



**NORTHERN CORRIDOR
TRANSPORT
OBSERVATORY**

RELIABLE PERFORMANCE DATA

ANNUAL TRANSPORT OBSERVATORY REPORT 2021

17TH EDITION

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Note

This report can also be found on the Internet, in all two official languages of the Northern Corridor Transit and Transport Coordination Authority, and the Northern Corridor Transport Observatory Portal, at: <http://ttcanc.org/reports.php> and <http://top.ttcanc.org/downloads.php>

Main text

The term “dollars” (USD) refers to United States dollars.

The term “billion” signifies 1,000 million.

Annual rates of growth and changes refer to compound rates.

Use of a dash (–) between dates representing years or months, e.g. 2020–2021 or Jan-Dec, signifies the full period involved, including the initial and final years/months. A slash (/) between two years, e.g. 2020/21 or 2020/2021, signifies a fiscal year.

The terms “country” and “economy”, as appropriate, also refer to territories or areas.

Tables

A dash (–) indicates that the amount is nil or negligible.

An asterik (*) indicates some data is missing

Details and percentages do not necessarily add up to totals, because of rounding.

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ABBREVIATIONS

ACPLRWA	Association des Chauffeurs des Poids Lourds au Rwanda
AfCFTA	African Continental Free Trade Area
AGOA	African Growth and Opportunity Act
ASYCUDA	Automated System for Customs Data
COMESA	Common Market for Eastern and Southern Africa
COVID-19	Coronavirus 2019
DRC	Democratic Republic of Congo
EAC	East Africa Community
EPRA	Energy and Petroleum Regulation Authority
GDP	Gross Domestic Product
GVW	Gross Vehicle Weight
HSWIM	High-Speed Weigh-in-Motion
ICBT	Informal Cross Border Trade
ICD	Inland Container Depot
ICT	Information Communication Technology
IRI	International Roughness Index
KeNHA	Kenya National Highways Authority
Km	Kilometre
KOJ	Kisumu Oil Jetty
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Company
KRA	Kenya Revenue Authority
KTA	Kenya Transporters Association
MGR	Metre Gauge Rail
MT	Metric Tonnes
NC	Northern Corridor
NCTO	Northern Corridor Transport Observatory
NCTTA	Northern Corridor Transit and Transport Agreement
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
NTB	Non-Tariff Barrier
NTSA	National Transport and Safety Authority
OSBP	One-Stop Border Post
RECTS	Regional Electronic Cargo Tracking System
RRA	Rwanda Revenue Authority
SADC	Southern African Development Community

SCT	Single Custom Territory
SGR	Standard Gauge Railway
TEUs	Twenty Feet Container Equivalent Units
TMEA	TradeMark East Africa
TOP	Transport Observatory Project
UNCTAD	United Nations Conference on Trade and Development
UNRA	Uganda National Roads Authority
URA	Uganda Revenue Authority
URC	Uganda Railways Corporation
USD	United States Dollar
WHO	World Health Organization

FOREWORD



Omae Nyarandi
Executive Secretary-NCTTCA

I take the pleasure to unveil to you the 17th Edition of the Northern Corridor Transport Observatory Report. The report presents an in-depth analysis of indicators that measures various parameters related to trade and transport facilitation along the Northern Corridor for the year 2021.

The Transport Observatory tool has been continuously documenting barriers to trade, experiences, initiatives, innovations, and best practices from the Member States of the Northern Corridor on both logistics and the supply chain. Utilization of the Observatory became even more vigorous with the outbreak of COVID-19 in 2020, where stakeholders learnt how to adapt and work together by sharing experiences and strategies towards fighting the pandemic.

The report is prepared mainly using raw data from stakeholders in the Member States of the Northern Corridor in addition to qualitative data and information gathered through trade and transport logistics surveys. The report shows that the efficiency of the Port of Mombasa and that of the Northern Corridor has significantly improved. The cargo throughput at the port of Mombasa has been increasing annually with 2021 witnessing an annual increase of **1.3%**, significantly picking up compared to the **0.9%** decrease in 2020. Africa trading bloc featured as a significant proportion of the market among the Northern Corridor Member States. Available statistics generally show an increase in intra-regional trade among Northern Corridor Member States.

Although there has been improvement in most performance targets as evident in the report, several factors still hamper the overall performance of the Northern Corridor. The report therefore recommends targeted interventions for enhancing the performance of the Corridor and boosting the monitoring mechanisms for better transport and logistics value chain as well as harnessing opportunities that could arise from the AfCFTA.

As I conclude, I would like to acknowledge and commend all stakeholders who provided data and information to enable preparation of this report.

I thank you all for your continued support towards the implementation of the Mombasa Port and Northern Corridor Community Charter Initiatives. I look forward to your active contribution to the implementation of the recommendations in this report.

A handwritten signature in black ink, appearing to read 'Omae Nyarandi', written over a faint, illegible background.

Omae Nyarandi
Executive Secretary

ACKNOWLEDGMENT

The Northern Corridor Secretariat is deeply indebted to the Council of Ministers of the Northern Corridor Member States for their continued support to the Transport Observatory. Profound appreciation also goes to the Executive Committee, various Specialized Technical Committees, the Stakeholders Forums, and the Experts involved in the drafting and validation of this 17th issue of the Annual Transport Observatory Report 2021.

Preparation of this report was made possible through financial support towards the development and improvement of the Transport Observatory by TradeMark East Africa (TMEA). We are deeply indebted. As the success of developing the report primarily depends on data, the Secretariat would like to extend its sincere appreciation to all stakeholders who have gone out of their way to provide the most essential data. Without the data, this would not have been possible!

The preparation and publication of the 17th Issue Annual Performance Report 2021 benefited from inputs of different individuals and key institutions. We acknowledge the Executive Secretary of the Northern Corridor Transit and Transport Coordination Authority Mr., Omae Nyarandi, for exceptional support and providing overall leadership and oversight in preparation of this report.

The 17th Edition Transport Observatory Report was prepared by the technical Transport Observatory team, for whom we gratefully appreciate. We acknowledge Emmanuel Imaniranzi, Gideon Chikamai, Melap Sitati, Noah Kipyegon and James Mwangi for the development of this report. Special thanks go to NCTTCA staff for their insights and contributions to various chapters of the report, and for actively participating in data collection from the Member States.

Finally, we thank those who in one way or another are supporting the Northern Corridor infrastructure development and trade in the region. With this common goal, the support will go a long way in propelling the region to greater heights.

NCTTCA Secretariat

EXECUTIVE SUMMARY

The annual Transport Observatory report, now in its 17th edition, is a recurring publication under the Transport Observatory Portal. It was conceived in 2012 with the aim of assessing the Northern Corridor's transportation and logistics chain's performance, fostering the transparency of the sector, and monitoring pertinent developments. The report presents the status of the indicators that gauge performance of the Northern Corridor. The Member States of the Northern Corridor are Burundi, Democratic Republic of Congo (DRC), Kenya, Rwanda, South Sudan, and Uganda.

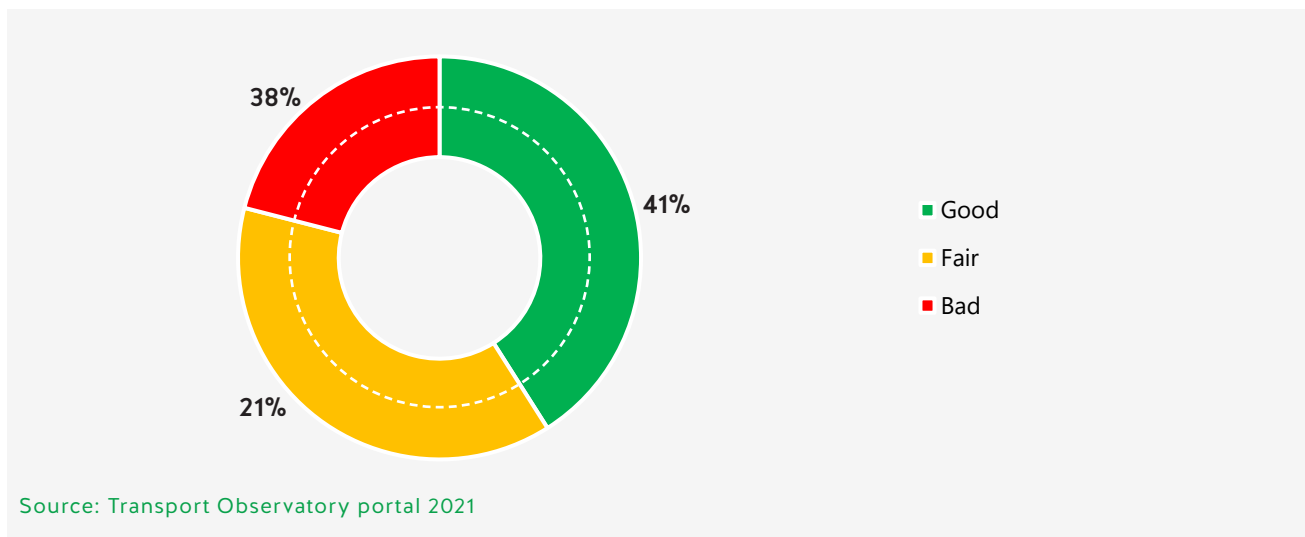
With a combined population of around 231.4 million people and a combined surface area of 3.8 million Km², the Northern Corridor Member States create a formidable market. Except for South Sudan, all Member States experienced positive GDP growth in 2021, indicating that these countries have recovered from the economic downturn caused by the COVID-19 outbreak, which began in the first quarter of 2020. The region is witnessing sustained public infrastructure spending, improved agricultural sector performance, and greater regional economic integration.

Quality of Infrastructure

The Northern Corridor Infrastructure Master Plan (NCIMP) (2011) lays out the infrastructure projects to be implemented by each Northern Corridor Member State. The infrastructure encompasses road, rail, pipeline, and inland waterways transport. The Northern Corridor passes through the seaport of Mombasa, a vital marine gateway for Central and East Africa. It is the largest and busiest port in Eastern Africa, and one of the top 10 container ports in Africa. The port of Mombasa can handle 2.65 million TEUs annually. In addition, the operationalization of the port of Lamu has opened access to a new transport corridor with an additional opportunity to expand businesses. The Northern Corridor region has various navigable inland waterways including Lake Victoria, Albert, Edward, Kyoga, Kivu, Tanganyika Naivasha, Nakuru, Baringo, Turkana, and Bogoria, and a number of rivers including the Nile basin and Congo basin. Most of these water bodies have not been fully developed and are underutilized. However, there are ongoing initiatives to develop some of them to harness their potential in trade facilitation.

The Northern Corridor Member States have made substantial progress in improving the quality of road transport infrastructure on designated road routes for use in inter-state trade. This has seen the status of road network improve compared to the previous periods, with the exception of South Sudan. The entire Northern Corridor Road networks cover approximately 13,185 Km in length distributed as follows: 516 Km in Burundi; 4,379 Km in DRC; 1,331 Km in Kenya, 1,341 Km in Rwanda; 3,543 Km in South Sudan and 2,076 Km in Uganda. Out of this length, an average of **41%** is in good condition; **21%** was in fair condition and **38%** was in bad status; with South Sudan contributing (**67%**) the highest percentage on the poor status. The ongoing road rehabilitation and upgrading projects are expected to bring more improvements in the next five years. More investments in development and maintenance are required to ensure quality infrastructure. The continued investment in the railway, weighbridges and OSBPs is a welcome trend that will raise the quality of transport infrastructure in the region.

FIGURE 1: OVERALL STATUS OF THE NORTHERN CORRIDOR ROAD NETWORK



Volume and Capacity

The Mombasa Port and Northern Corridor Community Charter (MPNCCC) set to attain a port throughput target of 35.90 million tonnes by December 2020. The port of Mombasa’s total cargo throughput has consistently increased over the last five years, rising from 30.35 million MT in 2017 to 34.55 million MT in 2021. The increase can be attributed to a rise in liquid and containerized cargo. The data shows that countries using the Port of Mombasa are net importers with imports accounting for **79%** of total port cargo throughput compared to **14%** for exports. The volume of transshipment cargo increased significantly by 0.46 million MT in 2021 accounting for **7%** of total throughput. Transit cargo has also grown significantly. This increase reflects the expansion of trade in transit nations, particularly Uganda, which accounts for **76%** of regional transit traffic through Mombasa’s port. In 2021, containerized cargo accounted for around **42%** of overall cargo throughput at seaport of Mombasa. Total container traffic increased by **6%** annually from 1,359,579 TEUS in 2020 to 1,435,250 in 2021, indicating a resurgence in economic activity in the region. This performance demonstrates the port of Mombasa’s growing importance in the African region.

In 2021, the total volume tonnage transported via SGR was around 445,962 TEUs, with imports accounting for **57%** and exports accounting for only **4%**. A key notable feature is the rise of empty containers that are railed back to Mombasa without cargo.

Efficiency and Productivity

The Northern Corridor’s efficiency and productivity analysis takes into account various factors that affect output maximization at the lowest possible cost and time. Port productivity and efficiency are important for an improved logistics environment that will support trade facilitation and initiatives promoting competitiveness.

Analyzed data show improved ship turnaround times, vessel waiting times before berth, customs release time and dwell times. This improved performance can be ascribed to an increase in the number container handling terminals at the port of Mombasa. Furthermore, there has been an increase in investment in both onshore and offshore equipment, including the procurement of modern tugboats and pilot boats, which has improved berthing operations. The KPA’s increased investment and utilization of shipbuilding

equipment has resulted in increased productivity. This involves, among other things, an increase in the number of Ship to Shore Gantry cranes, Rubber Tyred Gantry (RTG) cranes, and Terminal Tractors. In addition, Rwanda Revenue Authority (RRA) customs release times have improved, with the exception of processing time, which has deteriorated from 29 hours in 2020 to 33 hours in 2021. This was linked to the existing challenge of automated exchange of data among the Member States participating in the SCT framework of clearing goods, pointing to prevailing inefficiencies.

Freight Rates and Charges

The expenses incurred by transporters to move cargo from one location to another are known as transport rates and costs. Such expenses comprise fuel expenses, expenses related to non-tariff barriers, fixed costs such as road user charges for freight operators, expenses related to administrative costs, among others. Distance, location, infrastructure status, administrative barriers, and energy, to name a few, have an impact on the cost. The Kenya Ports Authority (KPA) port tariff book defines port and marine charges while pipeline charges are published and gazetted by the Energy and Petroleum Regulatory Authority (EPRA) from time to time as per section 11 (b) of the Energy Act, 2019. Current railway freight charges are defined in Kenya Railways Tariff Notice No. 3 of 2021 (CAP.397 SECTION 51). Road transport, which transports considerable cargo volumes through the Northern Corridor, is undeniably important to the economy. Road tolls, multiple border charges, and road conditions have been identified as some of the factors that cause cost escalations. The transportation cost from Mombasa to Nairobi and Kampala has significantly declined, indicating a positive improvement in the business environment and improved road conditions. However, transport within the DRC was more expensive. It can be concluded that transport rates and costs vary considerably among the Member States. As a result, policymakers must seek to eliminate any logistical or infrastructural bottlenecks. The region should work toward harmonization of road user charges as well as a review of terminal handling charges at the port to eliminate overlap of charges by shipping lines as well as the port authority.

Intraregional trade

Trade is a crucial component of a country's economic development. The elimination or reduction of Non-Tariff Barriers (NTBs) will improve and facilitate trade among the Northern Corridor Member States. All Member States have embraced initiatives geared towards boosting intra-regional trade. Being members of the African Continental Free Trade Area (AfCFTA) and other regional trading blocs, for example, allows Northern Corridor Member States to tap into a huge and growing market.

Trade indicators show that Northern Corridor Member States import from China, India, the United Arab Emirates, Japan, and Saudi Arabia, while their exports go to the United States of America and Pakistan. It's also worth noting that the Northern Corridor countries export similar goods. Among the Northern Corridor Member States, the African trading bloc accounted for a considerable percentage of the market. Tanzania, Kenya, and Zimbabwe, for example, all contributed significantly to Uganda's imports. Uganda's biggest export customers were Kenya, South Sudan, the Democratic Republic of Congo, and Tanzania.

With the exception of South Sudan, total intra-regional trade was valued at USD 6.6 billion in 2021, with exports accounting for **58%** (3.8 billion) and imports accounting for **42%** (2.8 billion). This is an indication of a trade surplus. Kenya and Uganda maintained a positive trade balance among Northern Corridor Member States, controlling a large share of intra-regional trade among their Northern Corridor counterparts.

	Burundi	DRC	Kenya	Rwanda	Uganda
Total Imports	168,817,254	1,180,220,041	382,296,094	267,935,710	792,637,166
Total Exports	52,311,909	75,803,427	1,595,858,048	630,589,859	1,423,605,163
Total Trade	221,129,163	1,256,023,468	1,978,154,142	898,525,569	2,216,242,329
Trade Surplus/Deficit	(116,505,345)	(1,104,416,614)	1,213,561,954	362,654,149	630,967,997
Share of total trade	3%	19%	30%	14%	34%

The Northern Corridor Member States' economies are agriculture-dominated and reliant on manufactured goods, which are currently met through imports from other countries rather than local and regional firms, implying that manufactured imports are driving all the Northern Corridor Member States' trade deficits. This could be attributed to limited value addition capacity.

Road safety

Road safety has become a major concern, despite significant efforts in the development and enhancement of road transport infrastructure in all Northern Corridor Member States. It is a worldwide subject that requires more attention. Following the UN Road Safety Decade and the African Action Plan for Road Safety – 2011-2020, African countries agreed to decrease mortality by half by 2020. According to the World Health Organization (WHO), annually, more than 1.25 million people die and up to 50 million people suffer non-fatal injuries because of traffic accidents. (WHO, 2020). Deaths and associated psychological effects are among the consequences of road crashes, as are property loss and damage, high insurance costs, and time delays.

Burundi reported 1,056 accidents along the Northern Corridor routes in 2021, compared to 987 accidents in Kenya and 447 accidents in Rwanda over the same time period. The leading causes of accidents were over-speeding, vehicle loss of control, irresponsible overtaking, and poor road conditions. Accidents are more common at times of day when visibility is at its lowest. Careless driving, reckless overtaking, and poor judgment were the leading causes of accidents.

CHAPTER ONE: INTRODUCTION

The 17th edition of the Transport Observatory report contains information and data gathered from all the six Northern Corridor Member States: covering key performance indicators on transport and trade facilitation. Based on available data, the report presents an analysis of performance at the Mombasa Port, road networks, railways, and pipelines along the Northern Corridor. The indicators are categorized into: Volume and Capacity, Tariff and Rates, Time and Delays, Efficiency and Productivity, Intra-regional Trade, and Road Safety. The indicators and targets are defined and set in the Mombasa Port and Northern Corridor Community Charter (MPNCCC)¹. The report preparation adopted a descriptive methodology used by the Observatory for monitoring the performance of the corridor involving data collection, data processing and analysis, stakeholder validation, reporting and dissemination. The findings of this report are aimed at informing policy and strategic interventions by identifying barriers to trade and transport facilitation and proposing policy recommendations for implementation to improve the efficiency of the corridor.

1.1 Macroeconomic context

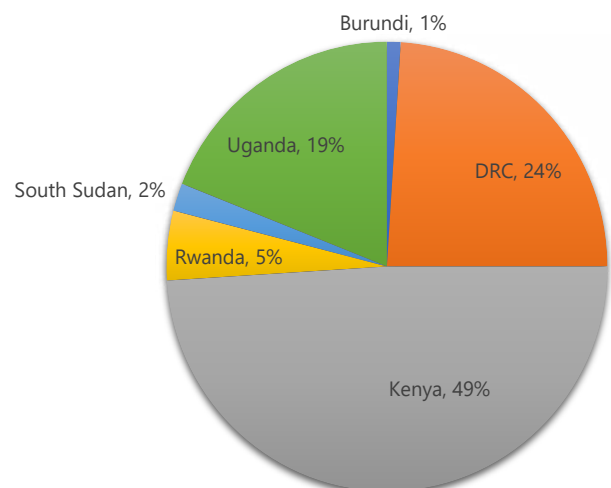
By 2021, Northern Corridor Member States had an estimated combined population of 231.4 million people, up from 225.1 million in 2020. The combined surface area of the Northern Corridor Member States is 3.8 million Km².

The Northern Corridor Member States have a combined surface area of 3.8 million Km². Given the vast area served by the Northern Corridor Transport Network, the big population, which is growing at an average rate of **3%** per year, creates a formidable market with complex trade and logistic dynamics.

With an estimated **78%** of the population between the ages of 1 and 34, the countries have a youthful population. The significant youthful population in the region offers a wonderful opportunity for the region's positive economic capital and market for goods and services.

In 2021, the Gross Domestic Product (GDP) of the Northern Corridor Member States was USD 224.41 billion. With the exception of South Sudan, all the Member States saw positive GDP growth. The positive GDP growth suggests that states have rebounded from the economic slowdown occasioned by the COVID-19 pandemic, which began in the first quarter of 2020. Table 1 shows selected indicators in the Member States.

FIGURE 2: PERCENTAGE SHARE OF THE NORTHERN CORRIDOR REGION ECONOMY BY MEMBER STATES



1 <https://mpnccc.net/>

Kenya's GDP accounted for **49%** of the Northern Corridor Member States' GDP in 2021, followed by the DRC and Uganda, which each contributed for **24%** and **19%**. The balance of the region's GDP is split between Rwanda (**5%**), South Sudan (**2%**), and Burundi (**1%**). According to the African Development Bank (AfDB) Economic Outlook, East Africa's economic growth is predicted to recover to an average of **4.2%** in 2021. The region is recovering from COVID-19 driven economic contraction. Sustained public spending on infrastructure, improved performance of the agricultural sector, and deepened regional economic integration are some of the factors expected to drive the regional economy.

Beyond the Northern Corridor, the formation of regional economic blocs has facilitated the

promotion of economic integration and open transboundary trade. The African Continental Free Trade Area (AfCFTA), the Common Market for Eastern and Southern Africa (COMESA), the East Africa Commission (EAC), and the Southern Africa Development Community (SADC) are among the regional economic blocs represented in the NC Northern Corridor. The African Growth and Opportunity Act (AGOA) framework, which includes trade between Africa and the United States of America, provides alternative opportunity. These regional blocs facilitate trade in the region by providing more market access and a wider range of products. The report recommends increased investment for multimodal interconnectivity and competitiveness.

TABLE 1: KEY MACROECONOMIC INDICATORS

Economy	Population in ('000')		Land Area (Km ²)	Surface area (Km ²)	GDP current prices in Billions (USD)	
	2020	2021	2020	2021	2020	2021
Burundi	11,890.78	12,255	25,680	27,830	3.04	3.19
DRC.	89,561.40	92,378	2,267,050	2,344,860	48.71	54.83
Kenya	53,771.30	54,986	569,140	580,370	102.43	109.49
Rwanda	12,952.21	13,277	24,670.00	26,340	10.33	10.4
South Sudan	11,193.73	11,381	619,745	644,330	4.44	3.26
Uganda	45,741.00	47,124	200,520	241,550	38.14	43.24
Total/ Average	225,110.42	231,401.00	3,706,805.00	3,865,280.00	207.09	224.41

Source: World Bank, UNCTAD statistics 2019/20 and World Economic Outlook

1.2 Total trade merchandise

The Northern Corridor Member States' total merchandise trade has been recovering from the effects of the global economic crisis, and intra-regional trade is gradually growing (UNCTAD 2021 Annual Report). Table 2 shows that trade volume has been increasing for both imports and exports

over the years, with an annual growth rate of **20%** except for the year 2020, when the Coronavirus pandemic halted the flow of goods and services. At the onset of COVID-19, international trade was adversely affected following a fall in commodity prices, reduced manufacturing output and disrupted operations in global value chains.

TABLE 2: SHARE OF TOTAL TRADE MERCHANDISE (IN USD IN THOUSANDS)

ECONOMY	2016	2017	2018	2019	2020
Burundi	740,388	927,143	973,723	1,067,395	1,071,535
DRC	10,200,000	18,098,816	27,934,678	22,207,101	20,785,246
Kenya	19,802,122	22,433,970	23,429,580	23,493,302	21,469,006
Rwanda	2,985,264	3,248,900	3,586,215	3,899,937	3,949,194
South Sudan	1,375,828	1,949,129	2,233,547	2,410,902	1,623,747
Uganda	7,311,773	8,497,369	9,816,800	10,995,308	12,399,471
Total	42,415,375	55,155,327	67,974,543	64,073,945	61,298,199

Source: UNCTAD statistics: <https://unctadstat.unctad.org>

1.3 Organization of the Report

For the Northern Corridor's performance, this report provides an update on the status and progress of the indicators. It compiles statistics from all six Northern Corridor Member States and organizes the analyses as follows: Chapter two discusses infrastructure; chapter three discusses volume and capacity; chapter four discusses

efficiency and productivity; chapter five discusses freight rates and costs; chapter six discusses transit time and delays; chapter seven discusses intraregional trade; chapter eight discusses road safety; and finally, chapter nine concludes with recommendations.



CHAPTER TWO: QUALITY OF INFRASTRUCTURE

The Northern Corridor is a multi-modal route consisting of road, rail, pipeline, and inland waterways. It is acknowledged as a critical logistics corridor in East Africa. The Northern Corridor's importance has grown, as seen by the increase in transit and transshipment traffic. The infrastructure of acceptable quality infrastructure is critical for lowering trade costs, increasing competitiveness, and facilitating regional economic integration. **Figure 3** illustrates transport infrastructure in the Northern Corridor.

In 2011, with assistance from the African Development Bank (AfDB), the NCTTCA developed the Northern Corridor Infrastructure Master Plan (NCIMP). The Master Plan outlines the infrastructural initiatives that each Member State will undertake. NCIMP envisions an expansion of the region's transportation infrastructure's coverage, connectivity, and quality. The NCTTCA has been monitoring the NCIMP's implementation through the Northern Corridor Transport Observatory Portal. This section discusses the state of infrastructure quality.

FIGURE 3: NORTHERN CORRIDOR TRANSPORT INFRASTRUCTURE



Source: NCTTCA Transport Observatory

2.1 Ports and Inland Waterways Ports

Mombasa Port serves as the region's primary gateway. The port through, the Northern Corridor, connects the landlocked Northern Corridor Member States to the global trade systems. The Kenya Port Authority (KPA) is mandated with the duty of managing and operating the Port of Mombasa and all scheduled seaports along Kenya's coastline, which include Lamu, Malindi, Kilifi, Mtwapa, Kiunga, Shimoni, Funzi, and Vanga. The Port of Mombasa serves the Central and East African region, connecting nations such as Burundi, the Democratic Republic of the Congo, Kenya, Rwanda, South Sudan, Uganda, Tanzania, Somalia, and Ethiopia. It is Eastern Africa's largest and busiest port with a capacity to handle 2.65 million TEUs annually. The port handles a variety of cargo, including fertilizers, cereals, cement, soda ash, and liquid bulk cargo such as crude oil and petroleum, as well as bulk and heavy cargo such as timber, iron, and steel. The port also handles automobiles and containerized goods.

The Port of Mombasa comprises of Kilindini Harbour, Port Reitz, the Old Port, Port Tudor, and the whole of the tidal waters encircling Mombasa Island. The port is equipped with two container terminals, 19 berths, and a grain terminal. Other facilities and equipment include: 2 bulk oil jetties, 2 bulk cement berths with 3 silos and 10 Conventional Cargo berth.

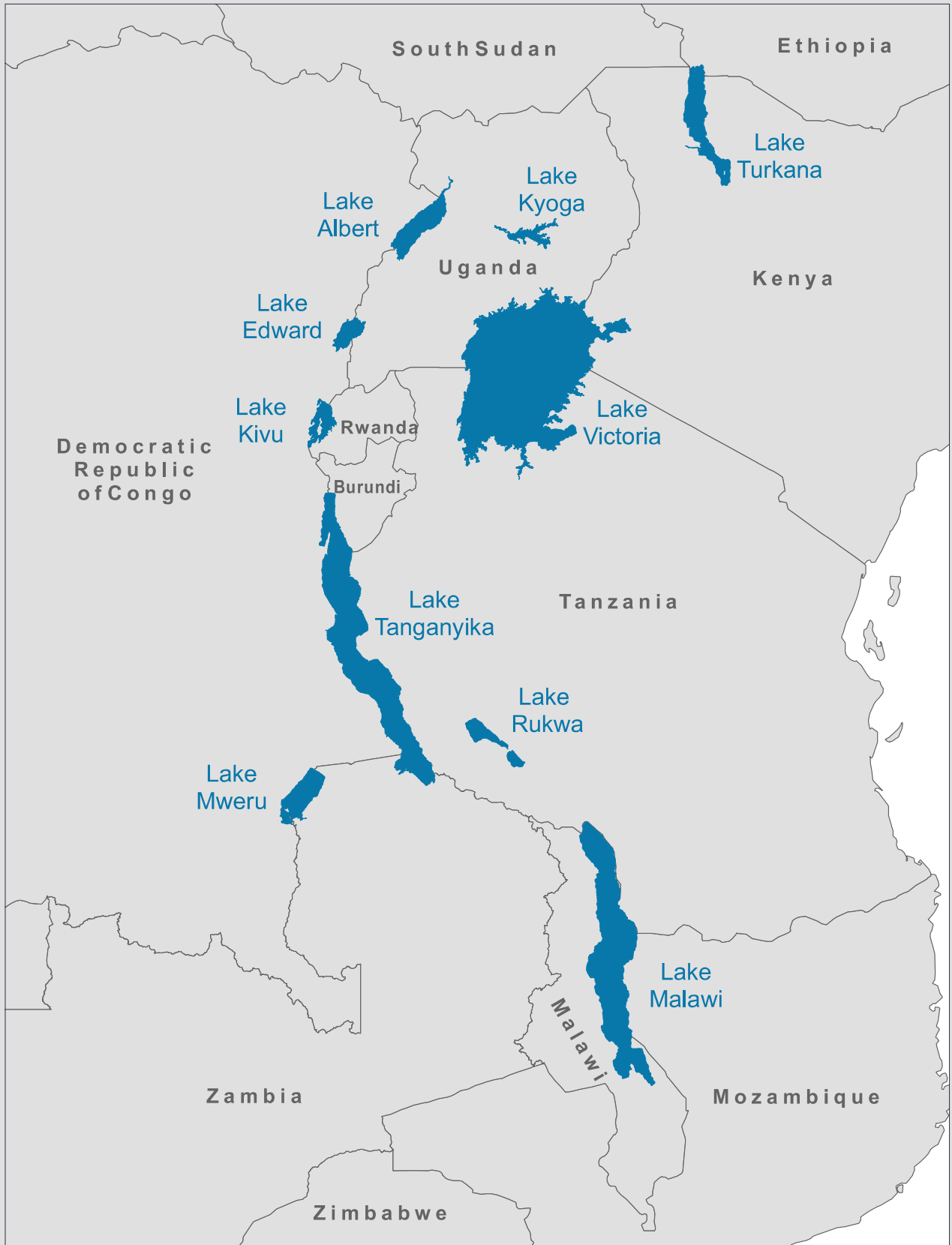
The recent operationalization of the first berth of Lamu Port is yet another milestone for KPA. The deep harbour port has opened access to an untapped new transport corridor with an additional opportunity to expand business through the provision of port services serving new markets north of Kenya.

The Northern Corridor features a variety of navigable inland waterways, including Lake Victoria, Albert, Edward, Kyoga, Kivu, and Tanganyika, as well as a number of rivers, including the Nile and Congo basins. Kisumu, Jinja pier, Kampala,



A ship is offloaded at the port of Mombasa

FIGURE 4: MAP SHOWING GREAT LAKES IN EAST AFRICA



Source: https://commons.wikimedia.org/wiki/File:African_Great_Lakes.svg

Entebbe, Bukoba, Mwanza, and Musoma are the main ports on Lake Victoria. Other ports include Bujumbura, Rubavu, Rusizi, Karongi, and Nkora, as well as Namasagali, Masindi, Mahagi, and Butiaba Harbour, among others. The majority of these water bodies have not been fully developed for inland transport, which could be attributed to their navigability and their location far from the Northern Corridor's primary transportation spine.

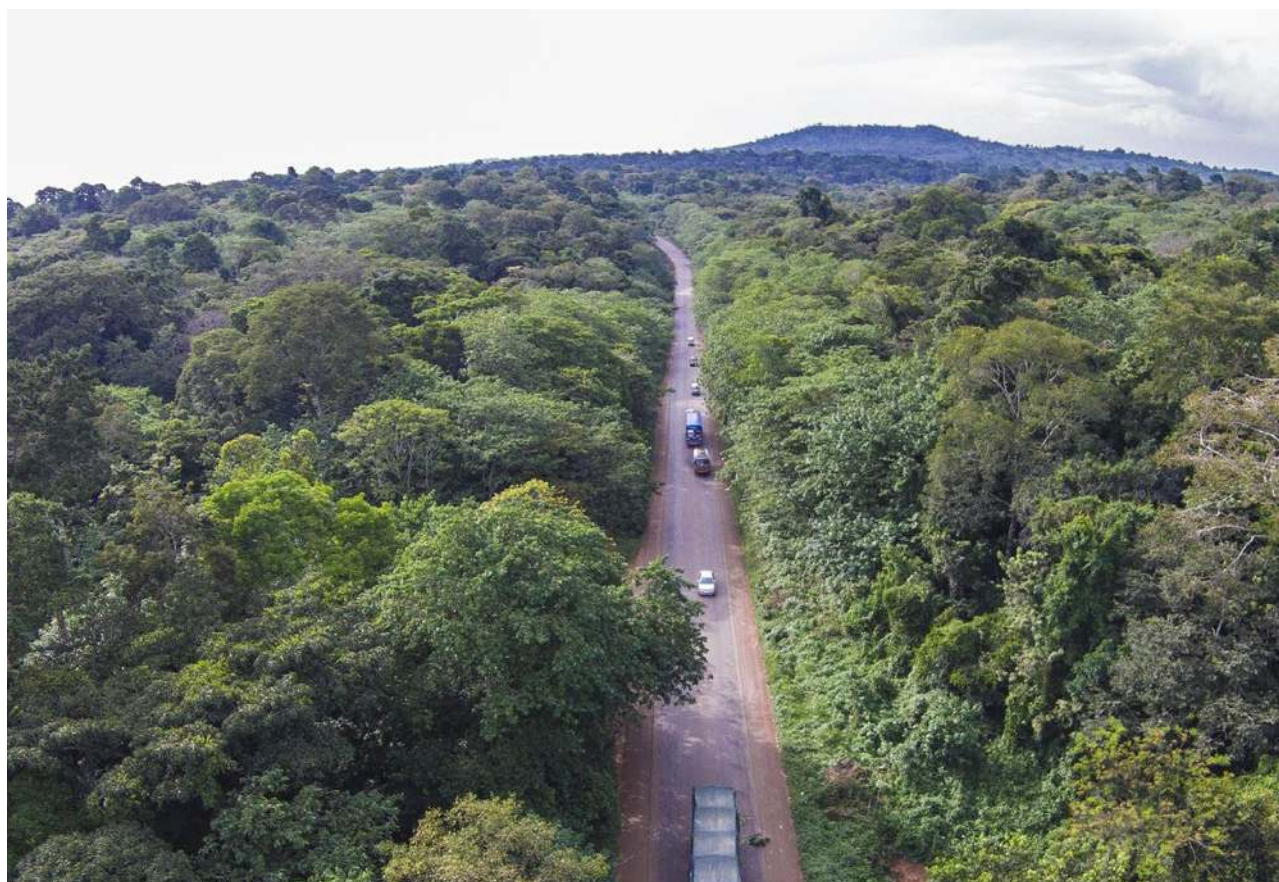
Kenya and Uganda are investing in the improvement of Lake Victoria's infrastructure and equipment

in an effort to increase the efficiency of inland waterway transportation. Additionally, Rwanda is developing four ports on Lake Kivu: Rubavu port, is at **18.2%** construction progress and is expected to be completed in December 2022; Rusizi port, is at **8.9%** construction progress and its expected completion time is December 2024; and Karongi as well as Nkora ports construction work, are at the procurement stage. All construction works for four ports are financed by Government of Rwanda, TMEA and Kingdom of the Netherlands

2.2 Roads

The main Northern Corridor road network runs from Mombasa seaport through Kenya and Uganda to Rwanda, Burundi and to Democratic Republic of Congo (DRC). Additionally, the road network connects Kenya and Uganda to Juba, South

Sudan. Northern Corridor Transit and Transport Agreement (NCTTA) Protocol No. 2 defines the specified routes and ancillary infrastructure in each Member State that are used for interstate and transit traffic.

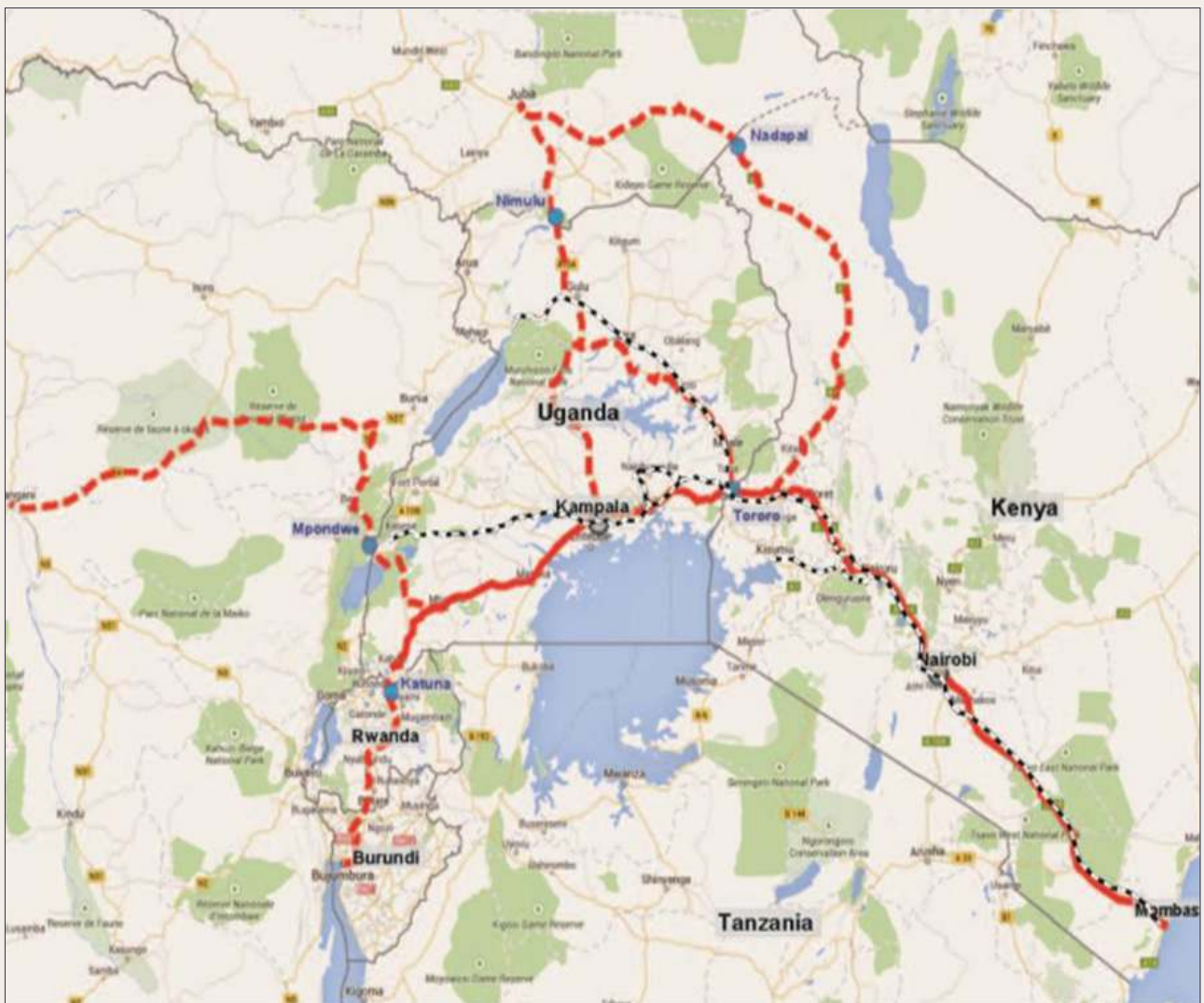


Northern Corridor road in Kenya

The respective Northern Corridor Integration Projects (NCIP)¹ summits have advocated for the development of road networks and the establishment of a Trans-Africa transit and transshipment infrastructure that extends beyond the EAC region, with the primary goal of promoting regional trade through investment in road infrastructure. This has become even more crucial with the advent of the African Continental Free Trade Area (AfCFTA) on 1 January 2021. The total length of the nine highways of the AfCFTA road network is approximately 56,683 Km.

This network includes Highway 8, which is a 6,259-kilometre trans-African highway connecting Mombasa and Lagos. It is planned to pass through six countries (three of which are Northern Corridor Member States), with 737 Km in Nigeria, 1,044 Km in Cameroon, 1,319 Km in the Central African Republic (CAR), 1,561 kms in the Democratic Republic of the Congo (DRC), 740 kms in Uganda, and 1,100 Km in Kenya. However, lacking linkages in the Central African Republic and the Democratic Republic of the Congo hinders its complete usage.

FIGURE 5: NORTHERN CORRIDOR ROUTES



Source: NCTO

1 The NCIP is a multilateral development initiative established in 2013 to speed up growth in the region through improvement of infrastructure for ease of movement of people, goods, and services.

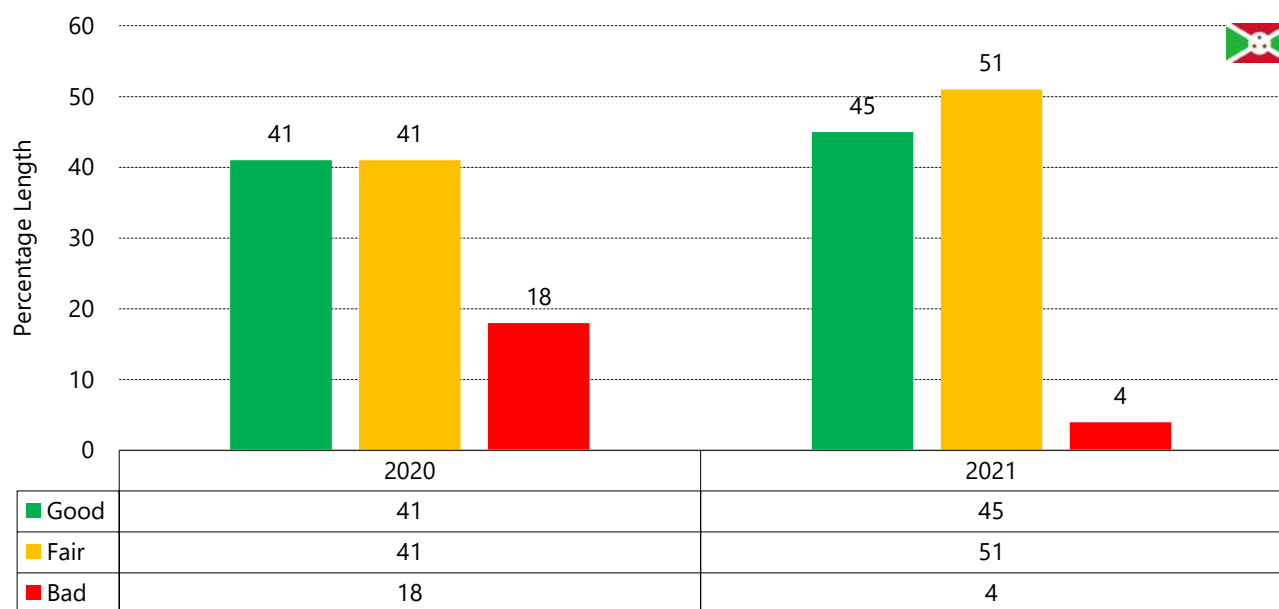
2.2.1 Road condition in Burundi

Based on the Agreement, the main designated Northern Corridor Roads in Burundi are:

1. Kanyaru haut (through -Kayanza-Bujumbura) to Gatumba
2. Gasenyi (through-Kirundo-Ngozi) to Bujumbura
3. Ruhwa- (through - Rugombo-Nyamitanga) to Bujumbura
4. Kanyaru bas- (through Ngozi-Nyangungu) to Gitega

Majority of the road surface is paved and asphalt concrete. Besides the Nyamitanga-Bujumbura and Ngozi-Gitega routes, which have a width of 3.5 metres, Burundi’s roads have two lanes with a road width of 3 metres. According to data from Burundi’s road condition in 2021, the percentage of quality paved and tarmacked roads in good condition increased from **41%** in 2020 to **45%** in 2021, as shown in **Figure 6**. Similarly, the percentage of roads in fair condition increased from **41%** in 2020 to **51%** in 2021. This could be ascribed to the upgrading and maintenance of road infrastructure.

FIGURE 6: THE STATUS OF NORTHERN CORRIDOR ROAD SECTIONS IN BURUNDI



Source: Office des Routes, years 2020 and 2021

2.2.2 Road condition in DRC

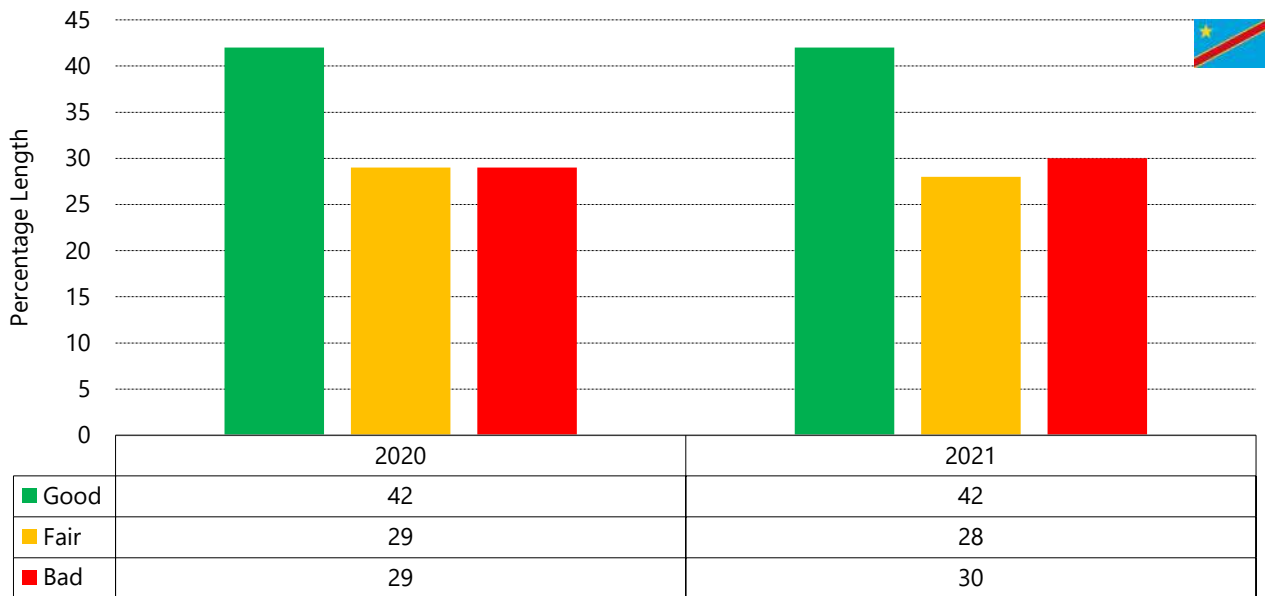
The NCTTA designates the following Northern Corridor routes in DRC:

1. Bukavu (through Kindu) to Kisangani
2. Kiliba (through Uvira) to Kalundu
3. Kamanyora (through Bukavu) to Kalundu
4. Kavimvira (through Uvira) to Kalundu
5. Kasindi (through Beni) to Kisangani/Bunia
6. Mahagi (through Bunia) to Kisangani/Isiro
7. Aru (through Bunia) to Kisangani/Isiro

8. Bunagana to Goma
9. Ishasha (through-Rutshuru) to Goma

The majority of DRC roads are two-lane, with a road width of 3 to 3.5 metres. **Figure 7** shows the state of road conditions in several DRC subsections for the year 2021 in comparison to the previous year. However, most of the road sections in poor condition were reported to be under partial rehabilitation and will be better when the upgrade is completed.

FIGURE 7: THE STATUS OF NORTHERN CORRIDOR ROAD SECTIONS IN DRC



Source: Office De Routes, DRC 2020 and 2021



Trucks parked by the road in Bunagana

2.2.3 Road condition in Kenya

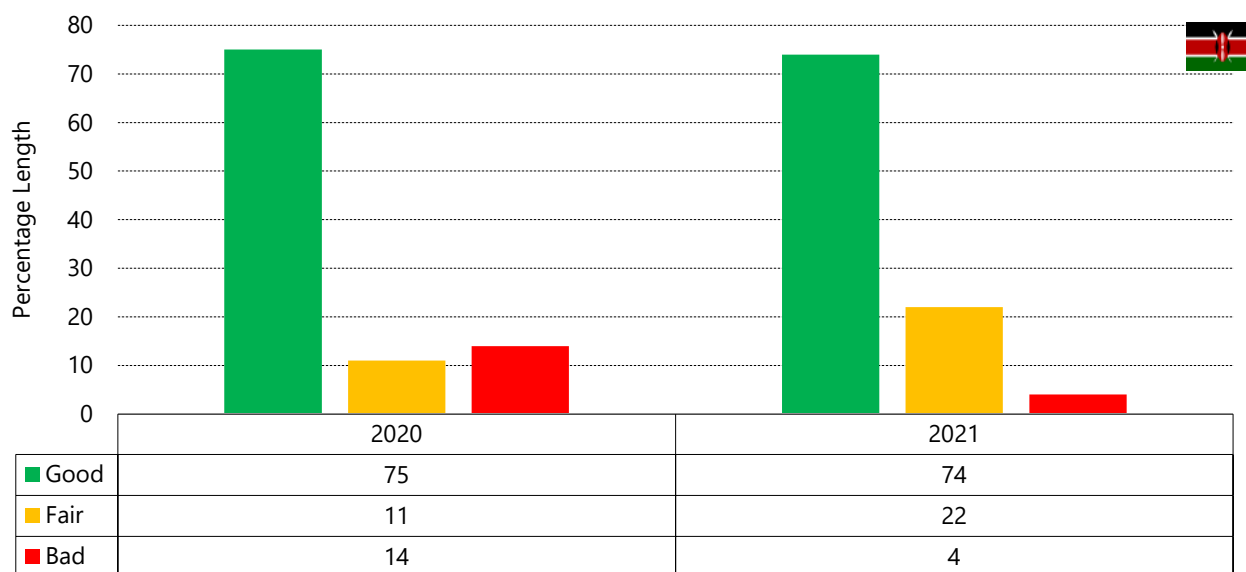
According to the Northern Corridor Transit and Transport Agreement (NCTTA), the designated road traffic routes for use in Kenya to facilitate inter-state trade along the Corridor include:

1. Mombasa to Malaba by way of Nairobi-Eldoret
2. Mombasa to Busia by way of Kisiani-Kisumu
3. Mombasa to Taveta by way of Voi
4. Mombasa to Lunga Lunga by way of Diani
5. Mombasa to Namanga
6. Mombasa to Lokichogio
7. Mombasa to Lwakhakha by way of Nairobi-Webuye
8. Mombasa to Isebania by way of Nairobi-Narok

From Mombasa to Malaba, Kisumu, and Busia, the Northern Corridor highways comprise 1,330.8 kilometres in length. **Figure 8** demonstrates that around **74%** of Kenya’s Northern Corridor roads are in good condition, paved and tarmac with an average IRI of below than 2.5 mm/m. The

percentage of roads in poor state has reduced tremendously from **14%** in 2018 to only **4%** in 2021. This could be attributed to the ongoing road infrastructure upgrading projects expected to bring more improvements in road condition.

FIGURE 8: THE STATUS OF NORTHERN CORRIDOR ROADS SECTIONS IN KENYA



Source: KeNHA various years

The government of Kenya through KeNHA is implementing various road infrastructure upgrading and widening projects to facilitate trade along the Northern Corridor region. These include:

- Dualling of Mombasa - Mariakani Road (Lot 1: Mombasa - Kwa Jomvu), 12 Km (Project ongoing, progress at **97.2%**)
- Dualling of Athi River - Machakos Turnoff Road Project, 20.1 Km (Project ongoing, progress at **80.2%**)
- Nairobi Expressway Road Project (Mlolongo to James Gichuru /Red Hill Junction), 26.76 Km (Project ongoing, progress at **92%**)
- Rehabilitation and Capacity Enhancement of James Gichuru Junction - Rironi (A8) Road Project, 25.3 Km (Project ongoing, progress at **67.7%**)
- Construction of Kericho Interchange (Jn B1/C23) (Progress at **81.2%**)
- Construction of Ahero Interchange (Jn A1/B1) (Progress at **89.6%**)
- Mwache - Tsunza - Mteza section, 8.96 Km (Project ongoing, progress at **46.5%**)
- Mteza - Kibundani section, 6.86 Km (Project progress at **90%**)

2.2.4 Road condition in Rwanda

Rwanda has designated a number of routes and their associated borders as part of the Northern Corridor Route. The main designated Northern Corridor roads in Rwanda as per the NCTTCA Agreement are as below:

1. Kagitumba – Kigali – Akanyaru haut
2. Kagitumba – Kigali – Huye – Rusizi I, II and Bugarama;
3. Kagitumba – Kigali – Muhanga – Karongi – Rusizi I, II and Bugarama;
4. Kagitumba – Kigali – Nemba;

5. Gatuna – Kigali – Huye – Rusizi I, II and Bugarama;
6. Gatuna- Kigali – Muhanga – Karongi – Rusizi I, II and Bugarama;
7. Gatuna – Kigali – Nemba;
8. Gatuna – Kigali – Musanze – Rubavu
9. Cyanika- Musanze - Rubavu

Figure 9 illustrates that **96%** of Rwanda's Northern Corridor road sections are paved and in good condition, **1%** in fair while only **3%** are in bad condition and are under rehabilitation.

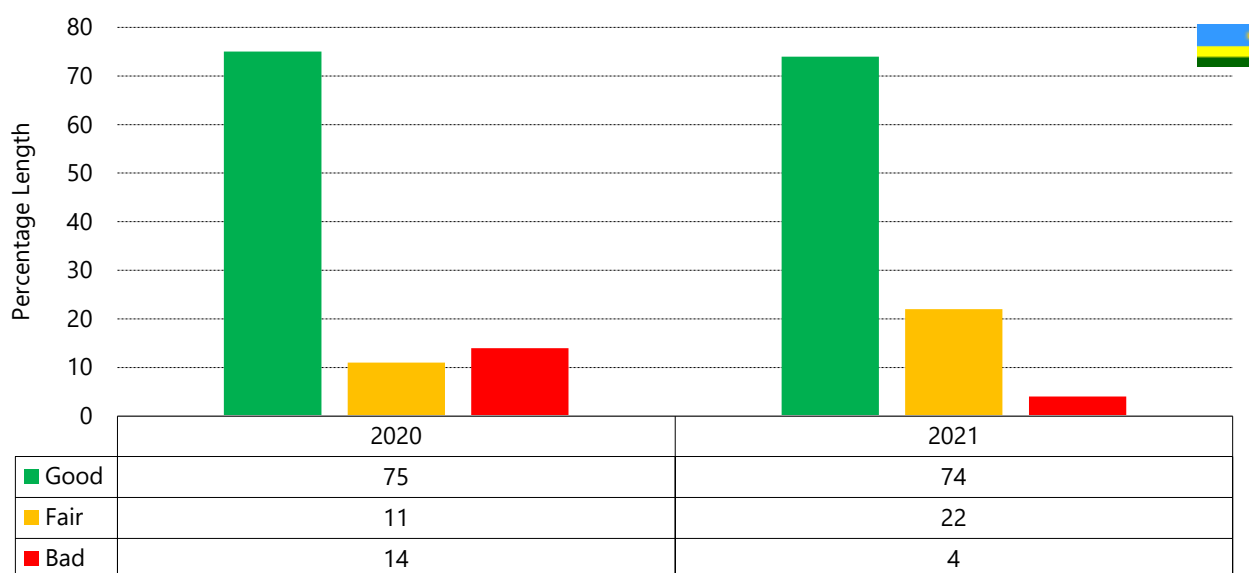


The ongoing road improvement projects include; rehabilitation and widening of Sonatube/Kicukiro - Akagera road section from two to four lanes, as well as the Bugesera International Airport Expressway project, currently at 94.5% progress and expected to be completed by June 2022; rehabilitation of Rubengera - Rambura road section currently at 75% progress and expected to be completed by April 2022; upgrading of Rukomo-Nyagatare (73.3 Km) road section currently at 94.72% and expected to be completed by June 2022; rehabilitation and widening of Nyagatare-Ryabega road section currently at 25.4% progress and expected to be

completed by July 2022; rehabilitation and widening of Rambura - Nyange road section currently under procurement stage; and rehabilitation and widening of Nyange - Muhanga road section currently under fund mobilization stage.

In addition, the Road Asset Management System (RAMS) project that will provide the necessary decision support to ensure cost-effective maintenance of existing roads, provision of new road infrastructure, and efficiently utilizing scarce resources is ongoing.

FIGURE 9: THE STATUS OF NORTHERN CORRIDOR ROAD SECTIONS IN RWANDA



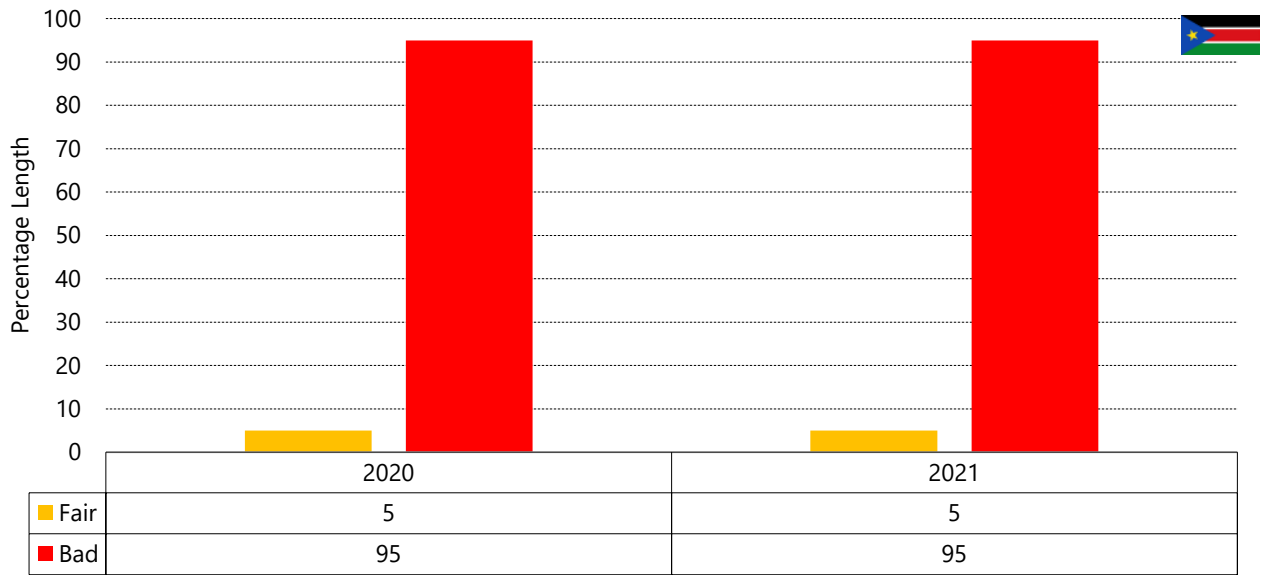
Source: RTDA, data 2020 and 2021

2.2.5 Road condition in South Sudan

With limited resources, South Sudan faces serious infrastructure difficulties, including the rehabilitation of aging roadways. **Figure 10** illustrates that approximately 95% of the corridor road in South Sudan is in bad condition, with barely 5% in fair

condition. For the past three years, the road quality has remained unchanged. As in other member countries, the government has yet to get adequate support from international partners to assist in the improvement of its roads.

FIGURE 10: THE STATUS OF NORTHERN CORRIDOR ROAD SECTIONS IN SOUTH SUDAN



Source: Ministry of Roads and Bridges 2020

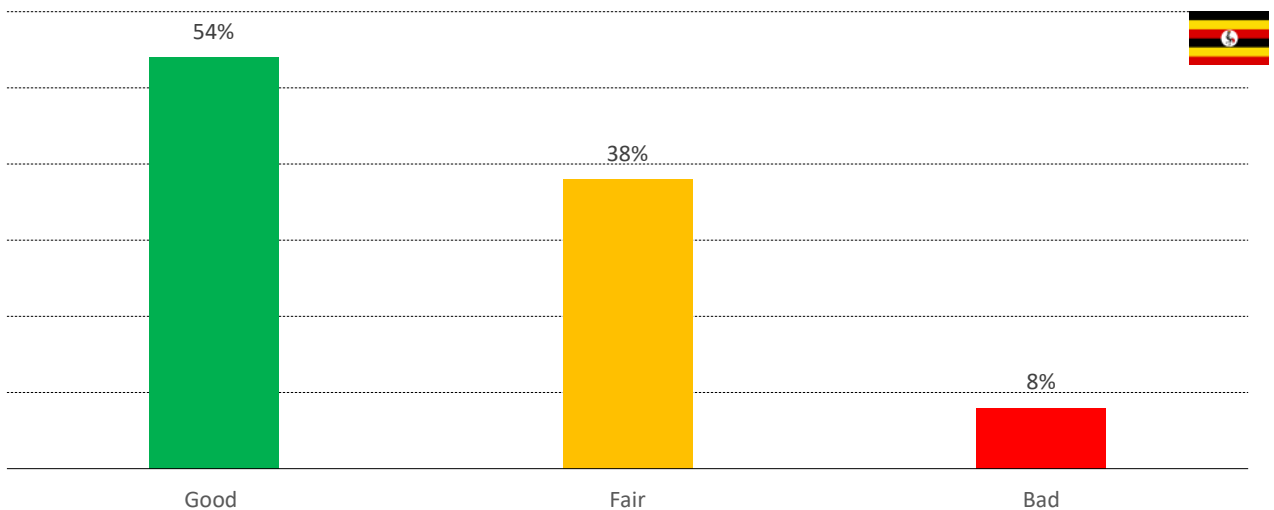
2.2.6 Road condition in Uganda

The designated Northern Corridor Roads in Uganda are Malaba-Katuna, Malaba-Ishasha, Malaba-Mpondwe, Malaba-Goli, Malaba-Arua, Busia-Katuna, Busia-Ishasha, Kasese – Kigitumba, Busia – Arua and Busia – Goli, Kasese – Mpondwe and Kasese – Ishasha.

The Northern Corridor road network in Uganda spans 2,076 kilometres, with about **54%** of it

being paved and in good condition, **38%** in fair condition, and **8%** in bad condition. The Uganda National Roads Authority (UNRA) has adopted a speed humps standard that will apply to all major Ugandan roads. The government of Uganda through UNRA has constructed Jinja - Kampala Expressway to ease heavy traffic congestion along the Jinja - Kampala road. In addition, light and heavy rehabilitation works are ongoing on various road sections as well as spot improvement intervention are being implemented.

FIGURE 11: CONDITION OF ROAD SECTIONS IN UGANDA IN 2021



Source: UNRA 2021



Northern Corridor route in Uganda

2.3 Pipeline Network

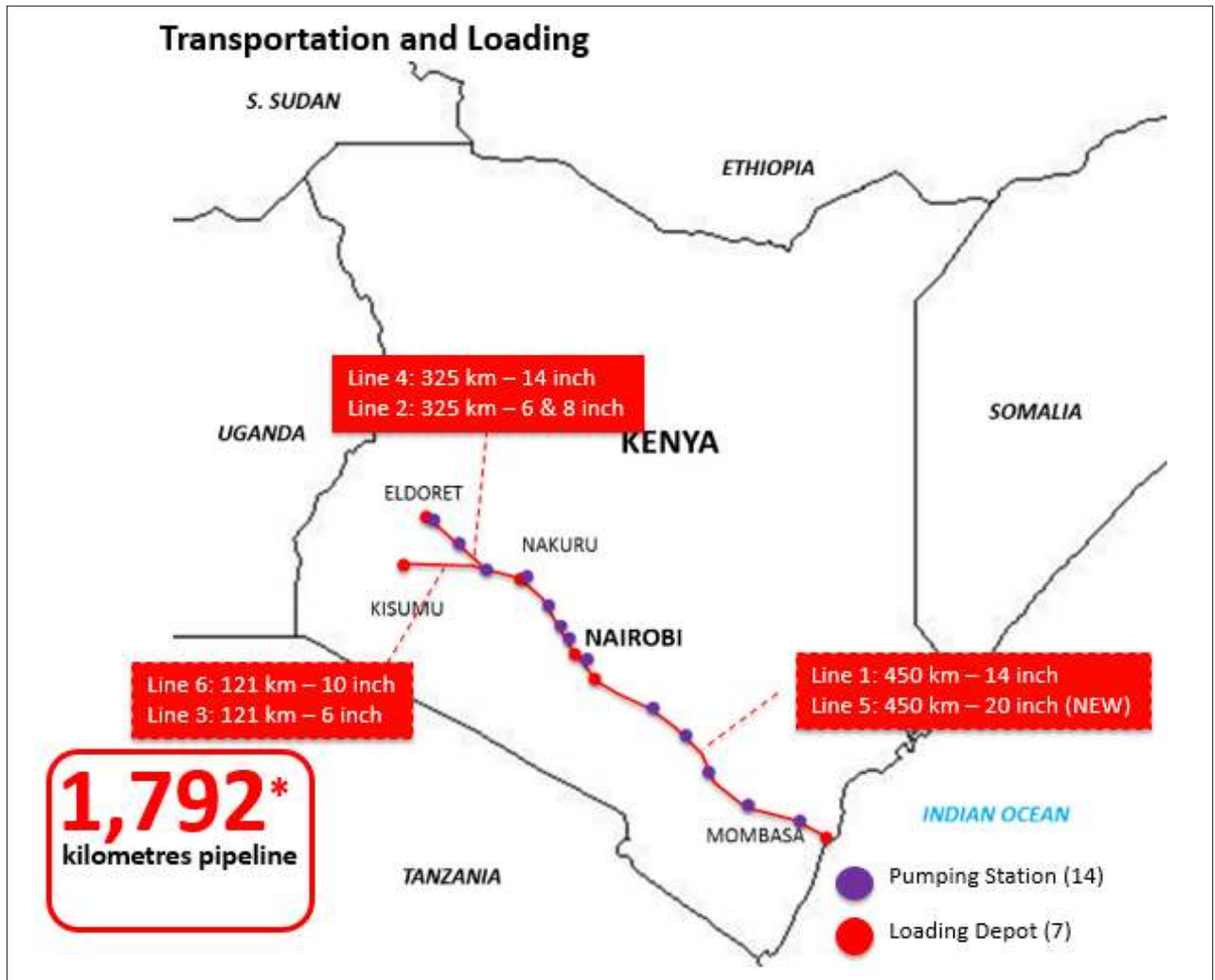
The Kenya Pipeline Company (KPC) oversees pipeline transit in Kenya. KPC is responsible for transporting, storing, and handling petroleum products via the pipeline system. Kenya Pipeline Company's oil pipeline network spans 1,797 kilometres and includes 14 pumping stations and seven loading depots. The pipeline can transport approximately 6.9 billion litres of petroleum products per year. Mombasa, Konza, Nairobi's Industrial Area, Embakasi – Nairobi (Aviation depot), Nakuru, Eldoret, and Kisumu all have petroleum loading depots. The line runs from Mombasa's oil refinery to Nairobi, Eldoret, and Kisumu, serving Uganda, Rwanda, Burundi, and the Eastern Democratic Republic of the Congo by tanker transshipment on the Northern Corridor highways and oil jetties at the Lakes. For instance, the Kisumu Oil Jetty (KOJ) will extend its reach to Uganda's Bukiri-Bukasa Entebbe via Lake

Victoria to Uganda's Mahathi-Infra Depot (private supplementary facility – jetty and depot are nearing completion).

The pipeline's capacity has been insufficient to meet the growing demand for petroleum products in the country and other landlocked countries that rely on Kenya for their supplies. This has necessitated the construction of a 20-inch line between Mombasa and Nairobi by 2023, with a higher flow rate of 1.9 million litres per hour. Table 3 below summarizes the pipeline storage capacity in Kenya.

KPC has paved the way for the construction of an additional KHS 40 billion storage facility in Kipevu, ensuring that all industry players have access to this essential product. Additionally, efficiency has been the guiding principle for all activities at Kenya's Loading Depots.

FIGURE 12: PIPELINE NETWORK IN KENYA



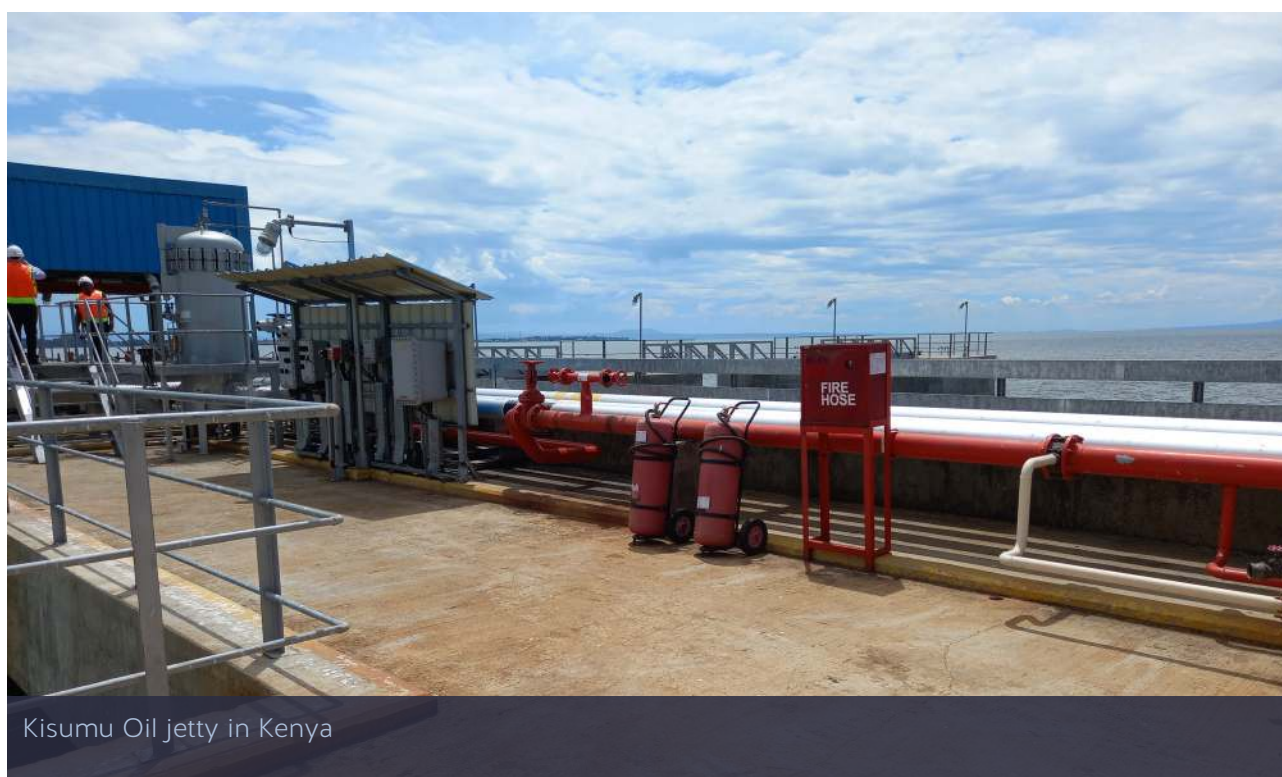
Line Section	Length (Km)	Pipe Diameter (Inches)	Installed Flow Rate (M ³ /Hr)	No. of Pumping Stations
Mombasa-Nairobi (Line I)	450	14	830	8
Nairobi-Nakuru-Eldoret (Line II)	325	8/6	220	4
Sinendet-Kisumu (Line III)	121	6	100	-
Nairobi-Eldoret (Line IV)	325	14	311	2
Mombasa-Nairobi (Line V) new	450	20		
Sinendet-Kisumu (Line VI)	121	10	350	-
Spur Line from KOSF to Shimanzi Oil Terminal	2.8	12	450	1
Changamwe - Moi International Airport	3.8	6	120	1

Source: <https://www.kpc.co.ke/pipelinetwork>

TABLE 3: PIPELINE STORAGE

Facility/ Location	Capacity (M ³)	Capacity (Litres)
KOSF -Kipevu (Mombasa)	326,000	326,000,000
KPRL (Changamwe) additional July 2017	140,000	140,000,000
Moi Airport (Mombasa)	7,000	7,000,000
JKIA (Nairobi)	54,000	54,000,000
Nairobi Terminal	233,000	233,000,000
Nakuru	31,000	31,000,000
Eldoret	48,000	48,000,000
Kisumu	45,000	45,000,000

Source: <https://www.kpc.co.ke/pipelinenetwork>



Kisumu Oil jetty in Kenya

2.4 Inland Container Depots

In Kenya, the Kenya Ports Authority (KPA) manages Inland Container Depots (ICDs). Rail connections and services link these depots to the Mombasa Port container terminal. The Nairobi ICD is Kenya's largest and busiest ICD, with 4 railway-mounted gantry cranes, 8 rubber-tired gantry cranes, 10 reach stackers, 30 terminal tractors, 67 trailers, and 16 forklifts supporting loading and unloading activities at the ICD.

Naivasha ICD is also connected to the port via the Standard Gauge Railway (SGR) line. In May 2020, this ICD commenced commercial freight operations. The Naivasha Inland Container Depot is equipped with 4 reach stackers and 7 terminal tractors. The ICD's existing truck holding area has a capacity of around 150 trucks but is not yet paved. On the other hand, the ICD is missing a verification bay, a warehouse, a scanner, and a weighbridge. Additionally, there is insufficient

room for regulatory bodies and service providers such as freight forwarders and financial service providers; there are insufficient sanitary facilities and restaurants; and access to the nearest towns is difficult.

Rwanda has one licensed ICD namely DP World Logistics Ltd (Rwanda) which have an annual capacity of 50,000 TEUs. Uganda's Multiple ICD is capable of handling 50,000 TEUs per year.

TABLE 4: ICDS ALONG THE NORTHERN CORRIDOR

Country	Name of ICD	Total Available Capacity (TEUs)	Notes
Kenya	Nairobi	450,000	Operating at an optimal level. 2019 utilized about 93% . Standard gauge tracks and handling facilities added to existing Metre gauge depot. On average, Nairobi ICD receives seven trains per day, carrying an average of 106 TEUs of imports from Mombasa. Downstream the ICD handles 4 – 5 trains daily. The ICD is also a major handle of outbound cargo and empty containers.
Kenya	Kisumu	15,000	<p>Serves as a transshipment point. Operational. Occupies an acreage of 17.5 Hectares and is designed to mostly receive cargo by railway and dispense by road and by inland waterway by Lake Victoria.</p> <p>The ICD has a well-paved container yard, a warehouse and is properly fenced. The yard has a verification shed, ample security and is fitted with floodlights which can enable 24/7 operations. The ICD has cargo handling equipment to facilitate the loading and offloading of cargo. The yard is linked to the transport system by a rail siding, a tarmac road and wagon ferry services through the Kisumu Port.</p> <p>The ICD has a reach stacker, a mobile crane, 1 heavy duty forklift, 3 light duty forklifts, 3 terminal tractors and 8 trailers equipment for cargo handling.</p>
Kenya	Naivasha	4,000 TEUs (Container yard). The truck holding area at the ICD has a capacity of about 150 trucks, but it is not yet paved.	<p>Operational-commenced commercial freight operations in May 2020. The area designated for the Naivasha ICD is 100 acres. The ICD has 4 reach stackers and 7 terminal tractors. Naivasha ICD brings the Mombasa Port closer to the hinterland countries by over 500 Km and offers good connectivity by road to the neighbouring hinterland countries. The bulk of cargo handled by Naivasha ICD is raw materials. About 80% of cargo handled at Naivasha is mainly destined for Uganda.</p> <p>1,000 acres of land adjacent to the ICD has been designated for the development of an economic zone/industrial park and 50 acres designated to the transit countries for the development of freight stations.</p> <p>The MGR line connectivity from the ICD to the existing Naivasha – Nairobi MGR line is 24.5 Km long.</p>

Country	Name of ICD	Total Available Capacity (TEUs)	Notes
Kenya	Eldoret		Established in 1994 however, this dry port facility is not currently in use.
Kenya	Taita Taveta	*	Feasibility study completed. Land allocated for construction.
Rwanda	DP World Logistics Ltd (Rwanda)	50,000	Licensed in 2021 since
Uganda	Multiple ICD	50,000	Completed in 2015, the ICD is a transit hub for trucks transporting cargo in transit. ICD does not have a provision for empty container storage. The loaded containers are weighed at the weighbridge at the ICD to obtain and comply with the Verified Gross Mass (VGM) required for maritime transportation of containers.
Uganda	Mukono ICD	1,850 M ³ bonded warehouse	The ICD is located 25 Km from Kampala at Kyetume, has an area of 13 acres. It has cargo handling equipment and handles both imports and exports received and dispatched both by railway and road

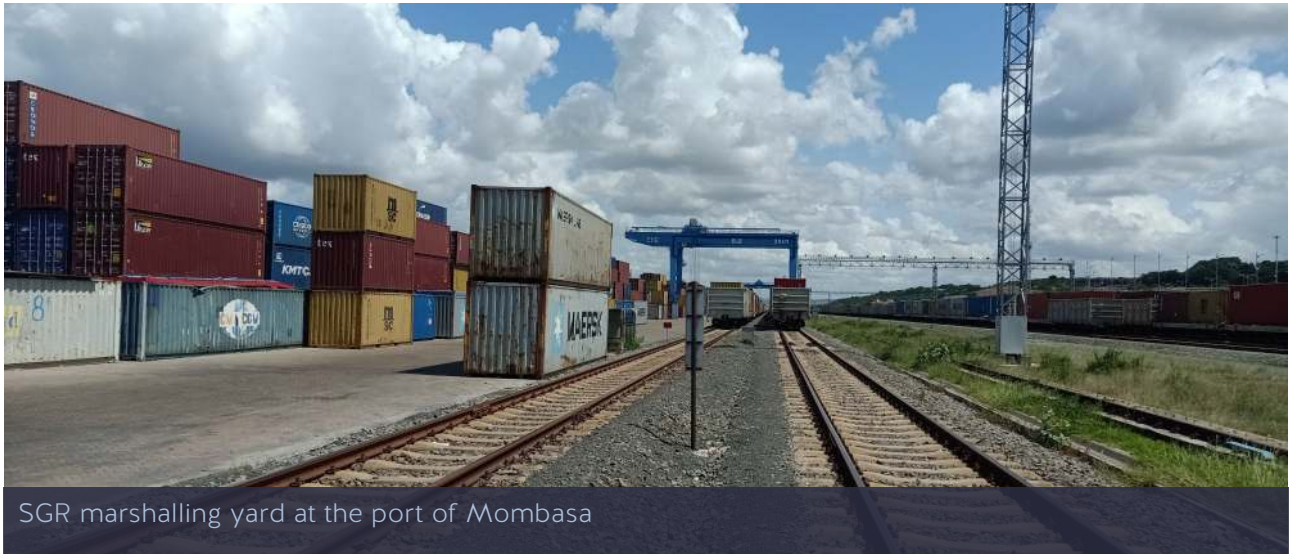


DP World inland container depot in Rwanda

2.5 Railway

East African regional cooperation initiatives have focused on collaborative efforts to modernize the railway network and build an African railway network, with the ultimate goal of Member States adopting a common railway policy. The East African Railway Master Plan was therefore implemented to guide the region's future railway development. The Master Plan proposes refurbishing existing railways serving Tanzania, Kenya, and Uganda,

and expanding them initially to Rwanda and Burundi and then to South Sudan, Ethiopia, and beyond. The NCTTA establishes a solid basis for the Northern Corridor Member States' legal cooperation in the railway industry. Additionally, the NCIMP (2011) establishes a framework for railway development in the Partner States. Among other things, these regional frameworks are designed to catalyze multilateral railway development projects throughout the region.



SGR marshalling yard at the port of Mombasa

The Member States committed to develop the Standard Gauge Rail (SGR) from Mombasa to Nairobi, Kampala, Kigali, and Juba using the same design standards. The Mombasa - Naivasha SGR is the first step in the grand plan to build an East Africa railway. The 485 Kilometer-long Standard Gauge Railway connecting Mombasa to Nairobi ICD is complete and operational since 2018. Further, the extension of the SGR line from Nairobi to Naivasha is complete and operational.

Additionally, Kenya Railways constructed, upgraded, and rehabilitated the Metre Gauge Railway (MGR) network, as well as renovated and reopened the Nairobi Central Station. Diesel Multiple Units have been procured to support commuter train services inside Nairobi.

Uganda Railways (URC) operates in partnership with Kenya Railways (KRC) and other stakeholders including KPA, KRA and URA to offer logistic solutions to their clients for railway services on the Northern corridor for both export and imports cargo. The aim is to solve the logistics challenges of dealing and handling numerous trucks, difficulty in transporting heavy containers and bulk cargo/ Out of gauge by road while providing a solution to any related safety challenges associated with cargo movement especially on the road. URC/KRC also in the same light gives an opportunity for their clients to take advantage of the northern corridor competitive freight and terminal tariffs among other incentives. Northern Corridor Railway Route Freight railway services in Kenya are provided via the Standard Gauge Railway (SGR) and the Meter Gauge Railway (MGR). Uganda wholly runs railway services on the MGR.

TABLE 5: NORTHERN CORRIDOR RAILWAY ROUTE IN KENYA AND UGANDA

Route	Railway Network	Kilometres
Mombasa – Nairobi	SGR	472
Nairobi - Naivasha	SGR	89
Mombasa – Malaba	MGR	1,083
Longonot - Malaba	MGR	465
Nakuru - Kisumu	MGR	217
Malaba - Kampala	MGR	240

Source: URA and KRC data

The Government of Uganda through Uganda Railways Corporation (URC) engaged China Road and Bridge Corporation to undertake rehabilitation works for the Tororo – Namanve section. The rehabilitation works will be in the following section; Namanve – Tororo (222Km) and Jinja Pier line (3.7Km). Rehabilitation works commenced and are expected to be complete by October 2022.

Additionally, Rehabilitation of 375Km Tororo – Gulu MGR line is currently ongoing. The project was awarded to Sogea Satom Ltd under the direct supervision of the Ministry of Works and Transport and Work commenced in February 2020 and is expected to be complete by 2025. This line will go along way in diverting cargo from road to rail by providing an alternative mode of transport

proving a link between the port of Mombasa & Northern/Eastern Uganda, as well as South Sudan & the Democratic Republic of Congo. This line will also connect to the Gulu Logistics hub (GLH) whose construction is currently at **96%**, GLH will act as a designated area for cargo consolidation, aggregation, transshipment, separation, consignment and distribution for national and international transit on a commercial basis. Upon completion, the facility shall offer; handling and storage services, office space for stakeholders dealing with freight transport including; freight forwarders, shippers and transport operators as well as ancillary services such as customs inspections, tax payment, banking and information communication technology.



Rehabilitation of the 217 km meter gauge railway line from Nakuru to Kisumu was completed in 2021 and is currently operational, running both cargo and passenger trains. This route acts as an alternative route and will go a long way to decongest the busy Malaba route. The railway line connects to Kisumu Port and cargo is moved via Lake Victoria by wagons ferries to Jinja pier and Port Bell.

The already operational 9km Port Bell to Kampala Good shed railway line supplements the Kisumu

– Port Bell/Jinja Pier line by moving cargo and wagons closer to the CBD.

URC has two vessels plying this route i.e. MV Kaawa and MV Pamba, these are Roll On Roll Off vessels, each with a capacity to carry up to 880Mt i.e. 22 wagons. KRC's MV Uhuru also plies this route and has the same capacity. Additionally, KRC is working on launching MV Uhuru 2 by mid-2022.

2.6 Weighbridges

To promote efficient and effective regulation of overloading on corridor routes, the Northern Corridor Member States developed a standardized approach to weighbridge operation and management under the EAC Vehicle Load Control Act, 2013. Kenya and Uganda have led the way in terms of investment and installation

of weighbridges, with Kenya installing High-Speed Weigh-in-Motion technology and virtual weighbridges along key routes. Technological improvements in the form of current Monitoring systems in Virtual Weighbridges have significantly aided in the improvement of self-regulation and compliance among road transport operators.



A truck is weighed at a static weighbridge in Kenya

TABLE 6: WEIGHBRIDGES IN NC MEMBER STATES

Member States	Number of weighbridges	Location	Status/Ongoing initiatives
Burundi	Zero	None	
Kenya	Nine static	<ul style="list-style-type: none"> • Athi-River (Mlolongo) • Mariakani • Webuye • Gilgil • Busia • Mtwapa • Rongo • Isinya • Bondo 	<p>4 weighbridges are High Speed Weigh in Motion (HSWIM). They include Mariakani, Athi-River, Gilgil and Webuye.</p> <p>Initiatives to upgrade Busia</p>
	10 virtual weighbridges stations have been installed and integrated at selected locations along the National Highways Road Network.	<ul style="list-style-type: none"> • Southern Bypass 1. • Southern Bypass 2. • Sagana. • Yatta. • Kamulu. • Kaloleni. • Ahero. • Eldoret. • Mayoni • Laisamis 	In addition to the existing 10 virtual weighbridges, Mau summit, Cheptiret, Malaba, Malili and Mwatate virtual weighbridges are currently operational
Rwanda	No weighbridge is operational at the moment. However, RTDA targets to procure and setup two HSWIM equipment	Two	Two (2) are under Construction/installation between Kagitumba-Kayonza and Rusumo-Kayonza road sections. Rwanda has planned to install two high speed weigh in motion weighbridges.
South Sudan	Zero	None	Yet to enforce the vehicle load limits
Uganda	Eight (8) fixed Slow Speed Weigh in Motion weighbridges	<ul style="list-style-type: none"> • Lukaya • Mbarara • Mubende • Mbale • Luwero • Magamaga • Ibanda 	of



CHAPTER THREE: VOLUME AND CAPACITY

This chapter presents analysis of the volume and capacity of cargo handled at the port of Mombasa and along the Northern Corridor through surface intermodal transport. The chapter looks at the following indicators:

- i. Cargo throughput through Mombasa Port
- ii. Transit volume through the port of Mombasa
- iii. Container traffic through Mombasa port in TEUs

- iv. Volume of cargo haulage by railways
- v. Volume of cargo through Pipeline
- vi. Inland container depot performance

Cargo throughput measures the total volume of cargo discharged and loaded at the port. It includes break-bulk, liquid bulk, dry bulk, containerized cargo, transit cargo, and transshipment.

3.1 Cargo throughput through the port of Mombasa

The total cargo throughput at the port of Mombasa has been increasing steadily from 30.35 million MT in 2017 to 34.55 million MT in 2021 save for the year 2020. As indicated in Table 7, port throughput growth slowed marginally in 2020 due to the global slowdown caused by the COVID-19 pandemic. In comparison to 2020, throughput grew by **1.3%** in 2021. The growth is attributed to an increase in

conventional, containerized cargo and liquid bulk, which recorded an increase of 0.72 million MT, 0.42 million MT and 0.28 million MT, respectively. Dry bulk cargo reduced by **11.2%** in 2021 from 8.73 million MT in 2020. Clinker for cement manufacture constituted a significant percentage of dry bulk cargo. The importation of clinker has declined as a result of local manufacturing.



TABLE 7: ANNUAL MOMBASA PORT THROUGHPUT '000' IN MT

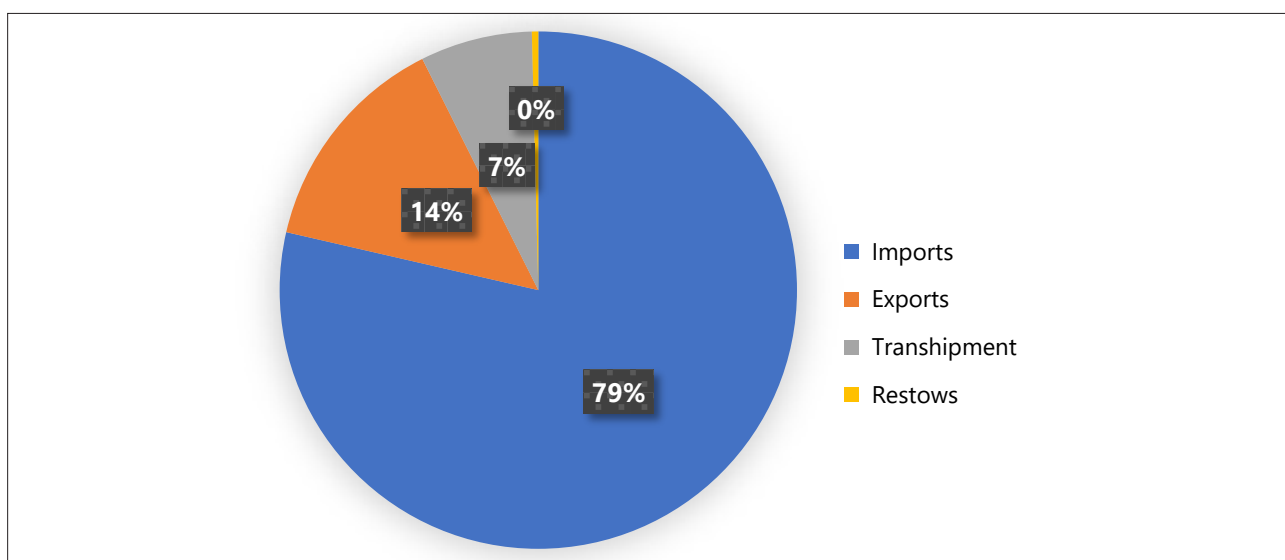
('000' MT)	2017	2018	2019	2020	2021
Containerized Cargo	11,483	12,637	15,390	14,866	15,585
Conventional Cargo	2,136	1,815	2,033	2,142	2,561
Dry Bulk	8,467	8,662	8,386	8,729	7,751
Liquid Bulk	8,259	7,809	8,631	8,378	8,654
Total Throughput	30,345	30,923	34,440	34,115	34,551
Annual % change	10.9	1.9	11.4	-0.9	1.3
Share of Local Cargo	68%	65%	64%	64%	65%
Share of Transit Cargo	28%	31%	29%	30%	28%
Share of Transshipment	3%	4%	7%	6%	7%

Source: KPA data various years

In 2021, analysis revealed that countries using the Mombasa port are net importers, with imports accounting for **79%** of total port cargo throughput and exports accounting for **14%**. Transshipment cargo volume increased by 0.46 million MT to

accounting for 7 percent of total throughput in 2021. Dar-es-Salaam, Pemba, Mogadishu, and Mauritius were the main destinations for transshipment cargo.

FIGURE 13: PERCENTAGE SHARE OF ANNUAL MOMBASA PORT CARGO THROUGHPUT BY TYPE



3.2 Transit Volume through the port of Mombasa

Transit volume is the quantity of cargo that is discharged and destined to countries outside the port of loading or discharge.

Transit volume is determined by adding the weight in metric tonnes of all goods handled at the Port of Mombasa. The data is disaggregated by

destination country. Local freight makes up **65%** of cargo throughput, transit cargo makes up **28%**, and transshipment cargo makes up **7%** of total cargo throughput. Local freight is defined as cargo bound for destinations within Kenya. The port of Mombasa's transit cargo volume has increased



annually, from 8.64 million MT in 2017 to 10.17 million MT in 2020. This, however, reduced by 6.2% to 9.54 million MT in 2021. Transit countries include Uganda, South Sudan, DRC, Tanzania, Rwanda, Burundi, and Somalia, among others. Based on the data presented, in 2021, Uganda accounted for the lion's share of transit traffic through the port of Mombasa, representing approximately 76% of

transit traffic. South Sudan accounted for 11%, while the Democratic Republic of the Congo accounted for about 8%. Transit volumes for Uganda declined in 2021 occasioned by prolonged lockdown due to COVID-19 pandemic. The closure of the Katuna/Gatuna border had a significant effect on the volumes going to Rwanda through the Northern Corridor.

TABLE 8: TRANSIT VOLUME THROUGH THE PORT OF MOMBASA IN MT

TRANSIT TRAFFIC (MT)	2017	2018	2019	2020	2021	Share 2021
UGANDA	7,112,971	7,889,119	8,132,922	7,698,331	7,263,290	76.13%
SOUTH SUDAN	673,752	734,132	769,886	1,056,026	1,065,699	11.17%
D. R. CONGO	360,123	470,968	546,954	732,108	787,933	8.26%
TANZANIA	271,698	248,025	254,961	253,010	232,101	2.43%
RWANDA	179,555	230,734	231,381	426,814	184,753	1.94%
BURUNDI	21,621	22,233	2,475	725	1,027	0.01%
SOMALIA	3,820	1,989	374	1,236	105	0.00%
OTHERS	13,065	7,361	8,566	2,765	6,039	0.06%
TOTAL	8,636,606	9,604,562	9,947,520	10,171,015	9,540,947	100.00%
Annual Growth	11.5%	11.2%	3.6%	2.2%	-6.2%	

Source: KPA data various years

3.3 Rate of containerization

This is measured by summing the total weight of containerized cargo divided by the total weight of all cargo.

Containerization of cargo enhances standardization for efficient shipping and handling of cargo. Containerized shipment: ensures cargo safety; reduces transit time; and minimizes financial expenses during loading, discharge and trans-shipment. Data on Containerized cargo is

provided in Twenty-Foot Equivalent (TEUS). TEU is a globally recognized unit of measurement for container movements and container ship capacity. Containerized cargo has increased in popularity over time. According to UNCTAD data on containerized throughput in the world, global container port throughput fell at a roughly similar rate in 2020 totaling 815.6 million TEU (Review of Maritime Transport 2021). In Africa, Kenya ranks among the top ten countries in container throughput as shown in Table 9 below.

TABLE 9: ANNUAL CONTAINER PORT THROUGHPUT FOR PORTS IN AFRICA

Year	2015	2016	2018	2019	2020	Volume change
Morocco	3,965,000	3,969,000	4,711,200	6,068,803	6,980,958	↑
South Africa	4,662,300	4,354,000	4,892,400	4,592,200	4,029,000	↓
Togo	380,800	380,800	1,395,700	1,500,611	1,725,270	↑
Nigeria	1,400,000	1,404,000	1,560,000	1,484,000	1,528,520	↑
Kenya	1,076,100	1,133,050	1,303,862	1,416,654	1,359,379	↓
Ghana	900,000	954,700	1,063,000	1,100,205	1,050,696	↓
Côte d'Ivoire	896,516	902,058	919,000	918,669	974,872	↑
Djibouti	910,000	987,000	859,000	932,000	812,569	↓
Algeria	1,635,509	1,243,300	1,032,000	688,500	724,991	↑

Source: UNCTADSTAT data center
<https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx> accessed March 2021



The seaport of Mombasa has witnessed a remarkable increase in container throughput in the last five years. Currently, containerized cargo accounts for approximately **42%** of total cargo throughput at the Mombasa port.

Analysis of container throughput shows that container traffic has been growing over the five years save for the year 2020 which saw a decline of **4%**. The decrease was mainly attributed to

disruptions to the supply chain because of global lockdowns imposed due to the raging COVID-19 pandemic. The year 2021 witnessed a significant annual growth of **6%** in total container throughput which is an indication of recovery of economic activities in the region. It is key to note that transshipment container traffic has grown over **100%** for the five-year period. This performance signals the increasing importance of the port of Mombasa in the African region

TABLE 10: TOTAL ANNUAL CONTAINER TRAFFIC (TEUS)

Container Traffic (TEU)	2017	2018	2019	2020	2021
Imports	561,455	601,887	601,522	600,029	608,159
Exports	541,263	574,682	595,960	575,919	597,862
Transshipment	81,203	121,577	211,604	175,827	220,487
Restows	6,036	5,716	7,568	7,804	8,742
Full	755,100	832,129	897,004	873,509	925,744
Empty	434,857	471,733	519,650	486,070	509,506
Total	1,189,957	1,303,862	1,416,654	1,359,579	1,435,250
Annual growth rate		10%	9%	-4%	6%
Share of Full TEUs	63%	64%	63%	64%	65%
Share of Empty TEUs	37%	36%	37%	36%	35%

Source: Kenya Ports Authority (KPA), 2017- 2021

3.4 Railway throughput

Since the inauguration of Standard Gauge Railway (SGR) freight services in January 2018, total rail haulage has seen a dramatic increase in its share of total throughput. Approximately **40%** of freight transported by rail is currently containerized. Kenya Railways intends to broaden its scope of operations to include conventional and bulk cargo, with the goal of increasing market share based on port throughput. The performance is within the Mombasa Port and Northern Corridor Community Charter's target of **40%** cargo offtake by rail by 2022.

The volume of freight moved over the SGR has continuously increased, rising from 256,550 TEUs in 2018 to 412,584 TEUs in 2020 and 445,962 TEUs in 2021 as shown in table 11. Out of 445,962 TEUs in 2021, **57%** were imports and only **4%** were loaded exports. In 2021, approximately 174,994 TEUs of empty containers were transported from Nairobi Inland Container Depot to the Mombasa port, accounting for **91%** of total export TEUs.

TABLE 11: SGR THROUGHPUT FOR THE PERIOD 2018 TO 2021

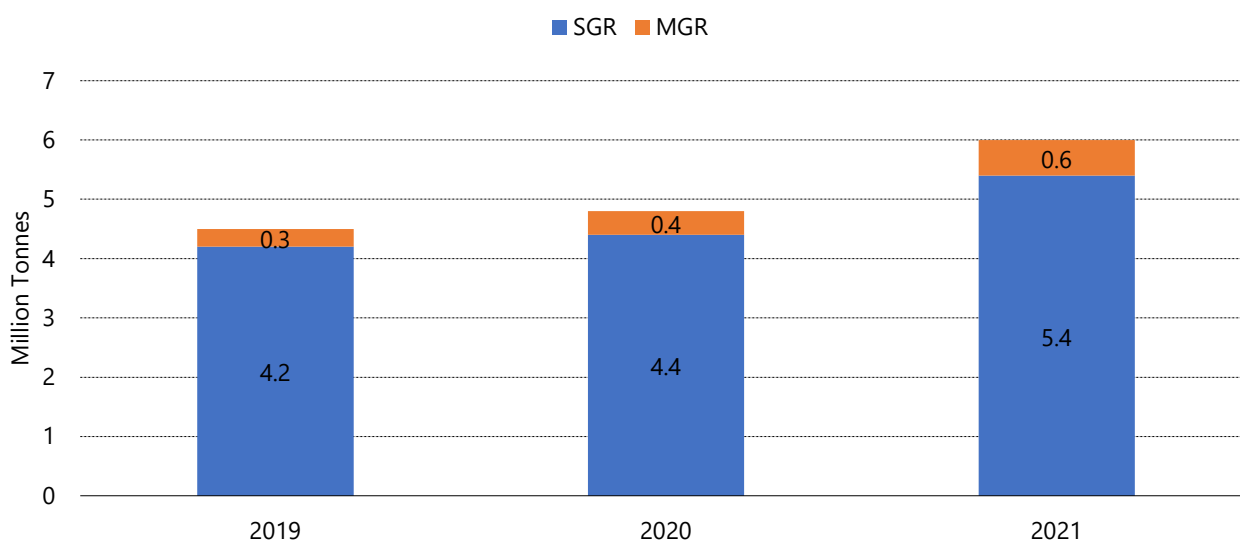
	Loaded Containers (TEUs)		Empty Containers	Total Volume in TEUs	Weight (Tonnes)
	Imports Loaded	Exports Loaded			
2019	175,866	11,446	69,238	256,550	4,159,605
2020	256,918	14,047	141,619	412,584	4,410,904
2021	253,399	17,569	174,994	445,962	5,407,408

The Metre Gauge Railway (MGR) currently operates a fleet of 2,222 active wagons in the following categories: flat bed, covered, low open, tanks, vegetables, high open, ballast hoppers, coaches, and brake vans.

As with the SGR, freight transported over the MGR increased by **55%** to 0.64 million MT in 2021 as illustrated in **Figure 14**. The products that were

hailed by MGR include; steel, loaded containers, vegetable oil, diesel, soda bulk, petrol, furnace oil, white maize, manure, fertilizer, lubricants, wheat, clinker, slug, personal effects, fish feeds, cement, stones, rubber tyres, sugar, salt, and rock salt. Notable is the construction of a 23.35-Kilometre-long MGR line to connect the SGR at Naivasha ICD to the MGR at Longonot Station.

FIGURE 14: SHARE OF CARGO OFF-TAKE BY SGR AND MGR



Source: Kenya Railways Corporation

To increase rail market share, the following steps have been implemented: the establishment of a transshipment facility in Malaba to provide intermodal connectivity and fast evacuation of transit freight; the establishment of a custom-bonded facility, the Kenya Railways Transit

Shed, to serve Nairobi's SMEs more effectively; continued acquisition of locomotives and rolling stock, as well as regular maintenance of all assets; and rehabilitation of the MGR network, including the Thika – Nanyuki and Nakuru – Kisumu branch lines.

3.5 Inland Container Depots (ICDs)

3.5.1 Nairobi

The Nairobi Inland Container Depot (ICD) has a capacity of 450,000 TEUs. In 2021, it operated at **96%** of its installed annual capacity, up from **57%** in 2018, indicating that the facility is operating at optimum capacity. Ports and dry ports are normally required to operate at **70%** of their

installed capacity to accommodate operations related to the discharge and receiving of cargo at the facility. The enormous increase in capacity usage at the Nairobi ICD is attributed to the increase in cargo hauled by the SGR. As presented in Table 12, imports accounted for about **61%** of throughput, while exports accounted for **40%** over the two-year period.

TABLE 12: ICDN IMPORT/EXPORT 2021

TRAFFIC	IMPORTS (TEUs)	EXPORTS	EMPTYES (TEUS)	TOTAL (TEUS)
21-Jan	22,614	1,121	13,502	37,237
21-Feb	20,623	1,288	12,169	34,080
21-Mar	23,549	1,622	12,607	37,778
21-Apr	20,044	1,510	13,074	34,628
21-May	20,732	1,442	12,449	34,623
21-Jun	19,421	1,514	11,879	32,814
21-Jul	21,288	1,654	12,193	35,135
21-Aug	20,861	1,689	12,117	34,667
21-Sep	22,849	1,857	13,291	37,997
21-Oct	22,310	2,198	13,053	37,561
21-Nov	23,642	2,365	12,300	38,307
21-Dec	24,508	1,712	12,631	38,851
Total	262,441	19,972	151,265	433,678

Source: KPA data 2021



3.5.2 Truck Turnaround time at MAGERWA Warehouse

This indicator is measured from the time the driver of the vehicle receives authorization to enter the MAGERWA gate to the departure of the truck from the terminal exit gate.

MAGERWA Warehouse average dwell time decreased dramatically from 1.6 hours in 2020 to 0.57 hours in 2021, indicating increased efficiency. At MAGERWA, approximately half (**50%**) of the trucks take approximately 0.13 hours, as shown in Table 13.

TABLE 13: DWELL TIME WITHIN MAGERWA IN HOURS

Year	Number of trucks sampled	Truck turnaround time	min	25%	50%	75%
2020	8,369	1.62	3.27	0.04	0.19	0.43
2021	7,568	0.57	0.96	0.04	0.13	0.29

3.6 Pipeline throughput

In fiscal year (FY) 2019/2020, the volume of fuel imported through Mombasa port and transiting to other countries declined by **8%**. However, the trend reversed in the 2020/2021 fiscal year, with data indicating that the volume of fuel delivered through

pipeline grew by **9%**. This could be because, in the aftermath of the COVID-19 outbreak, the pipeline was sought as a more efficient mode of delivery than trucks.

TABLE 14: TOTAL VOLUMES IN M³ BY PRODUCT BY DEPOT BY DESTINATION VARIOUS YEARS

Country	FY 2018/19	FY 2019/20	FY 2020/21
Burundi	2,863	9,967	
Eastern DRC	398,724	422,492	645,027
Rwanda	90,646	79,344	126,040
South Sudan	383,779	469,205	651,955
Tanzania	122,505	109,030	148,552
Uganda	2,442,388	2,069,080	1,872,747
Central Africa Republic	6,896	10,515	467
Total	3,447,781	3,169,633	3,444,788

Source: NCTTCA survey report of the Kisumu and Kampala transit nodes



CHAPTER FOUR: EFFICIENCY AND PRODUCTIVITY

The Northern Corridor's efficiency and productivity analysis considers various factors that affect maximization of outputs with the least possible inputs, cost, and time. Some of the indicators under this category include the duration of a ship's stay at the port; cargo evacuation process, duration

and procedures. Port productivity and efficiency are critical components of an improved logistics environment that facilitates trade and promotes competitiveness. This chapter analyzes efficiency and productivity indices at Mombasa's port and throughout the Northern Corridor.

4.1 Ship Turnaround Time

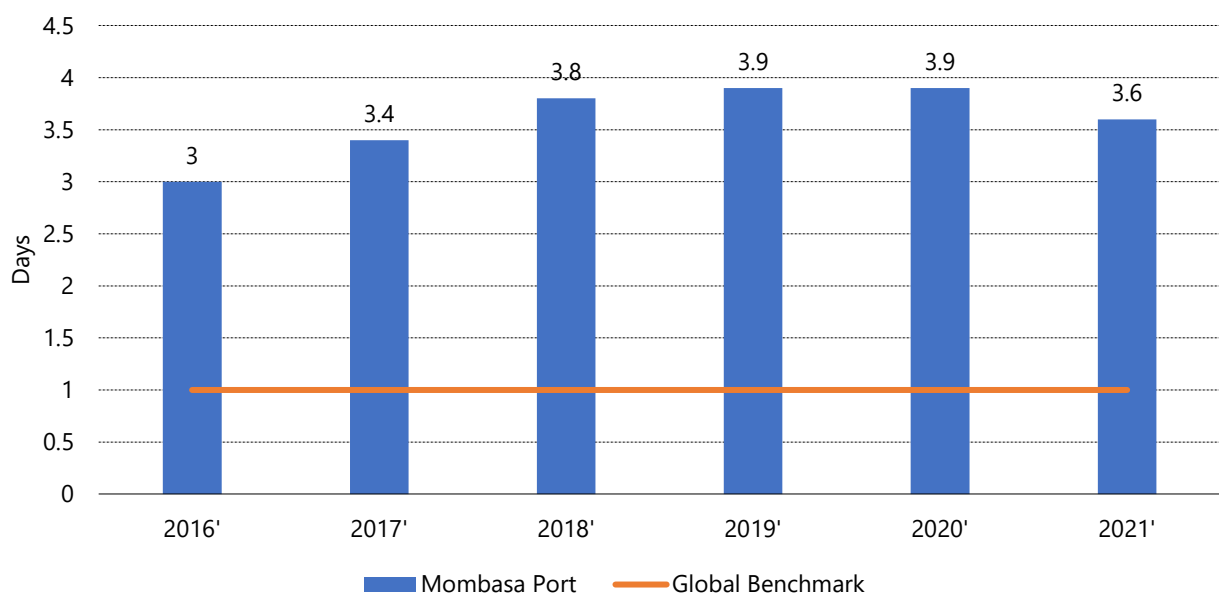
This indicator is measured from the time the vessel arrives at the Port area (Fairway Buoy) to the time it leaves the port area demarcated by the fairway buoy.

The ship turn-around time is an accumulation of the two critical times, ship service time at berth and waiting time. The Mombasa Port and Northern Corridor Community Charter aimed to

attain the target for ship turnaround time as 81 hours by December 2020, 75 hours by December 2022 and 67 hours by December 2024. The global benchmark for ship turnaround time is 24 hours (1 day).

Ship turnaround time in 2021 averaged 3.6 days, a marginal improvement from the 3.9 days recorded in 2019 and 2020.

FIGURE 15: AVERAGE SHIP TURNAROUND TIME AT THE PORT OF MOMBASA IN DAYS; 2016 TO 2021



Source: Données KPA, 2016-2021



Ships berth at Container Terminal 1 at the port of Mombasa

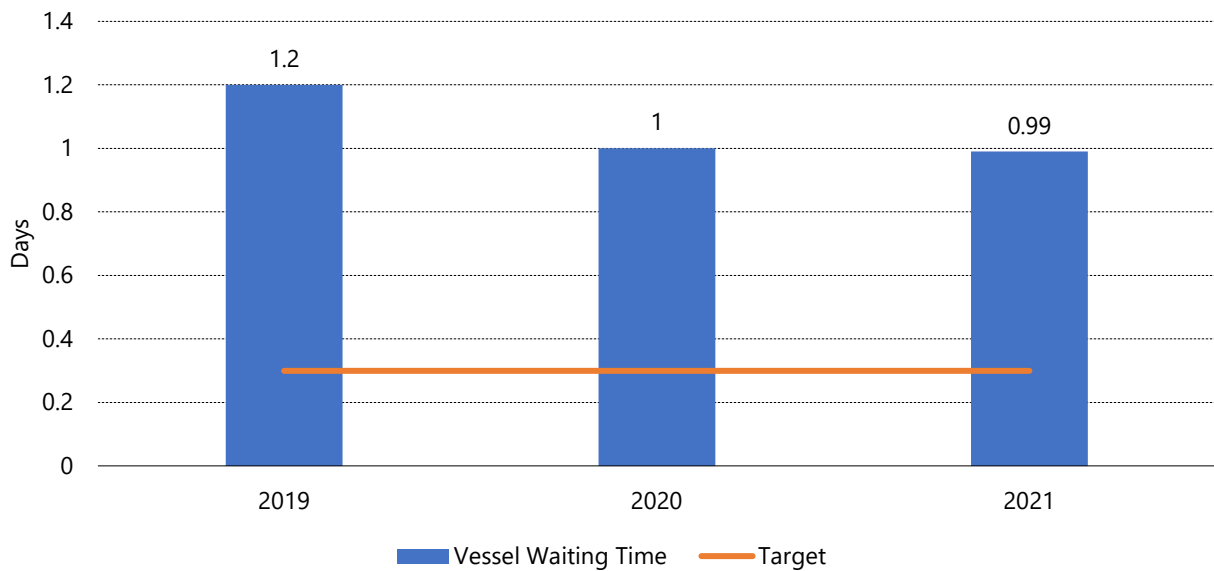
4.2 Vessel waiting time before berthing at the port of Mombasa

Waiting time before berth is the average of the time difference in hours from the time the ship enters the port area to the time of berthing.

This indicator forms part of ship or vessel turnaround time. **Figure 16** shows the average vessel waiting time at the seaport of Mombasa has been improving for the last 3 years since 2019, decreasing from 1.2 days in 2019 to 1 day in 2020 and further to 0.99 days in 2021. It is noteworthy that, over the years, KPA has undertaken tremendous initiatives at the port of Mombasa, including the implementation of fixed Berthing Window to allow shipping lines to plan their time, increased

crane productivity, and sufficient terminal capacity. In the last three years, this target's performance has fallen short of the set target of 0.3 days. The poor performance could be attributed in part to delays experienced by port operators as a result of compliance with COVID-19 health protocols, equipment breakdowns, and inadequate human resource capacity at conventional cargo terminals. To address the equipment's regular breakdowns, KPA should acquire more cargo handling equipment to replace outdated equipment at the traditional cargo terminal's quayside and yard, as well as roll out a robust equipment management/maintenance plan.



FIGURE 16: VESSEL WAITING TIME BEFORE BERTH AT THE PORT OF MOMBASA IN DAYS

Source: KPA data for various years

4.3 Containerized Cargo Dwell Time at the Port of Mombasa

Dwell time is the measure of the time elapsed from the time the cargo arrives in the port to the time the goods leave the port premises after all permits and clearances have been obtained.

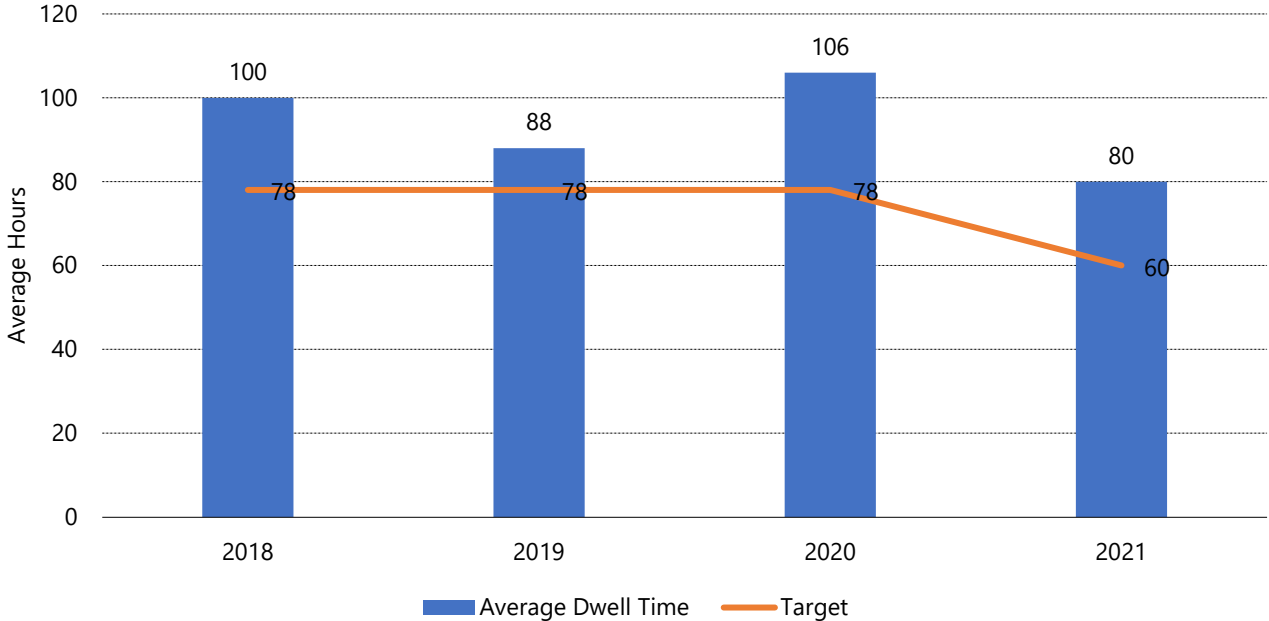
For the purpose of this report, containerized cargo dwell time for import containers was analyzed. Outlier cases of consignments held from clearance for more than 21 days due to non-compliance issues, court matters among other reasons are excluded. The report uses the ‘out date’ to group monthly data, with the last day of the month being the cut-off day (at midnight). The 21-days grace period was applied to filter out outliers.

The Port Charter aims to reduce cargo dwell time at the port of Mombasa to an average of 60 hours by December 2022. From the statistics, dwell time for containerized import cargo at the Mombasa port improved significantly from an average of 106 hours in 2020 to 80 hours in 2021, as illustrated in Figure 17. While there was a substantial

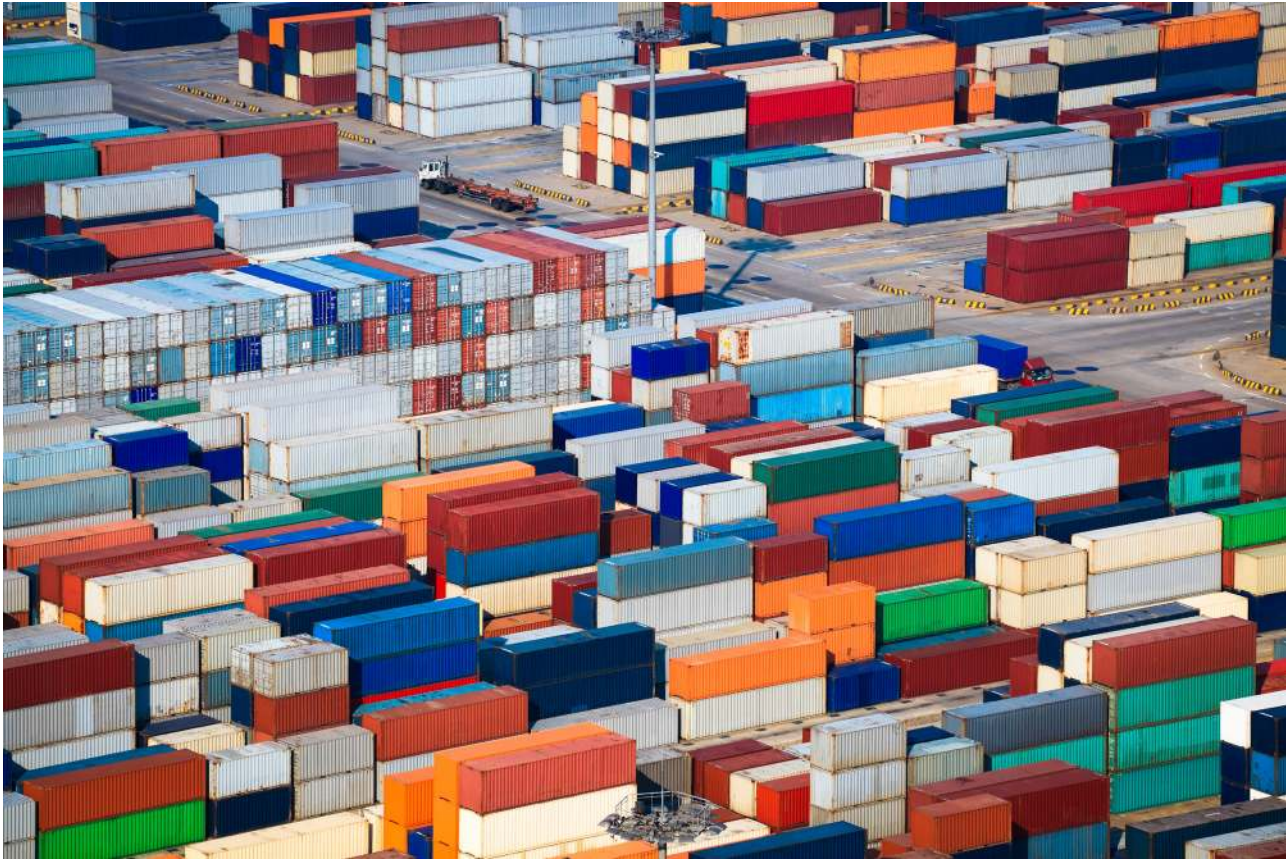
improvement in 2021, the target of 60 hours was not achieved, owing to the longer time required to complete cargo clearance requirements and the temporary extension of transit import free storage duration from 9 to 14 days during the COVID-19 pandemic. Transit export products currently receive a 20-day free storage period, up from 15 days previously. Various initiatives have been implemented to improve cargo port dwell time among them, implementation of the Standard Gauge Railway and road infrastructure construction along the port area, expansion and construction of additional terminals, acquisition of modern equipment, improvement of documentation and clearance processes, and automation of container handling processes.

Over half of the cargo is evacuated within 4 days, and cumulatively three-quarters of the cargo is evacuated within 10 days.

FIGURE 17: ANNUAL AVERAGE CONTAINERIZED IMPORT CARGO DWELL TIME IN HOURS



Source: KPA data for various years



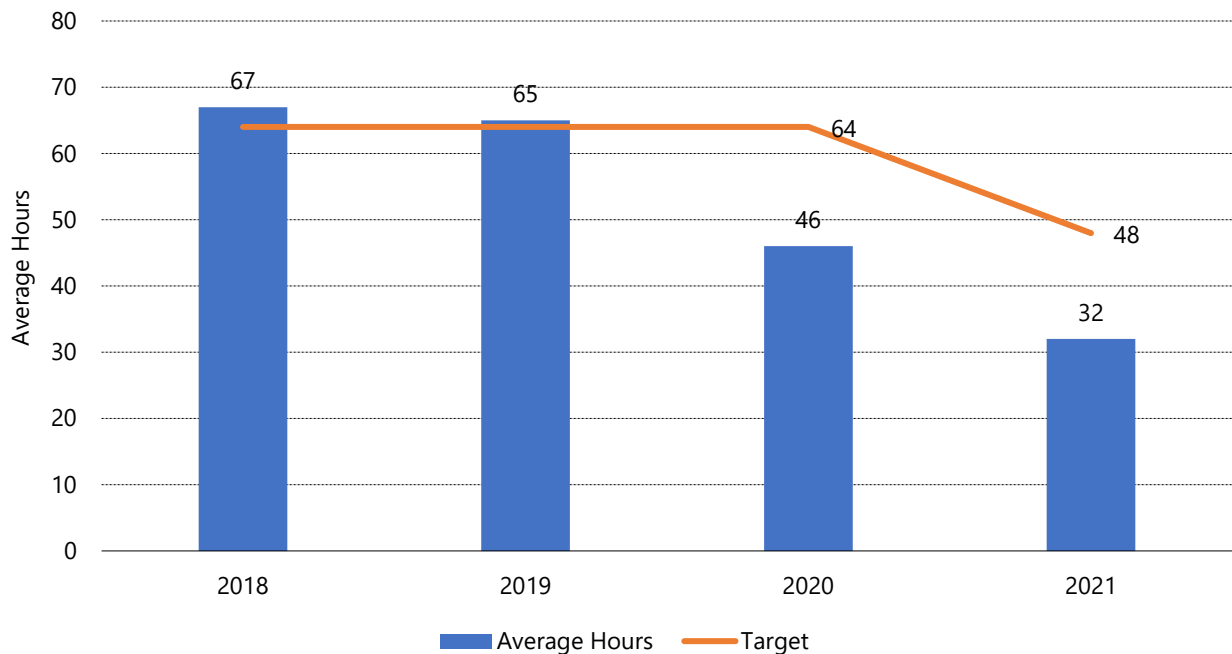
4.4 One-Stop Centre Clearance Time at the port of Mombasa

One-Stop Centre Clearance Time is measured as the average time between registration, passing and issuance of release order on a customs entry.

The Mombasa Port and Northern Corridor Community Charter in December 2018 established a baseline of 80 hours as the average time required for one-stop center clearance. The Port Charter set a target of 64 hours by December 2020; 48 hours by December 2022; and 24 hours by December 2024. The average time spent at a One-Stop

Center decreased substantially from 65 hours in 2019 to 46 hours in 2020 and further to 32 hours in 2021 as illustrated in **Figure 18**, indicating a positive performance. Additionally, performance over the previous three years has been within the set target. This could be attributable to various factors, including automation of clearance procedures and maintaining 24-hour operations. This performance could be boosted further if Agencies operated under one roof, as had been envisioned.

FIGURE 18: CUSTOMS ONE STOP CLEARANCE TIME AT THE PORT OF MOMBASA 2019



Source: KRA data for various years

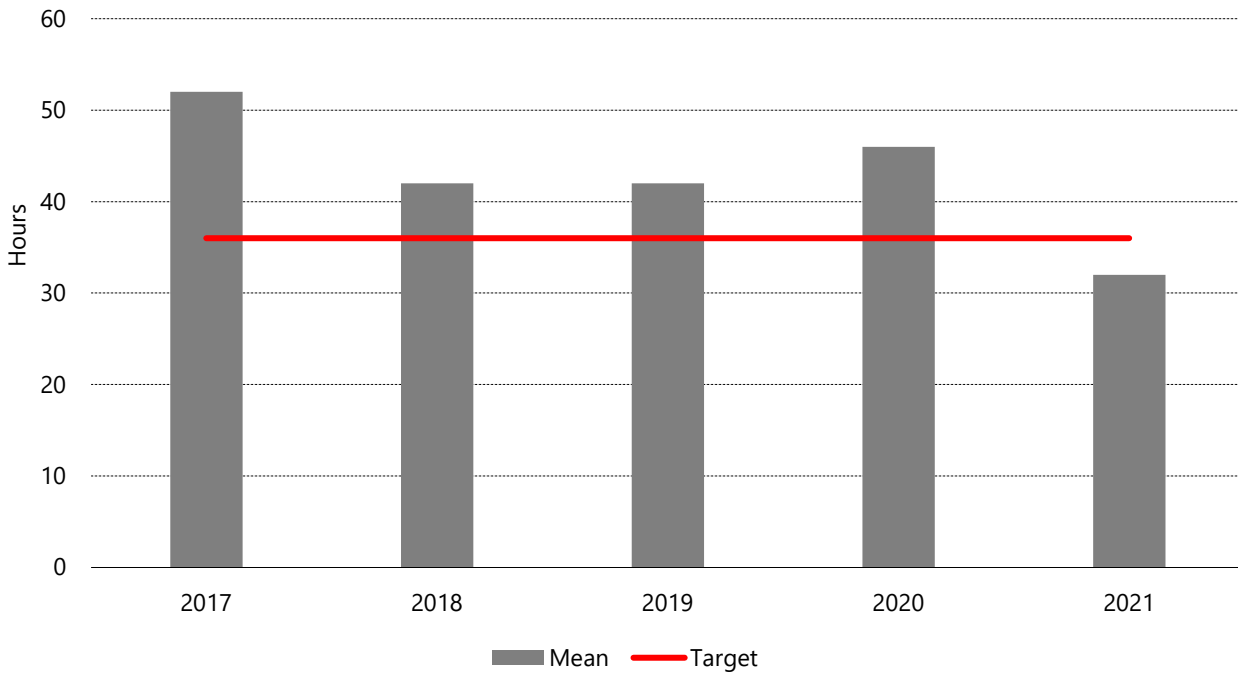
4.5 Time Taken after customs release at the port of Mombasa

Delay after customs release refers to the period it takes to evacuate the cargo from the port after it is officially released by Customs.

The time taken to evacuate cargo after customs release has a significant bearing on the port dwell time. Data from **Figure 19** shows time taken after customs release has been improving steadily since

2018 decreasing from 55 hours in 2017 to 32 hours in 2021 to attain the set target of 36 hours. Some initiatives aimed at enhancing this indicator's performance include automating gate clearance procedures, dedicating special gates to Container Freight Stations (CFSs) and ensuring 24-hour operations.

FIGURE 19: TIME TAKEN AFTER CUSTOMS RELEASE AT THE PORT OF MOMBASA



Source: KRA data for various years

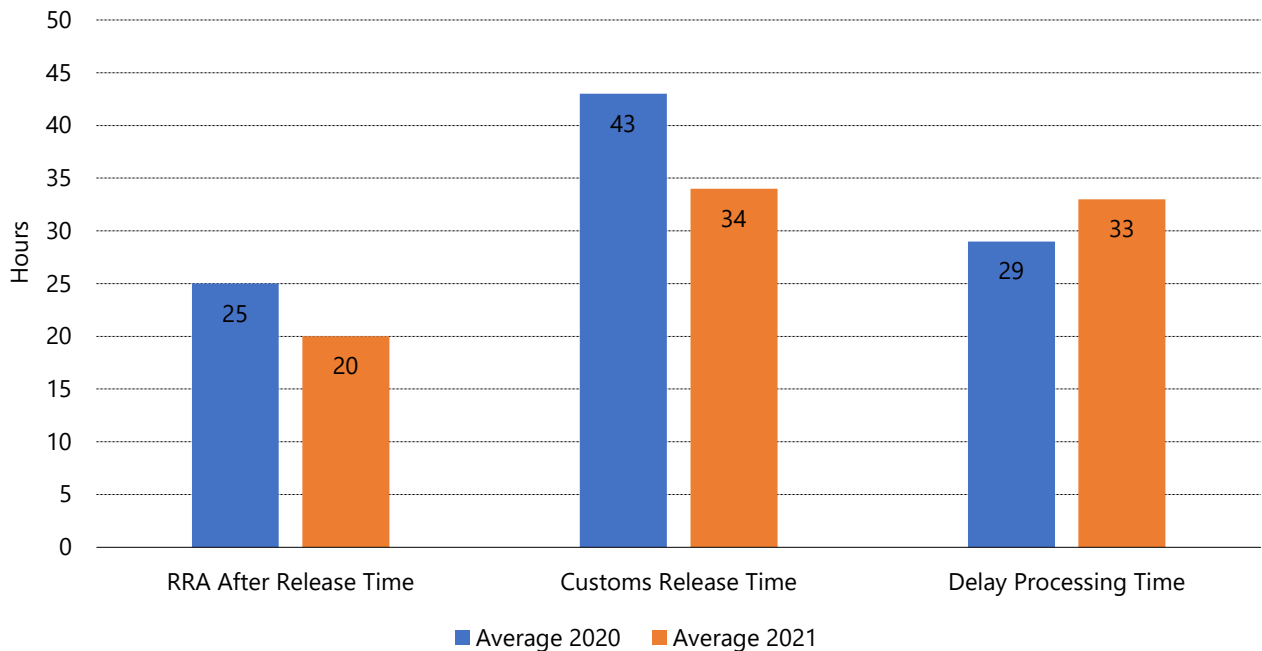


4.6 Rwanda Revenue Authority (RRA) customs time and delays

Figure 20 shows that the average time between customs entry registration and issuance of customs release order improved from 25 hours in 2020 to 20 hours in 2021. Similarly, the average time between the customs release order and the exit, i.e., the time taken to evacuate the cargo from the port after it has been officially released by Customs, improved significantly from 43 hours in 2020 to 34 hours in 2021. Performance for customs processing time deteriorated from 29 hours in 2020 to 33 hours in 2021. This could be attributable

to the existing challenge of automated exchange of data among Member States participating in the Single Customs Territory (SCT) framework of clearing goods, indicating prevailing inefficiencies. Data transmission failures in some Partner States result in cargo clearance delays and the use of multiple bonds and declarations. Engagement with shipping lines is necessary to recognize Rwandan clearing and forwarding firms and to resolve the issue of missing manifests.

FIGURE 20: RRA SCT RELEASE AT THE PORT OF MOMBASA



Source: RRA data - 2020 and 2021

4.7 Weighbridge performance in terms of Traffic along the Northern Corridor

Inadequate RECTS seals at times and the requirement to arm all transit cargo, including those under SCT, leads to port clearance delays.

The indicator measures the average number of trucks weighed per day at the various weighbridges in respective countries of the Northern Corridor.

Kenya currently uses static scale weighbridges to help rid roads of overloaded vehicles. There are nine static weighbridges located at Athi-River, Mariakani, Webuye, Gilgil, Busia, Mtwapa, Rongo, Isinya and Bondo out of which the former five are along the Northern corridor. Table 15 illustrates

monthly average daily traffic at five weighbridges for both inbound and outbound trucks. Athi-River weighbridge recorded the highest monthly average traffic while Busia weighbridge recorded the least traffic which majorly comprises of transit cargo heading to the border points of Malaba and Busia, respectively. Traffic at Athi River

weighbridge includes traffic originating from the port of Mombasa both local and transit cargo and traffic originating from Namanga Border Point. This traffic reduces by around **50%** at Gilgil weighbridge given that some of it were destined for Nairobi and its environs.

TABLE 15: MONTHLY AVERAGE DAILY WEIGHED TRAFFIC FOR KENYA IN 2021

Month	Mariakani	Athi River	Gilgil	Webuye	Busia
January 2021	6,747	7,173	3,715	2,931	696
February 2021	6,452	8,276	3,921	2,271	704
March 2021	6,641	8,139	3,400	2,223	788
April 2021	7,107	6,733	4,298	3,402	673
May 2021	5,110	9,162	3,841	2,964	782
June 2021	4,920	8,502	3,793	3,075	712
July 2021	4,901	7,831	4,403	3,093	729
August 2021	5,587	8,031	4,173	3,102	691
September 2021	5,707	7,964	3,994	2,802	812
October 2021	3,421	7,732	4,002	2,613	1,024
November 2021	3,875	6,901	3,732	2,945	1,201
December 2021	3,985	7,310	3,902	3,394	988
Average	5,371	7,813	3,931	2,901	817

Source: KENHA 2021



4.8 Weighbridge performance in terms of compliance along the Northern Corridor

The indicator measures the percentage of trucks that comply with the gross vehicle weight and the vehicle axle load limits before and after the re-distribution of cargo as stipulated in the EAC Vehicle Load Control Act.

Analysis from Table 16 below indicates that all weighbridges recorded a steady performance in terms of compliance levels of over **90%** except for Busia weighbridge whose compliance level was steady at an average of **84%** during the year under review. Low compliance at the Busia weighbridge could be attributed to the lack of installation of the high-speed weigh-in-motion. In addition, there is a possibility that the Busia weighbridge handles

cargo that originates from the region and has not been weighed elsewhere. The target of **100%** compliance has not yet been attained. Currently, vehicle load limits are being enforced on Gross Vehicle Weight, Axle Load and Group Axle Load limits. The Maximum GVW limit is 56 tons and Maximum Axle limit is 8 tons, but this depends on the axle configuration of a truck and the type of tyres used whether super single tyres or not.

The interconnection of the weighbridges is critical to share compliance information and reduce delays at the weighbridges as a result of multiple weighing on the fixed scales.

TABLE 16: WEIGHT COMPLIANCE LEVEL(PERCENTAGE) AT WEIGHBRIDGES IN KENYA

Month	Marikani	Athi River	Gilgil	Webuye	Busia
January	99.9	98.6	94.8	91.9	79.1
February	99.7	97.4	94.4	91.4	77.0
March	98.5	98.9	93.4	93.9	83.1
April	99.0	98.3	96.5	92.1	83.5
May	99.5	98.0	97.7	94.7	80.3
June	99.0	99.2	95.1	94.0	79.5
July	98.7	97.8	94.4	94.9	87.3
August	99.1	98.5	95.1	95.0	84.9
September	98.0	98.0	96.7	95.0	80.0
October	97.4	95.8	91.2	90.3	87.9
November	97.1	97.3	93.1	89.4	89.3
December	96.0	96.0	94.3	91.4	91.8
Average	98.5	97.8	94.7	92.8	83.7



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Treasurer of the United States

Rosa Gumataotao Rios
Treasurer of the United States

UNITED STATES
FEDERAL RESERVE

Janet Yellen
Secretary of the Treasury

Rosa Gumataotao Rios
Treasurer of the United States

Photo by Giorgio Trovato on Unsplash

CHAPTER FIVE: RATES AND COSTS

This chapter analyses some of the charges incurred by traders, shippers, and transporters along the Northern Corridor using surface mode of transport. The discussion is based on data obtained from various stakeholders including port, railway

and pipeline agencies, trucking and transport companies in respective Northern Corridor Member States as well as relevant secondary data sources on surface modes of transport.

5.1 Port and Marine charges at the Mombasa seaport

Port charges are the fees paid to port authorities by shipping operators and their customers for the use of the port's facilities and services. Port charges can account for a sizable portion of the final cost of consumer goods.

Time and delays have a significant impact on the costs and charges associated with various stages of the logistics framework. At Mombasa's seaport, the following broad categories of charges apply²:

- I. Stevedoring charges levied on Dry General, Dry Bulk and Liquid Bulk cargo per Harbor Ton
- II. Stevedoring charges for containerized cargo levied on standard 20-foot (20') and 40-foot (40') containers to/from ship per move
- III. Charges for shore handling

IV. Wharfage charges

V. Storage services and penalties

VI. shore-handling, wharfage and storage charges for containers handled at nominated CFSs

VII. Charges for general services

The shore handling and wharfage charges overlap with the shipping lines' terminal handling charges, thereby increasing the cost of doing business in the region. The Ministry of Transport should conduct a review of the charges and, if possible, eliminate terminal handling charges where there are multiple charges.

Other Port and Marine costs/charges at Mombasa port are listed in Table 17 below.

TABLE 17: PORT AND MARINE CHARGES AT MOMBASA PORT

Type of cost/charge incurred	Minimum charge in USD	Notes
Pilotage	150.00	
Pilotage exemption license for Inward, Outward, and Internal vessel movements	2,000.00	The certificate shall remain valid for one (1) year from date of issue
TUG SERVICES	300 per Tug	Additional USD 15.00 per every 30 minutes or part thereof for tug ordered and present at the time of service but not used by the vessel through no fault of the Authority

² Refer to KPA tariff Book

Type of cost/charge incurred	Minimum charge in USD	Notes
MOORING SERVICES		
Mooring, un-mooring or any other mooring service for vessels of 100 GT and above	200.00	RORO, Pure Car Carriers and Passenger Vessels charged at the rate of eighty%
Vessels less than 100 GT to pay a fixed charge per operation	150.00	
Mooring Gang ordered and present at the time of service, but not used by the vessel within 30 minutes through no fault of the Authority	3.30 per 30 minutes	
LIGHT DUES⁴	150.00	Vessels, other than those exempted or paying an annual fee
PORT AND HARBOUR DUES⁵	150.00	RORO, Pure Car Carriers and Passenger Vessels shall be charged 80% of the rate
DOCKAGE, BUOYAGE AND ANCHORAGE		
Vessels at quays, wharves, or jetties	0.26	Per Metre per hour or part thereof
Vessels at buoys, or RORO vessels	0.13	
Vessels at anchorage	0.07	
SUPPLY OF FRESH WATER		
Via shore Hydrants	10.00	Rate per tonne or part thereof
In stream by barge or Tug(s)	15.00	
In stream supply ordered and present at the time of service, but not used by the vessel within 30 minutes, through no fault of the Authority, shall be charged detained thereafter	100.00 per each 30 minutes	
LAID UP VESSELS charged per week of seven (7) calendar days		
Vessels up to 10,000 GT	10.00	
Vessels over 10,000 GT	20.00	
PRIVATE MOORING, BUOYS AND JETTIES		
Facility used for crafts engaged in commercial activities at the Port of Mombasa	5,000.00	Rate per year or part thereof
Facility used for crafts engaged in commercial activities outside the Port of Mombasa	1,000.00	Rate per year or part thereof
Facility used for private craft and yachts (Non-Commercial)	300.00	Rate per year or part thereof
SECURITY DUES	100.00	Vessels other than those paying annual fee

Source: Kenya Ports Authority TARIFF

4 Please note that Vessels which are resident in Kenyan port shall pay an annual fee. The fee charged is **USD 600.00** payable annually in advance

5 Vessels which are resident in a Kenyan Port may request to pay an annual fee. The fee charged is **USD 600.00** payable annually in advance

5.2 Railway Tariff/charges

The Standard Gauge Railway's (SGR) freight train service began commercial operations in January 2018. Currently, the cost of ferrying a 20-foot container from Mombasa port to Nairobi Inland Container Depot is USD 500. Kenya Railways Tariff Notice No. 3 of 2021 (CAP.397 SECTION 51) provides freight rates for the year 2021. Table 18 details the standard charges for cargo haulage by SGR and MGR for both loaded and empty import transit containers.

Containerized dangerous goods and reefer containers are subject to a surcharge of **20%** over standard container rates. Twenty-foot containers

loaded singly on a wagon are charged at the rate applicable to 40-foot containers. Empty containers transported to Mombasa/Kilindini are charged the applicable Full Container Load rate. However, there are concerns about shipping lines' markups on cargo under TBL, which makes freight rail less competitive.

The Kenya Maritime Authority (KMA) should expedite the enactment of the revised Maritime Transporter Operators Regulations, 2020, to ensure that a legal framework exists to guide logistics service providers' tariff reviews.

TABLE 18: IMPORT TRANSIT LOADED / EMPTY CONTAINERS RATE PER CONTAINER IN USD

Rail Route	Rate USD/ container				Network
	20 FT		40 FT		
	0-30 TONS	ABOVE 30 TONS	0-30 TONS	ABOVE 30 TONS	
Kilindini - Malaba	860	960	1110	1260	SGR/ MGR
Kilindini - Kisumu	860	960	1110	1260	SGR/ MGR
Kilindini - Naivasha	650	750	865	1015	SGR
Naivasha - Malaba	350	450	460	610	MGR
Naivasha - Kisumu	350	450	460	610	MGR

Source: KR TARIFF NOTICE NO. 3 OF 2021

According to statistics, transporting cargo from Mombasa/Kilindini to Nairobi costs USD 500 for a 20-foot container and up to USD 630 for a 40-foot container weighing between 0-30 tonnes. The maximum allowed volume discounts in the upward direction is **20%** of the cumulative payable based on the standard authorized tariff per unit and are applicable only between Kilindini and ICD Nairobi/ Nairobi Freight Terminus. Kenya Railways

reduced freight charges between Mombasa and Naivasha ICD from USD 510 to USD 480 for a 20-foot container and from USD 800 to USD 680 for a 40-foot container during the pandemic, effective 2nd June 2020. This promotional cost was aimed at attracting cargo transportation using the railway. Table 19 below summarizes the freight rates for local imports from Kilindini.

TABLE 19: IMPORT LOCAL LOADED / EMPTY CONTAINERS RATE PER CONTAINER IN USD

Rail Route	Rate USD/ container				Network
	20 FT		40 FT		
	0-30 TONS	ABOVE 30 TONS	0-30 TONS	ABOVE 30 TONS	
Kilindini - Naivasha	510	610	650	800	SGR
Kilindini - Nairobi	500	600	630	780	SGR
Kilindini - Athi River	500	600	630	780	SGR
Kilindini - Kisumu	860	960	1110	1260	SGR / MGR
Nairobi - Naivasha	150	250	235	385	SGR

Source: KR TARIFF NOTICE NO. 3 OF 2021



Demurrage charges apply when customers retain wagons beyond the Corporation's free period for loading and unloading goods. All goods, with the exception of dangerous, offensive, and perishable goods, are subject to demurrage charges. For local traffic, consignors are allowed 24 consecutive hours from the time the wagons are placed, to load and consign their goods, and 48 consecutive hours to load and consign transit goods. The time allowed for unloading of goods will be 24 consecutive hours for all types of traffic. The free unloading period shall be calculated from the time wagons

are placed for unloading. Demurrage charges will be computed as follows:

- First 24 consecutive hours or part thereof after the expiry of the free period= USD 100
- 2nd to 4th day after expiry of the free period =USD 150 (per 24hours)
- 5th to 10th day of expiry of the free period = USD 200 (per 24hours)
- After the 10th day, the demurrage charges will escalate by **10%** every week.

TABLE 2019: RATES FOR CONTAINERIZED CARGO, UPWARD DIRECTION

Rail Route	Export Container		Empty Container		Network
	20FT	40FT	20FT	40FT	
Malaba - Mombasa	450	690	100	150	MGR /SGR
Kisumu - Mombasa	450	690	100	150	MGR /SGR
Malaba - Naivasha	195	330	50	75	MGR
Kisumu - Naivasha	195	330	50	75	MGR
Malaba - Nairobi	225	385	70	100	MGR
Kisumu - Nairobi	225	385	70	100	MGR
Naivasha - Mombasa	255	360	50	75	SGR
Naivasha - Nairobi	100	150	50	75	SGR
Nairobi - Mombasa	250	350	50	75	SGR
Athi river - Mombasa	250	350	50	75	SGR

Source: KR TARIFF NOTICE NO. 3 OF 2021

Additionally, there is another cost associated with the ICDE - KR Transit Shed on the MGR network, which charges USD 120 for 20-foot TEUs and USD 190 for 40-foot TEUs.

The railway has improved passenger and freight transport operations by reducing travel time, increasing transport safety and security, and increasing mobility and accessibility. While the SGR

has resulted in lower travel costs for passengers, freight transportation costs remain relatively high.

Table 21 provides meter gauge railway tariff rates for transporting cargo to and from Malaba to Kampala. The estimated costs were USD 445 for a 20-foot container and up to USD 740 for a 40-foot container weighing between 0-30 tonnes.

TABLE 21: RAILWAY TARIFF IN UGANDA

From	To	20FTCONTAINER			40 FT	
		0-30 TONS	30.1-34 TONS	1X20ft Empty	1X40ft (Any weight)	1X40ft Empty
Malaba	Kampala	445	940		740	
Kampala	Malaba	280	360	40	280	60

Source: URC

5.3 Pipeline Charges/Tariff

In Kenya, pipeline transportation rates are published and gazetted on a periodic basis by the Energy and Petroleum Regulatory Authority (EPRA) pursuant to section 11 (b) of the Energy Act, 2019. The current fuel tariffs listed in Table 22 were published in November 2019. In the long run, the tariff is expected to be lower. Tariffs set forth above came into effect on 15th February 2021.

KPC's fuel transportation rates by pipeline have been decreasing in recent years as a result of pipeline infrastructure improvement and expansion. Additionally, fuel charges for local and imported fuel vary by terminal and distance. The tariff shown below is a composite of costs associated with transportation, storage, and handling.

TABLE 22: PIPELINE RATES SET BY EPRA EFFECTIVE 15TH FEBRUARY 2021

	Tariff 2019/2020	Tariff 2020/2021	Tariff 2021/2022
Applicable tariff (Ksh. /M ³ /Km) ***	5.07	4.81	4.61
Moi Airport (USD/M ³)	22.52	21.37	20.48
Jomo Kenyatta Airport (USD/M ³)	22.52	21.37	20.48
Nairobi Terminal (Ksh. /M ³)	2,281.5	2,064.5	2,074.5
Nakuru Terminal (Ksh. /M ³)			
Local (Ksh. /M ³)	3,138.33	2,977.39	2,853.59
Export (USD/M ³)	30.98	29.39	28.17
Eldoret Terminal			
Local (Ksh. /M ³)	4,035.72	3,828.76	3,669.56
Export (USD/M ³)	39.84	37.80	36.22
Kisumu Terminal			
Local (Ksh. /M ³)	4,030.65	3,823.95	3,664.95
Export (USD/M ³)	39.79	37.75	36.18

Source: KPC

Data from Rwanda indicate that the cost of transporting fuel by a tanker from Mombasa and Dar-es-Salaam to Kigali stood at USD 130 per cubic Metre. Transporting fuel by tankers to Kigali from Eldoret and Kisumu cost USD 60 per Metre, USD 70 from Nakuru, and USD 90 from Nairobi, which is significantly less expensive and shorter in distance.

For transport of fuel to Goma, DRC, fuel tankers charged USD 5,000 per cubic Metre per kilometre from Nairobi and Nakuru; USD 4,500 from Kisumu and Eldoret terminals; and USD 9,000 from Dar es Salaam.

TABLE 23: TRANSPORT RATES FOR TANKERS

From	Goma	Kigali
Mombasa		130/M ³
Nairobi	USD 5,000	90/M ³
Nakuru	USD 5,000	70/M ³
Kisumu	USD 4,500	60/M ³
Eldoret	USD 4,500	60/M ³
Dar-es salaam	USD 9,000	130/M ³

Source: FEC and ACPLRWA 2021

5.4 Road Freight Charges/Tariff

Freight rates are largely determined by traders' direct and indirect costs. The discussion in this section focuses on freight transport rates for moving freight by road between origin and destination based on data gathered from various

trucking and transportation companies in the Northern Corridor's Member States. The scope was limited to the costs incurred by truckers, not all logistics costs.



5.4.1 Transport charges/rates for Burundi Truck Transporters

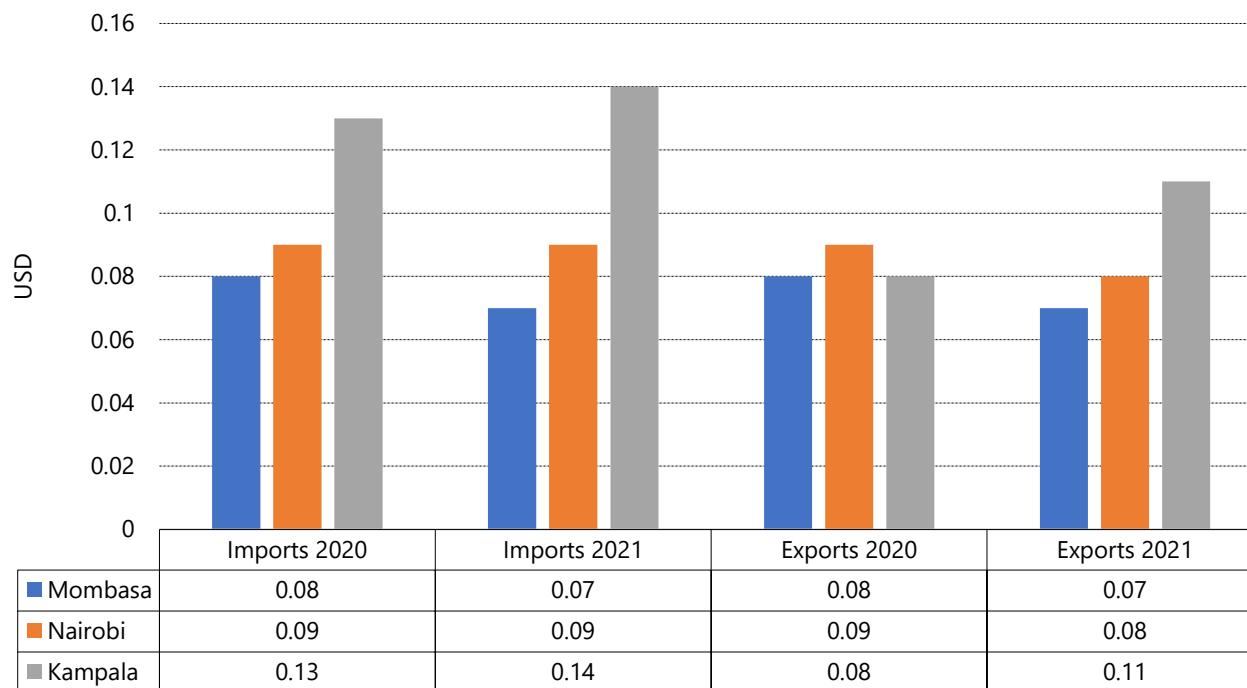
Imports from Nairobi and Kampala to Bujumbura were significantly more expensive per kilometre than those from Mombasa at USD 0.09 and 0.14, respectively. This is despite the former having shorter distances. Several factors have been identified as contributing to cost increases, including road tolls, multiple border charges, and the novel COVID-19 test fees at various border crossings.

Tariff costs were lowest on the Mombasa-Bujumbura route, at USD 0.07 per kilometre per ton for both imports and exports. This could be because the Mombasa-Voi-Taveta/Holili route to Bujumbura is shorter than the traditional Northern

Corridor route via Malaba and Kampala. Coffee, tea, iron, steel, cement, and other construction materials are just a few of the goods transported. The majority of goods from Kenya originated in Nairobi and Mombasa. **Figure 21** summarizes transport charges to/from Bujumbura in USD as of December 2021.

The other charges identified include:

- COVID-19 test @ USD 50 in Kenya
- Road user charge at Kajiado @ USD 20
- Mombasa County fees @ USD 60 dollars
- COVID-19 test @ USD 25 dollars in Uganda

FIGURE 21: CURRENT TRANSPORT TARIFF IN USD FOR BURUNDI TRANSPORTERS IN 2021

Source : “Association des Transporteurs Internationaux du Burundi”, 2021

Additionally, Burundi transporters reported that Burundi appears to prefer to ship her cargo through Dar es Salaam port due to cost and distance. In comparison to the Northern Corridor, the Central Corridor is less expensive due to a single border crossing and a single road toll payment saving on

time and cost. The distance from Mombasa to Bujumbura is 1,957 kilometres, while Dar Es Salaam port to Bujumbura is 1,640 kilometres making the route from Dar Es Salaam to Bujumbura shorter by 317 kilometres.

5.4.2 Transport charges/rates for DRC Truck Transporters

The highest tariffs in Congo were on the Kampala–Butembo and Bunia–Butembo–Goma routes, which cost USD 6.59 and USD 5.29, respectively. The high cost of these routes may be attributed to poor road conditions along these segments, road block between Komanda and Beni (700 USD

paid in one office), insecurity along the route thus extra costs for escort, VISA charges, road user fees of approximately USD 300 and domestic taxes. Mombasa to Goma and Butembo were less expensive, at USD 2.99 and USD 1.78, respectively. Table 24 shows the transport rates in the DRC.

TABLE 24: THE CURRENT TRANSPORT TARIFF IN USD IN DRC IN 2021

From	To	Distance (Km)	Rate (USD) for 20-foot container in 2021	Rate (USD)/ TEU per Km
Mombasa	Goma	1,838	5,500	2.99
Mombasa	Bunia	1,666	6,000	3.60
Mombasa	Butembo	1,746	5,500	3.15

From	To	Distance (Km)	Rate (USD) for 20-foot container in 2021	Rate (USD)/ TEU per Km
Mombasa	Goma	1,838	5,500	2.99
Nairobi	Goma	1,357	5,000	3.68
Nairobi	Butembo	1,265	5,000	3.95
Nairobi	Bunia	1,040	5,500	5.29
Kampala	Butembo	577	3,800	6.59
Bunia	Butembo	251	1,200	4.78
Butembo	Kampala	577	2,250	3.90
Butembo	Mombasa	1746	3,100	1.78

Source: FEC, December 2021

Table 25 below presents the number of return trips made in a month from Goma to various destinations for the year 2021. The Goma-Kigali route witnessed the highest roundtrips 6 per month which could be

attributed to shorter distance (156Km) between the two cities. Contrary, the export route to Mombasa had minimum return trips of only two per month.

TABLE 25: NUMBER OF RETURN TRIPS FROM GOMA TO VARIOUS DESTINATIONS

From	To	Number of return trips
Goma	Butembo	4
Goma	Bunia	4
Goma	Bujumbura	4
Goma	Kampala	4
Goma	Kigali	6
Goma	Juba	2
Goma	Nairobi	2
Goma	Mombasa	2

Source: FEC, December 2021

5.4.3 Transport charges/rates for Kenyan Truck Transporters

Table 26 compares road freight charges in Kenya to various destinations along the corridor for the year 2021 in USD. For the period under review, road freight charges were lower on the Kampala and Nairobi-Mombasa routes, implying an improved business environment and improved road condition, both of which have a positive bearing on costs. The average transport costs from Mombasa to Goma and Juba were USD 2.85 per Km and USD 2.41 per Km, respectively, which

could be attributed to the distance covered, the multiple border crossings, and capital cities that trucks must pass through. Moreover, differences in average cost are influenced by factors that vary by destination route.

Due to the shorter distance covered on the Mombasa Nairobi route, the number of return trips was high. Mombasa to Goma trip recorded the lowest turnaround number of 1 due to the

long distance covered. In 2021, the average distance (kilometres) covered per truck was low, ranging between 70,000 and 80,000 kilometres, well below the port charter target of 120,000 to

150,000 kilometres. COVID-19 was also identified as a significant factor in determining the average distance covered by trucks.

TABLE 26: TRANSPORT RATES TO VARIOUS DESTINATIONS IN KENYA IN 2021

From	To	Distance (Km)	Tariff Per Container/Km 2021	Number of Round trips in a month
Mombasa	Nairobi	481	1.81	8-10
Mombasa	Kampala	1,169	1.80	3
Mombasa	Kigali	1,682	1.96	2
Mombasa	Goma	1,840	2.85	1
Mombasa	Juba	1,662	2.41	2
Nairobi	Mombasa	481	0.83	
Kampala	Mombasa	1,169	0.86	
Kampala	Nairobi		1.16	

Source: KTA Transport Rates

Among the challenges experienced by transporters, the following were listed

- I. Shortage RECTS of seals is causing delays and increasing turnaround time.
- II. The border traffic arising from the border crossing procedures, particular issues to do with scanners and verification.
- III. The short cut to Lwakhakha border in Uganda has been closed forcing trucks to go through Mbale thereby covering 120 Km instead of 45 Km through the shortcut.
- IV. Insecurity from Bonje to Mazeras and the jam that builds up at Mazeras in the evening.
- V. Booking for trucks inspection was also raised as a challenge to the smooth scheduling of trucks.

5.4.4 Transport charges/rates for Rwandan Truck Transporters

Table 27 summarizes the freight costs associated with transporting a 20/40-foot container within Rwanda, as well as the average number of round trips made by transporters between Kigali and other destinations. Analyzed data show that transporting cargo from Bujumbura to Kigali is costlier than other destinations farther to/from Kigali, at USD 6.55 per

TEU per Km USD. According to the statistics, the majority of round trips made from Kigali were to Kampala and Goma, with an average of seven and six trips, respectively. In 2021, the average annual distance covered by trucks was approximately 70,000 kilometers due to the implementation of cross-border COVID-19 procedures.

TABLE 27: THE CURRENT TRANSPORT TARIFF IN USD IN RWANDA 2021

From	To	Distance (Km)	Rate/ Container (USD)	Rates Per container/ Km (USD)	Number of Round Trips		
					2019	2020	2021
Mombasa	Kigali	1,682	4,000	2.38			
Nairobi	Kigali	1,201	3,000	2.50			
Bujumbura	Kigali	275	1,800	6.55			
Kampala	Kigali	513	2,000	3.90			
Goma	Kigali	156	1,000	6.41			
Kigali	Mombasa	1,682	3,000	1.78	2.5	2.5	2.5
Kigali	Nairobi	1,201	2,000	1.67	4	3.5	4
Kigali	Juba	1,166	7,500	6.43	1	1	1
Kigali	Bujumbura	275	1,800	6.55	5	4	2
Kigali	Kampala	513	600	1.17	7	6	7
Kigali	Goma	156	1,000	6.41	6	5	6

Source: ACPLRWA December 2021

5.4.5 Transport charges/rates for South Sudan Truck Transporters

South Sudan is vast, requiring transporters to cover some of the longest distances. Exports from Juba to Mombasa incurred a lower charge of USD 2.11 per TEU/Km when compared to other destinations, despite the long distance. Imports from Nairobi to Juba cost USD 2.18 per TEU/Km, while those from Mombasa cost USD 2.71 per TEU/Km. The

Juba – Kigali route recorded higher costs, at USD 5.15 per TEU/Km, implying that cross border logistics and other concerns, such as security, impact the cost of cargo transportation to different destinations. Table 28 presents a summary of the road transport rates from and to Juba and other Northern Corridor Member States cities.

TABLE 28: TRANSPORT TARIFF IN USD FOR SOUTH SUDAN TRANSPORTERS IN 2021

From	To	Distance (Km)	Rate per TEU per Km in USD
Mombasa	Juba	1,662	2.71
Nairobi	Juba	1,145	2.18
Kampala	Juba	653	3.83
Kigali	Juba	1,166	
Juba	Mombasa	1,662	2.11
Juba	Nairobi	1,145	2.62
Juba	Kampala	653	3.06
Juba	Kigali	1,166	5.15

Source: B&S group of companies



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Transrollers

CHAPTER SIX: TRANSIT TIME AND DELAYS

The transit time is the time elapsed from leaving the origin port of the cargo to arrival at its destination. It is a significant factor in determining consumers' freight charges and costs. Consignees desire short transit times in order to reduce inventory holding costs and expenses associated with non-production operations.

This section analyses the time it takes for a truck to deliver cargo to various destinations along the Northern Corridor routes in the respective Northern Corridor Member States. Transit time factors stoppage, weighbridge, and border crossing times.

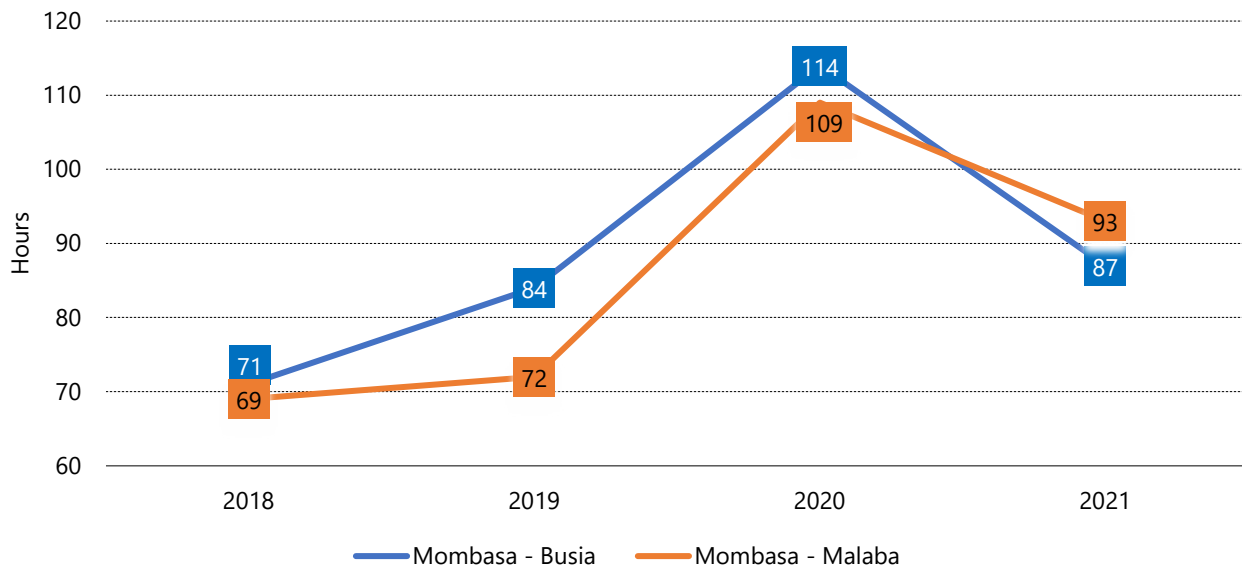
6.1 Transit time in Kenya under RECTS Regime

The data discussed under this section was provided by the Regional Electronic Cargo Tracking System (RECTS) operated by the Kenya Revenue Authority (KRA). RECTS is a system that facilitates end-to-end monitoring of transits along the Northern Corridor. It has significantly enhanced cargo security, facilitated tracking of movement of goods along the Northern Corridor, and provides data on transit times.

The distance between Mombasa and Malaba is 933 kilometers. The average transit times along the Mombasa-Malaba and Mombasa-Busia routes in Kenya have been on the rise over the past four-year period as illustrated in **Figure 22** below. The performance for transit time on both routes was

above the Mombasa Port Charter target of 40 hours and 45 hours from Mombasa to Malaba and from Mombasa to Busia by December 2022, respectively. This performance indicates that cargo movement along the corridor continues to face some challenges. Among them high frequency of stoppages along the Northern Corridor by drivers, border crossing delays, road accidents, infrastructure bottlenecks, and the COVID-19 pandemic, which emerged as a Non-Tariff Barrier (NTB). On the positive side, various initiatives are being implemented to enhance seamless and smooth flow of cargo. For instance, road construction works are ongoing on various road sections along the Northern Corridor in Kenya.

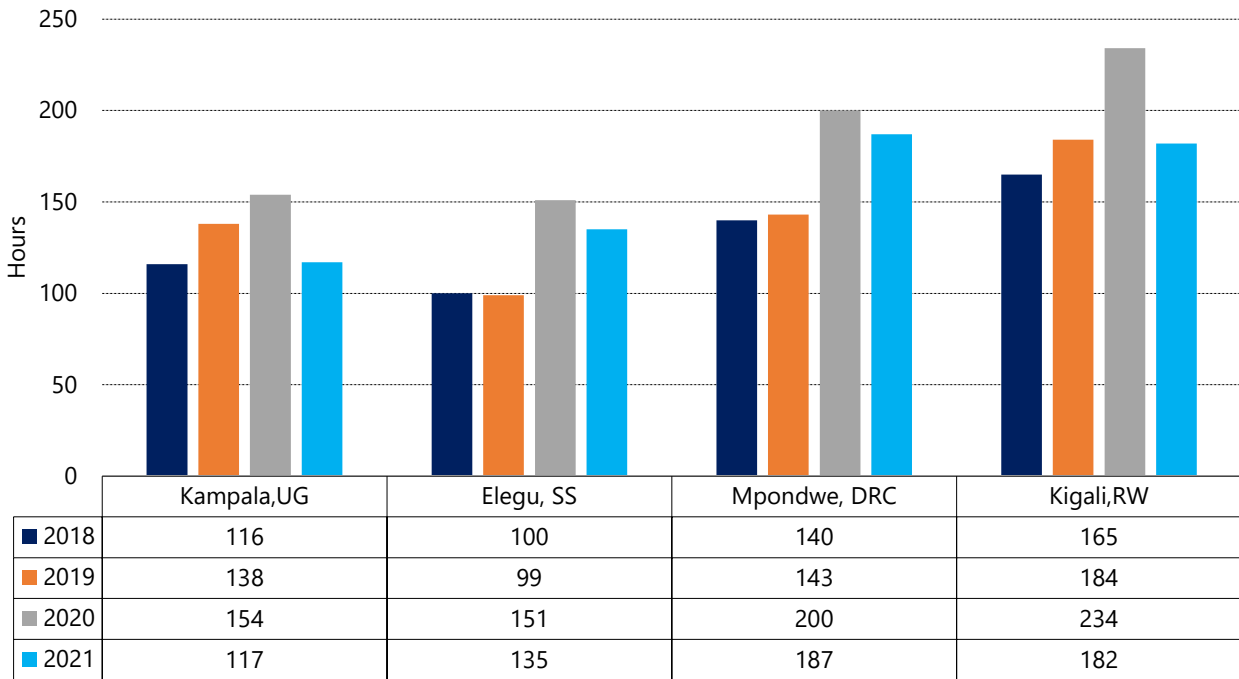
FIGURE 22: TRANSIT TIME FROM MOMBASA TO KENYA BORDERS



The data shows transit time from Mombasa to respective Northern Corridor Member States. The trend shows improved transit time in the year 2021 when compared to 2020 across all the routes. However, it is noteworthy that the transit times are still higher compared to pre-COVID-19.

This performance suggests that there are factors constraining cargo movement on these routes over the review period. Sometimes it takes longer for the RECTS gadgets to be disarmed when a truck has already arrived which may contribute to an increase in transit time.



FIGURE 23: TRANSIT TIME FROM MOMBASA TO DESTINATION

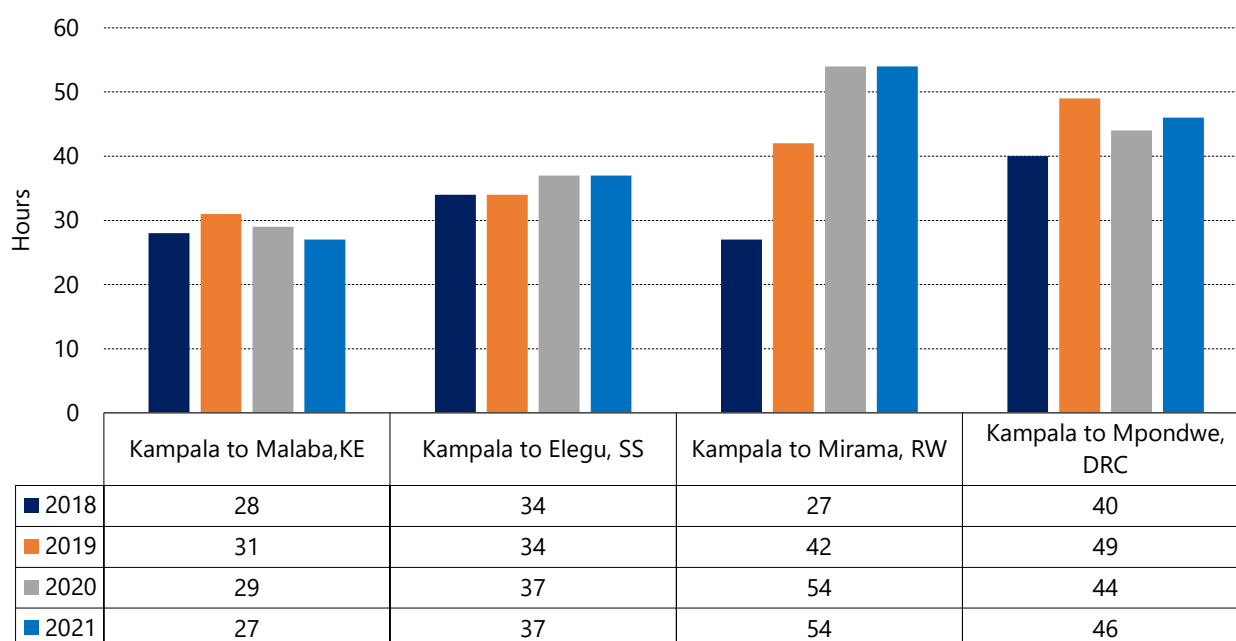
Source: RECTS and ASYCUDA data various years

6.2 Transit time in Uganda under RECTS Regime

Transit time in Uganda as used in this report is defined as the time taken to move cargo from the two entry border points of Malaba and Busia to the various destinations in Uganda.

Figure 24 below illustrates the trend in transit times between Kampala and various border crossing points along the Northern Corridor from 2018 to 2021. Average transit time improved or remained steady on all the routes over the years except the Kampala-Mpondwe route with fluctuations in transit time. The route connecting Kampala and

Mpondwe is in fair condition and is currently undergoing rehabilitation on various sections. UNRA has projected traffic volume for 2022 on the route at about 39,000. Efforts must be made to minimize the number of checkpoints and the time spent at each checkpoint in order to reduce the time taken to move cargo along the corridor. In 2021, Kampala to Elegu route was the fastest, averaging 12 Km/h, compared to the Mirama route, which averaged 7 Km/h despite the shorter distance.

FIGURE 24: TRANSIT TIME FROM KAMPALA TO VARIOUS DESTINATIONS IN HOURS

Source URA RECTS for various years

6.3 Transit time in Rwanda under ASYCUDA System

The indicator measures the time a truck is allowed (electronically in Rwanda Revenue Authority's system) to commence the transit journey to the time the bond is cancelled on the exit border.

Table 26 shows the average transit time from Kagitumba/Mirama Hills and Cyanika/Cyanika key Rwanda entry borders for the year 2021. From the

analysis, average transit time varied across the routes depending on the distance and number of non-tariff barriers measured. Cyanika to Rubavu was the slowest route with an average speed of 3 Km/h despite being the shortest route. Similarly, Kagitumba to Kigali was the slowest route compared to Kagitumba to Rubavu.

TABLE 29: TRANSIT TIME IN RWANDA

Route	Distance	Transit Time (Hours)
Cyanika to Rubavu	79.6	43.46
Cyanika to Rusizi II		33.31
Cyanika to Kigali	118.3	93.05
Kagitumba to Rubavu	281	63.89
Kagitumba to Kigali	212	121.92

Source: ASYCUDA data, 2021



6.4 Transit time in Burundi under ASYCUDA System

Transit times in Burundi were measured from Kanyaru Haut and Gasenyi to the major nodes and customs border points of Bujumbura Port and Kayanza; and the Gatumba border with DRC.

The data indicates that transit times were significantly high on all routes, indicating that barriers to cargo movement continue to exist along

the route, pointing to prevailing inefficiencies. The long transit delays on the routes were attributable to steep terrain and poor road conditions resulting from damage caused by rain and overloaded vehicles. Table 30 shows the average transit time in Burundi in hours from January to December 2021.

TABLE 30: TRANSIT TIME IN BURUNDI JAN TO DEC 2021 IN HOURS

Route	Average Transit time	Count	Minimum	Maximum
BUJUMBURA-PORT TO:				
Burundi Bureau Fronti�re TDU	293.14	3414	155.05	429.41
GASENYI 1	169.73	6	159.07	180.37
KANYARU-BAS	192.83	1	192.83	192.83
GATUMBA TO:				
BUJUMBURA-AEROPORT	290.30	1	290.30	290.30
BUJUMBURA-PORT	153.11	203	5.24	259.99
GITEGA-DEDOUANEMENT TO:				
Burundi Bureau Fronti�re TDU	280.39	1407	133.23	383.41
MUGINA	365.31	1	365.31	365.31

Route	Average Transit time	Count	Minimum	Maximum
KAYANZA-DEDOUANEMENT TO:				
Burundi Bureau Frontière TDU	246.19	174	196.88	284.93
MUGINA	43.66	2	21.03	66.28
MABANDA TO:				
Burundi Bureau Frontière TDU	125.15	91	72.55	146.29
MUGINA	57.76	4	57.76	57.76
MUGINA TO:				
BUJUMBURA-PORT	39.67	34	39.67	39.67
KAYANZA-DEDOUANEMENT	90.06	10	27.26	153.63
MABANDA	10.82	474	0.70	50.72

Source: OBR data 2021

6.5 Stoppage reasons for Cargo along the Northern Corridor

The data presented in this section was gathered during the NCTTCA's road survey in order to identify trade barriers along the corridor in 2021. A total of 39,562 trips were logged from a sample of randomly selected drivers who plied the Northern

Corridor route. Kenya and Uganda were the primary destinations of all trips made, accounting for the majority of cargo leaving Mombasa at **65%** and **34%**, respectively. Table 28 shows the distribution of trucks by destination country.

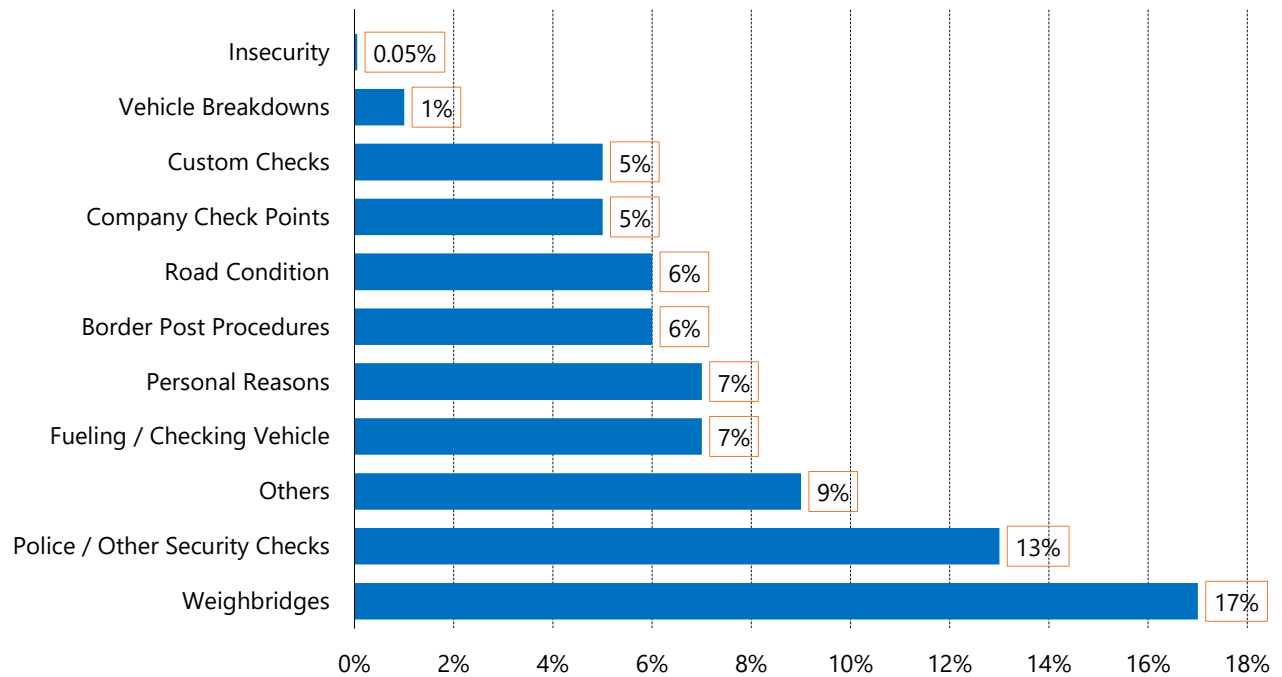
TABLE 31: NUMBER OF TRIPS BY DESTINATION

Destination	Frequency	Share in Percent
DRC	16	0.04
Kenya	25,775	65.02
Rwanda	112	0.28
South Sudan	19	0.05
Uganda	13,285	33.51
Not Indicated	434	1.09
Grand Total	39,642	100.00

Source: Transport Survey data

Statistics revealed that a significant proportion of stops were occasioned by drivers' need for rest and meals (**24%**); followed by stops at weighbridges (**17%**); stops for Police/Security checks (**13%**) and stoppages for other reasons (**9%**) such as offloading/loading, parking, car wash, accident, convoy breakdown, and mobile money services (i.e., Mpesa), among others. Stops for rest and meals were observed at Mtito Andei, Busowa,

Kikopey, Maungu, Longonot, Cheptiret, Salgaa, Bukembe, Kimaeti, Masimba, Jua Kali, Mbiko, Machakos junction, Salama, Kwa DC, and Malili. Certain stops lack service amenities for drivers. Accelerating the implementation of Roadside Stations (RSS) would significantly reduce the frequency of unnecessary stops, as well as accrue benefits such as crew health and well-being of the drivers.

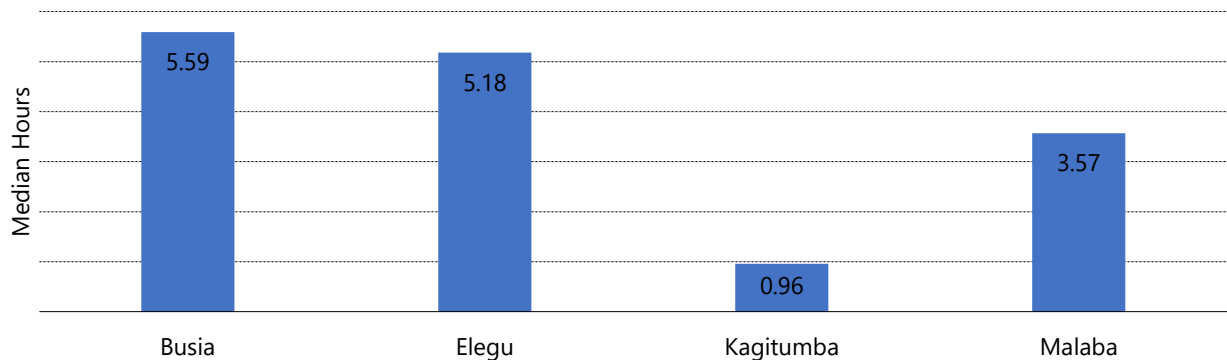
FIGURE 25: PREVALENCE STOPPAGE REASONS IN PERCENTAGE 2021

Source: Road Survey data 2021

6.6 Crossing times along the Northern Corridor

Border delays hinder efficient trade logistics, impacting on transport costs and charges, and ultimately trade competitiveness. To improve the efficiency of border crossings in East Africa, the region resolved to convert the region's main border crossings into Stop Border Posts (OSBPs), offering a one-stop shop where all border agencies on both sides of the border facilitate the clearance processes, thereby reducing border crossing times. The Northern Corridor has

implemented OSBPs at key border crossings for seamless trade flow. According to the Transport Survey 2021, border crossing times at the Busia and Elegu borders were lengthy at 6 and 5 hours, respectively. This demonstrates that the benefits of the Single Customs Territory and the OSBP have not yet been fully realized at the borders. To alleviate congestion, it is necessary to improve system connectivity and to provide sufficient packing yards at the border.

FIGURE 26: MEDIAN BORDER CROSSING TIMES IN HOURS

Source: Road survey data, 2021

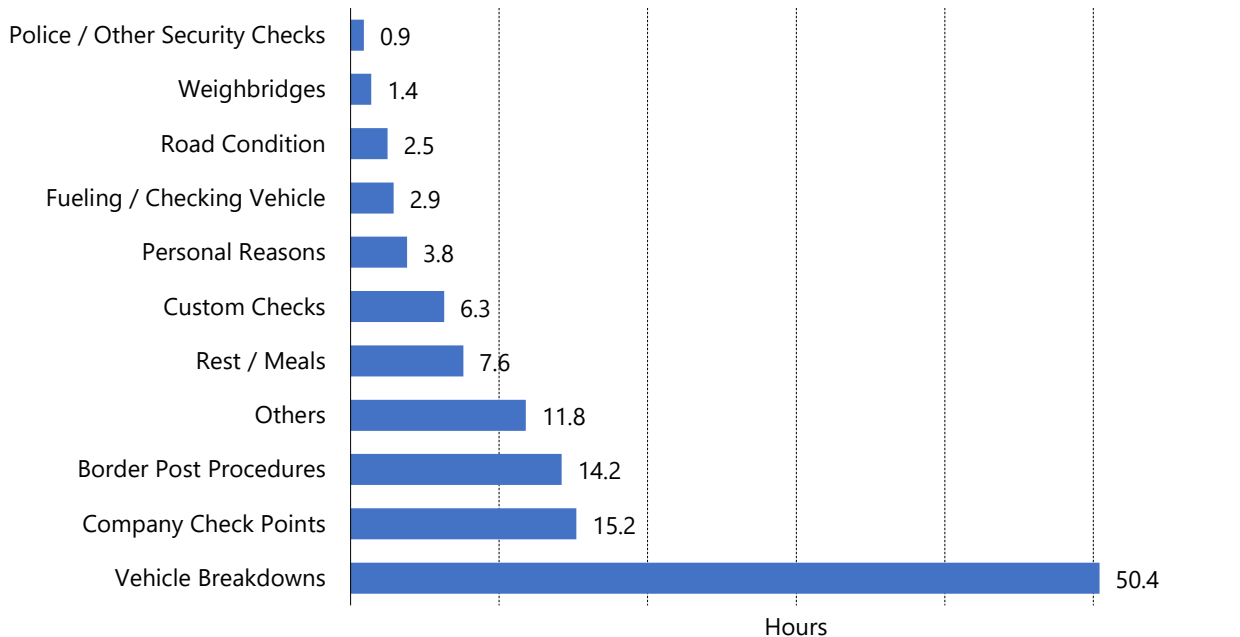


Trucks crossing the Malaba border bridge between Kenya and Uganda

Vehicle breakdown accounted for longer duration of stops at approximately 2 days. The time spent at the weighbridges was approximately 1.4 hours, with the non-compliant trucks taking the longest. Numerous stops result in decreased efficiency as

a result of delays, which raises the cost of doing business and reduces competitiveness. A summary of the average stop duration in hours is presented in **Figure 27** below.

FIGURE 27: AVERAGE STOP DURATION ALONG THE CORRIDOR IN HOURS

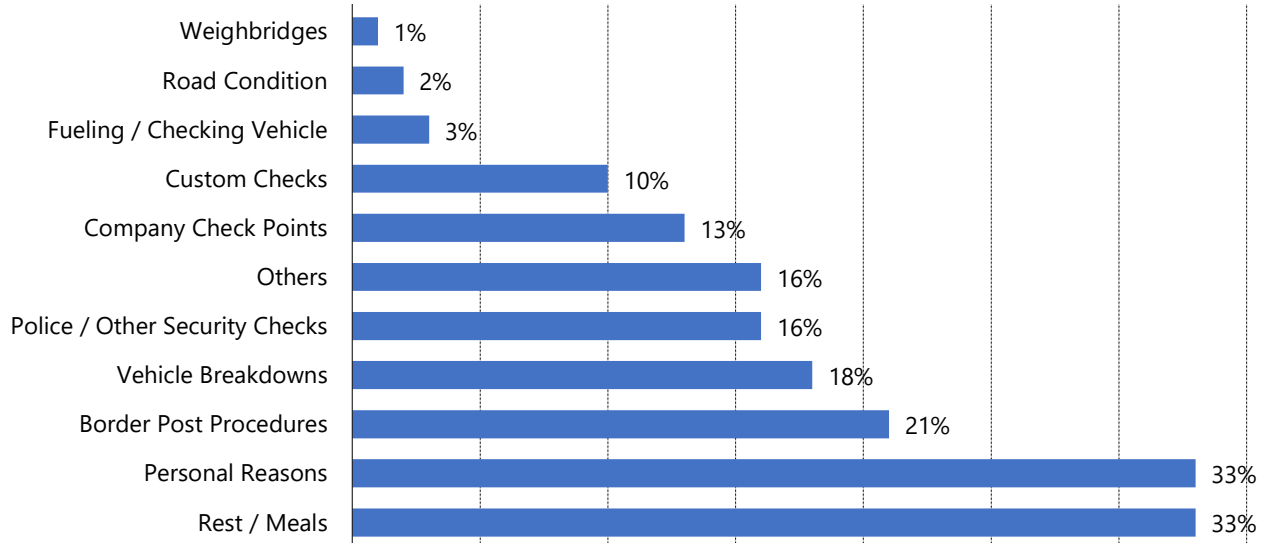


Source: Road survey data, 2021

Insecurity, rest and meals, and personal reasons account for the majority of stops, resulting in some charges for food and accommodation, followed by

Border Post Procedures. The majority of charges at the border are for parking and road user fees.

FIGURE 28: PROPORTION OF STOPS THAT ATTRACT CHARGES/FEEES

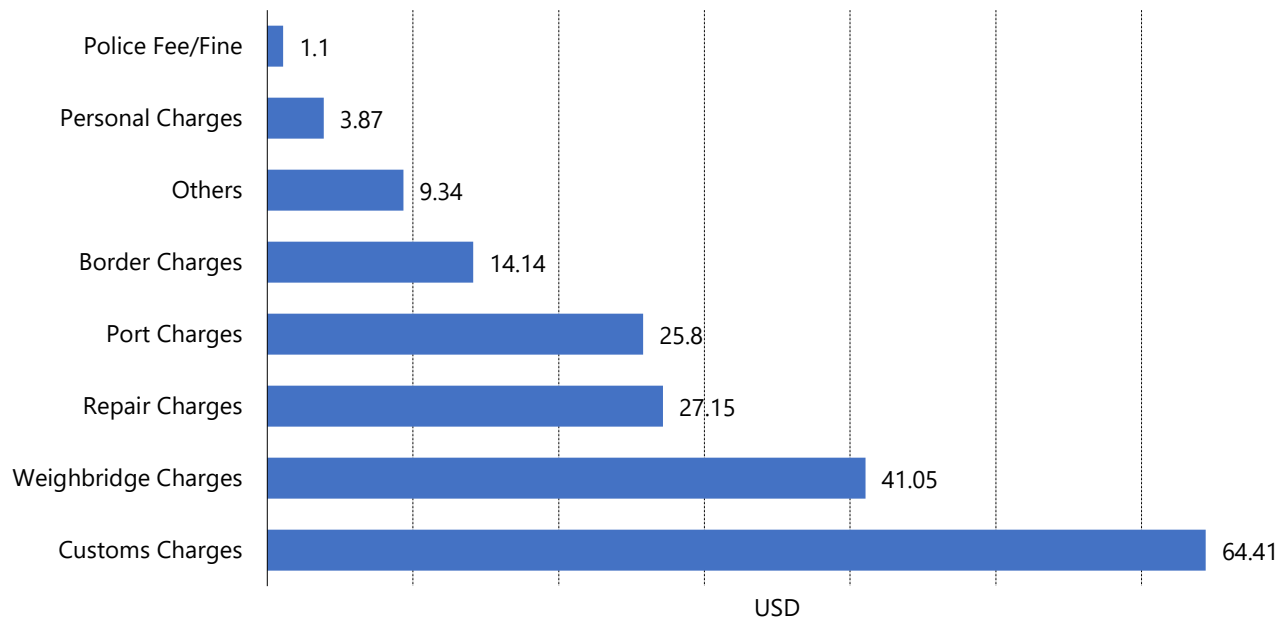


Source: Road survey data, 2021

As shown in the **Figure 29** below, the average fee payment per stop is USD 64.41 for customs charges; USD 41.05 for weighbridges; USD 1.10 for police fees/fines; and USD 14.14 for border

charges. Additionally, drivers recorded clearance fees, bribes, charges for truck security, shopping, and truck washing.

FIGURE 29: AVERAGE COST PER STOP CATEGORY IN USD



Source: Road survey data, 2021

SAFE JOURNEY
BON VOYAGE
URUGENDO RUHIRE

Democratic
Republic of Congo ↑



CHAPTER SEVEN: INTRAREGIONAL TRADE

This chapter analyzes trade flows between Northern Corridor Member States in 2021. Additionally, comparative analysis is performed with prior years for which data was available. The data sources were institutions responsible for national

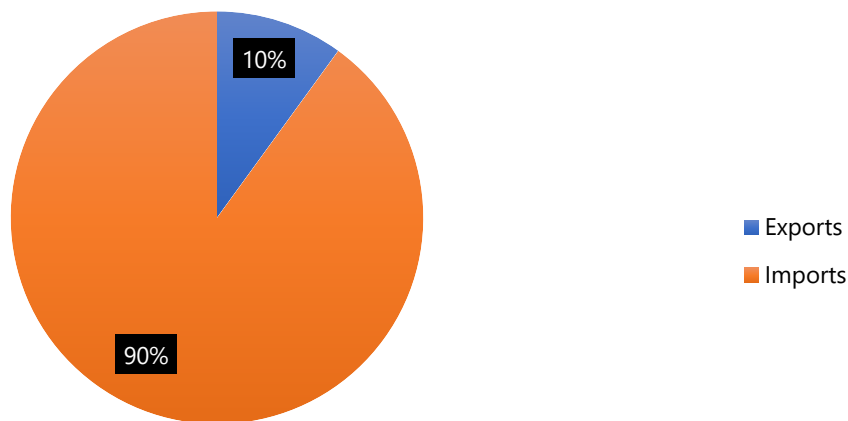
trade statistics in the respective countries. As a result of the analysis, the potential trade impact of the six Member States is determined, and policy recommendations are provided to fully exploit the Northern Corridor's intraregional trade potential.

7.1 Formal Trade between Burundi and other Northern Corridor Member States

Burundi's total international trade volume was approximately USD 1.4 billion, with imports accounting for USD 1.3 billion (90% of total trade volume) and exports accounting for USD 143.8

million (10% of total trade volume), as illustrated in **Figure 30** below, indicating that Burundi is a net importer with a USD 1.1 billion trade deficit.

FIGURE 30: TOTAL TRADE VOLUME WORTH IN USD IN BURUNDI 2021



Source: ISTEEDU 2021. Please note the conversion rate used is 1 USD is equivalent to 2,016.8 BIF

Exports to other African countries, mostly DRC, Kenya, Tanzania, Egypt, and Sudan, formed for a sizable portion of Burundi exports, accounting for a combined **48%** of total exports. While exports for Burundi were more integrated in Eastern and Northern African countries (**48%**) than in the Asian trading bloc (**43%**), imports were more integrated in the Asian trading bloc, implying the existence

of strong ties with trading blocs outside Africa in terms of imports. Similarly, the African trading bloc accounted for a significant portion of Burundi imports, accounting for **21%** of total Burundi imports. Tanzania, Kenya, Uganda, and Zambia were all among the top ten countries Burundi imported from.

TABLE 32: TOP MARKET FOR EXPORTS AND IMPORTS IN USD -2021

Country of destination	Exports in USD	Share of total exports	Country of Origin	Imports in USD	Share of total imports
DRC	42,621,008	30%	China	188,176,685	15%
BELGIUM	14,950,131	10%	Saudi Arabia	143,047,051	11%
Pakistan	12,407,499	9%	Tanzania	106,327,659	8%
Tanzania	8,788,071	6%	UAE	94,005,014	7%
Egypt	5,882,207	4%	India	92,966,437	7%
Kenya	5,839,151	4%	Kenya	65,350,930	5%
Sudan	5,810,610	4%	Uganda	64,187,953	5%
Oman	5,608,729	4%	BELGIUM	32,016,596	3%
Germany	5,026,067	3%	Zambia	29,436,584	2%
UAE	4,654,364	3%	Japan	29,340,097	2%

Source: ISTEEDU 2021. Please note the conversion rate used is 1 USD is equivalent to 2,016.8 BIF

Burundi's total trade with Northern Corridor Member States was approximately USD 221 million. Whereas imports accounted for **76%** of the total trade, exports accounted for **24%**. Kenya and the DRC accounted for a considerable proportion of Burundi's imports and exports, accounting

for approximately **36%** and **28%** of total trade by Burundi with Northern Corridor Member States, respectively. The Democratic Republic of the Congo accounted for the lion's share of Burundi exports, accounting for **81%** of total exports to Northern Corridor Member States.

TABLE 33: TOTAL VALUE OF BURUNDI TRADE WITH OTHER NORTHERN CORRIDOR STATES IN USD

COUNTRY	Exports from Burundi	Imports to Burundi	Total Trade
DRC	42,621,008.30	18,897,609.04	61,518,617
Kenya	6,176,140.33	73,909,705.40	80,085,846
Rwanda	228,555.58	3,634,959.90	3,863,515
Uganda	3,286,205.29	72,374,979.49	75,661,185
Grand Total	52,311,909	168,817,254	221,129,163

Source: ISTEEDU 2021. Please note the conversion rate used is 1 USD is equivalent to 2,016.8 BIF

7.2 Formal Trade between DRC and other Northern Corridor Member States

In 2021, DRC had an overall annual trade value of approximately USD 1.25 billion trading with Northern Corridor Member States except South Sudan, with exports accounting for only **6%** of total trade and imports accounting for **94%**, as shown in Table 334 below. According to the statistics, DRC is a net importer when trading with the Northern

Corridor Member States, with USD 1.1 billion trade deficit. Rwanda was the primary market for DRC imports, accounting for approximately **48%**. DRC's total trade with Uganda and Rwanda was **28%** and **47%**, respectively. Kenya accounted for **45%** of DRC exports, followed by Burundi at **25%** and Rwanda at **22%** during the period under review.

TABLE 34: TOTAL VALUE OF DRC TRADE WITH OTHER NORTHERN CORRIDOR STATES IN USD

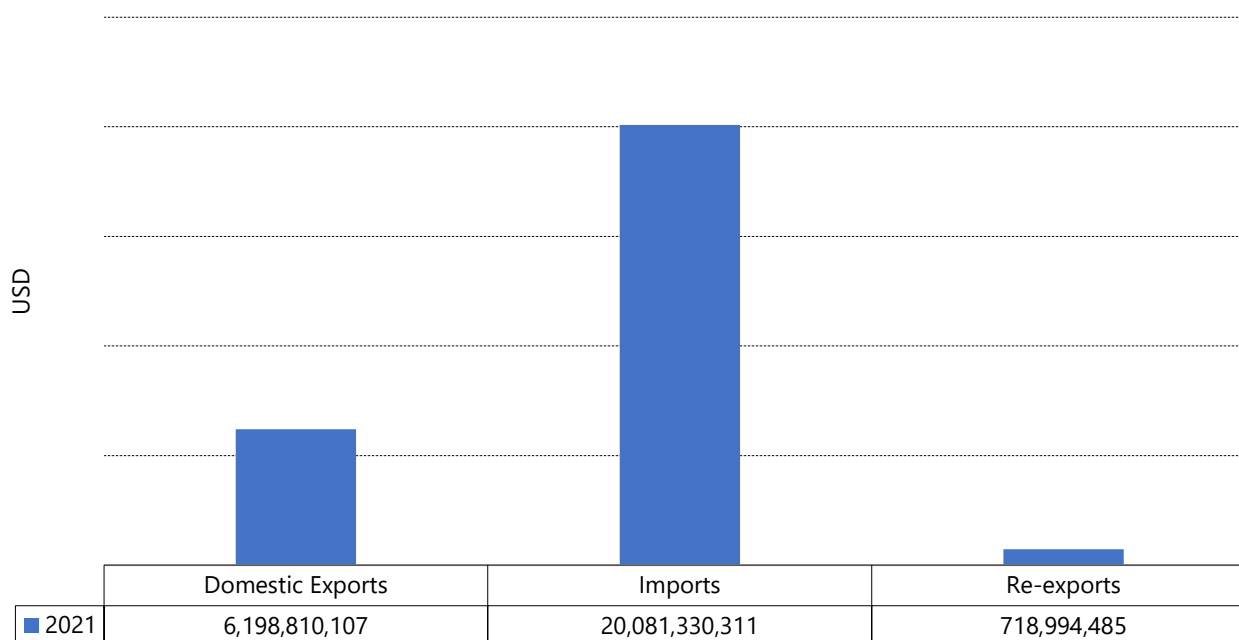
Country	Imports	Exports	Total trade with Northern Corridor
Burundi	42,621,008	18,897,609	61,518,617
Kenya	228,548,498	33,796,768	262,345,266
Rwanda	568,065,990	16,388,057	584,454,047
Uganda	339,412,608	6,686,387	346,098,995
Total	1,178,648,104	75,768,821	1,254,416,925
Share of trade market	94%	6%	100%



7.3 Formal Trade between Kenya and other Northern Corridor Member States

Kenya's total international trade volume was approximately USD 27 billion in 2021, with USD 20 billion accounting for **74%** of total trade value were imports, whereas exports and re-exports accounted for **26%**. The analysis shows that Kenya

had a negative trade balance as a result of higher imports compared to exports and borrows from foreign States to pay for the imports. The export-import ratio was 1: 3.

FIGURE 31: KENYA TOTAL TRADE IN (USD) JAN-DEC 2021

KNBS data 2021

The Asian bloc is Kenya's top trading partner. China was Kenya's largest import and export market, accounting for **16%** of total imports from the rest of the world. Apart from China, Kenya's primary import partners from the Asian trading bloc are India, the United Arab Emirates, Japan, and Saudi Arabia. USA and Tanzania are also

top among Kenya's trading partners. The main commodities traded include petroleum products, motor vehicles, titanium ores and concentrates, coffee, tea, industrial supplies, flowers, maize (corn), vaccines for human medicine, macadamia nuts, amongst others. Kenya's main top ten trading partners are presented in Table 35 below.

TABLE 35: SHARE OF KENYA TRADE MARKET IN THE WORLD IN USD

Sum of Value (USD)		Domestic exports	Imports	Re-exports	Grand Total	Share-total trade
CHINA		197,040,433	4,124,904,532	7,505,483	4,329,450,447	16%
INDIA		95,827,421	2,158,658,222	1,443,457	2,255,929,100	8%
UAE		218,769,569	1,668,548,647	104,210,485	1,991,528,701	7%
USA		541,742,664	787,351,313	14,915,679	1,344,009,655	5%
UGANDA		675,169,587	312,687,131	177,256,027	1,165,112,746	4%
SAUDI ARABIA		71,100,934	1,071,765,671	856,853	1,143,723,458	4%
NETHERLANDS		525,421,280	437,527,108	50,896,915	1,013,845,304	4%
JAPAN		62,645,436	914,269,981	129,263	977,044,680	4%
TANZANIA		385,612,306	501,914,029	34,247,026	921,773,361	3%
MALAYSIA		17,158,873	876,178,241	19,698	893,356,812	3%

KNBS data 2021

Kenya has consistently maintained a positive trade balance with other Northern Corridor Member States. Data show that the country is a net exporter in the region. Kenya's trade in 2021 amounted to USD 1.98 billion with exports taking the lion's share valued at approximately USD 1.6 billion. Table 36 provides intraregional trade comparison between Kenya and the Northern Corridor Member States. When Kenya's trade with other members of the Northern Corridor bloc is considered, Kenya has a trade surplus, with exports accounting for **81%**

of total trade. Uganda emerges the top destination for Kenya's products both imports and exports accounting for about 59 per cent of total trade for goods worth approximately USD 1.2 billion compared to other Northern Corridor Member States. The main products are; tea, coffee, fish, cement, palm oil, medicaments, machinery, petroleum, iron, steel, milk, and cream, among others. Kenya is the largest importer of used motor vehicles in Africa.

TABLE 36: KENYA TOTAL TRADE WITH NORTHERN CORRIDOR STATES IN (USD) 2021

Sum of Value (USD)	Domestic exports	Imports	Re-exports	Grand Total
BURUNDI	53,975,374	4,659,976	16,406,858	75,042,207
DRC	207,688,961	33,796,768	20,859,536	262,345,266
RWANDA	243,228,533	30,502,923	42,002,503	315,733,958
SOUTH SUDAN	121,319,796	649,296	37,950,873	159,919,965
UGANDA	675,169,587	312,687,131	177,256,027	1,165,112,746
Grand Total	1,301,382,250	382,296,094	294,475,798	1,978,154,142

KNBS data 2021

7.4 Formal Trade between Rwanda and other Northern Corridor Member States

Rwanda's trade with members of the Northern Corridor was significant in 2021, with imports accounting for **30%** of total trade, implying a trade surplus. According to Table 37, Rwanda is a net exporter in the region, as the value of total exports exceeds the value of total imports. Rwanda's imports from Kenya accounted for a lion's share of **94%**, while the Democratic Republic of the Congo accounted for about **90%** of Rwanda's exports.

The lucrative markets offered by Member States in neighbouring countries encourage and attract people to engage in informal cross-border trade (ICBT). According to data collected from Northern Corridor Member States, informal cross-border trade is prevalent in the region and is dominated by women and youth. Data from Rwanda indicate that DRC provides a major market for the ICBT.

TABLE 37: SHARE OF RWANDA IMPORTS AND EXPORTS IN USD 2021

	Imports Value in USD	Exports Value in USD	Total trade value
Burundi		341,334	341,334
D R Congo	16,388,057	568,065,990	584,454,047
Kenya	251,312,748	29,131,616	280,444,364
South Sudan	172,850	7,937,049	8,109,899
Uganda	62,056	25,113,870	25,175,925
Total	267,935,710	630,589,859	898,525,569

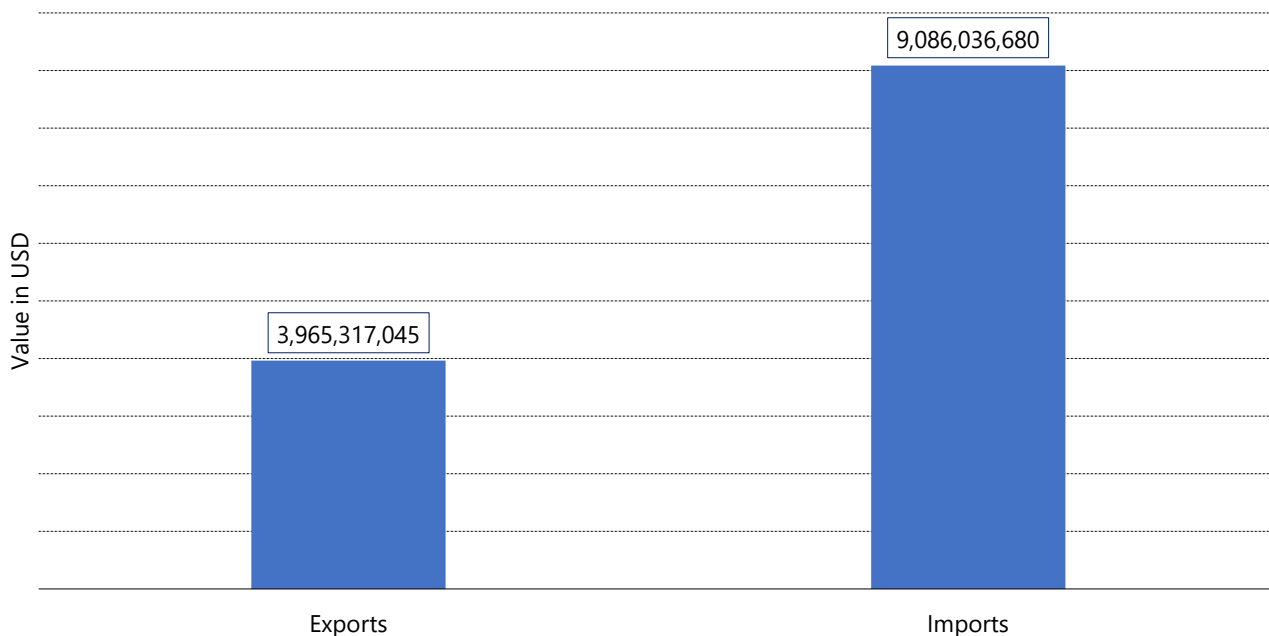
Source: National Bank of Rwanda

7.5 Formal Trade between Uganda and other Northern Corridor Member States

As illustrated in **Figure 32**, Uganda’s total international trade volume was estimated to be USD 13.1 billion in 2021. Exports accounted for **30%** of total trade, valued at USD 3.97 billion,

while imports accounted for **70%** of total trade volume, valued at USD 9.09 billion. This indicates that Uganda is a net importer with an unfavourable trade balance globally.

FIGURE 32: UGANDA TOTAL TRADE IN (USD)























Source: UBOS data, 2021

On a continental scale, the majority of Uganda’s imports (**50%**) originate in Asia, primarily China, India, the United Arab Emirates, Malaysia, and Saudi Arabia. Additionally, it is evident that Tanzania, Kenya, and Zimbabwe contributed significantly to Uganda imports during the review period. Uganda The value of imports from these three African countries was USD 1.8 billion. Uganda’s top export markets included the United

Arab Emirates, Kenya, South Sudan, the DRC, Italy, Germany, and Tanzania. The main imports were semi-manufactured gold, petroleum products, medicaments, crude palm oil, and iron. Uganda mostly exports agricultural commodities such as coffee, tea, cotton, copper, oil, and fish. Table 38 summarizes Uganda’s major trading partners worldwide for the year 2021.

TABLE 38: UGANDA TOP MARKET FOR IMPORTS AND EXPORTS IN (USD) IN 2021

Destination country		Value exports	Proportion to total exports	Origin-country		Imports value in USD	Proportion to total imports
UAE		1,062,916,502	27%	CHINA		1,652,460,094	18%
Kenya		525,570,502	13%	INDIA		1,050,830,251	12%
South Sudan		483,887,666	12%	TANZANIA		820,733,625	9%
DRC		339,412,608	9%	UAE		810,528,676	9%
Italy		209,971,836	5%	Kenya		769,733,948	8%
Germany		132,662,693	3%	JAPAN		394,265,099	4%
Tanzania		108,856,971	3%	SAUDI ARABIA		336,198,924	4%
Netherlands		105,067,677	3%	MALAYSIA		272,617,441	3%
Belgium		88,926,021	2%	NETHERLANDS		236,974,821	3%
India		83,442,418	2%	ZIMBABWE		221,504,473	2%
Other Countries		824,602,150	21%	Other Countries		2,520,189,329	28%
Total		3,965,317,045				9,079,601,629	

Source: UBOSS data, 2021

Uganda's total trade with Northern Corridor Member States was USD 2.21 billion in 2021, with exports accounting for **64%** of total trade volume and imports accounting for **36%**. This indicates that Uganda is a net exporter with a USD 634 million trade surplus. Kenya is by far Uganda's largest market for imports and exports in the Northern Corridor, accounting for **98%** of total merchandise

imports and **37%** of total exports. South Sudan also accounted for a sizable portion of Uganda's exports, accounting for **34%** as shown in Table 39. Uganda imported partially refined petroleum oils (including topped crudes), rolled iron/steel, salt (including table salt and denatured salt), and pure sodium chloride from other Northern Corridor Member States.

TABLE 39: SHARE OF UGANDA EXPORTS AND IMPORTS IN USD

Country	Value Exports in USD	Value Imports in USD	Proportion to total trade
Burundi	72,392,709	815,998	3.3%
DRC	339,412,608	6,686,387	15.6%
Kenya	525,570,502	769,733,948	58.6%
Rwanda	1,687,238	3,314,182	0.2%
South Sudan	483,887,666	8,280,259	22.3%
Total	1,422,950,724	788,830,774	100.0%
Share of trade	64%	36%	100%

Source: UBOSS data, 2021



WOKOVO NI NESINA

CHAPTER EIGHT: ROAD SAFETY

Road safety is a major concern for policymakers and other stakeholders involved in the transportation logistic chain in the world over. Road traffic safety refers to the methods and measures used to reduce the risk of a road user being killed or seriously injured while on the road. According to the World Health Organization (WHO), road crashes claim over 1.25 million lives each year and up to 50 million people suffer non-fatal injuries (WHO 2020). Additionally, empirical research indicates that road accidents are more prevalent in developing countries, accounting for **93%** share, when compared to developed economies (World Bank, Report 2019). Additionally, road crashes

have a number of negative consequences for the nations and society at large, including deaths and associated psychological effects, property loss and damage, high insurance costs, and time delays.

Following the UN Road Safety Decade and the African Action Plan for Road Safety – 2011-2020, African countries committed to reducing accident fatalities by **50%** by 2020. This chapter provides an overview of road safety issues in the Northern Corridor Member States in order to make policy recommendations for achieving the global road safety target.

8.1 Road safety in Burundi

Between January and December 2021, 1,056 road traffic accidents were reported along Burundi's Northern Corridor roads. There were 222 fatal crashes reported, while 965 people were injured. According to Table 40, the leading causes of road accidents during the reporting period were

over-speeding, poor pavement conditions, and dangerous or prohibited overtaking, accounting for **39%**, **23%**, and **11%**, respectively. Similarly, majority of the fatalities were caused by over speeding (**54%**); pavement condition (**23%**); and severe overtaking manoeuvres (**7%**).

TABLE 40: NUMBER OF ACCIDENTS IN BURUNDI

Causes of accidents	Number of accidents	Number of deaths / fatalities	Number of injured people / injuries
Exceeding speed limits	410	119	393
Pavement condition	243	50	196
Others	155	20	116
Improper passing or severe overtaking manoeuvres	121	15	139
Vehicle defects / mechanical difficulties	51	6	25
Drunk driving or driving under the influence of alcohol	20	1	19
Improper parking and stopping	19	1	17

Causes of accidents	Number of accidents	Number of deaths / fatalities	Number of injured people / injuries
Driving without a license	11	3	10
Cargo overload	9	5	4
Traffic rules violation: One Way Rule Violation	9	2	9
Refusal to comply by the driver after he/she has received the order to do so from the Traffic Police	3	0	0
Reckless driving: Use of phone while driving	2	0	2
Driver fatigue	2	0	35
Driver age/Old drivers	1		
Grand Total	1,056	222	965

Source: National police data, 2021



A truck accident along the Northern Corridor in Burundi
© IWACU

8.2 Road safety in Kenya

The Kenyan government, through the National Transport and Safety Authority (NTSA), has been enforcing traffic laws to ensure that fatalities from road crashes are kept to a minimum. According to NTSA data, there are a total of 199 hazardous/black spots along the Northern Corridor routes. Thirty

per cent of accidents in 2021 were not traced; **18%** were caused by a vehicle losing control; **11%** were caused by improper overtaking; and **10%** were caused by violating traffic rules, such as failing to stay near the side or in the proper traffic lane.

The majority of accidents occur during the day, with the lowest visibility accounting for **68%** of all reported accidents. The poor visibility time of the day runs from 1700 hours to 0700 hours. This

suggests that road infrastructure and signage need to be enhanced to ensure improved road safety for those who drive after dusk.

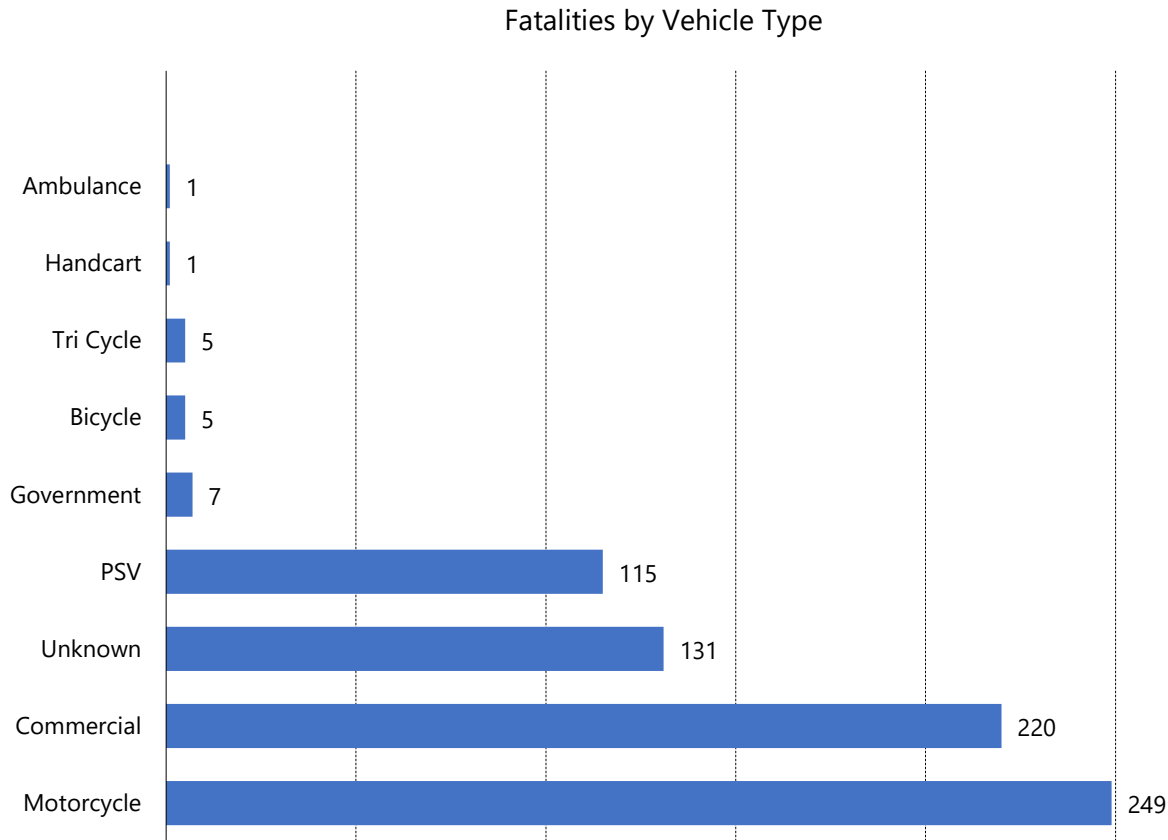
TABLE 41: LEADING CAUSES OF FATAL ACCIDENTS IN KENYA ALONG THE NORTHERN CORRIDOR

Cause of accident	Number of accidents	Proportion
Cause not traced	304	30.8%
Losing control	173	17.5%
Overtaking improperly	110	11.1%
Failing to keep to near side of the proper traffic	98	9.9%
Misjudging clearance	55	5.6%
Excessive speed	42	4.3%
Error of judgment	32	3.2%
Stepping, walking, or running off footpath	23	2.3%
Other apparent	22	2.2%
Turning right without due care	15	1.5%
Crossing road not masked by stationery vehicle	14	1.4%
Swerving	13	1.3%
Walking or standing	13	1.3%
Tyre failure	11	1.1%
Brake failure	8	0.8%
Pulling out from near side or from one traffic lane	7	0.7%
Crossing without due care at road junctions	6	0.6%
Cutting in	6	0.6%
Stationary vehicle dangerously parked	6	0.6%
Stealing ride	4	0.4%
Reversing negligently	4	0.4%
Under influence of drug or alcohol	4	0.4%
Falling from the vehicle	4	0.4%
Inattentive and attention diverted	4	0.4%
Boarding or alighting from vehicle without due care	3	0.3%
Slipping or falling	3	0.3%
Failing to comply with traffic lights or signal	3	0.3%
Total Accidents	987	

Source: NTSA data, 2021

The majority of fatalities (**27%**) were attributed to accidents involving privately owned vehicles, followed by motorcycles (**25%**), commercial

vehicles (**22%**), and public service vehicles (**21%**). Motorcycles accounted for **13%**, while public service vehicles accounted for **12%**.

FIGURE 33: DISTRIBUTION OF FATALITIES BASED ON TYPE OF VEHICLE

Source: NTSA data. 2021

Notably, the entire Northern Corridor has been placed under Performance-Based Maintenance Contracts (PBC) to address the road's routine maintenance requirements. This includes repairing sections with pavement distress symptoms, applying road markings, installing traffic signs and road furniture, and improving drainage systems; all of which address the most of the identified road safety concerns. Further, some of the sections containing the identified black spots have been placed under major rehabilitation and capacity

enhancement programs. Such sections include Mombasa - Mariakani, Athi River - Machakos Turn Off, Nairobi Expressway, James Gichuru Junction - Rironi, the scheduled Rironi - Nakuru - Mau Summit, and the proposed Kisumu-Busia Road. These projects will significantly address safety concerns at hazardous locations as they will involve significant realignment and widening, elaborate facilities for vulnerable road users, parking, pick-up, and drop-off areas for PSVs, and the installation of traffic signs and road furniture.



8.3 Road Safety in Rwanda

According to the Ministry of Infrastructure's (MININFRA) data on road safety, a total of 447 road accidents occurred in the year 2021. The majority of accidents occurred on the Kigali-Huye-Akanyaru and Kigali-Musanze-Rubavu roads, with each accounting for **22%** of total road accidents, closely followed by the Kigali-Kayonza road, which accounted for **11%**. The road infrastructure, signage, over-speeding, failure to maintain a safe distance, improper overtaking, violation of the right of way, failure to use side mirrors, and reckless driving were all identified as major causes of accidents.

To improve road safety in Rwanda and in line with Rwanda's goal of establishing sustainable road safety measures, raising public awareness, and

preventing road traffic accidents, the Rwandan government, through the Rwanda National Police (RNP), signed an agreement with Eastern Ventures, a local Special Purpose Vehicle manufacturer, in partnership with Vitronic, a United Arab Emirates-based company, to assist in improving road safety in Rwanda. Over 500 high-tech road safety systems will be installed and operated throughout the country under the terms of the agreement. Mobile and fixed cameras, as well as trailer light bars, are used to monitor speed and traffic violations. RNP will oversee the system's implementation in various locations throughout the country, where speed cameras will be installed at over 400 identified accident hotspots with the goal of reducing road accidents by **80%**.

TABLE 42: NUMBER OF ACCIDENTS DISTRIBUTED BY ROAD SECTION 2021

Route	Fatal	Serious	Total
Base-Gicumbi-Rukomo (NR19)	7	5	12
Huye-Kitabi -Buhinga (NR10)	10	10	20
Kayonza-Gabiro-Kagitumba (NR24)	41	3	44
Kicukiro -Nemba (NR5)	30	12	42
Kigali -Gatuna (NR3)	21	2	23
Kigali -Musanze -Rubavu (NR2)	64	33	97
Kigali-Huye - Akanyaru (NR1)	56	43	99
Kigali-Kayonza (NR4)	30	17	47
Muhanga-Ngororero-Mukamira (NR16)	6	11	17
Muhanga-Rubengera (NR15)	0	4	4
Musanze -Cyanika (NR17)	2	0	2
Ruhwa-Bugarama-Rusizi-Buyinga-Karongi-Rubavu (NR11)	27	13	40
Total	294	153	447

Source: MININFRA data, 2021

CHAPTER NINE: RECOMMENDATIONS

Efficiency and Productivity

- I. Measures to contain further spread of COVID-19 are still critical to alleviate its negative socio-economic effects and enhance economic recovery. COVID-19 amplified the challenges faced in the trade logistics chain, which include reliance on global value chains for material imports for production and exports of some manufactured goods.
- II. As Member States continue to implement measures to contain the spread of the COVID-19, it is incumbent upon players in the transport and logistics sector to focus on building the resilience and sustainability of the sector. The measures include leveraging on ICT, up-scaling automation and workforce re-skilling in the sector as well as investing in infrastructure.
- III. Regional and international cooperation is necessary for assessing, monitoring, and responding to transboundary hazards. Therefore, there is a need to develop multilateral protocols to ensure harmonized responses to disaster management.
- IV. Strengthen policies aimed at embracing and implementing international productivity standards. This will lessen the problem of local products competitiveness in the international market.
- V. Review of Standard operating procedures for RECTs as a result in delays at the port due to inadequate seals and the requirement to arm all transits goods including those under SCT
- VI. Delegates noted the rise of empty containers that are railed back to Mombasa without cargo.

Road freight Charges

- I. In order to reduce the cost of doing business, there is a need to review the tariffs especially the Terminal handling Charges by Shipping lines and KPA, consider the proposal of utilizing bonds/insurance as container deposits given the huge amounts of container deposits demanded by shipping lines,
- II. The Freight charges of USD per KM, road user charges should be harmonized. Further other road user charges should be standardized for ease of doing business in the region.
- III. NCTTCA to come up with a regional bond instead of cash deposits, this will improve liquidity thus improve ease of doing business in the region.
- IV. Customs to establish the best method for determining transport cost and not the transactional/value, it is being affected. Also consider adoption of the WTO model where fees and charges are commensurate with services
- V. Going paperless (automation) and compliance levels
- VI. Delegates noted that the cost of VISA and road user fees 300 USD need to be harmonization along the Northern Corridor network coverage. In addition, the roaming charges were reported to be too high and they vary across Member States
- VII. Shipping levy and charges – ISCOS needs to address the challenge

Transit Time

- I An in depth analysis on the understanding the causes of high dwell time to be able to propose informed recommendation
- II Removal of all unnecessary road blocks in Goma and South Sudan.
- III ICDs to operate 24/7
- IV RSS is timely and should be implemented fully

Railways

Standard gauge railway (SGR) is a cheaper mode of transport. The delegates reported that SGR freight rates that are gazetted are less than the real costs incurred by traders for haulage of cargo by train. It was reported that the additional costs were occasioned by payment for administrative charges of 250 USD for a twenty feet equivalent unit and USD 410 for a forty feet equivalent unit. Uganda Wholly runs railway services on the Meter Gauge Railway (MGR).

Quality of Infrastructure

- I Ninety-five (95) Percent of roads in South Sudan are in poor state. The government has resolved to tap into the inland waterway to complement the road mode of transport. The strategy is to improve the inland waterway transport especially the Nile River. It is therefore recommended to focus on development of inland water transport.
- II South Sudan does not recognize yellow COMESA insurance thus there is need to fast track S/S to join COMESA in order to recognize yellow insurance

- III There is need to invest in infrastructure and address the existing annual infrastructure deficit.
- IV Procurement of cargo handling equipment to replace the aging equipment at the conventional cargo terminal quayside and the yard and roll out a robust equipment management /maintenance schedule to be rolled out to address the equipment shortfall breakdown for KPA and KR
- V On the weighbridges, it was reported that compliance level in Kenya is quite high at over **97%** except for Busia weighbridge because of no HSWIM installed.
- VI NCTTCA to involve police/ traffic representative, recommend transit cargo to weigh at entry and exit

Road safety

- I. A deeper analysis to address the causes of road safety identified.
- II. Stoppages have mainly been attributed to personal reason. This long stoppage is also occasioned by the following: insecurity especially at night; lack of conducive environment to park; truck breakdown; among others. The report recommends full implementation of Road Side Stations to enhance security and safety.

ANNEXES AND REFERENCES

A.1 Status of Road Condition in 2021

Burundi

Road section	Length (Km)	Good	Fair	Bad
Kanyaru Haut- Kayanza- Bugarama-Bujumbura-Gatumba	125	31	94	0
Kanyaru Haut- Kayanza	15	15		
Kayanza- Bugarama	59	0	59	0
Bugarama-Bujumbura	35	0	35	0
Bujumbura - Gatumba	13	13	0	0
Gatumba - Frontière RDC (Rusizi II)	3	3	0	0
Gasenyi -Kirundo-Ngozi- Kayanza	139	35	104	0
Gasenyi - Kirundo	35	35	0	0
Kirundo - Gashoho	32	0	32	0
Gashoho - Ngozi	40	0	40	0
Ngozi - Kayanza	32	0	32	0
Ruhwa- Rugombo-Nyamitanga to Bujumbura	80	80	0	0
Ruhwa - Nyamitanga	50	50	0	0
Nyamitanga - Bujumbura	30.1	30.1	0	0
Kanyaru bas - Ngozi-Nyangungu to Gitega	172	84	65	23
Kanyaru bas - Ngozi	23	0	0	23
Ngozi - Gitega	84	84	0	0
Gitega - Bujumbura	65	0	65	0
Total Length in Km	516	230	263	23

Source : Office De Routes, 2021

DRC

ITINERAIRE/ROUTE	Length (Km)	Road Condition- Length in (Km)			Number of lanes	Road width (m)
		Good	Fair	Bad		
1. AXE BUKAVU-KINDU-KISANGANI						
BUKAVU - BURHALE	55	3	45	7	2	6
BURHALE - SHABUNDA - LUBILE	363	0	74	289	2	6
LUBILE - KALIMA - MALI	109	77	25	7	2	6
MALI - KINDU	36	36	0	0	2	6
MALI - LUBUTU	318	62	52	204	2	6
LUBUTU - KISANGANI	297	22	77	198	2	7
LUBUTU - OSOKARI - WALIKALE	219	192	27	0	2	7
WALIKALE - HOMBO	107	0	17	90	2	6
HOMBO - MITI	93	0	30	63	2	6
MITI - BUKAVU (compris dans Kavumu - Bukavu)	PM					
2. AXE BUKAVU-UVIRA						
BUKAVU - KAMANYOLA	55	10	20	25	2	6
KAMANYOLA - UVIRA	86	0	82	4	2	6
UVIRA - KAVIMVIRA - FRONT BURUNDI	10	0	10	0	2	6
3. AXE KISANGANI - BENI - KASINDI						
KISANGANI - NIANIA - KOMANDA	650	400	156	94	2	6
KOMANDA - LUNA	65	33	19	13	2	6
LUNA - BENI	60	60	0	0	2	6
BENI - KASINDI	80	32	32	16	2	6
4. AXE KOMANDA - BUNIA - MAHAGI						
KOMANDA - BUNIA	71	38	20	13	2	6
BUNIA - MAHAGI - GOLI - FR OUGANDA	190	134	41	15	2	6
5. AXE KISANGANI - ISIRO - ARU						
KISANGANI - NIANIA	PM					
NIANIA - ISIRO	232	69	43	120	2	6
ISIRO - WATSA - ARU	654	352	191	111	2	6
6. AXE BENI - BUTEMBO - GOMA - BUKAVU						
BENI - NDOLUMA	132	119	7	6	2	6
NDOLUMA - RUTSHURU - GOMA	199	130	69	0	2	6
GOMA - SAKE - MINOVA	58	28	30	0	2	6
MINOVA - KAVUMU - BUKAVU	150	27	116	7	2	6-7
RUTSHURU - BUNAGANA	27	3	5	19	2	6
RUTSHURU - ISHASHA	63	7	30	26	2	5
TOTAL length in Km	4,379	1,834	1,218	1,327		
Proportion	100%	42%	28%	30%		

Source : Office De Routes, 2021

Kenya

Route/Section	Length (Km)	(IRI)	Current Condition (Length in Km)		
			Good	Fair	Poor
Mombasa-Malaba (A8)	924.6		595.3	303.7	25.6
Mombasa-Miritini	11.8	2.4	11.5	0.3	0
Miritini-Maji Ya Chumvi					
a) Mariakani- Kwa Jomvu (Miritini)	23.8	2.4	0	0	23.8
b) Mariakani - Maji ya Chumvi	15.4	3.3	15.4	0	0
Maji ya Chumvi - Bachuma Gate	54	1.7	54	0	0
Bachuma Gate-Voi	52	2.3	52	0	0
Voi- Mtito Andei	96	2.7	0	96	0
Mtito Andei - Sultan Hamud	123.2	1.7	123.2	0	0
Sultan Hamud- Rironi					
a) Sultan Hamud - Kyumvi	62.1	2.2	54.5	7.6	0
b) (i) Athi River - Kyumvi (Mombasa bound)	21.2	2.4	21.2	0	0
(ii) Kyumvi - Athi-River (Nairobi bound)	16.4	2.4	16.4	0	0
c) (i) Athi River-James Gichuru (Rironi) (Nakuru bound)	30.6	3.1	20	8.8	1.8
(ii) James Gichuru (Rironi) - Athi River (Mombasa bound)	30.6	3.1	27.6	2	1
Rironi -Gilgil	84.9	2.2	77.4	7.5	0
Gilgil - Mau Summit: (Gilgil - Naivasha - Nyahururu interchange (Nakuru)-Mau Summit)					
a) Gilgil - Nyahururu interchange (Nakuru)	40.9	2.4	36.8	4.1	0
b) Nyahururu Interchange- Mau Summit	70.5	2.1	70.5	0	0
Mau summit-Timboroa	38.4	3.2	0	38.4	0
Timboroa-Ngeria	48.8	2.4	27.4	21.4	0
Ngeria-Eldoret-Maili Tisa junction	39.8	4.1	0	39.8	0
(Start Maili Tisa) Eldoret - Webuye	53	2.9	10	43	0
Webuye - Malaba	63	2.6	26.2	36.8	0
Mau Summit - Kisian- Busia (A12)	282.2		238.2	15	29
a) Mau Summit - Kericho	57	2.2	57	0	0
b) Kericho - Ahero	56.6	2.5	56.6	0	0
c) Ahero-Kisian	61	3	61	0	0
d) Kisumu Bypass	6.6	3.6	6.6	0	0
a) Kisian-Ugunja	59	3.5	25	10	24
b) Ugunja-Busia	42	3.9	32	5	5
Voi - Mwatate - Taveta (A6)	124	1.8	121	3	0
Nairobi Southern Bypass	57.2	1.25	57.2	0	0
a) Nairobi Southern Bypass (Ole Sereni-Ngong Interchange, Kikuyu bound)	15.8	1.3	15.8	0	0
b) Nairobi Southern Bypass (Ngong Interchange -Kikuyu, Kikuyu bound)	12.8	1.3	12.8	0	0

Route/Section	Length (Km)	IRI	Current Condition (Length in Km)		
			Good	Fair	Poor
c) Nairobi Southern Bypass (Ole Sereni-Ngong Interchange, Mombasa bound)	15.8	1.2	15.8	0	0
d) Nairobi Southern Bypass (Ngong Interchange-Kikuyu, Mombasa bound)	12.8	1.2	12.8	0	0
			74%	22%	4%

Rwanda

Road Section	Length (Km)	IRI	Current road Condition (%)	No of lanes	Lane width (M)
Kigali-Muhanga-Huye-Akanyaru Haut (NR1)	158.2	1.88	98	2	3.5
Kigali-Musanze-Rubavu (NR2)	150.0	1.72	100	2	3.5
Kigali-Rukomo-Gatuna (NR3)	78.01	1.10	100	2	3.5
Kigali-Remera (NR4)	8.627	2.02	100	4	3.5
Remera-Kayonza (NR4)	69.293	1.54	99	2	3.5
Kicukiro-Nyanza-Mugendo (NR5)	12.23	Under rehabilitation and widening into four lanes			
Mugendo-Nyamata-Nemba (NR5)	49.751	1.34	100	2	3.5
Huye-Nyamagabe-Kitabi-Pindura (NR10)	115.3	1.91	99	2	3.5
Ruhwa-Kamembe-Buhinga-Tyazo-Bwishura-Rubengera-Rutsiro-Pfunda (NR11)	256.2	2.02	96	2	3.5
Muhanga-Nyange-Rambura (NR15)	45.04	4.49	54	2	3.5
Rambura-Rubengera (NR15)	16.419	Under rehabilitation and widening into 2 lanes			
Muhanga-Ngororero-Mukamira (NR16)	98.76	1.786	99	2	3.5
Musanze-Kidaho-Cyanika (NR17)	25.2	2.3	97.25	2	3.5
Base-Gicumbi-Rukomo (NR19)	51.5	2.19	100	2	3.5
Rukomo-Nyagatare-Ryabega (NR19)	90	Under rehabilitation/upgrading (2 lanes)			
Kayonza-Gabiro-Kagitumba (NR24)	116.3	1.49	100	2	3.5

South Sudan

Route / Road	Pavement type	Configuration	Length (Km)	Works Status	Planned	Road condition (Km)/ IRI		
						Good	Fair	Bad
Nimule - Nesitu - Juba	Paved	Two lane	192	Constructed	Maintenance		192	
Nadapal - Kapoeta - Torit - Nesitu	Gravel	Two lane	335	Designed	Awaiting construction			335
Juba - Lainya - Yei - Kaya	Gravel	Two lane	225	N/A	N/A			225
Yei - Maridi	Gravel	Two lane	180	N/A	N/A			180
Juba - Mundri - Maridi - Yambio - Nabiapai	Gravel	Two lane	427	N/A	N/A			427
Yambio - Tambura - Wau - Aweil	Gravel	Two lane	591	N/A	N/A			591
Wau - Kwacjok - Agok - Mayom - Bentiu	Gravel	Two lane	520	N/A	N/A			520
Juba - Bor - Ayod - Malakal	Gravel	Two lane	614	N/A	N/A			614
Mundri - Rumbek - Wau	Gravel	Two Lane	459	N/A	N/A			459
TOTAL (Length) in Km			3,543	0	0	0	192	3,351

Source: Ministry of Transport and Infrastructure 2020

Uganda

Road /Name	Total Length (Km)	IRI	Condition		
			Good	Fair	Bad
Malaba -Katuna					
Malaba (Uganda/Kenya border) -Tororo junction	11.6	1.7	11.649		
Tororo junction - Namutere	28.3	1.5	28.290		
Namutere - Bugiri	3.6	1.7	3.559		
Bugiri - Nakalama	51.3	1.7	51.314		
Nakalama - Iganga	4.9	2.4	4.907		
Iganga - Kakira junction	26.8	2.4	26.809		
Kakira Junction - Jinja	11.9	2.4	11.852		
Jinja - Njeru	1.8	3.3		1.756	
Njeru - Lugazi	30.1	2.4	30.113		
Lugazi - Mukono	24.1	3.1		24.142	
Mukono - Kampala	17.7	4.0		17.737	
Kibuye - Natete - Busega	6.5	1.9	6.524		
Busega - Mpigi	25.3	1.8	25.342		
Mpigi - Buwama	32.1	2.3	32.081		

Road /Name	Total Length (Km)	IRI	Condition		
			Good	Fair	Bad
Buwama - Lukaya	30.5	4.1		30.500	
Lukaya - Masaka - bypass	34.0	2.6	34.000		
Masaka - Lyantonde	67.8	2.3	67.781		
Lyantonde - Mbarara (Bushenyi junction)	67.3	2.3	67.306		
Mbarara (Bushenyi Junction) - Ntungamo	61.7	2.4	61.729		
Ntungamo - Rubaale	15.0	2.1	14.951		
Rubaale - Muhanga - Kabale	59.4	2.2	59.407		
Kabale - Katuna	21.7	3.1		21.697	
Malaba - Ishasha					
Busega - Bujuuko	32.9	2.3	32.903		
Bujuuko - Mityana	26.7	3.6		26.736	
Mityana - Naama - Myanzi	15.8	3.5		15.842	
Myanzi - Kiganda	27.7	3.6		27.705	
Kiganda-Kitenga	20.4	3.1		20.351	
Kitenga-Mubende-Lusalira	29.8	3.7		29.794	
Lusalira - Nabingoola - Lubaale	16.3	3.1		16.300	
Lubaale - kyegegwa	12.0	2.9	12.000		
Kyegegwa - Kakabala - Kyenjojo	52.3	3.3		52.261	
Kyenjojo - Rugombe - Fortportal	49.8		49.8		
FortPortal - Rwimi (bridge)	44.7		44.7		
Rwimi(bridge)-Hima-Mubuku	17.8		17.8		
Mubuku - Kasese	11.6		11.6		
Kasese - Kikorongo	22.0		22.0		
Kikorongo - Katunguru	15.7		15.7		
Katunguru - Ishasha	87.0		87.0		
OR					
Mbarara - Ishanyu	4.9	1.7	4.934		
Ishanyu - Kabwohe	26.2	3.3		26.171	
Kabwohe - Ishaka	28.1	2.8	28.078		
Ishaka - Katunguru	54.0		54.0		
Malaba - Mpondwe					
Kikorongo - Bwera - Mpondwe	38.3		38.3		
Malaba - Goli					
Tororo - Magodes - Nabumali	33.7	3.7		33.700	
Nabumali -Mbale	10.2	3.9		10.228	
Mbale - Namunsi - Kumi	54.7	3.8		54.686	
Kumi - Soroti	46.7	3.9		46.745	
Soroti - Dokolo	67.4	4.9			67.444

Road /Name	Total Length (Km)	IRI	Condition		
			Good	Fair	Bad
Dokolo - Agwata	23.5	4.0		23.493	
Agwata - Lira	31.1	4.7			31.149
Lira - Ayer	27.1	3.7		27.084	
Ayer - Kamdini	44.0	3.8		43.956	
Kamdini -Karuma	12.2		12.2		
Karuma - Olwiyo	51.6	4		51.633	
Olwiyo - Packwach	54.4	3.6		54.406	
Packwach - Nebbi	53.5	3.8		53.470	
Nebbi - Goli	15.1		15.1		
Malaba - Arua					
Nebbi - Eruba	63.8	5.5			63.790
Eruba - Arua - Manibe	18.8	5.4			18.801
Manibe - Maracha - Koboko	49.9	4.3		49.903	
Koboko - Oraba (Uganda/Sudan border)	18.8		18.8		
Kasese - Kakitumba					
Ishaka - Kagamba	35.9		35.9		
Ntungamo - Kagamba	15.2	4		15.2	
Ntungamo-Kakukuru	13.5		13.5		
Kakukuru-Kafunzo	16.1		16.1		
Kafunzo-Kakitumba	6.0		6.0		
Busia - (Malaba junction) - Tororo	28.0		24.2	3.8	
Busia - Namutere	16.9	1.9	16.905		
Total Length in Km	2,076		1,115	779	181

Source: UNRA 2021

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