

Uganda's National Transport Master Plan

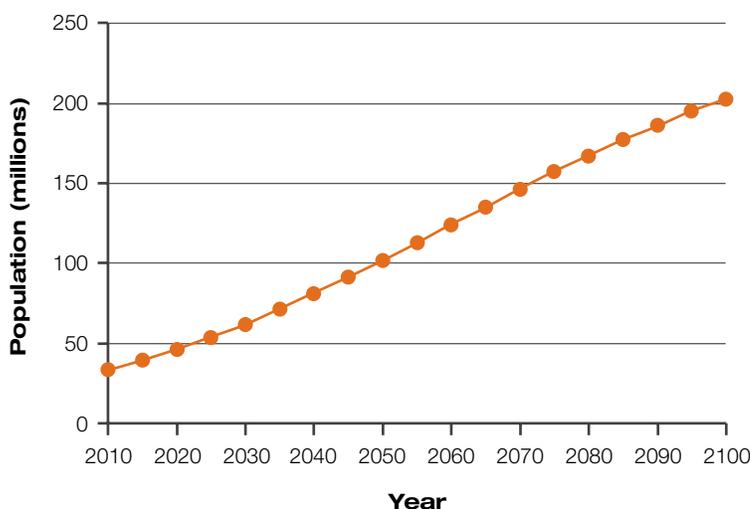
Potential for low-carbon development

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Uganda's development context

Located in East Africa, the Republic of Uganda is a landlocked country bordering South Sudan, Kenya, Tanzania, Rwanda and the Democratic Republic of the Congo. It has a total surface area of 241,550 km², of which about one-fifth is covered with water or swamp.¹ In 2016, Uganda's population was just over 40 million, with an average annual growth rate of 3.3% between 2010 and 2015.² It is projected to reach around 100 million by 2050 (Figure 1).

Figure 1. Projections for Uganda's population³



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Kampala, the capital of Uganda, is the largest city with a population of 1.94 million.⁴ About 16% of Uganda's population lives in urban areas, and is increasing rapidly with an annual growth rate of 5.4% over the 2010–2015 period (Figure 2), although it is lagging in comparison to Eastern Africa and Africa as a whole.⁵

Uganda's gross domestic product (GDP) was US\$27.4 billion in 2014, or \$726.9 per capita.⁷ While it is still one of the poorest countries in the world, GDP per capita has increased dramatically since 2000 (Figure 3).⁸

Figure 2. Change in rural and urban populations in Uganda, 1950–2050 (projected)⁶

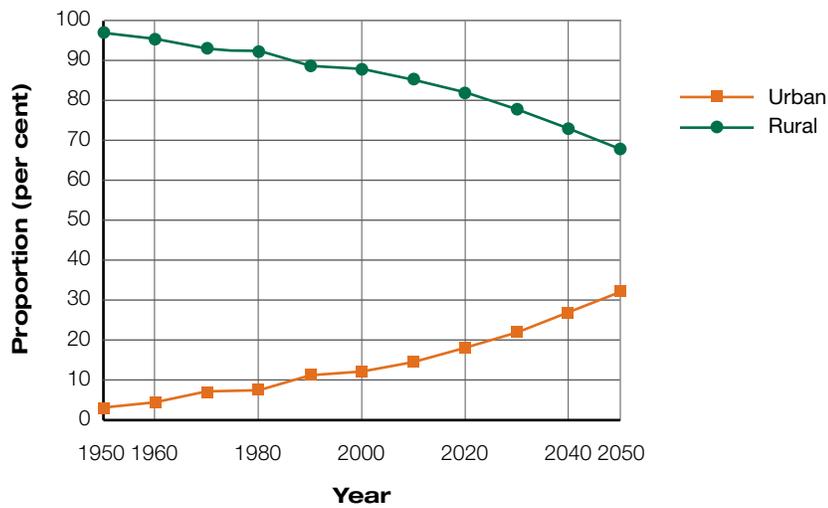
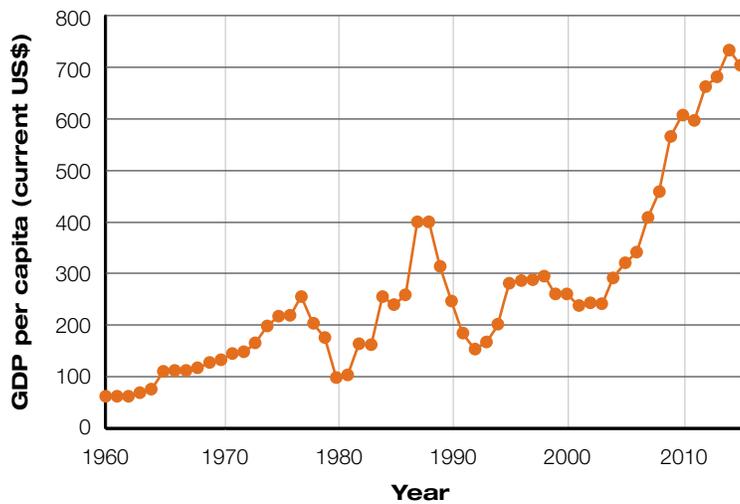


Figure 3. Uganda’s GDP per capita (1960–2015)⁹



Hydropower is the main source of power generation. Major hydropower stations include those at Kiira, which has an installed capacity of 200 megawatts (MW), and Bujagali (250 MW capacity). Other major power sources include the Namanve thermal power plants (50 MW capacity). Electricity supply shortage is a major problem in Uganda, and 81% of its citizens do not have access to electricity.¹⁰

On average, Uganda emits 4.9 million tons (or 0.2 tons per capita) of carbon dioxide per year.¹¹ Combined, the transport and agriculture sectors represented 62% of national emissions in 2000 and are projected to represent 70% by 2030 under a ‘business as usual’ scenario.¹² In a country where more than 70% of the population

depends on agriculture, this represents an economic dependence on climate-sensitive sectors.¹³ Meanwhile, the transport sector is particularly vulnerable to potential disruptive events caused by climate change. As mentioned in Uganda's Intended Nationally Determined Contribution, "since 1960 mean annual temperatures have risen by 1.3°C and annual and seasonal rainfall has decreased significantly across Uganda. Rainfall has also become more unpredictable and evenly distributed over the year. Extreme events such as droughts, floods and landslides are increasing in frequency and intensity".¹⁴

Accordingly, planning for the country's economic development needs to consider both mitigation and adaptation strategies.¹⁵ Recognizing this and other climate-related challenges, Uganda developed the comprehensive National Climate Change Policy (2015), which considers low-carbon alternatives for all relevant sectors.¹⁶

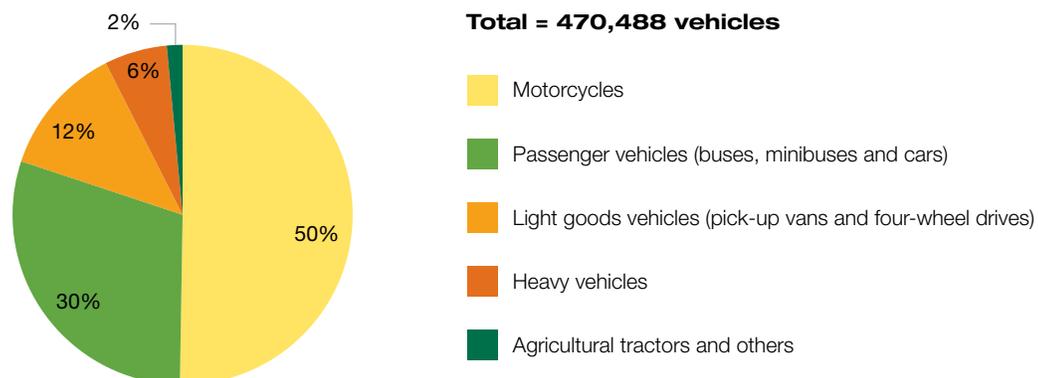
Transportation strategy, however, is not yet fully integrated with climate change policy. This case study provides a situational analysis of the transport sector in Uganda, including the development and implementation of the National Transport Master Plan and other relevant plans, projects, and policies.

Transport in Uganda

For planning purposes, Uganda's transport system is divided into five sectors: (1) roads and road transport; (2) rail transport; (3) air transport, (4) inland water transport; and (5) other modes. In total, the public road network, including both classified and unclassified roads, comprises more than 140,000 km.¹⁷

One of the major challenges facing Uganda's transport sector is the prevalence of motorized vehicles. As seen in Figure 4, motorcycles dominate, followed by passenger vehicles (buses, minibuses, and cars). The number of vehicles is growing rapidly, with an average increase of more than 10% per year. As well as being the most prevalent vehicle type, motorcycles are the fastest growing category according to estimates from the Ministry of Transport and Works.¹⁸ Non-motorized modes of transport, such as walking and cycling, are common in most parts of the country, but are not well supported by infrastructure in either urban or rural areas.

Figure 4. Motorized vehicles in Uganda (2008)¹⁹



The National Transport Master Plan

Transport infrastructure and services are critical to achieving developmental goals in Uganda, ranging from economic development and poverty alleviation to addressing climate change. The National Transport Master Plan, which includes a Transport Master Plan for the Greater Kampala Metropolitan Area (2008–2023) and is usually known as the National Transport Master Plan, was published by the Ministry of Works and Transport in 2009 to address this need.

The National Transport Master Plan's primary objectives are to: (1) serve as a long-term reference framework for developing plans for individual transport modes; (2) provide key input to the overall national planning process; (3) provide key input to the regional transport planning; (4) create a framework for investment decisions for both the private and public sectors; and (5) create a high-quality transport planning capability within the Ministry of Works and Transport.²⁰

In addition, it addresses wide-ranging topics such as institutional, legal, and financial issues; policy and strategy; environment and land use-related issues; stakeholder information and participation; and capacity-building for the Greater Kampala Metropolitan Area and other regions.

The Master Plan begins with an overall transport sector vision, policies, and strategies. This is followed by demographic and economic forecasts for the whole of Uganda. It then examines existing and future transport demand, discusses coordination and competition among different transport modes, and identifies opportunities and constraints for potential investments in each transport mode.

The second part of the document focuses on the Greater Kampala Metropolitan Area, analyzing the existing situation (in terms of the available road network, public transport, cargo traffic, road safety, and parking) and identifying areas for improvement. It then discusses future development and details the specific objectives for this area.

The National Transport Master Plan in context

The National Transport Master Plan is not a stand-alone document for the transport sector. Other government plans in Uganda are interrelated with the mission of fully developing a sustainable national transport system (see Annex 2). Further, when it was originally prepared, the Master Plan set out to advance the development goals identified in Uganda's Poverty Eradication Action Plan (2004), the Millennium Development Goals, and Vision 25 (1999) updated to Vision 35 (2005) (see Annex 1). Alongside other development goals, Vision 35 increased the ambition to improve infrastructure and services in a more integrated and efficient manner. Further to this, the Master Plan emphasizes the need to address the challenges of access, development, and sustainability.²¹

Thus, the National Transport Master Plan, along with all other transport policies and strategies, were deliberately positioned within Uganda's overall national development framework, supporting and aligning with the nation's development targets. The aim of the Master Plan was to provide an agenda that could be integrated into a larger framework of development, and to provide an implementation pathway for Uganda's vision for the transport sector to have "a full-developed and sustainable national transport system for all by 2050".²² In other words, Uganda's transport policy framework is established to provide "cost-effective, efficient, safe, and environmentally sensitive transport services".²³

Since its adoption, two further plans have been published. These update national transport planning and served to review existing policy when they were published. The Strategic Plan, an internal document published by the Ministry of Works and Transport, was presented in February 2012. The 2015 Strategic Implementation

Plan evaluated and reprioritized several projects (see Annex 3). Interestingly, the latter plan proposes a shift in investment from road to rail projects, by capping the national roads development budget to 70% of the 2019/20 total in order to encourage non-road transport modes.²⁴ The Non-Motorized Transport Policy also seeks to prioritize alternative modes of transport (see Annex 2).

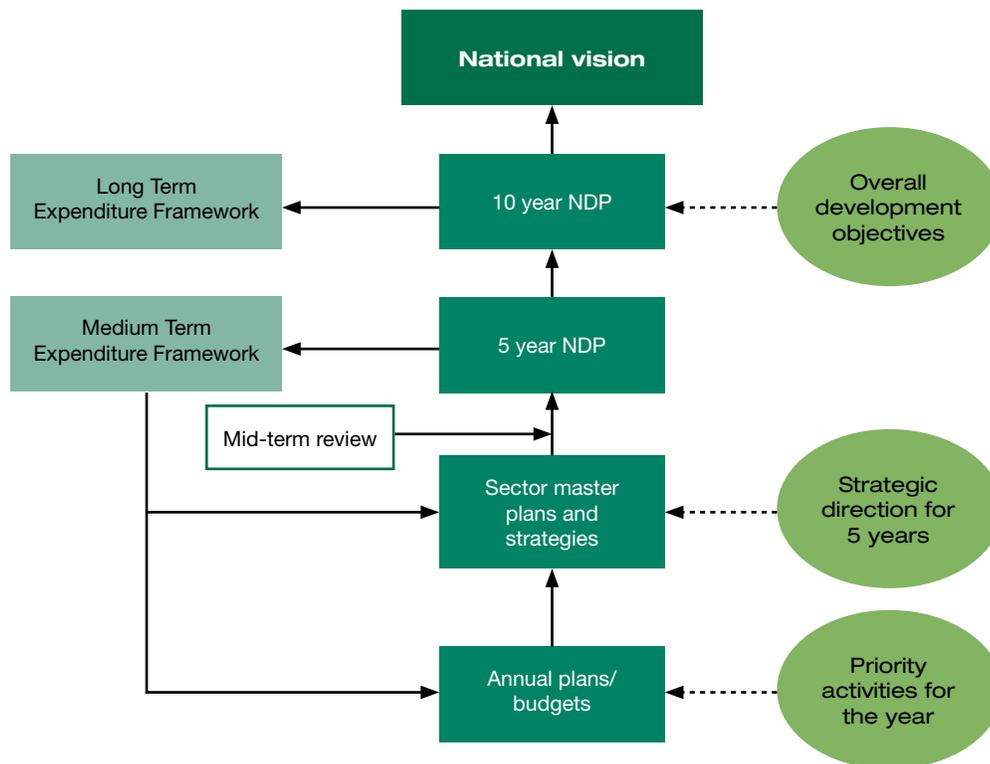
Elements of the National Transport Master Plan have been integrated into newer development plans, such as the National Development Plans. The first of these (from a total of six five-year plans), the National Development Plan (2010/11–2014/15), promoted infrastructure and human development. Its successor, the National Development Plan II (2015/16–2019/20) updated and continued these priorities, and integrated Uganda’s strategy with regional and global cooperation efforts.

Additionally, the National Transport Master Plan is fundamentally integrated with the Comprehensive National Development Planning Framework (Figure 5) and the Uganda Vision 2040 to have “a transformed Ugandan society from a peasant to a modern and prosperous country within 30 years.”²⁵

To address environmental concerns from the transport sector, Uganda’s 2015 National Climate Change Policy and its Nationally Determined Contribution (NDC) both recognize the need to mitigate emissions from vehicles and ensure that transport infrastructure is climate resilient. The climate priorities for Uganda’s transport sector are to:

- develop and ensure integrated planning and management of transport and other physical infrastructure that build on insights from climate predictions
- promote the development, approval, and effective implementation of a long-term national transport policy and plan that will take greenhouse gas mitigation concerns into account

Figure 5. Overview of the Comprehensive National Development Planning Framework²⁶



- effect a gradual shift to the use of less carbon-intensive fuels (including compressed natural gas, ethanol, and liquefied petroleum gas) in vehicles, instead of relying heavily on gasoline and diesel fuels
- promote modes of transport that take into account greenhouse gas emissions reduction.²⁷

The NDC, which was developed based on the 2015 National Climate Change Policy, specifically mentions transport. First, the development of a long-term transport policy is planned to account for mitigation concerns, but has no determined time frame. Second, it notes that national fuel efficiency could have the emissions reduction potential of 24–34% by 2030 compared to business as usual, but is conditional on additional funding.²⁸

The development of these plans requires input and coordination from key agencies and international stakeholders. More widely, the Government of Uganda has highlighted the need for support, capacity-building, and coordination from implementing partners as a vital part of realizing its vision of a cleaner, more integrated transport sector.

Stakeholders and implementing partners

The Ministry of Works and Transport is the key agency for the transport sector at the national level, having the mandate to plan, develop, and maintain the transport infrastructure. It bears all main responsibilities and management functions. It is structured as eight departments under the Directorate of Engineering and Works and the Directorate of Transport.

District and municipal authorities, most importantly in the City of Kampala, determine their own priorities and allocate resources, but need to coordinate these within the national framework. Further, the Ministry works alongside several national agencies to implement its overall transportation agenda (see Table 1).

Table 1. Agencies relevant to transport-related planning in Uganda²⁹

State agencies	Overview
Civil Aviation Authority	Coordinates and promotes civil aviation
Kampala Capital City Authority	Plans and implements public services and controls city development
Ministry of Finance Planning and Economic Development	Mainly responsible for allocation of resources and budgeting
Ministry of Local Government	Establishes standards and regulations for local governments and monitors compliance
Multi-Sectoral Transport Regulatory Authority	Newly created agency to regulate licensing, economic regulation, safety, and environmental issues (except aviation)
Uganda National Roads Authority	Develops and operates the national road network
Uganda Police Force – Directorate of Traffic and Road Safety	Enforces road transport laws and regulations, as well as recording traffic accident data for annual publication
Uganda Railways Corporation	Constructs and operates passenger and freight railway networks and developments
Uganda Revenue Authority	Registers all vehicles and maintains central registry
Uganda Road Fund	Provides reliable funding for road maintenance and guarantees political supervision by relevant ministries

In addition to these national institutions and the Government of Uganda, many international and regional partners are involved in the planning and implementation of Uganda's National Transport Master Plan. Multilateral and regional partners involved include, but are not limited to, the African Development Bank, the East African Community, the European Union (EU), the Government of Japan (through the Japan International Cooperation Agency, JICA), the International Bank for Reconstruction and Development, and the World Bank. These often participate as technical consultants, consulting firms, and/or contractors. For example, the European Commission (part of the EU) provided expertise in terms of long-term and short-term technical assistance, and facilitated the 2008–2016 mid-term review of the National Transport Master Plan.³⁰ Some partners also provide funding for transport projects.

Funding for transport projects

From 2005 to 2008, bilateral aid channeled through international agencies made up 59% of Uganda's transport sector investments.³¹ To implement its plans for the transport sector, Uganda will continue to need this donor support and finance. The following development partners play a significant role in financing infrastructure investment in Uganda:

- The EU provided €47.5 million for construction of the Kampala Northern Bypass, as part of a collaboration for the urban road sector in the Greater Kampala Metropolitan Area.³²
- As part of the Transport Sector Development Project, the World Bank extended US\$190 million in International Development Association credit. This supported the implementation of the National Transport Master Plan between 2010/11 and 2013/14.³³
- The World Bank also provided assistance under the Road Sector Institutional Support Technical Assistance Project,³⁴ and financed a pre-feasibility study for introducing bus rapid transit in the Greater Kampala Metropolitan Area.³⁵

Conclusions

While the National Transport Master Plan has not been updated since 2008, several strategic documents have provided guidance since then. Uganda's national transport policy has become more integrated across different areas, authorities, and sub-sectors, and long-term planning has improved. The Strategic Implementation Plan of 2015 contains the most recent priorities outlined by the Ministry of Works and Transport.

With the integration of elements of the National Transport Master Plan into the two existing National Development Plans, long-term transport planning is oriented towards sustainable development and improved access to mobility for Uganda's citizens. The fact that the Sustainable Development Goals have been incorporated into the second National Development Plan shows their increased relevance for all areas of development policy.

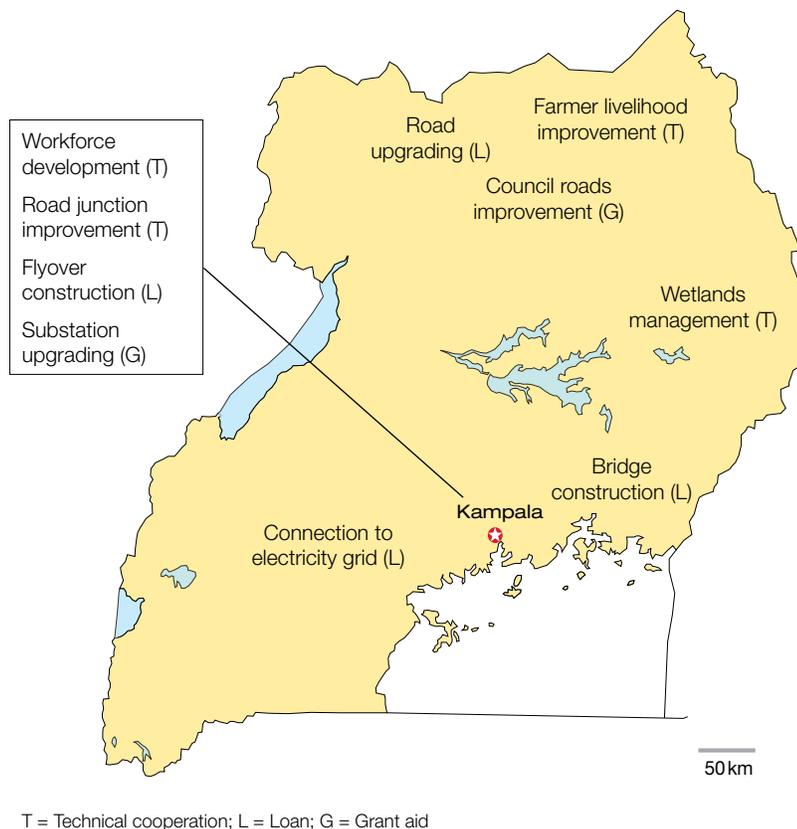
Transport is also integrated into the nation's climate change plans, which have identified priority areas for mitigation and adaptation actions in the sector. Adaptation activities especially are likely to receive attention due to the large positive impact they can make on Uganda's economic and social development. Transport systems and transportation infrastructure also need to be built while taking predicted climate change patterns and their consequences into account.

Uganda's many development partners promise further cooperation on the planning and development of transport projects, especially road and non-road infrastructure. Bilateral assistance is crucial, as Uganda continues to rely on it for the identification of priorities, surveying of alternatives, and funding. Among the developments for the future, it is planned to have sub-national entities, such as the City of Kampala, develop and implement specific urban transport policies.

JICA support for Uganda's transport sector

The Japan International Cooperation Agency (JICA) was primarily involved in road projects in the Kampala region. It reviewed the National Transport Master Plan in 2010 and identified candidate projects for official development assistance from Japan, as well as other co-financing opportunities with international organizations.³⁶ This makes JICA one of the most important partners in development projects in Uganda, in terms of transport and other development sectors.

Examples of JICA's activities in Uganda as of October 2016³⁷



While Uganda continues to face challenges in terms of integrated planning, timely implementation, and reliable funding for the transport sector, the development of its forward-thinking policies and the recognition of the need for more integrated approaches puts it another step forward towards its vision of “a full-developed and sustainable national transport system for all by 2050”.³⁸

Annex 1. Overview of development-related plans prior to 2008³⁹

Key document	Description	Goals
Poverty Eradication Action Plan	This was formulated in 2004 by the Ministry of Finance, Planning and Economic Development, based on the Uganda government's development strategy	Pillar 1: Economic management Pillar 2: Production, competitiveness, and incomes Pillar 3: Security, conflict resolution, and disaster management Pillar 4: Governance Pillar 5: Human development
Millennium Development Goals	These were defined by the United Nations in 2000 to be achieved by 2015. They have since been replaced by the Sustainable Development Goals	Goal 1: Eradicate extreme hunger and poverty Goal 2: Achieve universal primary education Goal 3: Promote gender equality and empower women Goal 4: Reduce child mortality Goal 5: Improve maternal health Goal 6: Combat HIV/AIDS, malaria, and other diseases Goal 7: Ensure environmental sustainability Goal 8: Develop a global partnership for development (including a reformed aid and trade regime)
Vision 25	This was set out in 1999 as a National Long-Term Perspective Study up to 2025, with a focus on addressing the deficiencies and vulnerabilities in basic infrastructure	Addressing transport-related vulnerabilities, including: <ul style="list-style-type: none"> ● Poor services and inadequate infrastructure facilities ● Lack of maintenance culture, leading to poor services and heavy losses ● Insufficient funding for maintenance and new construction ● High tariffs for services and utilities
Vision 35	The successor was developed in 2005, with an updated 30-year perspective up to 2035	"The provision of public transport infrastructure, especially in urban areas, will focus on the need to have a more integrated, efficient and comfortable transport network."

Annex 2. Overview of transport-related development plans

Name	Description
<p>First National Development Plan (2010/11–2014/15)⁴⁰</p>	<p>During the five-year period, this prioritized: (1) infrastructure development in sectors such as energy, railway, air transport, and waterways; (2) human resources development in areas such as education and health, among others; (3) the provision of, and accessibility to, essential production inputs, in particular in agriculture and industry; and (4) promoting science, technology, and innovation.</p> <p>Interventions aimed to: create jobs; raise average per capita income levels; enhance labor force participation and distribution with respect to sectoral GDP shares; improve Uganda’s human development and achieve greater gender equality; and increase the country’s competitiveness level to those of middle-income countries.</p> <p>National core projects in this Plan specific to the transport sector included: (1) improving transport infrastructure, connectivity, and safety for the Greater Kampala Metropolitan Area; (2) restoring the existing railways; (3) establishing standard rail gauge from Malaba region to Kampala; and (4) improving the water transport system in Lake Victoria.</p>
<p>National Development Plan II (2015/16–2019/20)⁴¹</p>	<p>This is the second five-year plan (six are planned in total), working towards achieving the country’s Vision 40. Accounting for the challenges and lessons learned from the first National Development Plan, it was formulated to move Uganda towards middle-income country status by 2020.</p> <p>Priority investment areas include: (1) agriculture; (2) tourism; (3) minerals, oil, and gas; (4) infrastructure development; and (5) human capital development. In particular, infrastructure and human capital development are considered as fundamental enablers for the country’s socioeconomic changes.</p> <p>The strategic objectives for the transport sector are to:</p> <ul style="list-style-type: none"> ● develop an adequate, reliable and efficient multi-modal transport network in the country ● improve the human resource and institutional capacity of the sector to efficiently execute the planned interventions ● improve the national construction industry (policy, legal, regulatory, and institutional framework for the construction industry) ● increase the safety of transport services ● develop an adequate, reliable, and efficient air transport network in the country. <p>The Plan also takes into consideration Uganda’s national, regional, and global partnership agreements and obligations, such as those with the East African Community, the Common Market for Eastern and Southern Africa, the Intergovernmental Authority on Development, the Africa Agenda 2063, the Post-2015 Development Agenda, and the United Nations Framework Convention on Climate Change.</p> <p>Specifically, it reflects and adopts approximately three-quarters of the United Nations Sustainable Development Goals. Goals related to transport, access, and sustainability include:</p> <p>Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all</p> <p>Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation</p> <p>Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable</p> <p>Goal 13: Take urgent action to combat climate change and its impacts.</p>

Name	Description
Non-Motorized Transport Policy (2012) ⁴³	<p>While non-motorized transport (e.g. walking and cycling) are the most popular modes in Uganda, they are also the most unsafe. This policy is particularly important for people in rural areas who need to walk and cycle to have access to water, wood/fuel, health care, education, etc.</p> <p>Its mission is as follows: “Walking and bicycling are healthy, sustainable, economical and non-polluting means of transport: the citizens of Uganda have the right to walk and cycle in safety, while conforming to appropriate regulations, in their pursuit of work and family tasks and in assessing social and economic activities and services.”</p> <p>Among other aspects, the Policy integrates ‘universal design’ principles and issues around safety, roads and road maintenance, promoting equality among road users, gender, environment, and non-motorized transport technologies.</p>
Intended Nationally Determined Contribution (2015) ⁴⁴	<p>Uganda’s priority for INDC commitment is adaptation to climate change and the reduction of vulnerability, given the livelihoods of Ugandan citizens rely heavily on natural resources. Areas for adaption include “agriculture and livestock, forestry, infrastructure (with an emphasis on human settlements, social infrastructure and transport), water, energy, health and disaster risk management”. For the transport sector, this means updating transport codes and regulations.</p> <p>Uganda also intends to contribute to climate change mitigation by focusing on policies and measures in the forestry, wetland, and energy supply sectors. For transportation, Uganda aims to develop and implement a long-term transport policy as well as a Fuel Efficiency Initiative National Appropriate Mitigation Action in order to promote vehicle and fuel efficiency</p>

Annex 3. Overview of transport-related strategic plans

Name	Description
Strategic Plan (2011/12–2015/16) ⁴⁵	<p>Premised on the National Transport Master Plan and the first National Development Plan, the Strategic Plan was formulated to serve as a medium-term planning roadmap for executing the functions of Uganda’s Ministry of Works and Transport between 2011 and 2015. Along with the Ministry’s mandate, mission, and vision, the Plan presents, among others, the organizational structure, sectorial strategic objectives, implementation strategy, financing plan, and monitoring and evaluation strategy.</p> <p>Vision: “To provide reliable and safe works, transport infrastructure and services”.</p> <p>Mission: “To promote adequate, safe and well-maintained Works and Transport Infrastructure and Services for Social Economic Development of Uganda.”</p>
Strategic Implementation Plan (2015–2023) ⁴⁶	<p>The Strategic Implementation Plan, published in July 2015, provides a framework to implement the National Transport Master Plan and updates new initiatives that have taken place since the National Transport Master Plan’s inception in 2008.</p> <p>In line with Vision 2040, it focuses on implementation of transport infrastructure, rather than transport service, in order to strategically enable key economic opportunities in Uganda. It also compiles a long list of existing projects and programs from various transport-related sector plans, prioritizes them for implementation, and consolidates them into one coherent integrated plan.</p>

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