary and the World Bank country team, who also contributed to the identification of relevant stakeholders to be consulted on the six thematic areas of the study. The Ministry of Transport constituted a Steering Committee for the study.

Interviews were conducted at both the national and the local level, and the Consultant travelled to a secondary city (Hawassa) to meet local officials. The main findings of the field visits were subsequently presented to the Steering Committee for validation. The first field mission also allowed the Consultant to gather additional data and documentation, as well as to make its own observations in the field.

Building on the material gathered up to this point, the Consultant prepared a draft interim report, structured in three main sections. The first section provides a general diagnosis of urbanization and mobility trends in the country. The second section narrows down the diagnosis to the six thematic areas, providing a critical and synthetic assessment of each area. Based on these findings, the third section of the report formulated recommendations along the four pillars of the EASI framework:

- **Enable** – How to enhance governance efficiency?
- **Avoid** – How to enhance land-use efficiency?
- **Shift** – How to enhance multimodal mobility efficiency?
- **Improve** – How to enhance road-space use and vehicle efficiency?

These recommendations occupied a central place in the National Urban Mobility Forum organized in Addis Ababa on May 29th and 30th, 2018. Following a presentation of the study's findings, the recommendations were discussed in plenary session with high-level decision makers from the main ministries, authorities, municipalities, regions and public enterprises holding responsibilities in urban mobility. Break-out groups then engaged the participants in a technical review of the recommendations and the identification of next steps for their implementation.

This exercise was facilitated by the Consultant's team, starting with a SWOT analysis of each thematic area and continuing with a structured discussion on the details proposed recommendations and their implementation. The revised recommendations, amended with the inputs received, were then presented and collectively approved during the closing plenary session of the forum. The conclusion of the present review is thus confounded with the main output of the National Urban Mobility Forum, and is constituted of:

- **Final recommendations** presented in Chapter 3 of this report,
- **The outline of a National Urban Mobility Policy** presented in Section 4.2, and
- **A proposed action plan for implementation** presented in Section 4.3.

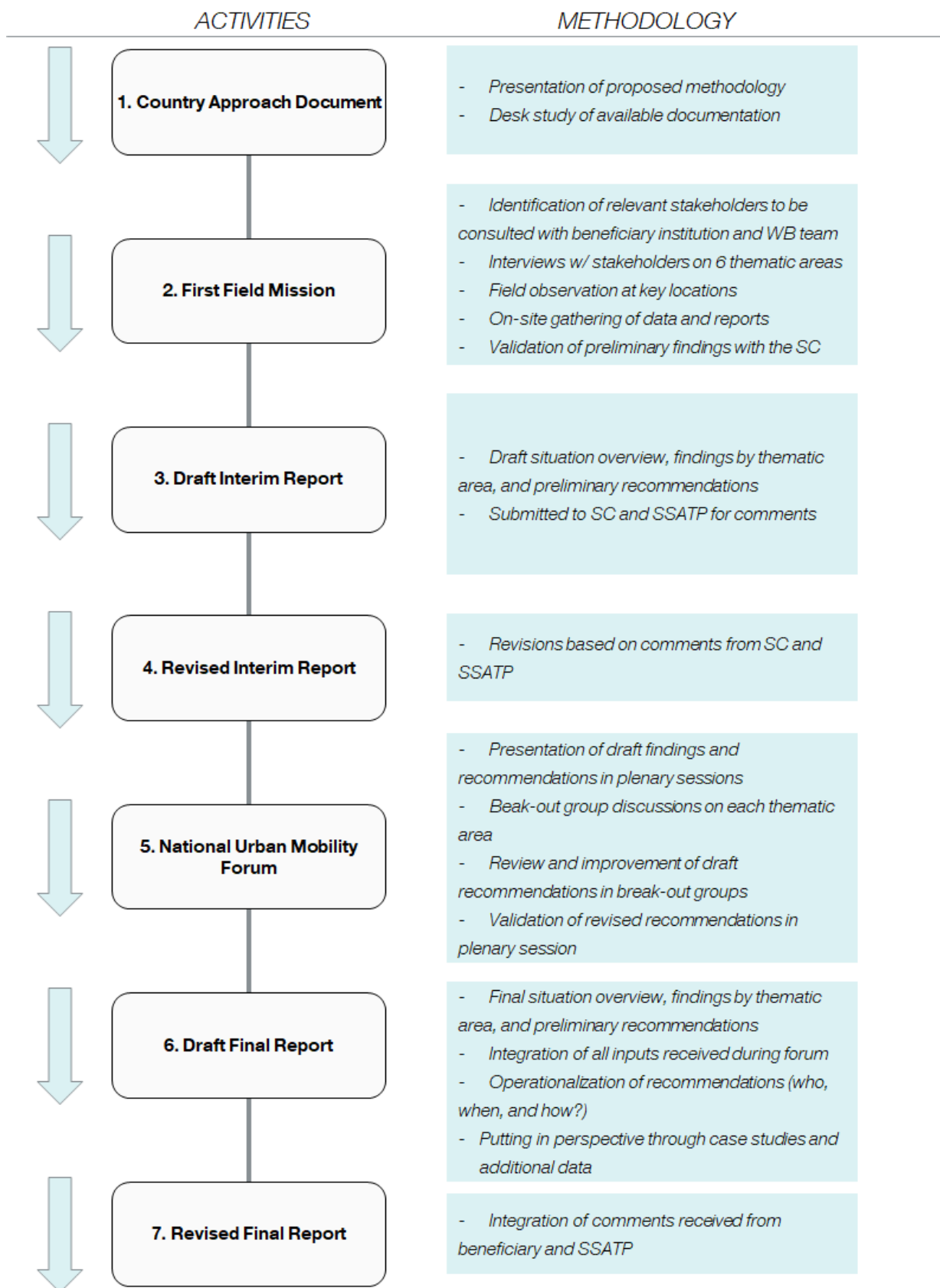


Figure 17 - Methodology and process

Appendix 2 - Sources of statistical data for the eight pilot countries and the cities studied in Ethiopia

■ Sources for transnational data in the eight pilot countries :

	SOURCES	Available at
DEMOGRAPHY		
Country population (million, 2016)	Worldbank (2016)	https://data.worldbank.org/indicator/SP.POP.TOTL
Country population projection (million, 2030)	UN Habitat (2030)	http://urbandata.unhabitat.org/explore-data/?countries=CI,ET,GH,GN,KE,NG,RW,SN&indicators=population
Country density (pop. / sq. km)	Worldbank (2016)	https://data.worldbank.org/indicator/EN.POP.DNST
URBANIZATION		
Urbanization Rate (% , 2016)	Worldbank (2016)	https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS
Urban Growth Rate (% , 2010-2015)	Worldbank (2010-2015)	https://data.worldbank.org/indicator/SP.URB.GROW?locations=C
Urban areas with more than 300 000 inhabitants (2015)	UN Habitat (2015)	UN Habitat (https://esa.un.org/unpd/wup/CD-ROM/, File 12)
ECONOMY		
GDP per capita (\$PPP, 2016)	Worldbank (2016)	https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD
Average economic growth rate (% / year, 2010-2015)	Worldbank (2010-2015)	https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=C
Poverty headcount ratio w/r to the international poverty line (2011 PPP, % of pop.)	Worldbank (2005 to 2015 depending on countries)	https://data.worldbank.org/indicator/SI.POV.DDAY?locations=KE-ET-RW-GH-NG-GN-SN-C
Human Development Index (0-1 scale, 2015) 0 - low , 1 - high human development	UNDP, Human Development Reports (2015)	http://hdr.undp.org/en/composite/HDI
BUSINESS AND GOVERNANCE		
Doing Business (Distance to Frontier, 2017) 0 - lowest, 100 - highest performance over time or "frontier"	Doing Business, Distance to Frontier (2017)	http://www.doingbusiness.org/data/distance-to-frontier
Corruption Perceptions Index (1-100, 2016) 1 - low transparency or high corruption, 100 - high transparency or low corruption	Transparency International (2016)	https://www.transparency.org/news/feature/corruption_perceptions_index_2016
MOTORIZATION		
Gazoline Price / Diesel Price (US\$ / L, 2016)	Worldbank (2016)	https://data.worldbank.org/indicator/EP.PMP.SGAS.CD/ https://data.worldbank.org/indicator/EP.PMP.DESL.CD
Private vehicules in use (2015)	OICA (2015)	OICA http://www.oica.net/category/vehicles-in-use/
Motorization Rate (private vehicules / 1 000 inhabitants, 2015)		
Road Safety Casualties (nb of casualties / 100 000 people, 2015)	Worldbank (2015)	https://data.worldbank.org/indicator/SH.STA.TRAF.P5?locations=C&view=chart

■ Sources for statistical data in Addis Ababa and Hawassa :

	Sources	Available at
DEMOGRAPHY		
Metropolitan population (<i>million, 2015</i>)	UN Habitat (2015)	https://esa.un.org/unpd/wup/CD-ROM, File 12
Percentage of the national population residing in the urban agglomeration (<i>%, 2015</i>)	UN Habitat (2015)	https://esa.un.org/unpd/wup/CD-ROM, File 16
Urban population growth rate (<i>% / year, 2015-2020</i>)	UN Habitat (2015-2020)	https://esa.un.org/unpd/wup/CD-ROM, File 14
QUALITY OF LIFE		
Quality of life in African cities (<i>EPFL-AMB ranking, 2017</i>)	EPFL-AMB (2017)	https://www.yabiladi.com/articles/details/51277/classement-epfl-amb-marrakech-meilleure-ville.html
Urban mobility Index 2.0 - UITP (<i>grade 0-100, 2014</i>)	UITP (2014)	http://www.uitp.org/sites/default/files/members/140124%20Arthur%20D.%20Little%20%26%20UITP_Future%
MOBILITY DEMAND		
Motorization rate (<i>vehicules / 1'000 inhabitants</i>)		
Number of trips per day (<i>million</i>)		
Number of motorized trips per day (<i>million</i>)		
Number of motorized trips per day per inhabitants (<i>million</i>)		
Average trip distance (<i>km</i>)		
Modal split - Personal Vehicles (<i>%</i>)	2014	
Modal split - Public Transport, including paratransit (<i>%</i>)	2014	
Modal split - Non Motorised Transport (<i>%</i>)	2014	
TRANSPORT SUPPLY		
Number of public buses	LUTP	
Number of paratransit vehicules (<i>taxis excluded</i>)		
Length of existing urban rail road and/or reserved bus lanes (<i>km</i>)		
Length of planned urban rail road and/or reserved bus lanes (<i>km</i>)		

Appendix 3 - 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)	Road network infrastructure Master Plan (or similar) definition			Traffic management strategy definition (traffic plan, traffic calming, traffic lights regulation strategy, etc.)	Parking strategy definition					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		

Appendix 4 - Thematic Working Groups during the forum

Thematic workings groups	Main issues discussed
<p>Group 1: National policy for urban mobility and capacity building for regions and municipalities</p>	<ul style="list-style-type: none"> • National urban mobility policy (design, consultations, quantitative targets, environmental considerations, etc.) • Focus on the needs of low-income households • Opportunity and contents of an urban mobility financial incentive program for secondary cities • Urban mobility management capacity building for regions and municipalities
<p>Group 2: Operators’ performance</p>	<ul style="list-style-type: none"> • Implementation of Public Service Contracts for municipally owned and State-owned transit enterprises • Development of technical solutions to improve the LRT’s performance • Creation of transit/HOV lanes in Addis Ababa
<p>Group 3: Planning for better urban mobility</p>	<ul style="list-style-type: none"> • Institutional coordination for land use and transport planning • Urban mobility scenario modelling • National urban mobility guidelines for local development plans • Promotion of NMT
<p>Group 4: Leveraging paratransit</p>	<ul style="list-style-type: none"> • Improvement of paratransit services as a complement to mass transit • Use of new and cost-effective ICT solutions

Appendix 5 - Program of the National Urban Mobility Forum

DAY 1	Sessions	29 May 2018
8:00-9:00	Arrival & Registration	
9:00-10:00	Opening Speeches	<p>Introduction</p> <ul style="list-style-type: none"> • Representative from the Ministry of Transport: Opening address • Mr. Zemedkun Girma TESSEMA, Pillar Leader for Urban Transport and Mobility at Africa Transport Policy Program (SSATP): Objectives of SSATP and the Urban Transport and Mobility Pillar • Mr. Julien ALLAIRE, Director for International Activities for TRANSITEC: Presentation of the EASI conceptual framework
10:00 – 10:45	Plenary Session	Presentation of diagnostic and recommendations
10:45-11:15	Refreshments	
11:15-12:15	Plenary Session	Presentation of diagnostic and recommendations
12:15-13:00	Discussions and questions	Discussion with the participants and question and answer session on the diagnostic and associated recommendations
13:00 – 14:00	Lunch	
14:00-15:00	Thematic working groups (in parallel) – review of recommendations, suggestions, amendments, endorsements	
	Group 1: National Policy for Urban Mobility and Capacity building for regions and municipalities	Group 2: Operators’ performance
	Facilitator: Julien ALLAIRE	Facilitator: François BOULANGER
	Main topics:	Main topics:
	<ul style="list-style-type: none"> • National urban mobility policy (design, consultations, quantitative targets, environmental considerations, etc.) 	<ul style="list-style-type: none"> • Implementation of Public Service Contracts for municipally owned and State-owned transit enterprises

	<ul style="list-style-type: none"> • Focus on the needs of low-income households • Opportunities and contents of an urban mobility financial incentive program for secondary cities • Urban mobility management capacity building for regions and municipalities 	<ul style="list-style-type: none"> • Development of technical solutions to improve the LRT’s performance • Creation of transit/HOV lanes in Addis Ababa
15:00-15:15	Refreshments	
15:15-16:00	Thematic working groups (in parallel) – review of recommendations, suggestions, amendments, endorsements	
	<p><u>Group 3: Planning for better urban mobility</u></p> <p>Facilitator: Julien ALLAIRE</p> <p>Main topics:</p> <ul style="list-style-type: none"> • Institutional coordination for land use and transport planning • Urban mobility scenario modelling • National urban mobility guidelines for local development plans • Promotion of NMT 	<p><u>Group 4: Leveraging paratransit</u></p> <p>Facilitator: François BOULANGER</p> <p>Main topics:</p> <ul style="list-style-type: none"> • Improvement of paratransit services as a complement to mass transit • Use of new and cost-effective ICT solutions
DAY 2	Sessions	30 May 2018
8:30-9:00	Arrival & Welcome of participants	
09:00-10:00	Debriefing	Conclusions of thematic working groups and recommendations
10:00-11:00	Thematic working groups (in parallel) – preparation of action plans	
	<p><u>Group 1: National Policy for Urban Mobility and Capacity building for regions and municipalities</u></p>	<p><u>Group 2: Operators’ performance</u></p>

	Facilitator: Julien ALLAIRE	Facilitator: François BOULANGER
	<p>Main topics:</p> <ul style="list-style-type: none"> • National urban mobility policy (design, consultations, quantitative targets, environmental considerations, etc.) • Focus on the needs of low-income households • Opportunities and contents of an urban mobility financial incentive program for secondary cities • Urban mobility management capacity building for regions and municipalities 	<p>Main topics:</p> <ul style="list-style-type: none"> • Implementation of Public Service Contracts for municipally owned and State-owned transit enterprises • Development of technical solutions to improve the LRT’s performance • Creation of transit/HOV lanes in Addis Ababa
11:00-11:30	Refreshments	
11:30-12:30	Thematic working groups (in parallel) – preparation of action plans	
	Group 3: Planning for better urban mobility	Group 4: Leveraging paratransit
	Facilitator: Julien ALLAIRE	Facilitator: François BOULANGER
	<p>Main topics:</p> <ul style="list-style-type: none"> • Institutional coordination for land use and transport planning • Urban mobility scenario modelling • National urban mobility guidelines for local development plans • Promotion of NMT 	<p>Main topics:</p> <ul style="list-style-type: none"> • Improvement of paratransit services as a complement to mass transit • Use of new and cost-effective ICT solutions
12:30-13:30	Presentation of action plans, conclusions and thanks	
12:30-13:30	Lunch break	

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(Only the most recent reports and articles, used for this report, are listed. References for the case studies will be found in the cross-country report for this series.)

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