

**REPUBLIC OF RWANDA**



**MINISTRY OF INFRASTRUCTURE**

**NATIONAL TRANSPORT POLICY AND STRATEGY FOR RWANDA**

**APRIL 2021**

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## Acronyms and Abbreviations

BRT	Bus rapid transit
CoK	City of Kigali
DBLs	Dedicated Bus Lanes
DPR	Detailed project report
EAC	East African Community
ECS	Equivalent car space
EDPRS	Economic Development and Poverty Reduction Strategy
EIA	Environment impact assessment
ESIA	Environmental and Social Impact Assessment
GBV	Gender-based violence
GDP	Gross domestic product
GHG	Greenhouse Gas
GoR	Government of Rwanda
IWT	Inland Water Transport
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MRT	Mass rapid transit
NDC	National Determined Contribution
NISR	National Institute of Statistics of Rwanda
NMT	Non-motorised transport
NR	National Roads
NST	National Strategy for Transformation
PPP	Public Private Partnership
RAM	Road Assets Management
RCAA	Rwanda Civil Aviation Authority
RMF	Road Maintenance Fund
RTDA	Rwanda Transport Development Agency
RURA	Rwanda Utilities Regulatory Authority
SDG	Sustainable development goals
SME	Small and Medium Enterprise
SPV	Special purpose vehicle

STI	Sexually Transmitted Infections
TDM	Travel demand management
STEM	Science, Technology, Engineering and Mathematics
TIA	Transport Impact assessment
TIN	Transport Infrastructure Network
TOD	Transit-oriented development
TSP	Transport Sector Policy
TSSP	Transport Sector Strategic Plan
TVET	Technical and Vocational Education and Training
VKT	Vehicle kilometres travelled
WB	World Bank

## EXECUTIVE SUMMARY

A consistent Government engagement in the last decade, in the transport sector, has generated significant improvements in infrastructure and services. The capacity of the road network has increased, through infrastructure construction, rehabilitation, upgrading and maintenance. Rwanda has put in place 3-year Term Maintenance Contracts, to ensure proper and timely maintenance of the national paved road network. As a result, the trunk road network is currently at 96 percent in good condition. Districts and City of Kigali roads and that of other urban areas also have seen improvements.

Increasing national and regional competitiveness is pursued actively through enhancing air transport competitiveness. To this end, consistent investments in aviation infrastructure and operations were undertaken, while creating a more attractive legal and institutional environment for public and private participation. These efforts have already paid off, with Kigali International Airport being ranked as one of the best airports in the region.

Environmental sustainability has become the core of the GoR's transport policies. The Government is committed to developing green transport solutions such as promotion of public transport and non-motorised transport options as well as introduction of electric mobility, in an attempt to reduce GHG emissions.

While recognizing these achievements, GoR stands firm in its commitment to continue supporting transport as a core pillar for economic and social development, as significant challenges are yet to be addressed. This policy aims to address the current transport sector challenges through three main policy pillars:

Policy Pillar 1: Promotion of sustainable development of an integrated transport infrastructure network

Policy Pillar 2: Enhancement of the quality of transport services

Policy Pillar 3: Reinforcement of capacity building in transport sector and addressing crosscutting issues.

### **Policy Pillar 1: Promotion of sustainable development of an integrated transport infrastructure network**

The Policy aims to boost the trade competitiveness of Rwanda in the context of regional commitments spelled out in East African Community's (EAC) Vision 2050 as well as the Agenda 2063 for Africa. To this end, the Government will complete modern, fast, environment-friendly, climate resilient and affordable corridor infrastructure, such as railway connecting the country to the Indian Ocean through the Central Corridor linking Kigali with Dar Es Salaam and the Northern Corridor running from Mombasa-Nairobi-Kampala to Kigali.

This objective aims to improve regional connectivity for citizens and visitors of Rwanda, by connecting railway with other transport networks. Businesses will be sustained through improved multimodal road-rail freight terminal management systems, and development of secondary airports for air cargo services. An efficient, well maintained highway network will reduce travel times between key locations and will support business operations across the country. A substantially enhanced road network will act as a catalyst for the development of secondary cities and their cultural and economic infrastructures. The new roads to be

constructed will be designed more resilient, to suffer less damage from climatic events, but also from heavy and large goods vehicles loaded to the allowable thresholds.

Inland water transport is also seen as complementary mode to road, rail and air transport, offering a sustainable and environment-friendly mode of transport in terms of energy consumption, noise and gas emissions. Lastly, integration of transport modes will become central to rural and urban transport public services, benefiting work commuters and businesses through reduced time and cost of travel.

## **Policy Pillar 2: Enhancement of the quality of transport services**

The road network remains at the heart of accessibility transport model in Rwanda, with a two-fold priority: high velocity trunk roads connected with complementary modes and enhanced rural network. This will ensure the provision of adequate levels of services in transportation to road users. Especially for rural areas, the transport policy aims to provide access to the market for agricultural products, hence supporting the shift from subsistence agriculture to business agriculture.

The policy also focuses on improvement of aviation business and operation, in order to provide conditions that will lead to an efficient air transport system.

In order to meet the expectation of customers, the government will: improve air navigation, surveillance and traffic control systems to the highest standards requested by ICAO; increase consumer's benefits and choices; create more competitive business opportunities in the marketplace; encourage public/private partnerships for the international airports; reduce State's costs in performing its economic regulatory functions; and develop the capacity for international air cargo services.

Furthermore, policy aims at improving the quality of urban and regional public transport services, by addressing accessibility, decongestion and green transport. The policy will establish adequate tariff and accessibility conditions for traditionally excluded travelers, such as the elderly, children, pregnant women, persons with disabilities, and it will seek to eliminate regional accessibility issues. Accessibility issues will be dealt with in other relevant modes, such as land water-based services and railway passenger transport services, expected to commence in the following years.

The focus is also on improving safety for goods and passengers in every mode of transport. As a function of many variables, enhancing safety will focus on: transport infrastructure improvements; awareness activities such as safety education and campaigns; updating import standards and ensuring strict vehicle inspection; standardized driver-training curriculum, introduction of computerized theoretical and practical driving testing; introduction of road safety cameras on selected itineraries nationwide and increase traveller's safety in airports and inland ports.

An improved public transport system for enhanced urban mobility and for reduced GHG emissions is needed. Innovative transport solutions such as electric cars, ropeways, enhanced safe non-motorized transport are explored for future implementation. In parallel, consolidation of bus lines for city and regional commute will be undertaken, through public transport support mechanism as part of service contracts, to ensure that less profitable routes are properly served, hence combating social exclusion.

### **Policy Pillar 3: Reinforcement of capacity building in transport sector and addressing crosscutting issues**

Adequate institutional and organizational capacity in the transport sector is a critical prerequisite to ensure the achievement of the first two policy pillars. This third pillar includes six focus areas:

Strengthening capacity building in the transport sector; protecting environment by reducing transport emissions; improvement of parking management system; promoting private sector investment in transport; promoting technology adoption in transport; and increasing gender mainstreaming in Transport Sector.

Green transport solutions will address congestion and emissions problems. GoR is currently studying new transport options, such as ropeways, autonomous public transport, electric mobility, and will create more favourable conditions for non-motorized transport.

In order to ensure that the policy statements are implemented as such at agency level, clear programs and projects are identified for each Strategic Objective, as well as responsible institutional actors, as it will be detailed further in the chapter of implementation.

Joint working relations between stakeholders shall ensure the concerted implementation of policy measures under a shared responsibility. The Ministry of Infrastructure will be the main responsible institution for the monitoring, supervision, coordination and overseeing the administrative planning and implementation of policy measures and subsequent actions with the support of the agency specifically in charge.



## 1 INTRODUCTION

The Republic of Rwanda is a country in Central and East Africa and belongs to the African Great Lakes region. The country has a high elevation and its geography is dominated by mountains in the west and savanna to the east, with numerous lakes. With a land area of 26,338 sq km, Rwanda is one of the smallest countries on the African mainland. Rwanda is bordered by the Democratic Republic of the Congo to the west, Uganda to the north, Tanzania to the east, and Burundi to the south. The Capital is Kigali that is centrally located within the country and is surrounded by four provinces: Eastern, Western, Northern and Southern.

Consistent economic growth is the key for sustained improvement in the living conditions of all Rwandans. Over the last decade, the country has made remarkable progress and the transport sector has played a significant role in supporting economic progress. Going forward, the nation's transport system will be developed with increased emphasis on poverty alleviation, safety, and environmental improvement. The National Transport Policy (NTP) identifies two major lines of action:

- Improvement of the external connectivity: how the country relates to the rest of the world.
- Improvement of the internal connectivity: how the country makes its assets available to its population and businesses.

The former requires actions to create physical linkages with the bordering countries, including road, rail, and inland water transport. To this extent, the country now is an active member of the East African Community (EAC) together with Uganda, Tanzania, Burundi, Kenya and South Sudan. Collaboration with the EAC offers great possibilities for improvement of the links with the Indian Ocean for the import and export of goods in a way that reduces transport costs and increases competitiveness for the nation's economy. Air transport offers the opportunity to develop and enhance direct linkages with the rest of the world, thanks to the national carrier, RwandAir, which is developing ties in Africa and beyond.

While the linkages with the external world are being deployed, Rwanda still requires affordable, efficient, and environmentally responsible means to travel within the country. Accordingly, the improvement of non-motorised transport facilities, public transport services, and the road network are key. For Rwandan cities, the introduction of sustainable transport and integrated land use planning is key to facilitating urbanisation and economic growth. An integrated National Transport Master Plan will provide guidance for these investments.

The Government of Rwanda is conscious of the importance of transport infrastructure in delivering on its long-term development vision. Achieving continued transformation in the sector will require collective action from all stakeholders.

### 5.3. Rationale of National Transport Policy

Transport is one of the key strategic pillars of economic growth of the country and the enabler of social inclusion and prosperity of the Rwandan citizens. Rwanda's position as a landlocked country has a negative impact on economic growth and development.

The exceptionally high cost of transport at national and international levels, as well as insufficient affordable and accessible transport systems in both urban and rural areas constitute a major constraint to the national economic development.

In 2008, a national transport policy was developed to overcome the aforementioned constraints for a period of five years. At the end of its validity period, the policy was not updated and there were still challenges in transport sector. Moreover, to continue addressing specific issues, the Ministry of Infrastructure developed the Public Transport and Strategy in 2012 and the National Feeder Roads Policy and Strategy in 2017. However, issues in the transport sector are not limited to public transport and feeder roads.

While recognising a clear development trend in policy making in several transport modes in the last decade, GoR acknowledges the need for a comprehensive policy document that integrates all modes and increases the predictability of policies and spending in the sector therefore facilitating MININFRA staff, transport entities subordinated to the Ministry, private sector and other external partners and stakeholders to easily understand what the Ministry is going to focus on, what it intends to address over the years to come, how it is going to achieve the strategic goals, and what the roles and responsibilities of other actors are expected to be.

A clear vision and mission statement and strategic priorities, for the Ministry itself and for the sector, with adequate resource allocation, are needed to surmount the current challenges in transport, summarised below:

- **Inadequate public transport.** Public transport systems are characterised by overcrowding during peak periods, excessive waiting times during off-peak periods, and a lack of frequent service. In the absence of a dedicated right-of-way for buses, public transport users are subject to congestion caused by personal motor vehicles.
- **Lack of facilities for pedestrians and cyclists.** Many streets in major cities as well as smaller towns lack adequate facilities for non-motorised transport, such as footpaths, cycle tracks, and pedestrian crossings. Where footpaths are available, they typically lack universal access elements, thereby preventing use by persons with disabilities. The lack of proper facilities has a severe impact on persons with low incomes as well as women, children, and persons with disabilities.
- **Poor road safety.** Rwanda experiences a high rate of injuries and fatalities from traffic crashes due to unsafe street designs, a lack of road safety awareness, and inadequate post-crash response. According to the Rwanda National Police, the country registered 597 fatal crashes and 885 serious injuries in 2018. Pedestrians, cyclists, and motorcyclists are the most vulnerable users, constituting 73 per cent of the crashes.
- **Lack of rural access.** Around 5.4 million people in rural areas are not connected through all-season roads. The rural access index (RAI) that measures the proportion of the rural population who live within 2 km of an all-season road, was estimated at 52 percent in 2018<sup>1</sup>. (By comparison, the RAI in developed countries is above 80 percent.)
- **High cost and slow travel times for intercity goods movement.** Challenges related to freight movement increase the cost of goods and negatively impact rural livelihoods.
- **Climate change vulnerability.** Rwanda is the 29th most vulnerable country to climate change.<sup>2</sup> Transport systems are at risk of being disrupted by floods, strong winds,

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<sup>1</sup> Road and Public Transport Accessibility Study (2019)

<sup>2</sup> Notre Dame Global Adaptation (ND-GAIN) Index, 2018.

landslides, and heat waves. An estimated 74 percent of district roads are exposed to landslides and the estimated economic loss due to landslide exposure is RWF 55 billion.

- **Growing emissions of local air pollutants and greenhouse gases.** Excessive reliance on personal motor vehicles is contributing to increasing emissions, especially in urban areas, leading to a number of health challenges including respiratory illnesses. Road transport is the second highest source of carbon dioxide in Rwanda.
- **Lack of gender equity and equality.** Women do not have equal access to transport facilities as their male counterparts. Rural women carry the largest transport burdens in terms of transport costs and time spent waiting for transport, and head loading remains common. Men often monopolise the use of household motor vehicles, despite women's critical role in domestic and income-earning activities. In addition, women and girls are less represented in transport sector which is still considered as a male dominated trade. This is proven by the enrolment rate of 6.4% of female compared to 93.6% of male in TVET transportation sector<sup>3</sup>. This results in a low number of female in technical tasks/jobs which are highly paid compared to the non-technical tasks. Some cases of sexual harassment were reported in public transport in addition to the lack of reserved seats for pregnant women, women/parent with babies and elderly people.
- **Inadequate capacity.** Transport planning agencies in Rwanda have inadequate personnel to prepare transport plans, oversee ongoing projects, and monitor transport system performance.
- **Data management.** There is a lack of an appropriate system for data storage, management, and open access for the transport sector.
- **Transport sector worker health and well-being.** Transport sector workers experience long hours and difficult working conditions, mobility with extended periods away from home, lack of social cohesion, frequent alcohol and drug use, and limited access to health and social services, which can result in high levels of HIV-related morbidity and mortality.

The Government of Rwanda has therefore decided to develop a National Transport Policy and Strategy to address the above current issues in the entire transport sector and prepare for future transport scenarios. This policy guides development of the transportation system in a way to:

- Stand as a strategic driver of economic development and a solution for traffic growth, employment and sustainable land use in conjunction with the National Urbanization Policy and so making service delivery easier and more cost-effective to provide;
- Support development of urban areas and human settlements in the country by strengthening the infrastructure linkages among them in a way that is resource efficient for the national budget and effective for the purpose of the National Strategy for Transformation and Vision 2050;
- Ensure universal access to transportation and reduce social exclusion and become the enabler of social inclusion and prosperity of the Rwandan population;

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<sup>3</sup> MINEDUC statistical year book 2019

- Improve coordination and efficiency of institutions involved in the transport sector and promote capacity building at various levels;
- Promote cost-effective public investment and maintain sensitivity for environmentally relevant aspects consequential to the transport infrastructure deployment and mobility habits;
- Plan transport initiatives in accordance with the land use management, housing, culture, recreation, utilities and commodities, waste management, information and telecommunication, commercial and industrial development in response to macro-economic strategies and citizens' views;
- Promote the creation of job opportunities associated with the deployment, management and operation of transport infrastructure and services.

#### **5.4. Lessons learnt from National Transport Policy (2008)**

National Transport Policy (2008) was conceived in consideration of road transport as the main transport mode. It was not addressing the issue of multimodal transport as well as specific transport users' needs such as market and farm accessibility through feeder roads.

The policy did not anticipate new trends and innovations in Transport sector that include use of electric vehicles, autonomous vehicles, drones and ropeways as well as consideration of cross cutting issues such use of technology and inclusiveness.

Gaps highlighted in the above two paragraphs, resulted into a complicated transport system due to the lack of the guiding document to address trending issues in transport sector.

It is against the lessons learnt, that this newly developed policy considers both current and future scenarios in transport sector to promote an integrated multimodal transport system that will also address cross cutting issues.

#### **5.5. Policy Development Process**

The policy was developed in accordance with cabinet manual guidelines. It followed the following steps:

- Assessment of the current situation in transport sector. It includes identification of gaps and issues in the transport sector through field assessment and review of planning documents that are connected to transport development. These include Vision 2020, National Strategy for Transformation (NST1), East African Vision 2050, Africa agenda 2063, Sustainable Development Goals, National Transport Policy (2008), Public transport policy and strategy, and National feeder roads policy and strategy.
- Development of the background paper on the basis of assessment made.
- Setting the Strategic Direction: Policy objectives and directions were set to address identified gaps and issues.
- After setting objectives and directions, adequate interventions were proposed to achieve policy objectives.
- Drafting of the policy that includes policy vision, mission, objectives, statements and implementation Plan that highlights actions to be done to achieve set objectives, and the responsible institutions for implementation.

- Consultation: MININFRA held various consultations with stakeholders involved in transport sector, to ensure soundness of the developed policy and its generalized buy-in. All stakeholders' views were addressed in the current Policy document.

## 2 TRANSPORT SECTOR STATUS AND POLICY CONTEXT

### 5.6. Transport Sector Status

#### 2.1.1 Transport Sector Key achievements

The quality of the road network has improved during the last decade due to substantial new investment and sustained improvement in maintenance. The total network for roads countrywide is 44,671km of which 1,973 km is paved; and 72% of the total paved roads are national roads<sup>4</sup>. Currently, 97% of the national paved road network is in good condition (refer to figure 1).

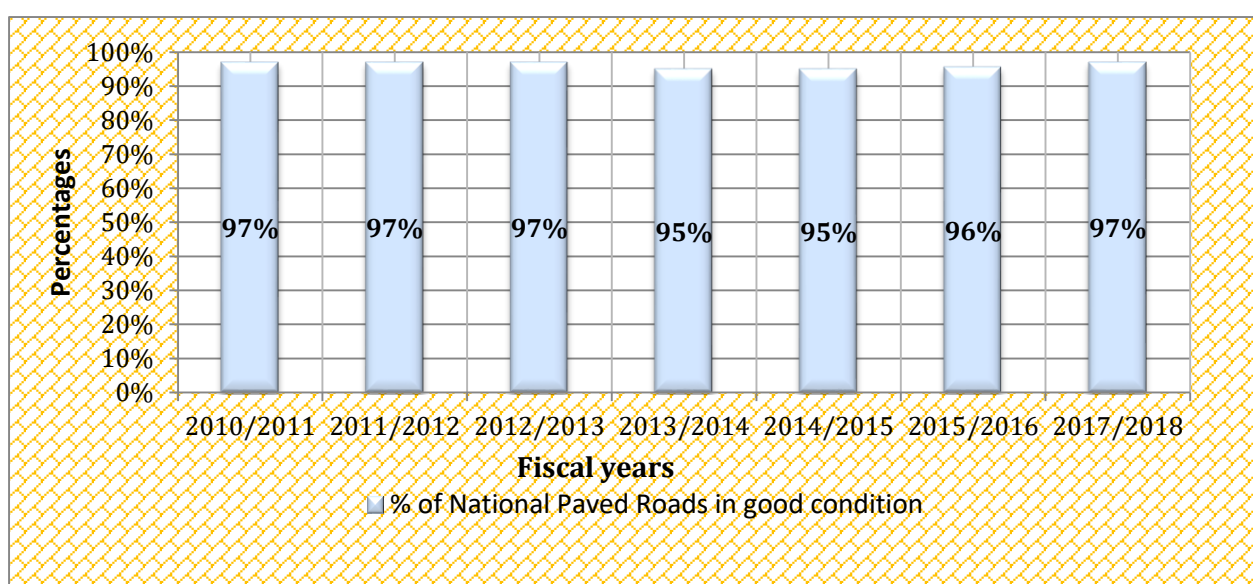


Figure 1. Chronological evolution of paved roads (Source: RTDA, 2019)

In order to improve accessibility to production areas, 2,552 Km of feeder roads were constructed as of 2018/2019 FY (refer to figure 2).

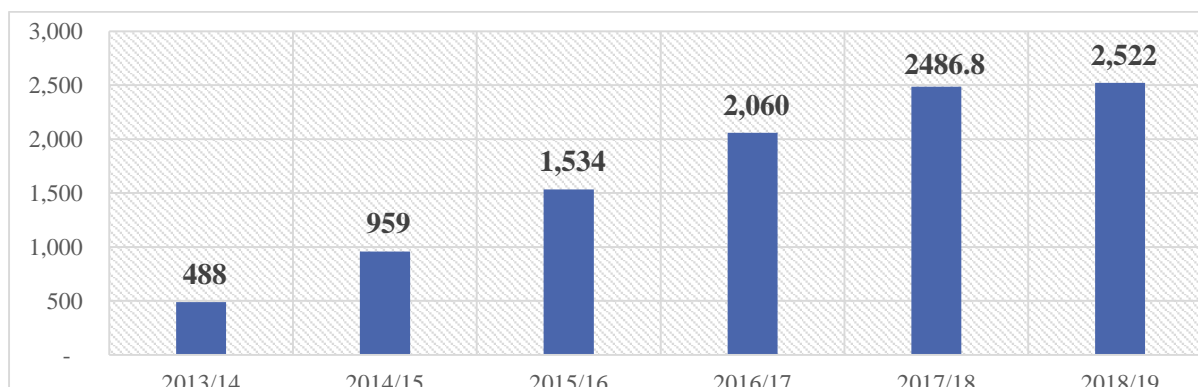


Figure 2. Feeder roads trend for the period from 2013/14-2018/19 (RTDA, July 2019)

<sup>4</sup> Road and Public Transport Accessibility Study (2019)

The government has put in place other initiatives to improve public transport. These include; Electronic Ticketing Systems for inter-city buses, Mobile phone-based Booking Systems for some inter-city bus companies, Automated Fare Collection used in buses in the CoK, Taximeters in taxi cabs, Free Wi-Fi internet in Kigali City Buses, Motorcycle Taxis and taxi cabs booking systems.

Currently, there is no significant inland water transport infrastructure and services in Rwanda. There is effort for development of Lake Kivu transport in Western Province and the Akagera River Transport between Kagitumba in the Northern Province and Lake Victoria. The key challenges are; lack of legal tools for the development of water transport in Rwanda and lack of professional expertise in water transport sub sector.

Development of Inland Water Transport (IWT) is envisioned mainly on Akagera River and Lake Kivu. The demand for inland water transportation at Lake Kivu covers passenger and cargo flows between major towns of Rwanda's Western Province as well as cross-border trade activities between Rwanda and Eastern DRC. The focus is on the districts of Rubavu, Rutsiro, Karongi, Nyamasheke, and Rusizi as well as the cities of Goma, Bukavu, and the Island of Ijwi (DRC side). These locations directly border Lake Kivu and have been identified as catchment area for the planned lake transportation service. In 2015, Rwanda recorded about 165,000 tons of cargo in trade with RDC at the key cross-border points. In addition, inland water transport for other lakes will be developed to improve internal connectivity.

The government of Rwanda has made a decision to revamp the air transport systems by massive investments in aviation infrastructure and creating the environment that attracts both public and private participation. Substantial investments have been made to improve the Kigali international airport and Kamembe airports, including among others, expansion of the terminal building, rehabilitation of the runway, apron and control towers, and modern navigations aids, etc. In order to cater for forecasted demand, New Bugesera International Airport is under construction.

The Rwanda's aviation industry continues to see a tremendous growth in different aspects, with the anchor on the Government policies that have set aviation as one of the key pillars and a priority sector for the economic growth of the Country. The connectivity of Rwanda to the outside world has continued to increase through new routes opened by the National carrier as well as other airlines that have introduced Kigali in their networks. Further to the above, the local Approved Training Organizations (ATO) has also widened their scope of work by including fixed-wing aircraft in their fleet used for pilot training.

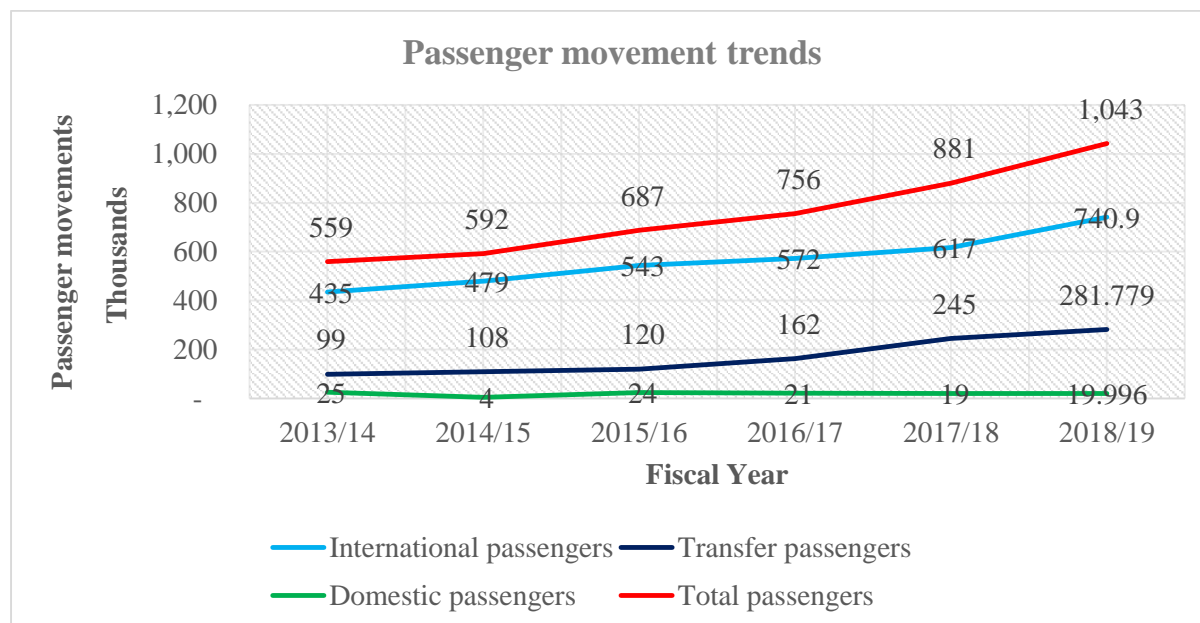
The Government of Rwanda has also spearheaded the airspace liberalisation agenda with implementation of SAATM (Single African Air Transport Market) that provides the airline among other benefits the access to potential markets.

With this progress, RwandAir is able to provide better accessibility/connectivity into and out of Rwanda to the rest of the world in line with Rwanda's economic growth imperatives to promote tourism, investment, agricultural production and employment, through transportation of people and goods (imports and exports of air cargo).

RwandAir currently operates twenty-nine (29) destinations predominantly within African cities, Europe, Middle East and Asia. This network expansion will have to be supported by a

growing fleet, RwandAir currently operates a fleet of 12 aircraft in a combination of aircraft types that include: Airbus, Boeing and Bombardier.

As illustrated in the figure 3 below, the overall passenger movements increased from 880,704 in 2017/2018 to 1,042,675 passengers in 2018/2019, recording an increase of 18.7%. The increase was driven by the major events hosted in Rwanda that attracted more passengers; also connecting passengers has been increased considerably.



**Figure 3. Trend analysis for passenger movements (RCAA, July 2019)**

Rwanda does not presently have a rail network. The rail systems of neighbouring countries extend towards but do not reach Rwanda:

- Mainline from Mombasa to Kampala.
- Mainline from Dar Es Salaam reaches Mwanza and Kigoma. The Kigoma section especially is subject to service interruptions because of the poor state of repair. The plan to extend a branch line from Isaka to Kigali is well advanced.

The GoR is committed to developing a rail transport system as one of the envisaged solutions to boosting socio-economic development, increasing the welfare of Rwandans as well as cutting down the transport costs. At present, two major rail transport corridors connecting the country to the Indian Ocean are in pipeline, with the Northern Corridor running from Mombasa-Nairobi-Kampala to Kigali, and the Central Corridor linking Kigali with Dar Es Salaam, and the feasibility studies were completed.

### 2.1.2 Problem Statement

Rwanda has made significant achievements in developing transport infrastructure and services in recent years. However, there are still issues in transport sector that need to be addressed to improve the quality of transport infrastructure and services. These include:

- **Lack of all-season roads in rural areas:** A significant proportion of the Rwandan rural population, whose livelihoods depend on agriculture lack access to rural transport facilities, including feeder roads. This strongly hampers the agricultural development

and prevents them from increasing access to markets, enhancing their competitiveness and improving their incomes and livelihoods.

- **Lack of adequate road traffic management:** Growth of traffic volume is not proportional to the available road traffic management infrastructure especially in the City of Kigali. This leads to traffic congestion, especially in peak hours.
- **Public Transport characterized by delays, inaccessibility and unpredictability:** the lack of streamlined bus schedules, delays at stops and terminals, fares and passenger information prevent passengers to cut down on their transit time and costs and hence lower operational revenues.
- **Lack of integrated public transport:** public transportation runs efficiently when it operates as a seamless and integrated system. Fragmented public transport system in Rwanda has long been a major complaint in passenger satisfaction surveys. It creates overlapping transport services and discourages ridership. To reach a destination, for example, a passenger is often forced to take multiple routes, each with different schedules and transfer stations but without coordination on passenger information. As a result, the passenger may have to take a long walk to make transfers and pay multiple fares.
- **Occurrence of accidents and incidents in the transport sector:** As access to transportation facilities and services increases, there will be a need to improve mechanisms preventing and reducing the severity and frequency of traffic accidents.

Transport safety is particularly critical in road transport because motorized and non-motorized traffic often share the same space while having differing operating speeds, knowledge of traffic regulations and levels of protection. According to RNP, 73 per cent of the total road traffic accidents registered 2018 involved motorcycles, pedestrians and bicycles. Most of these road accidents are avoidable if all road users strictly adhere to traffic rules. Taxi-motor operators take lead in causing road traffic accidents and this is attributed to recklessness driving, drunkenness, violation of traffic lights, abuse of Zebra Crossings and dangerous manoeuvres such as over-taking in hotspots.

- **Air transport subsector has limitations in infrastructure and human capital:** The traffic flow is increasing rapidly and Kigali International Airport will not be able to cope with the forecasted traffic. In addition, the number of local technical personnel is still low.
- **Over-dependence on road transport and high transport cost:** The national transport sector system is centered primarily on roads with paved roads between Kigali and other major towns. The transportation of persons and goods in Rwanda is mainly based on the road and aviation modes.  
Under developed inland water transport, lack of railway and pipeline transportation have resulted into high transport cost and increased road maintenance costs in Rwanda.



- **Under developed freight transport industry:**  
Transportation is a reflection of economic activity, in as much as products must be moved to markets. The national freight service providers are all from the private sector. It is reported that they are faced with many challenges (i.e. operation of small fleets that do not allow economies of scale in matters of logistics and pricing, and poor mechanical condition of the fleets that raise vehicle operating costs which are in turn passed on to the consumers of their services) that make competition among themselves and with the locally-based international firms ineffective.

## 5.7. Policy Context

### 2.2.1 Africa Agenda 2063

By 2063, the necessary infrastructure will be in place to support Africa's accelerated integration and growth, technological transformation, trade and development. This will include high-speed railway networks, roads, shipping lines, sea and air transport, as well as well-developed ICT and the digital economy.

As far as Transport is concerned, African Union targets to have an improved transport sector by connecting all African capitals and commercial centres through the Africa Integrated High Speed Train Network, the PIDA transport corridors, improving the efficiency and connections of the African aviation sector and implementing the Yamoussoukro Declaration, and strengthening the African port and shipping sector as regional and continental assets, to facilitate movements of goods, services and people, reduce transport cost and relieve congestion of current and future systems.

### 2.2.2 East African Community Vision 2050

The East African Community's (EAC) Vision 2050 calls for improved quality of life of the people in the region through increased competitiveness, value added production, trade, and investment. The Vision aims to support the EAC integration process as stipulated in the treaty for the establishment of the EAC and to facilitate the realisation of the African Economic Community and calls for the region to achieve upper-middle income status while improving security and political unity.

The EAC Vision 2050, therefore calls for improved ease of movement for people, labour, goods, services, and capital. Critical elements include access to modern, fast, and affordable infrastructure and better linkages to facilitate trade and investment.

### 2.2.3 Rwanda Vision 2050

The Rwanda Vision 2050 is a comprehensive strategy focused on improvement of living standards through a steady increase in the average annual income for Rwandans by 2050. The target requires continued improvement in the economy.

Transport is one of the main enablers of the vision, contributing to increased foreign direct investments, increased productivity, and the reduction of travel costs. A key aspect of Vision 2050 is the inclusiveness of the development model.

The vision cannot be achieved unless every Rwandan is given the opportunity to access economic opportunities. Vision 2050 also urges the preparation of the National Transport Master Plan.

### **2.2.4 National Strategy for Transformation (NST 1)**

The National Strategy for Transformation is an amalgamation of the Economic Development and Poverty Reduction Strategy (EDPRS) and the 7-Year Government Programme.

It is a new Strategy adopted by Government to spur national development over the next five years and improve the wellbeing of its citizens. The development of an effective transport network at the national and regional levels, the diversification of modes of transport, and improvement in the quality of transport services will contribute to achieving these objectives. The NST1 aims at increasing external connectivity of Rwanda's economy and boosting exports by building a new international airport, expanding RwandAir destinations, and planning a railway connection along the Central Transport Corridor to Dar Es Salaam; transforming Rwanda's logistics system and strengthening export promotion.

### **2.2.5 Sustainable Development Goals (SDGs)**

Rwanda has endorsed the United Nations Sustainable Development Goals (SDGs), which include the following transport-related targets:

- By 2020, halve the number of global deaths and injuries from road traffic accidents.
- Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, people with disabilities and older people.

### **2.2.6 National Environment and Climate Change Policy**

The 2019 National Environment and Climate Change Policy outlines the strategy for responding to emerging issues related to the environmental and climate change mitigation. The Policy highlights the contribution of intercity and urban transport to harmful air pollution. Key issues include high densities of vehicles in Kigali (especially old vehicles), inadequate maintenance facilities, poor traffic management, the absence of adequate public transport, and a lack of convenient infrastructure for non-motorised transport.

To enhance access and improve air quality, the policy stresses the need for green mobility in urban and rural areas.

### **2.2.7 National Urbanisation Policy**

The policy addresses all aspects of cross-sectoral action in urban development and governance. Rwanda guides urbanization in a way to efficiently use and manage its natural resources while

promoting sustainable development, reinforce its system of urban areas and human settlements for local economic development based on local potentialities and inter-linkages, promote densification for cost effective public investment and infrastructure service delivery, and to preserve land for agricultural production, open space and conservation of the environment, and plan for the needs of transportation, housing, culture, recreation, utilities, waste management, information and telecommunication, commercial and industrial development in response to macro-economic strategies and citizens views.

## 2.2.8 Intended Nationally Determined Contribution (INDC)

Rwanda's Intended Nationally Determined Contribution (INDC) under the Paris Climate Accord stresses the need for urgent action to address Rwanda's vulnerability due to the climate crisis and reduce dependence on foreign petroleum imports. The INDC calls for mitigation measures including compact development, public transport improvements, and the introduction of a first-phase bus rapid transit (BRT) system (17 km dedicated corridor), pedestrian improvements, and enforcement of vehicle emissions standards.

## 3 TRANSPORT SECTOR POLICY FRAMEWORK

### 5.8. 3.1 Transport Policy Principles

The following principles guided the approach to policy development:

- **Coordination:** Rwanda recognizes the importance of harmonising national, regional and continental development plans in the context of Agenda 2050. It is important to leverage regional and national frameworks, instrumental in achieving Africa's structural transformation objectives. At the national level, coordination between land use planning, industrial development, environment protection and climate change, energy provision will be sought in order to support synergies in development.
- **Competition:** Transport infrastructure and services will be operated by private, public or private/public economic operators in a regime of open and transparent competition aimed at increasing the efficiency and lowering operational costs. The GoR will encourage national operators in the transport sector to compete with other equivalents from the international market. Competition shall never occur at the expense of safety in transport. With regard to public transport, the government will encourage competition for the market rather than competition in the market to improve safety.
- **Cost recovery:** The paramount purpose of the transport system is to enable economic development and social inclusion. Pricing of transport services should encourage the use of sustainable modes of transport, such as walking, cycling, and public transport. The government will introduce charges for the use of personal motor vehicles to ensure that transport users pay the real cost of the resources, facilities, and services that they use. Similarly, charges will be introduced to improve cost recovery from intercity freight services.
- **Efficiency:** This policy aims to deliver a national transport system at the lowest sustainable long-term cost. Streets in urban and rural areas are often designed to maximise the amount of space for motor vehicle movement. Yet vehicle movement and mobility are not one and the same. Mobility is about getting people to where they want

to go, efficiently, conveniently, and safely. Mobility can be provided through high-quality, high-capacity public transport, which does not necessarily mean moving large numbers of vehicles through wider roads. In the same vein, the policy will seek to encourage the most efficient means for goods movement. The government's approach will be mode-neutral and will focus on measures that expand access to modes that offer the lowest life cycle costs.

- **Safety:** The NTP seeks to improve safety for urban and regional travel. Within cities and towns, street space must be designed so that it caters to all modes of transport, including pedestrians and cyclists. Accommodating NMT involves two basic techniques: systematic traffic calming on smaller streets to reduce motor vehicle speeds and pedestrian and cycle infrastructure that is physically separated from motor vehicle traffic on larger streets.

Safe street design also aims to encourage moderate vehicle speeds. For intercity movement of people and freight, the Government also will develop appropriate standards to ensure safety.

- **Universal access:** All Rwandans have the right to safe and efficient transport services and infrastructure. Universal access is the concept of designing transport services and environment that as many people as possible can use, regardless of age or ability. Accessibility to transport is only as strong as its weakest link, so inclusive design must cover public passage, public transport stops and boarding, vehicle interiors, alighting, and passage to the final destination through pedestrian environment. People with small children, people carrying heavy shopping or luggage, people with temporary accident injuries, and older people can all benefit from an inclusive transport environment.
- **Environmental sustainability:** Transport Sector investments will be driven by sustainability considerations including long term environmental and social impacts. Services will be provided with a minimum of environmental disruption. Ideally, the costs of environmental effects should be reflected in taxes and user fees. In order to mitigate increased pollution and greenhouse gases generated by the transport sector, it is important to introduce, where feasible, green transport solutions, namely public transport and non-motorised transport.
- **Resilience to climate change:** Considering and planning for climate change and extreme weather events will be required if long-term reliability of transport systems is aimed for. The transport system in Rwanda has largely been designed and operated for historical climate conditions that are now often exceeded. A new approach in planning will be used gradually, to embrace risk-based thinking and favour more robust infrastructure designs.
- **Leveraging the private sector:** Rwanda aspires to be a private sector led economy in line with the vision 2020 and NST1. Transport Sector investments will as much as possible leverage additional private sector financing.
- **Accountability, transparency and service delivery:** Transport services are customer oriented and service providers shall comply with service delivery charter established by the regulator. Service providers in urban transport infrastructure and services shall ensure the best use of available resources and account for their utilization. MININFRA seeks to promote participation of all stakeholders for effective monitoring of service

delivery over time. The government will continue to encourage open access to transport data, reports, and other resources.

- **Value for money:** All transport projects, regardless how they are implemented, shall deliver optimal value for money and contribute to growth by maximising efficiency through better selection, preparation, and management of investments.
- **Autonomous decision making by City Authorities/Districts:** Following the principle of decentralisation, transport infrastructure management on the level of local governments will be autonomous as provided by the decentralization policy. This shall be done in a manner that enhances fair competition among transport service providers.
- **Smart Transport:** Given that Information and Communications Technology (ICT) is an enabling tool for smart transport, it shall be at the core of planning, implementation and monitoring of all transport projects.

For purposes of coordination across the country, the Ministry of Infrastructure and its agencies will provide advisory and quality assurance support.

### 5.9. 3.2. Vision and Mission

The transport policy vision and mission for the Ministry of Infrastructure to serve Rwandan citizens and visitors are:

**The Transport Sector Vision is to guarantee universal access for the citizens and the visitors of Rwanda to a safe, competitive, integrated, resilient and high-quality transport system.**

**The Transport Sector Mission is to develop, rehabilitate and maintain an efficient and integrated national transport infrastructure network that support efficient transport services.**

### 5.10. 3.3 Policy pillars and objectives

The timeline for the Policy is 15 years. The main implementation instrument for the Policy is the Transport Sector Strategic Plan (TSSP), with a current timeline of 7 years and annual action plans/ Imihigo. The overall objective of the policy is to have modern, efficient transport infrastructure and services facilitating connectivity and mobility. This section described policy specific objectives under three main pillars.

#### **Policy Pillar 1: Promotion of sustainable development of an integrated transport infrastructure network**

This pillar addresses the low trade competitiveness triggered by the high cost of transport, as well as accessibility challenges of transport users in Rwanda. It supports environmental friendly development of infrastructure, in order to achieve better external and internal connectivity.

This pillar focuses on four objectives:

1. Promoting trade and reducing cost of doing business
2. Promoting green and climate resilient transport
3. Promoting smooth inter-modal transfers
4. Promoting Transit oriented Development (TOD).

## **Policy Pillar 2: Enhancement of the quality of transport services**

This policy provides directions aim at improving the quality of freight and public transport services as well as ensuring safety of both goods and passengers in all modes of transport. In addition, it designed to address traffic management issues.

This pillar corresponds to five objectives:

5. Ensuring safety and health of transport users
6. Developing efficient and reliable public transport services
7. Developing inclusive transport system; ensuring accessibility for all road users including Persons with disabilities
8. Promoting an efficient freight transport
9. Establishing efficient traffic management system.

## **Policy Pillar 3: Reinforcement of capacity building in transport sector and addressing crosscutting issues**

This third pillar focuses on capacity building in transport sector as well as addressing sector cross cutting issues which include climate change and parking management. It focuses on six objectives:

10. Strengthening capacity building in the transport sector
11. Protecting environment by reducing transport emissions
12. Improving parking management system
13. Promoting private sector investment in transport
14. Promoting technology adoption in transport
15. Increasing gender mainstreaming in Transport Sector.

### **5.11. 3.4. Transport Subsector Policy Directions aligned to Policy objectives**

#### **3.4.1 Promoting trade and reducing cost of doing business**

##### **3.4.1.1 Road Transport**

Road transport is vital to economic development, trade, and social integration. A reduction in transport costs can promote specialisation, extend markets, and enable exploitation of economies of scale. Better tertiary roads mean lower transport costs, improved agricultural marketing and lower post-harvest losses. The National Industrial Policy of Rwanda recognises that transport has a critical role to play in developing a favourable macroeconomic environment for investment. The Government seeks to ensure an appropriate allocation of resources for road maintenance and construction to improve regional access and stimulate sustainable growth in the agricultural, industrial and tourism sectors.

In cities, streets are at the core of urban transport networks. Streets occupy a large portion of the total land area in a typical city, and they are the most important and ubiquitous form of public space. They not only ensure residents' accessibility, allowing them to travel between destinations, but also are destinations in themselves-places for people to meet, interact, do

business, and have fun. Public space is especially important for the urban poor who do not otherwise have access to green and for social interaction.

High quality streets make a city truly liveable. The location and design of the street network determines how effectively people, goods, and materials flow through the city.

#### **Policy directions**

1. Develop road networks to improve access for people and goods.
2. Implement road designs that enhance safety and resilient infrastructure network.
3. Achieve cost recovery in the road transport system through the introduction of user tolls, congestion fees, parking fees, and other mobility pricing mechanisms.
4. Create a framework to engage public in development, maintenance and management of road infrastructure.

#### **3.4.1.2 Non-Motorised Transport**

Non-motorised transport (NMT) includes walking, cycling, tricycles, pushcarts, and any other forms of mobility that is powered by humans. NMT plays an important and unique role in efficient transport systems. It provides basic mobility, affordable transport, access to public transport (providing last mile connectivity), as well as significant benefits for public health and recreation.

Despite a high level of reliance on NMT, many streets in Rwanda are not designed for people to walk or cycle. Streets often lack dedicated footpaths, cycle tracks, traffic calmed crossings, street lighting, and other essential elements of a complete NMT environment.

The topography of Rwandan cities also presents challenges for NMT users. Road networks typically follow the contours of hillsides, increasing walking distances. Direct routes may be steep and do not allow comfortable walking, especially for the elderly, persons with small children or those carrying weights.

Many cities around the world have realised that street designs that focus on vehicle movement rather than mobility of people undermine quality of life and the character of public spaces. Moreover, there is a high accident risk exposure associated with non-motorised transport on high speed motorways in rural areas and urban centres. The transport system should provide safe, convenient, and fast connectivity for NMT users. Urgent steps are needed to ensure a more equitable allocation of road space by focusing on walking, cycling, and public transport in the planning, design, construction and management of transport systems.

#### **Policy directions**

1. Provide safe, high-quality, universally accessible facilities for walking, cycling, and other NMT modes on all streets in cities and towns.
2. Create vibrant and secure public spaces through building design and street lighting.
3. Introduce bike share systems to serve short trips and enhance last-mile connectivity to public transport.

### 3.4.1.3 Rail Transport

Rail transport has the potential to boost socio-economic development and reduce transport costs. At present, two major rail transport corridors connecting the country to the Indian Ocean are in the pipeline: the Northern Corridor running from Mombasa through Nairobi and Kampala to Kigali, and the Central Corridor linking Kigali with Dar-es Salaam. The primary scope for the rail is to serve cargo, but rail networks can also carry intercity passenger services.

Rail is most cost-effective for long-distance hauls of large volumes of cargo. Similarly, on corridors with high passenger demand, rail can serve as a long-distance passenger carrier. However, neither of these conditions is met in Rwanda given the limited volume of cargo and passenger movement. Reduced time at customs, elimination of non-tariffs barriers, and the introduction of uniform protocols have led to a steep reduction in travel times for road-based transport. To be cost-effective, rail systems would need to result in a significant improvement over existing road-based services.

#### **Policy directions**

1. Introduce rail-based systems where they present clear economic and environmental benefits compared to other modes.
2. Engage private parties to provide railway infrastructure.

### 3.4.1.4 Air Transport

Rwanda relies heavily on the aviation sector to ensure connectivity with neighbouring countries and the rest of the world. Air transport passenger traffic has reached nearly six hundred thousand per year, with an average annual growth rate of 13 percent. More than 95 percent of the growth is related to international movements through Kigali International Airport (KGL). The aviation sector has contributed to growth in the national economy. Further development of the sector can help establish Rwanda as a hub for business and tourism in Africa as well as a gateway across the continent, given the country's favourable geographical location.

Rwanda has been active in promoting the development of the Single African Air Transport Market (SAATM), which is critical to enhancing economic development on the continent. Rwanda is a member state of the International Civil Aviation Organization (ICAO), a specialised agency of the United Nations that fosters the planning and development of international air transport to ensure safe and orderly growth.

#### **Policy direction**

Develop main airports and secondary airfields based on sound analysis of economic opportunity and environmental benefits.

### 3.4.1.5 Ropeway and Emerging Transport Systems

Many urban areas in Rwanda, starting from the capital city of Kigali, are characterised by rolling terrain with steep hills. This proves to be a significant impediment to the development



of efficient road networks. Road alignments are primarily along contour lines, thus extending the length of trips when these occur along the maximum slope of the hill. Walking along the most direct route becomes challenging, especially for the elderly, the persons with small children, or those carrying goods. Steep grades also affect access to public transport stops and stations as well as the routing that vehicles take. In consideration of all the above, it is deemed that ropeways, either on the ground (funicular) or hung on a cable (cableways) may serve as a transport solution in Rwandan cities.

In rural areas, especially in the Western Province, many agricultural settlements and production fields are on top of steep hills. Accordingly, a significant proportion of the rural population, whose livelihoods depend on agriculture, lack access to rural transport facilities and this hampers the agricultural development, generates high transaction costs, and limits the adoption of new technology.

Local roads, when available, typically present steep inclines and wind back and forth up the hills, which may increase the length of the travel three-four times compared to the straight-line distance. The inelastic supply of transport services and the high fares limits the quantity of food transported to market. This coupled with the poor storage system results in post-harvest losses. Besides roads, ropeways can serve as a critical factor to raise agriculture production. They can be used not only to transport passengers, but can be conceived to transport goods and, in such case, they require limited use of resources.

#### **Policy direction**

Develop ropeways/guideways technology in urban and rural areas especially along steep hillsides.

### **3.4.1.6 Inland water transport**

Inland water transport (IWT) is an important alternative to road, rail, and air transport. In East Africa, IWT has long been discussed as part of the solution to the region's transport problems. The water bodies in Rwanda include Lake Kivu on the western border and the Akagera River along the eastern border leading to Lake Victoria. While road and rail networks require constant maintenance, navigable rivers and lakes need far less investment and infrastructure. Under same circumstances, the operating cost per tonne-km can be less than that for road or rail transport. The Government of Rwanda aims to strengthen the position of IWT in the transport system and to facilitate its integration into the multimodal logistic chain.

#### **Policy direction**

Develop Inland Water Transport with potential of cost-effectiveness and environmentally sustainability.

## **3.4.2 Promoting green and climate resilient transport**

### **3.4.2.1 Electric Mobility**

Electric mobility is rapidly gaining attraction around the world as an energy efficient solution for transport of goods and people allowing for the use of renewable energy while avoiding tailpipe emissions. Introducing electric mobility will encourage a shift from imported oil products to domestically generated electricity. Electric vehicle assembly is also expected to

create new job opportunities. The introduction of e-vehicles should be paired with measures to facilitate a shift from personal motor vehicles to walking, cycling, and public transport. There are significant opportunities for the introduction of electric vehicle technology in shared transport services, including bike sharing and public transport.

The development and the support of electric mobility is motivated by a number of ambitions at the national and international level, including Rwanda Vision 2050, Transition Rwanda, the Paris Agreement on Climate Change, the United Nations 2030 Agenda for Sustainable Development, and the Sustainable Development Goals.

#### **Policy direction**

- Develop required infrastructure to facilitate electric mobility.
- Put in place incentives to facilitate investment in electric mobility.

### **3.4.2.2 Autonomous Vehicles**

Autonomous vehicles are already operational in several European and North American cities. There is great potential to improve safety by eliminating driver error. Autonomous driving technology could also reduce operating costs for public transport, enabling the expansion of service.

As the technology continues to be improved, the operation of autonomous vehicles on public streets presents potential safety hazards to other road users, especially pedestrians and cyclists. Autonomous technology should be regulated to minimise these impacts.

The introduction of autonomous technology also poses several challenges including ethical questions about allocating risks among different road users and employment impacts for existing operators.

#### **Policy direction**

Promote the development of driverless mobility infrastructure.

### **3.4.3 Promoting smooth inter-modal transfers**

#### **Policy direction**

Promote the development of adequate bus terminals that facilitate intermodal transport of passengers.

### **3.4.4 Promoting Transit Oriented Development**

#### **Policy direction**

Promote an urban development that maximizes the amount of residential, business and leisure space within walking distance of public transport

### 3.4.5 Ensuring safety and health of transport users

Transport safety is a concern in the whole transport sector. This includes transportation of passengers, goods, materials, equipment both domestically and internationally. Transport safety is thus a major concern that is prioritized in this policy to reduce accidents.

#### Policy directions

1. Put in place suitable measures to improve road safety for all road users. These include accreditation of auto garages and mandatory use of these garages by passenger service vehicles.
2. Promote the creation of a National Agency for the Safety in Railway, independent from transport development agency that will monitor, review and supervise safety conditions of rail infrastructure.
3. Ensure vessels and foreign ships operate in accordance to local and international “maritime” safety, security and environmental protection standards.
4. Enhance Air Transport services to ensure respect for the highest levels of safety and security.
5. Ensure that safety is preserved in all aspects of ropeways, guideways, driverless, electric mobility and unmanned aircrafts.

### 3.4.6 Developing efficient and reliable public transport services

#### 3.4.6.1 Public Transport

Public transport provides an affordable and convenient form of mobility to all citizens. A good public transport system ensures that all people have equitable access to its service, be financially viable, and mitigates environmental effects. Public transport systems, including mass rapid transit (MRT) and city bus services, form the backbone of an efficient urban transport network, carrying large numbers of people using minimal road space. Public transport supports the economy and connects communities to workplaces and vital public services such as healthcare and education.

In the current phase of economic development in Rwanda, it is essential to strive for an inclusive growth model and public transport services are an essential component of these efforts.

Unlocking access to rural areas will increase rural wages and living standards. In the City of Kigali, better public transport is urgently needed to improve access to opportunities and mitigate congestion.

To enhance public transport offerings, the City of Kigali is planning a high-quality bus rapid transit (BRT) system, building on the experience of many other successful systems in African, Asian, and Latin American cities.

This Policy builds on the Public Transport Policy of 2012, which called for improvements in public transport service; effective business models to guide private sector provision of transport

services; strengthened government capacity to manage the public transport system; and travel demand strategies to discourage the use of personal motor vehicles.

#### **Policy directions**

1. Prioritise public transport in the design and operation of urban roads.
2. Ensure that the public transport system is integrated, reliable, secure, affordable, and accessible to all users, regardless of physical ability.
3. Encourage competition “for the market” rather than “in the market”.
4. Enhance the use of intelligent transport system to improve services.
5. Establish a framework to support public transport services where proven necessary.
6. Establish a competitive marketplace in the aviation sector to attract international actors.

#### **3.4.6.2 Taxi Services**

Well-managed taxi services, including moto taxis, car taxis, and various forms of ride hailing services provided by transport network companies (TNCs), can improve access to economic opportunities and enable residents to live car-free life. However, these services are not a substitute for a robust public transport network or compact and pedestrian friendly development. Regulation is needed to minimise potential negative externalities of moto and car taxis, including increased congestion, poor safety for NMT users, and pollution.

#### **Policy directions**

1. Develop convenient operations for the moto taxi and car taxi as complementary services to public transport.
2. Support the expansion of bicycle services as a form of clean and low-cost mobility.

#### **3.4.6.3 School bus**

The growing population of school going children has resulted in traffic congestion along major corridors that pass-through school zones. Such traffic congestion is not only a nuisance to parents who drop or pick children to schools, but to also all road users creating unnecessary delays and sometimes road rages. Regulation is needed to minimise the negative externalities caused by parents dropping or picking their children.

#### **Policy direction**

Develop regulations for school bus management.

#### **3.4.7 Developing inclusive transport system**

Transport sector has to be inclusive and accessible to all people, including people with disabilities, vulnerable and those discriminated against and excluded due to gender, geography, income, age or other characteristics.

Infrastructure is critical to social functioning with direct impact on social wellbeing, earnings, education and health. When infrastructure is inaccessible to any social group, that group is at risk of social exclusion, unable to participate in and contribute to society. Transport Infrastructure is critical, as it is the means by which other services are accessed, including health, education, employment, etc. Urban environments, without a universally accessible transport system, exclude people living with disabilities, marginalising them and breaching their human rights. Hence this policy considers inclusive transport system as a key aspect in social economic development.

#### **Policy direction**

Ensure accessibility for all, including People with Disabilities.

### **3.4.8 Promoting an efficient freight transport**

The government seeks to facilitate sustainable freight transport that accelerates economic development. The adoption of a common set of regulations through the 2015 Act of the East African Community covering vehicle loads, enforcement, and institutional arrangements is an effective starting point. These efforts need to be strengthened by parallel initiatives aimed at facilitating trade within the region. Opportunities include the introduction of road pricing for heavy goods vehicles, the elimination of non-tariff barriers, and the establishment of a uniform custom control centre for the region.

In the absence of good planning, freight movement can have a negative impact on passenger movement, road safety, and air quality. The movement of goods vehicles poses a safety challenge, particularly for non-motorised transport users. In addition, excess vehicle loads contribute to road damage and require ongoing enforcement. Customs protocols lead to delays and higher transport costs for freight crossing international borders. The absence of the rail and of a widespread network of waterways entails that all cargo in and out of the country, as well as in transit across the country, are moved on trucks.

#### **Policy directions**

1. Manage freight movement so as to reduce costs and travel times.
2. Reinforce integration in development of production areas and transport infrastructure.
3. Put in place a mechanism to address the issue of excessive loading and its consequences on national road network.
4. Continue to work with regional blocks to facilitate the cross border movement of goods and eliminate Non-tariff barriers.
5. Promote the use of drones and other unmanned aircrafts.
6. Promote the use of airships and balloons to boost air freight transport.

### **3.4.9 Establishing an effective traffic management system**

The use of personal motorised vehicles imposes costs on society, including congestion, air pollution, and road safety risks. Travel demand management (TDM) aims to improve the efficiency of the transport system by discouraging the use of private vehicles and promoting more effective, healthy, and environmentally friendly modes of transport.

Paired with improvements in sustainable transport facilities and services, TDM measures are an essential component of a holistic approach to management of urban transport systems.

Among TDM measures, a key mechanism is parking management. Appropriate parking policies and management systems can help improve the public realm, encourage a shift toward the use of sustainable transport modes, and improve the efficiency of the use of available parking supply. Parking is a private good and the Government is not responsible for the provision of parking for personal motor vehicles.

#### **Policy directions**

1. Establish Traffic management mechanism to optimize the use of road network and reduce traffic congestion.
2. Prioritize the use of intelligent transport systems.
3. Promote the use of mobility pricing mechanisms, including but not limited to parking pricing and enforcement, to reduce congestion.
4. Optimize public transport services to reduce congestion and environment impact.

### **3.4.10 Strengthening capacity building in the transport sector**

The planning and operation of transport systems requires dedicated agencies with skilled and professional staff with field experience in similar areas of work. A major exercise of training and skill development among public officials and practitioners is urgently needed. As part of the exercise of skill development, academic programs in transport, especially at the post-graduate level, will be strengthened to nurture a nucleus of qualified transport professionals in the country. Suitable collaborations with leading institutes abroad will be established.

#### **Policy direction**

Establish training programmes aimed at strengthening technical skills in transport sector.

### **3.4.11 Protecting environment by reducing transport emissions**

#### **Policy directions**

1. Promote, through incentives, the purchase of low polluting vehicles, electric vehicles and trains.
2. Continue periodic vehicle inspection and testing for safety, compliance with emission standards, and certification of auto garages.
3. Mitigate environmental impacts of electric vehicles, such as those associated with battery disposal.
4. Keep complying with ICAO emission standards.

### 3.4.12 Improving parking management system

#### **Policy direction**

Develop national standards for parking facilities and establish a parking management mechanism to promote green economy.

### 3.4.13 Promoting private sector investment in transport

Transport investments are often regarded by governments as essential to economic growth. Within this framework, private sector participation is integral to achieve government objectives. However, private investors exhibit a cautious attitude towards this class of investment. Therefore, the Government is committed to engage private sector investment in Transport sector.

#### **Policy direction**

Attract and facilitate Private Sector Participation and investment in Transport sector.

### 3.4.14 Promoting technology adoption in transport

Growing environmental problems, increasing fuel price and congestion on many road networks require new solutions to transport operations. An integrated multimodal transport network is a critical factor for transport operators to successfully execute their supply chain processes both domestically and internationally. However, the complex nature of multimodal integration, for instance the involvement of a wide variety of operators can limit the growth of multimodality. One of the major constraints is the lack of effective and efficient information connectivity among and between various modes.

Meanwhile, it is well recognized that information and communication technology (ICT) functions like the nerve system of a multimodal transport chain and brings multiple benefits to organizations by providing real-time visibility, efficient data exchange, and better flexibility to react to unexpected changes during transport operations. It is therefore high time to promote the use of technology in Transport sector.

#### **Policy directions**

1. Enhance the use of ICT applications in multimodal transport sector operations.
2. Promote the adoption ICT based working platforms to reduce needs for travel.

### 3.4.15 Increasing gender mainstreaming in Transport Sector

Despite the efforts of the Government of Rwanda to mainstream gender equality in all sectors, the transport sector in particular still face significant challenges in terms of gender equality and equity. Women have limited access and own less transport assets compared to men; the sector itself is still perceived as a male dominated trade hence affecting the rate of girls and women

enrolling in TVET Transport related sector which later impact negatively the number and income of women recruited in the sector.

### **Policy directions**

1. Create an enabling environment that accommodates equally men and women.
2. Raise awareness in Women/Girls to enroll in STEM subjects to gain skills required in the transport sector labor market.
3. Strengthen the existing mechanisms to prevent and respond to Gender Based Violence (GBV) in transport sector.

## **4 TRANSPORT POLICY IMPLEMENTATION STRATEGY**

Joint working relations between stakeholders shall ensure the concerted implementation of the national policy and strategy under shared responsibility.

The Ministry of Infrastructure shall be the main responsible institution for the facilitation of each policy pillar and, in case a co-leading ministry is involved, the Ministry of Infrastructure shall supervise, coordinate and oversee the administrative planning and implementation of policy measures and subsequent policy actions with the support of stakeholders.

### **5.12. 4.1. Transport Sub-Sector Policy Actions**

#### **4.1.1 Road Transport**

- Promote the development of the national road network, including rehabilitation, upgrading and expansion, to ensure freight and passenger mobility across the country.
- Promote the development of climate resilient road infrastructure.
- Revise road design standards in order to provide specific guidance on the design of urban streets. The road design standards shall be approved and become a legal binding document.
- Identify priority networks for public transport (including mass rapid transit), cycling, and walking in cities and towns.
- Develop fine-grained street networks in built-up areas and expansion areas as part of the master planning process for cities and towns.
- Develop feeder roads to strengthen local rural economies, particularly in areas with high value main food crops, export crops, and intensive livestock farming areas.
- Implement and maintain a road asset management (RAM) system as a single source of data on the road assets in the country.

#### **4.1.2 Non-Motorised Transport**

- Provide adequate street space for users, including systematic traffic calming to ensure that smaller streets are safe places for the mixing of pedestrians and other modes (“shared lanes”) and ensure pedestrian and cycle infrastructure are physically separated



from motor vehicle traffic (by raised kerbs, vehicle parking lanes, bollards, landscaping, etc.) on larger roads.

- Provide excellent NMT connections to rapid transit stations. Ensure that NMT improvements are included in all major public transport investments, including rapid transit systems.
- Implement safe at-grade pedestrian crossings.
- Improve the safety of intersections through reduced turning radii, pedestrian refuge islands, and signalisation.
- Provide School zones with special treatment to improve safety, including traffic calmed crossings, intersection improvements, and other safety elements.
- Provide adequate street lighting to improve traffic safety and personal security of NMT users.
- Ensure that streets and NMT facilities are accessible to all.
- Reduce tariffs on bicycles in order to expand access to NMT for low-income residents.
- Implement bicycle sharing systems to provide better last-mile connectivity to rapid transit stations and improve mobility in business districts, mixed-use neighbourhoods, and educational areas.
- Promote the provision washing facilities (showers) in workplace to facilitate NMT users.

### 4.1.3 Public Transport

- Expand city bus services to provide fleets of at least 50 buses per 100,000 population. Introduce high-quality public bus service where justified by potential demand for public transport.
- Promote gender sensitive public transport.
- Create more scheduled routes public transport services.
- Provide supporting infrastructure for city bus services, including depots, terminals, bus shelters, and real-time passenger information. Minimise breakdowns by supporting the introduction of a modern bus fleet. All public transport buses should be compliant with modern bus specifications.
- In Kigali, high quality, high frequency Dedicated Bus Lanes (DBL) for public transport should be provided on corridors with high public transport demand.
- Encourage seamless passenger transfers by providing financial and physical integration to improve passenger convenience.
- Provide information on routes and service frequency at all bus stops and stations. Provide electronic displays indicating vehicle arrival times. Provide intermodal public transport journey planner services via the Internet, phone, and/or SMS.
- Introduce concessional fares for students, elderly, disabled, and other user groups to improve access to public transport.

- Keep implement physical improvements to make all public transport services accessible to persons with disabilities.
- Provide government oversight of bus services and strengthen the government's ability to monitor service quality. Transition to gross cost contracts in order to improve service quality and reduce competition on the road.
- Introduce government support for public transport services to help expand service along routes where service cannot be operated on a commercial basis.
- Provide integrated electronic fare collection for different modes of public transport. Fare collection systems should be independent of bus operations to ensure transparency.
- Restructuring Public transport system countrywide.
- Put in place incentives for investment in school buses.
- Put in place disincentives for schools that encourage individual transportation of students/pupils.

#### **4.1.4 Travel Demand Management**

- Manage and price parking resources. Parking price should be dynamic and be based on demand (i.e., high demand should result in a higher price and vice versa).
- Restrict the overall supply of parking at a level that reflects the capacity of the road network. Cities then may permit private parties to construct off-street parking, provided that such parking does not exceed an area cap set by the government and that such projects are not subsidised by the government.
- Communicate success to the public by reinvesting revenue into local transport systems, improved public space, sanitation, and security.
- Ensure that pedestrian access remains convenient and unobstructed. Prohibit front setback parking and facilitate active, transparent frontage along the edge of the public right-of-way. Limit the number of vehicle access points to off-street parking facilities.

#### **4.1.5 Transport and urban development**

- Allow increased densities along transit corridors. Increase the allowed floor area ratio (FAR) by at least two times within walking distance of dedicated Right of Way (ROW) public transport stations. The highest densities in the metropolitan area should be present only within walking distance of dedicated ROW public transport stations.
- Within transit station areas, allow mixed-use development and encourage the allocation of built space to affordable rental housing for low-income groups.
- Adopt development control regulations that ensure that buildings contribute to a safe public realm. Encourage street frontage with many shop fronts, doors, windows and patios that open directly to pedestrian environments create a feeling of safety, while producing a more active and vibrant atmosphere.
- Adopt policies to accommodate population growth within existing built-up areas. Manage the conversion of land from agricultural to urban uses in order to encourage the densification of the existing built-up area.

- The use of private vehicles should be discouraged in areas where densification is allowed in order to minimise the traffic and environmental impacts of new developments.
- Create more car free zones to restrict personal vehicle use therefore ensuring safety and health of travellers.
- Ensure that all new public government facilities (e.g., institutional, educational, and cultural facilities) are located within walking distance of dedicated ROW public transport (Kigali) or frequent bus service (other cities).
- Calculate property taxes based on permissible floor area ratio instead of built floor space in order to encourage effective utilisation of urban land.

#### 4.1.6 Taxi Services

- Incentivise shared, shorter, less frequent trips through pricing mechanisms, such as congestion charging. Encourage the use of taxi services for last-mile connectivity while discouraging the use of such services along major public transport corridors.
- Empanel transport network companies to manage shared ride services via GPS tracking. Ensure that all moto and car taxi operators are operating under one of the empanelled service providers.
- Mandate data sharing between transport network companies and government.

#### 4.1.7 Electric Mobility

- Develop technical standards for e-vehicles, including environmental standards and regulations for the recycling of batteries and electronic waste.
- Provide incentives for electric mobility users and early adopters. Incentives can include a reduction of import duty on specific components and attractive electricity tariffs for charging stations.
- Document experiences from demonstration projects on electric mobility. Collect statistics on electric mobility to document progress towards targets.
- Develop sound business models for charging infrastructure and vehicles.
- Develop plans for the efficient placement of charging infrastructure.
- Improve the reliability of the electric grid.
- Establish a protocol of cooperation with countries and companies to facilitate technology transfer related to electric vehicles.

#### 4.1.8 Autonomous Vehicles

- Define legal and technical standards to allow for the homologation and circulation of autonomous vehicles and their use on public roads, including specifications for the vehicles, guidance systems, infrastructure, insurance, and liability.

- Develop permitting protocols to facilitate the regulation of pilot autonomous vehicles. Modify the Code of the Road or introduce a waiver to allow driverless vehicles to travel on public roads.
- Identify solutions to address impacts associated with the introduction of autonomous vehicles.
- Establish cooperation with countries and companies to facilitate technology transfer related to autonomous vehicles.

#### 4.1.9 Road-based freight

- Develop vehicle load control legislation to establish legal load limits, overloading fees, control mechanisms, enforcement, and institutional arrangements.
- Improve access to weighing facilities and enforce the vehicle load control regulations to minimise highway maintenance costs.
- Evaluate the business case for scattered warehousing to support the enforcement of the new vehicle load control policy and law.
- Develop management systems for loading and unloading of goods in city areas.
- Use off-peak passenger travel times to move freight and restrict the entry of heavy vehicles into cities during the day.
- Introduce physical facilities and ICT infrastructure to reduce border crossing times.
- Establish tariffs for the heavy goods vehicle transit.
- Establish a protocol for the handling of hazardous materials.
- Pursue initiatives to facilitate cooperation and to build trust between transit and landlocked countries and between public and private sector, including the setup of joint corridor management institutions.

#### 4.1.10 Air Transport

- Implement state-of-the-art surveillance systems to protect passengers and staff from terrorist threats.
- Work with other countries to provide more connections and improve market access.
- Encourage investments in aviation infrastructure, facilities, and aircraft. Encourage private sector investment in development and operationalisation of international airports through PPP arrangements.
- Collaborate with relevant international organizations in the aviation sector to achieve safer and more reliable air transport services.
- Establish a comprehensive aviation facilities master plan as part of the National Transport Master Plan. Secure land rights for the development of necessary aviation facilities across the country.
- Support capacity building programs to increase employment of Rwandan nationals in skilled jobs in the aviation sector.

- Regulate use of unmanned aerial vehicles by means of specific legislation.

#### **4.1.11 Rail Transport**

- Establish uniform rail standards to ensure interoperability within the country and across national boundaries.
- Establish a dedicated unit to explore the potential for rail development and oversee operations and maintenance of railways.
- Establish a railway safety regime to facilitate efficient and effective operations. Create a railway safety agency to regulate and monitor safety of rail systems.

#### **4.1.12 Ropeway Systems**

- Define legal and technical standards for ropeway systems.
- Conduct accurate study of performance and capacity requirements prior to building a cableway or funicular. Conduct an objective assessment of demand, evaluating the feasibility of the proposed system with respect to road-based alternatives.
- Where feasibility studies determine that a cableway can be an effective solution, secure the “area of respect” along the proposed route.
- Integrate rural ropeways in the national transport master plan.

#### **4.1.13 Inland water transport**

- Classify all water bodies to clearly establish their characteristics and exploitability for transport purposes.
- Evaluate the feasibility of IWT. Where IWT is feasible, develop a phased investment and operational plan.
- Establish legislation for IWT to define safety standards; waterway classification; vessel design standards; and pollution standards.
- Integrate water transport into the multimodal logistics chain.
- Establish mechanisms for national and regional coordination on the development of the waterway network.
- Promote the use of River Information Service (RIS) and other information communication technologies (ICT).

#### **4.1.14 ICT based platforms**

- Promote the reduction of needs to travel by adoption of ICT based working platforms such e-commerce, e-learning and home based work.
- Deploy ICT tools and applications in all modes of transport.

### 4.1.15 Inclusive transport system

- Conduct public Awareness campaign on passenger rights toward transport services and ensure their enforcement.
- Improve physical infrastructure to cater for people with disabilities.
- Provide effective training to transport staff with regards to assistance to people with disability.
- Scaling up gender mainstreaming in transport sector.

## 5.13. 4.2. Funding Strategy

Securing the funds for project implementation is an important factor in ensuring the success of this Policy. At present, important sources of funding include user charges; national funding; multilateral and bilateral financial entities; service providers; and private sector investors.

### 4.2.1 Funding for Urban Transport Projects

Significant urban infrastructure investments are needed in Rwanda over the coming decades to facilitate economic growth and alleviate poverty. Within these infrastructure requirements, public transport and urban roads will need major investments.

However, the outlay for urban transport systems can be reduced substantially by emphasizing on low-cost, efficient modes and other urban transport interventions that improve access and mobility. The Government shall encourage local governments to begin immediate implementation of low-cost interventions such as:

- Better planning and coordination among transport agencies.
- Improvement in the design of road infrastructure to incorporate high quality NMT facilities such as footpaths, cycle tracks, and pedestrian zones.
- High quality transit.
- Investments in city bus services, including fleet expansion and allied infrastructure.
- Better regulatory frameworks for public transport modes.
- Public bicycle sharing systems.
- On-street parking management.

To enhance funding support for sustainable transport improvements, the policy shall encourage cities to look at innovative sources of revenue such as:

- User charges for personal vehicles (e.g., parking fees and congestion charges).
- Land value capture to generate revenue through a levy on the additional density permitted along rapid transit corridors.
- Leasing of outdoor advertising rights.
- Auction-based registration fees based on a limited quota of available vehicles.

Cities and District authorities shall be encouraged to direct revenues from taxes to urban transport funds (UTF). Authorities should adopt guidelines for the use of UTF funds, ensuring

that they are allocated toward sustainable transport system implementation and/or operation (i.e., walking, cycling and public transport).

In order to effectively promote sustainable urban transport, the Government of Rwanda will:

- Support preparation of city master plans (UMPs) for cities and preparation of detailed project appraisals for specific urban transport projects, such as street design, bicycle sharing, parking management, BRT, and city bus improvements.
- Support a certain percentage of the cost of sustainable transport projects, with the remaining cost provided by local governments, and/or private sector. National funding for transport projects will be subject to consistency of the project with directions of this policy as well as the following specific conditions:
  - The Government will provide funding for urban road projects that will include complete streets with adequate facilities for pedestrians, cyclists, and public transport users.
  - The Government will provide funding for grade separators and such infrastructure gives priority to public transport.
  - The Government will not fund projects that expand the supply of parking for personal motor vehicles.
- Support in creating dedicated Urban Transport Funds (UTF) to manage financial resources for urban transport systems.

The Government will provide such support after evaluating various parameters such as the city or local authority's commitment to NMT and public transport modes; quality of the project proposal; potential to increase the use of public transport and NMT; cost effectiveness; adherence to quality standards; impacts on pollution; the extent of resources mobilized by the city government; and institutional mechanisms set up to ensure efficient implementation. To receive national funding for urban transport projects, local authorities will be required to meet the following conditions:

- A local authority's capital expenditure on infrastructure for NMT, from its own resources as well as loans from external sources, must constitute 33 per cent of total spending on transport initiatives. Examples of such projects include footpaths, cycle tracks, cycle sharing systems, and cycle parking.
- A local authority's capital expenditure on infrastructure for personal motor vehicles, whether from its own resources or as loans from external sources, may not constitute more than 33 per cent of total spending. Examples of such projects are: structures like flyovers and grade separators designed for better movement for personal motor vehicles, road widening, parking lots, and mechanised parking.
- The local authority must have an approved District Transport Plan and Urban Mobility Plan(s) for urban areas within the district.

If a local authority does not meet one or more of these conditions, national funding for new projects will be withheld. If the local authority does not meet these conditions for two or more consecutive years, all national funding for new and existing projects will be withheld.

## 4.2.2 Funding for Intercity Projects

Under this Policy, the GoR will gradually enforce a regime of cost recovery that will cover both freight and intercity passenger transport. Mechanisms for cost recovery include the following:

- Fuel taxes: The Road Maintenance Fund (RMF) gathers revenue generated through the fuel levy to support road construction carried out by RTDA and district authorities.
- Road and bridge tolling.
- Kilometre-based freight tolling.
- Annual vehicle license fees.
- Congestion charges.
- Levies on urban development.

In some cases, government support may be justified considering the economic and social benefit to the country. The Government will develop comprehensive appraisal methods in the allocation of public funds. In particular, the Government through a regulatory body will continue to regulate public passenger transport fares, and will seek to place the lowest possible financial responsibility on consumers.

Public transport fares will be set at affordable levels, and the government will provide support to cover the gap between fare revenues and customer fares.

The Government shall establish a Transport Service Fund to channel revenues from user charges to socially beneficial transport services.

## 4.2.3 Public-Private partnerships

The Government will encourage private sector investments in the transport system. Under public-private partnership (PPP) arrangements, private sector contractors become long-term service providers rather than simply upfront asset builders, combining the responsibilities of designing, building, operating and, finance. Through PPP projects, central and local government agencies can focus resources on service planning, performance monitoring, and contract management, rather than on the direct management and delivery of services.

Areas in which private sector participation will be encouraged will include:

- Construction and operation of tolled roads and bridges.
- Construction and operation of airports/airstrips, inland water ports, and railways.
- Maintenance of roads and bridges.
- Project management.

The Government will maintain appropriate legal framework so that private investors have a clear understanding of their roles, responsibilities. Relevant PPP models are as follows:

- **Build-Operate-Own (BOO) model:** whereby a private partner finances, designs, constructs, owns and operates an infrastructure facility or other asset to provide services.



- **Build-operate-transfer (BOT) model:** Under the BOT model, a private or publicly owned company is retained to design, build, and operate a facility for a defined period, after which the facility is handed back to the public sector.
- **Concession-type of PPP (DBFO and BOOT models):** In a pure concession model, the private sector takes on all of the investment. Instead of sharing project risks, public and private parties divide ex ante the identified risks by contractual arrangements about responsibilities, risks, and financing. There are two possible structures of concession models: the DBFO model and the BOOT model.
  - Under the **DBFO (Design-Build-Finance-Operate) model**, a contract is signed between a government body and a private party that designs, builds, finances, and operates a facility for a defined period, after which the facility reverts to the public sector. The facility is owned by the private sector for the contract period and the private party recovers costs through public subsidies.
  - Under the **BOOT (Build-Own-Operate-Transfer) model**, a contract is arranged with a private party to design, build, finance and operate a facility for a defined period, after which the facility reverts to the public sector. Under this scheme, the private sector acts as the infrastructure manager throughout the contract period and it is the unique financier of the infrastructure.

## 5 PLANNING PROCESS

### 5.14. 5.1. Planning Elements

The guiding documents for planning and development of transport facilities and services are the National Transport Master Plan, District Transport Plans, and Urban Mobility Plans:

#### 5.1.1 National Transport Master Plan

The Government will prepare a National Transport Master Plan that addresses all forms of transport, including land transport, aviation, and IWT, and provides a vision for an integrated development of transport assets and services. The National Transport Master Plan will be developed in conjunction with the National Land Use Plan to facilitate better integration between transport investments and spatial policies. The National Transport Master Plan will define the Transport Infrastructure Network (TIN) and the list of projects that the GoR deems as a priority.

#### 5.1.2 District Transport Plans

The tool for transport planning and development at the local level is the District Transport Plan. Local governments play an important role in coordinating and managing secondary and tertiary infrastructure, especially roads. District Transport Plans shall be developed in conjunction with District Development Plans to reflect the spatial and sectoral priorities outlined in those documents. District Transport Plans shall be developed by TAs.

#### 5.1.3 Urban Mobility Plans

In cities with a population over 50,000, the Government will support the development of Urban Mobility Plans (UMP). A UMP offers a vision statement on the direction a city's urban

transport system should take; measurable and time-bound goals; and an implementation plan with specific projects that will help achieve the plan's stated goals. The UMP should identify concrete steps that can be taken to increase the use of sustainable transport modes such as walking, cycling, and public transport.

### 5.1.4 Spatial Development Framework

Rwanda's geographic location provides advantages due to the proximity to settlements in countries across the region.

A Spatial Development Framework will identify ways to build on these elements by enhancing the physical connections between resources, businesses, and markets and pursuing a sense of uniqueness in each urban area.

The Framework will guide strategic investments in urban infrastructure to support the urbanisation process. It will also support rural-urban linkages in all districts. Urban areas have a significant role in the development of their surroundings and the diversification of off-farm employment opportunities.

### 5.15. 5.2. Project Appraisal

Projects identified through national and local level plans (see previous section) shall be subject to a thorough and comprehensive appraisal process in order to be eligible for funding. The following criteria form the basis of a standard appraisal but are tailored to each individual project:

- **Existing conditions:** Description of the existing transport system and identification of the problem to be solved.
- **Options analysis:** Comparing different interventions to address the problem; a discussion of the favoured solution and a review of the social and environmental impacts of the proposed intervention.
- **Investment cost:** Including the margins for contingencies and price inflation adopted, and the impact of taxes.
- **Financial benefits:** Expected cash flow and financial rate of return.
- **Economic benefits:** Expected economic rate of return, including external costs/benefits, such as environmental protection, regional development, etc.
- **Technical capacity:** The project's technical soundness and the promoter's ability to implement the technical solutions adopted.
- **Social and environmental impacts:** The project's equity impacts; impacts on local pollution and greenhouse gas emissions; measures to mitigate any adverse effects.

The purpose of economic appraisal of investment projects is to ensure that selected projects are worthwhile, are well designed, and are practical. Sensitivity calculations of the net benefit indicator in individual parameters are required.

### 5.16. Public Participation & Open Data

Planning authorities should ensure broad and economically diverse citizen participation at all stages of planning and implementation. Plans, reports, data, and other materials, including the National Transport Master Plan, District Transport Plans, and UMPs, will be available for public scrutiny before and after adoption. Planning and implementation authorities should

make use of the Internet and social media to disseminate these plans. Transport operators should share operating statistics and performance data on a regular basis to facilitate public awareness and involvement in the planning process.

## 5.17. Implementation

Joint working relations between stakeholders shall ensure the concerted implementation of policy measures under a shared responsibility. MININFRA shall be the main responsible for the facilitation of each policy statement and, in case a co-leading ministry is involved, MININFRA shall supervise, coordinate and oversee the administrative planning and implementation of policy measures and subsequent actions with the support of the agency specifically in charge.

### 5.4.1 Roles of institutions

The Ministry of Infrastructure (MININFRA) and its agencies are mandated to plan, develop, manage, and maintain an efficient and integrated national transport infrastructure network, including roads, bridges, airports, railways, and water transport, to facilitate economic development, social equity, environmental improvement, and regional integration. MININFRA will set up dedicated Transport Authorities (TAs) for urban centres. Transport Authorities will develop infrastructure and retain private contractors to operate various elements of the transport system. A TA should be a full-time professional body. Legislation will be adopted to provide legal backing for the authorities. Following are the roles to be played by the respective agencies in managing the transport system:

**Table 1: Institutional arrangement**

Institution	Responsibilities
<b>Ministry of infrastructure (MININFRA)</b>	<ul style="list-style-type: none"> <li>• Host a Transport Division to coordinate activities among agencies.</li> <li>• Develop policies, regulations and technical standards.</li> <li>• Evaluate project performance and monitor progress toward national transport system goals.</li> <li>• Support the implementation, staffing, and capacity building of local Transport Authorities.</li> <li>• To initiate programs to develop, rehabilitate and maintain an efficient and integrated national transport infrastructure network, including roads, bridges, airports, railways, and water transport which will contribute towards economic development and regional integration;</li> <li>• To ensure that the development of policies and strategies concerning national infrastructure are in line with regional integration and harmonization policies with the EAC;</li> <li>• To supervise the implementation of quality standards and norms, cost effectiveness, response to environmental</li> </ul>

Institution	Responsibilities
	<p>sustainability, safety and cross-cutting issues in infrastructure development;</p> <ul style="list-style-type: none"> <li>• To supervise activities meant to elaborate, monitor and assess the implementation of national policies and programs on matters relating to habitat and urbanism, transport, energy, water and sanitation;</li> <li>• To support and supervise infrastructure development programs under the decentralized structures under the respective sub-sectors as per the District Development Programs in each district;</li> <li>• To facilitate, promote and engage the private sector to invest in infrastructure;</li> <li>• Develop the policy and strategy of road public and freight transport and implementation mechanisms;</li> <li>• Monitor the implementation of policy and strategy of road public and freight transport;</li> <li>• Establish and maintain a national information system with regard to road transport;</li> <li>• Coordination of institutions involved in public and freight transport;</li> <li>• Establish a central co-ordination and data centre for the national network of weigh stations;</li> <li>• To orient and supervise the functioning and management of public institutions and agencies under the Ministry of Infrastructure.</li> </ul>
<b>Ministry of Information Communication Technology and Innovation</b>	Facilitate the integration and application of ICT in Transport Sector.
<b>Rwanda Development Board (RDB)</b>	Facilitate the involvement of private sector in Transport Sector.
<b>Road Maintenance Fund (RMF)</b>	RMF will also endeavour to collect and manage resources to undertake periodic and routine maintenance works.
<b>Rwanda Civil Aviation Authority (RCAA)</b>	Regulate aviation Industry through development and enforcement of relevant laws and standards
<b>RwandAir</b>	RwandAir is the national carrier of Rwanda. It operates domestic and international services to East Africa, Central Africa, West Africa, Southern Africa, Europe the Middle East and Asia, from its main base at Kigali International Airport in Kigali. It has the mission to connect the country with the

Institution	Responsibilities
	region and with key hubs for easy onward connections to the rest of the world.
<b>Aviation Travel and Logistics Holding Limited (ATL)</b>	The Aviation Travel and Logistics Holding Limited will oversee and manage airport transport, logistics, tourism services as well as products. ATL is a consortium of RwandAir, Rwanda Airport Company (RAC), Akagera Aviation Limited, Rwanda Tours and Events Limited (RTE) as well as Rwanda Links Logistics Limited (RLL); the latter is a new cargo and freight handling company.
<b>Rwanda Airport Company (RAC)</b>	RAC will develop and maintain air transport infrastructure
<b>Rwanda Transport Development Agency (RTDA)</b>	<ul style="list-style-type: none"> <li>• Plan for public and freight transport;</li> <li>• Develop the mobility and accessibility requirements for the areas of coverage;</li> <li>• Establish networks, routes, travel schedules and service parameters for public transport;</li> <li>• Secure, allocate and disburse the finances required for public and freight transport activities;</li> <li>• Develop and manage procurement procedures;</li> <li>• Manage public transport service contracts;</li> <li>• Monitor public and freight transport services against demand;</li> <li>• Promote sustainable Public and Freight Transport;</li> <li>• Monitor decentralized local administrative entities' activities related to Public and Freight Transport services and provide them with technical support;</li> <li>• Collect and manage data for Public and Freight Transport;</li> <li>• Advise the Government and local Authorities on Public and Freight Transport matters;</li> <li>• Provide technical support to City of Kigali and Secondary Cities whenever requested.</li> </ul>
<b>City of Kigali and Secondary Cities ( in their areas of with respect to their boundaries)</b>	<ul style="list-style-type: none"> <li>• Plan, design, and manage public transport and taxi services;</li> <li>• Prepare the local transport plan. The local transport plan shall be addressed as City Transport Plan (or Master Plan) or District Transport Plan depending on the extent of jurisdiction of the specific Transport Authority;</li> </ul>

Institution	Responsibilities
	<ul style="list-style-type: none"> <li>• Plan, design, implement, and maintain roads and other urban transport facilities;</li> <li>• Develop an inventory of roads, bridges, terminals, depots, collection facilities, and other transport facilities.</li> </ul>
<b>Rwanda Utility and Regulatory Authority (RURA)</b>	<ul style="list-style-type: none"> <li>• Issue regulations on public and domestic freight transport</li> <li>• Advise the Government and local Authorities on Public and freight Transport matters;</li> <li>• License a person to carry out public or domestic freight transport and related activities;</li> <li>• Set fares on public transport services;</li> <li>• Inspect public and freight transport services</li> <li>• Collect and manage data for Public and Freight Transport.</li> </ul>
<b>Rwanda National Police (RNP)</b>	The RNP under its regulatory portfolio will continue to safeguard transport safety, and security.
<b>Rwanda Public Procurement Authority (RPPA):</b>	Monitor the compliance and efficiency of procurement processes.
<b>Rwanda Standards Board (RSB)</b>	Establish design standards for all types of land and water transport infrastructure in Rwanda.

### 5.4.2 Capacity Building

MININFRA shall partner with higher learning institutions such as the University of Rwanda (UR), College of Science and Technology (CST) and will carry out the following activities in support of capacity building:

- Conduct and sponsor trainings for practitioners on transport planning and management. Trainings will target at personnel belonging to national transport agencies, local governments, traffic police, environmental authorities, transport operators, and other relevant agencies.
- Set up a knowledge management centre, including an online best practice database and library. UR and CST will update the database with the support from the government.
- Hold an annual conference on transport, enabling practitioners to share their experiences and learn from international experts.
- Take up pilot projects in a sample set of cities to demonstrate best practices for replication in other cities.
- Initiate new schemes for innovation, research, and development to promote indigenous and low-cost technologies.
- Organize awareness campaigns to disseminate information about urban transport issues to citizens.
- Promote Research and Development in the transport sector.

**Table 2: Policy Implementation plan 2020/21-2035**

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimate d budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
<b>Objective 1: Developing effective multi-modal transport to support economic development</b>											
<b>Pillar 1:</b> Promotion of sustainable development of an integrated transport infrastructure network	Development of Road Asset management System	Percentage	25	25%	100%	-	-	-	RTDA	2.4	-
	National Transport Master Plan developed	Percentage	0	50%	100%	-	-	-	MININFRA	3.5	-
	Road Safety guidelines developed	Percentage	0	100%	-	-	-	-	MININFRA	0.1	-
	Cumulative number of Construct OSBPs on main boarders	Number	6	6	6	6	7	9	RTDA	7.2	14.4
	Cumulative number Km of railway line constructed	Km	0	0	0	20	30	139	RTDA	360	1,308

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	Cumulative number of maritime ports constructed	Km	0	2	2	2	4	7	RTDA	24.1	16.5
	New Bugesera International airport constructed	Percentage	26.78	50	100	-	--	-	RAC	1,300	-
	Kigali International Airport and other airstrips rehabilitated	percentage	0	10	40	70	100		RAC	17.3	
	Length of unpaved national roads upgraded to paved	Km	1,425.5	1531	1631	1715	1745	2,232	RTDA	390	877
	Length of paved national roads rehabilitated	Km	265	321	353	398	453	574	RTDA	142	121



Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	Number of paved national roads maintained	Km	894	1,015	1,068	1,276	1,349	2,336	RTDA	22.75	49.3
	Number of Km of unpaved national roads maintained	Km	716	1,063	1,225	1,355	1,003	516	RTDA	100.3	51.6
	Number of Km of urban roads constructed in CoK	Km	450.35	500.35	525.35	550.35	575.35	775	CoK	125	200
	Length (KM) of urban roads constructed in Secondary cities	Km	165.25	231.91	265.24	298.57	331.9	439	RTDA, LODA and Secondary Cities	167	107.5
	Length (KM) of feeder roads rehabilitated	Km	3248	3,855	4,285	4,715	5,145	7145	RTDA	491.8	937.2
	Feasibility study for ropeways introduction completed	Percentage	0	50%	100%	-	-		MININFRA	1	

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	<b>Objective 2: Promoting green transport for environmental protection</b>										
	Charging stations for electric mobility constructed	Percentage	0	15%	20%	25%	30%	70%	MININFRA	10	12
	<b>Objective 5: Ensuring safety and health of transport users</b>										
	Road Safety Information system developed	percentage	0	50%	100%	-		-	RTDA	0.5	-
<b>Pillar 2: Enhancement of the quality of transport services</b>	<b>Objective 6: Developing efficient and reliable public transport services</b>										
	Length (KM) of DBL Introduced	Km	0.6	12	15.2	18.4	22.2		CoK	0.5	-
	Number of potential routes (destinations) for air national carrier	Number	29	40	45	50	55		RwandAir	-	-

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	Number of aircraft owned	Number	12	12	15	17	22	30	RwandAir	889	711.2
	Number of passengers transported per year by the national carrier	Number	856,167	1,767,670	1,927,216	2,071,181	2,147,744		RwandAir	-	-
<b>Objective 8: Promoting an efficient freight transport</b>											
	Freight volume (metric tons) by air transport	Metric tons	9,214	9,426	9,644	9,868		10,100	RwandAir and ATL	-	-
	Number of operational weighbridges	Number	0	2	2	2	6	-	RTDA	21	
<b>Objective 9: Establishing an effective traffic management system</b>											
	Modern urban traffic management	Percentage	0	30	60	80	100	-	CoK and RTDA	25	

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	centre constructed										
<b>Pillar 3:</b>	<b>Objective 10: Strengthening capacity building in the transport sector</b>										
<b>Reinforcement of capacity building in transport sector and addressing crosscutting issues</b>	Cumulative number of new technical personnel trained in road transport (Bridge construction and repair)	Number	0	10	20	30	40	80	RTDA and CoK	0.4	0.8
	Cumulative number of new technical personnel trained in Public transport planning, management and operations	Number	0	10	15	20	30	60	MININFRA, RTDA , CoK, RURA, secondary cities	0.15	0.3
	Cumulative number of new technical	Number	0	10	15	25	35	70	MININFRA (AAID), RwandAir,	0.7	1.4

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	personnel trained in air transport								RAC, RCAA,		
	Acquisition of advanced trainer aircraft and Building of training facilities	%			100				Akagera Aviation	11	
	MRO capacity building center established	Percentage	0	25	50	75	100		ATL	50	
	Cumulative number of technical personnel trained in inland water transport	Number	0	15	35	45	93	186	MININFRA, RTDA, RURA, RRA	0.58	1.16
	Cumulative Number of new technical personnel trained in railway	Number	0	12	14	20	40	80	MININFRA, RTDA, RURA	0.4	0.8

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	Cumulative number of new personnel trained in Climate Resilient Road Transport Infrastructure development	Number	0	10	15	20	40	80	MININFRA, RTDA, LODA, CoK, District	0.2	0.4
<b>Objective 11: Protecting environment by reducing transport emissions</b>											
	Feasibility study for introduction of autonomous vehicles	Percentage	0	0	100%	-		-	MININFRA, RURA	1	-
	Percentage of electric vehicles introduced	Percentage	0	15%	20%	25%	30%	70%	MININFRA, RDB, Private Sector	-	-
<b>Objective 12: Improving parking management system</b>											
	National standards for parking facilities developed	Percentage	0	20%	100%	-		-	MININFRA, RTDA, RURA, RSB	0.1	

Pillar	Indicator	Unit	Baseline	Targets					Responsible Institutions	Estimated budget (2024) (MUS\$)	Estimated budget (2035) (MUS\$)
			2019/20	2020/21	2021/22	2022/23	2023/24	2034/35			
	Smart parking management system introduced	Percentage	0	-	100%	-		-	RTDA, RURA, CoK, RISA	0.1	
	<b>Objective 15: Increasing gender mainstreaming in Transport Sector</b>										
	% of women employed in transport sector	Percentage	2.6%	% of women in transport sector shall be at least 30% by 2034/35					MININFRA, MINICOM, MIGEPROF, RDB, PSF		
	<b>^ Total</b>									<b>4,165.08</b>	<b>4,410.56</b>

## 6. MONITORING AND EVALUATION

Effective ongoing monitoring is critical to the success of the Policy. Monitoring will consist of two broad components:

- Tracking of progress toward implementation targets (e.g., km of footpath, km of cycle tracks, number of managed parking spaces, etc.) outlined in the accompanying Action Plan.
- Measurement of policy outcomes (e.g., mode share of walking and cycling, VKT by personal motor vehicles, local air pollution levels, etc.).

Table lists the data sources for the tracking of these indicators. MININFRA will consolidate information gathered by local authorities, national agencies, and other stakeholders.

**Table2. Data sources for performance indicators**

Indicator	Type of indicator	Data source(s)
Fatalities of pedestrians and cyclists	Outcome	Government records
Mode share of NMT and motorised trips	Outcome	Household surveys
Vehicle kilometres travelled (VKT) by PMVs	Outcome	Household surveys
Fraction of cyclists who are women	Outcome	Traffic counts
Ambient air pollution levels	Outcome	Pollution monitoring devices
Greenhouse gas emissions from transport	Outcome	Emissions inventory
Length of all-weather rural roads	Outcome	Government records
Fraction of all-weather rural roads in good condition	Outcome	Government records
Fatal crash rate per departure for all air transport operations	Outcome	Government records
Number of acts of unlawful interference against civil aviation	Outcome	Government records
Length of street with footpaths, cycle tracks, traffic calming, universal access, and rapid transit.	Implementation target	Street audits and government records



Fraction of schools with school zone elements.	Implementation target	Government records
Number of managed parking spaces	Implementation target	Government records
Number of bicycles available in bicycle sharing systems	Implementation target	Government records
Adoption of TOD policies	Implementation target	Government records
Spending on NMT-related communication campaigns	Implementation target	Government records
Removal of tariffs on bicycles	Implementation target	Government records
Total value and tonnage of trade	Implementation target	Government records
Fraction of border crossings with one-stop customs clearance	Implementation target	Government records

To inform measurement of these indicators, initial transport system audits should be conducted by all local and national authorities. The information should be stored in a central asset management systems built on a Geographic Information Systems (GIS) platform. For roads, the Road Asset Management (RAM) shall be formalized progressively with improved data, inventory and surveys. Districts, Sectors, and Cells (DSC) shall carry out inventory to record and report serious damage of feeder roads. Over time, this database can be updated when transport system projects are implemented. Other implementation target indicators can be measured directly through government data and records.

For the outcome indicators, some new data collection efforts will be required. In particular, information on mode shares and travel patterns will be obtained from household surveys conducted on a regular basis (e.g., every 5 years). In addition, gender disaggregated counts will be required to transport volumes and other variables. Air pollution monitoring devices will be needed to measure ambient concentrations of local pollutants.

To guide these efforts, a Database Management Unit will be created within the Transport Division of MININFRA. This unit cooperate with transport relevant agencies / public entities of other ministries and departments. MININFRA will secure budget to support the activities associated with the consolidation and maintenance of a transport sector data set.

## 7. FINANCIAL IMPLICATIONS

### 7.3. Centralized expenditure planning

The policy assumes that starting with the fiscal year 2020/2021 the GoR will commence funding for the transition to the new policy scheme and implications. Exact amounts shall be estimated upon completion of national Transport master plan and associated Infrastructure Economic Viability Studies.

## 7.4. Strategic investment planning and phasing

The policy entails significant investments in infrastructure, particularly road, to improve the strategic primary road network asset (Motorways) to halve travel times among key nodes within the country. The policy entails that adjustments to the provision of rail supporting infrastructure (terminal upgrade, intermodal cargo facility) will require additional budgetary allowance.

The return on the investment will be measured against the growth in traffic and the reduction of travel times as well as the amount of cargo travelling on Rwanda's roads. The net outcome of this will be a positive balance for the employment.

## 7.5. Public Private Partnership

Public - private partnerships are a way of pooling resources which increases the capability of investment and which increases service provision to residents (namely accessibility and reduced travel times) and businesses (reduced shipping times).

The partnership may reduce public costs spent, which may increase the population reached by the necessary services. The partnership may as well unlock indirectly resources that will be employed, according to the subsidiary principle, to less remunerative but socially relevant initiatives.

## 8. LEGAL IMPLICATIONS

The Ministry of Infrastructure and its agencies are already mandated to initiate programs to develop, rehabilitate and maintain an efficient and integrated national transport infrastructure network, including roads, bridges, airports, railways, and water transport which will contribute towards economic development and regional integration. However, legal tools will be put in place to cater for new policy directions.

## 9. IMPACT ON BUSINESS

This policy provides a new legislative framework for the preparation of sub-sector policies and regulations. It determines the conditions to support effectively the national urbanization policy which is key to the development of the country.

An increase in connectivity and accessibility will facilitate doing business. In this phase of the economic development of Rwanda, it is essential to strive for an inclusive growth model and unlocking access to rural areas will trigger potential for growth to thousands of Rwandans who in return will increase their wage, their living standards and ultimately the domestic demand.

## 10. DEFINITIONS

**Accessibility:** Facilities offered to people to reach social and economic opportunities, measured in terms of the time, money, comfort, and safety that is associated with reaching such opportunities.

**Average trip length:** The average distance covered by a transport mode for a trip, measured in kilometres.

**Bus rapid transit (BRT):** High quality bus-based mass transit system that delivers fast, comfortable, reliable, and cost-effective urban mobility through the provision of segregated

right-of-way infrastructure, rapid and frequent operations, and excellence in marketing and customer service.

**Complete streets:** Streets that are designed for all users, including pedestrians, cyclists, public transport passengers, and personal motor vehicles, including all modes of mobility as well as street vending, trees, street furniture, and other elements.

**Greenway:** A waterway or strip of land with exclusive facilities for cycling and walking.

**Mobility:** Conditions under which an individual is capable to move in the urban environment.

**Mode share:** The share of total trips carried out by a particular mode of urban transport, including walking, cycling, bus, paratransit, rail, two-wheeler, or car.

**Non-motorised transport (NMT):** Human-powered transport such as walking and cycling.

**Nationally Determined Contribution (NDC):** National pledges to reduce greenhouse gas emissions per the directions of the 2015 United Nations Framework Convention on Climate Change Conference of the Parties in Paris.

**On-street parking:** The space occupied by vehicles to park along the edge of the street.

**Paratransit:** Service operated by the private sector on a shared or per seat basis along informally organised routes with intermediate stops. The service may or may not have a predefined fare structure.

**Public transport (PT):** Shared passenger vehicles that are publicly available for multiple users. In this document, the term “public transport” is used to refer to paratransit and formal road-based public transport services.

**Parking management:** Pricing, enforcement, and other mechanisms used to guide parking operations to ensure the efficient use of street space.

**Right-of-way (ROW):** The width of the road, taken from the compound wall/property edge on one side of the road to the compound wall/property edge on the other side of the road.

**School zone:** All streets and greenways within a 200 m radius of a school.

**Sustainable transport modes:** The following modes are categorized as “sustainable modes” of urban transport because when compared with personal motor vehicles, they consume the least amount of road space and fuel per person-km and also entail lower infrastructure costs: walking, cycling, and public transport (including a regular bus service as well as BRT systems).

**Traffic calming:** Traffic calming measures ensure pedestrian safety by reducing speed and potentially also the volume of motor vehicles. Traffic calming slows down vehicles through vertical displacement, horizontal displacement, real or perceived narrowing of carriageway, material/colour changes that signal conflict points, or the complete closure of a street.

**Vehicle kilometres travelled (VKT):** Vehicle kilometres travelled by all the personal motor vehicles (in a city) in one day.