December 2014

Northern Corridor Transport Observatory Report

Enhancing Monitoring for Improved Corridor Performance

TRANSPORT OBSERVATORY
RELIABLE NORTHERN CORRIDOR PERFORMANCE DATA

Northern Corridor Transit and Transport Co-ordination Authority

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FOREWORD

The Northern Corridor Transport Observatory Portal is a tool used to monitor and measure performance along the Corridor.

The Transport Observatory generates performance reports based on factual data collected in order to support policy makers in making informed decisions relating to facilitation of trade and transport in the region.

In view of the drastic changes in the day to day operations along the Northern Corridor, the Transport Observatory uses a dynamic approach to ensure that various changes along the Corridor are accommodated in the Northern Corridor Transport observatory monitoring framework. This involves identification of new indicators as well as adjusting the existing ones to reflect actual operations along the Corridor.

An upgrade of the Observatory with the Geographic Information System (GIS) component has been initiated to enhance functionality and reporting. This will ensure that various indicators are mapped to related infrastructure or transit nodes along the Northern Corridor.

I am delighted to introduce to you this report which features indicators with data from various sources such as GPS, classical questionnaires and electronic data from various stakeholders' automated business systems.

Most of the indicators point to an improved performance, especially on transit time and the time taken by various agencies and cargo handlers to complete their processes. For instance, Weighbridge crossing time at Mariakani weighbridge averages between 0.39 hours and 1.50 hours in the month of July and October 2014. The implementation of High speed weigh in motion (WIM) at the weighbridge stations has ensured that only those vehicles that have failed the WIM test are diverted to the Static weighing scale.

The Port Dwell time has equally dropped from an overage of about 4.57 days in 2013 to less than 3 days in July 2014.

Similarly, time for clearance at Document Processing Centre (DPC) by Customs has tremendously reduced to below 2 hours which is an indication of speedy processing of documents by the Kenya Revenue Authority.

Monitoring of the performance of the Northern Corridor through the Transport Observatory began in 2012. Since then, the transit time in Kenya from Mombasa to Malaba has reduced considerably from an average of 15 days to currently an average of 5 days.

From this report, it is observed that most of the time spent in transit is due to personal reasons (i.e. 20.6% of the total transit time). This means that the transporters are delaying at their own convenience.

The report provides various recommendations to ensure better performance of the Northern Corridor. The Self-regulatory Vehicle Load Control Charter and the Mombasa Port Community Charter commit parties both in public and private sector to undertake measures that will increase efficiency of the Port and the Northern Corridor. The implementation of these charters is expected to further enhance performance of the Corridor and strengthen the partnership between private and public institutions.

DONAT M. BAGULA
Executive Secretary

ACKNOWLEDGEMENT

The Northern Corridor Transit and Transport Coordination Authority (NCTTCA) thanks the Northern Corridor Member States for their support in ensuring continuation and improvement of the Transport Observatory Portal (TOP).

Appreciations also go to Kenya Transporters Association (KTA) and all its members for being supportive both in the GPS and Road Survey. They have enabled us to acquire substantial data to complement electronic data from other stakeholders.

We gratefully appreciate the support from Trademark East Africa (TMEA) which has enabled sustained continuous development and improvement of the TOP.

In a special way, we thank all the stakeholders who frequently provide us with data which leads to generation of this report. Your continuous cooperation and commitment is invaluable and we greatly appreciate.

We, in a special way also thank all stakeholders who participated in the validation and adoption of this report. We believe your steadfast commitment towards monitoring the performance of the Corridor; the transport observatory will enable us to achieve our objective for a competitive and seamless Corridor.

LIST OF ACRONYMS

ABT	Association of Burundi Transporters
ACPLRWA	Rwanda Long Distance Truck Drivers Association
ASYCUDA	Automated System for Customs Data
BI	Burundi
CPI	Corridor Performance Indicators
DGDA	Direction Générale Des Douanes Et Accises
DRC	Democratic Republic of Congo
DWT	Dead Weight Tonne
ECTS	Electronic Cargo Tracking System
FEAFFA	Federation of East African Freight Forwarders Association
FEC	Federation des Entreprises Du Congo
FERI	Fiche Electronique De Renseignement A L'importation
GIS	Geographic Information System
GPS	Global Positioning Systems
IABT	International Association of Burundi Transporters
ICD	Inland Container Depot
ICT	Information Communication Technology
IPUO	Import Pick Up Order
IRI	International Roughness Index
KE	Kenya
KeNHA	Kenya National Highway Authority
KPA	Kenya Ports Authority

KPC	Kenya Pipeline Authority
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
KTA	Kenya Transporters Association
KWATOS	Kilindini Waterfront Automated Terminal Operations System
MAGERWA	Magasins Généraux Du Rwanda
NC	Northern Corridor
NCTTA	Northern Corridor Transit and Transport Agreement
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
NTSA	National Transport Safety Authority
OBR	Office Burundais des Recettes
OCC	Office Congolais de Contrôle
ODR	Office Des Routes
OGEFREM	Office De Gestion Du Fret Multimodal
OSBP	One Stop Border Post
RRA	Rwanda Revenue Authority
RSS	Road Side Station
RTDA	Rwanda Transport Development Authority
RVR	Rift Valley Railways
RW	Rwanda
SPSS	Statistical Package for Social Science
SSATP	Sub-Saharan African Transport Policy Programme
TMEA	TradeMark East Africa
TO	Transport Observatory
TOP	Transport Observatory Portal
UFFA	Uganda Freight Forwarders Association
UG	Uganda
UNRA	Uganda National Roads Authority
URA	Uganda Revenue Authority
URC	Uganda Railways Corporations


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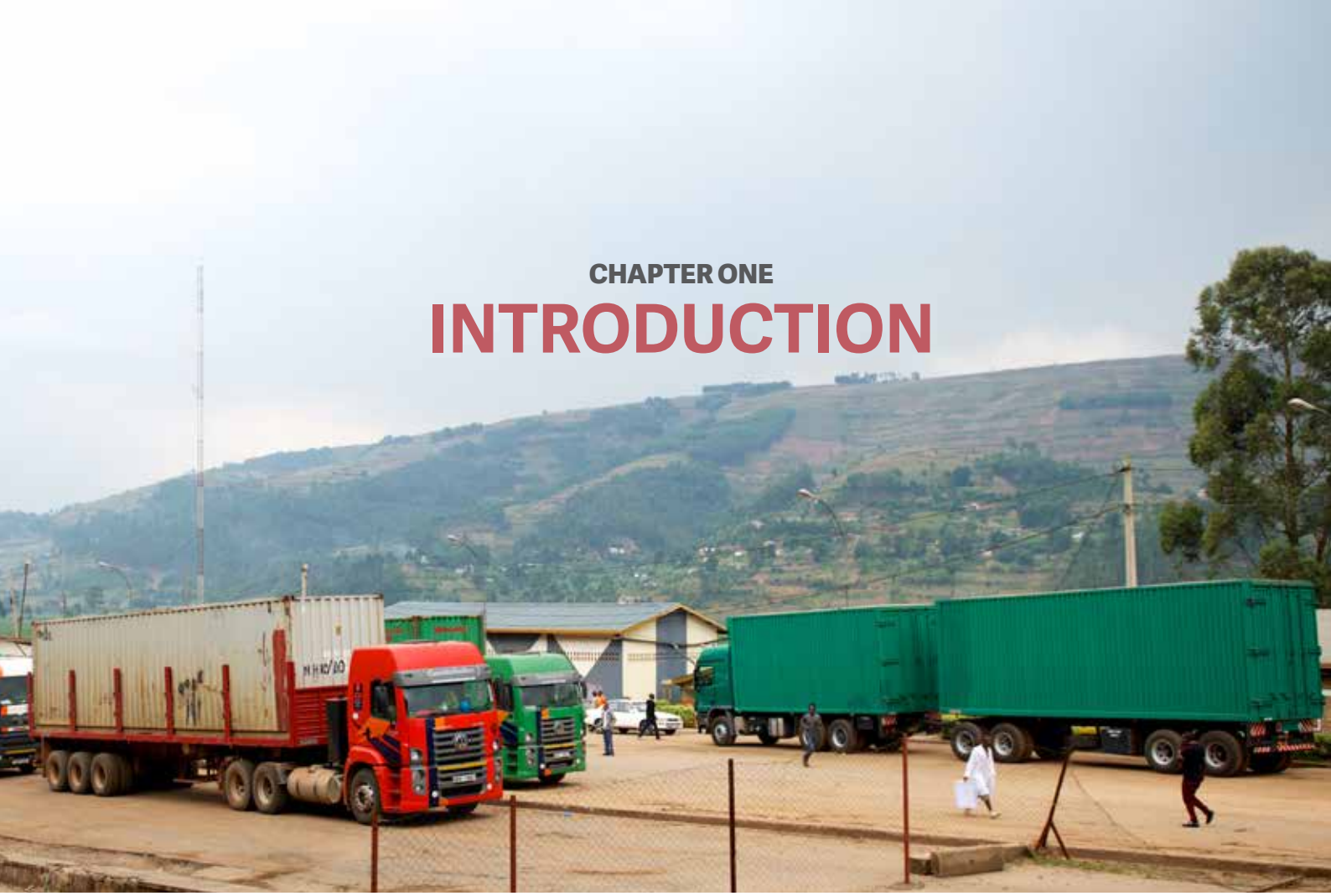


CHAPTER ONE

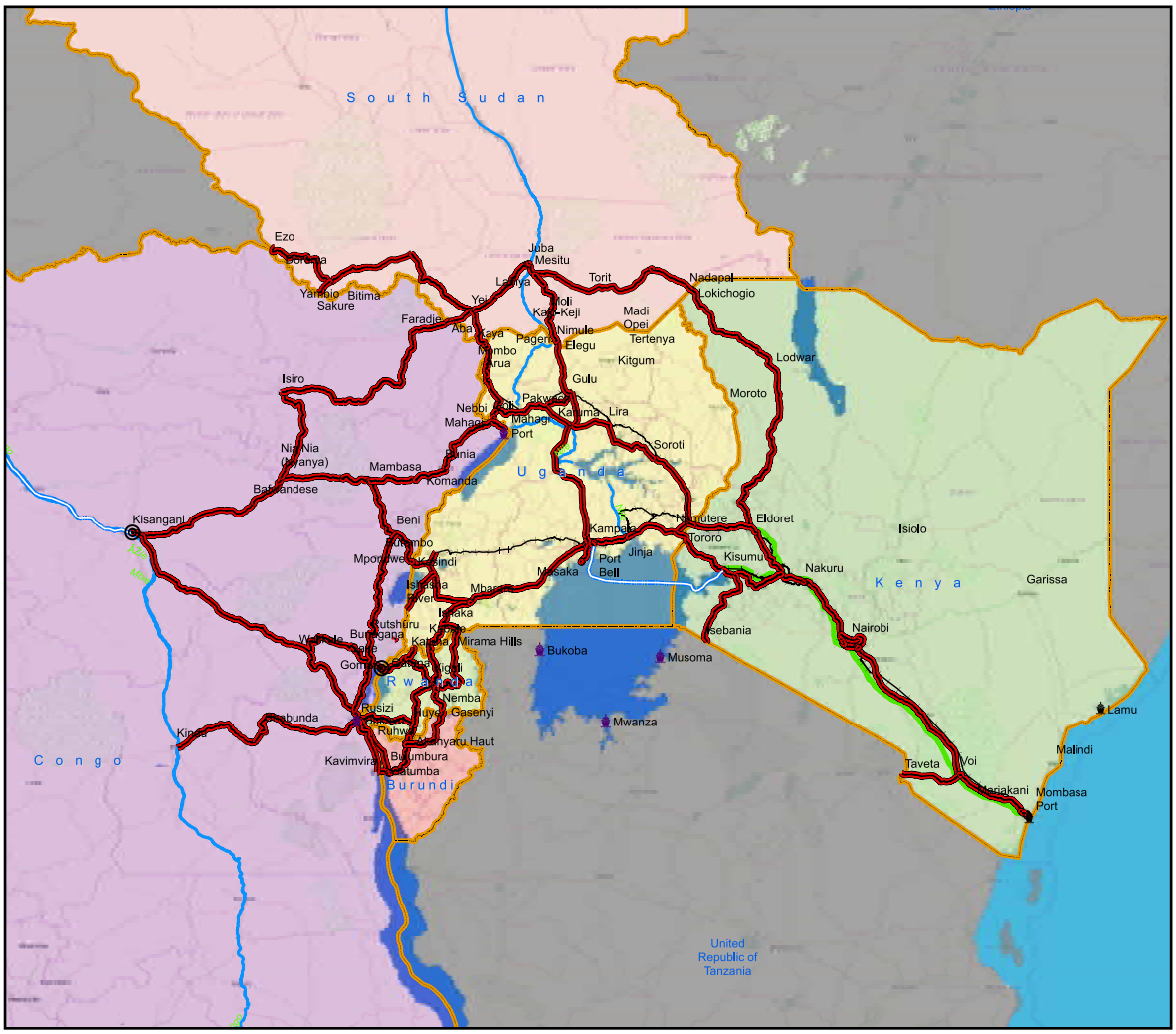
INTRODUCTION

The Northern Corridor Transit and Transport Coordination Authority (NCTTCA) is a regional intergovernmental organization that is mandated to facilitate trade and transport in the Member States served by the northern corridor transport infrastructure. The Corridor is a multimodal transport Corridor linking the Great Lakes countries of Burundi, DRC, Rwanda, South Sudan and Uganda to the Kenya Sea Port of Mombasa. The Corridor also serves Northern Tanzania, Somalia and Ethiopia.

Having recognized the importance of infrastructure to regional integration and trade, the member states agreed to cooperate by signing the Northern corridor Transport Agreement which established the NCTTCA. A revision of the Agreement in 2007 led to the transformation of the corridor into a development corridor to spur socio economic development of the populace in the region. Various initiatives have been carried out towards harmonization of policies and economic development as will be highlighted out in subsequent chapters of this report. The membership of the Northern corridor family has equally grown with the accession of the Republic of South Sudan to the Agreement in December, 2012.

NCTTCA in one of its monitoring mechanism has spearheaded the development of the Transport Observatory which is an online platform that tracks various key performance indicators along the corridor.

The development of the observatory was initiated with collaboration between SSATP-World Bank, Trademark East Africa and the Northern Corridor Transit and Transport Coordination Authority from the year 2003.



The Northern Corridor Infrastructure Network.

1.1 Current Status of the Observatory

The Northern Corridor Transport Observatory is a corridor monitoring tool with an online platform accessible through http://top.ttcanc.org or the NCTTCA website www.ttcanc.org The Transport Observatory tracks 31 performance indicators up from the initial 25 indicators tracked during inception in the year 2011. These indicators have been continuously reviewed by stakeholders' during NCTTCA fora, validation exercises and through the port community meetings at the Mombasa Port (refer to annex 1 for the indicator glossary).

1.1.1 Upgrade of the Transport Observatory with the GIS

Various improvements are being undertaken on the TOP to enhance functionality and users experience. The Secretariat is currently upgrading the Observatory to ensure that the system has a GIS component that will ensure various indicators are mapped to the infrastructure nodes along the corridor. This process will be completed by early 2015.

1.1.2 The Northern Corridor Performance Dashboard

Out of the 31 performance indicators, 10 indicators are tracked on a weekly basis through the Northern Corridor Performance dashboard.

The dashboard is also an online platform which can be accessed via http://top.ttcanc.org or www.kandalakaskazini.go.ke

The dashboard was launched by his Excellency the President of the Republic of Kenya on 30th of June 2014.

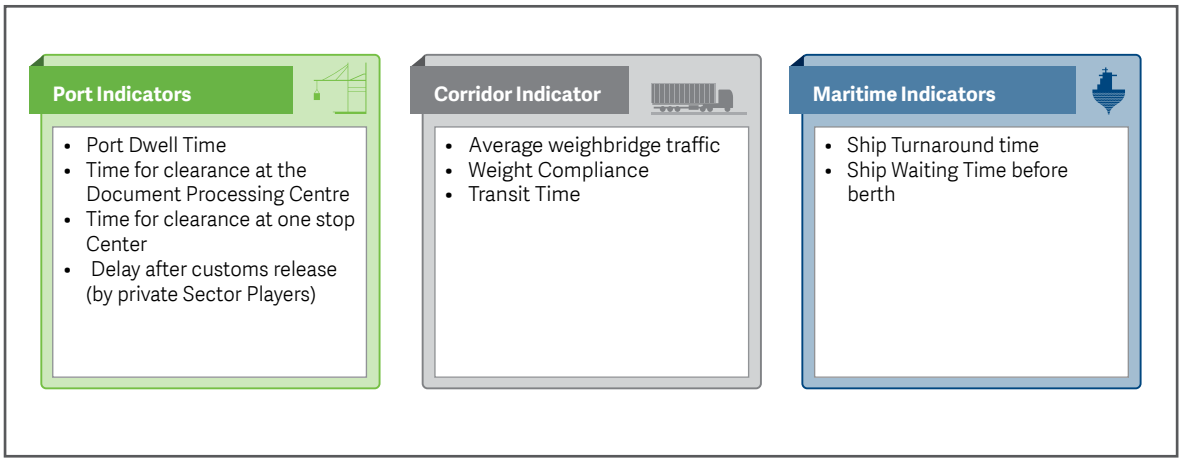
Transport Observatory Dashboard demonstration.

Dashboard indicators are grouped into Port Indicators, Corridor Indicators and Maritime Indicators. Results from the dashboard are disseminated to various stakeholders and the port community every Friday of the week.

H.E. President Uhuru Kenyatta being briefed on Transport Observatory which monitors the Corridor Performance.

Northern Corridor Performance Dashboard Indicators.

The weekly monitoring by the dashboard more than often monitor day to day operations of various stakeholders involved.



1.1.3 Monitoring the Port Community Charter and Vehicle Load Control Charter

The Mombasa Port Community Charter, which was signed on 30th June 2014, is an initiative that commits parties both in the public and private sector to measures that will increase efficiency of the port and the Northern Corridor. The Northern Corridor Performance Dashboard which is hosted by NCTTCA is part of the Monitoring and Evaluation Framework for the Charter. Monthly and quarterly reports from the Dashboard are disseminated to all the port community stakeholders and signatories to the port charter.

In order to attain the Mombasa Port Community Charter objectives and promote compliance with vehicle load limits, NCTTCA, in conjunction with KTA initiated the Vehicle Load Control Charter (VLC) which was signed on 13 October, 2014 at Mariakani. The self-regulatory Vehicle load control Charter commits both public and private entities observe vehicle load control regulations. The Corridor indicators on the Dashboard are some of the indicators used in monitoring the VLC charter.

1.2 Visit to the Observatory and Dashboard

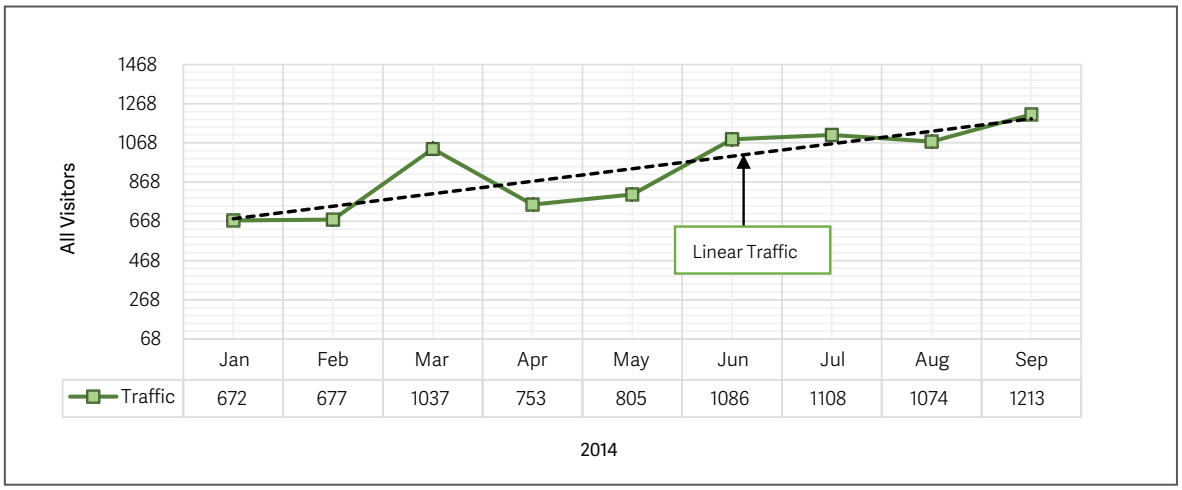
The Cabinet Secretary, Ministry of Transport and Infrastructure(second from left) being taken through the Transport Observatory Portal.

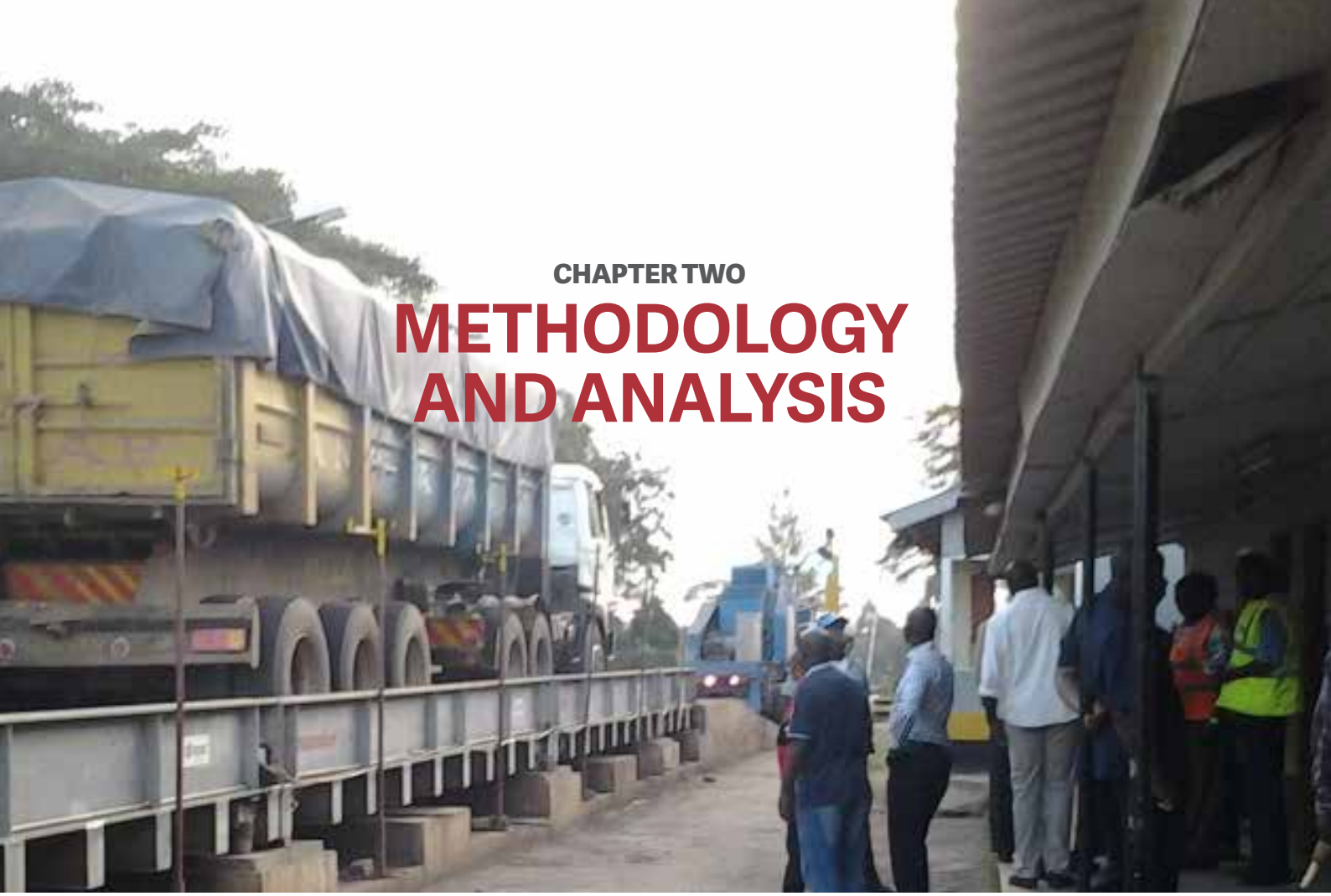
Since inception, the observatory has registered increased visits as more people seek to get information. During the last Quarter the trend observed from the beginning of the year continues to show that the T.O. portals have over the months had a net increase in the overall number of visitors.

This indicates an increase in interest and awareness of the Transport Observatory initiatives by stakeholders. The trend is expected to increase as the Secretariat continually seeks to improve data collection and presentation.

Implementation of the communication strategy for the Observatory that is underway is also expected to boost this trend.

Fig 2: Visit to the Transport Observatory Portal





CHAPTER TWO

METHODOLOGY AND ANALYSIS

2.1 Preliminary

The performance of the corridor is measured through an array of indicators which require multiple sources and methods of data collection. With regular review of indicators, new data requirements have emerged and the Secretariat has equally devised innovative ways of filling in the data gaps.

The road transport survey and GPS data collection are some of the methods that provide data that compliments electronic data from revenue authorities, Road Transport Authorities and other stakeholders Operations Systems. Proper monitoring can only be achieved with proper statistical evidence aimed at informing policy.

Therefore, both qualitative and quantitative data evidence from various stakeholders are paramount in order to update the Transport Observatory and key indicators that define the regions' business endeavours.

2.2 Data Collection and Analysis

The Transport Observatory report contains both qualitative and quantitative data from various sources. The qualitative data sources includes; electronic data, road transport survey and GPS data. The electronic data are obtained from the various stakeholders ICT systems submitted weekly, monthly or annually.

The road and GPS surveys are done concurrently and are coordinated by a field supervisor who administers the questionnaires and issues GPS kits to willing transporters. GPS data consist of coordinates and time stamps

and initial preparations involve recording and geo zoning to map possible stop locations. The border post zones are set 1Km on both sides of the border while the weighbridge region is measured 0.5Km and 1Km respectively before and after the weighing scale infrastructure basing on outbound direction for imports from the port of Mombasa.

The qualitative data sources include the annual stakeholder surveys of the Northern Corridor carried out by the Secretariat together with the regulators and users of the corridor and the country consultative missions.

The country consultative missions are organized every year to assess the implementation of Policy Organs directives. The exercise involves collecting data for the Transport Observatory and assessment of the status of implementation of the decisions as well as recommendations by the Policy Organs of the Northern Corridor. This helps in bridging data gaps for comprehensive reporting and formulation of proper interventions.

The analysis involves both descriptive and quantitative techniques using various statistical tools to generate graphs and tables for interpretation. Assumptions were made based on the types of data, for each indicator and data source, under description and results were generated for the reporting period.

CHAPTER THREE

FINDINGS

3.1 Road Survey

The Road Transport survey and the GPS road survey are conducted concurrently. The process involves issuing truck drivers from various transporters with a hard copy questionnaire and the GPS kit. The aim is to monitor transit time and delays as well as the fees paid by truck drivers for the various reasons along the Northern Corridor.

The road survey data reported covers the period January to September 2014. Out of the 203 questionnaires that were issued, 97 were returned and further validated for analysis. The effective sample size as a proportion of the total issued questionnaires was 47.8%. This implies that the rate of return for the issued questionnaires is only well distributed in a longer time period.

Table 1 below summarizes the achievable sample size of the number of questionnaires that were issued per country of destination.

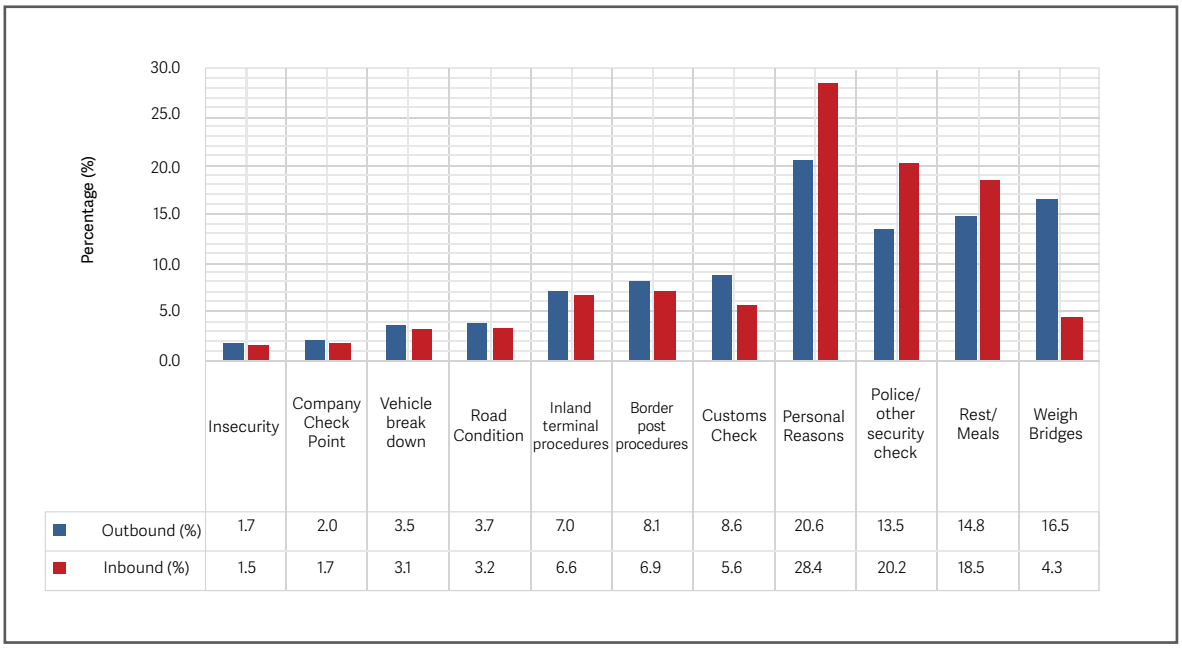
Table 1: Questionnaires Returned per Country of Destination

Destination	Location	No. Questionnaires	% Proportion
Kenya	Nairobi	2	1.0
Uganda	Kampala	61	30.0
	Jinja	16	7.9
	Kawempe	3	1.5
	Hoima	1	0.5
Rwanda	Kigali	8	3.9
South Sudan	Juba	6	3.0
	Total	**97**	**47.8**

Source: Road Transport Survey, Jan – Sep 2014

The figure below gives a summary of some of the reasons why drivers on transit make either inbound or outbound stops along their journey to destination. Outbound constitutes the journey from Mombasa to other destinations while inbound are the return journeys back to Mombasa.

Fig 3: Percentage Distribution for Reasons for Stoppage (Outbound/Inbound)



Source: Road Transport Survey, Jan – Sep 2014

Figure 3 above illustrates the percentage of the various stop reasons for both outbound and inbound traffic out of all the recorded stops. During the survey period, most of the outbound and inbound stops made by drivers were due to personal reasons (20.6% inbound and 28.4% outbound). Inbound weighbridges stoppage follows

by 16.5% while for outbound accounts for 4.3% of the stops along the route. Stoppage due to weighbridge is therefore lower than stoppage due to personal reasons on average (10.4% and 24.5%) respectively. In addition, on average police and security checks (inbound 20.2%, outbound 13.5%) along the routes attract more stops on average (16.9%) after personal reasons for the transporters. These many stops translate into low productivity and poor efficiency due to delays that enters into the cost side of doing business within the Northern Corridor. The resulting outcome is high transport cost for the traders which translate to high product prices for consumers hence worsening off the livelihood.

3.2 Findings from GPS Road Survey

The graphs highlighted below shows findings from the GPS road survey. The results were based on the assumption that the maximum dwell time at the weighbridges is within 24 hours. Anything that was higher than this time limit was considered an outlier and was therefore not used in the analysis.

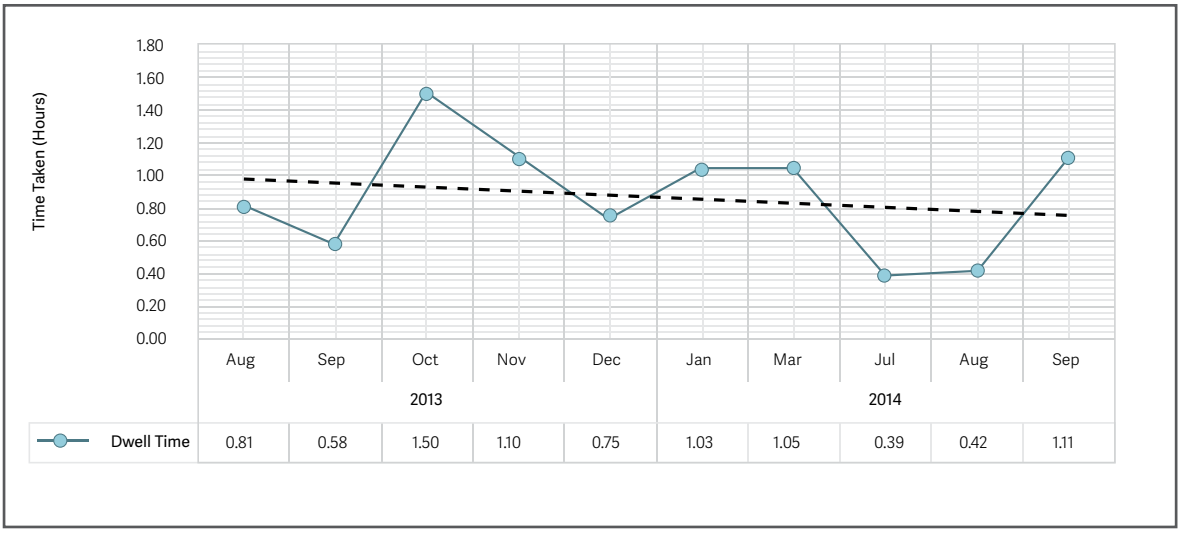
The months of April, May and June have missing data as the field supervisor's contract had already expired and there was no tracking in progress until when the field supervisor later resumed the office.

3.2.1 Weighbridges Crossing Time

Weighbridge crossing time is measured by subtracting arrival time at the weighbridge from departure time from the weighbridge based on Road/GPS based Surveys data.

Figure 4 gives an average crossing time at Mariakani weighbridge. The average crossing time at Mariakani recorded its lowest crossing time of 0.39 hours in the month of July 2014. The highest crossing time reported in the entire period is 1.50 hours in the month of October 2013. The trend shows that crossing time continue to drop over time.

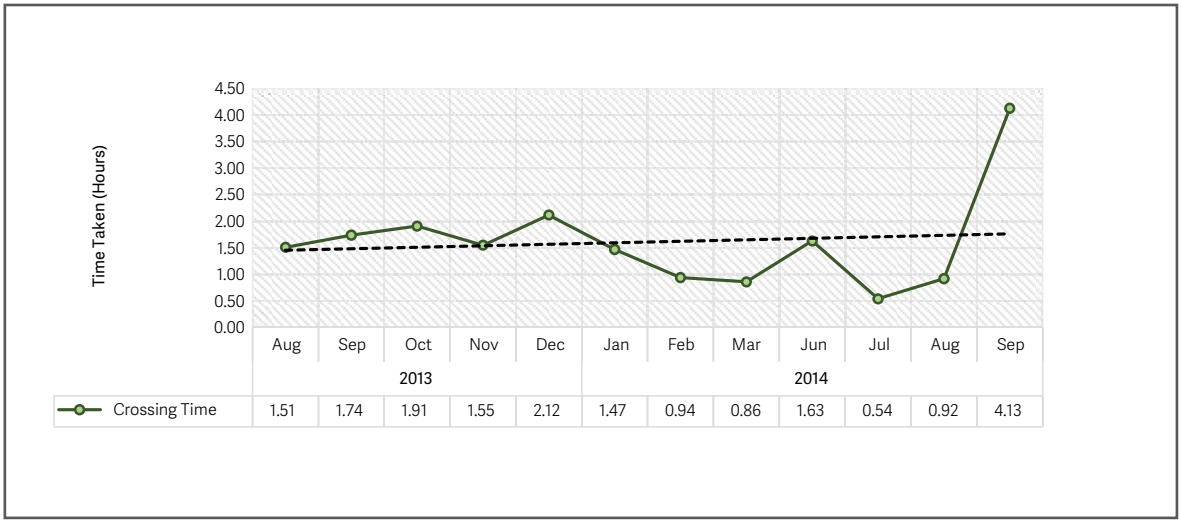
Fig 4: Average Crossing Time at Mariakani Weighbridge



Source: Road Survey, 2014

On average, it takes a truck 0.54 hours to 4.13 hours to cross the Athi River weighbridge as shown in figure 5 below. The crossing time at Athi River weighbridge shows an increasing trend but this is expected to improve based on the recent development of the Vehicle Load Control Charter within the Northern Corridor.

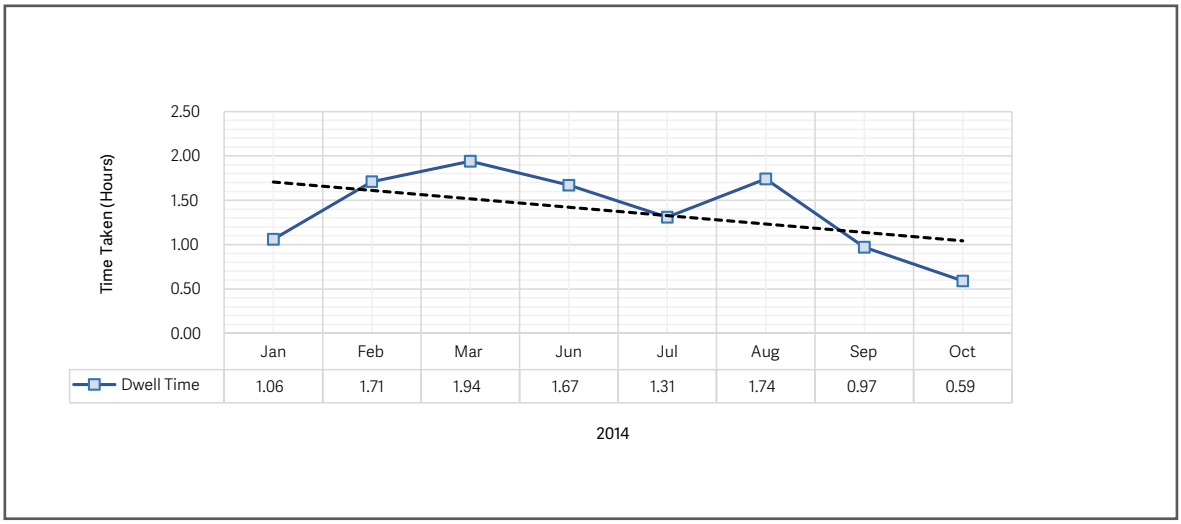
Fig 5: Average Crossing Time at Athi River Weighbridge



Source: Road Survey, 2014

Webuye weighbridge has showed a tremendous improvement as crossing time continues to drop over time. This is demonstrated in figure 6 which shows Webuye weighbridge record a crossing time of 0.59 hours in the month of October 2014. The trend in the graph indicates a decreasing change in crossing time at the weighbridge.

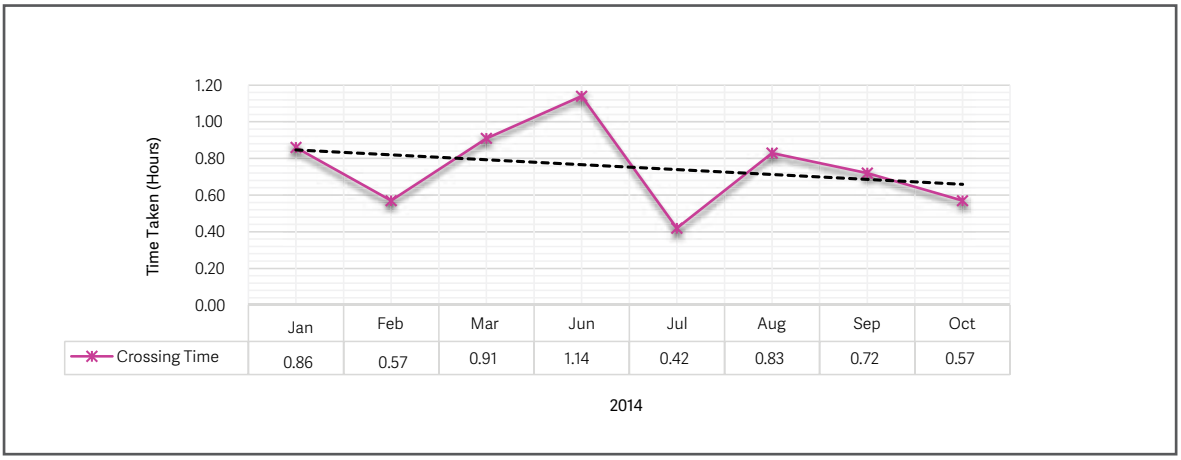
Fig 6: Average Crossing Time at Webuye Weighbridge



Source: Road Survey, 2014

Figure 7 shows the weighbridge crossing time at Busitema extracted from the GPS data. The figure shows that its crossing time has been reducing over time. The crossing time ranges on average between 0.42 hours to 1.14 hours. The trend at Busitema weighbridge shows that average crossing time will continue to drop amidst improvements at the station.

Fig 7: Average Crossing Time at Busitema Weighbridge

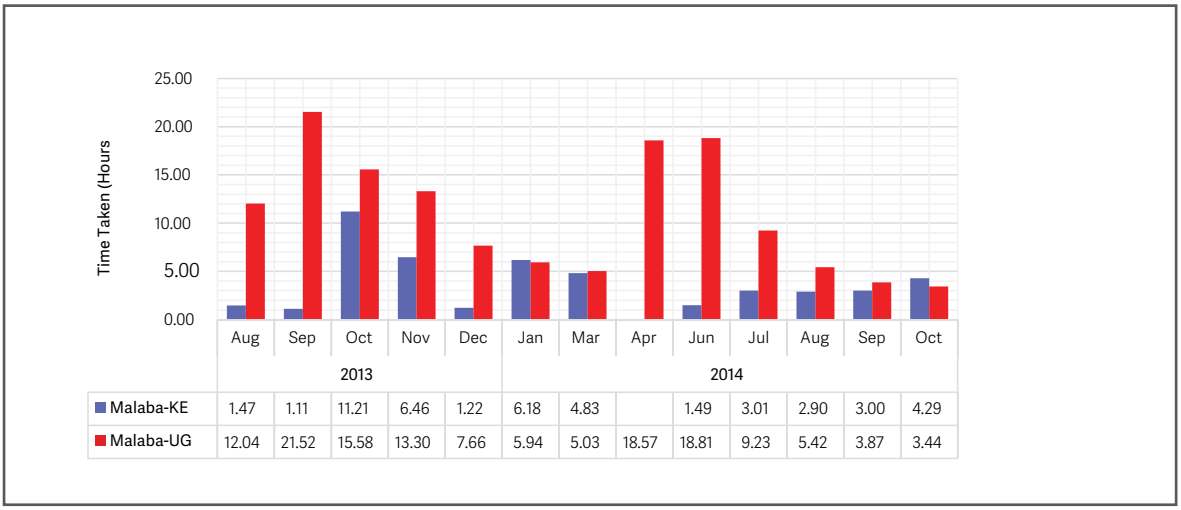


Source: Road Survey, 2014

3.2.2 Border Post Crossing Time

The indicator is measured by taking departure time from the border minus arrival time at the border based on Road/GPS based Surveys data. Figure 8 shows the average time it takes a truck to cross Malaba border post on the Kenyan and Ugandan sides.

Fig 8: Malaba Border Post Crossing Time



Source: Road Survey, 2014

At Malaba border post, it takes on average 4.55 hours to 32.73 hours to cross both Kenyan and Ugandan sides of the border. However, trucks take shorter time to cross the Kenyan side of the border than on the Ugandan side because One Stop Centre is located on the Ugandan side where both customs officers from the Kenyan and Ugandan authorities sits.

Fewer data entries were captured for the other border posts during the reporting period since most of the GPS kits went off due to power outage or fewer trucks plying the routes. Busia border on the Kenyan side showed

that it took on average 1.36 hours to cross the border during the month of August 2014 while in the same period of time the Ugandan side recorded an average crossing time of 5.68 hours. Crossing time at Nimule border on the Ugandan side took on average 0.97 hours in the month of August 2014 while there was no substantive sample on the South Sudan side of the border.

3.3 Transport Cost and Rates

Transport cost is the amount that the transporter must incur to provide transportation services. The cost is determined by fixed (infrastructure) and variable (operating) costs depending on various conditions related to location, infrastructure, administrative barriers, energy and how the freight is carried.

Rates on the other hand are the price of transportation services paid by the cargo owners/ shippers. The rates may not necessarily be based on the real transport cost due to the industry market structure. Rates are subject to market influence and are usually adjusted based on several factors notably the demand and supply as well as the value and type of the commodity.

Determination of transport cost is beyond the scope of this report instead it features the rates charged by various transporters across the region.

The freight charges can be categorized into cost centre's which more often than not, are transferred to the consumers in terms of competitive prices. Table 2 gives a summary of cost Centre's.

Table 2: Cost Centre's

Established Cost Centre's		
1	Capital costs	• Depreciation of the prime movers, trailers and semi-trailers
		• It also depend on the annual distance covered
2	Fuel	• Diesel fuel cost including relevant taxes and charges
3	Driver	• Wages paid and equipment's used, leave coverage
4	Repair/Maintenance	• All costs associated with repairing and maintaining the vehicle including tires and lubricants used
5	Other cost Centre's	• Road user charges
		• Registration charges
		• Licensing
		• Vehicle insurance
		• Overhead and profits

Landlocked countries have inherent disadvantages compared to countries with coastlines and deep-sea ports. This significantly makes trade more difficult and costly because the landlocked country must access most foreign markets through transport corridors connecting them to ports in neighbouring countries.

Despite positive changes with regard to logistics performance and increased involvement of transit countries, LLDCs still experience considerably higher cost of trade when compared to transit coastal countries: a mark-up of about 70 percent in ad-valorem equivalent. Although, Distance alone cannot explain it, it is rather a lack of overall connectivity of international trade supply chain, related to logistics performance.[1]

Supply chain connectivity depends on the quality of physical infrastructure and the quality and sophistication of services, including customs and border control, trade or transportation policies that affect logistics performance.

Supply chain bottlenecks are the primary cause of frictions in trade; logistics (trade) costs increase with decreasing logistics performance. Reducing logistics (trade) costs by half would raise trade by 15% and production by 5% globally.

3.3.1 Road Freight Charges

Data on freight charges allow for comparison of road freight transport fiscal regimes in different countries in quantitative terms. They serve as core information on investment decision making. Freight charges acts as a basis to study cost recovery of road infrastructure by relating all the various taxes and charges levied on transport activities to costs. ***The indicator captures the different tariff charges by transporters per road and/ or per section.***

Table 3 gives a summary of the average transport cost for moving a container (20' or 40' not exceeding 27 tons) from Mombasa to main destinations along the Northern Corridor.

Table 3: Transport Cost per Route and per Mode

Average Transport Cost per Route per Mode					No. of Round Trips/ Month
Route	Distance (Km)	2010 (USD)	2012 (USD)	Nov. 2014 (USD)	Nov. 2014
Mombasa-Nairobi	430	1300	1118	1023	8.9
Mombasa-Kampala	1170	3400	3070	2867	3.5
Mombasa-Kigali	1700	6500	4650	4833	2.3
Mombasa-Bujumbura	2000	8000	7000	6350	1.4
Mombasa-Goma	1880	9500	6500	6750	1.4
Mombasa-Juba	1750	9800	6250	4678	2.1

Source: Road Transport Associations, Nov 2014

Comparing 2012 and 2014, transport rates between the nodes have reduced considerably in most of the destinations except from Mombasa to Goma and Mombasa to Kigali. Mombasa-Juba recording the highest decrease compared to other destinations. This shows improvement in the business environment as traders would charge commodity prices relative to the cost of transport. The number of round trips made by transporters to Nairobi is the highest (8.9) because of its proximity Mombasa (430Km). Round trips to Bujumbura and Goma are lowest (1.4) as they are located furthest from the port of Mombasa.

[1]World Bank, 2010. *Connecting Landlocked Developing Countries to Markets. Trade Corridor in the 21st Century 2010*. Washington DC. (http://books.google.co.ke/books?id;Connecting.pdf)
*World Bank- UN-OHRLLS, November 2014, Improving Trade and Transport for Landlocked Developing Countries. A Ten Year Review

3.3.2 Transport Rates in Burundi

The table below summarizes transport charges per ton in Bujumbura in USD ($). The table indicate that transport charges by transporters have been reducing over time for both imports and exports to and from Bujumbura.

Table 4: Transit Tariff for Bujumbura – Burundi (USD)

Bujumbura Transit Tariff USD ($) per Ton				
From	To	Apr-2013	Feb-2014	Nov-2014
Mombasa (KE)	Bujumbura (BI)	235	220	200
Nairobi (KE)	Bujumbura (BI)	200	180	180
Kampala (UG)	Bujumbura (BI)	160	140	130
Kigali (RW)	Bujumbura (BI)	50	50	80
Goma (DRC)	Bujumbura (BI)	--	70	100
Bujumbura (BI)	Goma (DRC)	70	80	80
Bujumbura (BI)	Kigali (RW)	50	60	60
Bujumbura (BI)	Kampala (UG)	140	100	90
Bujumbura (BI)	Nairobi (KE)	160	130	120
Bujumbura (BI)	Mombasa (KE)	180	160	155

Source: Association of Burundi Transporters, Nov 2014

Transport rates for imports have dropped since February 2014 and currently importing cargo from Mombasa to Bujumbura costs on average USD 200 while from Nairobi and Kampala costs USD 180 and 130 per ton respective. However, to import the same cargo from Kigali, Rwanda has increased by USD 30 from February 2014 to USD 80 per ton by November 2014.

In addition, to export the same cargo from Bujumbura during this same period to Mombasa, Nairobi and Kampala costs USD 155, 120 and 90 per ton respectively. This shows that cost of transporting an import cargo is slightly higher compared to the cost of exporting the same cargo.

Furthermore the average number of Round trips done to the following destination in the month of November 2014 is summarized in the table below.

Table 5: Number of Round Trips made by Truckers in Burundi

From	To	No. of Round Trips	
		Feb-2014	Nov-2014
Bujumbura (BI)	Goma (DRC)	2	3
	Kigali (RW)	3	4
	Kampala (UG)	2	2.5
	Nairobi (KE)	1	2
	Mombasa (KE)	1	1 or 1.5

Source: Association of Burundi Transporters, Nov 2014

Table 5 shows that in all cases, the number of round trips have increased slightly.

3.3.3 Transport Rates in Rwanda

Table 6 below provides a summary of transport rates charged by transporters in Kigali per trip made to the following destinations; Mombasa, Nairobi, Kampala, Bujumbura, Goma and Jinja for both imports and exports.

Table 6: Transit Tariff for Kigali – Rwanda (USD)

Kigali Transit Tariff USD ($) per Container				
	From	To	Feb-2014	Nov-2014
Imports	Mombasa (KE)	Kigali (RW)	4,800	4,800
	Nairobi (KE)	Kigali (RW)	3,950	3,800
	Kampala (UG)	Kigali (RW)	4,100	2,000
	Juba (SS)	Kigali (RW)	6,700	
	Bujumbura (BI)	Kigali (RW)	3,800	
	Goma (DRC)	Kigali (RW)	3,000	
Exports	Kigali (RW)	Goma (DRC)	3,500	
	Kigali (RW)	Bujumbura (BI)	3,800	
	Kigali (RW)	Juba (SS)		7,000
	Kigali (RW)	Kampala (UG)	3,500	1,600
	Kigali (RW)	Nairobi (KE)	2,000	2,000
	Kigali (RW)	Mombasa (KE)	4,200	3,000

Source: ACPLRWA, Nov 2014

Table 7 shows that the number of round trips made by transporters in Rwanda has significantly increased. Trips made to Goma have increased by seven folds. This implies an improvement in the business environment.

Table 7: Number of Round Trips made by Truckers in Rwanda

From	To	No. of Round Trips	
		Feb-2014	Nov-2014
Kigali (RW)	Goma (DRC)	1	7
	Bujumbura (BI)	2	5
	Kampala (UG)	2	5
	Juba (SS)	1	1
	Nairobi (KE)	1	3
	Mombasa (KE)	1	2

Source: ACPLRWA, Nov 2014

3.3.4 Transport Rates in Congo

Goma in DR Congo marks one of the major nodes within the Northern Corridor. The town is one of the major origins and destine for most cargo in the country. The table below provides a monthly average for imports and exports transit traffic tariff from and to Goma in DR Congo.

Table 8: Transit Tariff for Goma – DR Congo (USD)

Goma Transit Tariff in USD ($) per Ton			
	From	To	Nov-14, USD($)
Imports	Mombasa (KE)	Goma (RDC)	235
	Nairobi (KE)	Goma (RDC)	230
	Juba (SS)	Goma (RDC)	180
	Kampala (UG)	Goma (RDC)	77
	Kigali (RW)	Goma (RDC)	100
Exports	Goma (RDC)	Bujumbura (BI)	175
	Goma (RDC)	Kigali (RW)	100
	Goma (RDC)	Kampala (UG)	77
	Goma (RDC)	Juba (SS)	180
	Goma (RDC)	Nairobi (KE)	230
	Goma (RDC)	Mombasa (KE)	235

Source: FEC, Nov 2014

It is observed that transport rates for both imports and exports are the same to and from other destinations. The rates to and from Mombasa port records the highest charge on transport per ton followed by Nairobi.

Table 9 provides a summary of the average number of round trips made by transporters from Goma in the month of November.

Table 9: Number of Round Trips made by Truckers in DR Congo

From	To	Number of Round Trips Nov-2014
Goma (RDC)	Bujumbura (BI)	2
Goma (RDC)	Kigali (RW)	2
Goma (RDC)	Kampala (UG)	2
Goma (RDC)	Juba (SS)	1.5
Goma (RDC)	Nairobi (KE)	2
Goma (RDC)	Mombasa (KE)	1.5

Source: FEC, Nov 2014

3.4 Results from Electronic Data Sources

This section gives some findings from electronic data sources i.e. Customs systems from Member states and Weighbridge Management systems from Roads authorities and the Ports Authorities.

3.4.1 Transit time and delays

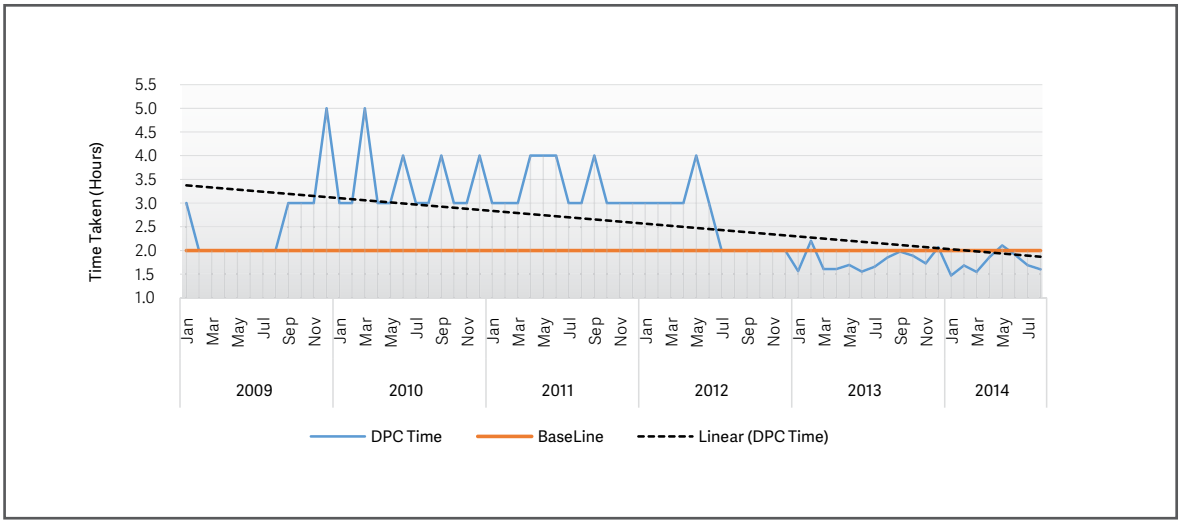
Transit system in a corridor refers to the status of the corridor infrastructure, legal framework and procedures serving the corridor as a whole. The main transit delays usually occur at the origin or destination and even on routes.

3.4.1.1 Time for Customs Clearance at the Document Processing Center (DPC)

Time for customs clearance at the DPC is arrived at by differencing Registration Date Time of process from Passing Date Time. This calculation is based on KRA's T810, T812 data sets extracted on a weekly and monthly basis.

Figure 9 shows time taken by the customs officers to clear cargo at the document processing centre against the expected baseline clearance time.

Fig 9: Time For Customs Clearance at The Document Processing Center (DPC)



Source: KRA, 2009 – August 2014

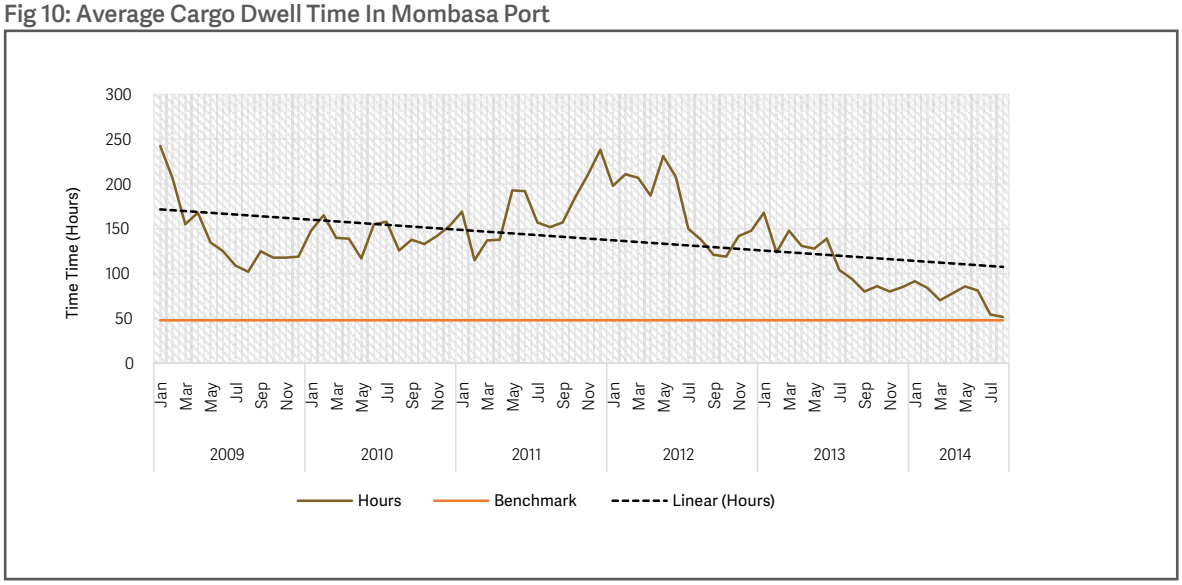
The graph in Fig 9 shows a monthly time duration taken by customs department to clear goods at the DPC centre. The DPC time has been showing a decreasing trend which is favourable to the business community as clearance time has dropped below 2 hours expected DPC time from the year 2013. However short run time analysis are marred with fluctuations depending on the season and available conditions. Shortest clearance time so far achieved was in the month of May 2014 averaging to 1.4 hours. This positive development is expected to further improve given the signing of the Mombasa Port Charter in June 2014 and expected full migration in single window Kentrade by all the Agencies. The charter commits various stakeholders towards improving the performance of the corridor.

3.4.1.2 Average Cargo Dwell Time in Mombasa Port

Dwell time is the measure of time that elapse from the time cargo arrives at the port to the time goods leave the port premises after all permits and clearances have been obtained. It is measured by subtracting arrival time from the exit time at the port. Data on arrival and exit from the port are provided by KPA from the KWATOS system.

Internationally, lower Port dwell time has become a major commercial indicator in attracting more cargo to the Ports. Port authorities and container terminal operators have therefore given much incentive in order to lower cargo dwell time. This average dwell time is a statistic that is easy to compute and understand. However, because high dwell times are often driven by a minority of problematic shipments, it is difficult to decrease the average/mean dwell time in the short and medium term as compared to the long run. Figure 10 shows a monthly mean cargo dwell time at the port of Mombasa for the given time period.

Fig 10: Average Cargo Dwell Time In Mombasa Port



Source: KPA, 2009 – August 2014

The graph clearly indicates that average cargo dwell time at the Port of Mombasa since January 2014 is 75 hours while in 2013 the average cargo dwell time was 114 hours. This is averagely 3.1 days which is way below the set base line of 105 hours (4.4 days). In August 2014, Mombasa Port recorded a dwell time of 52 hours i.e. 2.2 days which is slightly below the annual average for 2013. However, this is still higher than the set bench mark of 48 hours on average.

From the trend, it is expected that mean cargo dwell time will continue to diminish but not to zero in the long run. Very long dwell times in ports hurt the efficiency of port operations and performance of the economy in general. This is based on the assumption that all the logistics chain operators' mainly private sector (terminal operator, customs broker, owner of container depots, shippers) has an interest in reducing dwell time.

Ports efficiency is therefore a yard stick that measure the competitiveness and viability of business within the region. It provides critical support to the international trade, ensuring a country's integration into the global marketplace. Indeed, inadequate port capacity, port congestion, limited cargo handling facilities, cumbersome procedures lead to low efficiency and have a serious negative impact on business activities. High logistics costs

due to delays and low levels of service are barriers to trade, and foreign direct investment. This intern affects a country's economic growth which later translates to increased poverty levels due to high cost of living within the region.

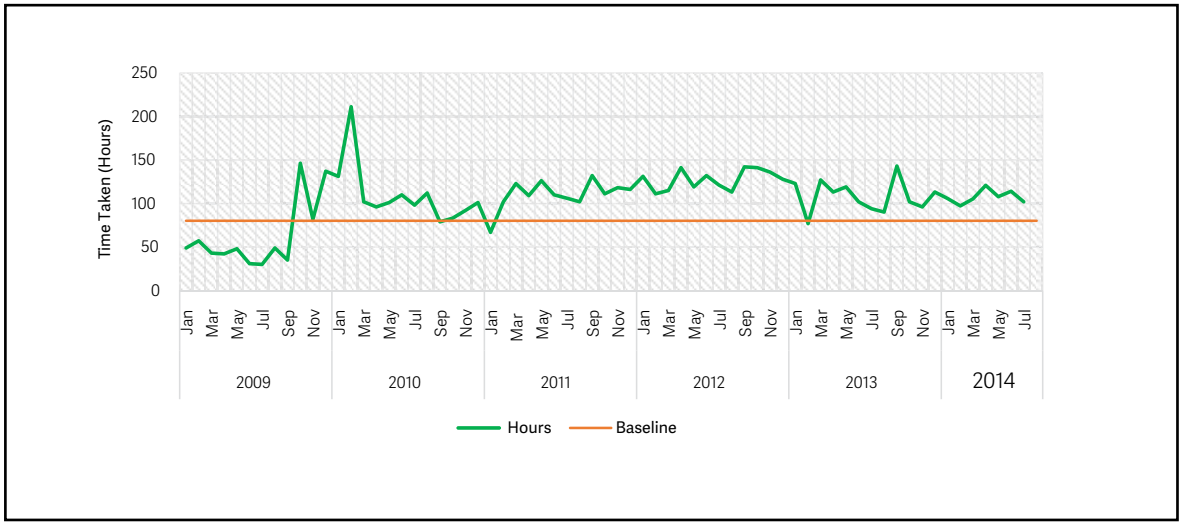
3.4.1.3 Time Taken At Mombasa One Stop Centre

This indicator is arrived at by subtracting the Pass Date time from the Released Date Time based on the KRA's T812 data. The indicator involves a number of processes undertaken by different agencies involved in the clearance process.

Since cargo clearance process involves not only Customs administrations but also other national authorities such as the port, health, veterinary, agriculture and other agencies, as well as the trading community which includes brokers, forwarding and shipping agents, carriers, banks and other intermediaries, the trade entities, in particular, are constantly concerned with measures to ensure predictability and faster clearance of goods.

Delays in the release of goods are very often attributed to the procedural and documentary requirements of Customs since they are one of the more visible agencies at entry and exit points. It is therefore in the interest of customs administrations to initiate measures to improve the clearance process and for monitoring the release times for goods through regular reviews.

Fig 11: Time Taken at One Stop Center



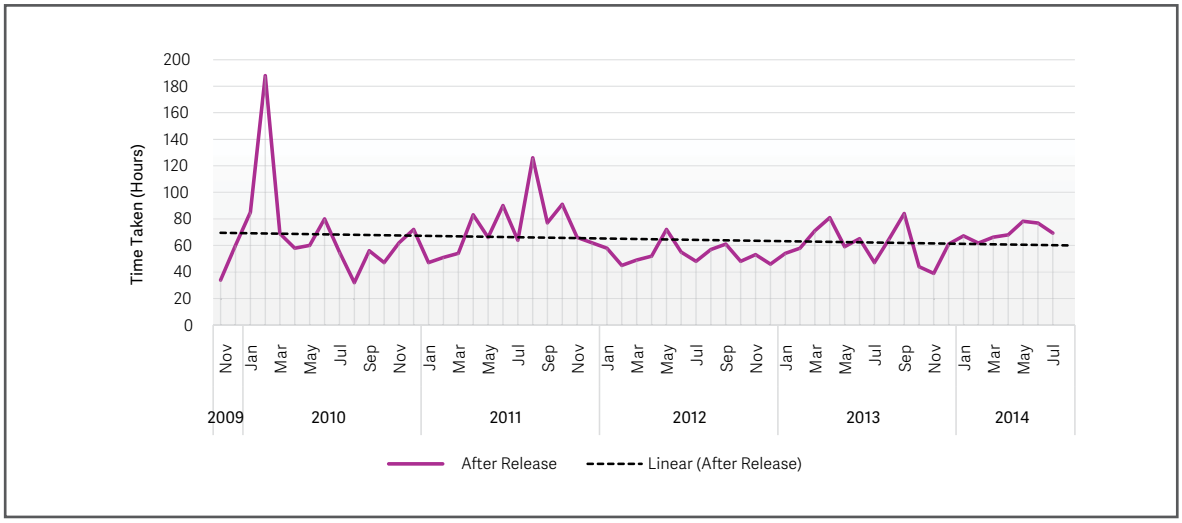
Source: KPA, 2009 – Feb 2014

From figure 11 above, it is clear that time taken at One Stop Centre averages to 107 hours from January to July, 2014. This shows a slight decrease compared to 2013 and 2012's monthly average of 108 hours and 127 hours respectively. The trend shows that time taken at Mombasa One Stop Center has been fluctuating over time.

3.4.1.4 Time within the Port after Customs Release

This time is arrived at by taking cargo removal time at the gate from port minus release order time. It's mainly based on the KRA T812 data. Figure 12 shows the trend on transit time after customs release at the Port of Mombasa.

Fig 12: Transit Time within the Port after Customs Release



Source: KRA, 2009 – Feb 2014

Figure 12 above shows that in most cases, it takes on average between 40 and 90 hours for transporters to pick cargo after customs release, which is high compared to the 24 hours benchmark. KRA's grace period after customs release is 6 hours of which cargo owners and transporters are required to pay an additional fee per hour over stayed. The delays after customs release are majorly attributed to transporters and traders not taking the initiative to load their cargo from the port on time.

Transporters, especially those with large fleet, would prefer to pick cargo at specific times and days of the week to allow close monitoring of trucks while on transit. This always happens after the custom has issued the transporters with a release order form authorizing their exit.

More importantly, the trend line shows that time after customs release will continue to decrease in the long run. One of the mechanisms to reduce this time wastage is to clear truck drivers while inside the truck to ease congestion in the waiting area.

3.4.1.5 Transit Time within the Corridor

Transit time within the corridor is the time taken from the point of entry or source to destination. The time indicator is measured using two methods by the Observatory.

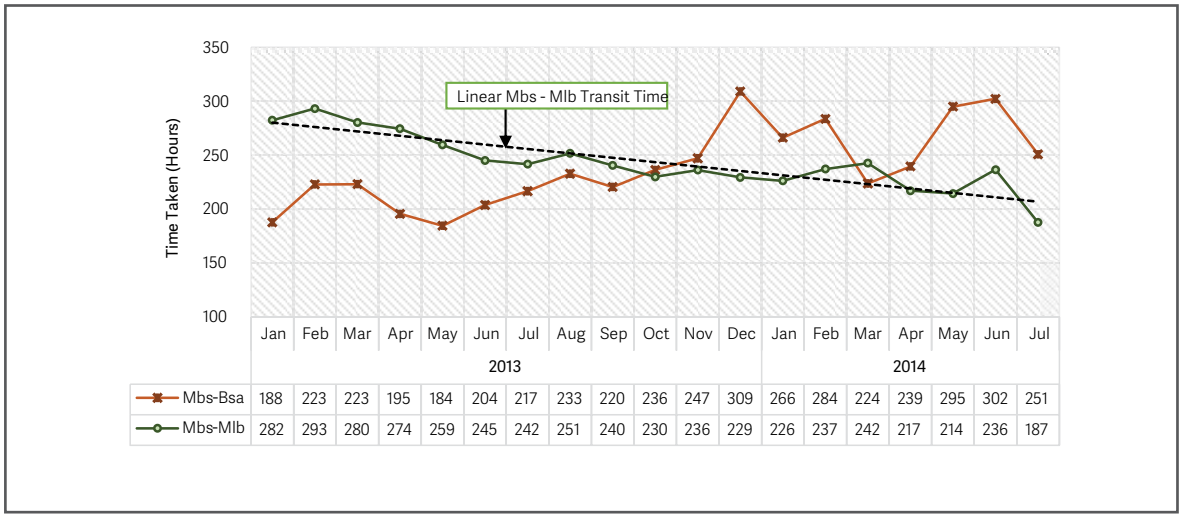
i. Transit time using the customs electronic data(time taken from the time the cargo exits the port to the time export certificate is issued at the border)
ii. Transit time using the GPS survey (time when the journey starts, in most cases at the yards, to the time the truck crosses the border)

3.4.1.5.1 Transit Time in Kenya

Transit time in Kenya is an indicator that estimates the period from the time cargo is removed from the port of Mombasa (Mbs) to the time the export certificate is issued after crossing the border at Malaba (Mlb) or Busia (Bsa).

Figure 13 below shows transit time in Kenya covering the distance from Mombasa to Busia and Malaba.

Fig 13: Transit Time in Kenya - Mombasa to Busia and Malaba



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Mbs-Bsa	188	223	223	195	184	204	217	233	220	236	247	309	266	284	224	239	295	302	251
Mbs-Mlb	282	293	280	274	259	245	242	251	240	230	236	229	226	237	242	217	214	236	187

Source: KRA, Jan 2013-Jul 2014

Fig 13 indicates that it takes longer for a truck to travel from Mombasa to Busia as compared to Malaba from October 2013 to July 2014. The average transit time to Malaba has been reducing over time. In the month of July, the transit time to Malaba was 187 hours (about 8 days). It should be noted that this time includes delays after customs release at the port whereby most transporters keep their cargo in their yards before starting their journey.

Transit Time from the GPS survey

A total of GPS 200 kits were issued from the month of February to September, 2014. Only 68 kits were switched on by transporters from Mombasa at the start of the journey. The rest were activated at or after Mariakani Weighbridge. Based on the definition of transit time, it is therefore indicative that on average it takes 3.2 days to travel from Mombasa to Malaba.

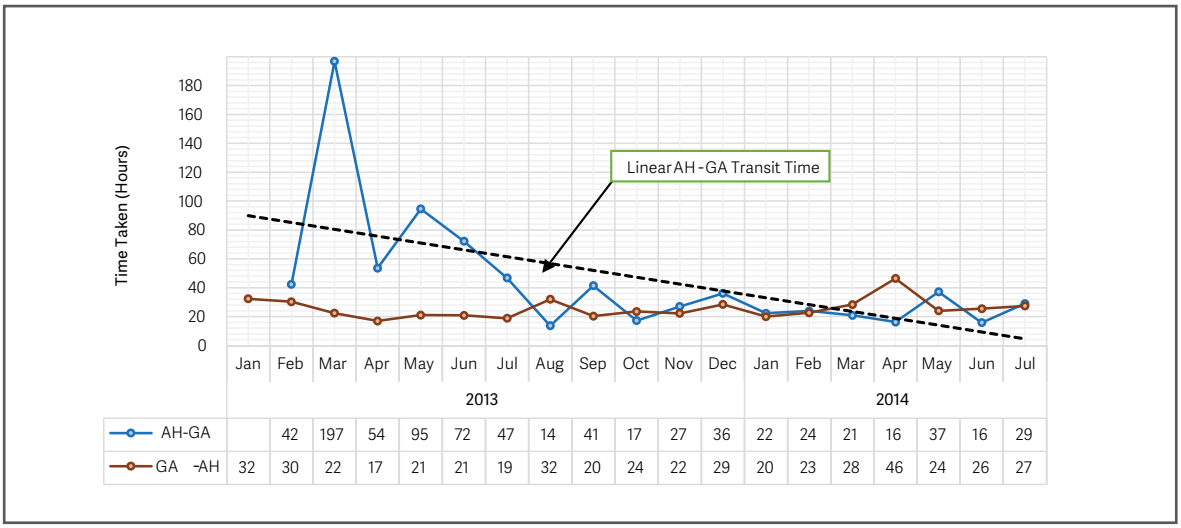
There has been noticeable variations in the time recorded using the customs data and the GPS survey data with the latter being less than the former. This can be attributed to the following reasons:

- Traders do not commence their journey immediately the cargo is released from the port. In most cases, cargo is consolidated at the yards before transportation at their own convenient time.
- Clearance process at the border is sometimes manual whereby all entries are recorded manually and effecting on the system is done at a later time when the track has already crossed the border.

3.4.1.5.2 Transit Time in Rwanda

Rwanda is linked to the various neighbouring countries through the Northern Corridor. The Corridor passes through the following borders: Gatuna, Akanyaru Haut, in Rwanda. ***Transit time is measured by the difference between the time when cargo exits and enters country.***

Fig 14: Average Transit Time in Rwanda



AH-GA		42	197	54	95	72	47	14	41	17	27	36	22	24	21	16	37	16	29
GA -AH	32	30	22	17	21	21	19	32	20	24	22	29	20	23	28	46	24	26	27

Source: RRA, Jan 2013 -Jul 2014

Figure 14 indicates that on average it takes 26.8 hours and 44.9 hours to transport cargo from Gatuna (GA) to Akanyaru Haut (AH) and vice versa respectively.

3.4.1.5.3 Transit Time in Uganda

The indicator is measured by the difference between date and time when cargo exit and enter Uganda. The table below shows transit time in Uganda from Busia and Malaba border to Arua, Elegu, Kampala and Mpondwe. On average it takes 122 hours and 126 hours to travel from Busia and Malaba to Elegu respectively. The time taken from Busia and Malaba to Kampala on average is 80 hours and 62 hours respectively. The difference between times taken is therefore due to the differences in the actual distance covered between the two time nodes.

Table 10: Average Transit Time in Uganda (in Hour)

Destination	From:	Busia	Busia	Malaba	Busia	Malaba	Busia	Malaba
	To	Arua	Elegu		Kampala		Mpondwe	
2013	Jan	52.9	152.1	197.4	83.6	111.3	79.3	91.4
	Feb	58	146.7	205.6	51.2	84.8	97.9	87.4
	Mar	70.8	136.5	154.1	80.3	72	64.9	98.6
	Apr	53.4	129.7	121	62.2	48.3	81	101
	May	68.8	118.6	106.7	53.5	51.6	73.9	86
	Jun	87.7	131.9	100.8	45.3	55.2	82.8	106.1
	Jul	65.9	85.8	88.6	70.8	49.5	81.9	93.7
	Aug	68.1	123	127.2	69.7	61.2	65.1	99.2
	Sep	49.1	102.1	106.8	99.9	65.1	72.2	110.7
	Oct	69.3	152.7	133.4	154.1	62.8	67.5	115.5
	Nov	52	149.2	155.8	88.8	51.5	70.6	111.1
	Dec	63.5	150	140.5	97.5	63.2	83.3	98.8
2014	Jan	61.2	106.4	109.9	100.6	56.1	63.4	99.6
	Feb	69.8	80.1	79.4	87.3	48.9	68	91.2
	Mar	42.8	75.2	73.4	68.4	53.6	--	220.4
Average Hours		62.2	122.7	126.7	80.9	62.3	75.1	107.4

Source: URA, Jan 2013-Mar 2014

The month of October 2013 has recorded the highest transit time in almost all the routes from Busia and Malaba. In general, the transit delays might be due to road blocks, customs, weighbridges and border clearance. Further, the delays in some major roads are due to construction works in progress; and small bridges along the roads that needs to be re-constructed.

3.4.1.6 Inland Container Deports (ICDs)/Inland Ports

Inland Container Depots (ICDs) are facilities located hinterland or remote from port(s) which offer services for temporary storage of cargo as well as empty containers and customs clearance of containers and general cargo that enters or leaves the ICDs.

The Kenya Ports Authority operates Inland Container Depots (ICDs)/dry ports at Nairobi, Kisumu, and Eldoret for handling and storage of containerized cargo and empty containers. This service gives inland customers faster and more reliable service. The ICDs are directly linked to the container terminal in Mombasa by rail.

Table 11 below summarizes the Inland Container Deports (ICDs) traffic from 2009 to 2013.

Table 11: Inland Container Depot/Dry Port Traffic (TEUs)

ICD	Container Status	ICD Traffic (TEUs)				
		2009	2010	2011	2012	2013
Nairobi	Imports	12,523	14,185	14,494	15,319	14,811
	Exports	4,930	5,157	4,607	4,848	5,261
	Empty	14,794	18,659	21,830	19,737	26,816
Kisumu	Imports	1,520	131	66	102	111
	Exports	308	2	-	-	-
	Empty	181	95	74	55	93

Source: KPA 2009-2013

The Nairobi ICD is located within an area of 18.7 ha at Embakasi and has a capacity of 180 000 TEU per annum. Due to its geographic position, the Nairobi's Embakasi ICD is best positioned to serve local traffic. This is due to its accessibility by traders from different parts of the country.

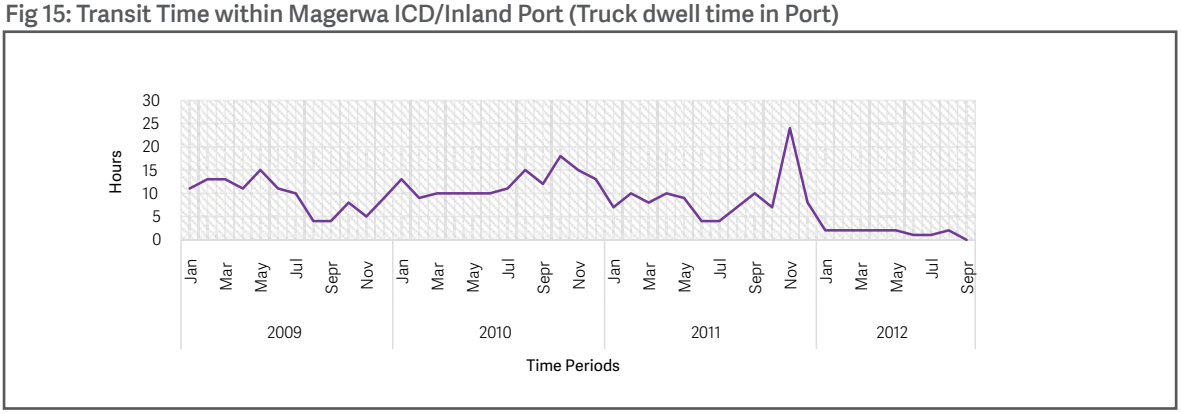
It does, further, serves as a transit point for traffic to Kisumu ICD. Container traffic at Nairobi's ICD has been growing overtime with over 15000 TEUs traffic of imports registered in 2012. However 2013 registered a slight decrease in import containers. The ICD also records high turnover for empty containers in their yards.

Kisumu depot has not showed a consistent growth in its TEUs traffic since 2009. The ICD is designed for a capacity of 15,000 TEU per annum. Plans are underway to transform the Kisumu ICD into a dry port, thereby becoming a transhipment point between the Port of Mombasa and other countries of the Northern Corridor.

3.4.1.7 Truck Dwell Time within MAGERWA in Rwanda

Truck dwell time is measured from the time the driver of the vehicle receives authorization to enter the gate, until its departure once authorized from the terminal exit gate. The driver receives such authorization to enter, either from the road office or at the self-service centre. It measures the terminal's service quality to road transport operators.

Fig 15: Transit Time within Magerwa ICD/Inland Port (Truck dwell time in Port)



Source: RRA, 2009 – Aug 2012

From figure 15, truck dwell time at MAGERWA is still high at the inland ports compared to the target of 1 hour. This might be due to delays arising from scanning operations, gates layout as well as availability of equipment during delivery operations. Though there has been a sudden decline since January 2012 due to high competition in Rwanda.

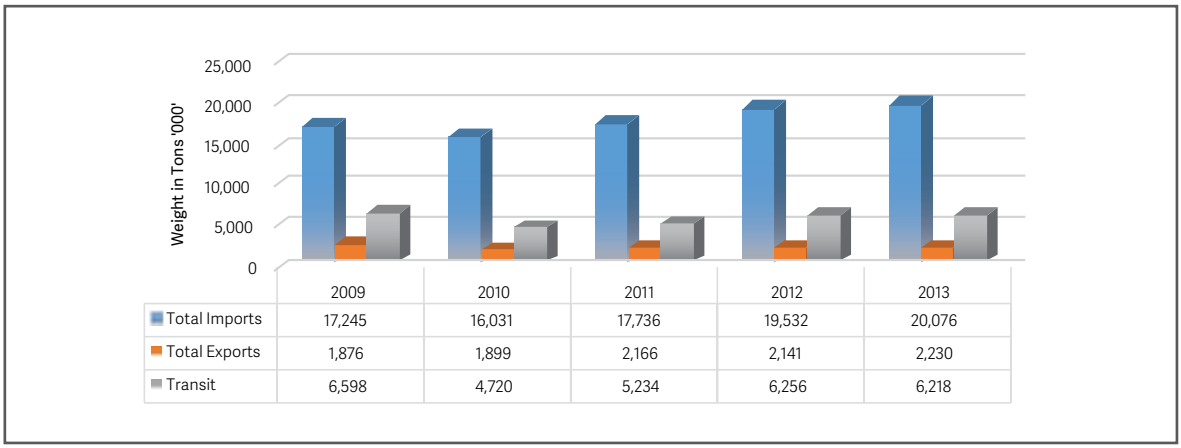
3.4.2 Volume and Capacity Indicators

3.4.2.1 Imports, Exports and Transit Weight through Mombasa Port

The Northern Corridor member countries are major exporters of raw materials without value addition which attracts low value per ton, while imports include manufactured goods and processed foods with high value addition. As dutiable goods, imports undergo the most control and suffer greater cost and time penalties in transit than exports.

Figure 16 shows the total cargo (imports and exports) and transit weight in tones handled at the port of Mombasa. ***Imports and exports through the port of Mombasa, is measured by cargo volumes that pass through the port.***

Fig 16: Imports, Exports and Transit Weights

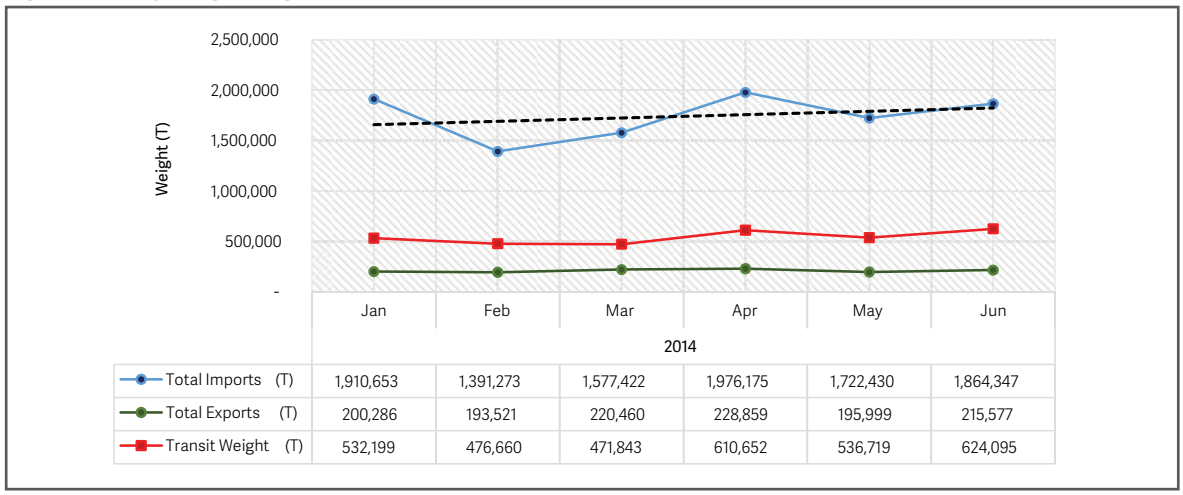


	2009	2010	2011	2012	2013
Total Imports	17,245	16,031	17,736	19,532	20,076
Total Exports	1,876	1,899	2,166	2,141	2,230
Transit	6,598	4,720	5,234	6,256	6,218

Source: KPA, 2009-2013

It is clearly evidenced that Mombasa Port majorly handles import cargo. Comparing 2012 and 2013 figures, imports through the port were slightly above 19 million tons to 20 million tons respectively. This is approximately ten times greater than total cargo exported in 2013. This shows that the region records a trade deficit in each and every subsequent year. However transit cargo has been fluctuating over time.

Fig 17: Monthly Cargo Weights handled at the Port of Mombasa



	Jan	Feb	Mar	Apr	May	Jun
	2014					
Total Imports (T)	1,910,653	1,391,273	1,577,422	1,976,175	1,722,430	1,864,347
Total Exports (T)	200,286	193,521	220,460	228,859	195,999	215,577
Transit Weight (T)	532,199	476,660	471,843	610,652	536,719	624,095

Source: KPA, Jan – Jun 2014

The graph in Figure 17 shows cargo handled at the port from January to June 2014. The trend indicates that cargo volumes are expected to grow beyond the registered cargo weights in 2013.

Annual cargo growth rates from 2009-2013 is summarized in Table 8 below.

Table 12: Cargo Proportions at the Port of Mombasa

Cargo Type	Percentage (%)					
	2009	2010	2011	2012	2013	Average
Total Imports	67.0	70.7	70.6	69.9	70.4	69.7
Total Exports	7.3	8.4	8.6	7.7	7.8	8.0
Transit	25.7	20.9	20.8	22.4	21.8	22.3

Source: KPA, 2009-2013

The average proportion of imports cargo oscillates within an average of 70% while exports and transit cargo are 8% and 22% respectively. This shows that the region is a major importer which imply a trade deficit.

Table 13 and Figure 18 gives a comparison of transit traffic for imports and exports per country within the Northern Corridor during the period 2009-2013.

Table 13: Transit Cargo from Mombasa Port to other Destination

Country	Cargo Type	DWT				
		2009	2010	2011	2012	2013
Burundi	Imports	19,093	5,785	1,201	38,917	66,227
	Exports	1,022	1,204	688	243	682
DR Congo	Imports	263,110	401,703	339,287	464,989	491,367
	Exports	25,586	28,714	16,004	17,369	20,346
Rwanda	Imports	236,087	275,559	216,306	247,730	223,127
	Exports	14,472	12,564	9,787	12,508	16,972
S. Sudan	Imports	155,691	190,468	375,897	736,266	716,470
	Exports	11,662	32,999	41,135	30,390	58,679
Uganda	Imports	3,686,862	3,942,242	4,028,361	4,499,302	4,508,118
	Exports	293,532	290,492	347,314	346,193	404,198
Total	**Imports**	**4,360,843**	**4,815,757**	**4,961,052**	**5,987,204**	**6,005,309**
	Exports	**346,274**	**365,973**	**414,927**	**406,703**	**500,877**
% Growth	**Imports (%)**	**-**	**10.4**	**3**	**20.7**	**0.3**
	Exports (%)	**-**	**5.7**	**13.4**	**-2**	**23.2**

Source: KPA, 2009-2013

Fig 18: Transit Cargo Growth

Source: KPA, 2009-2013

Figure 18 above shows that transit imports and exports has been growing overtime at a fluctuating rate with the highest growth for imports of 20.7% experienced in 2012, compared to negative 2.0% slow growth of transit exports respectively. The reasons for fluctuating growth in transit volumes can be attributed to various factors including the general conditions of infrastructure that delays the movement of cargo to and from the port.

In 2013 there was a sudden rise in transit export from 406,703 tons in 2012 to 500,877 tons. The negative transit export growth rate indicates sudden drops in cargo volumes and not that there were no volumes exported at all. It's recommended that the region concentrate on value addition on their products in order to guarantee trade competitiveness with the rest of the world.

3.4.2.2 Berth Occupancy

Port occupancy can be measured by capacity of a port terminal which is the maximum traffic it can handle in a given session. Capacity of a port can be determined by the economic optimization of facilities, facility saturation, and the minimum acceptable quality of service advanced to the clients.

Capacity calculation is an important port terminal planning tool. It can be measured by calculating berth or storage capacity of the port. Having an acceptable berth occupancy ratio is an important metric to measure port capacity and efficiency.

Berth occupancy is the ratio of time the berth is occupied by a vessel to the total time available in that period. High berth occupancy (>70%) is a sign of congestion and hence decline of services, while low berth occupancy (<50%) signifies underutilization of resources.

Table 14 below summarizes annual evolution of specific cargo berth occupancy at the Port of Mombasa from 2009 – 2013.

Table 14: Berth Occupancy Rate at the Port of Mombasa

Berths/Year	Berth Occupancy Rate (%)					
	2009	2010	2011	2012	2013	Average
Kipevu oil terminal	86.5	85.3	84.5	80.2	83.5	84.0
Container terminal	71.3	86.9	94.5	75.7	82.7	82.2
Shimanzi oil terminal	75.6	80.7	81.8	80.1	77.5	79.1
Mbaraki warf	53	64	76.2	79.3	56	65.7
General cargo	49.4	49.3	63.9	60.9	61.4	57.0
Average/year	**67.2**	**73.2**	**80.2**	**75.2**	**72.2**	**73.6**

Source: KPA, 2009-2013

Table 10 above clearly indicates that berth occupancy rate at the port of Mombasa is above 70% on annual average (73.6%). This is a sign of port congestion which can cause a choke in service provision.

By cargo type, Mbaraki Warf and General cargo terminals seems to be operating within the required occupancy rate with an average berth occupancy rate of 65.7% and 57.0% respectively. Further, shortages in capacity at marine terminals and in surface distribution networks are viewed as the main constraints to current and future growth in containerized trade. The existence of the CFS model for storage has enabled the port to improve on its efficiency.

3.4.2.3 Rate of Containerization of Transit Traffic at the Port of Mombasa

The indicator is measured by sum of transit containerized cargo weights as a proportion of the total cargo throughput of the port of Mombasa.

Containerized cargo has been growing over time hence putting much pressure on the demand of container freights internationally.

Table 15 below shows the import cargo types in tons at the port of Mombasa verses containerized cargo weights.

Table 15: Imports at the Port of Mombasa by Cargo Types

Year	Containerized Weight (T)	Dry Bulk (T)	General Cargo (T)	Petroleum & Oil (T)	Vegetable Oil (T)	Total (T)	Containerization Rate (%)
2009	4,821,080	4,640,676	1,351,327	5,723,478	707,990	17,244,552	28.0
2010	5,320,191	3,679,995	1,118,185	5,148,254	764,463	16,031,088	33.2
2011	6,115,982	3,806,891	1,206,659	5,851,739	755,003	17,736,274	34.5
2012	6,837,151	4,811,109	1,219,660	5,950,370	714,012	19,532,302	35.0
2013	6,979,688	4,912,935	1,666,954	5,699,533	816,552	20,075,662	34.8

Source: KPA, 2009-2013

The above table shows containerization rate at the port of Mombasa as a proportion of the total cargo imports from 2009 to 2013. The general trend (an increase from 28.0% in 2009 to 34.8% in 2013) shows that containerized cargo volumes is increasing within the region. With containerization, the types of cargo handled does not play

a major role on the transport cost, since there are already set rates for different container sizes by CFSAs and Transporters. Generally, containerized transport has led to a tremendous decrease in the average transportation cost internationally.

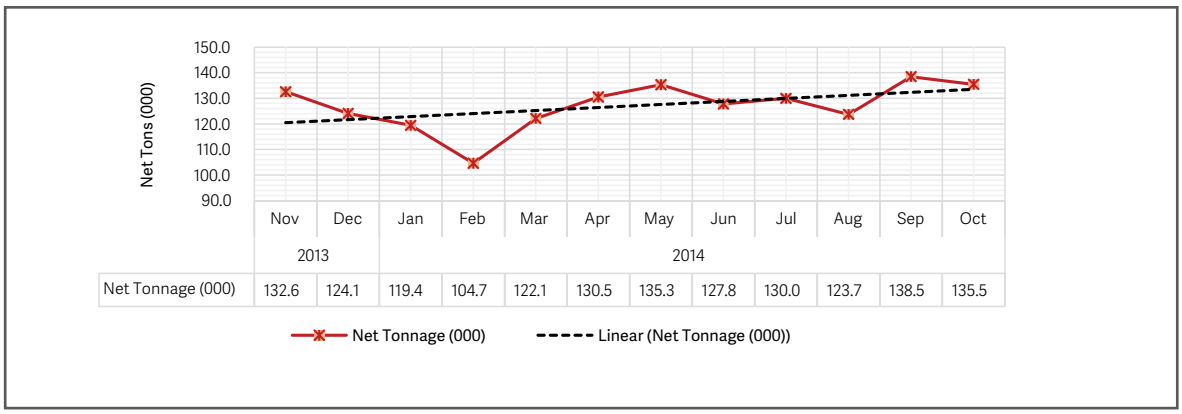
3.4.2.4 Rail Transport Capacity

Railway Capacity indicator within the Northern Corridor looks at the total number of locomotives and wagons and the proportion of the total cargo carried by rail.

Figure 19 shows monthly wagons Net Tonnage logged by Rift Valley Railway (RVR). The wagons tonnage averages between 104,700 tons to 138,500 tons per month with the month of February recording the lowest tons.

The trend shows that monthly Wagon tonnage will continue to rise in the future as long as RVR remains committed to improved service provision. The annual net tonnage from November 2013 to October 2014 is 1.5 million which guarantees RVR its viability. The monthly average weight per wagon, based on the realized monthly wagons, is approximately 29.83 tons.

Fig 19: Monthly Wagon's Net Tonnage (000)



Source: RVR, November 2013-October 2014

Table 16 gives a summary of the rail infrastructure in Kenya and Uganda.

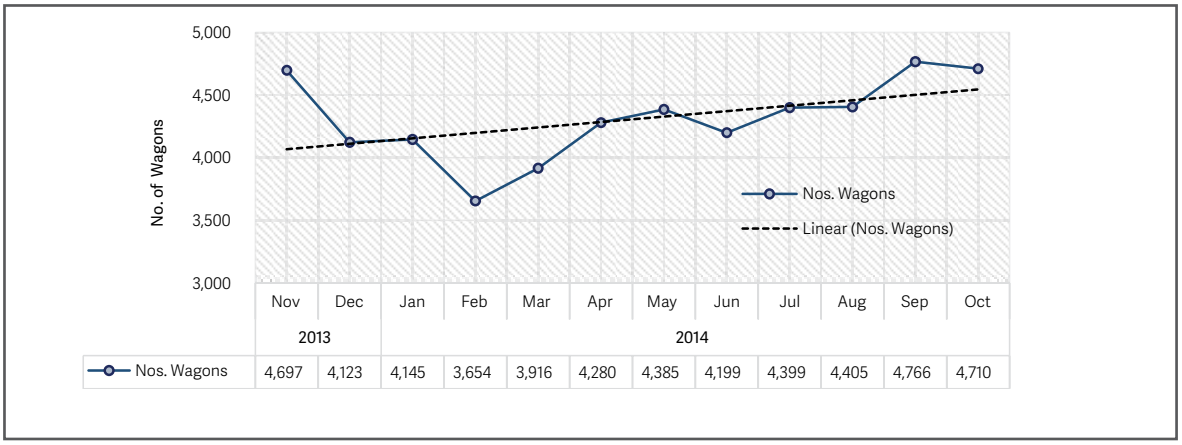
Table 16: Status of Rail facilities in the Northern Corridor

Rail Status	Kenya	Uganda	Total
Number of Freight and Passenger Locomotives	35	43	78
Number of Freight Wagons	803	1447	2250
Number of Passenger Coaches	86	6	92

Kenya has a rail network of 2,778Km length. The railway line connects the Port of Mombasa to Nairobi to Nakuru and to the Kenya-Uganda border at Malaba. A branch route leaves the main railway line at Nakuru and extends to Kisumu on Lake Victoria. The rail track from Mombasa to Kampala via Malaba (1330Km) is currently the principal route for rail transit.

The monthly wagons loaded within the time period under study is summarized in Figure 20 below. The maximum number of freight wagons registered was 4,766 while the lowest was 3,656 in the months of September and February 2014 respectively. The linear function shows a steady growth in trend which signifies increased demand on rail freight services within the region.

Fig 20: RVR Monthly Wagons utilized

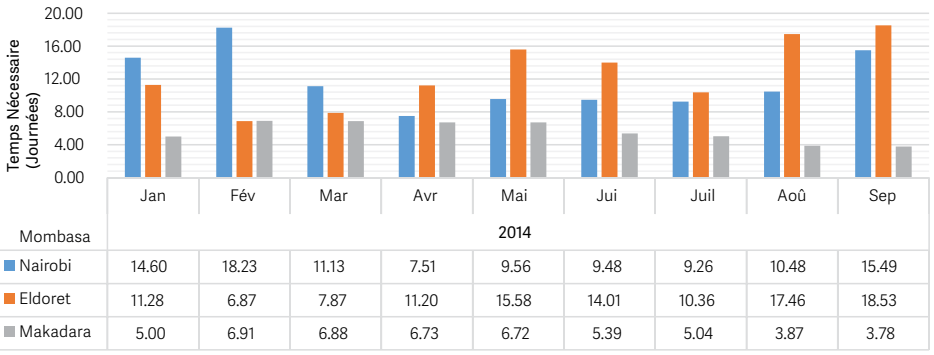


	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
	2013		2014									
Nos. Wagons	4,697	4,123	4,145	3,654	3,916	4,280	4,385	4,199	4,399	4,405	4,766	4,710

Source: RVR, November 2013-October 2014

Figure 21 and 22 shows RVR rail transit time from Mombasa and Kilindini respectively. The nodes described include destination from Mombasa/Kilindini to other railway stations within the region. The graph indicates that rail transit time from Mombasa to Nairobi and Eldoret is not stable and has showed increasing trend between the month of July and September 2014. However, rail transit time to Makadara has been improving recording its lowest time taken of 3.78 days in September 2014.

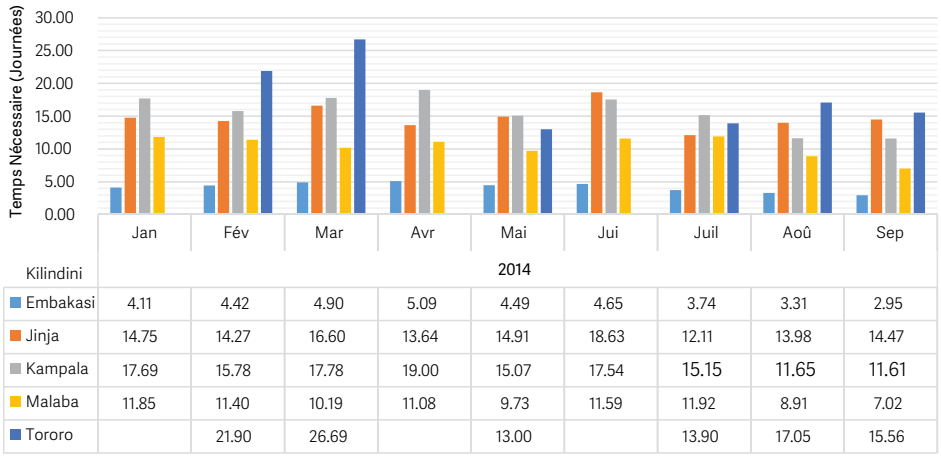
Fig 21: Rail Transit Time from Mombasa to Designated Stations (Days)



Mombasa	Jan	Fév	Mar	Avr	Mai	Jui	Juil	Aoû	Sep
	2014								
Nairobi	14.60	18.23	11.13	7.51	9.56	9.48	9.26	10.48	15.49
Eldoret	11.28	6.87	7.87	11.20	15.58	14.01	10.36	17.46	18.53
Makadara	5.00	6.91	6.88	6.73	6.72	5.39	5.04	3.87	3.78

Source: RVR, January-September 2014

Fig 22: Rail Transit Time from Kilindini to Designated Stations (Days)



Kilindini	Jan	Fév	Mar	Avr	Mai	Jui	Juil	Aoû	Sep
	2014								
Embakasi	4.11	4.42	4.90	5.09	4.49	4.65	3.74	3.31	2.95
Jinja	14.75	14.27	16.60	13.64	14.91	18.63	12.11	13.98	14.47
Kampala	17.69	15.78	17.78	19.00	15.07	17.54	15.15	11.65	11.61
Malaba	11.85	11.40	10.19	11.08	9.73	11.59	11.92	8.91	7.02
Tororo		21.90	26.69		13.00		13.90	17.05	15.56

Source: RVR, January-September 2014

From figure 22, the average transit time by rail from Kilindini (within Mombasa Port) to Kampala ranges from 11 days to 19 days with the average for the entire period being 15.7 days. The average to Malaba is 10.41 days.

Rail cargo spends more days at the border when the wagons have arrived but the documents have not been transmitted at the border station. This causes delays and low productivity as a lot of time is lost due to unnecessary procedures.

With the slow performance and falling service levels of the railway transport system, the road transport has taken a large proportion of the freight and passenger services in the region.

With regard to transport distance railway lines only have a direct link to the final destination of their freight (such as to a mine or an industrial site). The clients therefore have to bear the costs of transfer of their freight to another transport mode to reach their final destination.

3.4.2.5 Licensed Fleet of Transit Trucks

The indicator looks at the sum of registered vehicles used for transit cargo transportation per year and per country.

Table 17: Licensed Trucks per Year per Country

		Number of Trucks Licensed per Year			
Country of Reg.	Stakeholder	2010	2011	2012	2013
Kenya	KRA	115	3023	1460	6708
Rwanda	RRA				1527

Kenya has experienced an increase in the number of trucks registered over the past periods. In 2013 Kenya and Rwanda fully registered and licensed 6708 and 1527 trucks respectively. The registration procedure within the country runs from January to December of every year.

3.4.3 Productivity and Efficiency

3.4.3.1 Port Efficiency and Productivity

The success of Mombasa port performance depends on its efficiency and productivity as well as its facilities, strategic location, ample capacity and good features in order to attract more shipping lines.

The ports focus is to emphasize what they do best while improving on their capacity and service level rather than think about competing with other ports regarding the status of their facilities. Competition is healthy in a free market economy and should be cherished as a motivation to improve service provision and enhance competitiveness.

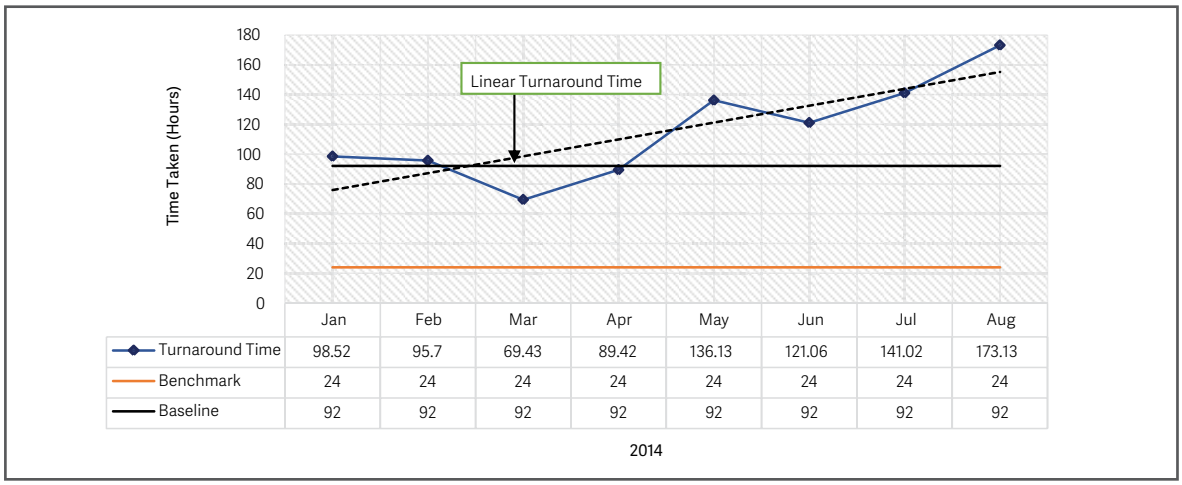
The ports performance and viability is measured by the quality of services it offers. Hence, the port merely providing infrastructure is not the only factor that pulls in ships to dock, but its strategy around which it plans the development and business focus of the ports functions.

The Port productivity can therefore be improved when efforts are further articulately centred towards improving ships turnaround time and waiting time at the berths.

3.4.3.2 Ship Turnaround Time at the Port

Ship turnaround time refers to the total time spent by a ship in port. ***It is the average of the time difference in hours from the entry in port area to exit of the port area.*** It's composed of the ships waiting time, berthing and un-berthing time and service time. Waiting time is normally a small proportion of turnaround time. However, berth time is the component which when reduced can substantially reduce ship turnaround time. The berth time depends on the quantity of cargo a vessel has to load or discharge, the type and characteristics of a vessel, the type of equipment and other resources used at berth. Figure 23 shows average turnaround time for the vessels at the port of Mombasa.

Fig 23: Ships Turnaround Time at the Port of Mombasa



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Turnaround Time	98.52	95.7	69.43	89.42	136.13	121.06	141.02	173.13
Benchmark	24	24	24	24	24	24	24	24
Baseline	92	92	92	92	92	92	92	92

Source: KPA, Jan – Aug 2014

Figure 23 shows that the monthly average turnaround time for the vessels at the port is increasing over time and is above the benchmark target of 24 hours.

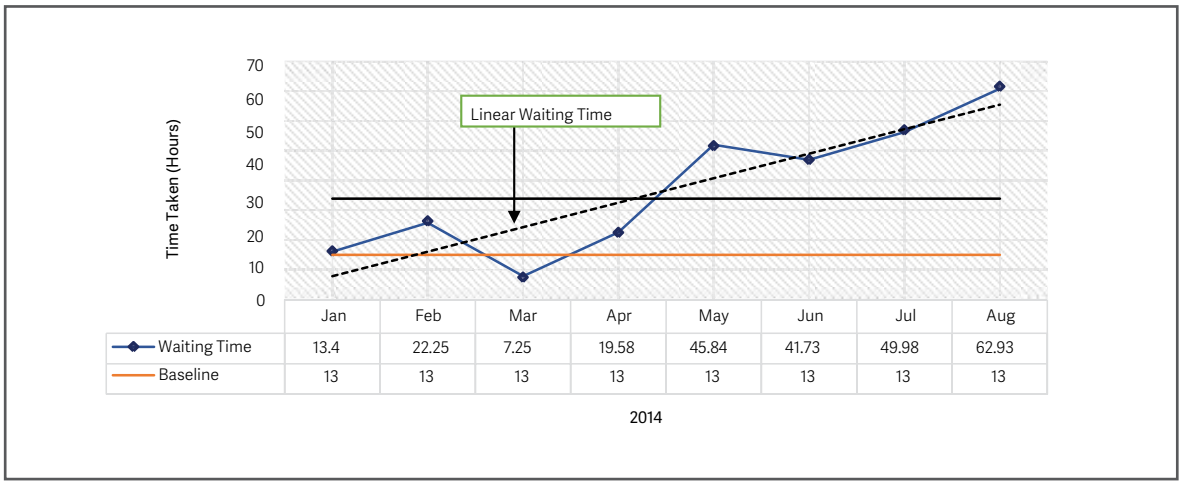
This shows that the state of the port's efficiency and productivity is dropping and immediate measures need to be undertaken. Currently, there has been a lot of hiccups at the port due to threats by workers to dawn tools.

The go-slow is a major hindrance to port operation and KPA management should have targeted measures and mechanisms that will restore workers confidence in the management system in order to ensure uninterrupted business progress.

3.4.3.3 The Vessels Waiting Time before Berth

Waiting time before berth is the average of the time difference in hours from the entry in port area to the berthing time. It is a small proportion of turnaround time.

Fig 24: Vessels Waiting Time before Berth



Source: KPA, Jan – Aug 2014

The trend indicates that ships waiting time has been increasing and only registered its lowest time of 7.25 hours below the baseline of 13 hours in March 2014. This increase can be attributed to various operational reasons. Availability of berthing space is one such obvious reason.

However, shipping lines in some cases choose to have their vessels wait for convenience before berthing.

3.4.3.5 Weighbridge Indicators

Weighbridges are mainly installed within the corridor routes to help protect roads from damages due to overloading by truckers. They can also serve to measure traffic counts that inform road expansion developments.

Officials administering the weighbridges are therefore supposed to strictly adhere to vehicle load control measures while serving the station in order to enhance compliance.

The Secretariat of the Northern Corridor is mandated by the state partners to monitor the efficient performance of the weighbridges in trying to protect the corridor roads from damages. It is therefore expected that all trucks full comply with Vehicle Load limits.

3.4.3.5.1 Weighbridge Compliance

Through the Northern Corridor Dashboard, the NCTTCA monitors compliance at weighbridges. Results from this initiative informed the initiation of a program to enhance compliance at weighbridges.

The program was funded by Sub-Saharan Africa Transport Policy Program (SSATP)-World Bank through the multi-donor Trade Facilitation Facility (TFF). The program which was implemented in conjunction with Kenya Transporters Association led to the development of the Self-regulatory charter against overloading which was signed by all the stakeholders in the road transport sectors in Kenya.

The summary in table 18 shows that most of the weighbridges at one point have achieved a compliance level above the benchmark of 92% except for Mariakani weighbridge.

Table 18: Weighed traffic verses Percentage Compliance Level (%) for Kenya Weighbridges

Weighbridge	2014								
	Variable	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Mariakani	Trucks	1732	1125	1978	971	1101	2404	3220	2577
	Compliance (%)	80.68	75.4	69.21	72.1	75.78	74.91	74.11	76.12
Athi-River	Trucks	2950	2975	3711	2282	2230	2136	3921	3127
	Compliance (%)	89.06	91.17	92.23	90.64	90.53	86.03	84.49	86.66
Busia	Trucks	916	1455	546	1043	755	1372	1857	1669
	Compliance (%)	97.1	97.64	98.99	97.31	98.34	97.37	95.85	89.56
Gilgil	Trucks	3805	3716	2728	2799	2687	3092	5497	3509
	Compliance (%)	92.18	91.41	91.73	92.13	90.97	91.53	92.17	90.41

Source: KeNHA, 2014

Busia has shown high compliance level above the 92% benchmark in all the months except in the month of August. Furthermore, Athi-River and Gilgil weighbridges have shown compliance levels slightly above the benchmark in most of the months.

However, the results for Mariakani are not well promising with the month of March recording 69.2% way below the benchmark, hence a lot of improvements needs to be done in terms of sensitization on vehicle load control limits.

In Kenya, KeNHA has privatized the operations of weighbridges and is left with an oversight role to ensure quality service provision. It's recommended that KeNHA ensures a fully functioning remote monitoring of the operations which can be accessed through the headquarters.

Interconnection of these weighbridges should be prioritized to minimize corruption and reduce multiple weighing of trucks.

Uganda has more than seven weighbridges. All are weighing in motion and measure axle load as well as gross weight. UNRA has allowed a tolerance of 5% when weighing the trucks axles.

However, no tolerance is allowed for Gross weight. It is only given on the permissible weight, but ultimately considered as part of overloading.

Table 19 gives a summary of the Ugandan weighbridge compliance verses the number of weighed trucks.

Table 19: Weighed traffic verses Percentage Compliance Level (%) for Uganda Weighbridges

Weighbridge	2013									2014
	Variable	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Busia	Trucks	4210	3377	3545	3759	4161	1167				
	Compl. (%)	95.2	91.2	90.2	90.9	98.5	88.9				
Busitema	Trucks	901	5544	753		910		6292	5327	6474	3578
	Compl. (%)	89	83.4	84.3		55.8		90	90.7	91.6	94.2
Kasese	Trucks	198	211	161	113	273	350	386	425	281	
	Compl. (%)	71.7	72.5	67.7	59.3	67.8	59.4	63.7	67.3	67.6	
Luwero	Trucks	1461	1922	1537	1635	1581	804	721	1362	1097	
	Compl. (%)	94.5	95.3	94.7	96	95.1	94.2	91.1	88.9	88.9	
Magamaga	Trucks	8585	11038	11292	3352			3653	9977	8346	945
	Compl. (%)	79.5	94.3	96.4	96.2			95.1	95.1	94.9	94.3
Mbale	Trucks	916	1133	1582	1466	1061	109	728	1568	1578	1291
	Compl. (%)	97.2	97.3	97.9	97.7	97.8	90.8	95.9	96.2	95.9	95.5
Mbarara	Trucks	868	2154	2257	1937	1898	2166	2508	1814	866	
	Compl. (%)	95.2	95.4	97.4	95.6	97.2	95.9	94.4	92.5	94.2	

(UNRA, Apr 2013 - Jan 2014)

UNRA should therefore develop a weighbridge management strategy to improve the quality of service. Furthermore, weighbridge operations still remain semi-automated. The truck and driver details are still being keyed in manually but the weights are captured automatically and each weighbridge operates with a different database.

Kasese weighbridge might be registering low compliance level due to its location since its the first weighbridge near the cement factory.

UNRA therefore is to ensure weighbridge system integration, in order to harmonize weighbridge data and improve on service provision.

CHAPTER FOUR

QUALITY OF TRANSPORT INFRASTRUCTURE WITHIN THE NORTHERN CORRIDOR

This indicator describes the qualitative state of infrastructure, routes and route sections and qualitative state of each section.

The Northern Corridor Secretariat enables the Member States to implement an economic corridor-based approach to reduce costs of cross-border trade within the region. The authority's goal is to enable producers and traders become more competitive, thereby creating higher levels of economic growth, employment creation and poverty reduction. Road network and quality is one of the major target seriously emphasized on towards the achievement of these goals.

The designated Northern Corridor road network is approximately 9,840Km in length. The Corridor mainly transports 95% of goods from the port of Mombasa through road transport which has lately been overstretched. The remaining portion of goods is either transported through inland water ways, railway lines and pipelines.

Tables 20, 21 and 22 below give a summary of the corridor routes and their status.

Table 20: Road Condition in Kenya (Km)

The entire Northern Corridor road network in Kenya is paved. Therefore this condition status relates to paved roads.

Road Section	Lengthv (Km)	Condition and Intervention undertaken
Mombasa – Miritini	14	Road condition good. Periodic maintenance ongoing.
Miritini – Maji ya Chumvi	35	Rehabilitation.
Bachuma Gate – Voi	50	Condition fair. Periodic maintenance ongoing.
Voi – Mtito Andei	93	Road condition is good. Periodic maintenance ongoing.
Mtito Andei – Sultan Hamud	123	Road condition good. Routine maintenance ongoing.
Sultan Hamud – Nairobi	90	Rehabilitation with a 12Km dual section.
Athi River – Rironi	54	36Km Section between Athi River and Uthiru is in a fair condition, while an 18Km section between Kinoo and Rironi is in a bad condition.
Rironi - Kimende	20	Periodic maintenance.
Lanet – Njoro Turnoff	16Km Dual	The section is in good condition
Njoro Turnoff – Timboroa	84	The section is in good condition
Timboroa – Eldoret	73	Rehabilitation of this section ongoing
Eldoret – Webuye	59	Rehabilitation of this section is ongoing
Webuye – Malaba	61	Rehabilitation of this section is ongoing
Mau Summit – Kericho	57	Rehabilitation of this section is ongoing
Kericho – Nyamasaria	76	Rehabilitation of this section is ongoing
Nyamasaria – Kisumu – Kisian	25Km (Dual)	Construction works ongoing. Construction of Kisumu Southern Bypass expected to relieve the traffic through town.
Kisian – Sidindi – Busia	100	The road is in fair condition. Periodic maintenance ongoing.
TOTAL	**1,030Km**	

(KeNHA, 2014)

Table 21: Road Condition in Uganda (Km)

Road Section	Length (Km)	Planned intervention and Current Status
Malaba – Bugiri/Busia – Namutere	82	V. Good Condition, Recent reconstruction
Bugiri – Jinja	72	V. Good to Good Condition, Recent reconstruction
New Nile Bridge, Jinja	1	New Cable Stayed Bridge under construction. Old bridge in poor condition
Jinja – Mukono	52	Good Condition, Reconstruction ongoing
Mukono – Kampala	17	Fair. Procurement for reconstruction ongoing. Under maintenance
Tororo – Mbale	49	V. Good Condition, Recent reconstruction
Mbale – Soroti	103	V. Good Condition, Reconstruction near completion
Soroti – Lira	122	V. Good Condition, Recent reconstruction
Lira – Kamdini	68	Good Condition, Reconstruction at advanced stage
Kamdini – Gulu	62	Poor, Reconstruction works just commenced
Gulu – Atiak	74	Poor, Upgrading to paved just commenced
Atiak – Elegu / Nimule	35	Poor, Upgrading to paved just commenced
Kamdini – Pakwach	118	V. Good Condition, Recent reconstruction
Packwach – Nebbi	54	Fair. Procurement for rehabilitation ongoing. Under maintenance
Nebbi – Goli	15	Fair. Pre-Design Stage for Upgrading. Under maintenance
Goli – Vurra	104	Fair. Pre-Design Stage for Upgrading. Under maintenance
Vurra – Arua – Oraba	92	Rehabilitation almost complete (90 %)
Kamdini – Karuma – Kiryandongo	59	Good Condition, Reconstruction at advanced stage
Kiryandongo – Kafu	45	V. Good Condition, Design Stage for Reconstruction. Recently overlayed.
Kafu Kawempe	166	Good Condition, Reconstruction (Overlay) at advanced stage
Kampala Northern Bypass Phase 2	21	V. Good Condition. Recently reconstructed. Procurement for dualling ongoing
Busega – Nsangi – Kamengo –Lukaya	63	V. Good Condition, Recent reconstruction
Nsangi – Kamengo – Lukaya – Masaka – Katonga Bridge	51	Good Condition, Reconstruction at advanced stage
Masaka – Mbarara	148	V. Good Condition, Recent reconstruction
Mbarara Bypass	14	New roadway under construction
Mbarara – Katuna	150	Good Condition, Reconstruction ongoing
Mbarara – Bushenyi – Ishaka	60	Good Condition, Light rehabilitation undertaken
Ishaka – Kikorongo – Kasese	108	Good Condition. Routine maintenance
Kikorongo – Mpondwe	39	V. Good Condition. Routine maintenance
Rukungiri – Ntungamo	57	Good Condition. Routine maintenance
Ntungamo – Mirama Hills	78	Good Condition. Routine maintenance. Detailed Designs for upgrade Complete
TOTAL LENGTH	**2,179**	

Source: UNRA, 2014

Table 22: Burundi, DR Congo and Rwanda Road Condition

Country of Reg.	Road Section	Length (Km)	Good (%)	Fair (%)	Poor (%)
Burundi	Bujumbura – Bugarama – Kayanza – Kanyaru Hault	115	100	0.0	0.0
	Bujumbura – Gatumba – Frontiere RDC	19	21	79	0.0
	Bujumbura – Nyamitanga – Ruhwa	80	63	37	0.0
	Kayanza – Ngozi – Gashoho	72	100	0.0	0.0
	Gashoho – Kirundo – Gasenyi	67	51	49	0.0
DRC	Bakavu – Kindu – Kisangani	1184	29.5	40.8	29.7
	Bukavu – Uvira	145	74.5	22.8	2.8
	Kisangani – Beni – Kasindi	855	68.7	22.8	8.5
	Kamanda – Bunia – Mahagi	261	65.5	34.5	0.0
	Kisangani – Isiro – Faradje – Aba	1056	39.8	14.2	46
	Beni – Butembo – Goma	421	42.5	57.5	0.0
Rwanda	Kicukiro – Nyamata – Nemba	60.3	99.8	0.2	0.0
	Kigali – Butare – Akanyaru	157.3	99.7	0.3	0.0
	Butare – Cyangugu	151.3	98.6	0.6	0.8
	Kigali – Kanyonza – Rusumo	149.3	99.2	0.8	0.0
	Kayonza – Kagitumba	116.2	86.2	13.2	0.6

From Kenya to Uganda, the Mombasa - Malaba - Kampala road (1170Km) is preferred due to the relative good quality of the network and availability of social amenities en-route. However, there is an alternative route through Mombasa - Kisumu - Busia - Kampala.

The principal routes from Uganda to Rwanda are Kampala - Kagitumba - Kigali and Kampala - Gatuna – Kigali. Further, Bujumbura in Burundi is reached from Kampala through Rwanda. Uganda and Rwanda also provides a link to Bukavu, Goma and Kisangani as well.

Table 23: Summary of the Northern Corridor road network (Km)

Country	Paved	Unpaved	Total
Burundi	320 Km	36 Km	356 Km
Congo, DR	721 Km	1920 Km	2641 Km
Kenya	1196 Km	--	1196 Km
Rwanda	814 Km	--	814 Km
Uganda	1042 Km	657 Km	1669 Km+
Total	4093 Km	2613 Km	6706 Km
Percentage level (%)	61%	39%	100%

Note: + means does not include Kampala-Karuma-Pakwach-Nebbi-Goli-Arua

Table 23 gives a summary for the Northern Corridor road conditions. It shows that two thirds of the road networks are paved. Overloaded freight vehicles and poor enforcement of axle load regulations further deteriorate the road network and reduce road life spans.

Thanks to the NCTTCA launch of the Self-Regulatory Vehicle Load Control Charter, anchored on the EAC Vehicle Load Control Bill 2013, that brings key stakeholders together to implement the axle load act through cooperation rather than legislation. The bulk of imports and exports destined to and from member countries are transported through the Northern Corridor transit routes.

The sections of the Northern Corridor in Uganda, Rwanda and Burundi are generally in good condition, while in DR Congo the roads are in poor condition.

Northern Corridor Route in South Sudan

Protocol No. 2 of the NCTTCA Agreement recommended that South Sudan designate a number of routes and their associated borders as part of the Northern Corridor Route.

In line with this, the South Sudanese Government created the following corridor routes: Nimule - Nesitu - Juba (192Km); Nesitu - Torit - Nadapal (400Km); Juba - Lainya - Yei (150Km); Yei - Aba (45Km); Yei - Morobo - Kaya (285Km); Yei - Maridi - Yambio (315Km); and Yambio - Ezo (200Km).

Currently, the major entry point by road into South Sudanis the Elegu/Nimule border located 109Km by road north of Gulu, Uganda.

The Nimule - Juba (192Km) pavement structure has started to show signs of severe fatigue on some sections after construction work was completed in February 2012 by the USAID grant.

This being the major route into South Sudan from the Port of Mombasa, the traffic now ploughing this section is much greater than was initially envisaged. This coupled with the excess weight exerted on the roadway was culpable for the rapid deterioration of the pavement structure.

Similarly, a 30 year old narrow 2-lane steel truss bridge crosses the River Nile at the entry of Juba. This bridge was repaired in January 2012 after buckling and partial collapse. This bridge is still being severely affected by the heavy loads that were not anticipated to utilize it and is in a precarious position. The Japanese International Corporation Agency (JICA) has completed feasibility studies and preliminary designs for a new, permanent bridge over the River Nile. The new bridge, which is expected to be completed in 2016 is at about 1.5Km upstream from the current bridge.

There is also a proposal to upgrade the Eldoret - Lokichoggio - Juba route to enhance the interconnectivity of South Sudan to the EAC region and the Mombasa Port in Kenya. This route is an important one for the region and is expected to improve interconnectivity between the Northern & LAPSSET corridors, increase socio-economic development in the Turkana Region, Kenya & the Toposa Region, South Sudan and improve access to the Lamu port in Kenya. This Eldoret - Lokichoggio - Juba route has been considered for inclusion to the Northern Corridor network linking South Sudan and Kenya.

CHAPTER FIVE

GOING FORWARD AND FURTHER RECOMMENDATIONS

The Transport Observatory is a monitory tool that assesses and measures performance of the Northern Corridor indicators. The results generated and presented to stakeholders are key pointers to the level of fulfilment on business activities within the corridor.

The findings in the report are therefore meant to inform on the achieved goals and challenges for future improvement. It's therefore in the interest of key players to ensure that the recommended areas for improvements are keenly looked at for better understanding in order to inform policy geared towards promoting reduction in the cost of doing business in the region.

The following marks some of the key areas that warrant improvements.

1. From the findings it's evidenced that weighbridge compliance has not been fully achieved at most of the weighbridges. This calls for implementation of commitments agreed in the VLC by all stakeholders and the rollout of the media communication campaign against overloading.
   Member states to fully domesticate the provisions of the EAC vehicle load control bill.

2. There is need to harmonize levies and fees being charged along the corridor. Sensitization of truckers through issuance of information brochures on official charges.

3. Implementation of the Single Customs Territory, Regional Customs Transit Guarantee and Single Customs Declaration form for the region and others Trade facilitation instruments.

4. Secretariat to conduct an impact assessment of the corridor in order to establish the current transport cost.

5. Amidst the increased trade within the Northern corridor, member countries should rely more heavily on containers to transport goods due to its limited ability to be tampered with while in transit, the ease in shipment on regular shipping lines and ease in cargo tallying.
   a. The container deposit fees charged by the shippers and the free period given should be revised to enhance containerized transport.
   b. Increased use of containers would be more appropriate to reduce costs related to both imports and exports to and from the port.
   c. Another factor that is increasing the cost of business in the region is the monopoly of shipping lines that also acts as clearing agents and transporters that kills competition in the region. There is need to consider the possibility having a competition body to regulate the industry and guard against monopoly tendencies and price fixing.
   d. Lack of backhaul is a factor that contributes to high transport rates in the region. There is need to expedite approval procedures for acquisition of permit to transport cargo to the local market by transit licensed trucks.

6. In order to effectively provide information to the users and potential investors as regards registration and licensing of businesses and transport companies, KRA, NTSA, URA and RRA should regularly put online the list of licensed trucks, Clearing Agents and ECTS within the region.

7. Transit cargo delays are sometimes due to importers being slow in the clearance process or related issues with the transporter. This is showed by the indicator on time taken after release at the port.
   a. The traders and transporters are therefore to act swiftly to ensure faster evacuation of their cargo from the port after clearance in order to reduce time wastage as a result of laxities on their side.
   b. The free period of 48 hours should be revised to 24 hours to fast-track evacuation of cargo from the port.

8. There should be mutual recognition of ECTS in the region as this will ensure cargo integrity and seamless monitoring of transit goods.

9. In order to achieve the 120,000Km/year per truck, there is need to train truck drivers on productivity management. The drivers should be paid per millage covered in order to reduce unnecessary delays and wastages. The truck drivers association to be involved in training.

10. There is still longer waiting time at Malaba Border post on Ugandan side compared to the Kenyan side.
    a. Full implementation of the Single Customs Territory should be expedited.
    b. There should also be sensitization on regulations and procedures for clearance through customs and immigration.
    c. Digital scanner is necessary to minimize delays or easy verification of goods at the border stations.

ANNEXES

Annex 1: Indicator Glossary

A. Volume and Capacity

1. Total cargo throughput of the port of Mombasa (TCPMsa) vs transit traffic (TTPMsa) in tonnes.

TCPMsa = Summation of all cargo's weight handled within the Port (Tonne); TTPMsa = Summation of all cargo handled within the port and which cargo have another destination than local market (or the port's country).

Tracked: Quarterly

2. Volume per country of destination (TC).

TC per Country of destination = Summation of all cargo's weight handled within the Port per Country of destination (Tonne).

Tracked: Quarterly

3. Rate of containerization of transit traffic in percentage (RcTT), annual basis at the Port of Mombasa.

RcTT = (Summation of the Transit containerized Cargos Weight divided by TTPMsa) multiply by 100

Tracked: Quarterly

4. Evolution of licensed fleet of trucks per country (TF).

TF = Summation of registered (Licensed) vehicles used for international/transit cargo transportation per year and per country.

Tracked: Quarterly

5. Average annual distance per truck in Km per year (AvanDist).

AvanDist = Average distance achieved per truck per year (or Average number of trip achieved by truck during the year).

Tracked: Quarterly

6. Transport capacity by rail (locomotives and wagons).

Railway Capacity = Total number of operational locomotives and wagons (or the proportion of total cargo carried by railway).

Tracked: Annually

B. Rate and Costs

7. Transport costs per route and per mode (including transit charges) (TraCstRd).

TraCstRd = Summation of tariff charge by transporter, transit and other charges per Route and/or section.

Tracked: Quarterly

8. Rail Freight Charge.

Freight = Tariff charged by railway operator per section and/or per route.

Tracked: Quarterly

9. Road Freight Charge.

Freight = Tariff charged by transporter per section and/or per route.

Tracked: Quarterly

10. Port Transit Charges.

Published tariffs by Stakeholder

Tracked: Annually

11. Return of empty containers (grace period, penalties, and deposit).

Published tariffs by Stakeholder

Tracked: Quarterly

C. Productivity and Efficiency

12. Number of check points, NCP (Weighbridge, Police, Customs, Road Toll) per country per route.

NCP = Summation of checkpoints by country, by route

Tracked: Semi-Annually

13. Rate of Fraud or Declared Damage for goods in transit, RFDD (percentage of total transit).

RFDD=Number of Fraud or Declared Damage cases divide by total of Fraud or Declared Damage cases at a node.

Tracked: Annually

14. Quality of the transport infrastructure.

Defined qualitative descriptions of state of infrastructure, Defined routes, Defined routes sections, Qualitative state of each section.

Tracked: Annually

15. Gross Moves per ship per hour at the port of Mombasa

Tracked: Weekly

16. Volume of containerized and general cargo handled per day/month/quarterly at the Port of Mombasa.

Summation of volume of Containerized Cargo Handled per day/month/year; Summation of volume of General Cargo Handled per day/month/year.

Tracked: Quarterly

17. Number of accidents per route.

Summation of the number of Accidents, Injuries and Fatalities by Category and Sub Category

Tracked: Quarterly

18. Weighbridge Traffic against time

Average number of trucks passing a weighbridge in a day.

Tracked: Weekly

19. Weight compliance

The percentage of trucks that comply with the axle load limits before and after re-distribution.

Tracked: Weekly

D. Time and Delays

20. Transit Time per route per mode of transport (by country).

TT per route = Arrival DateTime at the node minus departure DateTime from the destination node.

i. Transit Time in Uganda, Rwanda, Burundi, DRC (Road).

TT = Cargo Exit border DateTime minus Entry border DateTime (Based on IM8, T1)

Tracked: Quarterly

ii. Transit time in Kenya (Road through Malaba or Busia).

TT = Certificate of Export DateTime minus Release DateTime at port. (Based on KRA's T812)

Tracked: Weekly and Quarterly

21. Transit time origin to destination by country.

TT = Arrival DateTime at the destination minus departure DateTime from the origin (entry port). (Based on Road/GPS based Surveys data)

Tracked: Weekly and Quarterly

22. Ship turnaround time

The average of the time difference in hours from the Entry in Port Area to Exit in Port Area. (Based on KPAs Raw Operations data)

Tracked: Weekly

23. Vessel waiting time before berth

The average of the time difference in hours from the Entry in Port Area to the Berthing time. (Based on KPAs Raw Operations data)

Tracked: Weekly

24. Average cargo dwell time in Mombasa port.

DT = Exit DateTime from the port minus Arrival DateTime at the port. (Based on KPAs Raw Operations data)

Tracked: Quarterly

25. Time for Customs Clearance at the Document Processing Centre.

TCC = Passing DateTime of process minus Registration DateTime (Based on KRA's T810, T812)

Tracked: Weekly and Quarterly

26. Transit time at Mombasa One Stop Centre

TT = Release Order time minus Passed DateTime (Based on KRA's T812)

Tracked: Weekly and Quarterly

27. Transit time after Customs Release at the Port of Mombasa

TT = Cargo removal time at the gate from port minus Release Order time (Based on KRA's T810)

Tracked: Weekly and Quarterly

28. Border Post Crossing Time.

TT = Departure DateTime from the border minus Arrival DateTime at the border. (Based on Road/GPS based Surveys data)

Tracked: Quarterly

29. Time for Customs procedures at destination.

TT = End DateTime of the last process minus Start DateTime of the first process.

Tracked: Quarterly

30. Transit time within the ICD/Inland Port.

TT = Departure DateTime from the ICD minus Arrival DateTime at the ICD.

Tracked: Quarterly

31. Weighbridge crossing time.

TT = Departure DateTime from the weighbridge minus Arrival DateTime at the weighbridge. (Based on Road/GPS based Surveys data)

Tracked: Quarterly

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