SUSTAINABLE MARKET ACCESS FOR AFRICAN ROAD TRANSPORT - SMART

Final Report

AFRICAN DEVELOPMENT BANK GROUP

Infrastructure and Urban Development Department (PICU)
December 2021

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Acronyms

AADT	Annual Daily Traffic Volume
ACTGS	Afreximbank-African Collaborative Transit Guarantee Scheme
AEC	African Economic Community
AFCAP	Africa, Community Access Programme
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
AID	Automatic Incident Detection
ALCO	Abidjan-Lagos Corridor Organization
ALCoMA	Abidjan – Lagos Corridor Development Authority
AMU	Arab Maghreb Union
ATWA	Accelerating Trade in West Africa
AU	African Union
AUC	African Union Commission
BA	Borderless Alliance
BAGC	Beira Agricultural Growth Corridor
BARC	Bureau d'Affrètement Routier Centrafricain
BGFT	Bureau de Gestion du Fret Terrestre Camerounais
BSEC	Black Sea Economic Cooperation System
CAR	Central African Republic
CBC	Conseil Burkinabé des Chargeurs
CBCs	Customs Business Centers
C-BRTA	Cross-Border Road Transport Agency
CCRED	Centre for Competition, Regulation and Economic Development
CCTO	Central Corridor Transport Observatory,
CCTTFA	Central Corridor Transit Transport Facilitation Agency
CCTV	closed-circuit television
CD	Customs Document
CDN	Corredor Desenvolvimento de Nacala
CEAR	Central East African Railway
CEMAC	Central African Economic and Monetary Community
CEO	Chief Executive Officer
Cepagri	Ministry of Agriculture
CEPS	Customs, Excise and Preventive Services
CEPS	Excise and Preventive Services
CEPS	Excise and Preventive Services
CETMO	Centre for Transportation Studies for the Western Mediterranean
CFA	Customs Freight Agents
CFM	Caminhos De Ferro De Moçambique
CFS	Container Freight Stations
CIARCA	Carte Internationale d'Ássurance de Responsabilité Civile
CILSS	Comité Permanent Inter-État De Lutte Contre La Sécheresse au Sahel
CILT	Chartered Institute of Logistics and Transport
CMA	Corridor Management Authority
COMESA	Common Market for Eastern and Southern Africa
COTA	Copperbelt Open Transporters Association
CPMS	Corridor Performance Monitoring System
CTMS	Corridor Trip Monitoring System
CVTFS	COMESA Virtual Trading Facilitation System
DC	Dar es Salaam Corridor
DCC	Dar es Salaam Corridor Committee
DRC	Democratic Republic of Congo
EAC	East African Community
EA-SA	East and Southern African region
EA-SA	Eastern and Southern Africa
ECCAS	Central African intra-regional trade
ECMT	European Conference of Ministers of Transport
ECOWAS	Economic Community of Western Africa States
ECTS	Electronic Cargo Tracking System
EDB	World Bank Ease of Doing Business
EDF	European Development Fund
EFFSAA	Ethiopia Freight Forwarders and Shipping Agency Association
EM	Emerging Markets

EMASE	Entrepôts Maliens au Sénégal
ESLSE	Ethiopian Shipping and Logistic Service Enterprise
EU	European Union
FDI	Foreign Direct Investment
FMCG	Fast Moving Consumer Goods
FMSs	Fleet Management Systems
FTA	Federal Transport Authority
GDP	Gross Domestic Product
GMS	Greater Mekong Sub region
GPS	Global Positioning System
GTMO	Centre d'Etudes des Transports pour la Méditerranée Occidentale
GVCs	growth of global value chains
h	hour
HSWIM	High-Speed Weigh in Motion
ICAO	International Civil Aviation Organization
ICD	Inland Container Depots
ICT	Information And Communication Technology
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
IRU	International Road Transport Union
ISRT	Inter-State Road Transit of goods
IST	Inter-State Transport Convention
ITC	Information and communications technology
ITF	International Transportation Forum
ITS	Intelligent Transport System
KEN	Kenya
KPA	Kenya Port Authority
KPI	Key Performance Indicator
KPIs	Key Corridor Performance Indicators
LAC	Latin America and the Caribbean
LAPSSET	Lamu Port South Sudan Ethiopia Transport
LPI	Logistic Performance Index
LSQ	Logistics Service Quality
MCBRTA	Multilateral Cross-Border Road Transport Agreement
MCLI	Maputo Corridor Logistic Initiative
MDC	Maputo Development Corridor
MENA	Middle East and North Africa;
MoT	Ministry of Transport
MoU	Memorandum of Understanding
MT	Metro
MulPerSys	Multilateral Permits Scheme for International Road Freight Transport on the Asian Highway Network
NCTA	Northern Corridor Transit Agreement
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
NEPAD	New Partnership for Africa's Development
NFLIP	National Freight and Logistic Information Portal
NSC	North-South Corridor
NTBs	Non-Tariff Barriers
OPA	Observatoire des Pratiques Anormales
OSBP	One-stop Border Post
OSIS	One Stop Inspection stations
OTRAF	Organisation des Transporteurs Routiers du Faso
PIDA	Programme For Infrastructure Development In Africa
PM	Project Manager
PPM	Planned Preventative Maintenance
PPO	Principal Program Officer
PPP	Public Private Partnership
PPPC	Public Private Partnership Committee
QuARTA	Quantitative Assessment of Road Transport Agreements in Africa
RCTD	Road Customs Transit Declaration
RCTG	Regional Customs Transit Guarantee
RDC	Addis Ababa And Djbouti To Kisangami
REC	Regional Economic Community
RECTS	Regional Electronic Cargo Tracking System
RoRo	Roll-on Roll-off

RRA	Regional Road Authority
RTG	International Transportation Forum Road Transport Group
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SCEA	Shippers' Council of East Africa
SCT	Single Customs Territory
SDCN	Sociedade de Desenvolvimento do Corredor de Nacala
SDI	Spatial Development Initiatives
SGR	Standard Gauge Railway
SIGMAT	Système Interconnectè de Gestion des Marchandises en Transit
SMART	Sustainable Market Access for African Road Transport
SMEs	Small Medium Enterprises
SNTRC	Syndicat National des Transporteurs Routiers du Cameroun
SP	Structure Plan
SSA	Sub Saharan Africa;
STACON	Stakeholder's Consultative Committee
STAREP	Stakeholder's Representative Group
SVR	Stolen Vehicle Recovery
TAD	Transit Accompanying Document
TADB	Database of Agreements Related to International Road Transport
TADs	Road Transport Permits and Temporary Admission Documents
TAORT	Tripartite Agreement on Road Transport
TAT	Transporters Association of Tanzania
TATOA	Tanzania Truck Owners Association
TAZARA	Tanzania-Zambia Railway Authority
TBL	through bill of lading
TCIL	Transport Corporation of India Limited
TEEN	Nacala Special Export Terminal
TEU	20-foot standard container
TFA	Tripartite Free Area
TFTA	Tripartite Free Trade Area
TKC	Trans-Kalahari corridor
TKCMC	Trans Kalahari Corridor Management Committee
TKCS	Trans Kalahari Corridor Secretariat
TKM	tonne-kilometres
TLS	Traffic Light System
TMEA	TradeMark East Africa
TOAZ	Transport Operators Association of Zimbabwe
TR	Transferable Risks
TRALAC	Trade Law Centre
TRIPS	Transport Register and Information Platform System
TSMCI	Tripartite Sectoral Ministerial Committee on Infrastructure
TSMCLA	Tripartite Sectoral Ministerial Committee on Legal Affairs
TTCs	Trade and Transport Corridors
TTTFP	Tripartite Transport and Transit Facilitation Programme
ULEVs	Ultra-Low Emission Vehicles
UMA	Union du Maghreb Arabe
UN	United Nations
UN/ESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNESCAP	United Nations for Economic and Social Commission for Asia and the Pacific
UN XE "ULEVs	Ultra-Low Emission Vehicles" -WIDER: United Nations World Institute for Development Economics Research
USD	United States Dollar
VLM MOU	Vehicle Load Management Memorandum of Understanding
VLMA	Vehicle Load Management Agreement
WBCG	Walvis Bay Corridor Group
WBG	World Bank Group
WBNLDC	Walvis Bay-Ndola-Lubumbashi Development Corridor
WBNLDCMC	Walvis Bay-Ndola-Lubumbashi Development Corridor's Management Committee
WTO	World Trade Organisation

Summary & Conclusions

Summary & Conclusions

The **Final Report** of the SMART (Sustainable Market Access for African Road Transport) study is aimed at analysing the main regulatory and non-physical barriers that impede a streamlined movement of vehicles and goods within and between the different Regional Economic Communities (RECs) in Africa, and at providing recommendations in order to increase efficiency of cross-border road transport, reduce its costs, and maximize the economic benefits of the transport infrastructure, in view of reducing the cost of trad-ing across borders.

To better understand the economic significance and present situation of road transport ac-tivity in Africa, the Consultant has undertaken an:

- **extensive research** of texts of International Treaties, Multilateral and Bilateral Agreements, national laws and regulation on cross-border road transport, that have been consolidated in a database to be handed over to the Client;
- **analysis of the present volume of intra-regional trade** in the different Afri-can RECs, which is described in detail at Annex 2.
- **analysis of the existing main transport and road corridors in Africa**, with a description of each corridor, of cargo volumes, time & cost of transport and the applicable road transport regulation (Annex 3).

Africa's economic development will heavily depend in future upon the capability to build efficient hard and soft trade-related infrastructure, whose costs are currently unacceptably high. While hard infrastructure refers to physical assets like roads, ports and other transport facilities, soft infrastructure refers to the legal and regulatory frameworks, institutions and good policies supporting their effective exploitation, including the technological applications needed to operate them efficiently.[1]

The cost of transport - especially road transport - is a major component of the cost of trading across borders in Africa, especially for landlocked countries, as most of these nations do not have access to alternative forms of transport for the cross-border movement of goods in and from their territories. There are various reasons why African countries face high road transport costs in international trade: (1) long distance between production centres and destination markets; (2) massive imbalance between imports and exports volumes: (3) lack of sufficient investment in transport infrastructure, including in its maintenance; (4) weak and fragmented trade and transport regulation, and; (5) inefficiency of logistic chains and low performances of transport operators. All these factors, cumulatively, make the cost of trading across borders very high.

While the long distance between production centres and destination markets represents a geographical constraint, the imbalance between imports and exports volumes a structural economic condition, and the lack of sufficient investment in transport infrastructure a challenge being addressed through many ambitious infrastructure spending programmes by international, regional and national institutions, the last two factors have not attracted so far sufficient attention. Nonetheless, the latter can be corrected with appropriate policy and regulatory interventions, as well as by implementing targeted capacity building programmes.

The main outcome of this study is that, to date, **the African road transport market is still far from being completely liberalised**, as it is trapped in a network of bilat-eral and regional road transport agreements - sometimes not coherently implemented – and protectionist regimes, that are inimical to an efficient transport operational connec-tivity and to smooth cross-border transport operations. Allowing road freight carriers an easier access to neighbouring markets will most likely lead to a reduction in transport costs, with greater operational efficiency benefitting all stakeholders. Specifically, complex li-censing requirements and regulations required for cross-border road transport and quantitative restrictions in the form of quota limitations - where adopted - pose major barriers raising transaction costs for traders, as they introduce excessive burden to the movement of commercial vehicles between the country of departure and the country of destination, sometimes deterring transport companies from engaging in these kinds of operations. Because of these barriers, a transport operation can become extremely complicated when the vehicle has to cross one or more third countries situated among the two, or to perform a transport operation between countries situated in the territories of different RECs.

[1] Qingyang Gu, "Integrating soft and hard infrastructures for inclusive development", Journal of Infrastructure, Policy and Development (2017) Volume 1 Issue 1, pp.1-3.

Another common feature of all African countries is that the access to the profession in **road transport is still based on quantitative, rather than qualitative criteria**, being characterised by restrictive business regulations adopted at national level that stifle competition and innovation by transport companies. Cross-border road transport is mainly dependent on **bilateral agreements** concluded between pair of adjoining countries, this factor leading to high transport costs because of the need for transport operators to comply with highly fragmented regulations and heterogenous restrictions for each country in which they operate.

Conversely, in those environments that are more liberalised, such as in the Eastern Africa Community (EAC), transport prices are lower as a consequence of a more harmonised cross-border transport regulation and minimal restrictions to movements of trucks. The EAC experience shows how important is to overcome the fragmentation of bilateral agreements on road transport in Africa, by putting them under the umbrella of regional regulatory and quality frameworks as much harmonised as possible with each other.

Apart from a few exceptions, most of the road corridors analysed by this Study do not have a Corridor Management Authority (CMA) or a Transport Observatory that can collect useful information on the **dynamic performance of the corridor** in terms of quantity of cargo transited, tariffs adopted for different typology, time for delivery, reliability of price and time for the shipper and security for the driver, vehicle and cargo. However, experience gained from those corridors that have created such authorities shows that their operation is onerous and costly, this factor being a huge constraint to their estab-lishment, especially for those corridors connecting a few countries. Also, when established with the support of international financial institutions or donors, adequate funding options need to be allocated for covering the CMAs costs since their onset, otherwise they risk to be unsustainable in the long term. These funding options generally include contributions by Governments, usage fees or traffic-based fees (e.g. tonnage levies), which in any case must be set at a reasonable level, to avoid these corridors to become too expensive or to engender in their users the perception that costs exceed the expected benefits.
Another solution that is being promoted by the Africa Union for the modernisation of the transport system along the main corridors in Africa is the **SMART** ("Safety, Mobility, Automated, Real-time Traffic Management") **corridors** concept. The SMART approach was adopted within the context of the Programme for Infrastructure Development in Africa (PIDA), the AU's strategic framework for regional and continental infrastructure development, that selected the North-South Corridor (NSC) and the Dar es Salaam Corridor (DC) as pilot sites for its implementation. In short, a SMART Corridor is a modal or multi-modal surface transport corridor with quality infrastructure and logistic facilities, which connects two or more countries and where vehicle, cargo and passenger movement is facilitated by the use of cutting-edge technologies (e.g., interconnected x-ray cargo scanners, weigh-in-motion weighbridges, electronic systems of payment for toll collection, etc.).[2]

In addition to the fragmentation of the regulatory frameworks on road transport, the **limited operational efficiency of transport companies** is another critical factor that negatively impacts on transport costs. This inefficiency is due to a series of reasons that are strictly intertwined, such as: (1) fragmented & informal fleets; (2) use, in most African countries, of **old vehicle fleets**; (3) **low utilisation rates** of vehicles; (4) low professionalism of transport companies and (5) low use of digital technologies able to reduce freight costs and vehicle utilisation.

Based on the analysis of the the texts of the road transport treaties and agreements regu-lating cross-border transport that have been collected for the purpose of this study, of the characteristics and performances of major road corridors, and of the results of the direct interviews with the different stakeholders, the **following proposals** are made:

1 – From Quantitative to Qualitative Access Regulations – The current road transport bilateral agreements concluded by African countries mainly contain provisions aimed at controlling or limiting the supply of cross-border road

[2] The European Union's European Development Fund (EDF) for ACP Group of States, "Implementation of the support to the transport sector development programme: Lot 1, Support to the AU DIE and PIDA PAP - Smart Corridor Definition and Characteristics", Contract Ref: EuropeAid/135595/IH/SER/Multi, Addis Ababa, September 2016, available at: https://au.int/sites/default/files/newsevents/workingdocuments/31372-wd-smart_corridor_definition_and_characteristics_5-7-16ff.pdf

transport services for pas-sengers and goods, which results in anti-competitive and non-transparent behaviours pushing transport costs up. The use of qualitative criteria for admitting transporters to conduct cross-border operations (e.g. good repute; adequate financial standing; profession-al competence), is a solution that can reduce these costs, leading to more competition, improvement of transport services, higher performance of the cross-border road transport system, and improved trade between countries. Qualitative criteria should be incorporated in harmonised regional road transport regulations that should progressively replace the bi-lateral agreements that are currently in force between African States, in view of their future convergence towards a single regional framework on cross-border road transport to be adopted at continental level under the aegis of the AU. In this regard, a window of opportunity is offered by the ongoing African Continental Free Trade Area negotiations, that should bring the **harmonisation of road transport regulatory frameworks** into the future plans for liberalisation of services, noting that so far road transport has been excluded by the AfCFTA Protocol on Trade in Services, that mainly deals with air and (more limitedly) maritime transport.

2 – From Bilateral to Multilateral Agreements – replacing the current bilateral agreements based on quantity regulation of the supply of transport by way of permits and quotas with regional regulatory frameworks incorporating qualitative regulation of operators, drivers and vehicles (as mentioned in the previous point), is a suitable option for the African continent. To this end, the **Multilateral Cross Border Road Transport Agreement (MCBRTA)** is an important model to which the other RECs in Africa might well aspire, also by creating specific inter-REC regulatory frameworks on cross-border road transport, similarly to what it was done by COMESA, EAC, and SADC within the Tripartite. This objective is coherent with the plan envisaged by the African Continental Free Trade Area (AfCFTA), and the Abuja Treaty establishing the African Economic Community (June 1991) of gradual coordination, harmonisation, and progressive integration of the activities of the various African RECs towards the creation of a future African Common Market where goods and services (including road transport services) can move freely across the entire continent.

3 – Increasing the efficiency of road transport companies – Different specific proposals are made in order to increase the efficiency of road transport companies and re-duce road transport costs, and namely: a) encouragement of practices aimed at reducing onerous transhipment operations at borders, such as trailer-swap and container-swap, b) vehicle standards harmonisation, c) use of web-portals for creating transparent transport regulatory environments, d) incentives for the use of digital solutions in logistics, like marketplace platforms and truck aggregation schemes to better match the demand and supply of transport services, as well as fleet management systems.

4. – Establishing Corridor Management & Monitoring Systems - Adoption of the SMART corridor concept by deploying IT technologies and intelligent equipment in the design and operation of transport corridors, with the aim of accelerating flows of vehicles, goods and persons through an automation of inspection and control procedures, toll-ing operations and documental flows between the corridors' stakeholders. Examples of these technologies include electronic Single Windows, automated systems for information sharing of customs, trade and transport-related data and documents between the different categories of corridor stakeholders, electronic cargo tracking systems, interconnected x-ray cargo scanners, Weigh-in-Motion Weighbridges, electronic systems of payment for toll collection, traffic management systems, etc.). As the SMART Corridors concept repre-sents an innovative business model that implies high investment and operational costs, it should largely rely on Public-Private Partnership (PPP) for financing the construction, modernisation and maintenance of SMART corridor infrastructure. This financial mechanism, more generally, is expected to play a vital role in the post-Covid scenario, as most governments across Africa will need to adopt bold growth and development policies to re-vive their economies, including investments in the infrastructure sector that are able to accelerate the recovery[3]. These objectives, due to the financial stress to the State budgets

[3] International Transport Forum, Stimulating Post-Pandemic Recovery through Infrastructure Investment, 3 March 2021

caused by the pandemics, will need to be supported through the mobilisation of additional resources by involving the participation of private investors and by designing specific stim-ulus packages that could take different forms, including through accelerating ongoing construction projects, resuscitating stalled or strained infrastructure projects, creating a conducive environment for development of these initiatives e.g., by fast tracking licensing and other approval processes for already planned infrastructure projects.

5 – Harmonisation of third-party liability coverage schemes - Some RECs in Africa have developed regional motor vehicle insurance schemes that cover third-party liabilities and medical expenses for the drivers travelling from a country to another within their territory. These schemes give transport operators advantages in terms of facilitation of cross-border transport and trade due to elimination of the need for drivers to take out an insurance every time they cross a border. A solution which is desirable in order to further reduce these costs, is the development of a **continental third-party insurance liability coverage scheme.** Moreover, a **continental** transit guarantee system able to cover the risk of loss of import duties or other revenues for customs authorities in the event that the transit procedures is not discharged properly, would reduce the cost of transit in Africa which is currently very high. In this regard, the initiative recently launched by the AfreximBank with the name "*Afreximbank-African Collaborative Transit Guarantee Scheme*" (ACTGS), currently being piloted in the COMESA Region, is a good solution that would deserve to be progressively extended across Africa, by developing a specific legal framework at continental level to support the scheme.

The analysis of the impact of the proposed market liberalization, increasing the efficiency of road transport companies and the logistic chain, cannot bring to quantitative results in a theoretical way, but needs to be based on repeated field surveys in "with" and "without" regulation/measures conditions, both geographically or temporarily separated along the same corridor. This will involve time and accurate detection procedures. In qualitative terms, the expected impacts are: a reduction of transport price and transit time; and an increase of (time & cost) reliability, security and volume of trade along the main African road corridors as a consequence of their better performances. Additional effects that will be generated by the proposed market liberalisation solutions are: an in-creased trade and economic cooperation between African nations, at both intra and inter-regional level, and further impetus to the regional integration process driven by the recently concluded AfCFTA Agreement.

The **measurement of the impacts** needs: i) to identify the most appropriate perfor-mance indicators able to capture the real effects of the new regulations; ii) to evaluate performance changes in the same road corridor; iii) to evaluate the performances of dif-ferent corridors, having applied or not the new regulations. The corridor performances should be calculated with regard to the total transit time from the port gateway (when cargo is loaded on the truck), through border crossing up to final destination or dry port (where the cargo is offloaded from the truck).

After an examination of the KPIs and dashboards that are currently being used by the Transport Observatories of the CMAs interviewed within this Study, and the proposal to constitute a **Corridor Governance & Monitoring Agency**, the Consultant suggests a specific set of parameters and tools for monitoring trade volumes, transit cost, transit time, corridor reliability and security/safety.

Ultimately, rather than propose a «dashboard ready to use», the Consultant describes a **software for building dashboards**, starting from modules, widgets, special programs designed to allows dashboards for a wide range of business or processes and intended to a wide range of public and corridor peculiarities. A list of available software for building dashboards is given.

In the **Task7 – Dissemination**, the Consultant is organizing, in collaboration with the African Development Bank, the dissemination of the outcomes of the Study to the different Regional Economic Communities and all stakeholders.

1 Project description and activities carried out

1. Project description and activities carried out

This Report represents the **Final Report** of the SMART (Sustainable Market Access for African Road Transport) study and is aimed at analysing the current situation of cross-border road transport in Africa with the main regulatory and non-physical barriers that impede a streamlined movement of vehicles and goods within and between the different Regional Economic Communities (RECs). The assessment of such barriers is important to increase efficiency, reduce costs, and maximize the economic benefits of the transport in-frastructure. Moreover, it is a crucial component in the transformation of transport corri-dors into so-called **economic corridors**, i.e., infrastructure networks within specific geographical areas that are designed to stimulate economic development, trade, and invest-ment potentials.

Due to the Covid19 pandemic, all the discussions and consultations with stakeholders re-lated to the execution of the study have been conducted via video-conferences. With the support of the African Development Bank, **about 30 interviews** were organised, main-ly with International Organisations, RECs, Corridor Management Authorities, Business Associations, transport operators and their Associations. The results of these interviews are reported in Annex 1 of the present report.

In order to reduce obstacles and increase efficiency of cross-border road transport operations in Africa, and based on the key stakeholders' feedback, various solutions adopted in other regional contexts have been analysed, with an evaluation of those that would better suit the particular circumstances of Africa. The report concludes with a recommendation to replace the current bilateral agreements on road transport concluded by pairs of States (and the system of permits/quotas they introduce), with **harmonised regional regula-tory frameworks** for each REC or groups of RECs, incorporating qualitative regulation of operators, drivers and vehicles. In future, a convergence of these regional regulations towards a continental harmonised framework would be desirable. The operational effi-ciencies and new business models that the introduction of such regulatory changes will enable, are also analysed in this report.

To better understand the economic significance and present situation of road transport activity in Africa, the Consultant has undertaken:

- **extensive research of texts** of International Treaties, Multilateral and Bilateral Agree-ments, national laws and regulation on cross-border road transport, that have been consolidated in a database that will be handed over to the Client;
- **an analysis of the present volume of intra-regional trade** in the different African RECs, showed in detail in Annex 2.
- **an analysis of the existing main transport and road corridors** in Africa, with a descrip-tion in Annex 3 of each corridor, of cargo volumes, time & cost of transport and the applicable road transport regulation.

1.1 Scope of the smart study

The African Development Bank ("the Client") has appointed SPT srl ("the Consultant") to undertake a study "Sustainable Market Access for African Road Transport - SMART" to analyse the **market access systems** for international road freight transport in Africa and propose innovative models for introducing a **multilateral access license quota system** for international road freight transport in Africa.

The study was aimed at answering the following research questions:

- What are the characteristics of existing forms of bilateral and multilateral market access systems in each Regional Economic Community (REC) in Africa?
- What is the estimated average utilization rate of the road freight transport fleet in each REC and how the transport regulation in each REC impacts on cross-border road transport?
- What is the economic impact of the transport market access regulation on road hauli-ers, traders?
- Which models can be introduced for liberalizing international road freight transport and what institutional arrangements should be considered?

- Which corridor performance indicators could be used in the various African regions to assess the efficiency of cross-border transport?
- What are the potential economic outcomes if the market access will be liberalized in the proposed manner?
- What new business models would be enabled by the reforms of cross-border road transport proposed in this report in terms of operational efficiency from the micro-perspective?
- What is the status of readiness of each REC in terms of introducing a multilateral ac-cess quota system?
- What is the most effective institutional framework for a possible Pan-African reform on market access for international road freight transport and what kind of advocacy policies can be proposed to facilitate such reform?

Trying to answer to the above questions, the Consultant has constantly kept in mind that the overall long-term objective of the Project is to "facilitate African regional and interna-tional trade by reducing cost and time needed for international road freight transport", as indicated in the ToRs. In particular, the cost reduction will result from increased operational efficiency of transport operators and from higher competition among transport service providers, as a consequence of a reduction of quantitative restrictions on cross-border road transport.

The specific objectives of the study, were:

1) to form an **estimate of the overall economic significance of the current situation** where multilateral market access systems do not exist, and the market reg-ulation is merely based on bilateral agreements - based on valid data collected from the sub-regions;
2) **to propose multilateral access quota models** that would suit Africa and to ex-plore what kind of operational efficiencies and new business models these reforms would enable;
3) to propose **Key Corridor Performance Indicators** (KPIs) and a **Dashboard** in relation with the new business model that might be developed
4) to **estimate the positive economic impact** if multilateral quota systems will be in use;
5) to **disseminate information** on how regional cross-border road transport reforms would enable better market access;
6) **to play an advocacy role** in carrying out the market access reforms at sub-regional level, supported by a Pan-African mutual understanding of their necessity.

The main output of the Study will be a Final Report on "Sustainable Market Access for African Road Transport" to be published in both English and French and to be disseminated in five sub-regions of Africa and at the African Union headquarters.

1.2 Approach of the consultant

The Consultant proposed approach, suggested from the initial stage, was to analyse the main continental Trade & Transport Corridors (TTCs) in Africa, focusing on the segments of the inland transport system and their nodal interfaces, in terms of regulations (road transport agreements, transit regimes, trade agreements, service contracts, etc.), infra-structures (road pavement conditions, vehicle operating costs, etc.) and trucking industry (structure, vehicle fleet, existing cargo allocation schemes, presence of cartels or informal alliances between competitors, etc.).

1.2.1 The Database of Treaties on Road Transportation

A Database of Treaties, Agreements, laws and regulations in force in Africa and adopted by the countries crossed by the corridors covered by this study has been implemented. The database offers a quick and easy access to the regulatory frameworks governing cross-border road transport operations in the various African RECs and between African countries.

The database has been developed on Google Drive, by creating a specific Google account for the SMART Project. The use of the Google Drive spreadsheet gives the following ad-vantages:

1) it may be easily shared through a link, without the need to send any files
2) it is available everywhere there is an internet connection;
3) this solution reduces risks of data loss, as data and documents are saved on a cloud space.

The fields of the database are the following:

- **N_Arch** - Number of the Archive in the folder of the documents; it allows an easy search of files as per different filters displayed on the screen, as well as to replace them;
- **Act_Num** - the number of the Act / Agreement / Treaty / Regulation grouped ac-cording to the competent legislative body/bodies or number of publications in the Official Journal;
- **Title** - The title of the Act / Agreement / Treaty / Regulation etc.;
- **Type** - this field contains a series of keywords indicating the type of the documents, which have been included. This field has been included in the database to facilitate their search. At present, the list of the keywords of this field is:

  > Act
  > Agreement
  > CommunityAct
  > Convention
  > Guide
  > Implementation
  > LawAssess
  > LawDraft
  > Regulation
  > Treaty
  > UN_Resolution

The "LawAssess" keyword has been included because the database also allows the storage of reports relating on the effects of some laws on transport and/or trade. This may help in assessing the impact of specific pieces of legislation in a certain regional area;

- **Bilat_Multi** - indicates the nature of the treaty and the international extension;
- **Sign_Date** - represents the date of signature by the representatives of the countries that have joined the Agreement or the Treaty (when known);
- **Enf_Date** - Date of enforcement in the concerned States (when known);
- **Num_Part** - (Number of Partners) normally this field is used when a Treaty, interna-tional Agreement or Convention has been promoted or supported by an international organization;
- **Partners** – this is the list of Partners whose total number is shown in the previous field;
- **Num_States** - (number of States) – this field indicates the number of countries join-ing the treaty. In case of a "National" legislative act or regulation, the "Num_ States" is 1;
- **States** – this is the list of the countries where the Treaty / act is in force. To reduce storage space and to keep the cells of the spreadsheet as small sized as possible, the "Country Code ISO 3" has been used. To facilitate the use of the Country Code in en-tering new records, the list of the "Country Code ISO 3" is reported in a spreadsheet joined by side to the database and called "CountryCode".
- When the number of states where the Treaty / regulation is in force is greater than 2, it is important, while writing the state Codes, to include a blank space between the codes of the different countries. This shall facilitate the search of documents by coun-try;
- **Stakeholders** - Indicates the stakeholders related to the subject(s) covered by the treaty / regulation / agreement etc. The maintenance of this field in the structure of the database will be evaluated with the Client during the next phases of the assign-ment, and if deemed not particularly useful, will be removed from its final version;
- **Appl¬_Field** - (Application Field) - this field contains a keyword indicating the scope (the application field) of the Treaty or legislative or regulatory measure. The keyword is aimed to facilitate the search of the document. The number of the keywords may be increased, if necessary. Presently, the keywords of **Appl_Field** are:

  > Cooperation;
  > Customs;
  > Passengers;
  > RoadTransport;
  > Tolls;
  > Transport/Transit;
  > VehicTechReg (this stands for: technical regulation for vehicles).

- **Link** - is the link to the document. Each document is stored as a .pdf file in a folder that has been created in the Google account. By positioning the mouse

arrow on the link, an icon (the image of the first page of the document) appears. By clicking on the image, the document may be viewed;

- **Note** - contains notes or remarks about the document.

In Figure 1, an example of the results generated by a search (query) in the database is shown. In the example, the keywords **Type** = "Agreement" and **Bilat_Multi** = "Multi-lateral" have been used. The table hereunder also includes the documents matching the two keywords (some columns have been hidden to make the table small enough to fit on the page).

Figure 1 List of Treaties matching Agreement and Multilateral

N_Arc	Title	Type	Bilat_Multi	States	Appl_Field	Link	Note
7	East African Community - Tripartite Agreement on Road Transport between the Government of the Republic of Tanzania, the Government of the Republic of Kenya and the Government of the Republic of Uganda	Agreement	Multilateral	TZA KEN UGA	RoadTransport	https://drive.google.com/file/d/1S5Cgz0HB-E7dn1WzpKdBiApsfRIAC8YM/view?usp=sharing	This Agreement has been signed by the three nations indicated, although the East Africa Community is indicated in the Title. This Agreement has been assumed as the basis for the most general agreement on Road Transport for the whole East Africa
12	TRIPARTITE - Multi Lateral Cross-Border Road Transport Agreement (MCBRTA) [rev. 3.4 - 09/10/2018]	Agreement	Multilateral	AGO BWA BDI COD DJI ERI SWZ ETH KEN LSO MWI MOZ NAM RWA ZAF SSD SDN TZA UGA ZMB ZWE	RoadTransport	https://drive.google.com/file/d/14BhgZOLYR3L7Crhz0FcKiXSicgbrtfz/view?usp=sharing	Copy not signed and without date; rev 3.4 of 09/10/2018. May be it is not the final text. NOT YET SIGNED OR ADOPTED
18	Agreement establishing a Tripartite Free Trade Area among the Common Market for Eastern and Southern Africa, the East African Community and the Southern Africa DEvelopment Community	Agreement	Multilateral	AGO BWA BDI COM COD DJI ETH ERI EGY KEN LSO LBY MDG MWI MUS MOZ NAM RWA SYC ZAF SWZ SDN TZA UGA ZMB ZWE	Trade	https://drive.google.com/file/d/1tvdmr-FEIqUaZd6nWBMI1-on5aC7Xs15/view?usp=sharing	
26	Agreement among the Governments of the Democratic Republic of Congo, the Republic of Namibia and the Republic of Zambia on the establishment of he Walvis Bay - Ndola - Lubumbashi development corridor	Agreement	Multilateral	COD NAM ZMB	Transport/Transit	https://drive.google.com/file/d/1YIvRNTe5dVnmXFNO7xpFh_J0rO9ylwu/view?usp=sharing	

In the example depicted in Figure 2, the "Agreements" signed by Kenya ("KEN") and related to "RoadTransport" are shown.

Figure 2 The list of Treaties matching the keywords "Agreement", "RoadTransport" and containing "KEN"

N_Arc	Title	Type	Bilat_Multi	Num_States	States	Appl_Field	Link
7	East African Community - Tripartite Agreement on Road Transport between the Government of the Republic of Tanzania, the Government of the Republic of Kenya and the Government of the Republic of Uganda	Agreement	Multilateral	3	TZA KEN UGA	RoadTransport	https://drive.google.com/file/d/1S5Cgz0HB-E7dn1WzpKdBiApsfRIAC8YM/view?usp=sharing
12	TRIPARTITE - Multi Lateral Cross-Border Road Transport Agreement (MCBRTA) [rev. 3.4 - 09/10/2018]	Agreement	Multilateral	21	AGO BWA BDI COD DJI ERI SWZ ETH KEN LSO MWI MOZ NAM RWA ZAF SSD SDN TZA UGA ZMB ZWE	RoadTransport	https://drive.google.com/file/d/14BhgZOLYR3L7Crhz0FcKiXSicgbrtfz/view?usp=sharing
15	Road Transport Services Agreement between the Government of the Federal Democratic Republic of Ethiopia and the Government of the Republic of Kenya	Agreement	Bilateral	2	ETH KEN	RoadTransport	https://drive.google.com/file/d/1FhFIGzYgbkNJ54LrIEVxU8NNoVH1FnU4/view?usp=sharing

In both the examples in Figures 1 and 2, the documents displayed may be obtained (down-loaded) by clicking the link in the last column on the right.

1.2.2 Analysis of trade volumes

The economic importance of road corridor performance depends greatly on the volume and value of cargo moving along such corridors. For this reason, the Consultant has made an analysis of the average number of tons currently moved along the corridors which have been taken into consideration in this Study. Such an analysis is contained at Annex 2.

The trade performances in each African region are analysed by taking into consideration the trade composition according to the main goods exchanged and their destinations. To this end, the Consultant used as a source a series of databases developed by international financial institutions, such as the African development Bank, the World Bank, the Inter-national Monetary Fund but also, where available, trade databases from the individual RECs, such as SADC, COMESA and EAC. Institutions with a specific trade analysis de-partment (such as the Permanent Interstate Committee for drought control in the Sahel, CILSS) have also been taken into account in evaluating trade performances.

Data used are the most recent available. Historical trends have also been considered. Data for the period 2019-2020 have been affected by the COVID-19 pandemic effect and therefore could show a particularly compromised picture.
Broadly speaking, intra-regional trade in Africa is relatively low, although progressively rising, and dominated by food and manufactured goods. The report on the assessment of progress on regional integration in Africa of the United Nations Economic Commission for Africa (UNECA) dated 8 January 2021, estimated the Intra-African trade in 2018 at 16.1% (equal to a volume of commercial exchanges between African countries of 159.1 billion USD), with a slow growth from 2017, when the Intra-African trade was only 15.5%. This percentage, however - which is very low compared with other regional blocks such as the European Union, where the level of intra-regional trade reaches 73 per cent - does not include the informal exchanges occurring at African borders that although significant[4] , cannot be precisely quantified as not captured by official statistics of Customs.

In Africa, much of the intraregional trade has been driven by the Southern African De-velopment Community (SADC) and the EAC, which have the highest levels of intra-regional trade, compared with other groupings on the continent. During the period 2000–17, intra-African trade was dominated by food and manufactured goods. In contrast, ex-ports to the rest of the world were dominated by primary commodities accounting for about 60 percent of total African exports.

Regarding the impact of COVID-19 on African economies, according to the latest AfDB African Economic Outlook, real GDP in Africa has contracted 2.1 percent in 2020. Growth is forecast to resume at a moderate average pace of 3.4 percent in 2021.[5] The current outlook is subject to greater-than-usual uncertainty and hinges on both the per-sistence of the COVID-19 shock, the availability of external financial support, and the availability of vaccines.

1.2.3 Analysis of Africa main road corridors

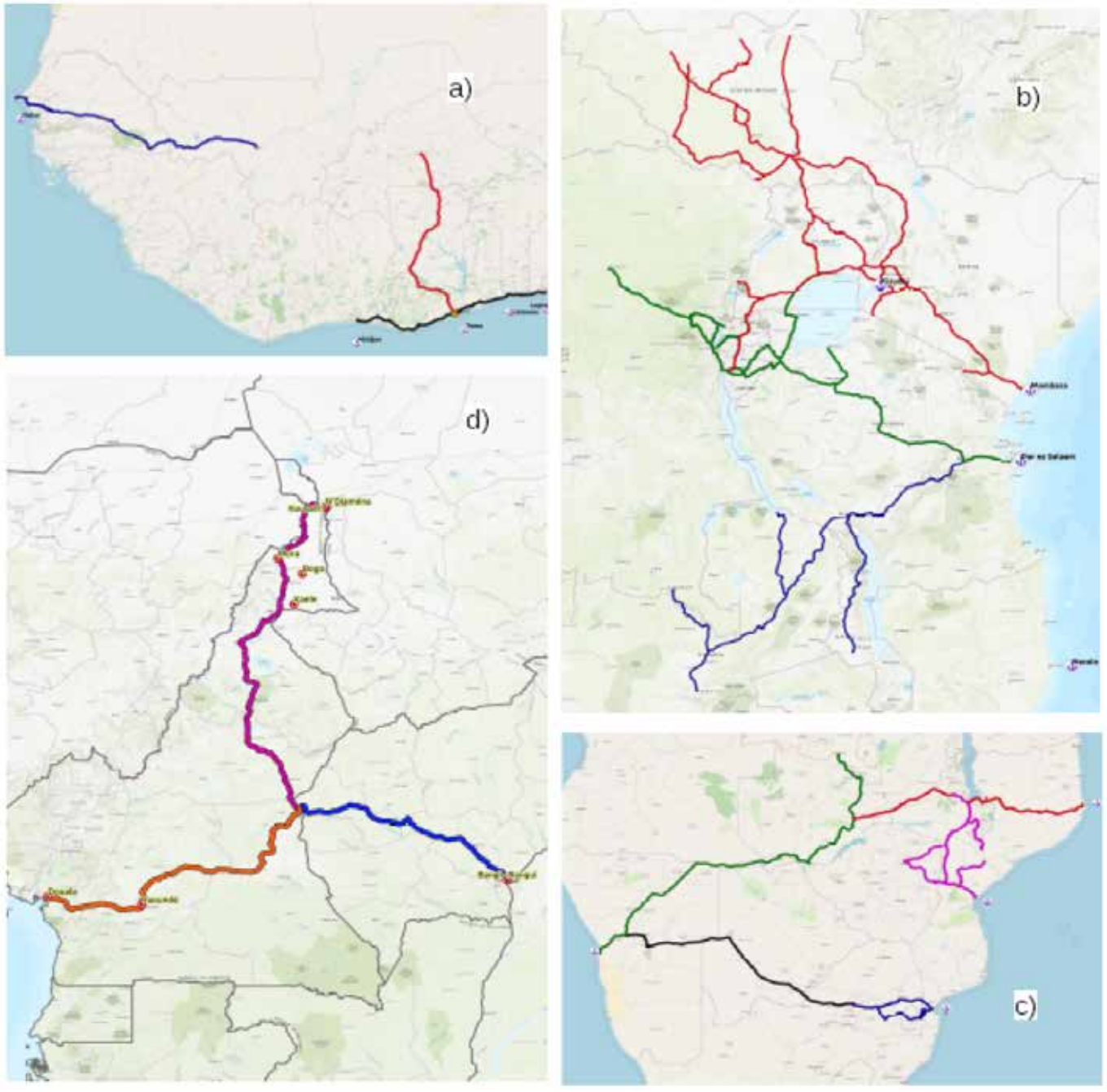
The road transport analysis has been focused on the main road corridors, as described at Annex 3, that also shows cargo volumes, time & cost of transport, as well as the road transport regulation applicable to each corridor.
Generally, different types of corridors can be identified in relation to the structure of road pattern (corridor pattern / corridor scheme). It is also possible to distinguish the differ-ences in the local road network servicing the corridor (corridor's feeding road network).

The different types of corridors patterns are illustrated in the figure below, which shows the following corridors for each Africa region:

a) West Africa (Dakar-Bamako; Tema-Ouagadougou; Abidjan-Lagos);
b) East Africa (Northern, Central and Dar es Salaam Corridors);
c) Southern Africa region (Trans Kalahari & Trans Kunene Corridors; Nacala Corridor; Beira Corridor; Maputo Corridor;
d) Douala-'Ndjamena and Douala-Bangui corridors: where the common stretch is high-lighted in orange colour.

[4] For instance, a recent paper published by the International Food Policy Research Institute (IFPRI) gives an overview of the level of informal trade in Uganda, Rwanda, Namibia, Cameroon, Kenya, Benin, Botswana and other West African countries), revealing levels of informal trade in some cases, such as in Benin and Nigeria, exceeding 80% (Bouet, Antoine and Pace, Kathryn and Glauber, Joseph W. William, Informal Cross-Border Trade in Africa: How Much? Why? And What Impact?, December 21, 2018, IFPRI Discussion Paper 1783, Available at SSRN: https://ssrn.com/abstract=3305336)
[5] https://www.afdb.org/en/documents/african-economic-outlook-2021

Figure 3 Different types of corridor patterns



Generally speaking, in Africa two main types of the African corridors can be identified:

1) **Linear corridors:** this type of corridor is mostly linear in shape and generally runs through two countries, connecting a national capital of a landlocked country to a gateway on the bordering coastal state. This type of corridor is mainly present in Western Africa. Examples are the Dakar – Bamako Corridor and the Tema Ouagadougou Corridor. The Douala – 'Ndjamena and the Douala – Bangui Corridors, in the Central Africa region [shown in the quadrant d) in the above

figure], also fall within this first corridor type. These two corridors have a common road section from Douala to Garau-Boulai (highlighted in orange in the figure) from where two different roads branch off, one going to 'Ndjamena (Tchad) and one to Bangui (Central Africa Republic). Each one of the two corridors, including their common section, can be placed into the category of linear corridors. Other corridors in the West Africa region that may be placed into the same category are the San Pedro – Bamako (Ivory Coast - Mali) not indicated in the figure, and the Abidjan – Lagos corridor, although the latter runs through more than two countries, connecting 5 ports on the western coast of Africa. No landlocked country is served by this corridor. With some differences, also the corridors of the Southern Africa region may be categorized as belonging to this type of corridors. An example is the Walvis Bay Group Corridors, which have a "linear" design, while corridors from Maputo and Beira show more strong similarities with the second type of corridors described below.

2) **Circular pattern corridors:** this second type of corridors, which are mainly present in East Africa, have a more complex pattern, where different routes can be alternatively used to reach a city or town in a landlocked country (or in an inland destination in the coastal country). In some cases, this kind of corridors have a configuration of a network of roads where normally a starting point, the gateway, splits into several ending points (or serviced cities/towns). In some cases, inland destinations are connected with each other by specific sections of the same corridor.

This type of corridor may be seen as path for distribution in the region of goods loaded at the port (the gateway), specially where it is connected to a well-developed feeding road network. In this case, the corridor facilitates trade not only from the gateway, but also between more countries in the region. For instance, the Northern Corridor accommodate trades flows directly from Burundi (Bujumbura) to South Sudan (Juba or Melakal) and vice-versa.

The Dar es Salaam corridor, although it doesn't show any "circular" pattern, can also be classified into this type of corridors as it has several branches connecting towns and markets which are not on the corridor main alignment road axis.

1.3 The Final Report

While the Inception and Preliminary Reports have covered tasks 1 – Data Collection, 2- Missions & Interviews and 3 – Analysis of the Current situation, in this Final Report, the Consultant has focused on the tasks: 4 – Models for Transport Liberalization, 5 – Key Corridor Performance Indicators and 6 – Economic Impact Analysis. In particular: In Task 4: Models for Transport Liberalization, the Consultant undertook a review of in-ternational best practices in multilateral access systems for international road freight traffic. The main models of Multilateral Access Quota Schemes that have been taken into con-sideration are: (1) the European Conference of Ministers of Transport - ECMT Scheme, (2) the GMS (Greater Mekong Sub-region) road transport permits system, (3) the Black Sea Economic Cooperation System (BSEC) and the (4) Multilateral Permits Scheme for In-ternational Road Freight Transport on the Asian Highway Network (MulPerSys) which is currently being developed by the United Nations Economic and Social Commission for Asia and Pacific (UN/ESCAP).

Obviously, the Consultant is aware that it is not realistic to adopt in Africa a model con-ceived for other regions of the world. Hence, the model proposed takes into account the particular nature of the African Continent, including the composition of the cross-border trade flows, nature of road freight traffic, type of Road Freight Corridors and transport in-frastructures, and characteristics of the road transport fleets.

In Task 5: Key Corridor Performance Indicators (KPIs), the Consultant proposes a set a Key Performance Indicators (KPIs) to measure the performance of the main Road Corri-dors in Africa, taking into account the scenario of implementation of the proposed multi-lateral market access system, at both intra- and inter-REC level.

As per scope of the study, the focus on the corridor performance measurement is limited to transit from the point where cargo is loaded onto a truck to the point at which it is of-floaded at the destination port (for sea

exports) or from the point where cargo leaves the dockside in the port of origin to the point where it is offloaded from the truck for final delivery to the customer (for sea-borne imports).

Task 6: Analysis of the impact of market liberalization, represents the core of the study, whose aim is to create a roadmap on better practice able to gradually break the vicious circle triggered by excessive market regulation. It is expected that the proposed model of transport liberalisation, apart from diminishing the current obstacles to efficient border crossing (by means of a well administered multilateral transport access system), will lead to the following indirect benefits:

- it will give a further impetus to higher intra-regional and intra-REC trade. At the same time, more efficient transport and logistics solutions will favour increased cooper-ation among players in all economic sectors;
- it will support inter-regional cooperation and better commercial ties via more efficient logistics links with the outside world on land routes and through international ports;
- the implementation of such a system will reduce administration costs, as well as trans-portation time and costs;
- once achieved, a more open access to transport markets through the multilateral system will create the foundation and put a positive pressure on those responsible to achieve improvements in other trade and transport facilitation areas: e.g. creating effi-cient customs transit systems among countries concerned, easing cross-border opera-tions for professional drivers registered in other African States, solving international insurance problems for goods and vehicles, and so on.

In a long-term perspective, the implementation of a multilateral access system will also represent a milestone in the ambitious continental integration process promoted by the **African Continental Free Trade Area (AfCFTA)**.

In the last Task 7 – Dissemination, the Consultant is organizing, in collaboration with the African Development Bank, the dissemination of the outcomes of the Study to the differ-ent Regional Economic Communities and all stakeholders.

2 Study background

2. Study background

Road transportation is the primary mode of transport for goods in Africa, accounting for nearly 80 percent of the total traffic of goods, with peaks of more than 90% in some coun-tries like Ethiopia, Kenya, Rwanda, Uganda and Zambia. Such a prevalence of road freight is partly explained by the fact that rail networks in several African countries have declined in significance, due in part to low investment and maintenance. Good road transport networks and the ability to transport goods efficiently from areas of production to areas of consumption are critical to intra-regional trade and economic development in Africa, where the average price of transport still represents 7.7 per cent of total export value, which is twice the world average of 3.7 per cent (UNCTAD 2013). Road transport cost can increase the final price of goods to consumers of one-fourth their value or even more, as such cost is normally transferred by carriers and shippers to their customers, so making products traded on destination markets uncompetitive.

A recent study from the World Bank also shows that an increase in international transport costs of 10 per cent can reduce the volume of trade by as much as 20 per cent. In Africa, the reduction in trade volumes due to transport costs is even more severe, considered that this Continent hosts the largest number of **landlocked countries** in the world, 16 in to-tal (Mali, Burkina Faso, Niger, Chad, Central African Republic, South Sudan, Ethiopia, Uganda, Rwanda, Burundi, Zambia, Zimbabwe, Botswana, Malawi, Eswatini, Lesotho), whose distance to the sea ranges from 220 km for Eswatini to 1,735 km for Chad.

There are five reasons why African countries face high transport road costs in interna-tional trade: (1) long distance between production centres and destination markets; (2) massive imbalance between volume of imports and exports, (3) lack of sufficient invest-ment in transport infrastructure and its maintenance; (4) weak and fragmented trade and transport regulation and (5) inefficiency of logistic chain and transport operators performances, which reflect, in turn, in high costs of trading across borders. While the first fac-tor is a geographical constraint, the second a structural economic condition, and the third is a challenge addressed by many infrastructure spending programmes put in place at in-ternational, regional and national level, the last two factors can be corrected with appro-priate policy and regulatory interventions as well as with proper capacity building strategies.

The logistics sector in Africa is today asked to respond to the **growing trade flows** that are a consequence of the rapid expansion of African economies, and to the **changing demand** by the international trade community, that in addition to traditional transport, clearing and forwarding services, requires today more value-adding logistics services, such warehousing, cold storage, consolidation, or even distribution, packaging, and labelling.

This study focuses on the issues related to cross-border transit for the landlocked countries and their import/export trade imbalance, the present trade and transport regulations (mostly bilateral agreements) which have been concluded between the different States, the inefficient organization of transport operators and the poor performance of road corridors.

2.1 Landlocked countries & trade imbalance

African countries trade more with overseas countries (e.g. China, Europe, India, US, etc.) than among themselves, as indicated by statistics compiled by various International Organi-sations showing the low level of intra-African trade, compared to the African trade with the rest of the world. Landlocked countries face an aggravated situation due to the fact that this substantial share of trade is obliged to pass through the territory or one or more other neighbouring countries for entering their territory or before reaching overseas countries.

Due to their dependence on one or more transit country for their overseas exports and imports, transport costs in landlocked countries are very high, being on average 50% higher than coastal countries, and about 85% more than the world average, in case of containerized transport[6]. Since they do not have seaports, such countries must seek agree-ments with their adjacent and coastal neighbours to gain access to the sea, with their oper-ators in many cases obliged to pay transit tolls or expensive customs escorts fees for goods in transit (to prevent the diversion of cargo in the transit State), that considerably raise the ultimate price of transport. Landlocked countries' trade

[6] Jean-Paul Rodriguez, The Geography of Transport Systems, fifth edition, Routledge, New York, 2020.

competitiveness depends there-fore not only on the modernization and standardization of trade procedures at home and in the destination country, but also on the transit trade and transport procedures applicable in the neighbouring/coastal countries.

The International Ministerial Conference of Landlocked and Transit Developing Countries and Donor Countries on Transit Transport Cooperation, held in Almaty, Kazakhstan in 2003, recognized that a reduction of customs processes and fees to minimize costs and transport delays are particularly critical for these countries.

Other factors that can be considered as explanatory variables for the level of transport costs and prices for landlocked countries are the **trade imbalance** and the low efficiency and productivity of the sector, in particular because of high operating costs and of low vehicle utilization rates. In fact, to face low operational efficiency and productivity, transport operators usually raise their fares to offset low revenues because of low vehicle utilization, passing these costs to traders, which in turn will pass them to consumers.

In transit countries, anyway, the movement of cargo occurs under suspension of customs duties and other import levies. This gives rise to the risk that during this journey, the whole or part of cargo is diverted to irregular destinations, so evading the payment of all such taxes. This is why customs authorities must take precautions so that this does not happen, which is usually done by escorting the shipment from the point of entry in their territory up to the point of exit or by requesting transport operators to use mandatory electronic cargo tracking systems for monitoring transit of cargo through their territories.

2.2 Access regulation

Regulatory frameworks play a major role in creating in creating competitive transport markets, enabling market access and controlling the conduct of the transport carriers in-volved in cross-border operations. In particular, conditions and restrictions to the provision of cross-border transport services have a negative impact on the supply of transport services between countries and tend to raise both road freight transport costs, and the performance of corridors and cross-border transport systems.[7]

The African road transport market is still far from being completely liberalised. Road transport in Africa is mainly dominated by bilateralism and protectionist policies adopted by national governments that cause hindrances to cross-border transport opera-tions. By making complex the cross-border movement of goods, this situation also represents a key obstacle to the growth of intra-regional trade in Africa.

Allowing road freight carriers an improved access to neighbouring markets in Africa would most likely lead to a reduction in transport costs, with greater operational efficiency benefitting all stakeholders. According to Foster et al.[8], restrictions on transport market access such transport quota systems, combined with delays at border crossings, increase prices on cross-border routes by 10 to 30 per cent. In particular, complex licensing requirements and regulations related to road transport quota limitations, act as a major barrier that raises transaction costs for traders, as they create quantitative restrictions to the movement of commercial vehicles between the country of departure and the country of destination. This situation can become extremely complicated when the vehicle has to cross one or more third countries situated among the two or has to carry out a transport between countries situated in the territories of different RECs.

In all countries, access to the profession in **road transport is still based on quantitative, rather than qualitative criteria,** with access to the market in many parts in Africa that is restricted, and mainly dependent on **bilateral agreements** between countries. In some of these agreements, such as in Southern Africa, countries usually accept to issue to their national transport operators bilateral, transit or (in more limited cases) cabo-tage permits that have extra-territorial recognition by the authorities of the country where cargo has to be delivered and that allow them to pick up cargo to transport back to their originating country. In this way countries are able to control the market share of their national hauliers in international bilateral transport relations. However, this system is costly and time consuming, because of the need for transport companies

[4] Chibira, E., "Addressing Road Transport Regulatory Issues: An Important Step Towards Realising the Objectives of the AfCFTA", TRALAC Working Paper, S20WP14/2020.
[5] Foster, V., and Briceño-Garmendia, C., "Africa's Infrastructure: A Time for Transformation", World Bank, 2010

to apply for a permit for each country they enter and to pay the relevant fees to the issuing authority. The need for transporters to obtain a cross-border road permit for entering into other countries also makes bureaucratic to arrange a cross-border operation, considering that in most cases those who have been granted with such a permit must return it to the issuing authority within a specified time limit, together with other documentation (e.g., consignment notes). Moreover, this system causes obstructions at borders and delays on corridors because of the need to verify the validity of the permits in the destination State. Countries have also to design specific procedures to monitor the use of permits and verify that they are used properly by hauliers, which create further layers of bureaucracy.

On the other hand, in those environments that are more liberalised, such as in the Eastern Africa Community (EAC), transport prices in Africa are lower as cross-border transport regulation has been harmonised and restrictions to movements of trucks have been removed. The EAC experience shows that it is particularly important to overcome the fragmentation of bilateral agreements on road transport, by putting them under the umbrella of regional regulatory and quality frameworks as much harmonised with each other.

2.3 Inefficiency of road transport companies

In addition to the fragmentation of the regulatory frameworks on road transport, the **limited operational efficiency of transport companies** is another factor contributing to high transport costs in Africa. This is due to different reasons, that are strictly intertwined between them: (1) Fragmented & informal fleets; (2) use, in most African countries, of an **old vehicle fleet**; (3) **low utilisation rates** of vehicles; (4) low professionalism of truck drivers and (5) low use of digital solutions in logistics.

A first problem is the **segmentation of the trucking industry between a large number of small informal operators** with a few generally old trucks, and a small number of formal higher quality operators.

The presence of a high number of informal truckers[9] is particularly serious in West[10] and Central Africa, where the transport market is highly regulated. Here, the reason why most of truckers go informal, is that they face greater formalities and higher costs for regularly conducting transport operations than in other more liberalised countries. Usually, such hauliers operate a single or few trucks with medium- or low-capacity that are relatively cheap to invest in, which means that they can offer transport services in greater quantity and at lower fares.

Most of transport companies in Africa have small and old fleet trucks. The obsolescence of a large part of these fleets and the increasing number of second-hand vehicles, both increase operating costs and the frequency of accidents. **Old vehicle fleets**, in particular, are known to have high operating costs due to increased fuel consumption and vehicles maintenance needs. Moreover, old trucks are expensive to operate, slow to load/unload, and many studies also show that they have a higher frequency of accidents (because of the lower vehicle safety standards), and heavily contribute to congestion of roads[11].

Generally, transport companies in Africa present a **low utilisation rate of trucks**, using their vehicles only for a limited number of cross-border trips along corridors. Low vehicle utilization erodes profit margins, because fixed operating costs can be distributed by transport companies over a small number of trips[12], a situation that pushes them to raise their fares to offset their low revenues, the relevant costs being passed to traders first, and ultimately to consumers, as they are incorporated in the final price of goods. The problem of underutilisation of trucks along African road corridors has been further exacerbated by the COVID-19 pandemic because of the many travel restrictions, border closures and increased mandatory

[9] I.e., of drivers who lack the necessary permits or registrations for conducting commercial transport operations, or who fail to meet standards and certification requirements for their vehi-cles, that are therefore substandard.
[10] In West Africa for instance, it is calculated that informal truckers reach about 90 percent of the trucking industry (Zerelli, S., Cook A., "Trucking to West Africa's Landlocked Countries: Market Structure and Conduct", West Africa Trade Hub Report #32, 2010).
[11] Rechnitzer, G., Haworth N., Kowadlo, N. "The effect of vehicle roadworthiness on crash incidence and severity", Monash University Accidents Research Centre, Victoria (Australia), Re-port No. 164, 2000
[12] Fixed costs are those which must be borne by transport company irrespective of whether their trucks are used or not, or of their frequency of use. This category includes the drivers' sala-ries, general structural costs (administrative, commercial, IT, etc.), insurance costs, administrative costs (permits, road hauliers' registration or permits, etc.). Variable costs, on the other hand, are those that vary in proportion to the transport operation to be conducted (the more the vehicle operates, the higher these costs are: a typical example is fuel, the cost of tyres, motorway tolls, vehicle maintenance).

health controls that have further slowed down the flow of goods between States.

Small owner-operators are generally **poorly organized and efficient**, in comparison with medium and big transport companies, that usually invest more in management, marketing and in fleet capacity. Another problem of small-scale transporters is that they usu-ally have in place lesser effective coordination mechanisms with other agents in the transport chain (e.g. shipping agents, freight forwarders and customs clearing agents), which reflects in difficulties to arrange the timely pick up or delivery of cargo or the rapid submission of the required documentation to the port and customs authorities at the vari-ous borders they cross. As a result, they normally incur in higher delays and storing costs of cargo that further inflate transport costs.

Small-scale transporters are also characterized by **low use of digital solutions**, like GPS devices and fleet management systems, that can optimize use of routes and increase vehicle utilization, so reducing overall operating costs of transport companies. Logistics in Africa has recently started a change path with the digitalization of logistics operations. In particular, the advent of marketplace solutions and of truck aggregation models aimed at facilitating connection between shippers and available drivers are contributing to decrease transport prices and to increase predictability in delivery of cargo. Such solutions also avoid dwell time spent by truckers at ports and borders waiting for return cargo[13] and increase security and reliability in transporting goods, as they allow them to track and monitor the status of the shipment (which is notoriously difficult to control in Africa), all along the logistics chain.

2.4 Road corridor management

Except a few, the majority of the road corridors analysed by this Study does not have a management authority or a data observatory that could collect useful information on the **dynamic performance of the corridor** in terms of quantity of cargo transited, tariffs adopted for different typology, time for delivery, reliability of price and time for the ship-per and security for the driver, vehicle and cargo. The African Union, in order to modernise transport systems along the main corridors in the continent has launched the **SMART corridors** "Safety, Mobility, Automated, Real-time Traffic Management" initiative. The Smart Corridor concept was adopted in the context of the PIDA, and piloted in the North-South Corridor (NSC) and the Dar es Salaam Corridor (DC). In short, a Smart Corridor is a modal or multimodal surface transport corridor with quality infrastructure and logistic facilities, which connects two or more countries and where cargo and passenger movement is facilitated by the use of cutting-edge technologies[14].

Basically, SMART corridors leverage on innovative IT solutions such as electronic Single Windows, automated systems for information sharing of customs, trade and transport-related data and documents between the different categories of corridor stakeholders, electronic cargo tracking systems, intelligent equipment and infrastructure (e.g. interconnected x-ray cargo scanners, Weigh-in-Motion Weighbridges, and electronic systems of payment for toll collection), that increase the corridor efficiency by reducing transport costs and transit times for transporters.

Such technologies may also include systems allowing road authorities to monitor traffic movements along corridors and corridor users to obtain real-time information on traffic and on the status of roads, by virtue of traffic alerts sent on mobile devices[15]. The Northern and Central Corridors, in particular, made great efforts geared towards making them Smart Corridors, by promoting the implementation of a Cross-border Intelligent Transport System (ITS) to simplify the administrative procedures and logistics processes, monitor traffic movements along the corridor and provide

[13] Kuwonu, F., "Africa: How Uber-Style Trucking Business Is Changing Long-Haul Transport in Africa", AllAfrica, 8 July 2021.
[14] The European Union's European Development Fund (EDF) for ACP Group of States, "Implementation of the support to the transport sector development programme: Lot 1, Support to the AU DIE and PIDA PAP - Smart Corridor Definition and Characteristics", Contract Ref: EuropeAid/135595/IH/SER/Multi, Addis Ababa, September 2016, available at: https://au.int/sites/default/files/newsevents/workingdocuments/31372-wd-smart_corridor_definition_and_characteristics_5-7-16ff.pdf
[15] These systems, called "Road Management Information Systems "(RMISs), apart from providing real-time information on traffic and on the status of roads, can include further functionali-ties such as: CCTV with automated vehicle identification, incident detection and reporting, incident management, and dynamic message signs. Further improvements to a RMIS can be done by integrating it to in-country systems for motor vehicle registration and driver registration. Incident reports and traffic infraction reports can also be linked to motor vehicle and driv-er license renewal systems for enforcement purposes.

real-time information to stake-holders to enable them to manage the relevant processes. To this end, the Corridor Management Authorities of both corridors have developed Transport Observatory Portals and corridor performance monitoring tools aimed at reducing costs and delays of transportation and other related logistics challenges. Transport observatories process data collected from many stakeholders along the corridor Member States including Revenue, Roads, Ports and Railway Authorities, as well as private sector institutions like Transport Associations. The NCTTCA, along the Northern Corridor, also coordinates the implementation of Electronic Cargo Tracking System, Fleet Management System and Electronic Vehicle Overload System, with major achievements recorded in Uganda, Rwanda and Kenya[16]. In the Kenyan section of the corridor, computerised high-speed weighing motion devices have been adopted that automatically detect, through CCTV cameras and underground sensors imbedded in the road, trucks weighing more than the legal limit. This system reduces congestion because only those vehicles exceeding the limits are directed in other lanes parallel to the main road for static weighing, while the other that respect such limits can continue the trip without interruption or delays. Moreover, once weighted, the weighbridge test results are shared between all the other weighbridges stations along the corridor, so that multiple weight measurements in the Kenyan territory can be avoided.

Despite the considerable cost savings and reduction of delays of transportation that can be obtained by the implementation of the Smart corridor concept, not all African countries have embraced it and, above all, most of them do not dispose of the resources necessary for its implementation. Among States that have shown a commitment to develop and implement the SMART corridor approach, there are Togo, Burkina Faso and Niger. These three countries have shown a strong interest to harness the most recent and innovative IT solutions to make their transport systems more efficient, from geolocation to electronic toll collection, emergency management systems for monitoring traffic conditions and detecting incidents or traffic queues (Automatic Incident Detection, AID), traffic management systems to make roads more fluid, driving assistance through speed limiters, navigational assistance systems (GPS, GSM and on-board computer systems), IT systems controlling traffic on roads (Road Information Systems), fleet and freight management systems for the transport of goods and other technologies.

[16] Northern Corridor Strategic Plan 2017-2021

3 Status of liberalisation of road transport in Africa

3. Status of liberalisation of road transport in Africa

3.1 Role of regulation in creating competitive transport markets

Regulation plays a major role in enabling market access and controlling the conduct of road hauliers involved in cross-border operations and in creating competitive and affordable transport markets. For example, strict entry regulation can exclude or limit the possibility of providing innovative forms of low-cost transport which meets the transport demands of the poorer groups or higher quality alternatives meeting the needs of those willing to pay a higher price[17]. Conditions and restrictions to the provision of cross-border transport services also have a negative impact on the supply of transport services between countries as they raise both road freight transport costs and the performance of corridors and cross-border transport systems. A recent TRALAC (Trade Law Centre) study considers the diversity and lack of harmonisation of transport regulation frameworks in Africa as one of the biggest obstacles to the cross-border transport movements and trade between countries[18]. Moreover, by making complex the cross-border movement of goods, this situation also contributes to the low intra-regional trade in Africa, that UNCTAD (2017) estimates at around 15%[19].

Strict market entry regulations in the transport sector, combined with stringent administrative requirements for cross-border transport and complex, disjointed and overlapping regulatory frameworks (sometimes not fully implemented), cause disproportionate regulatory burdens to transporters in Africa and create barriers to the provision of their services out of the territory where they are established. All these factors make navigating through corridors and border posts in Africa a particularly challenging experience, a task that is sometimes facilitated through underhand payments and corruption.

There are various measures that may be applied to achieve the objective of reducing costs and improving transport and trade efficiency in Africa. Among the most important, the need to ensure transparency in the regulation of cross-border road transport is crucial. For transport operators, transparency is necessary in order to be aware of the requirements and procedures affecting cross-border operations so to ensure that vehicles and goods ar-rive at destination fully compliant and without delays. This requirement is also critical for making sound business decisions based on an accurate understanding of the regulatory en-vironment in each country they travel.

One of the main tools used by countries worldwide for improving transparency is the creation of web-based trade portals. These portals are nowadays used by many African countries to provide their traders with updated information on regulatory requirements needed to undertake international trade transactions, but they rarely include information on transport regulation. Zambia for instance, in its recently launched Trade Portal[20], has integrated instructions for obtaining permits to be used in cross border transportation and international driving permits (see next Figure).

[17] UNESCAP, The Economic Regulation of Transport Infrastructure Facilities and Services -- Principles and Issues, 2001.
[18] Chibira, E., "Addressing Road Transport Regulatory Issues: An Important Step Towards Realising the Objectives of the AfCFTA", TRALAC Working Paper S20WP14/2020, December 2020.
[19] UNCTAD, Report on economic development in Africa, 2019.
[20] https://www.zambiatradeportal.gov.zm/

Figure 4 Applications for road transport cross-border permit (left) and for international driving permit

FORM CBP1 (Application Form)

Road Transport and Safety Agency

APPLICATION FOR ROAD TRANSPORT CROSS-BORDER PERMIT(S)

Notes:
1. This application must be signed by the person requiring Cross-Border permit for the vehicle(s) existing on their current Road Service Licence(s), or if made by any Corporate Body or Partnership firm, by a person duly authorised on behalf of such body, or a partnership, as the case may be.
2. All information demanded below must be given in full; it is not sufficient to write "as before" ,etc, etc.
Information may be given on a separate sheet of paper if there is insufficient room on the form.
3. The Cross-Border permit is granted for not more than one year.
4. Applicant must attach copies of their valid Road Service License
5. *Delete as applicable

To. The Director
Road Transport and Safety Agency
Dedan Kimathi Road
P.O Box 32167
Lusaka, Zambia

Full name(s) of applicant .....
Identification No. ..... Nationality: .....
Physical Address.....
Postal Address.....
Telephone:.....Mobile Phone Number(s).....
I hereby apply for Cross – Border permit(s) for the vehicle(s) operating under our Road Service License
No..... Whose Expiry date is .....
The Cross Border Permit being applied for is valid for.....Months,
from.....to.....To permit operation of service(s) described below.
I hereby declare that to the best of my knowledge and belief, all the information give in this application and annexed statements is true.
Date: ..... Signature of Applicant.....
Name of Applicant.....
Service(s) and Route(s) Description
a. Type of service(s): .....

b. Route(s) to be used (described):
.....
.....
.....
.....
.....
6. The vehicle(s) will operate between Zambia and the following country.
.....

FORM IDP 1 (Application Form)

Road Transport and Safety Agency

APPLICATION FOR AN INTERNATIONAL DRIVING PERMIT

Note:

a. The applicant must be a holder of a Zambian Driving Licence and Passport Valid for more than one year.
b. The applicant must attach to this application form the following:

i. A copy of a valid Zambian Driving Licence
ii. A copy of the Zambian passport valid for more than one year
iii. Two passport size photos.

Name of Applicant: .....
Sex:.....
Date of Birth: .....
Nationality:.....
Passport No: .....
NRC No.: .....
Postal Address:.....
Residential Address: .....
Driving Licence No:.....Date of Issue .....
Date of Expiry:.....Driving Classes Endorsed.....

I wish to apply for the permit to the states that are adherent to the International Conversion of 1926/1949 relative to Motor Traffic. The Information I have submitted above is true and correct
Date: ..... Signature of Applicant: .....
For Official Use Only
The Above application is approved/not approved:-
Reason(s): .....
Name of Authorising Officer: .....Signature: .....
Date: .....
Amount Paid..... Receipt No: .....
Cashier's Name: .....Signature: .....
No. Of International Driving Permit Issued:
.....
Date of Expiry: .....Issued By: .....
Date: .....

The creation of transparent transport regulatory environments, where all transport-related information is available on easily accessible platforms, can ameliorate the time and costs of searching for information, increase awareness on cross-border road transport requirements, facilitate compliance with such requirements and reduce the possibility of liability for penalties. Currently, long distance transporters driving along through corridors connecting multiple countries have to navigate through many websites (were available) of Ministries of Transport and other road transport agencies in order to understand the regulatory burden applicable to their operations, which sometimes differs significantly from country to country. The fragmentation of information constitutes for them a problem that makes particularly complex the provision of cross-border services.

3.2 Overview of cross-border road transport regulation in Africa

The need of the African continent to have a more efficient transport infrastructure ena-bling a faster, effective and smooth movement of goods and people, is an objective that is hindered by the existence of highly fragmented and often overlapping road transport regulatory frameworks that over time, Regional Economic Communities (RECs) and their member countries have concluded with a view to regulate road transport industry and/or liberalise transport operations in their territories. This fragmentation, which is a major source of the current inefficiencies affecting the cross-border road transport system, in-cludes 3 basic types of regulatory frameworks that are complemented by national regula-tions in the countries where they are applicable. These are:

1) Regional Agreements, Conventions or Protocols on Road Transport;
2) Bilateral Road Transport Agreements or Memoranda of Understanding (MoUs);
3) Specific corridor-based arrangements concluded by countries sharing a particular corridor that vary considerably in their scope and depth.

This multiplicity of regulatory frameworks that in most cases lack of harmonization be-tween them, has a direct impact on road transport costs. For instance, unharmonized axle load limits and vehicle standards or configurations push transport companies to engage in frequent transhipment operations at borders which are time-consuming and further esca-late transport costs for importers, being in most cases manually conducted. Again, unharmonized insurance schemes between countries for transit goods and for third-party liabilities, make necessary for drivers to buy an insurance every time they cross a border. These and other regulatory factors that negatively affect cross-border transport are analysed in the next Paragraph.

Because of this complexity, transport companies in Africa operate in an opaque environment that causes unpredictable lead time to deliver goods. A solution that could contribute to reduce such complexity, improving transport and trade efficiency, is to try to harmonise them as much as possible.

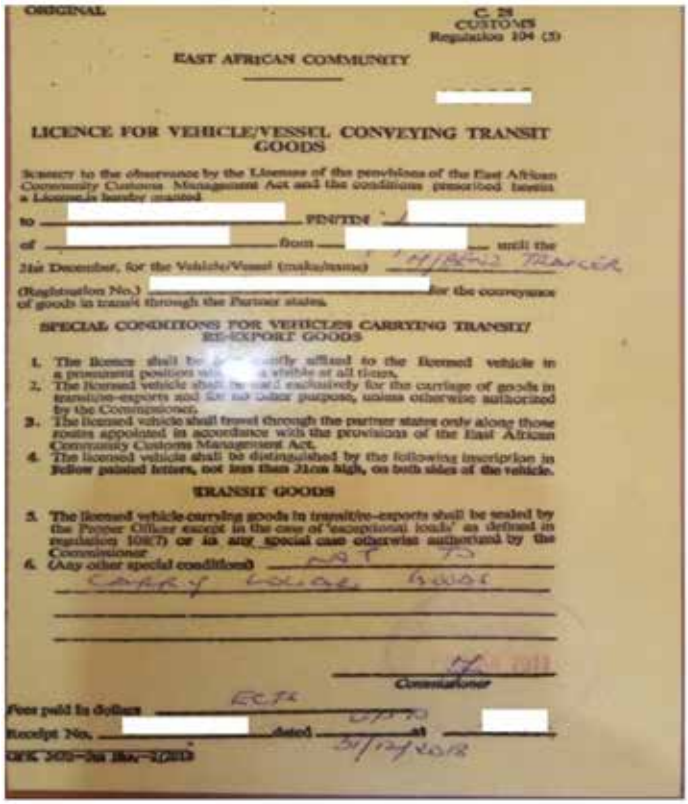
3.2.1 Regional Agreements, Conventions or Protocols on Road Transport

In the East African Community (EAC), a Regional Agreement governing trucking opera-tions in the Region is in force since 1998. Originally concluded by Kenya, Tanzania, and Uganda with the name of “Tripartite Agreement on Road Transport” (abbreviated with the acronym “TAORT”), the agreement has subsequently become applicable to Burundi, Rwanda and South Sudan too, as a consequence of their accession to the EAC.

Renamed “EAC Agreement on Road Transport”, this instrument facilitates traffic through transit routes connecting the EAC partner States’ territories, urging them to harmonize technical standards on safety, fitness and dimensions of vehicles and vehicle combinations; as well as of loads on vehicles. The Agreement also establishes the mutual recognition of roadworthiness certificates and engages the EAC partner States to implement a harmonized cross-border road charging system or road transit charges to be reviewed as the need arises in a framework acceptable to all partner states.

Currently, in the EAC, transporters can move freely from a country to another without any restriction. For cross-border transport of goods in transit, a transit license must be obtained by the Revenue Authorities of each EAC Partner State which is valid within the entire Region. To this end, revenue authorities issue different types of licenses: some of them allows trucks to transport exclusively transit goods (in this case, they include a prohibition to carry local goods, as shown in the next figure), while others allow the transport of both transit goods and local goods, on condition that these two categories of cargo are kept separated in the vehicle.

Figure 5 Licenses for the exclusive carriage of transit goods in Uganda (left) and Kenya (right)



ORIGINAL

C. 28
CUSTOMS
Regulation 104 (3)

EAST AFRICAN COMMUNITY

LICENCE FOR VEHICLE/VESSEL CONVEYING TRANSIT GOODS

Subject to the observance by the Licensee of the provisions of the East African Community Customs Management Act and the conditions prescribed herein a License is hereby granted

to _____ PIN/TIN _____

of _____ from _____ until the 31st December, for the Vehicle/Vessel (make/name) _____

(Registration No.) _____ for the conveyance of goods in transit through the Partner states.

SPECIAL CONDITIONS FOR VEHICLES CARRYING TRANSIT/ RE-EXPORT GOODS

1. The licence shall be permanently affixed to the licensed vehicle in a prominent position where it is visible at all times.
2. The licensed vehicle shall be used exclusively for the carriage of goods in transit/re-exports and for no other purpose, unless otherwise authorized by the Commissioner.
3. The licensed vehicle shall travel through the partner states only along those routes appointed in accordance with the provisions of the East African Community Customs Management Act.
4. The licensed vehicle shall be distinguished by the following inscription in yellow painted letters, not less than 31cm high, on both sides of the vehicle.

TRANSIT GOODS

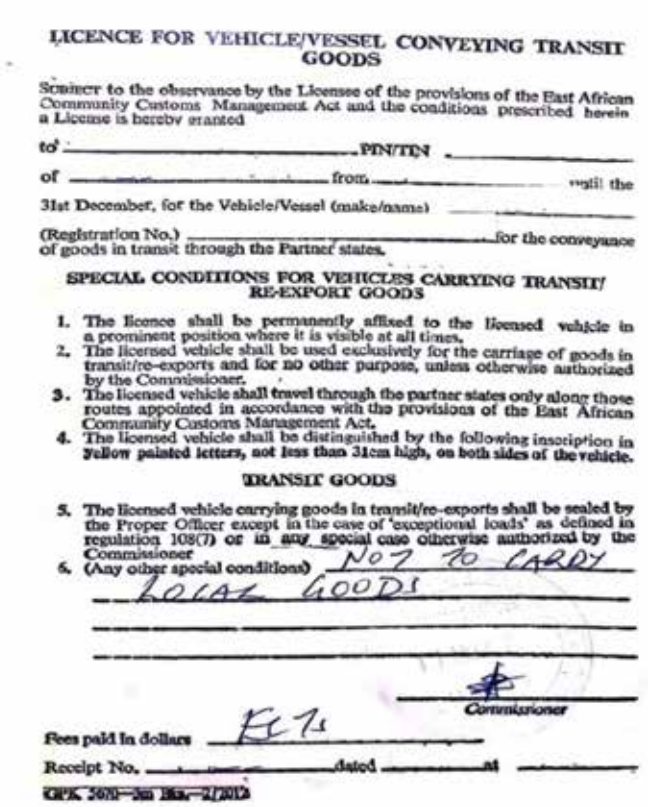
5. The licensed vehicle carrying goods in transit/re-exports shall be sealed by the Proper Officer except in the case of 'exceptional loads' as defined in regulation 108(7) or in any special case otherwise authorized by the Commissioner
6. (Any other special conditions) _____

Commissioner

Fees paid in dollars _____

Receipt No. _____ dated _____ at _____

GPK 3070—3m 18a.—2/2012



LICENCE FOR VEHICLE/VESSEL CONVEYING TRANSIT GOODS

Subject to the observance by the Licensee of the provisions of the East African Community Customs Management Act and the conditions prescribed herein a License is hereby granted

to _____ PIN/TIN _____

of _____ from _____ until the 31st December, for the Vehicle/Vessel (make/name) _____

(Registration No.) _____ for the conveyance of goods in transit through the Partner states.

SPECIAL CONDITIONS FOR VEHICLES CARRYING TRANSIT/ RE-EXPORT GOODS

1. The licence shall be permanently affixed to the licensed vehicle in a prominent position where it is visible at all times.
2. The licensed vehicle shall be used exclusively for the carriage of goods in transit/re-exports and for no other purpose, unless otherwise authorized by the Commissioner.
3. The licensed vehicle shall travel through the partner states only along those routes appointed in accordance with the provisions of the East African Community Customs Management Act.
4. The licensed vehicle shall be distinguished by the following inscription in yellow painted letters, not less than 31cm high, on both sides of the vehicle.

TRANSIT GOODS

5. The licensed vehicle carrying goods in transit/re-exports shall be sealed by the Proper Officer except in the case of 'exceptional loads' as defined in regulation 108(7) or in any special case otherwise authorized by the Commissioner
6. (Any other special conditions) NOT TO CARRY LOCAL GOODS

Commissioner

Fees paid in dollars ECTS

Receipt No. _____ dated _____ at _____

GPK 3070—3m 18a.—2/2012

Drivers of vehicles transporting transit cargo are also required to have a transit document (T1), a COMESA yellow card [21], and to use a GPS device that allows Customs administra-tions in the Region to track the movement of the vehicle along corridors, to be provided by one of the companies licensed by one the Revenue Authorities of the EAC partner States (see next figure).

[21] Besides offering third party liability protection to the insured or the driver whilst in a foreign country, this scheme also offers emergency medical cover to the driver and passengers of the foreign motor vehicle involved in the traffic accident

The **COMESA Carrier's Licens**e is another example of regional framework for road transportation. This system allows transport companies with commercial vehicles registered in a COMESA country to operate in other COMESA member States on the basis of a regionally-recognised license, without the need to obtain a cross-border road permit for each country where they enter. COMESA introduced such a scheme in 1991 together with a **harmonised road transit charges** scheme which is currently being imple-mented in 9 countries: Burundi, Ethiopia, Kenya, Malawi, Rwanda, Sudan, Uganda, Zambia and Zimbabwe, where heavy goods trucks with more than 3 axles pay a road charge of US $10 per each 100 km., while trucks with up to 3 axles should pay a charge of US $6 per each 100 km.

The COMESA Carrier's license, according to COMESA, is currently accepted in 11 coun-tries (Burundi, Ethiopia, Eritrea, Kenya, Malawi, Rwanda, Eswatini, Tanzania, Uganda, Zambia and Zimbabwe). However, some exceptions can be observed.

This is the case of Ethiopia for instance. Although both Ethiopia and Kenya have implemented this scheme, Ethiopian authorities do not allow Kenyan commercial vehicles to enter their territory for picking up or delivering cargo without a temporary cross-border road permit, whose validity is usually 15 days[22], that must be shown to Customs at both arrival and exit from the Ethiopian border. The permit can be requested only in Addis Ababa, at the central headquarters of the Ministry of Transport of Ethiopia that in October 2021 has absorbed the duties of the Federal Transport Authority (FTA), now suppressed, previously responsible for issuing such permits. The Ministry of Transport, on the other hand, accepts the relevant applications only from Ethiopian licensed importers, who therefore act as intermediaries of Kenyan transport companies in the request of the permit. Once issued, the Ethiopian importer has to deliver the original copy of the permit to the Kenyan driver, which is usually done by engaging other transporters that travel from the Ethiopian capital to the border. According to Ethiopian authorities, this permit is asked to Kenyan drivers in order to avoid that the vehicles introduced in Ethiopia are sold after their entry in their territory, so evading customs duties, and also because import of right-handed vehicles is prohibited. The permit, which is issued manually and in Amharic, is shown in the next Figure.

Figure 6 Temporary cross-border road permit required to Kenyan trucks for entering Ethiopia

**Note: the date in the permit is indicated according to the Ethiopian calendar, corresponding in the Gregorian calendar to January 26, 2016.*

In the countries that have operationalised the COMESA Carrier's License, this scheme coexists with a system of bilateral permits for freight. This is the case of Zimbabwe, for in-stance, where the Ministry of Transport and Infrastructure Development (Road Motor Transport Department) also issues bilateral permits for conveyance of passengers and car-riage of goods for authorising transport operations in countries with which Zimbabwe has specific Bilateral Road Transport Agreements in place[23]. This kind of permits have extra territorial nature, as once issued, they can be used for carrying out transport operations into the territory of the

[22] A different duration of the permit can be established, depending on the estimated time of arrival of the truck at the destination point, and on the request of the importer in the application.

[23] Source: Ministry of Transport and Infrastructure Development of Zimbabwe: http://www.transcom.gov.zw/?page_id=375.

country indicated in the permit without any need to obtain another permit.

The Zimbabwe transport regulation also allows those transport operators registered in countries with which Zimbabwe has not signed any bilateral cross-border road agreement and that are not member states of COMESA, to obtain a **foreign operator licence** that allows them to carry out transport operations into Zimbabwe or to transit through Zimbabwe for conveyance of both goods or passengers. This licence is valid for a maximum peri-od of fourteen days. A similar permit, whose validity is annual, is issued by the Botswana Ministry of Transport (Department of Road Transport & Safety) to allow foreign regis-tered vehicles to convey goods and passengers in the country or for authorizing the transit of vehicles through Botswana for a period exceeding 90 days[24].

Within the CEMAC region, a set of regional conventions and agreements on carriage of goods by road were adopted in the second half of the 1990s with the purpose of harmoniz-ing cross-border road transport operations in the Region. These Conventions include the Inter-State Convention on Carriage of Diverse Goods by Road (1996)[25], the Inter-State Multimodal Transport Convention[26] and a regional insurance scheme called "*Carte Internationale d'Ássurance de Responsabilité Civile*" (CIARCA), better known as CEMAC Pink Card, whose purpose is to facilitate the payment of damages by insurance companies in case of accidents, like in the case of the COMESA yellow card. However, despite these re-gional conventions, bilateral agreements and national regulations continue to dominate legal arrangements for transit transport activities in the subregion.

Despite having their legal basis in a Regional Agreement, the SACU **cross-border permits**, also known as "Customs Union permits" have essentially a bilateral nature, because they only allow truckers to pick up or deliver cargo in the country within the SACU area which is indicated in the permit. Consequently, they cannot be used for conducting cross-border transport operations in all the Region.

SACU permits are regulated by the Memorandum of Understanding (MoU) on Road Transportation in the Common Customs Area pursuant to the Customs Union Agreement, an agreement concluded between the governments of Botswana, Lesotho, South Africa and Eswatini which has subsequently been acceded by Namibia in 1998[27]. The SACU MoU on Road Transportation foresees (art. III.4) two types of permits:1) single journey, and 2) multiple, entrusting the procedures regulating their issuance to member States by virtue of specific bilateral agreements.

Single journey permits are valid within a period of six months, while multiple permits are valid for an unlimited number of journeys within a period of twelve months, but always from a pre-determined country of departure to a country of destination to be both indi-cated in the permit, if necessary, by transiting through one or more third countries. Both types of permits are issued upon operators' request by the competent authorities in the country where the operator willing to conduct a cross-border transport is established (see next Figure).

[24] https://www.gov.bw/transport-permits/southern-african-customs-union-sacu-permit-application
[25] http://www.logistiqueconseil.org/Articles/Transport-routier/Convention-TR-marchandises-diverses.htm
[26] http://www.droit-afrique.com/upload/doc/cemac/CEMAC-Acte-1996-04-convention-transport-multimodal.pdf
[27] Proclamation N° 6/1998, published in the Government Gazette of the Republic of Namibia No. 1803 of 2 March 1998.

Figure 7 Application for a SACU permit (left) and template of a SACU goods permit (right) in Eswatini

APPLICATION FOR SACU PERMIT

PART A: APPLICANT DETAILS

PART B: PERMIT PARTICULARS

SWAZILAND GOVERNMENT

SAMPLE

Figure 8 Application for a SACU permit in Botswana

Form RTS 1

Department of Road Transport and Safety

REPUBLIC OF BOTSWANA

APPLICATION FOR INITIAL GRAND/AMENDMENT/RENEWAL OF ROAD TRANSPORT PERMIT

(Please tick (✓) the applicable box❑)

NOTES:

TO: The Transport Controller
Department of Road Transport & Safety
Private Bag 0054
Gaborone, BOTSWANA.

FOR OFFICIAL USE ONLY

Department of Road Transport and Safety

Form RTS 1

1) I hereby apply for:

New Application	Application Renewal	Standby Vehicle	Permit Transfer	Substitution
❑	❑	❑	❑	❑

Type of Permit	Code	Permanent / Annual	Single/ Short Term	Own Account
(a) Botswana Operations Annual Permit	BA	❑	❑	❑
(b) Botswana Operations Single Trip Permit	BS		❑	❑
(c) Transit Operations Annual Permit	TA	❑	❑	❑
(d) Transit Operations Single Permit	TS		❑	❑
(e) Passenger Transport Permit	P	❑	❑	
(i) Local Route	P	❑	❑	
(ii) Scheduled Route	P	❑	❑	
(iii) Taxi	P	❑	❑	
(iv) Call Cab	P	❑	❑	
(v) Cross Boarder	P	❑	❑	
(vi) Tour Operations	P	❑	❑	
(vii) School Bus	P	❑	❑	❑
(viii) Staff Transport	P	❑	❑	❑
(ix) Shuttle Services	P	❑	❑	
(x) Motor Vehicle Rental Service Permit	P	❑	❑	
(xi) Exclusive Permit	P	❑	❑	❑

(b) Standby Vehicles, Permit Transfer, Substitution-please state Permit Number of the Main Permit: _____

2) Details of the Applicant

(a) Full name of Applicant: _____

(b) Identity of the owner: _____
(Omang for citizens, Residence permit / exemption certificate and passport for non-citizens, Certificate of incorporation for companies, Certificate of registration for societies, Parastatal number for Parastatals, Guardians' ID for a minor (under 18))

(c) Postal Address: _____

(d) Physical Address: _____

(e) Email: _____

(f) Phone: _____ Fax: _____ Cell: _____

(g) The applicant is:

i) A company registered in Botswana? ❑ Yes ❑ No

(a) ❑ 100% Foreign owned	(b) ❑ More than 50% Foreign owned	(c) ❑ 50% Citizen/Foreign own
(d) ❑ Less than 50% Foreign owned	(e) ❑ 100% Citizen owned	

ii) A Citizen of Botswana? ❑ Yes ❑ No _____
(If by registration or naturalization, state certificate number)

iii) A resident in Botswana? ❑ Yes ❑ No _____
(State residence permit number and expiry date)

Page 2 of 4

3.2.2 Bilateral Road Transport Agreements or Memoranda of Understanding

Bilateral Agreements are the prevailing regulatory tools adopted by African countries to govern their cross-border transport operations. These instruments introduce regulatory regimes that are more or less similar within the same REC, while they can differ signifi-cantly between one regional organisation and another.

For instance, within the ECOWAS and ECCAS Regions, all bilateral agreements have similar provisions, as described further on in the same report. Within the SADC Region, bilateral agreements have also a similar structure and content. Because of this, if carrying out a transport operation between countries belonging to the same REC does not generally pose a problem due to the higher degree of standardisation and approximation of transport regulation, a cross-border transport operation between countries that are mem-bers of different RECs can be very challenging, as transport operators are obliged to fulfil multiple, and some time very diverse and hard to ascertain requirements for any trip they undertake and any country they cross.

While Regional Agreements, Conventions and Protocols, and Corridor-based arrangements are specifically aimed at facilitating cross-border road transport or transit at regional level or along particular road corridors, bilateral agreements are more protectionist and defensive in nature, being their main purpose to regulate movement of cross-border road transport in each country by defining criteria and conditions for the access and provision of passenger and commercial transport services in their territories, in the attempt to avoid disruptions of their national transport industries, by protecting them against unfair prac-tices that transporters of the other country can engage in their territory.

As indicated above, in West and Central Africa, bilateral agreements have a particularly distortionary nature. In the attempt of rebalancing a situation where transporters from landlocked countries have less possibilities to access to cargo arriving to the seaports of their coastal neighbours which is destined to their territories, these agreements introduce a system of quotas where the first ones have the right to be assigned a higher share (usu-ally 2/3) of the total volumes of cargo destined to their territories than their coastal com-petitors. The main problem of this system is that the allocation of cargo according to the quota system is not transparent and leaves space to corruption.

3.2.3 Corridor based arrangements

As indicated in the previous paragraph, bilateral agreements/ MoUs are the main cause of the fragmentation of transport regulation in Africa, as they give rise to multiple regulatory burdens for transporters that instead of facilitating cross-border operations, dissuade them in carrying out them. This is why many African States sharing common inter-state roads have opted for the conclusion of agreements or treaties signed by all participating countries which serves as a framework for governing transport operations along these corridors. More rarely, public-private partnership (PPP) arrangements involving private sector stakeholders have been created for the same purpose, such as in the case of the Walvis Bay Corridor Group.

Cases of multilateral Treaties and Agreements include the Northern Corridor, the Central Corridor, the Dar-es-Salam and the Lagos-Abidjan Corridors, where a common and harmonized set of rules is applicable to corridor users, even though their practical implemen-tation relies always on the individual countries that share the corridor. The Trans-Kalahari corridor is another example of corridor regulated by a multilateral agreement adopted in the form of a MoU concluded between Namibia, Botswana and South Africa, followed by a formal trilateral agreement signed in 2003 which, however, has never been ratified by its members, while Zambia, Namibia and D.R. of Congo on 1th September 2016 signed a Tri-lateral Road Transport Agreement to facilitate transit through the corridors connecting their respective territories.

Corridor arrangements deal with a wide range of issues such as infrastructure, Customs, bottle- necks and user charges, but their main characteristic is that they establish a corri-dor management institution that is entrusted to overview all the aspects of transport and transit of goods throughout the corridor, with a series of corridor management groups playing advisory or executive roles, supported at national level by national committees[28].

[28] Adzibgey, Y., Kunaka, C., Mitiku T. N., Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa, SSATP Working Paper No. 86, October 2007.

4 Main factors & practices affecting transport costs

4. Main factors & practices affecting transport costs

In order to understand the main problems of cross-border road transport in Africa, a short overview of the main logistics practices adopted by African companies is necessary. Among these practices there is the outsourcing of logistics services.

According to a report published by the International Trade Centre (ITC) in 2017, almost 2 thirds of Small Medium Enterprises (SMEs) at global level use to entrust the management of logistics activities - including transport and customs formalities - to external service pro-viders, mainly represented by: a) logistics and delivery service providers (25%); b) customs brokers (16%); c) e-commerce platforms (9%)[29]. In Africa, the trend to outsource transport operations to specialised logistics firms is even more pronounced and constantly growing, as it is seen by African traders as a solution to reduce cost and improve operational efficiency[30]. For instance, according to a survey conducted in 2017 on 103 companies in South Africa[31], transportation is the main logistics service that companies tend to out-source, for 99%, followed by customs clearance (83.5%), freight forwarding (83.5%), freight billing (70.9%) and warehousing (37.9%).

The use of logistics providers also allows companies to rely on specialists that are familiar with the cultural and economic dynamics of operating in Africa. Engaging agents allow firms to avoid direct interaction with bureaucratic and, in some cases, to facilitate move-ment of goods through corrupted officials of Customs and other border agencies. As the World Bank (2020)[32] points out, in Africa and in developing countries in general, the relationship between Customs and traders is normally intermediated by customs brokers and logistics operators that develop, over time, close relations with officials, becoming experts in facilitating the border passage of cargo through the payment of bribes.

Especially during the last two decades, many global logistics firms have entered into Africa, competing with local logistics firms in the rush for capturing the growing logistics demand of African manufacturers, importers and traders. Examples of international logistics com-panies that have established branches and now offer a broad range of logistics services in Africa include DHL, UPS, Kuehne + Nagel, DB Schenker, Bollorè, and more recently, Nippon Express, that opened 2 branches in Kenya and Morocco.

In order to compete with these global players, local freight transport and logistics compa-nies need to improve their efficiency by leveraging new technologies such as Fleet Man-agement Systems and container & cargo tracking systems (see next Chapter), as well as by expanding and strengthening marketing strategies, in particular by developing alliances, networks and partnerships with other transport companies to access different markets in Africa and by introducing in their organizations quality criteria such as customer-centred value chain management processes, as well as market analysis, positioning and segmenta-tion strategies[33].

[29] International Trade Centre (2017). New Pathways to E-commerce: A Global MSME Competitiveness Survey. ITC. Geneva

[30] Muogboh, O., S., Ojadi, F., "Indigenous Logistics and Supply Chain Management Practice in Africa", Emerald Publishing Limited, 2018

[31] Karrapan, C., Sishange, M., Swanepoel, E. & Kilbourn, P.J., 2017, 'Benchmarking criteria for evaluating third-party logistics providers in South Africa', Journal of Transport and Supply Chain Management 11(0), a305.

[32] World Bank (2020) "Enhancing Government Effectiveness and Transparency: The Fight Against Corruption", World Bank, Washington, DC.

[33] In recent years, a number of researches in this field are growing rapidly. Logistics Service Quality (LSQ), in particular, is gaining importance. High level of LSQ provides the customer satis-faction, which guarantees a safe position in the market, as well as revenue for logistics companies that implement the relevant criteria (Franceschini, F.; Rafele, C., "Quality evaluation in logistic services", International Journal of Agile Management Systems 2(1): 49–54, 2000. Novack et al. identified a set of dimensions for measuring LSQ including timeliness, condition and accuracy of the order, quality of information, availability and quality of contact personnel (Novack, R. A., Rinehart, L. M. and Langley, C. J.. An Internal Assessment of Logistics Value. Journal of Business Logistics, Vol. 15(1), 1994). Among these dimensions, timeliness (i.e. on time delivery). is unanimously considered the most critical factor (see LaLonde, B. J. and Zinszer, P. H., "Customer service: Meaning and Measurement", Ballou, R. Ed. Logística empresarial, control y planificación. Madrid, 1991, and Mentzer, J. T., Flint, D. J. and Hult, T. M, " Logisics Service Quality as a Segment-Customized Process". Journal of Marketing, Vol. 65(4), 2001).

4.1 Limited diversification of logistics services

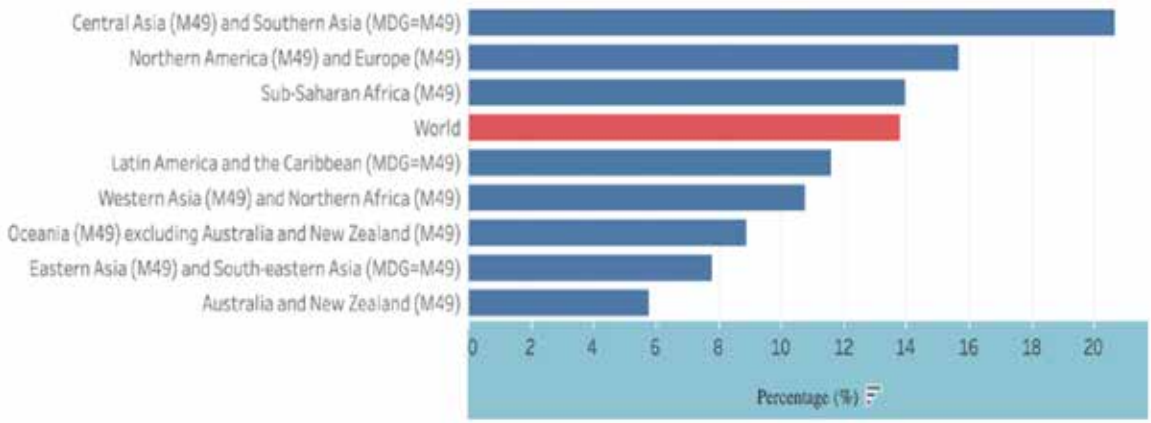
Additional challenges that logistics providers face in Africa are the need to improve their capacity in handling the growing trade flows that are a consequence of the expansion of the African economies, and the need to evolve their service offerings to provide, in addition to basic transport and accessory services (such as customs clearing and forwarding), value-adding logistics services that are highly demanded by the international trade community like warehousing, consolidation, temperature controlled cold storage warehouses and transportation services or even distribution, packaging, and labelling. However, a condition for transport and logistics companies to provide some of these additional services, is that freight stations, dry ports and other strategic logistics stations with modern cargo handling equipment, such as forklifts and cranes are developed, along with intermodal solutions, as these solutions usually provide the most cost-efficient option to transport of cargo [34]. Combining and linking the development of these logistics facilities, especially in border areas, to the upgrading of transport corridors, can greatly contribute to facilitate the mobility of goods and lower the costs of transport and trade for economic operators and should therefore be strongly encouraged.

In this context, dry ports are particularly important. These facilities are inland intermodal terminals directly connected by road and/or rail to a seaport that operate as centres for transhipment of sea cargo to inland destinations. In addition to their role in cargo transhipment, dry ports may also include facilities for storage and consolidation of goods, maintenance for road or rail cargo carriers, and customs clearance services. Dry ports are crucial, especially for landlocked countries, as they can significantly speed up the flow of cargo between ports and major land transportation networks, creating a more central distribution point, by shifting time-consuming sorting and processing operations of containers inland, away from congested seaports.

With particular regard to the cold chain system, this sector is still weak or non-existent in some African countries, mainly concentrated in the urban centres and near transport terminals, such as airports, where exporters are usually based. Due to a lack of cold chain solutions, most crops are only seasonally available with price variations between peak har-vest and low season reaching up to 500% [35].

There are various reasons why cold-storage is underdeveloped in sub-Saharan Africa. First, the lack of local manufacturers of cooling technology, secondly inadequate financing options, and thirdly poor electricity. The United Nations Food and Agriculture Organisation (FAO) estimates that food losses in sub-Saharan Africa add up to $4 billion annually, equal to 14% of the total food production in the Continent [36].

Figure 9 Comparison between food losses in sub-Saharan Africa and other regional areas in the world



[34] Chibira, E., ult. cit. notice as the lack of intermodal solutions in most of African countries has led to a significant increase in truck fleets in an attempt to address freight owners' door-to-door needs for reliability and performance
[35] MARITZ, J., Profit-making idea: Cold chain solutions in East Africa, 16 JULY 2020, on www.howwemadeitinafrica.com
[36] FAO. 2011. Global food losses and food waste – Extent, causes and prevention. Rome
[37] International Food Policy Research Institute (IFPRI), "COVID-19 border policies create problems for African trade andeconomic pain for communities", 12 May 2020.

4.2 Trade imbalance

As African countries import much more than they export, volumes of goods moving from seaports to inland destinations are higher than those of goods moving in the opposite direction. This situation is one of the main causes of the difficulty, for transporters to find return cargo.

Usually, cargo arriving at a seaport and destined to another neighbouring countries is pre-dominantly transported by transport operators registered in the coastal countries where the seaport is located. This rule finds an exception only in those cases where the transport companies in the country of destination of cargo have lower operating costs of those locat-ed in coastal countries, like in the case of Ethiopia, whose transport companies dominate the transport from the port of Djibouti to Addis Ababa through the road connecting Djibouti to Addis Ababa via the Galafi border post. This happens because Ethiopian logistics companies, compared to the Djiboutian ones, pay lower salaries to truck drivers and have reduced variable transport costs because of the lower price of fuel, insurance and vehicle licensing, that makes their services more competitive on the Djiboutian market. The consequence is that many Ethiopian truckers use to move to the Djibouti port for picking up cargo that is delivered to Ethiopia also if do not have any goods to transport to the Djibouti port, as they remain more cost-competitive than their Djiboutian counterparts despite they carry out an empty trip on one leg of the corridor. Ethiopian companies, however, often engage in cabotage operations in Djibouti, although not allowed, by profiting from the fact that the high number of Ethiopian trucks circulating in the Djibouti territory does not allow Djiboutian enforcement agencies to control their movements. This practice, apart from representing an unfair competition in the transport market, causes a loss of working opportunities for the Djiboutian transport companies. For this reason, the gov-ernment of Djibouti a few years ago proposed the introduction of a quota system for cross-border trips aimed to limit the number of Ethiopian trucks allowed to enter the country to a number to be periodically negotiated during bilateral consultations between the two countries that has been subsequently abandoned [38]. This solution clearly explains how Bi-lateral Road Transport Agreement are used in Africa, being their main aim to protect na-tional transport industries rather than facilitate cross-border transport.

4.3 Segmentation of the trucking industry

Another problem that negatively impacts on the high cost of road transport is the segmentation of the trucking industry between a large number of small informal operators with a few generally old trucks, and a small number of formal higher quality operators. The presence of a high number of informal truckers[39] is particularly serious in West [40] and Central Africa, where the transport market is highly regulated.

Here, the reason why most of truckers go informal, is that they face greater formalities and higher costs for regularly conducting transport operations than in other more liberalised countries. Such truckers usually operate a single or few trucks with medium- or low-capacity that are relatively cheap to invest in, which means that they can offer transport services in greater quantity and at lower fares. Cost-benefit quantification, especially for what concerns informal transport, remains however a complex and poorly understood issue by national governments, as in most cases they intervene as little as possible in this sec-tor, content to let it exist on the margins of society [41]. One of the challenges facing African policymakers is that of getting hauliers to switch from the informal to the formal sector for fiscal and road safety reasons and to ensure fair competition. Policies of this type have reportedly been successfully implemented in Morocco. Access to bank credit for vehicle financing and compulsory insurance are among the policy tools available for this transition to the formal sector [42].

[38] World Bank, "Transport and logistics in Djibouti: contribution to job creation and economic diversification", Policy note, Final report February 2013.

[39] I.e., of drivers who lack the necessary permits or registrations for conducting commercial transport operations, or who fail to meet standards and certification requirements for their vehi-cles, that are therefore substandard.

[40] In West Africa for instance, it is calculated that informal truckers reach about 90 percent of the trucking industry (Zerelli, S., Cook A., "Trucking to West Africa's Landlocked Countries: Market Structure and Conduct", West Africa Trade Hub Report #32, 2010).

[41] Cerveroa, R., Golubb, A., "Informal transport: A global perspective", Journal of the World Conference on Transport Research Society, Elsevier, Transport Policy 14 (2007).

[42] WTO, Council for Trade in Services, ROAD FREIGHT TRANSPORT SERVICES

On the other hand, in most African States the transport sector is largely dominated by small owner-operators owning a limited number of (old) vehicles, with the presence of a few big operators that are often daughter companies of multinational logistics conglomerates that use newer trucks with higher capacity. A typical case is offered by Nigeria, where operators with 1 to 2 trucks represent 50% of the market, small (less than 100 trucks) and medium operators (100 to 200 trucks) represent 15% of the market each, while the largest operators (+200 trucks) only 20%. The larger operators generally maintain better quality, more reliable fleets. Around 5% of the national fleet have GPS positioning systems. Gen-erally, the service of transport operators is honest and reliable, and security risk is due to factors outside their control, such as accidents and highway thieves. Current capacity is able to meet current demand and would accommodate surge capacity. In rainy season however shortages of covered trucks occur.

This fragmentation of the transport services market into a large number of small owner-operators makes road transport particularly inefficient. First, because truckers operating smaller and older trucking fleets have usually a low level of professionalism. Secondly, be-cause smaller operators with small and ageing truck fleets tend to increase their competi-tiveness and to compensate the lower levels of utilization of their trucks by overloading. Indeed, overloading is a necessity they have to compete with large operators that allows them to maximize revenue per trip. This practice however, although affects the quality of the road infrastructure, is generally tolerated by road authorities, that allow trucks to pro-ceed to destination upon payment of specific overloading fees. For instance, in the EAC, where axle load regulations have been harmonised, the EAC Vehicle Load Control Bill, 2012 compels truck drivers to observe an axle load limit of 56 tonnes for a maximum of seven axles for commercial trucks using the regional road network, with penalties for overloading that increase proportionally according to the entity of the excess weight (see next Table).

Table 1 Overloading fee rates applicable in EAC Region (effective 1st January 2021 - December 2030)

EAC OVERLOADING FEES SCHEDULE FOR MAXIMUM GVW			
Overload up to (Kilograms)	**Fees (USD)**	**Overload up to (Kilograms)**	**Fees (USD)**
500	235.90	16,500	24,992.75
1,000	482.50	17,000	27,190.75
1,500	750.55	17,500	29,592.45
2,000	1,018.60	18,000	32,230.05
2,500	1,308.05	18,500	35,114.25
3,000	1,608.30	19,000	38,266.45
3,500	1,929.95	19,500	41,740.35
4,000	2,262.30	20,000	45,546.65
4,500	2,616.15	20,500	49,728.20
5,000	2,991.40	21,000	54,327.90
5,500	3,388.10	21,500	59,377.90
6,000	3,806.30	22,000	64,942.55
6,500	4,256.60	22,500	71,064.75
7,000	4,728.35	23,000	77,819.55
7,500	5,243.00	23,500	85,260.55
8,000	5,779.10	24,000	93,452.10
8,500	6,355.10	24,500	102,501.40

EAC OVERLOADING FEES SCHEDULE FOR MAXIMUM GVW			
Overload up to (Kilograms)	**Fees (USD)**	**Overload up to (Kilograms)**	**Fees (USD)**
9,000	6,979.95	25,000	112,483.50
9,500	7,634.00	25,500	123,505.60
10,000	8,352.35	26,000	135,664.25
10,500	9,113.60	26,500	149,098.75
11,000	9,928.50	27,000	163,948.60
11,500	10,818.40	27,500	180,353.10
12,000	11,772.65	28,000	198,483.85
12,500	12,812.65	28,500	218,523.10
13,000	13,927.75	29,000	240,685.25
13,500	15,139.35	29,500	265,206.25
14,000	16,458.10	30,000	292,321.95
14,500	17,884.15	30,500	322,321.85
15,000	19,438.80	31,000	355,516.85
15,500	21,132.85	31,500 and above	375,266.60

Another problem that small-scale transporters have that also impacts on transport costs, is that they usually have in place lesser effective coordination mechanisms with other agents in the transport chain (shipping agents, freight forwarders and customs clearing agents). This lack or insufficient coordination of the operations along the logistic chain does not allow them to arrange the timely pick up or delivery of cargo or to rapidly submit the required documentation to the port and customs authorities, with the consequence that in many cases they incur in additional delays and costs for storing cargo that further inflate transport costs.

5 Regulatory issues

5. Regulatory issues

Conventional literature on trade and cross-border transport tends to emphasize the role of infrastructure, tariffs and Non-Tariff Barriers (NTBs) as the main factors contributing to such high costs, while less attention has been paid to regulatory restrictions, that also have an important impact on logistics cost in Africa.

5.1 Unharmonized axle load limits

Unharmonized axle load limits, gross vehicle weights and/or maximum vehicle dimensions represent a significant regulatory burden for transport operators, as they encourage tran-shipment at borders. When these limits in the territory of a neighbouring country are lower, trucks cannot continue their trip and have to offload cargo at the border or in its proximity, so that it can be transferred on other vehicles of the destination country for delivery at destination. In some cases, it may be necessary to split cargo in two or more consignments that are thereafter picked up by two or more trucks. As transhipment oper-ations at border posts are in most cases manually conducted, transhipment cost further escalates transport costs, acting as a deterrent to trade. At regional level, many RECs in Africa have harmonised such limits, but they still significantly differ among different RECs. An example is the Tripartite, that has developed a common Trade and Transit Facilitation programme to be implemented across the three RECs and along corridors that includes the harmonisation and enforcement of Axle Load and Vehicle Dimension Limits, which are still unharmonized between the 3 regions.

5.2 Non-market cargo allocation systems

To facilitate transport operators of landlocked countries in acceding to transit cargo arriv-ing at seaports in neighbouring coastal countries that is destined to their territories, some West and Central African countries have opted for an **uneven system of allocation of cargo** based on the distribution of freight according to national quotas set in bilateral agreements on road transport. In such a system, truckers registered in landlocked countries benefit from a higher freight quota than transporters registered in the coastal country. Quotas are administered by Transport Unions or Associations of the States that have signed the bilateral agreements, having branches at the seaports that act as intermediaries between the demand and offer of transport services, distributing every incoming cargo between their respective members on their demand [43]. Such distribution, in Central Africa, is carried in cooperation with government agencies called "National Freight Management Offices" (*Bureaux Nationaux de Fret or Bureaux d'Affrètement Routier*) placed under the authority of Ministries of Transports, that also define the criteria for the issuance of travel documents or laissez-passer that must be held by truckers transporting transit goods. In Cameroon for instance, the allocation of cargo is under the competence Bureau de Gestion du Fret Terrestre Camerounais (BGFT), whose responsibilities are defined by the Décision n°001107/MINT/DT of 26 August 1993 [44]. The BGFT is also responsible for monitoring the allocation of the transport quotas with transporters of neighbouring countries in coordination with similar bodies established in these ones. For instance, the monitoring of quota for transportation in the C.A.R., is carried out at the port of Douala by the BGFT in coordination with the *Bureau d'Affrètement Routier Centrafricain* (BARC). However, the application of this rule is not strict. For instance, in circumstances where one of the two countries (coastal or landlocked) has no trucks available for picking cargo at the port, compared to its quota, a gentleman's agreement allows the other country to complete the transport of the concerned cargo.

In these countries, the allocation of freight is usually carried out on a first-come, first served basis, where truckers arriving at the seaport submit a request to the Association or the Union to which they are members where they ask to be allocated part of such cargo. Once the waiting list is closed, the transport associations or unions of both the landlocked and the coastal state jointly verify that cargo is distributed to their respective members according to the requests received and to the national quotas set in the bilateral agreement. If the requests submitted by

[43] A documentary dated 21 April 2020 describes such a practice at the Tema port in Ghana, where long lines of Ghanaian and Burkinabè truckers' queue at the port for getting cargo to transport to Ouagadougou. The documentary also describes the repeated harassment that truckers suffer at checkpoints, where a total of 112 checkpoints was counted, of which 100 in Ghana and 12 in Burkina Faso. The video is available here: https://univideo.uni-kassel.de/video/Trading-Food-across-West-African-Borders-full-version/9f8eee1ab23e865b6476ce5a4d7eae19

[44] http://www.logistiqueconseil.org/Articles/Transport-routier/Organisation-bgft.htm

their members are not enough, the remaining cargo is available for transportation by other transporters that are not their members. As it is evident, the tour de role system is not transparent because there is no way for transport companies to verify that the allocation of freight has been done according to the priority of arrival at the port and in respect of the national quotas set in the bilateral agreements. Moreover, the excessive unionization and the strong influence of informal intermediaries and trade unions, together with non-competitive allocation of freight, increase considerably transport costs in those countries where these systems are adopted [45]. This is why some countries that are currently adopting such a system have planned to suppress it in a progressive manner, like in the case of the Revised Memorandum of Understanding (*Protocole d'Accord*) of cooperation on Road Transport between Burkina Faso and Cote d'Ivoire of 12 May 2016, that at article 16 states "The parties undertake to progressively liberalise freight, by specific stages or following a subsequent Agreement", while in other seaports, like in Abidjan, the quota distribution system has been recently abandoned, except for containers and large shipments of specific goods like fertilizers [46].

In both the West and Central Africa regions, transit cargo quotas are usually allocated for two-thirds to landlocked, and for one-third to the coastal country transporters, but some countries have opted for different shares, as shown in the table below, while non-transit cargo and passenger traffic is allocated according to equity criteria (50/50). Mixed transport (transit and non-transit goods) is generally prohibited. Agreements and Conventions establishing uneven systems of allocation of cargo between landlocked and coastal countries transporters have been concluded for instance by landlocked Mali, Niger and Burkina Faso with all their neighbouring coastal states, and by landlocked Chad and Central African Republic with Cameroon. All these Agreements and Conventions also identify the specific itineraries to be used by truck drivers for the transport of transit cargo, with the possibility for the authorities of the contracting parties to expand the list via specific amendments.

Table 2 Freight quota allocation systems in Western and Central Africa

Agreement or Convention	National quota allocation	Itineraries		Exceptions
		For Togo	For Niger	
Memorandum of Understanding on Road Transport between Togo and Niger of 12 February 1975 [47]	**Transit cargo:** • Togo: 1/3 • Niger: 2/3 **Non-transit cargo:** • Togo: 1/2 • Niger: 1/2	• Lome-Tsévié-Atakpamé-Sokodé-Lama-Kara Sansané-Mango-Dapango • Lomé-Anécho-Savicondji • Lama-Kara-Kétao	• Makalondi-Niamey • Téra-Gotheye • Gaya-Dosso • Auorou-Tillabéry-Niamey-Dosso-Birni N'Konni-Maradi-Zinder-Birni N'Kenni-Tahoua-Agadez	/
		For Togo	For Niger	
Road Transport Agreement between Benin and Niger of 13 October 1977 [48]	**Transit cargo:** • Benin: 1/3 • Niger: 2/3 **Non-transit cargo:** • Benin: 1/2 • Niger: 1/2	• Cotonou-Bohicon-Dasazoumé-Parakou-Bembéréké-Kandi-Malanville • Dassa Zoumé-Savalou-Djiougou-Natitingou-Porga • Hilacondji-Ouidah-Cotonou-Porto Novo • Djiougou-Parakou-N'Dali-Nkki	• Makalondi-Niamey • Téra-Gothèye • Gaya-Dosso • Ayorou-Tillabéry-Niamey-Dosso-Birm N'Konni-Maradi-Zinder-Agadez-Tsernawa-Tahoua-Agadez-Arlit	/

[47] http://cnut.ne/images/Telechargement/Protocole%20d%27Accord%20de%20TRansports%20Routiers%20Niger%20-%20Togo.pdf
[48] https://www.cnut.ne/images/Telechargement/Protocole%20d%27Accord%20de%20TRansports%20Routiers%20Niger%20-%20Benin.pdf

Agreement or Convention	National quota allocation	Itineraries		Exceptions
		For Cote d'Ivoire	For Burkina Faso	
Revised Memorandum of Under-standing (Protocole d'Accord) of cooperation on Road Transport between Burkina Faso and Cote d'Ivoire of 12 May 2016.	**Transit cargo:** • Cote d'Ivoire: 1/3 • Burkina Faso: 2/3 **Non-transit cargo:** • Cote d'Ivoire: 1/2 • Burkina Faso: 1/2	• Abidjan-N'Zianouan-Yamoussoukro-Tiébissou-Bouaké-Katiola-Ferkessedougou-Ouangolodougou-Laleraba (Leraba); • San Pedro-Soubré-Gagnoa-Oumé-Yamoussoukro-Tiébissou-Bouaké-Katiola-Ferkessedougou - Ouangolodougou - Laleraba - Burkina Faso (Leraba) ; • Abidjan - Adzopé - Abengourou - Bondoukou - Bouna - Doropo - Burkina Faso (Kampti).	• Ouagadougou-Bobo/ Dioulasso- Banfora-Leraba (Laleraba); • Ouagadougou-Pa-Dano-Diébougou-Gaoua-Kampti-Doropo. • Ouagadougou-Koudougou-Dédougou– Bobo/ Dioulasso-Banfora-Leraba (Laleraba).	/
		For Benin	For Burkina Faso	
Cooperation Agreement on Transport and Transit between Burkina Faso and Benin of 22 December 2017	**Transit cargo:** • Benin: 1/3 • Burkina Faso: 2/3 **Non-transit cargo: not covered**	• Cotonou-Dassa Zoumè-Savalou-Djougou-Natitingou-Porga	• Ouagadougou-Koupèla-Fada N'Gourma-Pama • Ouagadougou-Koupèla-Tenkodogo-Ouargaye-Pama-Porga	/
		For Togo	For Burkina Faso	
Cooperation Agreement on Transport and Transit between Burkina Faso and Benin of 22 December 2017	**Transit cargo:** • Togo: 1/3 • Burkina Faso: 2/3 **Non-transit cargo:** • Togo: 1/2 • Burkina Faso: 1/2	• Lomé-Tsévié-Atakpamé-Sokodé-Kara-Mango-Dapaong-Cinkassé	• Ouagadougou-Koupéla-Tenkodogo-Bittou-Cinkassê	Strategic products not covered by the agreement. Transport of hydrocarbons, arms and ammunitions and explosives of property of the Burkina Faso government is reserved to Burkinabè transporters.

<table>
<tr><th>Agreement or Convention</th><th>National quota allocation</th><th colspan="2">Itineraries</th><th>Exceptions</th></tr>
<tr><td>Bilateral Protocol on road transport between Senegal and Mali (1993)[49]</td><td>Transit cargo:
• Senegal: 1/3
• Mali: 2/3

Non-transit cargo:
• Senegal: 1/2
• Mali: 1/2</td><td colspan="2">Text of the Agreement not available</td><td>The transport of strategic products in transit such as petroleum products and cotton for export is reserved to Malian operators.</td></tr>
<tr><td rowspan="2">Convention on Road Transport between Chad and Cameroun of 13 April 1999</td><td rowspan="2">Transit cargo:
• Cameroun: 35%
• Chad: 65%

Non-transit cargo: not covered</td><td>For Cameroon</td><td>For Chad</td><td rowspan="2">/</td></tr>
<tr><td>Road corridors:
• Douala-Yaoundé-Nanga/Eboko-Bertoua-Garoua Boulai-Meiganga-Ngaoundéré-Garoua-Maroua-Kousseri-Chad border;
• Douala-Yaoundé-Abong/Mbang-Bertoua-Garoua Boulai-Ngaoundéré-Garoua-Figuil-Chad border;
• Douala-Yaoundé-Abong/Mbang-Bertoua-Garoua Boulai-Ngaoundéré-Touboro;
• Douala-Yaoundé-Abong/Mbang-Bertoua-Garoua Boulai-Ngaoundal-Chad border.

Combined transport (Railway/Road):
• Douala-Ngaoundéré (railway);
• Ngaoundéré-Garoua-Figuil- Chad border;
• Ngaoundéré-Garoua-Maroua-Kousseri- Chad border;
• Ngaoundéré-Touboro-Chad border;
• Douala-Ngaoundéré (railway);
• Ngaoundal-Meiganga–Chad border.</td><td>Road corridors:
• Ngueli-Ndjamena;
• Lere-Moundou-Sarh;
• Larmanaye-Moundou-Sarh;
• Gadjibian-Doba-Moundou.</td></tr>
</table>

[49] Described in the World Bank Project Information Document (PID) for the Dakar-Bamako Intermodal Corridor Project (10-Sep-2019), available at: http://documents1.worldbank.org/curated/en/777811579722118144/pdf/Concept-Project-Information-Document-PID-Dakar-Bamako-Intermodal-Corridor-Project-P171122.pdf

Agreement or Convention	National quota allocation	Itineraries		Exceptions
		For Cameroon	For CAR	
Convention on road transport of goods between Cameroun and Central African Republic (CAR) of 22 December 1999 [50]	**Transit cargo:** • Cameroun: 40% • CAR: 60% **Non-transit cargo: not covered**	**Road corridors:** • Douala-Yaoundé-Nanga/Eboko-Bertoua-Garoua Boulaï; • Douala-Yaoundé-Abong/Mbang-Bertoua-Batouri Kentzou • Douala-Yaoundé-Bertoua-Batouri Yakadou-ma Ngoka border; **Combined transport (Railway/Road):** • Douala-Belabo-Bertoua-Garoua Boulaï; • Douala-Belabo-Bertoua-Batouri-Kentzou; • Douala Ngaoundéré-Meiganga-Garoua Boulaï.	**Road corridors:** • Bangui-Bouar-Baboua-Beloko ; • Bangui-Camot - Berberati-Gamboula; • Bangui-Bossangoa-Pende-N'dim-Bouar-Beloko; • Nola-Tomori border post.	/

5.3 Disjointed insurance schemes

Insurance schemes for cargo, third-party liability and transit are largely fragmented in Africa, which contributes to increasing transport cost for logistics operators involved in cross-border operations. In many cases these costs are a consequence of piecemeal regulations that ignore or that do not take into account the highly mobile nature of the work of driv-ers in international road transport.

5.3.1 Cargo insurance

Cargo insurance is reported as high in many African countries, like in Ethiopia or Zimbabwe, where it significantly contributes to increasing the cost of transport. Premiums for insurance of cargo are not only influenced by security conditions of the road, but also by regulation. In Ethiopia, for instance, the Licensing and Supervision of Insurance Business Proclamation N° 86/1994 (Article 8) and the Notice of the National Bank N° 1/1977 of 5 January 1977, establish that a cargo insurance can be given in Ethiopia only by a national insurance company, except in those cases where the capacity or the insurance cover required is not available locally. Because of this restriction, transporters from neighbouring countries entering in Ethiopia (where the insurance of cargo is mandatory), in addition to the insurance concluded in their country need to obtain a second, separate, insurance policy with an Ethiopian insurance company in order to have the transportation risks covered on the Ethiopian roads. On the other hand, in Ethiopia, most of insurance companies do not cover the risk of transport out of the country.

5.3.2 Third-party Insurance

A similar situation regards the third-party liability coverage in case of accidents. Travelling on inter-state transport corridors can be expensive because of the multiple insurance schemes required to transporters in each country they cross. Cognizant of this problem, some RECs in Africa have developed regional motor vehicle insurance schemes that cover third-party liabilities and medical expenses for the drivers travelling from a country to another within their territory. Such schemes are currently operational in 3 main RECs: COMESA, ECOWAS and CEMAC, while an

[50] http://www.logistiqueconseil.org/Articles/Transport-routier/Convention-RCA-Cameroun.htm

additional regional system has been devel-oped in North Africa and some Sub-Saharan countries by the League of Arab States. All such schemes give transport operators advantages in terms of facilitation of cross-border transport and trade due to elimination of the need for drivers to take out an insurance every time they cross a border.

The Common Market for Eastern and Southern Africa (COMESA) has developed the Yellow Card scheme, that provides third party legal liability coverage and compensation for medical expenses resulting from road traffic accidents caused by motorists within the Region. This scheme however, is currently used only in thirteen (13) out of the 21 COMESA Member Countries, namely: Burundi, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Sudan, Uganda, Zambia and Zimbabwe and Tanzania. For example, if a Tanzanian driver wishes to drive to Kampala, Uganda, passing through Kenya, he can purchase a Yellow Card from an insurance company in Tanzania for the required period of time to cover the countries he will travel through. The alternative is to buy a national insurance cover in these countries, as both nations re-quire drivers entering their territory to have a motor vehicle liability insurance cover. If on his way to Kampala the driver is involved in an accident, in Kenya or Uganda, all he will be required to do is just to report the accident to the relevant focal point [51], that will settle the claim arising from this accident. The same if the accident happens in Uganda. To guide the use of the Yellow Card scheme, an operational manual has also developed by COMESA [52].

Similar to COMESA, the Economic Community of West African States (ECOWAS) has developed the Brown Card, introduced by the Protocol on Brown Card Third Party Motor Insurance (Protocol A/P1/5/82) , subsequently integrated by the Supplementary Protocol (A/SP./12/01). A Convention for the indemnification of victims of road accidents was also approved by ECOWAS on October 2008 for harmonizing legislation and compensation systems in the field of motor insurance in the Region. The scheme is currently used by 14 out of the 15 ECOWAS members (Benin, Burkina Faso, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo), with the only exception of Cabo Verde.

[51] Yellow card Focal points are the agencies, often an insurance company, that represent all the insurance companies issuing Yellow Cards in the various countries where the scheme is imple-mented.
[52] https://ycmis.comesa.int/uploads/Operations%20Manual.pdf

The **Central African Economic and Monetary Community** (CEMAC) has developed the Carte Internationale d'Ássurance de Responsabilité Civile (CIARCA) scheme, commonly called CEMAC Pink Card, whose purpose is to facilitate the payment of damages by insurance companies in case of accidents. The pink card serves as an extension on national insurance coverage to other CEMAC counties and is aimed at harmonizing the modalities for processing compensation claims for accidents occurring in any of the member countries of the Community. However, although the Règlement n°2/00/UEAC-001-CIARCA-CM-04 du 21 juillet 2000 made mandatory the use of the pink card in the CEMAC region, this is not yet fully adopted by drivers working in the cross-border transport sector.

The League of Arab States has developed a scheme, called "Orange card", which is cur-rently implemented in Mauritania, Morocco, Algeria, Libya, Tunisia, Egypt, Sudan and Somalia, while Djibouti and Comoros, despite being members of the League, do not implement such a scheme. If, on one side, all the above regional insurance schemes facilitate cross-border transport and trade, due to elimination of the need for drivers to take out an insurance every time they cross a border, their main disadvantage is that they do not cover inter-REC transport, i.e. transport from a country member of a certain REC to another REC, with the conse-quence that this kind of operations can be very expensive.

5.3.3 Transit bonds

As Africa has many countries with no direct access to the sea, in many cases goods need to be imported through the seaports of other nations, transiting through the territory of one or more neighbouring countries before they can reach their final destination, where cus-toms duties, VAT and other related taxes have to be paid. As in-transit countries goods move under suspension of all such levies, customs authorities must ensure that during its journey, cargo is not irregularly diverted, so evading the payment of such levies. To this end, costly transit bonds are required by customs regulations of each African country for the safeguard of their national interests that reduce the competitiveness of African traders by drastically increasing the prices of imported and transit goods in the destination markets.

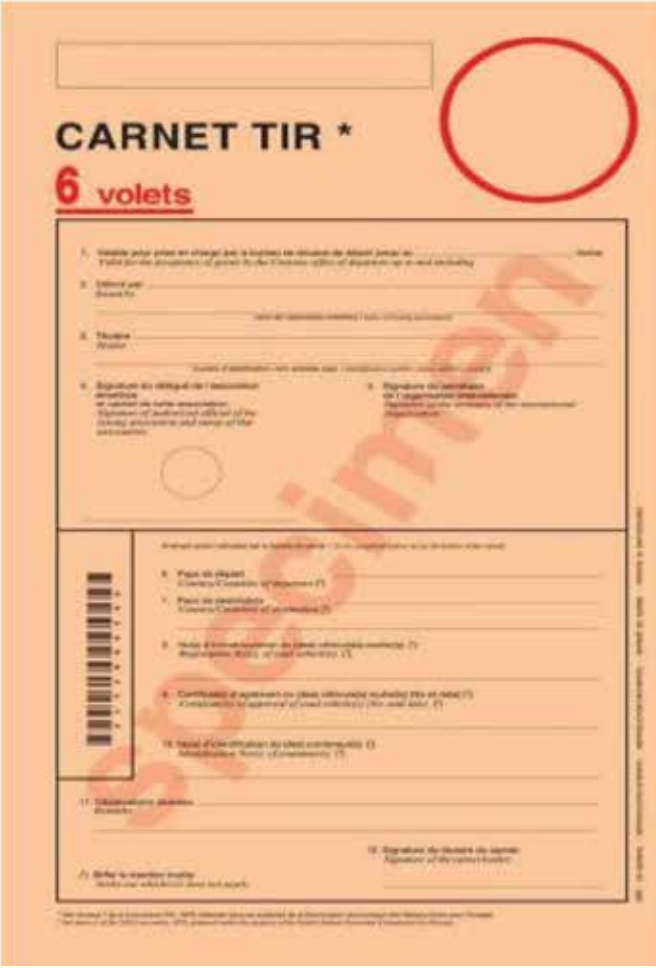
Today, many Regional Economic Communities (RECs) in Africa implement region-al customs guarantee schemes where a transit bond obtained in a member State is accepted in the other member countries that the trader has to cross. But the problem with such schemes is that they are operational only in a few member States. COMESA, for instance, has adopted a Customs Bond Guarantee Scheme (popularly known as the RCTG Carnet), a customs transit regime designed to facilitate the movement of goods under customs seals in the region which offers the required guarantees to Customs of the transit countries. The RCTG Carnet, however, is currently fully operational only in 5 (five) [53] of its 21 member States (namely: Burundi, Kenya, Rwanda, Tanzania and Uganda), while other 8 countries (Djibouti, D.R. Congo, Ethiopia, Madagascar, Malawi, South Sudan, Sudan and Zimbabwe) are still in the process of creating the structures necessary for the implemen-tation of this tool (e.g. identification of a national guarantor and definition of risk-sharing and premium repartition schemes between the financial institutions involved in the scheme).

Because of this reduced implementation of regional customs guarantee schemes, what frequently happens is that a trader that is moving goods from a coastal country to an inland destination through the territories of more than one transit country, is forced to purchase a customs bond in each nation he crosses, because the one posted in the first country of transit in most cases is not accepted by the customs authorities of the other transit countries. With the consequence that the more States the cargo crosses, the higher costs and delays are incurred by that trader.

[53] E-COMESA newsletter, Issue #: 638_14th September, 2020.

In 2016, the International Road Transport Union (IRU) commissioned a study [54] to analyse the costs of using a national bond in East and Southern Africa in comparison with the TIR Carnet, international customs guarantee scheme regulated by the Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) [55], which has 76 currently Contracting Parties around the world.

Figure 10 **TIR Carnet**



The TIR Convention establishes an international customs transit system that greatly simplifies the movement of transit goods both in sealed vehicles or containers from a customs office of departure in one country to a customs office of destination in another country. The system provides customs authorities with the required security and guarantees the movement of these goods with minimal border checks at intermediate borders. Under TIR, customs duties and taxes at risk during transit operations are covered by a national as-sociation that guarantees the payment in the country of any duties and taxes in the event of any irregularity in the transit operation (e.g., consignments illegally diverted into the transit market or cases where no evidence has been produced to Customs that the cargo left the transit country). The maximum amount of the guarantee depends on the country, ranging from USD 50,000 to EUR 100,000 for each TIR carnet.

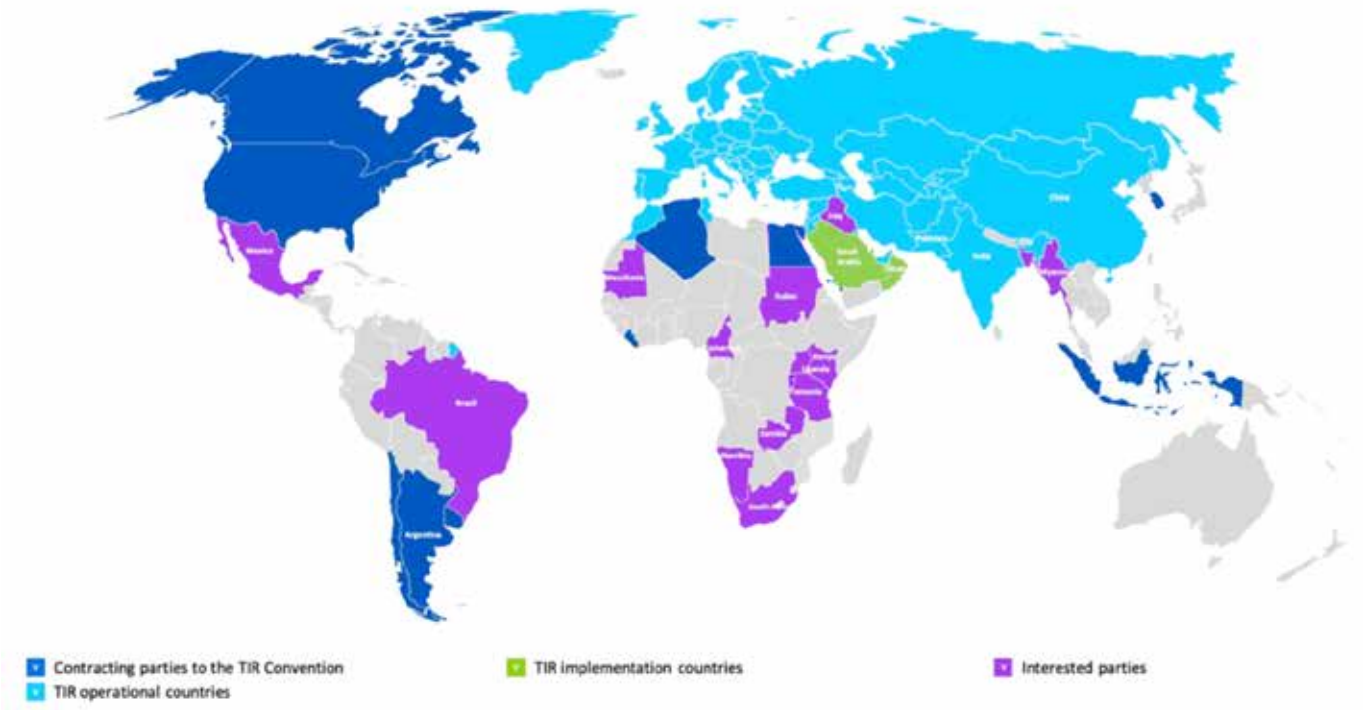
This scheme has hugely contributed to reduce the costs of moving transit goods at global level. However, its implementation in Africa is limited to 5 countries (Algeria, Morocco, Tunisia, Liberia and Egypt [56]), with only two that made the TIR carnet operational (Morocco and Tunisia). Although some African countries such as South Africa and Kenya have manifested interest in implementing this scheme, they have not taken any step for accessing to the TIR Convention, being still in the process of analysing its potential benefits and what is needed to access and implement the Convention [57].

[54] Transit costs in East & Southern Africa - A study comparing the costs of national bonds, the Common Market for East and Southern Africa (COMESA) Regional Customs Transit Guarantee (RCTG) and the TIR Carnet in East and Southern Africa, IRU, Geneva, Switzerland, August 2016.

[55] Available at https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XI-A-16&chapter=11&clang=_en

[56] Egypt acceded to the TIR Convention on 25 February 2021, with the presidential decree No. 396 of 2020.

[57] Source: IRU



In 2019, the International Road Transport Union (IRU)[58], a non-governmental organization with headquarters in Geneva, Switzerland, that represents the interests of road transport operators world-wide and administers the scheme, started working on an elec-tronic version of the TIR system allowing for a paperless and contactless operating envi-ronment. In the midst of the COVID-19 crisis, IRU decided to accelerate the implementation of the eTIR international system contactless environment to assist in the non-spreading of the virus. The IRU Secretariat initiated a campaign calling upon Contracting Parties to interconnect their national customs systems with the eTIR international system. Subsequently, both Governments as well as the broader UN system recognized the eTIR international system as the UN tool that protects people from the virus while facilitating and simplifying borders crossing procedures [59].

The IRU study on the costs of using a national bond in East and Southern Africa in comparison with the TIR Carnet reveals that costs of a customs bond in these Regions range from 60 to 200 USD, concluding that a regional or single bond system would have a distinct advantage for traders in terms of cost and time savings over the current practice of acquiring a national customs bond for each country where transporters transit through, as the regional or single bonds reduce transit time, simplify clearing, reduce documentation and reduce transit costs. The study points out that in Africa there is a need for a harmonised transit system that can be implemented in all regions and along all corridors and that the adoption of such a system would contribute to significantly reduce the long transit time and high cost caused by the delays in current transit regimes. Hence, the recommendation to deploy the TIR Carnet on all trade corridors in Africa.

More recently, as part of the overall objective of promoting intra-African trade, the Afrexim Bank has launched a project for developing a continental transit guarantee system able to cover the risk of loss of import duties or other revenues for customs au-thorities in the event that the transit procedures is not discharged properly. This project, called “Afreximbank-African Collaborative Transit Guarantee Scheme” (ACTGS) [60], will be implemented in

[58] The IRU is, at present, the only international organization authorized to centrally print and distribute TIR Carnets to its national guaranteeing associations under conditions set out in the Convention. Each national association in turn issues the TIR Carnets to transport operators in its country in accordance with the conditions set out in the declaration of commitment concluded between each transport operator and the association.
[59] United Nations, Shared responsibility, global solidarity: Responding to the socioeconomic impacts of COVID-19”, March 2020

collaboration with a group of local guarantors affiliated to the Bank (insurance or other financial institutions in the different countries implementing the pro-ject), in the attempt to reduce the bottlenecks and costs associated with movement of transit goods across borders within Africa. AfreximBank signed an agreement with COMESA to initially pilot the implementation of the scheme in this Region by leveraging the COMESA regulation for what concerns its legal basis. However, as the AfreximBank plans are to progressively extend the ACTGS scheme to the other RECs in Africa, and ul-timately over the entire Continent, a legal basis will need to be developed to be applicable to the other regions.

The ACTGS will be implemented in collaboration with a group of local guarantors affiliated to AfreximBank, represented by insurance companies or other financial institutions in the different African countries, with the Bank acting as a regional and continent-wide surety providing transit bonds covering all territories that goods are required to cross.

The ACTGS basically comprises of two (2) main financial mechanisms:

1) the **direct** modality, where AfreximBank directly issues transit bonds to eligible beneficiaries including traders, freight forwarders, clearing agents or carriers, initially for cov-erage of intra-REC transit operations, and in future for transit operations at inter-REC level. The transit guarantee needs to be purchased by the beneficiaries in advance of the transit operation, and to be activated once the transit operation is commenced. In case of irregularities, Afreximbank will refund Customs of the revenue losses (customs duties and other taxes), by initiating at a claim procedure towards beneficiaries. The transit bond will cover the actual duties and taxes that are supposed to be paid by the beneficiary and its cost will be covered by a premium to be paid by the bondholder to be calculated on the basis on its level of risk and the customs value of the goods.

2) the **indirect** modality, where AfreximBank will provide support to primary local sureties and national guarantors that already issue transit bonds at a local level, by sharing with them the risk of irregular discharge of transit through the offer of a counterparty guarantee or a reassurance, particularly for high-risk operations. Both the counterparty guarantee and the reassurance are specifically aimed at boosting the capacity of local financial institutions to issue transit bonds, by providing Customs with an additional guarantee underwritten by AfreximBank.

Both the direct and the indirect schemes are expected to put an end to the practice followed by local financial institutions to require collaterals from bondholders in the form of a cash amount, which is one of the main limitations to the use of transit bonds, especially by small operators that often do not dispose of these sums.

[60] https://www.saceec.com/wp-content/uploads/2019/06/Transit-Flyer-26032019.pdf

6 Operational inefficiencies

6. Operational inefficiencies

The World Bank conducts a periodic survey to assess efficiency level in the logistics sector and quality of service offered by logistics providers worldwide. These results are docu-mented in the Logistics Performance Index (LPI), a composite indicator that analyses com-petence and quality of logistics services, with the ability to track and trace consignments and the timeliness of shipments in reaching destination within the scheduled or expected delivery time. The results of the latest report (2018) show that Africa and Sub-Saharan Africa in particular ranks on average much below other regions in the world on transport quality, West Africa being the worst and Southern Africa the best within Africa. This Chapter tries to explore the main reasons for such operational inefficiencies.

The following table report the LPI rank and score for all African countries, aggregated by REC, with some of its sub-components and their relative score/rank. Excluding South Af-rica, which ranks 33th in the global score, the majority of the African countries show a rank above the hundredth. Nevertheless, there are some notable exceptions, namely: Cote d'Ivoire (50th), Rwanda (57th), and Botswana (57th position but in the previous LPI edition).

Regarding the RECs, it is worthy to note that EAC and SADC report more uniform and performing score levels, meaning that the level of regional integration is higher. ECO-WAS and ECCAS members, apart the aforementioned exceptions, are located in the low-est part of the ranking. Among all African countries, the case of Rwanda is particularly interesting as a virtuous example of a landlocked country that succeeded in implementing an efficient logistic sys-tem and a fast and reliable shipping scheme. Not surprisingly, some coastal countries show much lower scores that many landlocked countries, such as Angola, Sierra Leone and Eri-trea.

Table 3 LPIs scores of Africa countries

Country	LPI score	LPI rank	International shipments		Logistics quality and competence		Tracking and tracing		Timeliness	
	score	rank	score	rank	score	rank	score	rank	score	rank
UMA										
Morocco	2,54	109	2,58	103	2,49	101	2,51	112	2,88	114
Algeria	2,45	117	2,39	122	2,39	113	2,60	103	2,76	124
Mauritania	2,33	135	2,19	145	2,19	144	2,47	119	2,68	123
Libya	2,11	154	1,99	159	2,05	153	1,64	160	2,77	134
EAC										
Rwanda	2,97	57	3,39	29	2,85	60	2,75	86	3,35	61
Tanzania	2,99	61	2,98	63	2,92	58	2,98	60	3,44	64
Kenya	2,81	68	2,62	99	2,81	64	3,07	56	3,18	79
Uganda	2,58	102	2,76	78	2,50	99	2,41	123	2,90	110
Burundi	2,06	158	2,21	139	2,33	117	2,01	156	2,17	158

Country	LPI score	LPI rank	International shipments		Logistics quality and competence		Tracking and tracing		Timeliness	
	score	rank	score	rank	score	rank	score	rank	score	rank
COMESA										
Rwanda	2,97	57	3,39	29	2,85	60	2,75	86	3,35	61
Egypt	2,82	67	2,79	73	2,82	63	2,72	89	3,19	74
Kenya	2,81	68	2,62	99	2,81	64	3,07	56	3,18	79
Mauritius	2,73	78	2,12	151	2,86	59	3,00	63	3,00	99
Djibouti	2,63	90	2,45	118	2,25	135	2,85	72	3,15	85
Malawi	2,59	97	2,55	105	2,68	82	2,67	94	2,98	102
Uganda	2,58	102	2,76	78	2,50	99	2,41	123	2,90	110
Comoros	2,56	107	2,49	116	2,21	138	2,93	68	2,80	120
Zambia	2,53	111	3,05	54	2,48	103	1,98	158	3,05	94
Congo, Dem. Rep.	2,43	120	2,37	127	2,49	100	2,51	114	2,69	133
Madagascar	2,39	128	2,19	146	2,33	118	2,61	102	2,73	128
Ethiopia	2,24	141	2,35	130	2,16	140	2,10	144	2,54	143
Zimbabwe	2,12	152	2,06	156	2,16	147	2,26	137	2,39	152
Libya	2,11	154	1,99	159	2,05	153	1,64	160	2,77	123
Eritrea	2,09	155	2,09	154	2,17	146	2,17	145	2,08	159
Burundi	2,06	158	2,21	139	2,33	117	2,01	156	2,17	158
ECCAS										
Rwanda	2,97	57	3,39	29	2,85	60	2,75	86	3,35	61
Sao Tome and Principe	2,65	89	2,42	121	2,65	84	2,78	81	3,01	97
Cameroon	2,60	95	2,87	63	2,60	87	2,47	118	2,57	142
Congo, Rep.	2,49	115	2,87	64	2,28	127	2,38	125	2,95	103
Congo, Dem. Rep.	2,43	120	2,37	127	2,49	100	2,51	114	2,69	133
Chad	2,42	123	2,37	125	2,62	86	2,37	127	2,62	138
Equatorial Guinea	2,32	136	2,88	62	2,25	133	2,13	149	2,75	126
Gabon	2,16	150	2,10	153	2,07	151	2,07	153	2,67	135
Central African Republic	2,15	151	2,30	135	1,93	157	2,10	151	2,33	156
Burundi	2,06	158	2,21	139	2,33	117	2,01	156	2,17	158
Angola	2,05	159	2,20	143	2,00	155	2,00	157	2,59	140

Country	LPI score	LPI rank	International shipments		Logistics quality and competence		Tracking and tracing		Timeliness	
	score	rank	score	rank	score	rank	score	rank	score	rank
ECOWAS										
Cate d'Ivoire	3,08	50	3,21	45	3,23	37	3,14	49	3,23	71
Benin	2,75	76	2,73	83	2,50	98	2,75	87	3,42	57
Burkina Faso	2,62	91	2,92	60	2,46	106	2,40	124	3,04	95
Mali	2,59	96	2,70	88	2,45	107	3,08	54	2,83	119
Ghana	2,57	106	2,53	109	2,51	95	2,57	106	2,87	115
Nigeria	2,53	110	2,52	110	2,40	112	2,68	92	3,07	92
Togo	2,45	118	2,52	111	2,25	134	2,45	120	2,88	112
Gambia, The	2,40	127	2,71	87	2,21	142	2,81	73	2,71	131
Guinea-Bissau	2,39	129	2,53	108	2,28	126	2,78	80	2,86	116
Senegal	2,25	141	2,36	128	2,11	149	2,11	150	2,52	145
Liberia	2,23	143	2,08	155	2,14	148	2,05	155	3,25	69
Guinea	2,20	145	2,32	132	2,07	152	2,70	91	2,04	160
Sierra Leone	2,08	156	2,18	147	2,00	156	2,27	134	2,34	154
Niger	2,07	157	2,00	158	2,10	150	2,22	141	2,33	155
SADC										
South Africa	3,38	33	3,51	22	3,19	39	3,41	35	3,74	34
Botswana	3,05	57	2,91	70	2,74	75	2,89	70	3,72	43
Tanzania	2,99	61	2,98	63	2,92	58	2,98	60	3,44	64
Mauritius	2,73	78	2,12	151	2,86	59	3,00	63	3,00	99
Namibia	2,74	79	2,69	86	2,63	86	2,52	100	3,19	85
Mozambique	2,68	84	3,06	58	2,44	109	2,75	79	3,04	97
Malawi	2,59	97	2,55	105	2,68	82	2,67	94	2,98	102
Comoros	2,56	107	2,49	116	2,21	138	2,93	68	2,80	120
Zambia	2,53	111	3,05	54	2,48	103	1,98	158	3,05	94
Congo, Dem. Rep.	2,43	120	2,37	127	2,49	100	2,51	114	2,69	133
Madagascar	2,39	128	2,19	146	2,33	118	2,61	102	2,73	128
Lesotho	2,28	139	2,21	140	2,03	154	2,37	129	2,70	132
Zimbabwe	2,12	152	2,06	156	2,16	147	2,26	137	2,39	152
Angola	2,05	159	2,20	143	2,00	155	2,00	157	2,59	140

Source: World Bank Report 2018

6.1 Old vehicle fleet

An old vehicle fleet is known to have high operating costs due to increased fuel consump-tion and vehicles maintenance needs. Old trucks are also expensive to operate, slow to load/unload, and many studies have also shown that they have a higher frequency of accidents because of the lower vehicle safety standards. Consequently, they heavily contribute to congestion of roads and to road accidents [61].

Moreover, old vehicles lack equipment that could help expedite transit transport. For instance, in many cases these vehicles cannot be sealed or cannot be fitted with cargo-tracking devices. Especially in Western and Central Africa, where transport companies operate particularly old fleet (in some cases even more than 20 or 30 years old, like in the case of Benin [62] or Cameroon [63] for instance), transport costs are extremely high, with old trucks that can cover lower distances and are operational for a limited period of time, after which they must be scrapped. In a comparative perspective, a recent study conducted on the main components of transport cost in India calculates that: trucks which are less than six years old (representing about 40 per cent of Indian trucks), on average cover about 8,000 kilometres (km.) per month due to their increased fuel efficiency, while a vehicle that is more than 10 years old can only cover only about 2,000–4,000 km per month due to low mileage (Km. x litre), which in turn increases the total cost per trip. The study concludes that apart from improving vehicle utilisation rates (as trucks can be used for a higher number of trips) a newer truck fleet also reduces average trip expenses (Tonne/Km. cost), as shown in the following table [64].

Table 4 Joint study on the main factors impacting on transport costs in India (TCIL-IIM-C), 2012s

Mileage (Km/litre)	Average Trip Expensed (RS. Tonne-km)	Average Contribution Margin (%)
4.15	1.09	36.95
4.30	1.07	39.90
5	0.98	52.92
5.5	0.92	61.31

To limit the use of an old fleet, many African countries have recently started to introduce importation bans of old commercial vehicles, tax-breaks or other specific incentives to encourage transport companies the replacement of old trucks with new ones. In Senegal, for instance, the government prohibited the importation of trucks more than five years old, while the Government of Niger, where an estimated 80 percent of vehicles are in poor shape, introduced tax incentives to encourage transporters to renew their fleet of vehicles [65]. Ghana [66], on the other hand, introduced an official Transport Policy in July 1993 which included an inventory of vehicles circulating in the country, with a vehicle replacement plan and Planned Preventative Maintenance (PPM) [67].

6.2 Low utilisation rate of trucks

A consequence of the long delays encountered by transport companies in Africa along road corridors, is that they can use their vehicles only for a limited number of cross-border trips. Low vehicle utilization erodes profit margins, because fixed operating costs can be spread over a small number

[61] Rechnitzer, G., Haworth N., Kowadlo, N. "The effect of vehicle roadworthiness on crash incidence and severity", Monash University Accidents Research Centre, Victoria (Australia), Report No. 164, 2000

[62] See SAANA Consulting, "Accelerating Trade in West Africa (ATWA): Stage 1 Report", November 2015. The report states that in Benin the average truck is more than 27 years old and, of 15,700 Benin transporters, 10,000 operate a single truck and another 4,500 operate an average of 2.5 trucks each, while the 16 largest operate fleets of only 84 trucks per fleet, on average. Moreover, the truck utilization rate in this country is very low, as an average transit truck spends only about 30 percent of turn-around times travelling, while 70 percent of the time is spent waiting in ports or at an inland terminal due to the inability of operators to find cargo

[63] See Muogboh, O., S., Ojadi, F., "Indigenous Logistics and Supply Chain Management Practice in Africa", Emerald Publishing Limited, 2018, arguing that the estimated trucking capacity in Cameroon is of more than 35,000 units, the majority of which are more than 30 years of age old.

[64] Joint study by the Transport Corporation of India Limited (TCIL) and the Indian Institute of Management, Calcutta (IIM-C), 2012, quoted in the report "The Impacts of India's Diesel Price Reforms on the Trucking Industry, Integrated Research and Action for Development", New Delhi June 2013.

[65] African Development Fund: Appraisal report: Road rehabilitation and transport facilitation programme on the southbound Bamako–Dakar corridor. 2005 and Appraisal report: Tibiri–Dakoro and Madaaoua–Bouza–Tahoua road rehabilitation project, 2005.

[66] Crown Agents, Emergency Transport Workshop Africa, Community Access Programme (AFCAP), April 2014.

[67] PPM is essentially a scheduled maintenance routine, set out to ensure that trucks are all maintained at regular intervals.

of trips [68]. This situation obviously pushes transporters to raise their fares to offset their low revenues, with the relevant costs that are passed to consumers, through their in the final price of goods on the destination market. The problem of underutilisation of trucks along African road corridors has been further exacerbated by the COVID-19 pandemic because of the many travel restrictions and border clo-sures and increased mandatory health controls that have further slowed down the flow of goods between States.

The main reason for the reduced truck utilisation along most of African corridors is the high waiting times spent by truckers in navigating along such routes which, in turn, is due to the following reasons:

1) the non-immediate availability of cargo and the difficulty of finding return cargo once completed the trip on the first leg of a road corridor;
2) the need to complete lengthy and cumbersome port/ border post procedures and related paperwork;
3) the high number of truck stops, e.g., for weighting trucks and scanning cargo at both the port exit gates and border posts or for controls at checkpoints mounted by multiple government agencies, such Customs and other security forces.

On the other hand, road corridors where truck turnaround time is higher are mainly those where:

a) OSBPs are established at border posts (as exit and entry procedures are jointly carried out by the border agencies of adjoining countries, a practice that significantly reduces border post processing time and accelerates clearance of goods);
b) where there are few trucks stops for completing control, weighting or cargo scanning procedures; and
c) where Electronic Cargo Tracking Systems (ECTSs) are implemented. ECTSs, as explained further on in this report, keep transit traffic moving along corridors as there is no necessity to stop trucks for inspection at every border post, saving a considerable amount of time [69].

On average, on the main road corridors linking two or more States or crossing the boundaries of one national territory, truck turnaround time ranges from 3 to 5 trips per month. Along the Northern Corridor, for instance, the truck utilisation rate (round trip) is of 3 trips per month for a transport along the Mombasa (Kenya)-Kampala (Uganda)-Mombasa section and along Mombasa-Kigali (Rwanda)-Mombasa, and 2 trips per month for a transport Mombasa-Bujumbura (Burundi)-Mombasa, Mombasa-Goma (DRC)-Mombasa and Mombasa-Juba (South Sudan)-Mombasa [70]. Another example is the Djibouti-Addis Ababa corridor, connecting Djibouti to Ethiopia via the Galafi border post, where the average truck turnaround time is 2,5/3 trips per month [71].

6.3 Empty truck trips

The problem of imbalanced trade flows and empty trips, which as indicated above is a consequence of the unbalanced nature of African trade, is common to all the African corridors. A recent study conducted by the Northern Corridor Transit and Transport Coordination Authority (NCTTCA), the Central Corridor Transit Transport Facilitation Agency (CCTTFA) and TradeMark East Africa (TMEA) [72], for instance, points out that on both corridors, exports represent only 14% of the total trade commercial vehicle movements, against the 86% of imports. As a consequence, nearly 70% of trucks moving to the seaports of Mombasa and Dar es Salaam to pick cargo, travel empty. In order to rebalance these traffic flows, the use of digital logistics solutions and truck aggregator models is recommended. To this purpose, the report invites member

[68] Fixed costs are those which must be borne by transport company irrespective of whether their trucks are used or not, or of their frequency of use. This category includes the drivers' sala-ries, general structural costs (administrative, commercial, IT, etc.), insurance costs, administrative costs (permits, road hauliers' registration or permits, etc.). Variable costs, on the other hand, are those that vary in proportion to the transport operation to be conducted (the more the vehicle operates, the higher these costs are: a typical example is fuel, the cost of tyres, motorway tolls, vehicle maintenance).

[69] The European Union's European Development Fund (EDF) for ACP Group of States, "Technical Note on Intelligent Transport Systems Concepts and Gap Analysis Methodology for Smart Corridors in Africa", Addis Ababa, May 2016.

[70] Source: Northern Corridor Transport Observatory Report, 11th Issue, November 2017.

[71] UNDP Ethiopia, National Logistics Strategy, 2017 and interview with the Ethiopian Shipping and Logistics Service Enterprise (ESLSE).

[72] NCTTCA, CCTTFA, TradeMark East Africa (TMEA), "Greenhouse Gas Inventory for the Northern and Central Corridors", 2021.

States to promote the use of web-based and/or uber-like apps capable to facilitate the matching supply and demand of transport services.

When cargo arriving at a seaport is transported by transport operators registered in the coastal country where the seaport is located, once delivered cargo at destination in the neighbouring country, they need to find return cargo to transport back in order to avoid returning empty to the point of origin of the shipment. As finding cargo to be moved from inland destinations to seaports is particularly hard because of the reduced traffic flows in this direction, trucks can stay idle for days or even weeks in the destination country, awaiting to find such a return cargo. If they are not able to find it, the cost of travelling back is then charged to the owner of the goods transported on the first leg of the corridor, which will be forced to incorporate such additional cost in the final price of goods. In case of containerized cargo, this problem is exacerbated by the need to return the container at the port as soon as possible in order to avoid the payment of prohibitive penalty surcharges to the shipping line that provided it. In fact, to encourage transporters to move or return containers swiftly, shipping lines set a free time period within which container have to be returned, and charge detention fees for every additional day exceeding it [73]. The uncertainty in finding a return cargo to fill the container to be shipped back leads transport companies to prefer, in most cases, to return the container empty because the cost of detention fees can easily overcome the cost of returning the container empty.

Conversely, if the transport from the seaport to the inland destination is arranged by a transport company in the neighbouring country (like in the case of Ethiopian logistics companies picking up cargo at the Djibouti port), the problem is the opposite: the transport company must find a shipment to deliver to the seaport, in order to avoid travelling empty on the first leg of the trip. This situation is particularly serious for landlocked countries, where usually transport companies cannot easily access to cargo arriving on vessels docking at ports of neighbouring coastal States for delivery in their territories. This difficulty for transport companies in landlocked countries to find cargo at seaports of neighbouring States often compels them to join transport cartels, or truckers' associations in their home country that usually have branches at the ports in coastal states that procure them back loads [74]. This practice, which is widespread especially in Western and Central Africa, is also common to some countries in regions where road transport is more liberalised, like in Tanzania [75] and Mozambique [76], where transporters in some cases operate as cartels, facilitating the access to loads, particularly at ports, to their members. Sometimes, such associations or groups also engage in unofficial practices that further impede foreign transport operators to directly access to loads at ports. For instance, it has been reported that Zambian transport companies delivering cargo at the Dar es Salaam port are not allowed to directly access to loads destined to Zambia (in order to find a return load), with-out passing through Tanzanian intermediaries, that charge commissions for this service that can reach up 20% of the value of cargo [77].

6.3.1 Trailer-swap and container-swap

Two practices that are used in many areas of the world to avoid trucks to travel back with an empty container and, more generally, to avoid transhipment at borders, are the trailer-swap and container-swap. Basically, these operations consist in the use of articulated or container trucks that stop at the border so that the load is unhooked from the motive unit and hooked by another motive unit in the country of destination that delivers cargo at its final

[73] Roemer, J, Demurrage and detention charges in container shipping, UNCTAD Transport and Trade Facilitation Newsletter N°80 - Fourth Quarter 2018, 12 December 2018.

[74] As Raballand and Teravaninthorn (2009) suggest, in regulated environments, as in West and Central Africa, companies and truckers predominantly join a trucking association knowing that without this membership getting a load would be much more difficult. On the other hand, in a deregulated environment, as in East Africa, membership is less important since sales depend on the individual professionalism of a company and not on being part of the existing system of cartels or truckers' associations.

[75] Ncube, P., Roberts S., and Vilakazi T., 'Study of Competition in the Road Freight Sector in the SADC Region: Case Study of Fertilizer Transport and Trading in Zambia, Tanzania and Malawi'. Centre for Competition, Regulation and Economic Development (CCRED) Working Paper 2015/3.

[76] Vilakazi T. and Paelo A., "Understanding intra-regional transport Competition in road transportation between Malawi, Mozambique, South Africa, Zambia, and Zimbabwe", United Nations University World Institute for Development Economics Research (UNU-WIDER), Working Paper 2017/46, March 2017.

[77] Interview with the Chartered Institute of Logistics and Transport (CILT), Zambia, 2 November 2020

destination. Once the motive unit unhooks the trailer or container at the border, the driver can look for other cargo to transport back, which is usually easier, because of the widespread presence of commercial activities at borders. Trailer-swap and container-swap are particularly cost-efficient as they avoid time-consuming, tedious and unproductive transhipment operations at borders, but are rarely used along African corridors. The study "Efficient Cross-Border Transport Models" published by the United Nations for Economic and Social Commission for Asia and the Pacific (UNESCAP) in 2015 analyses in detail these operations, concluding that they are very efficient and a more reliable choice compared to manual transloading, which is considered the most time-consuming freight transport arrangement. The main reason is that most of the trucks involved in cross-border transport in Africa are not adequate for these operations, as they imply, as mentioned above, the use of articulated [78] or of container trucks. To this end, specific incentives could be introduced by African governments to encourage transport companies to replace their trucks with articulated vehicles, including fiscal incentives on vehicle taxes, and specific reductions on road usage fees. Transit tolls could also be reduced on articulated vehicles consisting of a combination of both national head with foreign registered trailers and vice versa, in order to encourage the use of swapping operations.

6.4 Low use of digital solutions

According to Knight Frank Logistics Africa 2016 report[79], in Sub-Saharan Africa's the cost of transport takes up 50-75% of the retail price of goods. Apart from the poor infrastructure, inefficient procedures at border points and the high port and border crossing congestion, two factors that also indicated as significantly contributing to the high logistics cost in Africa are the lack of trucks and to an unpredictable lead time to deliver goods. Hence, the conclusion that in Africa there is an increasing need to utilize limited resource such as trucks more effectively, in particular by leveraging on new technologies. To this end, GPS devices, container and cargo tracking services and fleet management systems can be useful tools to optimize routes and vehicle utilization, so reducing overall operating costs of transport companies. These are however tools that are still little used.

6.4.1 Fleet Management Systems

The market research firm Berg Insight [80], in a recent research report points out that in Sub-Saharan Africa, the use of Fleet Management Systems (FMSs), with the exception of South Africa and – to a lesser extent - Northern Africa, is very limited. The report mainly analyses the use of FMSs in South Africa, where the fleet telematics market is far ahead of the rest of the continent in terms of adoption [81], but includes an outlook on the rest of the African market where, it concludes, these systems have generally a low penetration rate.

In East Africa FMSs are registering a progressive expansion as well. According to a 2016 UN-WIDER (United Nations World Institute for Development Economics Research) Working Paper [82], the level of utilization of FMSs by East African fleets is quite high, par-ticularly in Kenya and Rwanda, where half of the transport companies with fewer than 10 trucks are equipped with such systems. The paper concludes that except in Tanzania, where fleets still lag behind in the use of such technology, East African countries are rapidly catching up South African companies in terms of productivity, fleet age, and use of GPS devices and tracking.

An FMS is a software system or IT platform that serves to track and manage commercial fleets of vehicles, such as cars, vans, trucks or even heavy equipment to ensure they are utilized safely, efficiently and professionally. FMSs

[78] Articulated trucks are made up of a motive unit plus a semi-trailer.

[79] https://content.knightfrank.com/research/1114/documents/en/2016-4022.pdf

[80] http://www.berginsight.com/ReportPDF/ProductSheet/bi-fmseries2019-ps.pdf

[81] The number of active fleet management systems deployed in commercial vehicle fleets in South Africa was estimated at 1.6 million at the end of 2018 with a grow forecast of 15.0 percent per year. This number is expected to reach 3.2 million by 2023.

[82] Charles Kunaka, Gaël Raballand, Mike Fitzmaurice, "How trucking services have improved and may contribute to economic development - The case of East Africa", United Nations Uni-versity World Institute for Development Economics Research, WIDER Working Paper 2016/152, December 2016.

collect, store and provide complete comprehensive information about the state of vehicles and cargo, the route history, as well as the driver driving habits (e.g. speed, mileage, fuel usage, truck utilization), so allowing transport companies to oversee fleet performance and maintenance needs, which in turn leads to increased fleet efficiency and reduced operational costs and transport time.

A recent report published by Allied Market Research, however warns that installation cost for a fleet management system can be high, reaching up to $100 for advanced tier system [83], which makes them unaffordable for small transport companies with a few trucks, considering that additional costs to be incurred for ensuring connectivity in terms of telecom service charges [84]. These costs, however, are in part mitigated by incentives that in many African countries insurance companies often provide for companies adopting such systems, in terms of reduced insurance premium costs that would otherwise be prohibitive without such systems.

6.4.2 Digital logistics

Logistics in Africa has recently started a change path with the digitalization of logistics operations. In particular, the advent of marketplace solutions and the development of truck aggregation models aimed at facilitating connection between shippers and available drivers are contributing to decrease transport prices and to increase predictability in delivery of cargo. Such solutions also increase security and reliability in transporting goods as they allow cargo owners to track and monitor the status of their shipment all along their routes where it moves, which is notoriously difficult to control in Africa.

Digital logistics represents an important opportunity for improving and reducing transport costs in Africa, and can contribute to solve the problem of finding return cargo. According to a joint report published by the International Finance Corporation (IFC) and Google [85], poor infrastructure and logistics add between 40% and 60% to the cost of goods in Africa and e-logistics providers, which are spreading rapidly, can play a key role in reducing such cost. The main advantage they offer is due to the fact that cargo owners/shippers regis-tered to the system can post an offer of available load to which truck operators can access without any brokers or intermediaries. Such a way all intermediation costs are completely eliminated. Another value-addition of digital operations is the efficient use of data analytics, as such data can suggest to both cargo owners and transporters ways for further improving the efficiency of transporting goods. For example, aggregated data produced by such systems can tell cargo owners which is the better routing or better time for departure of cargo, or can allow them to cope with port congestion more efficiently by deploying their fleet in a timely manner. Lastly, logistics platforms enable shippers and available drivers to conclude quickly a transport contract without the need of filling any paper form, phone calls or complex price negotiations, being the cost of the transport automatically determined by the system. Examples of e-logistics providers currently offering truck aggregation solutions are **TAI+** [86] and **Sendy** [87], which are active in Kenya, **Lori Systems** [88], a cloud-based platform launched in Kenya and Uganda that is now used in other 8 countries in Africa, **Truckr** [89] in Ghana and **Kobo360**, in Nigeria[90] and Cloud-Fret in North Africa [91]. All these e-logistics providers allow truck drivers use an app for taking charge of the transport requests, choosing cargoes according to their nature, volume, weight, and on the basis of pickup location and drop-off location. Once the load is accepted, drivers are bound to the price that is calculated by system.

Conversely, an example of web platform aggregating supply and demand of transport services is the NFLIP (National Freight and Logistic Information Portal) portal [92],

[83] FMS include both low-end tracking systems, such as Stolen Vehicle Recovery (SVR) with basic fleet management features, and most advanced solutions where an on-board computer is in-stalled in the vehicle wirelessly collects and transmits important information, including vehicle location and status, driver identity, fuel usage, distances travelled, as well as trip start and end points..

[84] Allied Market Research, "Smart Fleet Management Market by Mode of Transportation, Application, Connectivity, and Operation: Opportunity Analysis and Industry Forecast, 2020–2027", 2020.

[85] IMF, Google, e-Conomy Africa 2020

[86] https://www.tai-plus.com

[87] https://www.sendyit.com

[88] https://www.lorisystems.com/

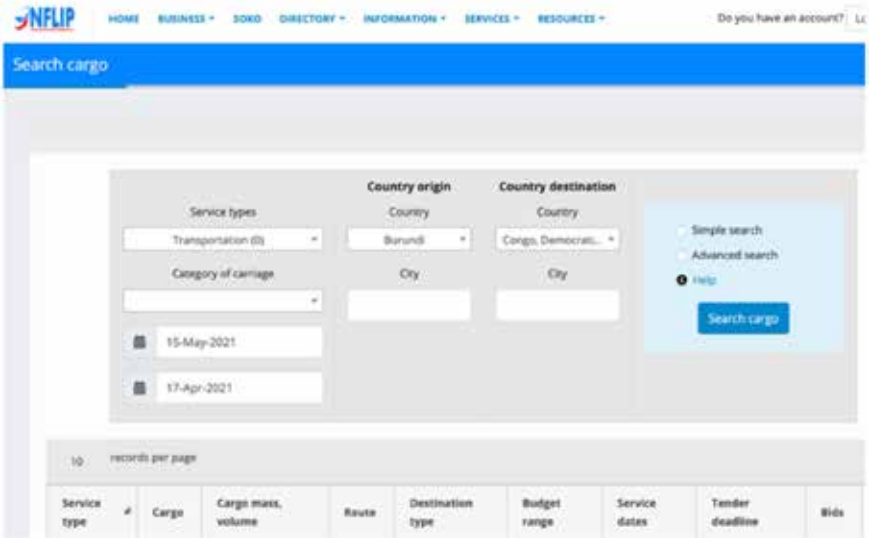
[89] https://www.truckrtech.com

[90] https://www.kobo360.com

[91] https://cloudfret.com

[92] https://www.nflip.co.tz

online marketplace for freight and logistic stakeholders in Tanzania which was launched in December 2019 by the Tanzania Private Sector Foundation with the support of Trademark East Africa (TMEA). The portal allows cargo owners to publish their requests for transportation of cargo and to transport service providers to find cargo to transport.



E-logistics systems can be used also for increasing transparency in the allocation of cargo in West and Central Africa by eliminating the need to be inscribed on waiting lists. In Peru, for instance, a virtual platform called Efletex [93] offers smart allocation of cargo loads among transporters and cargo owners by providing access to a network in which demand and of-fer are matched on the basis of an algorithm that preselects transporters according to their geographical position, vehicle availability, type and size of trucks. Similar to UBER, the platform is interfaced with a downloadable app that sends notifications to the transporters in proximity of the point of loading of cargo with all the requests for its transport. Transporters can answer with a quotation of their prices that if accepted from the cargo owner, will lead to the generation by the system of an electronic consignment note that will allow the transporter to pick up the cargo and to the cargo owners to track it via GPS until the shipment arrives at destination. All transport companies registered on the platform are verified by the system and approved so that cargo owners can be sure about their reliability. This application has significantly improved vehicle optimization and reduced avoid empty return trips of transport companies in the country [94].

6.4.3 Container and cargo tracking systems for goods in transit

Container and cargo tracking systems are widely spreading in Africa for the transport of goods in transit across the various regions. As many countries in the continent have no direct access to the sea, in many cases cargo needs to be imported through the seaports of other nations by transiting through one or more foreign countries before it reaches its final destination, where customs duties, VAT and other related taxes have to be paid.

In the transiting countries, on the other hand, the movement of cargo occurs under suspension of customs duties and other import levies. This gives rise to the risk that during this journey, the whole or part of cargo is diverted to irregular destinations, so evading the payment of all such taxes. This is why customs authorities in such countries must take precautions so that this does not happen, which is usually done by escorting the shipment from the point of entry in their territory up to the point of exit.

Electronic Cargo Tracking Systems (ECTS) are tools that allow Customs to monitor electronically the movement of transit cargo in their national territory without the need of

[93] https://www.efletex.com

[94] Logística 360, supply chain magazine, n. 21, year 5, March/May 2017, Oficina Lima, Peru.

arranging physical escorts. By avoiding risks of diversion of goods in not authorized places, ECTSs also reduce delays and transit time for these goods, with substantial cost savings for transport companies. Security is increased as well, as ECTSs facilitate real time responses from Customs and other authorities that often deploy field patrols or rapid response units along the transit routes to quickly intervene in the event of attempted highway thefts and accidents. However, although these systems in Africa have had a positive impact in terms of reduction of transport costs, they have not led to a complete elimination of customs escorts, that are still required in many countries and regions, especially for sensitive goods (i.e. goods attracting high duties or taxes, such as excises for instance). ECTSs should also eliminating the need for bonds or guarantees on transit cargo, due to reduced risk perception by Customs, as these technologies make real time enforcement of violations by transiting vehicles possible. This, however, is not the case in many African countries and Regions, where goods moving in transit still requires to be secured via a transit bond, despite they are armed with an electronic seal and monitored via an ECTS. In the EAC Community, for instance, a Regional Electronic Cargo Tracking System (RECTS) is implemented along the Northern corridor since 2018 from the place of loading (departure) to destination within Kenya, Rwanda, and Uganda. Subsequently, the system has been extended to the road section connecting Nairobi to Moyale at the border between Kenya and Ethiopia and to the Central Corridor. Since the commissioning of the system, Kenya Revenue Authorities calculated an improvement in transit time from 11 days to 4 days and a drastic reduction in cases of diversion of goods which result in major loses in duty and tax [95].

Currently, a regional electronic **Corridor Trip Monitoring System (CTMS)** is being developed by the Tripartite that will in future be integrated with the RECTS, to allow Customs and other regulatory and law enforcement agencies to track the driver, crew and truck movements against preapproved route plans and to record and monitor driver wellness data such as COVID-19 test results. The CTMS is being developed and deployed in a phased manner and is being piloted on a section of the Trans Kalahari Corridor be-tween Botswana, Namibia and South Africa, a section of the Namibia-Ndola Zambia-Kasumbalesa DRC Corridor and a section of the North-South Corridor covering South Africa, Botswana, Zambia up to the Kasumbalesa border post. Thereafter, the CTMS will be rolled out to other corridors in the Tripartite region based on Member States preparedness. In the COMESA Region, the CTMS replaces a previous system called **COMESA Virtual Trading Facilitation System (CVTFS)**, which has been abandoned because embraced so far only by a few countries.

In the ECOWAS Region a project called ALISA, subsequently renamed "**SIGMAT**" (Système Interconnecté de Gestion des Marchandises en Transit) was launched in March 2019 and initially piloted in Cote d'Ivoire, Burkina Faso, Benin and Togo (and more recently, implemented along the Dakar-Bamako Corridor) for the electronic tracking of the movement of transit goods along some key regional corridors in West Africa. The system also allows ECOWAS customs administrations to dematerialize transit procedures, by replacing the paper-based transit documents exchanged between the customs offices of departure, arrival and transit with a system of electronic messages.

Ethiopia has implemented an ECTS system for goods in transit, although not mandatory, on the Ethiopian section of the Djibouti-Addis Ababa corridor, while more recently, after conclusion of a pilot phase launched in October 2019, the Republic of Congo has developed a new Electronic Cargo Tracking System (ECTS) called «**Ekengue**» (which means "vigilance" in the Lingala language), to ensure that goods moving from the port of Pointe-Noire in transit along Congolese road corridors for reaching other countries in Central Africa are not diverted to unauthorised places, so evading the payment of customs duties and other import taxes. The system, which led to the removal of Customs escorts along the Congolese transit corridors, is based on a GPS/GSM/GPRS tracker that is applied by Customs to containers or to the driver's cab (in case of vehicles transporting bulk cargo), once the truck enters into Congo, which is removed at the border of exit from the country [96].

[95] https://www.kra.go.ke/en/media-center/blog/429-leveraging-on-the-regional-electronic-cargo-tracking-system-for-fair-trade-facilitation

[96] The manual of use of the Ekengue system is available at https://douanes.gouv.cg/assets/downloads/Saisie%20en%20ligne%20des%20Bordereaux%20de%20Suivi%20Electronique.pdf

7 Proposed model for cross-border transport liberalization

7. Proposed model for cross-border transport liberalization

According with the analysis of the various treaties, the characteristics & performances of major road corridors and the direct interview with the different stakeholders, the follow-ing reasons of high cost of road transport in Africa, can be defined:

a) Africa has 16 land-locked countries with a marked trade imbalance mostly with over-seas countries. This situation obliges to transport cargo for a long distance from the nearest harbour of a coastline country with a multitude of return empty trips.
b) A fragmented, not transparent and protectionist regulatory system based on bilateral agreements causes hindrances to the smooth development of international transport operational connectivity and, in a wider sense, to the development of socio-economic relations among the countries concerned.
c) Trucking industry is highly segmented, often informal and based on old vehicle fleet with low utilization rate, low management professionalism and low use of digital solutions.
d) Except a few, the majority of the road corridors do not have a management authority or a data observatory, that could collect useful information on the dynamic performance of the corridor in terms key performance indicators.

Following is the description of the proposed model for cross-border transport liberalization and suggestions for improving road transport performance and decreasing road transport costs.

7.1 Status of liberalization

Transport prices in Africa are lower in those environments that are more liberalised, such as in the Eastern Africa Community (EAC), where prices of transport are determined by the free market forces of demand and supply and restrictions to cross-border movements of trucks have been removed. In North Africa, the Convention for the Transportation of Passengers and Goods and Transit between the AMU countries (1990) have liberalized the movement of commercial vehicles as well. Consequently, truckers registered in one of the Arab Maghreb Union member States can transport goods in other countries in the region without paying any duty or tax, and without the need of obtaining a cross-border road transport permit, on condition that they comply with the axle load and vehicle dimension standards in the country they are entering, which however are not harmonized.

In the COMESA region, transport is also liberalized but to a lesser extent. Except in those few countries that have implemented the COMESA Carrier's license scheme (which is an example of regional scheme for road transportation that allows transport companies with commercial vehicles registered in a COMESA country to operate in the other COMESA member States on the basis of a single license), the cross-border movement of trucks is encapsulated in a network of bilateral agreements that relies on the issuance of cross-border road transport permits obtained in the country where the transport company is registered and having extra-territorial jurisdiction in the country where cargo has to be picked up or delivered.

The need for transporters to obtain a cross-border road permit for entering into another country makes bureaucratic to arrange a cross-border operation, considering that in most cases those who have been granted with such a permit must return it with other documentation (e.g., consignment notes), to the issuing authority. As explained further on in this report, an exception in this Region is represented by Ethiopia, that still maintains restrictions with all its neighbouring countries (except Djibouti) for transiting through its territory.

Likewise, in the SADC and SACU areas, cross-border transport is subject to a system of bilateral cross-border road transport permits regulated by specific agreements concluded by couples of States.

Conversely, transport costs are much higher in the ECOWAS and ECCAS regions where, in an attempt to favour transport operators of landlocked countries (as these ones are geo-graphically penalised in terms of access to cargo in provenance from the ports of

neighbouring countries), a series of bilateral agreements concluded by coastal and landlocked States preclude cargo holders from freely hire the drivers that will transport their cargo, being the latter distributed to truckers purely on the order in which they arrive at the port and on their requests of registration in the waiting list, regardless of any quality and operating efficiency criteria [97]. Moreover, transport companies face greater formalities at border crossings and harassment along corridors, hence higher costs for regularly conducting transport operations.

Although ECOWAS and ECCAS do not implement any system of cross-border road permits, each consignment arriving at a port in these regions and in transit to a landlocked country, follows a distribution scheme that is untransparently managed by intermediary organisations. This scheme is based on uneven repartition criteria defined within bilateral agreements concluded between coastal and landlocked States, that usually reserve 1/3 of cargo to the first and 2/3 to second ones. Such intermediary organisations also control the price of transport, which consequently is not freely determined by the market.

7.2 From quantitative to qualitative regional access regulations

Anyway, **the African road transport market is still far from completely liberalised**. In all countries, access to the profession in **road transport is still based on quantitative, rather than qualitative criteria**, with access to the market in many parts in Africa that is restricted, and mainly dependent on **bilateral agreements** between countries. In such agreements, countries usually accept to issue to their national transport operators bilateral, transit or (in more limited cases) cabotage permits that have extra-territorial recognition by the authorities of the country where cargo has to be delivered and that allow them to pick up cargo to transport back to their originating country. In this way countries are able to control the market share of their national hauliers in international bilateral transport relations. However, such a system is costly and time consuming, because of the need for transport companies to apply for a permit for each country they enter and to pay the relevant fees to the issuing authority. The need for transporters to obtain a cross-border road permit for entering into other countries also makes bureaucratic to arrange a cross-border operation, considering that in most cases those who have been granted with such a permit must return it to the issuing authority within a specified time limit, together with other documentation (e.g., consignment notes). This system also causes obstructions at borders and delays on corridors because of the need to verify the validity of the permits in the destination State. Countries have also to design procedures to monitor the use of permits so to verify that they are used properly by hauliers.

As already considered: **in those environments that are more liberalised, such as in the Eastern Africa Community (EAC), transport prices in Africa are lower as restrictions to cross-border movements of trucks have been removed.**

What is common to all the regulatory tools adopted at bilateral level between African countries, is that they contain provisions aimed at controlling or limiting the supply of cross-border road transport services for passengers and goods between Parties, also known as quantity regulation, which is done through a system of bilateral permits (such as in Southern Africa) or through untransparent schemes for allocation of cargo (like in the West and Central Africa). As worldwide experience shows [98], quantitative restrictions, particularly in freight transport markets, result in anti-competitive and non-transparent behaviours that push transport costs up, deterring transport companies from investing in improving the quality of their transport services and in optimising management practices [99].

Conversely, qualitative regulation refers to the use of qualitative criteria for admitting transporters to conduct cross-border operations. Most of countries and regional organizations that have opted for quality regulation in setting the conditions for admission to the occupation of road transport operator have modelled their regulatory frameworks on the UNECE's (2004) Consolidated Resolution on the Facilitation of International Road

[97]World Bank, "Côte d'Ivoire, Burkina Faso: A Political Economy Analysis of Transport Reforms - The Abidjan-Ouagadougou Corridor, May 2014

[98]Kunaka, C., Tanase V., Latrille, P. and Krausz P., "Quantitative Analysis of Road Transport Agreements (QuARTA)", World Bank, Washington, DC, 2013.

[99]World Bank. 2012. De-fragmenting Africa: Deepening Regional Trade Integration in Goods and Services. Washington, DC., World Bank.

Transport (R.E.4) [100], that identifies 3 main qualitative criteria that should guide the access to the profession of transport operators: a) good repute; b) adequate financial standing; c) professional competence. The good repute requirement is considered met if the transport operator has not been convicted of serious criminal offences (including those of a commercial nature); declared unfit to pursue this business activity; and has not been convicted of serious breaches of labour law, transport legislation, and in particular of rules governing driver's driving time and rest periods, or road traffic, vehicle safety and environment protection (except if he has been rehabilitated). The requirement of adequate financial standing, on the other hand, is aimed at ensuring that such operators have the capital required to properly conduct their business and to maintain the vehicles so to ensure their fitness to road transport, so to prevent any practice that might endanger safety. Lastly, professional competence means that the operator is certified as professionally competent with regard to the rules on transport, has a minimal practical experience in conducting transport operations or can demonstrate understanding of the implications of assuming responsibility for transport operations. This requirement is usually met by pass-ing a compulsory written examination that certifies that the driver possesses sufficient knowledge to engage properly in the occupation of international road transport operator.
The transformation of the regulatory frameworks from quantitative to qualitative, as it has been proven in those countries that shifted to such approach, when properly implement-ed, leads to more competition. In turn, this results in improvement of transport services, improved performance of the cross-border road transport system, reduced transport costs and improved trade between countries. This is why in Africa it is important to overcome the fragmentation of bilateral agreements on road transport.

7.3 From bilateral to multilateral agreements

As worldwide experience shows [101], quantitative restrictions to market access, particularly in freight transport markets, result in anti-competitive and non-transparent behaviours that push transport costs up, deterring transport companies from investing in improving the quality of their transport services and in optimising management practices[102]. Conversely, qualitative regulation [103], when strictly and properly implemented, leads to more competition and reduction of prices.

This is why in Africa it is important to overcome the fragmentation of bilateral agreements on road transport. The introduction of a systems of multilateral permits on the ex-ample of the ECMT system allowing carriers to load goods in a country other than the one where they are established for transporting them to other African countries («third coun-try rule» or "triangulation"), would probably add further complexity, if the African coun-tries will not abandon the current bilateral agreements regulating cross-border transport, as it happened in Europe, where the ECMT system still coexists with the bilateral journey authorisations negotiated with some specific nations. Moreover, this system would be particularly complex to administrate, as it implies the creation of one or more central authorities responsible for the management of the multilateral permit and allocation of licenses, similarly to the International Transportation Forum Road Transport Group (ITF-RTG), while issuance of permits could be left to responsibility of the national Ministries of Transport of each African nation.

The solution of replacing the current bilateral agreements based on quantity regulation of the supply of transport by way of permits and quotas with regional regulatory frameworks incorporating qualitative regulation of operators, drivers and vehicles, is a more suitable option for the African continent. To this end, the Multilateral Cross Border Road Transport Agreement (MCBRTA) is an important attempt in this direction that the Tri-partite is pursuing. Currently, in the COMESA, EAC, and SADC regions, a multiplicity of bilateral road transport agreements largely unharmonized and restrictive in nature, causes major disruptions to cross-border transport operations. The main purpose of MCBRTA is to eliminate such restrictions on road transport between the countries in all the 3 RECs.

[100] https://unece.org/DAM/trans/doc/2002/sc1/TRANS-SC1-2002-04r4e.pdf
[101] Kunaka, C., Tanase V., Latrille, P. and Krausz P., "Quantitative Analysis of Road Transport Agreements (QuARTA)", World Bank, Washington, DC, 2013.
[102] World Bank. 2012. De-fragmenting Africa: Deepening Regional Trade Integration in Goods and Services. Washington, DC., World Bank.
[103] Qualitative regulation may include forward-looking requirements for access to the profession, road safety rules, security, protection of the environment, and so forth.

The other RECs in Africa should build on this experience in order to develop similar schemes in other regions to be adapted to their specific situations. In any case, it is advisable that all these regional frameworks will contain provisions, standards and procedures that are as much as possible aligned with each other, in view of their future convergence towards a continental harmonised framework. This solution, achievable in the long run, would create a more integrated, competitive, and liberalised road transport market in the Continent, enabling each region to more easily trade with other parts of Africa, with a positive impact on cross-border transport in terms of transit time, volumes of trade, com-pliance costs and logistics costs. For this objective to be achieved, RECs will also need to create incentives for the professionalization of the transport and logistics sector, with a clear division of responsibility between the regional and national authorities[104]. To ensure success, compendiums of transport regulations, standards and procedures will also need to be prepared by RECs, and outdated or poorly developed regulations at national level will need to be harmonized with the regional regulatory framework.

As indicated above in this Chapter, to date, cross-border transport in Africa is encapsulated in a cage of bilateral and regional agreements where each State or group of States maintain their own regulatory mechanisms determining market access and operating requirements to be adhered to by transport operators. In order to reduce the transport costs described in the previous Sections of this Chapter, it is particularly important to overcome such fragmentation, especially at level of bilateral agreements on road transport.

However, the **introduction of one or more systems of multilateral permits** on the example of the ECMT system in Europe allowing road hauliers to undertake an unlimited number of multilateral freight operations in 43 countries is not an adequate solution for Africa. Although this system would probably reduce costs for transport operators, it also risks to add further complexity to the current situation of cross-border transport in Africa, if the various countries will not abandon the bilateral agreements regulating cross-border transport, as it happens in Europe, where the ECMT system still coexists with the bilateral journey authorisations negotiated with some specific nations. Moreover, all ECMT-like systems described in this Chapter are based on the issuing of a limited number of periodically negotiated permits, which are allocated proquota between the various na-tions, a system which is not permitted under the African Continental Free Trade Area (AfCFTA) Agreement, that at article 19 mandates State parties to not maintain or adopt limitations on the number of service suppliers, among others, **in the form of numerical quotas.** Lastly, an ECMT-like system would be particularly complex to administrate, as it implies the creation of a central authority responsible for the management and monitoring of the multilateral permits, while their issuance could be left to national States.

The solution of replacing the current bilateral agreements based on quantity regulation of the supply of transport by way of permits and quotas with regional regulatory frameworks incorporating qualitative regulation of operators, drivers and vehicles, is a more suitable option for the African continent. To this end, the Multilateral Cross Border Road Transport Agreement (MCBRTA) is an important attempt in this direction pursued by the Tripartite, which deserves to be replicated in the other RECs. Currently, in the COMESA, EAC, and SADC regions, a multiplicity of bilateral road transport agreements largely unharmonized and restrictive in nature, causes major disruptions to cross-border transport operations. The main purpose of MCBRTA is to eliminate such restrictions on road transport between the countries in all the 3 RECs.

Therefore, other RECs in Africa should learn from this experience, and develop similar schemes in other regions to be adapted to their specific situations. In any case, it is advisable that all these regional frameworks will contain provisions, standards and procedures that are as much as possible aligned with each other, in view of their future convergence towards a continental harmonised framework. This solution, achievable in the long run, would create a more integrated, competitive, and liberalised road transport market in the Continent, enabling each region to more easily trade with other parts of Africa, with a positive impact on cross-border transport in terms of transit time, volumes of trade, compliance costs and logistics costs.
For this objective to be achieved, RECs will also need

[104]African Union, Comprehensive Guidelines for Sustainable Transport: a Corridor approach, Implementation of the Support to the Transport Sector Development Programme Lot 2: Editing and publishing of comprehensive transport sector guidelines, September 2016.

to create incentives for the **professionalization of the transport and logistics sector**, with a clear division of responsibility between the regional and national authorities[105]. To ensure success, compendiums of transport regulations, standards and procedures will also need to be prepared by RECs, and outdated or poorly developed regulations at national level will need to be harmonized with the regional regulatory framework.

Likewise, it would be opportune to **harmonise axle load and vehicle dimension standards** at continental level in order to facilitate transit of cargo vehicle in the entire African continent, so to minimize transhipment operation and reduce transport costs. This objective is in line with the objectives pursued by the African Union within the context of the AfCFTA agreement, which is aimed at increasing intra-African trade, among others, through the elimination of barriers hampering movement of goods among its state parties. To this end, the Vehicle Load Management Memorandum of Understanding (VLM MOU) developed by the Tripartite is a good solution that could be adopted by the other RECs to promote harmonization of standards for weights and dimensions of road transport vehicles in Africa.

Concerning **transit insurance bonds**, the adoption of the TIR Carnet is suggested, due to the reduced implementation of regional customs guarantee schemes. This scheme has hugely contributed to reduce the costs of moving transit goods at global level. However, costs related to the implementation of the TIR Convention can be high, especially for some African States where truck fleets are particularly old (like in West and Central Africa). In fact, such States will need to sustain (or introduce incentives for) the upgrade of domestic fleets so that commercial vehicles circulating in their territories can comply with the strict rules on technical standards and security of vehicles set by the TIR Convention. This is necessary because a condition for trucks to be used under the TIR system is that they can be properly secured with sealing devices ensuring that no goods can be removed or introduced in their internal without leaving obvious traces of tampering or without breaking the customs seals. Moreover, the operationalisation of the TIR system requires an adaptation of national legislations, customs procedures and customs IT systems to accommodate the TIR rules and TIR Carnets data flows, as well as specific training and capacity building activities addressed to both Customs and the private stakeholders that will utilise the system.

7.4 The MCBRTA

The Multilateral Cross Border Road Transport Agreement (MCBRTA) is an attempt of the Tripartite (COMESA, EAC, and SADC) to overcome the fragmentation of the cross-border regulation in the Eastern and Southern Africa (EA-SA) region by abolishing the bilateral permits and the current regulatory measures that restrict, limit or control the supply of transport of passengers and goods in cross-border road transport, replacing them with the registration of transport operators into an IT system called “Transport Register and Information Platform System” (TRIPS) on the basis of their capability to meet specific quality regulation criteria.

Developed as an integral part of an EU-funded initiative launched in October 2017 called “Tripartite Trade and Transport Facilitation Programme” (TTTFP), the MCBRTA promotes the development of a more competitive, integrated and liberalised regional road transport market in the continental[106] member states of the Tripartite. In addition, the Convention aims at harmonising procedures for enforcement of transgressions committed by drivers involved in cross-border operations, through a standardised system of penalties and demerit points under which a person’s driving license can be cancelled or suspended based on the number of points accumulated by them over a period of time because of traffic offences or infringements committed in that period. An integrated Transgression System will also be established to record offences and violations by transport operators and drivers and to administer the standardised penalties and demerit points system as described in the MCBRTA.

The MCBRTA implementation is expected to enhance

[105] African Union, Comprehensive Guidelines for Sustainable Transport: a Corridor approach, Implementation of the Support to the Transport Sector Development Programme Lot 2: Editing and publishing of comprehensive transport sector guidelines, September 2016.

[106] (Madagascar and the Comoros, are not included in the TTTFP programme because they are insular States whose road transport operators operate exclusively within their territories and do not perform cross-border transport operations in the other Tripartite member States territories.

efficient cross border road transport and transit networks in the region and to reduce transport costs and transit times for cargo through the harmonisation of road transport policies, laws, regulations and standards. In addition to such Agreement, the Tripartite also developed a Vehicle Load Management Memorandum of Understanding (VLM MOU) to promote harmonization of standards for weights and dimensions of road transport vehicles, as well as a harmonised approach for vehicle overload controls in the Tripartite region. The VLM MOU is based on The East African Community Vehicle Load Control Act, 2013, but customized to suit the legal environment in each Tripartite country.

The text of the MCBRTA was adopted by the Tripartite Sectoral Ministerial Committee on Infrastructure held in Lusaka in October 2019. This was followed by the approval by the Tripartite Council of Ministers on 17 November 2020, while its definitive enactment by the Tripartite Summit has been scheduled for end of 2021. Next steps will include its ratification by the Tripartite member States and the development of a national plan for the implementation of the Agreement. Afterwards, individual countries will need to repeal all bilateral cross-border road transport agreements currently in force and the cross-border permits systems introduced by such agreements, so that the cross-border road transport sector will be progressively liberalised. MCBRTA signatory States are also required to introduce an enabling regulation in their respective territories, by progressively shifting from a quantity to a quality regulation. This is expected to lead to more competition, im-provement of transport services, improved performance of the cross-border road transport system, reduced transport costs and improved trade between countries[107].

To guide the Tripartite member States to develop uniformly such quality legislation at national level, the Tripartite has developed five model laws[108], to date still available in a draft format, namely: 1) the Vehicle Load Management Model Law[109]; 2) the Cross Border Road Transport Model Law[110]; 3) the Road Traffic Model Law [111]; 4) the Road Traffic and Transport Transgressions Model Law [112]; and 5) the Transport of Dangerous Goods by Road Model Law [113]. In particular, the Road Transports model law aims to harmonise the regulation of the movement of transport operators between and in transit through the territories of the Member States, as well as the access to transportation in the territories of the Member States. The Road Transports model law also aims at facilitating procedures for law enforcement in relation to operators and drivers in respect of cross-border road transport and cabotage given the proposed violations administration system; the monitoring system to record offences and violations by operators and drivers, and the penalty points system established by the Road Traffic and Transport Transgressions model law.

As indicated above, the registration to the TRIPS is a prerequisite for the provision of cross-border services. Such a system is a regional inventory of all those operators who have a proven track record of compliance with road traffic and transport laws in the Region where the MCBRTA is applicable and will be fed with data provided by the national Operator Registration and Transgression Systems of each signatory of the Convention.

In order to be registered to the TRIPS, transport operators have to meet specific quality standards expressly stipulated in the MCBRTA, which are referred to both the vehicles (e.g. compliance with safety and roadworthiness requirements), and drivers (e.g. need to hold a professional driving permit in compliance with the vehicle categories and regional standards prescribed in the Agreement). To this end, transport operators will need to submit an application to the competent authorities of the State where they are established with details of all vehicles owned or operated and the location where the vehicle are maintained and parked. Once concluded the registration to the TRIPS,

[107] Chibira, E. ult, cit.

[108] A model law is a proposed set of provisions pertaining to a specific subject, to be used as a template for lawmakers in national governments for developing their domestic legislation. Although not binding, model laws promote uniformity, avoiding the adoption of fragmented regulatory frameworks between States.

[109] https://staging.ttttfp.org/wp-content/uploads/2019/03/Vehicle-Load-Management-Model-Law-Ver3-Draft1-1Oct18-1.pdf

[110] https://staging.ttttfp.org/wp-content/uploads/2019/03/Cross-Border-Road-Transport-Model-Law-Ver3-Draft1-6Oct18.pdf

[111] https://staging.ttttfp.org/wp-content/uploads/2019/03/Road-Traffic-Model-Law-Ver2-Draft1-9Oct2018.pdf

[112] https://staging.ttttfp.org/wp-content/uploads/2019/03/Model-Law-on-Road-Traffic-and-Transport-Transgressions-Ver3-Draft1-7Oct18.pdf

[113] https://staging.ttttfp.org/wp-content/uploads/2019/03/Transport-of-Dangerous-Goods-by-Road-Model-Law-Ver3-Draft1.pdf

drivers to be engaged in cross-border road transport will need to obtain a specific operator disc for vehicles used in such operations. The operator disc, to be displayed in the truck, entitle drivers to operate within the territory of any of the Parties to the MCBRTA, excluding cabotage, that is initially not permitted under the Agreement, even though a specific clause (art. 17(g)), allows member States to reconsider the possibility of permission of cabotage in their territories within four years from the ratification of the Agreement [114].

The TRIPS system will be developed in conjunction with the Corridor Trip Monitoring System (CTMS), which as indicated above is aimed at tracking the movement of vehicles involved in cross-border transport [115].

7.5 Foreign models of multilateral cross-border permits

Following are a few examples of multilateral cross-border permits, adopted in Europe, Asia and Eastern Mediterranean countries.

7.5.1 ECMT

The most renowned and spread multilateral cross-border permits system at global level is the European Conference of Ministers of Transport (ECMT), an inter-governmental organisation established by a Protocol signed in Brussels on 17th October 1953 representing the Ministries of Transport of the EU member States and other associated countries, mainly from Eastern and Southern Europe.

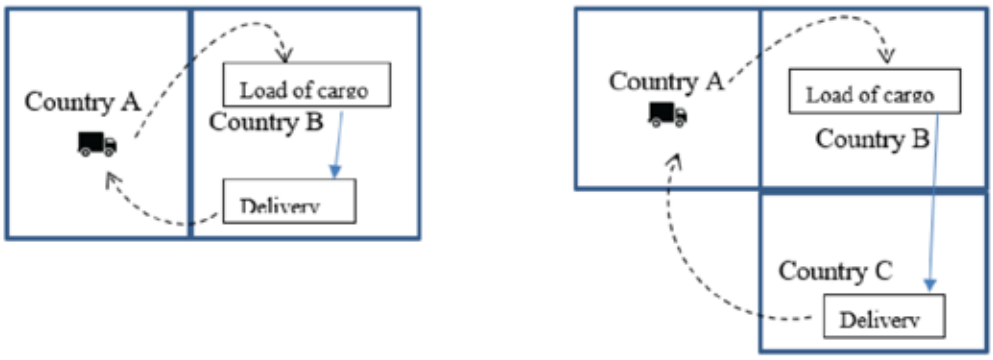
While in the European Union, with the establishment of the Single European market in 1993, all bilateral agreements and permits on road transport between EU Member States have been abolished and replaced by the so-called Euro license (enabling EU hauliers to carry out bilateral, transit and third country transport within the EU on one license and without quantitative restrictions), cross-border road transport between the EU and its neighbouring countries is regulated by a system of multilateral permits that coexists with bilateral journey authorizations.

Bilateral journey authorisations are yearly negotiated between couples of countries within numerical quotas bilaterally agreed that only allow transport from a given place of departure to a given place of destination (to be both indicated in the permit). Conversely, ECMT permits allow hauliers to load goods in other ECMT countries for transporting them to their territory or to another country (so-called «third country rule»/triangulation). In the latter case, hauliers may perform maximum three (3) loaded journeys, after which they have to return to the country where their vehicles have been registered. ECMT permits, on the other hand, do not allow cabotage, i.e., the transport between two points in a country by a vehicle that is not registered in that country, as shown in the next picture.

[114] Cabotage, according to art. 1 of the MCBRTA, means transport undertaken on a public road by a transport operator with a vehicle not registered in the country in which such transport is undertaken and includes: (a) loading and unloading of goods or passengers between two points in such country, but excludes: (b) the loading of goods or passengers in such country for conveyance to another country which is not the country of registration of the vehicle and where such country of registration is not traversed.

[115] e.g. they have never been convicted for any prescribed infringement of national legislation, such as commercial law and trafficking in human beings or drugs, or have never infringed rules on driving time and rest periods of drivers

Figure 11 Difference between cabotage and third country rule



The ECMT system allows transport companies registered in one of the 43 ECMT Member States to carry out an unlimited number of bilateral transports between the territories of the ECMT Member States, while they are not valid for transport between an ECMT country and a third (non-ECMT) country. For instance, a vehicle performing a transport between Norway (ECMT Member country) and Iran as final destination (non-ECMT member country) cannot use an ECMT permit for such a transport.

However, the number of ECMT permits available for countries is limited, being decided yearly by the Road Transport Group (RTG) of the International Transportation Forum (ITF), that allocates them to the ECMT States according to specific quotas[116], while their issuance is under the responsibility of the national Ministries of Transport or Commerce of the States participating to the system [117]. ECMT permits can be valid for one calendar year or for a short-term period of 30 days, and their use is subject to strict regulations, which include, among others, the need to use vehicles with low emissions standards (EURO-categories).

Figure 12 ECMT permit

[116] The core responsibility of the ITF Group on Road Transport is to manage the Multilateral Quota system and to oversee the distribution of the ECMT permits by member countries, including monitoring compliance with quota rules.
[117] The allocation of ECMT permits for the year 2021 was decided by the ITF Group on Road Transport with the document ITF/TMB/TR(2020)11/PROV, available at: https://www.itf-oecd.org/sites/default/files/docs/tr202011_prov_bil.pdf

7.5.2 GMS (Greater Mekong Sub-region) road transport permits system

Another example of multilateral agreement on cross-border road transport is the Greater Mekong Sub region (GMS) Agreement for Facilitation of Cross-border Transport of People and Goods[118] adopted by Lao, Thailand, and Viet Nam (1999), and subsequently ratified by Cambodia (2000), China (2001) and Myanmar (2003).

The Protocol N. 3 to the Agreement[119] establishes that transport operators of one cotracting party are entitled to perform cross-border transport operations in the territory of one or more other parties on the basis of a GMS (Greater Mekong Sub-region) road transport permit whose validity is of 1 year, renewable on request. In order to obtain GMS permits, the transport operator must fulfil a series of conditions which include a series of quality criteria in terms of reliability, professional competence and financial solvency, namely:

a) to be licensed as cross-border transport operator in the home country in which the permit has to be issued and hold at least 51% of the capital of the transport company, which also has to be directed by citizens of this country;
b) not being convicted or sanctioned in the issuing country for serious breaches of relevant laws or regulations; or punished with a sanction for a breach of laws or regulations in the field of road carriage involving a loss of the capacity to exercise the profession of road carrier; or absence of unresolved bankruptcy proceedings;
c) to be professionally competent to operate (i.e., with respect to legality, operational management, knowledge of road safety and technical issues relevant to the road transport business in the countries in which it plans to operate); and
d) to be financially solvent and insured for any operational and/or contractual liability.

A Memorandum of Understanding (MOU)[120] signed in March 2018 allows each GMS Party to issue up to 500 GMS road transport permits (and Temporary Admission Documents, TADs) for goods and passenger vehicles registered, owned and/or operated in their respective territories.

7.5.3 BSEC Permits

On 25 June 1992, the Heads of State and Government of eleven countries (Albania, Ar-menia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Turkey and Ukraine), signed in Istanbul the Summit Declaration and the Bosporus Statement giving birth to the Black Sea Economic Cooperation (BSEC). In April 2004 and November 2020, respectively, also the Republic of Serbia and Republic of North Macedonia joined the Organization.

The BSEC adopted in 2002, a Memorandum of Understanding on Facilitation of Road Transport of Goods in the BSEC Region, entered into force on 20 July 2006, that aims to open the road goods transport market through the implementation of a BSEC permit system, with simplified customs and border crossing procedures.

The BSEC Permit is a multilateral licence for the international carriage of goods by road printed bilingual in both English and Russian languages that can be used by transport

[118] http://www.gms-cbta.org/uploads/resources/15/attachment/1a_ADB_TF_CBTA_I-Agreement.pdf
[119] http://www.laotradeportal.net/kcfinder/upload/files/Protocal 3_CBTA_Eng.pdf
[120] https://www.greatermekong.org/sites/default/files/MOUSigned.pdf

operators with vehicles registered in a Participating Member State for cross-border transport operations that involve two or more countries in the Region. The system was introduced on 9 September 2009, following a decision of seven Member States (namely, Albania, Armenia, Georgia, Moldova, Romania, Serbia and Turkey) that launched a pilot project of the BSEC Permit.

The BSEC Permit do not allow neither third country transport operations, nor cabotage. The BSEC Permit is printed and issued by the PERMIS. The BSEC Permit may be used by only one vehicle (coupled combination of vehicles). When a journey is undertaken using a coupled combination of vehicles, the BSEC Permit is obtained from the competent Authority in the country in which the tractor is registered. The BSEC Permit covers the coupled combination of vehicles, even if the trailer or the semi-trailer is not registered in the name of the holder of the transport licence, or is registered in another Member Country. If goods are transported via a BSEC country where the use of the BSEC Permit is restricted, the said country may be transited with a bilateral license, ECMT license or some other means of transport (including rolling road) according to the bilateral arrange-ments agreed upon by the authorities of the subject country and the country of registration.

The BSEC Permit has to be carried on board the vehicle during a full round trip. It does not exempt the carrier from requirements relating to any other authorisations for the carriage of exceptional loads in terms of size or weight or for specific categories of goods (for example, dangerous goods). A BSEC Permit may be used for vehicles hired or leased without a driver, by the transport undertaking to which it has been issued. The vehicle must be at the exclusive disposal of the undertaking using it when hired and must be driven by the staff of this undertaking. The BSEC Permit may not be transferred by an under-taking to a third party.


THE ORGANIZATION OF THE BLACK SEA ECONOMIC COOPERATION
ЧЕРНОМОРСКАЯ ОРГАНИЗАЦИЯ ПО ЭКОНОМИЧЕСКОМУ СОТРУДНИЧЕСТВУ
BSEC
JOURNEY AUTHORIZATION / РАЗРЕШЕНИЕ НА РЕЙС
FOR THE INTERNATIONAL CARRIAGE OF GOODS BY ROAD
ПО МЕЖДУНАРОДНОЙ АВТОМОБИЛЬНОЙ ПЕРЕВОЗКЕ ГРУЗОВ
ALBANIA
2010


ALBANIA
ARMENIA
GEORGIA
MOLDOVA
ROMANIA
SERBIA
TURKEY

7.5.4 MulPerSys

The Transport Division of the United Nations Economic and Social Commission for Asia and Pacific (UN/ESCAP), launched in 2016 a project for harmonizing legal environment for operations of international road transport in the ESCAP region. The aim of the project was to collect and assess all the existing legal environment of ESCAP member States in the area of cross-border road transport in view of their future harmonization. An online **Database of Agreements Related to International Road Transport (TADB)** [121] was also developed by the ESCAP Secretariat, that currently includes the texts of over 200 bilateral and multilateral agreements applicable in the region.

During three Regional Meetings held in Bangkok (Thailand) in December 2015 and in August 2016, and in Dushanbe (Tajikistan) in May 2016, the ESCAP member States recognized the need to develop a multilateral permits system as a tool to facilitate cross-border road transport along the Asian Highway Network, and asked the UN/ESCAP Secretariat to prepare a preliminary study to assess the advantages of this system. The study, completed in June 2017, proposes the introduction of a Multilateral Permits Scheme called "MulPerSys"[122] which is largely inspired to the multilateral permits systems established by the European Conference of Ministers of Transport (ECMT) and by the Black Sea Eco-nomic Cooperation (BSEC). Together with this proposal, the UN/ESCAP Secretariat also developed a set of cross-border road transport performance indicators to assess the performance of cross-border transport on the Asian Highway Network" [123].

The MulPerSys, not yet implemented, will not replace the bilateral transport permits cur-rently exchanged by ESCAP members for cross-border operations, but will run in parallel with it. It will consist of multiple-entry transport permits valid for one calendar year (from 1 January to 31 December of each year) or monthly (short-term permits), allowing hauliers to move freight along the Asian Highway Network without obstructions. This should put an end to the practice of trans-loading cargo at borders, which is one of the factors that mainly contributes to the high cost of transport in this Region.

7.6 Increasing efficiency of transport companies

Following are specific proposals to be taken by the transport companies and regulators, in order to increase the efficiency of road transport companies, logistic corridors and reduce road transport costs.

7.6.1 Trailer-swap and container-swap practices

Trailer-swap and container-swap are useful practices that can reduce transport costs or avoid trucks travelling back empty. Described at Paragraph 6.4.1., these practices should be promoted as they avoid time-consuming, tedious and unproductive transhipment oper-ations at African borders, by piloting them on one or more selected African corridors to analyse the potential reduction of transport costs and transit time that is achievable through the from the utilisation of this scheme. A similar exercise was done for instance in Myanmar (see Chapter 7.6.2) where a «semi-trailer swapping» pilot project was launched initially on a road corridor linking to country to Thailand, subsequently extended to other countries in the region.

7.6.2 Web-based trade portals

Transparency of transport regulation is a necessary prerequisite for smooth cross-border operations and for ensuring that vehicles and goods arrive at destination fully compliant and without delays. Moreover, such transparency is critical for transport operators to make sound business decisions based on an accurate understanding of the regulatory environ-ment in each country they travel.

Trade portals are nowadays used by many African countries and RECs[124] to provide traders with updated information on

[121] https://tadb.unescap.org
[122] https://www.unescap.org/sites/default/files/MulPerSys-June%2017-RM.pdf
[123] https://www.unescap.org/sites/default/files/Road%20Transport%20Indicators-June%2017-RM.pdf
[124] Examples are the Regional Trade Information Portal of the East African Community, which is linked with national trade portals in Kenya, Rwanda, Tanzania and Uganda, and the ECOWAS Trade Information System (ECOTIS), a centralized portal that provides easily accessible, timely and relevant trade related information and intelligence for informed business decisions, poli-cy formulation and academic research.

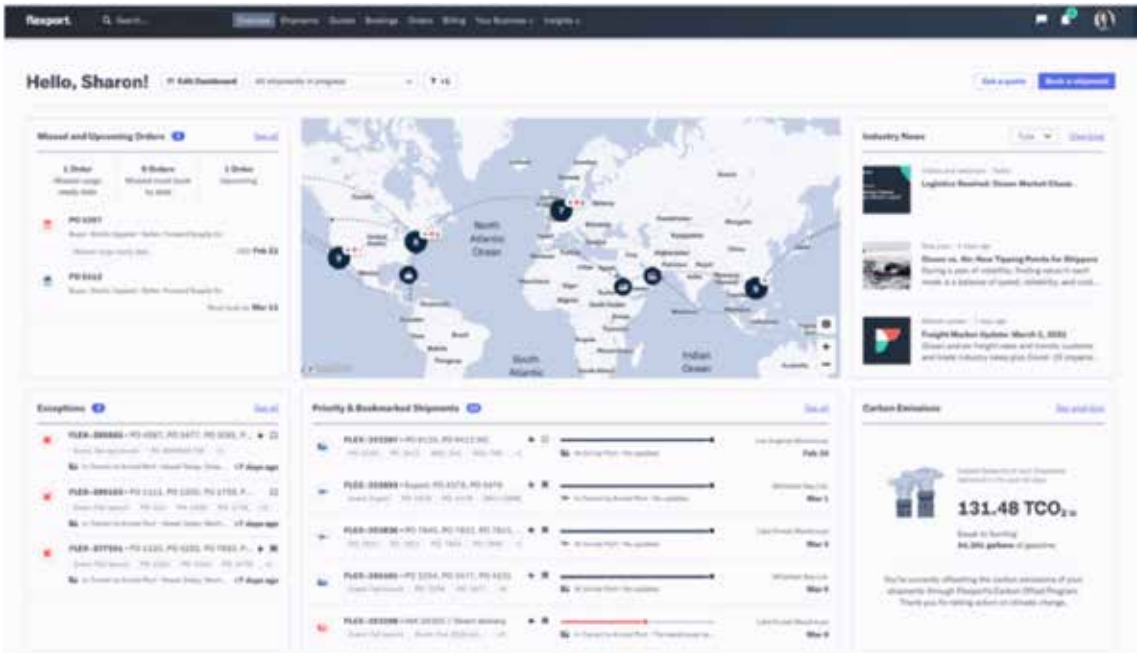
regulatory requirements needed to undertake international trade transactions, but they rarely include information on transport regulation. The creation of transparent transport regulatory environments, where all transport-related information is available on easily accessible platforms, can ameliorate the time and costs of searching for information, as long-distance transporters driving along through corridors connecting multiple countries can easily access to the various applicable to cross-border operations.

It would be therefore opportune to integrate national and regional trade portals with information, requirements and forms necessary for undertaking cross-border transport operations.

7.6.3 Encouraging the use of digital logistics solutions

Marketplace solutions and truck aggregation schemes (described at Chapter 6.4.2.), can significantly decrease transport prices and increase predictability in delivery of cargo, improving security and reliability in transporting goods and reducing empty cargo trips.

The adoption of such technologies, especially in those African regions where transport is highly regulated and with a strong presence of intermediaries that procure cargo and unilaterally decide transport fares, can have a disruptive effect on transport prices. To this end, such initiatives should be promoted by virtue of subsidies for their development or tax incentives to their users (e.g., VAT reductions for transport services contracts concluded via these apps), and by incorporating them in the design of transport corridor packages. Initiatives aimed at integrating IT systems and platforms of the various transport services providers (e.g. road, maritime, railway, etc.) should also be promoted, so to allow cargo owners to book multimodal transport services from end-to-end and track their shipments from origin to destination, so reducing transport costs. Indeed, an integrated transport system where all transport modes are connected with each other that wants to offer reliable, cost-effective domestic and international connections (so to minimise the duration of trips and, therefore, transport costs for traders), needs to be supported by the development of single platforms that make information about routes, schedules, transfers, vehicle real time location, and estimated time of arrivals (ETA) for the different modes of transport available to traders in an integrated way, improving commuter decision making. An example of such integration is offered for instance by Flexport and Convoy, two logistics platforms that have recently integrated their respective systems to allow cargo owners in North America access to transport offerings from road, air and maritime transport operators through a single platform (see next figure) [125].



[125] https://www.flexport.com/blog/convoy-extends-flexports-full-truckload-network-in-the-platform/

7.6.4 Introducing Fleet Management Systems

As indicated above, FMS is a software system or IT platform that serves to track and manage commercial fleets of vehicles to ensure they are utilized safely, efficiently and profes-sionally. Logistics companies need full visibility on the supply chain process. Shipments must be tracked to make sure that they follow the prescribed route and in order to detect any disruption, so that prompt actions can be taken. Moreover, by providing comprehen-sive information about the state of vehicles and cargo, the route history, and driver driv-ing habits such as speed, mileage, fuel usage and truck utilization, FMSs allow transport companies to increase fleet efficiency and to reduce operational costs and transport time. Tracking fuel usage also encourages drivers to conserve fuel, reducing its use by a substan-tial amount. The adoption of these systems by transport companies should therefore be encouraged, by introducing specific tax incentives or tax deductions for their purchase. An example is offered by the United States, where the Section 179 of the Internal Revenue Code allows trucking companies and truck owners to deduct from taxes the purchase of trucking equipment including electronic logging devices, GPS fleet tracking technology, and other equipment upgrades to fleet management [126].

7.6.5 Establishing Corridor Management & Monitoring Systems

As already indicated, many of the corridors analysed in this report are not overseen by a specific Corridor Management Authority (CMA). The need to set up fully fledged corridor management institutions in transport corridors where they do not exist should be considered, given the benefits they provide in terms of facilitation of transport and transit operations. However, experience gained from those corridors that have created such authorities also shows that as their operation is particularly onerous and costly, these authorities should not be established in those corridors connecting a few countries. In any case, also when established with the support of international financial institutions or donors, adequate funding options need to be planned for covering the CMAs costs since the onset, otherwise they risk to be unsustainable in the long term. These options generally include contributions by Governments, usage fees or traffic-based fees (e.g., tonnage levies), which must be set at a reasonable level, to avoid these corridors to become too expensive or to engender in their users the perception that costs exceed the expected benefits.

To modernise the transport system along the main corridors in Africa by improving their efficiency and reducing transport costs, is the adoption of SMART corridor concept, characterised by quality infrastructure and logistic facilities, which connects two or more coun-tries and where cargo and passenger movement is facilitated by the use of cutting-edge IT technologies, which should also include Road Information Systems, i.e., systems allowing road authorities to monitor traffic movements along corridors and corridor users to obtain real-time information on traffic and on the status of roads, by virtue of traffic alerts that can be received directly on their mobile devices.

The Northern and Central Corridors, in particular, made great efforts geared towards making them Smart Corridors, by promoting the implementation of a Cross-border Intelligent Transport System (ITS) and establishing Transport Observatory Portals and corridor performance monitoring tools aimed at reducing costs and delays of transportation and other related logistics challenges. Transport observatories process data collected from many stakeholders along the corridor Member States including Revenue, Roads, Ports and Rail-way Authorities, as well as private sector institutions like Transport Associations.

The NCTTCA, along the Northern Corridor, also coordinates the implementation of Electronic Cargo Tracking System, Fleet Management System and Electronic Vehicle Overload System, with major achievements recorded in Uganda, Rwanda and Kenya [127]. In the Kenyan section of the corridor, computerised high-speed weighing motion devices have been adopted that automatically detect, through CCTV cameras and underground sensors imbedded in the road, trucks weighing more than the legal limit. This system reduces congestion because only those vehicles exceeding the limits are directed in other lanes parallel to the main road for static weighing, while the other that respect such limits can continue the trip without interruption or delays. Moreover, once weighted, the weigh-bridge test results are shared between all the

[126] https://www.section179.org/section_179_deduction/
[127] Northern Corridor Strategic Plan 2017-2021

other weighbridges stations along the corridor, so that multiple weight measurements in the Kenyan territory can be avoided.

Another important activity is the establishment of a **system for monitoring barriers to transport and trade** in Africa. Various initiatives have been developed in Africa to identify and monitor the main problems and bottlenecks affecting transports and Non-Tariff Barriers (NTBs) hindering the free flow of goods and services.

7.6.6 Harmonisation of third-party liability coverage schemes

As indicated above, travelling on inter-state transport corridors is particularly expensive because of the multiple insurance schemes required to transporters in each country they cross. To overcome this problem, some RECs in Africa have developed regional motor ve-hicle insurance schemes that cover third-party liabilities and medical expenses for the drivers travelling from a country to another within their territory. This is the case of COMESA, ECOWAS and CEMAC, while an additional regional system has been developed in North Africa and some Sub-Saharan countries by the League of Arab States.

All such schemes give transport operators advantages in terms of facilitation of cross-border transport and trade due to elimination of the need for drivers to take out an insurance every time they cross a border. However, if, on one hand, such regional insurance schemes facilitate cross-border transport and trade at intra-REC level, **they do not cover inter-REC transport**, i.e. transport from a country member of a certain REC to another REC. A solution to this problem would be the merging of such schemes into a single, harmonized continental insurance scheme so that inter-REC transport is facilitated. Alternatively, mutual recognition agreements between the third-party liability regional schemes developed so far by the various African RECs could be concluded so that the insurance coverage granted in one specific REC can be recognised in others.

7.6.7 Harmonisation of transit bonds

To date, many Regional Economic Communities (RECs) implement regional customs guarantee schemes where a transit bond obtained in a member State is accepted in the other member countries that the trader has to cross. But the problem with such schemes is that they are implemented only in a few African nations. Because of their limited use, a trader that is moving goods from a coastal country to an inland destination through the territories of more than one transit country (or vice-versa), is required to purchase a cus-toms bond in each nation he crosses. This happens because the bond purchased in the first country of transit in most cases is not accepted by the customs authorities of the other transit countries. When this situation occurs, the operator is obliged to purchase transit bonds for each States his cargo will move.

A solution to this problem is the development of a **continental** transit guarantee system able to cover the risk of loss of import duties or other revenues for customs authorities in the event that the transit procedures is not discharged properly. A project for the imple-mentation of such a continental scheme is the “Afreximbank-African Collaborative Trans-it Guarantee Scheme” (ACTGS), which is currently being piloted in the COMESA Region. Once concluded this exercise, it would be opportune to extend the scheme to the other Regional Economic Communities in Africa, and ultimately to the entire Continent.

8 Analysis of the impact of market liberalization

8. Analysis of the impact of market liberalization

The analysis of the impact of market liberalization, together with the other measures aiming to increase road transport companies' efficiency, is an important aspect of the study; whose aim is to create a roadmap to decrease the present high costs of road transport in Africa.

The analysis of impacts cannot bring to quantitative results in a theoretical way, but needs to be based on field surveys in "with" and "without" regulation conditions, both geographically or temporarily separated, as expressed in the following paragraphs.

According with the Consultant opinion, the application of the new market liberalization model, corridor monitoring organization and transport companies increased efficiency will have impact in:

- Reducing transport price, through a clearer qualitative more than quantitative access regulation, multilateral more than bilateral agreements, use of standard insurance schemes, increased efficiency of logistic corridor performances, use of logistics and fleet management systems, renovation of vehicle fleets and higher utilization rate.
- Reducing transit time, through simplification and uniformity of transport regulations, harmonised axle load & vehicle dimensions, establishment corridor management and monitoring schemes, web-based platform to allocation of cargo in return trips.
- Increasing reliability, through the introduction of corridor trip monitoring systems and company fleet management systems.
- Increasing security, through corridor management and monitoring schemes, electronic cargo tracking systems and naturally a major road police control.

8.1 Expected wider impacts of market liberalization

It is expected that the new proposed model, apart from diminishing the current obstacles to efficient border crossing (by means of a well administered multilateral transport access system), will lead to subsequent indirect benefits:

1) it would give a further impetus to the development of intra-regional and intra-sub regional trade and economic cooperation; more efficient transport and logistics solutions would obviously support cooperation among all players in all economic sectors;
2) it would similarly support inter-regional cooperation and commercial ties via more efficient logistics links with the outside world on land routes and through international ports;
3) the implementation of such a system would reduce administration costs, as well as the transportation time and cost;
4) once achieved, a more open access to transport markets through the multilateral system would create the foundation and put a positive pressure on those responsi-ble to achieve improvements in other trade and transport facilitation areas: e.g. creating efficient customs transit systems among countries concerned, easing access of professional drivers to a multi-entry annual visa scheme, solving international insurance problems of goods and vehicle, and so on.

Moreover, from a long-term perspective, the implementation of a multilateral access system could act as a milestone in the ambitious regional integration process promoted by the African Continental Free Trade Area (AfCFTA).

8.2 Parameters to monitor

Although a much more inclusive set of indicators might be needed for the assessment of a specific corridor, for a study of the present magnitude, the Consultant suggests a minimum set of indicators that should be assessed for all corridors and replicated at frequent intervals. Such indicators should provide a comprehensive perspective on how well a corridor is performing.

Based on the international literature and Consultant experience, a minimum set of five indicators should be

used to measure the performance of a corridor:

1) the **volume of trade** passing through the road corridor, at a border post, or some other important checkpoint along the corridor;
2) the **time taken to transit** the whole corridor and each part of it;
3) the **cost to importers or shippers** to move cargo over the length of a road corridor or a part of it
4) the **variation in time and cost** for the whole corridor and each part of its components (reliability)
5) the **security of goods** transported in the corridor and the safety of the people involved in that transport.

The values of the five indicators (volume of trade, cost, time, reliability and security) should be based on official available data (volume of trade, cost, time) or calculated by interpreting the responses to questionnaires (reliability, security), where the Consultant will try to adopt objective considerations valid for all corridors.

8.3 Measurement of indicators

The measurement of the impacts of the proposed market liberalization is not an easy and rapid task and should be based on a continuous and rigorous data collection process, through:

(i) identify the most appropriate performance indicator able to capture the real effects of the new regulations;
(ii) evaluate performance changes in the same road corridor;
(iii) evaluate the performances of different corridors, having applied or not the new regulations.

The corridor volume, cost, time, and reliability should be calculated for the total truck transit from the port gateway (when cargo is loaded on the truck), through border crossing up to final destination or dry port (where the cargo is offloaded from the truck). Presently these parameters are collected separately by different organizations and nations. The establishment of a **corridor monitoring system** will allow the collection of the whole trip from cargo onload to final destination. It is useful that indicators identify also the times and costs of transport at each stage of transit through the corridor, as well as through the corridor as a whole, as this would be useful in assessing how products traded through a corridor can be made more competitive in their destination markets.

For the comparison to be useful for the same corridor at different times or between corri-dors, they need to measure the same indicator, defined and measured in comparable ways. Comparability has not been satisfied by most corridor monitoring efforts until now. Monitoring has been aimed largely at assessing the performance of a single corridor at one point in time or comparison of performance at different points in time, applications for which consistency is not needed (although for comparison over time, consistency between the measurements each time they are taken is just as important as consistency of the measurements between corridors).

There will usually be a time lag between the taking of an action to improve performance and a detectable indication that performance has changed, so a suitable time interval should pass before monitoring can be expected to show a result. Although some interventions can have an impact in the short term, a time interval of two years between measures should allow for the changes in performance to be noticeable, even if the impact on volumes of trade takes longer.

It is also to be considered that performance of a corridor can change over time for reasons that have little or nothing to do with the quality of infrastructure or logistics services in the corridor itself. Factors include the terms of trade of the products traded in the corridor, the political relationship between or within countries or regions that make up the corridor, and changes in the trade regime of the country or countries trading in the corridor, such as a reform of the customs agency or simplification of the tariff regime.

An important parameter is to monitor deviations of performance from the norm. When deviations occur, the data can be used to trigger remedial action to set it back on course before the trade impacts become too grave. Deterioration in performance will be detectable in monitoring parameters before it is apparent in trade statistics, allowing pre-emptive action to be taken. Systems for continuous monitoring of performance become important.

8.3.1 Characteristics of Indicators

There are many potential indicators for monitoring the performance of trade corridors. As the monitoring process needs to be relatively simple to be replicable and affordable, only a few of these indicators can be included in the monitoring process. Although a much more inclusive set of indicators might be needed for assessment of a specific corridor, this module suggests a minimum set of indicators that should be measured for all corridors and rep-licated at frequent intervals. Taken together, the indicators should provide a comprehensive perspective on how well a corridor is performing. To be included in this minimum set, an indicator should satisfy several criteria, set out below.

Measurability. The indicator should be easy to measure and replicate at different points in time and in a wide range of types of corridors.

Cost. The indicator should add only marginally to the cost of collecting data.

Relevance. The indicator should be relevant to making decisions about logistics at the level of corridor activities. In particular, it should be usable by governments, traders, logistics operators, and agencies involved in trade facilitation.

Consistency. The indicator should be consistent and its parameters easily understood.

Attention should be given to the following aspects that can change the significance of the comparison:

Types of products and packaging. The relevant characteristics of a corridor can be very product specific, but it is possible to categorize products in several ways, depending on the importance of delivery time. Perishable goods whose unit value reduces rapidly over time can be in the highest category and bulk products that have a constant value over time in the lowest category. Related to this is a categorization by unit value, with products having the highest unit value in the highest category and products with the lowest unit value in the lowest category

Consignment size and frequency. The time and cost of transporting products through a corridor is highly dependent on the size of the consignment and the frequency of shipment. In order to ensure consistency between the values for monitoring indicators in the same corridor over a period of time and between corridors at a given point in time, it is important that they relate to the same size and frequency of shipments. For the indicators used in this Toolkit, specifications that apply to most corridors for which comparative monitoring measures are likely to be used could be the following:

- Break-bulk shipments: Five truckloads every month for six months, using three-axle trucks with a gross vehicle weight of 24 tonnes that is 25 percent overloaded (that is, it transports a payload of about 16 net tonnes). The assumed value of the freight is about $50 per tonne for exports (high for agricultural products but about average for the semi-manufactured products typically transported as break-bulk).
- Containers: Five 20-foot containers shipped once every month for a period of six months. The assumed value of the freight is about $25,000 per TEU (about $3,000 per tonne), about average for shipments of manufactured goods typically exported to and imported from developing countries.
- Dry bulk shipments: A single consignment of 5,000 tonnes every month for a period of six months. The assumed average value is about $25 per tonne, which can apply to many agricultural and mineral products often transported as dry bulk.

Imports and exports. Monitoring indicators are related to the competitiveness of the products traded in the corridor. If the products are imports, they need to be competitive in the domestic market of the country to which they are imported, where they will compete with domestically produced products as well as goods imported from other countries and via other corridors. If they are exports, they will compete in the markets of the destination country with products made domestically in those countries as well as with imports from other countries or transported via other corridors.

Stages of corridor activity to monitor. Some methods of monitoring corridor performance deal with 20 or more specific transport and trade facilitation and storage activities. For some purposes, in particular the identification and evaluation of actions to im-prove corridor performance, such detail may be useful. But for the three main uses of corridor indicators (assessing overall performance, comparing the performance of a corridor over time, and comparing performance of a corridor with other corridors) such detail is rarely needed. However, it is usually necessary to consider more than just the corridor as a whole if the monitoring indicators are to have any practical use in addition to measuring the impact of the corridor on the competitiveness of the products traded in the corridor in their final markets. For the comparison of different trade corridors, it is useful to include at least five stages of a corridor from a coastal country and another two stages for a landlocked country (more can be added for doubly landlocked countries).

International origins and destinations. If the indicators are to be used to compare corridors, they need to relate to common origins or destinations. For most products transported in containers there are three major destination markets: the East Coast of the United States, the West Coast of the United States, and Europe. Although South Asia is rapidly increasing in importance as a source for imports to developing countries, most analyses use just one source, East Asia. For each of these markets, maritime transport is an important part of the trade corridor and accounts for a significant share of the cost of the delivered products (and for the delivered cost of imports to developing countries from these three sources).

9 Kpis for corridor performance monitoring

9. Kpis for corridor performance monitoring

Following is described the present KPIs and Dashboards used by the Corridor Management Authorities and the organization and procedure proposed by the Consultant to collect the inputs for the calculation of the different Key Performance Indicators (KPIs) and to build the representative Dashboard.

9.1 Indicators and dashboard currently in use at the observatories

9.1.1 The monitoring systems of the corridors

A survey of the corridors has been carried out to find how the monitoring systems were structured by the responsible authorities or the governing bodies. The survey has been made through the world wide web, searching the corridor Authorities internet sites and, if available, the observatory (or any other monitoring structure) web pages. The internet investigations have been deeply carried out, and several attempts have been made to search for the corridor web pages.

The results of the investigations are reported in the following table (Table 5). As stated in the chapter describing corridor governance, some corridors do not have any governing body or Authority ruling and monitoring the operation of the corridor.

Table 5 Corridor Observatory Web Page and Dashboard

Corridor	e-mail	Main Web Page	Observatory WP	Dashboard
Trans-Maghreb				
Northern Corridor (NCTTCA)	ttca@ttcanc.org	http://www.ttcanc.org/index.php	http://top.ttcanc.org/	kandalakaskazini.or.ke
Dar es Salaam Corridor		www.darcorridor.org/	No Observatory	No Dashboard
Central Corridor (CCTTFA)	ttfa@centralcorridor-ttfa.org	https://centralcorridor-ttfa.org/	http://observatory.centralcorridor-ttfa.org/index.php/en/	http://observatory.centralcorridor-ttfa.org/index.php/en/performance/index
Maputo Corridor Logistic Initiative (MCLI)		https://www.mcli.co.za/	No Observatory	No Dashboard
Walvis Bay - Trans Kalahari Corridor		http://www.tkcmc.com/	No observatory	No Dashboard
Walvis Bay - Trans Caprivi Corridor (Walvis Bay-Ndola-Lubumbashi Development Road)		http://www.wbcg.com.na/?page_id=42	No observatory	No Dashboard
Beira Corridor		https://beiracorridor.org/	No Observatory	No Dashboard
Douala - Ndjamena Corridor		No Web Page	No Observatory	No Dashboard

Corridor	e-mail	Main Web Page	Observatory WP	Dashboard
Douala - Bangui Corridor		No Web Page	No Observatory	No Dashboard
Dakar - Bamako - Ouagadougou - Niamey		No Web Page	No Observatory	No Dashboard
Abidjan - Lagos Corridor	secretari-at@ corridor-wa.org		No Observatory	No Dashboard
Tema - Ouagadougou		No Web Page	No Observatory	No Dashboard

There are only two observatories which are actually operational, with two active web pages (the address reported in the column "Observatory-WP): The Northern Corridor and the Central Corridor. Some other corridor has a web page, but no observatory, and normally in the web page few or any information is given about the performance indicators.

During the investigations, many difficulties in connecting to the Northern Corridor observatory have been experienced. Only in few cases it has been possible to connect to this observatory and to the dashboard page. Mostly, the connecting attempts have resulted in the error message "connection time out" due to the server busy. No problem in connecting to the Central Corridor web page and related observatory.

9.1.2 The Indicators of the Observatories

The following two tables show the indicators used by the Central Corridor (Table 6) and the Northern Corridor Observatories (Table 7) to monitor corridor performances, with an explanation of the quantities measured by each indicator. Indicators are grouped per "chapters" (type of quantities to measure and to represent) following the Corridor Authority web pages. The Titles (chapters) they are grouped are:

- Efficiency and Productivity (NCTTCA; CCTTFA);
- Volumes and Transaction (CCTTFA); Volumes and Capacity (NCTTCA);
- Transit Times (CCTTFA); Transit Time and Delivery (NCTTCA);
- Cost of Services and Transport (CCTTFA); Rates and Costs (NCTTCA);
- Dar - Mwanza – Port Bell - Kampala route (CCTTFA);
- Intra-Regional trips (NCTTCA).

Both the two sets of indicators, of course with the necessary differences, refer to the same "quantity" of transport and trading to measure, mainly targeted to the Efficiency, the Transportation Time and to the Cost/Rate of trade.

It is to remark that in the "Efficiency and Productivity" group of the Northern Corridor, the "Number of Checkpoints" has been included, as it is likely to be one of the main causes of delay in transit times.

During the investigations, data of some indicators have been downloaded [128]. Generally, data not always are up to date.

[128] Download indicators data by the Northern Corridor Observatory has been carried out with some difficulties due to the connection not very sound.

Table 6 Central Corridor Observatory Indicators - CCTTFA - CCTO Indicators

EFFICIENCY AND PRODUCTIVITY	Overall TRA release time	This is the time taken to have an entry lodged by Clearing & Forwarding Agents passed by Customs
	Vessel Turnaround Time per Commodity	Shows an average time difference per month from when a ship is ON-Berth to when the ship is OFF-Berth measured in Hours from Tanzania Port Authority.
	Percentage of Imports per Entry Border	Percentage of Imports per Entry Border
	TICTS average local container dwell time	Shows TICTS average local container dwell time per month.
	TICTS Average Transit Containers Dwell Time	Shows an average Transit Containers dwell time per month from TICTS
	TICTS Average Import Overall Container Dwell Time	Shows an average Import Overall Container dwell time per month from TICTS
	TPA Average Local Container Dwell Time	Shows an Average Local Container Dwell Time at Dar es Salaam Port.
	TPA Average Transit Container Dwell Time	Shows an Average Transit Container Dwell Time at Dar es Salaam Port.
	TPA Average Import Overall Container Dwell Time	Shows an Average Import Overall Container Dwell Time at Dar Port.
	Truck Turnaround Time TPA	Refers to the average time taken for Truck Loading at Tanzania Ports Authority (TPA) measured from the average time difference be-tween TruckINDate and TruckOUTDate.
	Truck Turnaround Time TICTS	Refers to the average time taken in Hours for Truck Loading cargo at Tanzania International Container Terminal Services (TICTS) measured from the average time difference between Truck Gate Out date and Truck Gate In date.
	Ship Turnaround Time	Ship turnaround time is the total time spent by a ship at the port; measured from an average time difference per month from when the ship is ON-Berth to when the ship is OFF-Berth measured in hours/ship from Tanzania Ports Authority. The components of the ship turnaround time include Ship waiting time, Berthing/un-berthing time and Berth time (Service time).
VOLUMES OF TRANSACTION	Percentage of Imports per Border	Percentage of imports per border
	Percentage of imports per commodity	Percentage of imports per commodity
	Volume of imports per Border	Volume of imports per border Pie
	Overall Imports per Commodity	Overall Imports per Commodity
	Overall Volume of imports per border	Overall Volume of imports per border
	Volume of Imports per Entry Border	Volume of Imports per Entry Border
	Volume of Imports per Destination Border	Volume of Imports per Destination Border

VOLUMES OF TRANSACTION	Percentage of Imports per Customs Desti-nation	Shows a Percentage Distribution for Goods Paid at a particular Custom Point
	Percentage of Tanzania Registered Transit Trucks vs Other Countries	Shows the Percentage of Tanzania Registered Transit Trucks against other Countries Registered Trucks that are carrying cargo from Dar es Salaam Port. Observed that Tanzania Transit Trucks are dominating the percentage of Trucks carrying cargo from Dar es Salaam Port.
	Overall Imports per Country per Commod-ity in Metric Tons	Shows an overall of Imports per Country and per Commodity measured in Metric Tons. Observed 62% of the total imports per Country and per Commodity is the local cargo while imports Transported to D.R Congo is 10% within Central Corridor Member States. Uganda is the least with approx. 1% of the overall Imports.
	Overall Imports (with Liquid inclusive) through Dar Port	Shows the overall total imports (with liquid inclusive) through the Port of Dar es Salaam. Observed that the large volume is Local Cargo (do-mestic) with more than 60% while for Transit Cargo, The large volume is transported to D.R Congo within Central Corridor Member Countries.
	Overall Export per Country through Dar es Salaam Port	Shows the overall volume of Export per Country through the Port of Dar es Salaam measured in Metric Tons. The statistics indicate that the large volume of exports are originating from Tanzania with more than 50% while other countries are jointly sharing the remaining percent-age.
TRANSIT TIMES	Transit Time to Mutukula Border	Shows an Average Transit Time from Dar Port to Mutukula Border, a Border between Tanzania and Uganda
	Transit Time to Rusumo Border	Shows an Average Transit Time from Dar Port to Rusumo Border, a Border between Tanzania and Rwanda
	Transit time to Kabanga Border	Shows an Average Transit Time from Dar Port to Kabanga Border, a Border between Tanzania and Burundi
	Vigwaza Weighbridge Crossing time	Average time for a truck to cross the Weigh In Motion at Vigwaza, the first Weighbridge located 80Km from Dar es Salaam Port.
	Kihonda Weighbridge Crossing Time	Average time taken for a Truck to cross Kihonda Weighbridge in Morogoro region
	Nala Weighbridge Crossing Time	Average time taken for a Truck to cross Nala Weighbridge in Dodoma region
	Njuki Weighbridge Crossing Time	Average time taken for a Truck to cross Njuki Weighbridge in Singida region
	Mwendakulima Weighbridge Crossing Time	Average time taken for a Truck to cross Mwendakulima Weighbridge in Shinyanga region
	Nyakahura Weighbridge Crossing Time	Average time taken for a Truck to cross Nyakahura Weighbridge in Kagera region

TRANSIT TIMES	Mutukula Weighbridge Crossing Time	Average time taken for a Truck to cross Mutukula Weighbridge in Kagera region
	Lukaya Weighbridge Crossing Time	Average time taken for a Truck to cross Lukaya Weighbridge in Uganda
	Kyamyorwa Weighbridge Crossing Time	Average time in Minutes for a Truck to cross Kyamyorwa Weighbridge in Kagera region
	Mikese Weighbridge Crossing Time	Average time taken in Minutes for a Truck to cross Mikese Weigh-bridge in Morogoro region. The second weighbridge from Dar es Sa-laam
COST OF SERVICES AND TRANSPORT	Transport Cost and Rate	Refers to the Price of Transportation services paid by the Cargo owners/ Shippers to the Transporters/CFA's. Slight variations observed on the Transport Costs and Rates attributed due to business competition among Traders/ Transporters
DAR - MWANZA - PORTBELL - KAMPALA ROUTE	MV Umoja Average Port Stay Time	This refers to the average time MV Umoja stays in a port for either loading or offloading. It is calculated from the average time difference between departure date and arrival date at either Mwanza port or Port Bell.
	MV Umoja Sailing Time in Hours	This refers to the average sailing time in hours for MV Umoja from Mwanza to Port Bell. It is calculated from the average time difference between departure date and arrival date from either port.

Table 7 **Northern Corridor Observatory Indicators**

VOLUME AND CAPACITY	Total Cargo Imports of the Port of Mombasa vs Transit Traffic Imports 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) Data Source: Electronic Data Source Data Provider: Kenya Ports Authority (KPA)
	Volume per Country of Destination (TC)	TC per Country of destination = Summation of all cargo's weight han-dled within the Port per Country of destination (Tonne) Data Source: Electronic Data Source Data Provider: Kenya Ports Authority (KPA)
	Rate of Containerization of Transit Traffic in percentage (RcTT), Annual Basis at the Port of Mombasa	Summation of the Transit containerized Cargos Weight divided by Transit Traffic (TTPMsa). Data Source: Electronic Data Source Data Provider: Kenya Ports Authority (KPA)
	Transport capacity by Rail	
	Import and Export through Mombasa Port	

VOLUME AND CAPACITY	Licensed Fleet of Transit Trucks per Country	TF = Summation of registered (Licensed) vehicles used for internation-al/transit cargo transportation per year and per country. Data Source: Surveys Data Provider: KRA, URA
	Volume of Containerized and Non-Containerized Handled per Year 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 Data Source: Electronic Data Source Data Provider: Kenya Ports Authority (KPA)
EFFICIENCY AND PRODUCTIVITY	Number of Check Points, NCP (Weghbridge, Police, Customs, Road Toll) Per Country Per Route	Data source: Surveys Data Provider: KenNHA, UNRA, RTDA, OdR, KRA, URA, RRA
	Rate of Fraud or declared Damage for goods in transit (percentage of Total Transit)	Data Source: Surveys Data Provider: Kenya Ports Authority (KPA)
	Quality of the Transport Infrastructure	Defined qualitative descriptions of state of infrastructure, defined routes, Defined routes sections, Qualitative state of each section Data Source: Surveys Data Provider: KeNHA, UNRA, RTDA, OdR
	Ship Turn Around Time	
	The Vessels Waiting Time Before Berth	
	Weighbridge Traffic	This indicator measures the average number of trucks weighed per day at the various weighbridges in Kenya. Data Source: Electronic Data Source Data Provider: KENHA
	Weighbridges Compliance	This measures the percentage of trucks that comply with the vehicle load limits before and after redistribution of the weights. Data Source: Electronic Data Source Data Provider: KENHA
RATES AND COSTS	Road Freight Charges in Kenya	Freight = Tariff charged by transporter per section and/or per route. Data Source: Surveys Data Provider: Transporters (G.T.Tsa/Transporters Asso Rep - Burundi)
	Road Freight Charges in Uganda	Road Freight Charges (USD) for transporting cargo as provided by transporters in Uganda. Rates are in Dollars Data Source: Surveys Data Provider: Association of Transporters - UGANDA

RATES AND COSTS	Road Freight Charges in Burundi	Transport charges per ton in Bujumbura in USD ($). Data Source : Survey Data Provider : Association des Transporteurs Internationaux du Burundi
	Road Freight Charges in Rwanda	Summary of transport rates charged by transporters in Kigali per trip per container in US Dollars ($) Data Source: Electronic Data Source Data Provider: ACPLRWA
	Road Freight Charges in Congo	Monthly average for imports and exports transport tariff from and to Goma in US Dollars per 20 feet and 40 feet container Data Source: Surveys Data Provider: FEC
INTRA REGIONAL TRIPS	Trade Between Kenya and other NC Member States	Provide Trade between Kenya and other Northern Corridor Member States Data Source: Electronic Data Source Data Provider: Kenya National Bureau of Statistics
	Trade Between Uganda and other NC Member States	Summary of intraregional trade volumes between Uganda and the other Northern Corridor Member States. Data Source: Electronic Data Source Data Provider: Uganda Bureau of Statistics (UBOS)
	Trade Between Rwanda and other NC Member States	Shows Formal trade between Rwanda and other Northern Corridor Member states Data Source: Electronic Data Source Data Provider: National Bank of Rwanda
	Trade Between Burundi and other NC Member States	Its shows the statistics of the formal trade between Burundi and other northern Corridor Member states Data Source: Electronic Data Source Data Provider: Burundi Bureau of Statistics
	Trade Between South Sudan and other NC Member States	The statistics shows formal intra-regional trade between South Sudan and other Northern Corridor Member states Data Source: Electronic Data Source Data Provider: KNBS/UBOS/BBS/CBR
TRANSIT TIME AND DELAY	Average Cargo Dwell Time in Mombasa Port	DT = Exit date/time from the port minus arrival date/time at the port. Data Source: Electronic Data Source Data Provider: Kenya Ports Authority (KPA)
	Time for Customs Clearance at The Document Processing Centre (DPC)	Time for Customs Clearance at the Document Processing Center (DPC) Data Source: Electronic Data Source Data Provider: Kenya Revenue Authority (KRA)
	Time Taken at Mombasa One Stop Centre Before Customs Release	TCC = Released DateTime of process minus Passed DateTime (Based on KRA's T812) Data Source: Electronic Data Source Data Provider: Kenya Revenue Authority (KRA)

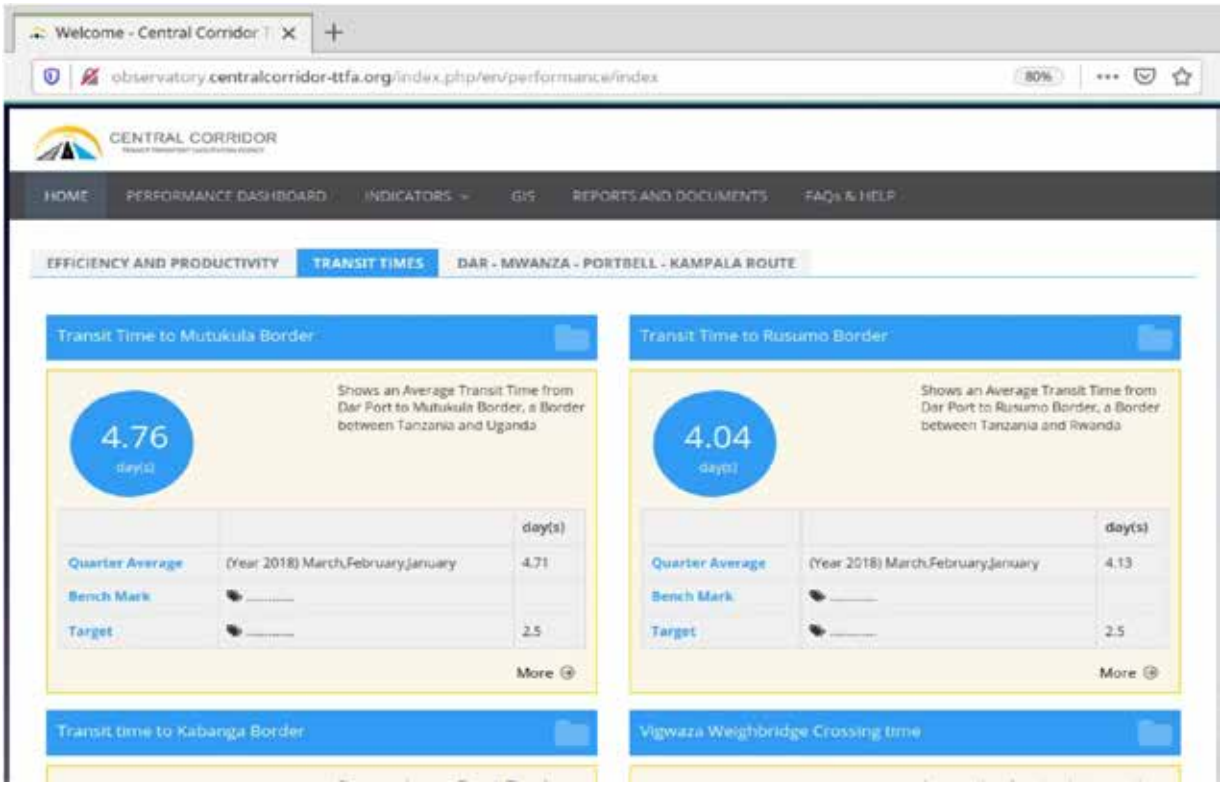
TRANSIT TIME AND DELAY	Transit Time Within the Port After Customs Release	Cargo removal time at the gate from port minus Release Order time (Based on KRA's T812) Data Source: Electronic Data Source Data Provider: Kenya Revenue Authority (KRA)
	Transit Time in Kenya (Road - Mombasa Through Malaba)	Certificate of Export date/time minus Release date/time at port (Based on KRA's T812) Data Source: Electronic Data Source Data Provider: Kenya Revenue Authority (KRA)
	Transit Time in Kenya (Mombasa Through Busia)	Certificate of Export date/time minus Release date/time at port (Based on KRA's T812) Data Source: Electronic Data Source Data Provider: Kenya Revenue Authority (KRA)
	Transit Time in Rwanda (Road - Gatuna Through Akanyaru Haut)	TT = Cargo Exit border DateTime minus Entry border DateTime (Based on IM8, T1) Data Source: Electronic Data Source Data Provider: Rwanda Revenue Authority (RRA)
	Transit Time in Burundi (Kanyaru Haut to Bujumbura)	TT = Cargo Exit border DateTime minus Entry border DateTime (Based on IM8, T1) Data Source: Electronic Data Source Data Provider : Office Burundais des Recettes (OBR)
	Transit Time in Uganda (Malaba to Kampala)	The difference between the time when cargo enters the country, to the time when it reaches Kampala Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in Uganda (MALABA to KATUNA)	Data Source: Electronic Data Source
	Transit Time in Uganda (Malaba To Elegu)	The difference between the time when cargo enters Uganda through Malaba, to the time when it exits Uganda through Elegu. Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in Uganda (Malaba to Mpondwe)	The difference between the time when cargo enters Uganda through Malaba, to the time when it exits Uganda through Mpondwe.» Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in Uganda (Busia to Kampala)	The difference between the time when cargo enters Uganda through Busia, to the time when it reaches Kampala. Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in Uganda (Busia to Katuna)	The difference between the time when cargo enters Uganda through Busia, to the time when it exits Uganda through Katuna Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA

TRANSIT TIME AND DELAY	Transit Time in Uganda (Busia to Elegu)	The difference between the time when cargo enters Uganda through Busia, to the time when it exits Uganda through Elegu Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in Uganda (Busia to Mpondwe)	The difference between the time when cargo enters Uganda through Busia, to the time when it exits Uganda through Mpondwe Data Source: Electronic Data Source Data Provider: Uganda Revenue Authority URA
	Transit Time in UGANDA - From ECTS DATA	Transit time in Uganda from the ECTS data Data Source: Electronic Data Source Data Provider: Uganda Revenue authority
	Transit Time in Rwanda (Road - From Mirama Hills Border)	TT = Cargo Exit border DateTime minus Entry border DateTime (Based on T1 data) Data Source: Electronic Data Source Data Provider: Rwanda Revenue Authority (RRA)

9.1.3 The Dashboard of the Central Corridor

A screenshot of the Central Corridor Observatory Dashboard is shown at Figure 13.

Figure 13 Central Corridor Observatory Dashboard - Transit Tim

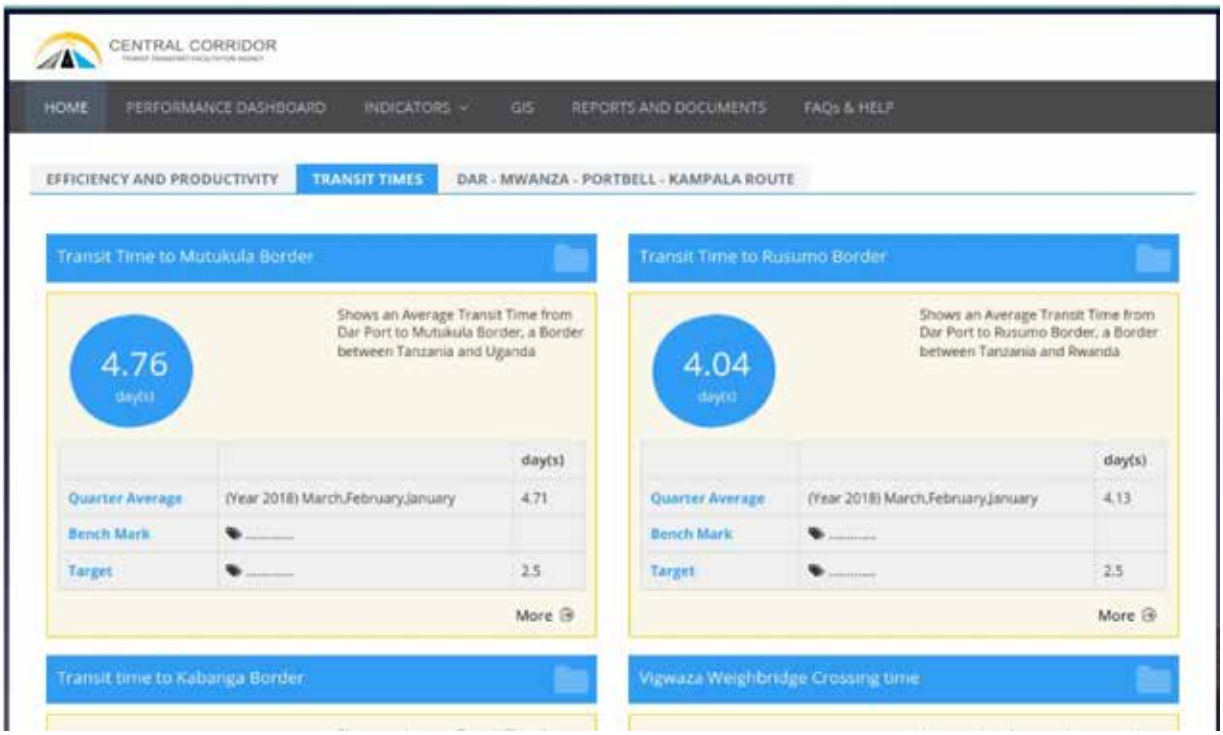


The dashboard has three tabs:

- Efficiency and Productivity;
- Transit Times;
- Dar - Mwanza – Port Bell – Kampala route

The figure above shows the page reporting the transit times from the Dar es Salaam Port to the border crossing posts of Mutukula (Tanzania - Uganda border) and Resumo (Tanzania - Rwanda border). In both cases, the dashboard reports data referred to the months January, February and March 2018.

Figure 14 **Central Corridor Observatory Dashboard - Transit Time**



9.2 The implementation of a corridor trip monitoring system (CTMS)

9.2.1 The Corridor Governance and Monitoring

The model of liberalization of road transport proposed in this study is based on the replacement of the various bilateral agreements on road transport concluded by couples of countries in Africa with a series of multilateral agreements to be adopted in each REC or at inter-REC level.

Consistently with this new scenario, the Corridors shall play a significant new role, well integrated with the regional level dimension and the governance of the corridors based on two levels:

1) The **first level** should be a **Regional Corridor Authority** acting as a supervising regulatory body at REC-level with functions of enhancement and support in the coordination and homogenization of corridor operations in the region. This Regional Corridor Authority should also have a planning role aimed at enhancing the connectivity between the Corridors of the Region (e.g. through the development of plans for their interconnection), at further improving their effectiveness, for instance by developing proposals for creation of dry ports, Special Economic Zones (SEZs)[129] or conversion plans of border posts into

[129] In this regard, the 2021 UNCTAD Handbook on Special Economic Zones in Africa (UNCTAD/DIAE/IA/2021/3] argues that the establishment of SEZs in border areas to be integrated into with cross-country transport corridors is solution able to facilitate the mobility of goods and lower the costs of trade.

OSBPs, weighbridges relocation plans, secure parking, rest areas and road side stations, etc. in those borders where traffic volumes are high or that are particularly congested. The Regional Corridor Authority should also develop guidelines for corridor management and monitoring and other necessary criteria and standards to harmonise management practices between the various corridor management agencies in the Region, in view of facilitating international cross border transport and trade through a better coordination of their management practices.

2) the **second level** should be a Corridor Management Authority (CMA), possibly one for each Corridor in the Region (except for those corridors connecting only a few countries where their establishment is not economically viable)[130] responsible for facilitating transportation and trade along the corridor, and for implementing the rules and standards proposed by the Regional Corridor Authority. Following the guidelines of the Regional Corridor Authority, each CMA should also create a Transport Observatory for monitoring of transportation operations and volumes of goods transported along the corridors they oversee. CMAs should also be responsible for the dissemination of data related to the use of corridors and for the implementation of measures aimed at improving their efficiency, following the Corridor Authority guidelines or in way that is consistent with their general strategic plans.

9.2.2 Corridor Monitoring and Data Collection

The main characteristics influencing the attractiveness of the corridor for traders and transporters can be grouped in 3 key concepts:

- **Corridor Profitability**, which is given by:
  - > volumes of trade passing through the corridor from the entry point to the delivery /exit-point;
  - > the corridor transit time, i.e. the time taken for completing a trip along the corridor or a part of it;
  - > the cost borne by importers, exporters and shippers for moving cargo over the corridor from end to end.
- **Corridor Reliability**, which means predictability of times and costs in moving cargo along the corridor from point of origin to destination.
- **Corridor Security/Safety:** Safety is a primary factor guiding the choices of traders and transport operators in the selection of roads to be used for shipment of their goods. They usually are not inclined to put their vehicles and cargo at risk in those cases where the use a determined road is dangerous because of the high frequency of bandit attacks, robberies, thefts or protests, except when escorts or escorted convoys are arranged by security agencies to protect them from these threats. But escorts are generally expensive and increase transport costs.

Some of above factors can be measured by developing a set of Key Performance Indicators based on those already in use by the different CMAs in Africa that have adopted this kind of measuring instruments.

As proposed above, the monitoring of such KPIs should be under the competence of Transport Observatories, according to the guideline, standards and criteria set by the competent Regional Corridors Authority.

Three main tools can be used by the Observatory as sources of data for the building KPIs are:

1) **Tracking of vehicles transporting cargo**, which implies the monitoring of truck movements along the corridor, recording the time taken for moving from end to end and gauging the number of stops and length of time spent by vehicles in rest areas, parking and stations along the corridor. GPS technologies such as fleet management systems and electronic cargo systems offer a simple tool for measuring and recording this information. Apart from allowing the measurement of the time spent by the vehicle and cargo in bottlenecks or in city crossings, they can be used to calculate the ratio between the operation and the stationary time of trucks (time spent in queues or waiting at weighbridges, borders or other areas where bottlenecks occur). This would give a clearer idea of delays impacting on cross-border movements of trucks.

[130] As explained above, experience gained from corridors that have created CMAs shows that their operation is particularly onerous and costly. Accordingly, their financial sustainability is generally a problem especially in those corridors connecting only two or a few countries.

2) **Registers and Databases already adopted by the Revenue and Customs Authorities**, Port Authorities, Inland Container Depots/Dry Ports and other public or private bod-ies holding information related to transport and trade flows and volumes. Transport Observatories should be given access to all these databases and registries for each country crossed or connected to the corridor in order to construct more accurate sta-tistics about trade volumes, as well as delays and bottlenecks affecting each corridor.

3) Questionnaires and **interviews to transport companies and other corridor users.** Interviews with corridor users are also a useful tool to investigate on the existing difficulties and obstacles of a corridor that may contribute to rise transport prices. They may be carried out electronically (and their results used to feed a Transport Price Database), or by direct interviews. The second option can be more suitable to understand difficulties and obstacles still present along the corridor and that affect transit costs and delays.

9.2.3 The Selection Criteria for the KPIs

As indicated above, a minimum set of five indicators should be used to measure the performance of a corridor:

1) the **volume of trade** passing through the road corridor, at a border post, or at checkpoints along the corridor;

2) **the time taken to transit** the whole corridor or some specific sections;

3) the **cost to importers or shippers** to move cargo over the length of a road corridor or a part of it;

4) the **variation in time and cost** for the whole corridor and on its various sections (reliability);

5) the **corridor safety**, i.e. the perception of the level of risk to which cargo and drivers are exposed when using the corridor.

The values of the five indicators (volume of trade, cost, time, reliability and security) should be based on official available data (volume of trade, cost, time), while the corridor reliability and security should be determined by analysing the responses to questionnaires and interviews with corridor users by using similar methodologies for each corridor, based on standardised questions and evaluation rating scales capturing subjective perceptions of interviewers in a specified range [e.g. how safe you consider the road? (1) highly risky, (2) moderately safe (3) completely safe].

9.3 Proposed organization for trade volume monitoring

The monitoring of the Trade Volumes shall be done mainly by relying on data from Databases and Electronic Registers, if available, of Port Authorities, Inland Container Depots (ICD)/Dry Ports and other logistics facilities located along corridors. Additional data may be collected also by shippers and transportation companies and their Associations, if necessary.

Data on Volume Trade may be linked with data on transit time, although the latter are not necessary to understand the economic relevance of the trade quantities. Tracking of vehi-cles and cargoes that may be linked to the trading volumes, are described in the «Transit Time» Chapter.

In monitoring Trade Volumes along corridors, it is very important to distinguish between import and export freight. It is also important also to pay a special attention to the volumes of trade exchanged between countries that are member of the same Regional Economic Community (e.g. countries member of a Free Trade Area, Customs Union, etc.) or between bordering regions.

Monitoring of Trade Volumes should be based on the data collection from the point of origin (in case of export), consolidation (e.g. a dry port), or of arrival of cargo (in case of import goods arriving at an African port or airport). For maritime arrivals, the process should start at the Port Gate, by recording the «Port Gate Pass», or the ICD exit docu-ments if the containerized cargo has been transferred to an ICD from the port. Monitor-ing will continue by collecting data at the crossed border posts up to the place of final clearance of goods. Monitoring the volumes of trade requires the monitoring of each shipment along the entire

corridor, avoiding any confusion with other shipments. To avoid that, a «Primary Key»[131] (or Movement Refence Number) is needed to identify the cargo during the whole trip, so that it can tracked and traced at every step. This Movement Refence Number will be recorded in every step of the cargo travel and will constitute the Primary Key of the cargo.

9.4 Proposed organization for transit cost monitoring

Data to assess the KPI for the costs of transportation, may be collected only by transport companies and shipping agents.

Data may be collected through questionnaires, preferably in electronic format, or through interviews whose results can be entered into a Prices and Costs Databases.

The cost should be given per container or, in the case of bulk cargo, per cubic meter or per ton. In some cases, prices may be referred to the truck type full load.

KPIs for costs shall be distinguished by trip, selecting a set of destination, starting from the gateway (or ICD) up to the destination (town or dry port - a selection should be made). If intra-regional trade is present, the KPI reporting the cost of cargo transportation for the several intra-regional trade, should also be assessed, from selected production country (start of transport) up to the traditional delivery point or clearance.

Responses to the enquiries from the transport companies, are likely to vary over a range of prices, with a lower and an upper bound. In this case the appropriate KPI is given by the mean value of the recorded prices, joined with the variation range, which is the distance between lower and upper bound.

9.5 Proposed organization for transit time monitoring

KPI-1: Transportation time (route transit time)

The first KPI refers to the transit time needed to reach a town in the landlocked country from the gateway.
Presently the two operational observatories (Northern Corridor and Central Corridor) which data are available on the web, the transit time reported and made available to the public refers to the trip inside a single country (e.g.: from the gateway to the border; and from the border to the destination town). The Central Corridor gives also the time (the average of the time) to cross the border at Mutukula, Resumo and Kabanga. The Northern Corridor gives the transit time (separately) in the crossed countries (Kenya, Rwanda, Burundi and Uganda. No transit time to cross the inland border is given.

The calculation of time needed to reach the destination town may be difficult or almost impossible for the two corridors.

A valid KPI for transportation time should be a single value, including the time spend at the border and at the check points, from the gateway to an inland town in the landlocked country, as reported (for instance) in the following table. For each route a target time should be indicated by the Corridor Authority.

Corridor	Gateway	Destination	Border Post
Northern	Mombasa	Giuba	Nadapal
Northern	Mombasa	Giuba	Malaba + Nimule-Elegu
Northern	Mombasa	Kampala	Malaba
Central	Dar es Salaam	Boujumboura	Kobero
Douala	Douala	Bangui	Garoua-Boulai

[131] The «Primary Key» in a Relational Database is an attribute (number or text) that identifies inequivocally a record of the database. If the record is referred to an object, the Primary Key identifies that object through the whole database. Although the Primary Key may be formed by more than one attribute, normally (and preferably) it is made with only one attribute (an attribute is a column in a table of a database). The value of the Primary Key is specific for each record of the table. It means that there is only one value of the Primary Key in the whole table of the relational database: each record has an its own value of the Primary Key and it can not be replicated.

Measuring this unique value of the KPI on a single route, requires that the tracking device is applied to the truck, not only to the cargo. Normally the tracking of the cargo is carried on by the Custom (or Revenue Authority) to avoid an illegal cargo divert from the destination, especially for transit cargo. Normally the tracking device is removed at the exit of the border and a new tracking device is applied to the cargo (if the case) after the clearing procedures by the entering Customs. This is the case of the Northern and Central Corridor and in this case the total transportation time should be calculated as the sum of time interval measured with different methodologies and by different operators.

The choice of tracking the truck and not only the cargo, requires that the Corridor Authority supplies a tracking device for the truck. This method should be appropriate when the harmonization of vehicles and standards do not require the transhipment.

There are some options to equip the truck with a GPS:

1) the Corridor Authority should supply a GPS to the trucks running on the corridor, requiring the payment of a small bill.

2) As mentioned in other chapters, many Insurance Companies operating in the Road Transportation field, require to equip the trucks with a GPS. An agreement between the Corridor Authority and the Insurance Companies should allow the use of GPS data to form the Transit Time KPI. Unfortunately, Insurance acquired in a country may be not valid in a second one. Combining the solutions for the point 1. and the point 2. maybe it might be possible to find the same solution for the vehicle tracking and for the insurance of the truck (and cargo) all along the corridor.

A second scheme should be adopted if only the cargo may be tracked. In this case the time to reach the border from the gateway and the time when a second device is applied to the cargo is applied, should be recorded, along with the time when the second device (the cargo) leaves the Custom area.

A third case is given when no device at all is applied to the cargo at the entering customs, after the border crossing. In this case the Transit Time should be obtained by the difference between the arrival to the delivery place and the departure from Gateway, with some uncertainty

9.6 Proposed Method for estimating Corridor Reliability

In general, the reliability is perceived as the certainty that some results or performances by a service are standards that that service may constantly provide. The reliability, applied to a corridor, is the reasonable certainty that a cargo arrives to destination in a certain time, at a certain cost and with a very low probability to be lost during the trip.

Following these premises, the characteristics of a corridor to assess its Reliability, are:

- the Transit Time;
- the Costs of transport;
- the Security and the Safety along the corridor.

Transit Time for Reliability

The KPI for the Transit Time and the methods to estimate its value, have been described in previous chapters. For the KPI of the Transit Time, the value of the median of a set of measures has been indicated. The median has the advantage to be less affected by extreme values that the mean. This value is highly significant for the corridor users (transporters and shippers), as it indicates that 50% of trips has been recorded with times below that value. To give a more complete information about the Transit Time to assess the reliability of the corridor the values of the first and third quartiles1 may be associated with the median. This set of numbers tells to the users of the corridor that 50% of travel time takes up to a given value (for instance, let say 120 hours), while there are 25% of the transporting vehicles whose travel time has taken up to a second value (let say 110 hours) and finally that the 75% of the time travel is below a greater value (let say for instance 140 hours). This last value tells also that only 25% of the cargoes has taken ore than 140 hours to complete the travel.

A second option to assess the Transit Time to rank the Reliability, may be indicated by the use of the mean of a set of Travel Time values, joined to selected values of the Standard Deviation. It may be a little harder to understand by users that do not have a knowledge of the statistics and probability fields.

9.7 Proposed Method for estimating Corridor Security/Safety

Safety and Security are two items that affect strongly the reliability of a corridor, because both imply the danger that a cargo (or even the cargo and the vehicle) might be lost during the travel.

While the transit time value of different sections of a corridor (route, weigh bridge, border cross etc.) may bring problems in the delivery of the goods, normally a high transit time do not entail the complete loss of the cargo. Complete loss of the cargo may happen for Safety and Security reasons.

Although they may have the same effect on cargo transport, the two items are quite different, as meaning and occurrence.

Safety is related to the road accidents, that may involve the vehicles and the cargo more or less seriously. Safety issues may range from small car crashes entailing just some not serious delay on the total travel time, to a more serious crash requiring the change of the vehicle to complete the transport, up to the total loss of the vehicle along with the transported freight.

The Safety aspects may also affect the drivers, especially in a pandemic condition, requiring the substitution of the crew. The safety is strictly linked to the road conditions and layout, to the traffic situations (particularly during the town crossing), to the driver's behaviour and practices and finally to the different road regulations in bordering countries. Safety conditions are not homogeneously split over the whole corridor.

Security in the context of this Study, must be understood as the risk of being subjected to illegal acts, such as corruption or theft, up to the robbery with victims. Corruption may cause an increase of the costs of transportation, but normally it does not entail the loss of the cargo, while theft and robbery normally result in the loss of the cargo (pertly or in whole). In some cases, robbery may lead to the loss of the cargo along with the vehicle.

Security issues depend upon the social and economic conditions of the populations of the countries or of some regions of a country. The Security conditions also depend on the contrast that the Police practice to the underworld. Security issues may entail, even in the less significant thefts, a time wasting due to the Police procedures and to the bureaucracy.

Data to assess the Safety and Security KPIs may be collected from the Police registers (electronic or hand written), from the Insurance Companies databases, from local newspapers chronicles, from drivers reports or interviews, from transportation companies, from road and transport Ministries and local authorities and from other stakeholders.

Both Safety and Security require the KPIs to be measured following a ranking in the severity of the occurrences. The value to measure the intensity of the Safety and Security should be, for both the items, the Number of events x Kilometer x Time span, applying the formula:

$$KPI_{intensity} = \frac{numberofoccurrences}{roadlength*timespan}$$

The type of ranking of the KPI should be given by the severity of the Safety or the Security occurrence. For instance, the following ranking may be proposed as in the following Table 8 (human involvements are not considered; time loss is not considered).

Table 8 Safety and Security KPIs ranking

KPI rank	Gateway	Destination
A	Car crash or road accident with total loss of the cargo and of the vehicle	Robbery with the total loss of the vehicle and cargo
B	Accident with vehicle seriously damaged and transfer of cargo to a second truck	Total cargo robbery (not the vehicle)
C	Accident or car crash with only damages to the vehicle, not entailing the truck stop and cargo transfer; relevant loss of time	Theft of part of the cargo or theft of the (spare) parts of the vehicle.
D	--	Corruption ; bribes ; Police harassement etc.

Safety and Security KPIs should be given by type and intensity. For instance, we may have, for the Security) on a given road of a corridor, 5 occurrences per kilometer per year of the KPI type B.

Data collected for Safety and Security may be stored in a common database.

9.8 Dashboard

Dashboards are a useful tool for representing data in a graphical way, allowing a quick and easy view of complex processes or performances. Representing KPIs or data in a chart, the dashboard doesn't give any additional information, but allows to understand immediately the meaning of data and information in the succession they are recorded.

A second important characteristics of a dashboard is that it normally offers a view only of most important data elements, which are usually represented in form of performance in-dicators of a process or of an economic operation.

As an object intended to represent data, a dashboard is strictly linked to the databases where data are stored and to the software used to select the range among the data-set and pre-process them.

The effectiveness of a dashboard and its complexity may be affected by the type of data and the system used to store data. Database feeding a dashboard may range from a very simple worksheet up to a more complex Relational Database, stored in a server of a network or in a cloud.

Some dashboards are specialized in monitoring and representing KPIs, although in many cases they may represent metrics also.

9.8.1 Customization

One of the advantages of dashboards, compared to data listed in a table or represented in a simple raw chart, is that they may be customized to make it easy to quick understand the «state» of a process, appreciating the value of KPIs compared to the target of the process.

A dashboard is not simply a chart showing data. It also shows the current situation with re-spect to a specific target to be achieved, so that it will be possible to determine the pres-ence of a bottleneck, an obstacle or a problem that are preventing the achievement of a certain objective. With regard to corridors, a dashboard should also be able to indicate how much it is attractive is a corridor for transport to the different categories of stakeholders, that in case of road transport corridors, are:

- the team or the organization overseeing the corridor: in this case the Corridor Man-agement Authority;
- the corridor users.

A dashboard is generated by data measured from the several components of a corridor, and from different databases storing data. Metrics and databases should be designed and driven to generate the required KPIs, to show the effectiveness of the corridor and the profitability of the business.

For the Corridor Agency, the dashboard should be built

according to the selected KPIs, to measure the achievement of targets and the effectiveness of the corridor and, if the case, the obstacles to remove.
For the stakeholders/users of the corridor, the dashboard should be better built to show the profitability and reliability of the corridor and, hence, the opportunities of doing business using the corridor.

The dashboard should also be customized on the basis of the cultural characteristics of the stakeholders and user mix (there should be differences when the same KPI is presented to an economist, a transport company, an agricultural development expert or a trader).

For all these reasons, it is almost impossible to propose a common dashboard, that may be useful to the whole African corridors, managed by different Agencies, with their own targets, and usable by stakeholder groups, having a very wide range of interests and dif-ferent cultural backgrounds.

The ToR requires to propose a dashboard. As explained in the previous chapter, it is not advisable to propose a «standard» dashboard, as it must be customized to the users and should be adequate to the KPIs to show (and to the reader of the KPIs). A dashboard must be built considering not only the corridor it must «describe» through the KPIs, but also the economic and social context of the stakeholders and of the countries served by each corridor. Furthermore, a dashboard needs to be connected to a database, that may exist only in actual cases.

For this reason, instead of a «dashboard ready to use», a software for building dashboards is described, starting from modules, widgets, special programs designed to allows dashboards for a wide range of business or processes and intended to a wide range of public.

Probably it is better to compare the software for dashboard compiling, rather than propose a particular dashboard.

To prepare a dashboard, both commercial and open-source software are available. Normally the freeware and open-source software are suitable for small or medium business size dashboards.

Commercial software allows to process business or processes of very great size. They have the advantages of the support and follow up of the software producer. In some cases, it may make available «cloud» space to store data.

In the following table some of the most important (and used) software to build dashboard are listed.

Table 9 Software for dashboards

Software, name	Web site	Main features						Note
		Public dashboard	pri-vate dashboard	da-ta connection	Functional calculation	da-ta display	KPI monitoring	
Wrike	https://www.wrike.com/features/dashboards/	X	X	X		X	X	It allows to create dashboards for your projects and campaigns with Wrike's project management software.
Whatagraph	https://whatagraph.com/business-dashboard	X	X	X	X	X	X	Mix and match metrics from different data sources in one Whatagraph report and get a more complete view of your business performance at a glance.

Whatagraph	https://whatagraph.com/business-dashboard	X	X	X	X	X	X	Mix and match metrics from different data sources in one Whatagraph report and get a more complete view of your business perfomance at a glance.
Cumul.io	https://cumul.io/	X	X	X	X	X	X	Translate tons of complex data into easy-to-use, intuitive reporting dashboards in minutes. Easily embed in any online platform, and unlock new insights for your users today.
Jira	https://support.atlassian.com/jira-work-management/docs/what-is-a-jira-dashboard/	X	X	X		X	X	You can create and customize your own dashboard to display the information you need. Only Jira admins can customize the system dashboard.
Cluvio	https://docs.cluvio.com/hc/en-us/sections/115000400645-Dashboards	X	X	X	X	X	X	Cluvio is a modern data analysis platform that allows you to run SQL queries on your database, process data in R, view results and create beautiful and interactive dashboards in minutes.
Juicebox	https://www.juiceanalytics.com/writing/making-a-simple-dashboard-in-juicebox	X	X	X	X	X	X	Juicebox is a dashboard platform for consultants and IT operators who want to impress with their next data-rich presentation. It is easy to start without programming or design knowledge and create an engaging and interactive data history.
Smartsheet	https://www.smartsheet.com/platform/capabilities	X	X	X	X	X	X	Rapidly adapt to changing conditions and identify trends with easy-to-use widgets that display live data, charts, and key metrics.
ESM+Strategy	https://www.esmgrp.com/				X	X	X	
Bold BI	https://www.boldbi.com/	X	X	X	X	X	X	Bold BI by Syncfusion is a simplified but complete business intelligence (BI) solution to help you see clearly and act decisively.
My Telescope	https://mytelescope.io/	X	X	X	X	X	X	
Madtrix	https://www.madtrix.io/digital-marketing-dashboards		X	X	X	X	X	Madtrix gathers automatically all the data from your con-nected source systems, stores, unifies and distributes it to the dashboards. Share visualized reports and analytics with your important stakeholders.
Watershed	https://www.watershedlrs.com/	X	X	X	X	X	X	Collect and standardize data across your learning ecosystem to automate reporting, reduce scrap learning, and aid in the continuous improvement of learning and development.
Mapex QM	http://www.emapex.com/index.php/en/products/mapex-dashboards	X	X	X	X	X	X	The Mapex Dashboard module is a module within the Mapex suite which allows you to view all the information recorded from the factory by Mapex from any Internet-connected device. You can use the Dashboards already created or create your own according to your needs, the possibilities are endless.

Software, name	Web site	Main features						Note
		Public dashboard	pri-vate dashboard	da-ta connection	Functional calculation	da-ta display	KPI monitoring	
Dashboard-Fox	https://dashboardfox.com/	X	X	X	X	X	X	DashboardFox allows you to connect and securely report on Microsoft SQL, MySQL, PostgreSQL, Oracle, Redshift, RDS, any ODBC compatible source. Plus you can import CSV and Microsoft Excel spreadsheets. No need to copy your data into a 3rd party cloud, DashboardFox provides live, real-time data.
monday.com	https://monday.com/	X	X	X	X	X	X	With 15 widgets available, users can now understand the progress of the project, monitor the budget, estimate the workload of team members and much more! They help keep your team focused and motivated on high-level goals and increase productivity!
Tableau	https://www.tableau.com/	X	X	X	X	X	X	
Sisense	https://www.sisense.com/dashboard-examples/	X	X	X	X	X	X	Sisense is the only business intelligence software that simpli-fies the preparation, analysis and visualization of complex data for users. Sisense offers a ready-to-use end-to-end solution for managing growing data sets from multiple sources, with the ability to work on many terabytes of data and support thousands of users, all on a single server.

10 Annex 1: Data Collection & Interviews

10. Annex 1 - Data Collection & Interviews

10.1 Stakeholders interviews carried out

According to the project's ToRs, the Consultant was supposed to conduct a series of meet-ings and interviews with the main public and private stakeholders in the road transport sector in Africa, including: highway authorities; corridor management authorities; road transport agencies regulating international road transport; international carriers' associa-tions; international road carriers; shippers and forwarders and representatives of the main African Regional Economic Communities (RECs).

In order to have a significant sample able to provide an overall picture of the current sit-uation of the road transport in the continent and the relevant constraints, the Consultant agreed with the Client to cover at least 3 countries per region in the missions' phase.

The following missions and stakeholders were identified with the Client.

	Region	Country	Motivation
1	Northern	Morocco	› UMA HQ (Rabat) › Trans Maghreb Highway › North African Port Management Association (Casablanca)
2	Western	Cote d'Ivoire	› African Development Bank HQ (Abidjan) › Abidjan - Lagos Corridor › Dakar – Abidjan Corridor
3	Western	Nigeria	› ECOWAS HQ (Abuja) › Abidjan – Lagos Corridor › Port Management Association of West and Central Africa (Lagos)
4	Western	Burkina Faso	› Landlocked country with four Corridors
5	Western	Senegal	› Main Corridor to Mali
6	Eastern	Rwanda	› Landlocked country in East Africa
7	Eastern	Tanzania	› EAC HQ (Arusha) › Central Corridor Authority (Dar es Salaam) › Dar es Salaam Corridor Committee (Dar es Salaam)
8	Eastern	Kenya	› Northern Corridor Authority (Mombasa) › Port Management Association of Eastern and Southern Africa (Mombasa) › Federation of East African Freight Forwarders Associations (Nairobi)
9	Central	Cameroon	› Douala – Ndjamena Corridor › Douala – Bangui Corridor
10	Southern	Zambia	› COMESA HQ › Landlocked country
11	Southern	Botswana	› SADC HQ › Landlocked Country

	Region	Country	Motivation
12	Southern	Namibia	› Walvis Bay Corridor Group (Walvis Bay)
13	Southern	South Africa	› Maputo Corridor Logistic Initiative (Mbombela) › Federation of East and Southern African Road Transport Associations (Port Elizabeth) › Road Freight Association (Gauteng) › Cross Border Road Transport Agency
14	Southern	Mozambique	› Maputo Corridor › Nacala Corridor › Beira Corridor

However, the rapid spread of COVID-19 had a devastating effect of paralyzing travel between countries. In order to continue the study in line with the expected delivery times, the Consultant, in collaboration with the African Development Bank, reorganized the entire mission phase by replacing face-to-face consultations with specific video interviews that provided an acceptable picture of the present market access systems for international road freight transport in Africa.

Institutions and experts interviewed are listed hereunder:

Table 10 List of Interviews carried out

Institution	Contact	Date
International Road Transport Union (IRU)	Patrick PHILIPP Director - Certification & Standards IRU	08/10/2020
Shippers Council of East Africa (SCEA)	Agayo OGAMBI, Head of Advocacy and Membership Development, SCEA)	13/10/2020
	Anne KISEMBA Accounts and Administrative Officer at SCEA	
African Union	Mr. Placide Colombe Badji ACONKPANLE Policy Officer at the African Union	14/10/2020
Central Corridor Transit and Transport Facilitation Agency (CCTTFA)	Capt. Diudonne DUKUNDANE CCTTFA Executive Secretary	21/10/2020
Northern Corridor Transit and Transport Coordination Authority (NCTTCA)	Mr. Aloys Rusagara BAYIRO Director, Transport Policy and Planning at NCTTCA	22/10/2020
Charles Kunaka (World Bank)	Charles KUNAKA Lead Specialist of World Bank in Trade Facilitation Author of World Bank volume “Quantitative Analysis of the Road Transport Agreements – QuARTA	23/10/2020
World Bank Group	Olivier HARTMANN Senior Trade Facilitation Specialist	23/10/2020
	R. Martin HUMPHREYS Lead Transport Economist	
	Anca Cristina DUMITRESCU Lead Transport Specialist	

Dar es Salaam Corridor Committee (DCC)	Peter MASI, Executive Director of the DCC	23/10/2020
Zambia Revenue Authority (ZRA)	Sidney CHIBBABBUKA ZRA Commissioner of Customs	28/10/2020
The Chartered Institute of Logistics and Transport of Zambia (CILT – ZM)	Rodgers NKANDU Director CILT-ZM and former Director of the Zambia Road Safety and Transport Agency	02/11/2020
Common Market for Eastern and Southern Africa (COMESA)	Jean Baptiste MUTABAZI Director of Infrastructure and Logistics COMESA	13/11/2020
	Bernard DZAWANDA Senior Transport Economist COMESA	
Tripartite Transport and Transit Facilitation Programme (TTTFP)	Gerrit FISCHER TTTFP Team Leader	18/11/2020
Economic Community of West African States (ECOWAS)	Chris APPIAH Principal Program Officer (PPO) at the Head, Maritime & Transport Corridors, Infrastructure Department	18/11/2020
Borderless Alliance	Justin BAYILI Executive Secretary Borderless Alliance	18/11/2020
East African Community (EAC)	Godfrey M. ONYANGO EAC Coordinator of the TTTFP Transport and Infrastructure Specialist	19/11/2020
	Hosea NYANGWESO EAC Corridor Development Advisor	
Ethiopian Freight Forwarders and Shipping Agents Association (EFFSAA)	Elizabeth GETAHUN, President EFFSAA	28/01/2021
Base Cameron ltd	Ferdinand BASAME, Managing Director	25/03/2021
Cross Border Road Transport Agency, C-BRTA	Etiyel CHIBIRA, Senior Manager	26/03/2021
African Union	Kisa NKHOMA, MoveAfrica: Strategic Initiatives at African Union Development Agency (AUDA-NEPAD)	29/03/2021
HEY Transport ltd	Derrick BANURA, CEO at Hey Transport	01/04/2021
Walvis Bay Corridor Group - WBCG	Erick SHIMUMBWE, Project Coordinator - Walvis Bay Ndola Lubumbashi Development Corridor	13/04/2021
	Mbahupu Hippy TJIVIKUA, WBCG CEO	

CILSS - Permanent Interstate Committee for drought control in the Sahel	Brahima CISSE, Expert in Regional Markets of Agricultural Products in the Sahel and West Africa	14/04/2021
Transport Operators Association of Zimbabwe - TOAZ	Wilfred RAMWI General Manager at TOAZ	14/04/2021
CEPCOR – Ministère des Transports de la RDC	Roger TE-BIASU, Conseiller Economique du Ministre des Transports et Voies de Communication chez Gouvernemenr RDC	26/04/2021
Union du Maghreb Arabe – UMA	Younes TOUAITHA, Expert Infrastructure de l'Union Africaine pour le Maghreb Arabe chez NEPAD Agency	18/05/2021
	Zahreddine BELBACHIR, Director of Agriculture, UMA	

In the following paragraphs the outcomes of the different interviews carried out are summarised, divided by category of institution.

10.2 International organisations

Interviewed international organisations include the African Union, the World Bank, and the Road International Association (IRU).

10.2.1 African Union (AU)

The African Union's main framework for infrastructure integration of the continent is the Program Infrastructure Development for Africa (PIDA), whose overall goal is to promote socio-economic development and poverty reduction in Africa through improved access to integrated regional and continental infrastructure networks and services (energy, transport, information and communication technologies and trans-boundary water resources). At the 30th Ordinary Session of the Assembly of Heads of State and Government held in Addis Ababa, on 28 January 2018, the African Union also adopted, a decision[132] on the establishment of a Single African Air Transport Market aimed at liberalising the civil aviation in the continent by eliminating the bilateral air service agreements currently in force between African States for intra-Africa traffic. Conversely, no similar initiative has been developed with regard to the road transport market.

The AUC also developed the Trans African Highway network concept with the purpose of interconnecting the various regions in Africa and ensuring the unobstructed movement of goods and people flows along some key corridors.

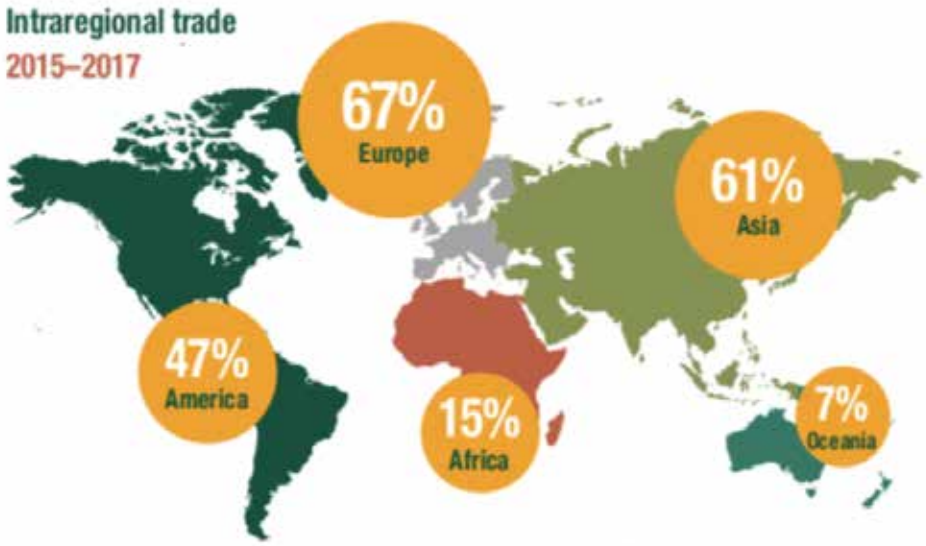
In the effort towards the harmonisation of institutional arrangements between the different RECs, is it fundamental to keep into account the AfCFTA current arrangements. To date, road transport regulatory fragmentation has not yet been included in the AfCFTA trade in services agenda, that as pointed out in a recent TRALAC (Trade Law Centre) study[133], in one of the biggest NTBs to cross-border transport movements and trade be-tween countries. Moreover, this factor could be one of the factors impacting on the low intra-regional trade in Africa, that according to UNCTAD[134] was only 15% in 2017, com-pared with other more integrated trading blocks, like the European Union and the Amer-icas, where intra-regional trade has totalled, respectively, 67 and 47%. in the same period.

[132] Doc. Assembly/AU/Decl.1 (XXIV). The concept of liberalisation of air transport in Africa emerged already in 1988, with the adoption of the Yamoussoukro Declaration, followed ten years later by the Yamoussoukro Decision (1999), endorsed by the AU Heads of State and Government Assembly with the Decision AHG/OAU/AEC/Dec.1 (IV) in Lomé, Togo, in July 2000, within the context of the Treaty establishing the African Economic Community (Abuja Treaty). The Yamoussoukro Decision (1999) provides for the full liberalisation of intra-African air transport services in terms of market access, the free exercise of first, second, third, fourth and fifth freedom traffic rights for scheduled and freight air services by eligible air-lines. Moreover, it removes restrictions on ownership and provides for the full liberalisation of frequencies, tariffs and capacity. It also provides eligibility criteria for African community carriers, safety and security standards, mechanisms for fair competition and dispute settlement as well as consumer protection.

[133] Chibira, E., "Addressing Road Transport Regulatory Issues: An Important Step Towards Realising the Objectives of the AfCFTA", TRALAC Working Paper S20WP14/2020, December 2020.

[134] UNCTAD, Report on economic development in Africa, 2019.

Figure 15 **Intraregional trade in Africa compared with other regional blocks**



The TRALAC study also observes that an agreement should be reached on migrating from bilateral to multilateral agreements for regulation of cross-border road transport in the medium term, supported by harmonised regulatory standards that all countries must do-mesticate into their national legislations, regulations and standards on road transport and road traffic related matters. Moreover, it is recommended that African countries establish harmonised cross-border road transport permit systems which are based on harmonised regulatory requirements, administrative procedures and technical standards, as this will address issues emanating from different permit conditions and administrative procedures and law enforcement operations. Indeed, addressing these issues will be key towards elim-inating permit condition inconsistences, enhancing performance of the cross-border road transport system, and enabling productive competition which will improve quality of transport services and reduce logistics costs.

10.2.2 AUDA-NEPAD

Since the launch of the MoveAfrica initiative, a project kicked off in 2016 aimed at improving trade across the continent by lowering costs and increasing efficiency of logistics for Fast Moving Consumer Goods (FMCG) operators and manufacturers operating in Af-rica, AUDA-NEPAD, the development agency of the African Union responsible for coor-dinating and executing priority regional and continental development projects to promote regional integration towards the accelerated realisation of Agenda 2063, has been develop-ing a tool called Traffic Light System (TLS) to assess the efficiency of transport and trade corridors and One Stop Border Posts (OSBPs) located along such corridors.

The TLS analyses the level of simplification, standardization and harmonization of border crossing procedures by examining logistics, traffic flows and volumes of goods moved along corridors and at OSBPs, including the complexity of transport regulations applicable to such infrastructure, based on a 3-colour codes, where red means challenge in terms of movement of goods, green means easy flowing and yellow means easy flowing. Its purpose is to identifying the main inefficiencies, such as excessive road checkpoints, bureaucratic procedures and inadequate road and logistics infrastructure, so the appropriate corrective measures can be undertaken by competent authorities. All corrective actions are docu-mented and analysed so that they can be more easily replicated to other corridors and/or border posts.

The TLS has so far been piloted in four selected border posts: 1. Beitbridge (border between South Africa and

Zimbabwe); 2. Chirundu (between Zambia and Zimbabwe); 3. Kazungula (between Botswana and South Africa) and Kasumbalesa (between Democratic Republic of Congo and Zambia). The TLS tool has also been extended to two ECOWAS OSBPs, namely the Seme-Krake (between Nigeria and Benin) and Noepe-Akanu (between Ghana and Togo), both located along the Abidjan-Lagos Corridor.

10.2.3 The World Bank Group (WBG)

Interviews with experts of the WBG were conducted in two different steps. The first in-volved experts from the Washington DC headquarter that specialise in road transport in Africa, while another interview was arranged with Charles Kunaka, author of the book "QuARTA - Quantitative Assessment of Road Transport Agreements", which analysed around 73 agreements on road transport in different parts of the world. All the interviews were aimed at identifying the main constraints and issues in cross-border road transport in Africa, which are summarised below:

- African countries implement different axle load limits. The example of Ethiopia was provided, that adopts axle load limits on its roads that are not fully harmonised with COMESA (of which Ethiopia is a member) and are significantly different from its neighbouring countries;
- Lack of a strong political will in the implementation of road transport agreements: sometimes two neighbouring countries sign such agreements only for political reasons, but in practice they are not followed by concrete steps in their effective implementa-tion;
- Difference in criteria for the access to the truck driver profession, in third party/cargo insurance schemes, etc...;
- Although in some African regions the transport market is formally liberalised, the presence of many NTBs makes the integration of transport markets challenging;
- Discrepancies in the bargaining power between countries: when negotiating road transport agreements, strongest African economies usually impose to weakest coun-tries, especially LLCs, more favourable conditions for their national transporters.
- The provision of transport services is generally dominated by the coastal countries: is more common to pay for a loaded truck that has to return empty than the contrary;
- Transport Associations, especially in some regional contexts (e.g., West and Central Africa), play a fundamental role in procuring cargo, especially to small transport companies. This situation restricts or distorts competition in the provision of transport market and considerably increases transport costs (e.g., tour de role system).
- Market structure is very different between African regions: in Eastern and Southern Africa the average size of transport service enterprises firms is medium-high, with a considerable presence of multinational players, while in Western Africa the size is small and the transport market is very fragmented, with a lower presence of multinational players.

10.2.4 International Road Transport Union (IRU)

The IRU is an International Association of Transport Operators & Trade that counts about 100 members, whose mandate includes the identification of constraints and administrative impediments to transport and trade, while this organisation is not directly involved in infrastructure development. The main constraints to international road transport in the African continent, according to IRU, are the following:

- Informalization, which leads to atomization of the sector and unfair competition, lack of mutual recognition of qualifications and skills of transport professionals between African countries;
- low quality of regulations defining transport market conditions;
- Lack of professionalism, which leads to uncertainty, lack of social protection and road safety-related problems;
- Transport operators in many cases provide only basic transport services with no ancil-lary services (e.g., consolidation, warehousing, etc.) which are highly demanded by traders. Because of this, they rarely evolve into logistic operators. There is a great potential to increase profitability also for the operators, especially in Central and West Africa.

10.3 Regional economic communities (RECS)

10.3.1 Common Market for Eastern and Southern Africa (COMESA)

COMESA has promoted many initiatives to help regional integration for effective transport services. Article 85 of the COMESA Treaty sets out a series of obligations for Member states aimed to facilitate inter-State transport and ensure a level playing field for transport operators within the COMESA region. Under the Treaty, member States are obliged to implement transit and customs measures to remove trade and transport barriers in the region. Art. 85 of the COMESA Treaty also establishes, among other things, that Member States shall harmonize the provisions of their laws concerning the equipment for and markings of vehicles used for inter-State transport within the Common Market by:

- adopting common standards and regulations for the issuance of driving licences;
- harmonizing and simplifying formalities and documents required for the vehicles and cargo used in inter-State transport within the Common Market;
- establishing common measures for the facilitation of road transit traffic;
- harmonizing rules and regulations concerning special transport requiring escorts;
- adopting common rules and regulations governing the dimensions, technical requirements, gross weight and load per axle of vehicles used in inter-State trunk roads within the Common Market;
- adopting common procedures for the harmonisation of road transit charges.

Such provision also urges COMESA member States to agree on measures for the gradual reduction and eventual elimination of all non-physical barriers to road transport within the Common Market, to ensure that the treatment of motor transport operators engaged in inter-State transport within the Common Market from other Member States is not less favourable than that accorded to the operators of similar transport from their own territories and to make road transport efficient and cost effective by promoting competition and introducing regulatory framework to facilitate the road haulage industry operations.

The COMESA Protocol on Transit Trade and Transit Facilities (Annex 1 of the COMESA Treaty), is a specific tool adopted by COMESA to ensure the freedom of transit within the Region. Freedom of transit means that each COMESA member state shall not apply transit duties or other charges imposed in respect of transit to goods in its territory in transit to or from another COMESA member state. However, paragraph 6 of Article 11 of the Proto-col allows COMESA Member States to charge administrative or service charges to transistors[135].

In line with the Protocol on Transit Trade and Transit Facilities, COMESA developed a toolkit of innovative trade and transit transport facilitation instruments over the years to harmonize the different transport regulations existing between its Members. Such instruments are:

a) the Harmonised Road Transit Charges: this system requires that heavy goods trucks with more than three axles pay a charge of US$10 per 100km, while trucks with up to three axles pay US$6 per 100km. Buses with a capacity of more than 25 passengers pay US$5 per 100km.;
b) the COMESA Carrier's License, which harmonises licensing requirements and thus enables commercial goods vehicles to transport goods throughout all COMESA member states under one license, thus allowing a more efficient use of the region's transportation fleet and reducing transport costs;
c) The Harmonised Axle Loading and Maximum Vehicle Dimension: COMESA has harmonised the axle load at 16 tonnes for double-axles and Gross vehicle Mass (GVM) specifications at a maximum of 54 tonnes;
d) The COMESA Yellow Card is a motor vehicle insurance scheme which covers third-party liabilities and medical expenses. A yellow card issued in one COMESA country is valid in all other member countries and is mostly applicable along the Northern Corridor route;
e) The COMESA Customs Bond Guarantee Scheme (popularly known as the RCTG CARNET), is a customs transit regime designed to facilitate the movement of goods under customs seals in the COMESA region and to provide the required customs security and guarantee to the transit countries.

[135] According to art. 1 of the Protocol, a transistor is the person responsible for the conveyance of goods in transit or his authorised agent.

f) COMESA introduced in 1986 a single transit transport document applicable to mem-ber countries: the Road Customs Transit Declaration (RCTD), a standard document which replaced the multiplicity of transit documents used in COMESA Countries, that in 1998 was abandoned, as COMESA adopted the COMESA Customs Document (CD), which caters for imports, exports, transit and warehousing.

The **COMESA Virtual Trading Facilitation System (CVTFS)**, is another trade fa-cilitation technology that provides a single electronic platform for processing various trans-it trade instruments, including transit bonds, cargo tracking, overload control and insurance, among others. The CVTFS however, has been embraced so far only by a few COMESA countries, and is currently being replaced with a new system developed by the Tripartite called Corridor Trip Monitoring System (CTMS) which is being piloted on the Walvis Bay corridor, see next Chapter.

Generally, even though the COMESA Treaty officially guarantees an equal treatment for all the operators, regardless of their origin and on reciprocal basis, in practice, things are different: transport associations, for instance, in some member states have the bargaining power to procure cargo for their members (especially return cargo), often in exchange of a commission.

10.3.2 The Tripartite (EAC-SADC-COMESA)

The Tripartite includes 25 participating countries, mainly in the eastern and southern re-gions of Africa, combining members of three RECs (EAC, SADC, and COMESA) plus four island states, for a total of 29 members. Based on the Tripartite Free Trade Area (TFTA) Agreement, it aims at integrating COMESA, EAC and SADC into an enlarged Free Trade Area (FTA), by gradually reducing to zero percent both the tariffs for all goods traded in the bloc, as well as by eliminating obstacles to trade between countries. The final objective is to reach full mobility of people, goods and services in such a regional area. The TFTA Agreement, which needs 14 ratifications to enter into force, has been ratified so far only by 9 countries.

The Tripartite launched in October 2017, with a funding of the European Union under the 11th European Development Fund (EDF 11), the Tripartite Transport and Transit Facilitation Programme (TTTFP) to address cross border transport and trade challenges such as high transport costs and delays through the implementation of harmonised road transport policies, laws, regulations, systems and standards that affect drivers, loads, vehicles and road infrastructure in the countries of the Eastern and Southern African regions.

The TTTFP main objectives include the development of two multilateral agreements, namely: 1) the TTTFP Vehicle Load Management Agreement (VLMA)[136], that aims at harmonising the axle load and vehicle dimensions limits in the region, including the finan-cial sanctions, mobility restrictions, administrative sanctions, violations and points demerit systems related to their non-compliance; and 2) the Multilateral Cross-Border Road Transport Agreement (MCBRTA)[137], a convention that aims to liberalise road transport and to facilitate the development of a more competitive and integrated road transport market in the Tripartite region by replacing the bilateral cross-border road transport agreements that are currently in force between couples of States in the Region with a single regulatory framework applicable to all countries.

These two instruments have been adopted by the Tripartite Sectoral Ministerial Committee on Infrastructure (TSMCI) in October 2019 and by the Tripartite Sectoral Ministerial Committee on Legal Affairs (TSMCLA) on 18 September 2020 and are tabled for approval at the next Heads of State and government Tripartite Summit, planned for March 2021. The two agreements need to be ratified by a minimum number of 14 Tripartite countries in order to enter into force, and will be complemented by 5 model laws, that are currently still under development (for further details see Chapter 6.2.4.). However, some Tripartite member States such as Malawi and Zambia have shown resistance to ratify the MCBRA because of their unwillingness to accept some of its rule, such as the one that does not al-low cabotage[138]. Other issues emerged by the interview with the Tripartite are the following:

[136] https://staging.ttttfp.org/wp-content/uploads/2019/03/Vehicle-Load-Management-Agreement-FINAL-DRAFT-Rev4-13Sep2018.pdf

[137] https://staging.ttttfp.org/wp-content/uploads/2019/03/Multilateral-Cross-Border-Road-Transport-Agreement-MCBRTA-Rev3.4-09Oct2018.pdf

[138] According to the MCBRTA, “cabotage” means transport undertaken on a public road by a transport operator with a vehicle not registered in the country where such transport is undertak-en. Cabotage operations includes the loading and unloading of goods or passenger between two points in such country, but exclude the loading of goods or passengers in such country for conveyance to another country which is not the country of registration of the vehicle and where such country of registration is not traversed.

- South Africa showed resistance to extend the MCBRTA provisions to the passengers' transport as well, expecting the Agreement to cover only cargo transport;
- Transport associations were involved in the drafting of the MCBRTA with two work-shops for each country: with just two exceptions of Malawi and the Fuel Transport As-sociation in Zambia, the private sector supported the liberalisation;
- There are substantial differences between road transport regulatory frameworks among countries, which derives from their colonial past;
- The coexistence of regional permits and bilateral permits is due to the fact that in some cases, multiple agreements are applicable to two or more countries, some of them applicable to road transport in general, and others to transport along specific corridors (e.g. transport from South Africa to Namibia vs. transport from South Africa to Namibia using a specific corridor)
- Differences in the level of professionalism. In many countries, corruption is a major constraint. The TTTFP staff carried out many field visits focusing on the weaknesses of each country and drafted specific national reports. The content of these report are available on the TTTFP website in the "Tripartite background" menu, under each country listed.

The TTTFP also set up a Corridor Trip Monitoring System (CTMS) to facilitate the continuation of cross-border trade of essential goods during the ongoing crisis occasioned by the coronavirus. It monitors key results areas: 1) vehicle load control 2) vehicle and driver quality 3) systems and 4) improvement of corridor performance. The CTMS facilitates a regulatory framework that ensure that cross border transport and transit is performed by healthy drivers that are constantly monitored, tracked to reduce the spread of COVID-19 and aimed at reducing extended travel and transit times during the pandemic.

10.3.3 Economic Community of West African States (ECOWAS)

ECOWAS officially adopted two regional conventions to harmonise the road transport regulation in the Region: The Inter-State Road Transit of goods (ISRT) and the Inter-State Transport (IST) Conventions (see Chapter 6.3). However, the effective implementation of these conventions differs significantly among members countries, which leads to a lack of transparency and some distortionary practices. For instance, some ECOWAS nations unofficially apply a quota system which is not foreseen by such Conventions.

The Region is also characterised by a high number of bilateral agreements that are in most cases the result of an effort to formalise of the sector, as the majority of the truckers in the region operate at informal level. The ECOWAS ISRT and IST Conventions admit the possibility for ECOWAS member States to conclude Bilateral Agreements covering specif-ic matters that are not regulated by the such conventions on condition that they are not in conflict with the provisions established in the two Conventions. However, as most of such bilateral agreements define market access conditions for admission of cargo and passenger vehicles from one nation to another, they are not compliant with the Article 3 para. 2 of the ECOWAS Treaty that mandates Member States to remove any obstacle to the free movement of persons, goods, **services** and capital between their respective territories.

ECOWAS has been recently working on project of automatization of the transit procedure called ALISA and subsequently renamed "SIGMAT" *(Système Interconnectè de Gestion des Marchandises en Transit)*. The project, which is based on the interconnection of the IT Customs Management Systems of the member States, was developed by ECOWAS with the technical support of UNCTAD and is aimed at replacing the paper-based transit documents exchanged between the customs offices of departure, arrival and transit with a system of electronic messages. Cargo information, including information on customs seals and identification marks is shared in advance among all the customs offices involved in the transit procedure. A Transit Accompanying Document (TAD) must be shown by the transporter at the customs office of destination, as well as at any customs office *en route.*

Currently, the legal basis for such a system is still under development, as ECOWAS is working on the finalization of a draft Supplementary Act on ECOWAS Community Transit. A pilot project was launched in Cote d'Ivoire, Burkina Faso to test the system, sub-sequently enlarged

also to Benin and Togo. Such a project, that amongst other things, also include the use of a cargo tracking systems for monitoring the movement of transit goods, is expected to significantly increase corridor transit performances along ECOWAS road corridors trade, as happened along the Northern Corridor with the introduction of the Regional Electronic Cargo Tracking System financed by TradeMark East Africa (see Chapter 2.4.2.).

In the ECOWAS region no Corridor Management Institution has been established so far. The Abidjan-Lagos Corridor Organisation (ALCO) is an institution that currently serves as an observatory to monitor the performance of the corridor even though, over time, it has acquired a limited a role in facilitating trade. However, the Treaty signed in March 2014 by the Presidents of Benin, Côte d'Ivoire, Ghana, Nigeria and Togo on the Establishment of the Abidjan – Lagos Corridor entrusts a Steering Committee composed of Ministers re-sponsible for Road Transport/ Highway/Infrastructure/Works matters from each contract-ing party, with the creation of an Abidjan–Lagos Corridor Management Authority (AL-CoMA) having supra–national status, legal personality and financial autonomy. Institution-al design and technical studies for the establishment of ALCoMA were prepared by Gauff Ingenieure GmbH & Co. and validated by ECOWAS on 15 July, 2017 (see Chapter 5.10.6).

10.3.4 Eastern Africa Community (EAC)

The originating members of EAC, namely Uganda, Tanzania and Kenya had already in force, since April 1998 a multilateral road transport agreement called Tripartite Agree-ment on Road Transport (TAORT). After the adhesion of Burundi, Rwanda and South Sudan to the EAC, the TAORT has been renamed in "EAC Agreement on Road Transport", as its provisions are now applicable also to these countries. In the EAC region there are also two main Corridor Agreements: the Northern Corridor and the Central Corridor Treaties.

The main features of the EAC TAORT are:

- The quota system is no longer applied within the East Africa Region.
- Concerning trucks registered outside EAC, there is no rule or quota prohibiting those trucks to operate in the region, but there are NTBs to discourage this practice;
- Apart from the NC and the CC Authority does not exist a regional corridors authority monitoring system within the EAC;
- In EAC there are some NTBs in place, for example, logistics is usually managed by forwarders, who hire the means of transport and can apply some discriminatory practices;

Regarding the Corridors, in terms of regional volumes, the ratio between import contain-er and export is 10:1. The transport cost from Dar to Burundi border is much lower from that one of return trip because normally those containers come back empty. The high transportation cost in the region is mainly due to this unbalance of trade than to a lack of liberalisation of road transport.

The EAC Secretariat released the Transport Strategy, which identifies ten major corridors in the region; those corridors are constantly monitored, mainly from the infrastructure point of view. Missing links and the capacity are the main elements from an infrastructure assessment of the corridors.

Border posts are another fundamental issue, whose monitoring is done by the customs directorates. With the recent COVID pandemic, it emerged that the OSBP system is inade-quate to tackle the situation.

10.3.5 Union du Maghreb Arabe (UMA)

The Arab Maghreb Union (AMU) is a trade agreement aiming for economic and future political unity among Arab countries of the Maghreb in North Africa. Its members are the nations of Algeria, Libya, Mauritania, Morocco and Tunisia. The Union has been unable to achieve tangible progress on its goals due to deep economic and political disagreements be-tween Morocco and Algeria regarding, among others, the issue of Western Sahara.

Maghreb is a peculiar area of the African continent, because of its cultural links with both the Arab /Middle East World and the Mediterranean area and also its trade bonds reflect this particular nature.

At present, intra-regional trade is quite low: none of the five countries has one of its Maghreb neighbours as a major trading partner. The bulk of Maghreb trade is with Europe, which partly reflects historical conditions, the nature of trade commodities, and, more re-cently, efforts on the part of individual countries to liberalize trade with Europe.

Hence, also road transport harmonization process remains quite stagnant, also because of the tense diplomatic relations between Morocco and Algeria: the border between the two countries is formally closed and this is a major constraint to regional trade integration effort. Trade among the member countries rely on the Bilateral agreements even if many attempts were put in place during the last decades. A Free Trade Agreement was issued in 2010 but it was not ratified by all members.

There is technical Committee on Transport (Comité Maghrebin de Transport) which meets twice a year, gathering all representants from each member country, to discuss subjects related to road transport but no binding decision can be taken.

The lack of integration costs about 3 percentage points on the Maghreb regional GDP so the AMU is striving for accelerating the process which will have important reflections on the road transport liberalisation process, even if there no landlocked country in the Maghreb region.

Concerning this, a new Convention on freight and passengers' traffic has been drafted and in March 2020 the technical Committee organised a meeting with all AMU members to accelerate its ratification. However, the new Convention is not available yet on the web-site. A further step forward to the integration process is the PIDA PAP 2 project on the Trans-Maghreb Highway, which is considered a priority by the African Union.

10.4 Corridor management authorities

10.4.1 Central Corridor Transit and Transport Facilitation Agency (CCTT-FA)

The Central Corridor starts from the Port of Dar Es Salaam and interconnects 5 countries: Uganda, Rwanda, Burundi, DRC and Tanzania. According to the Authority statistics, the Corridor moves around 60 million tons of freight per year.

The transport industry in the CC is considered an open market: that means that any oper-ator (of one of the 5 member countries) can participate as long as it complies with the es-tablished regulations; those regulations are supposed to be harmonised between the mem-ber countries although, in concrete terms, they are not at the same level: Burundi and Rwanda are fully harmonised, in Tanzania and Uganda the process is not yet complete, while in the DRC it is even less advanced. According to the CCTTFA, the uneven level of harmonisation is one of the main challenges of the Corridor,

Other main constraints of the Central Corridor are:

- different requirements for the access to the transport industry (particularly, with regard to the truck driver's profession) and different levels of professionalism between truckers operating in the 5 countries crossed by the corridor;
- infrastructure Gaps: there are no dedicated ways nor highways, the average speed along the corridor is 15 km/h, while the objective is to bring it at least to 20 km/h;
- average fleet age, at different level depending on the country;
- the difference in the axle load regulation applied: in Uganda, Rwanda, Burundi and Tanzania is applied the EAC Vehicle Load Control (Vehicle Dimensions and Axle Con-figurations) regulations, while DRC has adopted an axle load regulation which is based on the ECCAS requirements and is not harmonized with the EAC.

In terms of progress, the CC is advancing in terms of modernisation of border posts and in the communication and marketing strategy: the CC Authority is using media (such as TV and radio) to promote the Corridor in order to trigger the comparative advantage in the future perspective of the African Continental Free Trade Agreement (AfCFTA). It is noteworthy that both a new 5 years Strategic Plan and the M&E framework will be launched next year.

10.4.2 Northern Corridor Transit and Transport Coordination Authority (NCTTCA)

The Northern Corridor was established by a multilateral treaty signed by 6 member states: Kenya, Uganda, Rwanda, Burundi, DRC and South Sudan. The first version of the Treaty was dated 1985, in 2007 a revised text was adopted. The Multilateral Treaty still needs to be updated as some articles are obsoleting while others are no longer relevant.

Currently, Non-Tariff Barriers (NTBs) are one of the main challenges of the Northern Corridor since not all countries are at the same level of implementation of the Northern Corridor Transit and Transport Agreement (NCTTA) provisions. Accordingly, transport costs vary by country: they are very high in DRC and Burundi due to many NTBs, while they are lower in the remaining States. Regarding DRC, there is also a problem of security and corruption: because of this, many trucks stop at the DRC border, also because insurance companies do not provide insurance coverage to trucks entering in DRC. Another issue is road congestion, especially in peak hours with around 4000 trucks passing daily on the Corridor, since most of the road network has just 2 carriageways, one per direction.

The main issues emerged in the interview with NCTTCA are listed below:

- the containerisation rate is very high;
- almost totality of the network is geo-fenced (except in DRC and South Sudan);
- the NC is financed by a levy mechanism which involves 5 out of 6 countries;
- there is also a road toll system, which is not object of the Multilateral treaty but it is left to national laws: in Kenya the toll is 10 $ per 100 km for trucks, while private vehicles pay a lower toll;
- regarding axle load, all countries use the same standard, which is inherited by the EAC legislation;
- in 2018, the railway line Mombasa-Nairobi was renewed and updated with the Stand-ard Gauge Railway (SGR), leading to a massive increase in the use of railways in cargo traffic, also because of a directive adopted by the Cabinet Secretary of Transport of Kenya, whose implementation was suspended in November 2019, that made compulsory the use of the railway to transport transit cargo destined to neighbouring countries. Today, a large volume of cargo is still moved through this mode of transport because cheaper and more efficient than road transport;
- Regarding the road infrastructure, this is in fair/good conditions in Rwanda, Kenya and Burundi although the lack of bypasses, which lead to bottlenecks and a very long trans-it time around cities and villages. Conversely, in South Sudan, about 95% of the Northern Corridor section is in bad condition.
- Border crossing time significantly worsened after the spread of COVID 19, due to the multiple testing procedures applied at borders to truck drivers moving from one country to another.
- There is a joint effort towards major integration between the Northern Corridor and the Central Corridor, especially in infrastructure terms (connect missing links be-tween corridors);
- A significant improvement was observed after the introduction of the Regional Electronic Cargo Tracking System (RECTS) for transit cargo which was initially financed by TradeMark East Africa and piloted in Uganda. The system is totally free for transport companies as the cost of the electronic seals is covered by national governments;
- A Transport Observatory online platform was set by the authority to monitor Corridor performance and to identify bottlenecks and hidden transport costs.

10.4.3 Dar Es Salaam Corridor Committee

Dar es Salaam is the main port for both the Central and the Dar Corridor but while the first is more related to EAC countries, the latter is more focused on SADC countries (Tan-zania, Malawi, Zambia and DRC). Although there is an official agreement in place, a new negotiation phase is in process: DCC has an established secretariat but is not yet operation-al because of lack of funding. Nevertheless, a new set of Corridor Performance Monitor-ing System (CPMS) is expected.

The main constraints, according to the DCC, are the following:

- The Corridor is managed under the SADC ruling framework which excludes cabotage (that is the loading and unloading of goods for transport between two countries along the corridor by a vehicle that is not registered in these countries);
- Difference in the level of development of the transport industry's actors among the members is a constraint since weaker economies are reluctant to accept agreements that can potentially cut the off;
- Difference in the harmonisation process: some of the member countries have aligned their national transport regulation with the EAC, while others to SADC rules, which are not fully harmonised with each other, although a converge process has been initi-ated within the Tripartite, which also involves COMESA;
- Difference in average fleet age
- Difference in the road network condition, even if many rehabilitation interventions have been carried out recently under the patronage of World Bank and AfDB;

Other characteristics are:

- border crossing procedures are largely aligned: all countries adopt the same format for documents compliance;
- no quota system is in place;
- the Corridor is multimodal and includes: road, rail, pipelines and inland waterways;
- the Corridor is often used also for carrying mining products (copper from Zambia for instance), which are special commodities covered by a specific regulation;

It has to be noted that the Secretariat's website is still not active and, consequently, it is not easy to find accurate statistics.

10.4.4 Walvis Bay Corridor Group

The Walvis Bay Corridor Group (WBCG) was established in 2000 to engage in business development activities - thereby increasing cargo for ports and corridors linked to it, and to engage in the facilitation of corridor and infrastructure development.

The Walvis Bay Corridors are an integrated system of well-maintained tarred roads and rail networks – accommodating all modes of transport – from the Port of Walvis Bay via the Trans Kalahari, Walvis Bay-Ndola-Lubumbashi Corridor, Trans-Cunene and Trans-Orange Corridors providing landlocked SADC countries access to the global market.

The WBCG represents a sort of African's Best Practice in the field of Corridor Management Authorities: its peculiarity relies on its unique nature of a public-private partnership (PPP) set-up of transport and logistics stakeholders from both the public and private sec-tor. The partnership allows for the pooling of resources, expertise and authorities from both the regulators and the operators, who together form an integrated transport and lo-gistics service for potential customers.

Due to the Group's constitution as a PPP, it is able to lean on the public sector for advice and action on issues such as customs, transport regulation and infrastructure development, while the private sector can focus on business development such as marketing and making practical operational proposals and logistics solutions.

The aim of the WBCG has also extended from the management of a Transportation Corri-dor management to the concept of Economic Corridor; i.e., focusing also on job creation in the area and establishing a Wellness Service Programme involved in providing health care and mainstreaming HIV/ADIS response to the transporters.

Apart from acting as a meeting point for all stakeholders in the region (Namibian Port Authority, Namibian Chamber of Commerce, Walvis Bay Municipality, Road Fund, Ministries of Transport among many others) the WBCG is committed in identifying and removing all the Non-Tariff-Barriers (NTBs) that hinder road trade facilitation and logistics value chain creation. For this purpose, WBCG emissaries periodically carried out physical inspections at the borders and set a up a law enforcement agency to eradicate the risk of bribes at the borders.

10.5 Shippers, freight forwarders, transporters and transport associations

10.5.1 Shippers' Council of East Africa (SCEA)

SCEA is a business membership organization that represents the interests of importers and exporters in Kenya and the Eastern Africa Region. It provides a platform to articulate their concerns and demands to service providers and government regulatory institutions.

SCEA is therefore composed by cargo owners (Importers and Exporters) from different economic sectors, as well as other association of transport, logistics and customs clearing and forwarding agents, mainly from Kenya.

The establishment of SCEA is informed by demand from shippers and logistics providers to harness and consolidate efforts of finding to numerous capacity challenges and in-efficiencies in logistics particularly along the Northern Corridor (which is located for about 60% in Kenya). To this end, several studies have been conducted in the past with a com-parison of transport costs and delays along such a corridor, compared to other regional corridors in East Africa.

As confirmed by SCEA, Kenya has an open market economy and the road transport market is open to competition, which means that transport operators from neighbouring countries are admitted to provide their services in Kenya, on condition they respect the national regulation and the axle load limits applicable on its roads.

10.5.2 The Chartered Institute of Logistics and Transport (CILT – Zambia)

Regarding trade agreements, Zambia signed Road Trade Bilateral Agreements (RTAs) with all neighbouring countries (South Africa, Malawi, Angola, Tanzania, Mozambique, Zimbabwe, Botswana and Namibia) except DRC. However, two trilateral agreements have been concluded with DRC and Namibia for carriage of goods between their respective territories. One of these agreements is specific for the movement of cargo along the Walvis Bay/Ndola/Lubumbashi corridor. In 2016 the Zambian MoT created a database with all RTAs. The structure of those agreements is basically the same, apart from the fee structure that differs among countries. Some of these agreements are related to inter-state movement of passenger, not cargo.

Currently, there is no quota system in place in Zambia. However, a quota system is adopted by South Africa, regulated by the bilateral road transport agreement concluded with this country. Transport prices are freely determined by competing operators, without any intervention from the government.

A mutual recognition system is in place in any agreement: a permit is issued in the country of origin and is recognised in the destination country. Apart from this, the only extra cost is the road toll fee, stated in each agreement. South Africa is the only country that has established a specific agency for the issuance of cross-border permits, the Cross-Border Road Transport Agency's (C-BRTA), which is a performance-oriented organization whose main objectives, in line with its Strategic, Annual Performance and Operational plans, include the improvement of regulatory systems and standards on road transport in South Africa, and the resolution of all bottlenecks affecting performance of cross-border road transport operations. To this end, the C-BRTA issues, in in close collaboration with various stakeholders responsible for cross-border road transport regulation, facilitation and law enforcement, annual state of cross-border operations reports to periodically evaluate the sta-tus of cross-border road transport efficiency. Conversely, in other Southern African countries such permits are generally issued by Ministries of Transports that play a purely regulatory role, without pursuing any objective aimed at optimising or improving the effi-ciency of cross-border road transport operations. The Zambia Road Safety and Transport Agency, in addition to the issuance of such permits also deals with road security (e.g., managing the road transport subsector and minimizing loss of lives through road crashes). In DRC, recently an agency called OGEFREM was set up, which deals with cross-border issues. The validity period of a permit differs among countries. Each permit is issued per single truck, no matter who drives it and the standard validity varies from 3 to 12 months.

The transport industry in the country is foreign dominated even if national legislation en-courages local operators in entering in the logistics sector by requiring minimal investment for opening a transport company; differently, foreign companies must invest a min-imum amount of 500,000 kwacha (about 24,250 USD) to open a branch in the country.

Concerning professionality in the transport industry, Zambia ranks quite good, also in terms in understanding and running the business, in comparison with other countries in the region: DRC is at the bottom line, while South Africa at the top list in terms of professionalism of truckers. Compared to neighbouring countries' operators, South African transport operators benefit from increased access to capital and to latest equipment.

In Zambia there are three main operators in freight transport: (1) Truckers Association of Zambia (2) Copperbelt Open Transporters Association (COTA) and (3) Petroleum Trans-porters Association. These operators do not apply commission to cargo, but require a member subscription fee. The Petroleum Transporters Association also plays an intermediary role in procuring cargo for their members.

A practical example of an informal trade barrier in the region described by CILT-Zambia is referred to Tanzania, where there is an unofficial practice that impedes foreign transport operators to directly pick up a return load once they have delivered cargo to the Dar es Salaam port. In order to do that, a Zambian operator, must mandatorily apply to a Tanzanian transport company that will procure such a return load against the payment of a commission which can reach up to 20% of the value of freight.

10.5.3 Ethiopia Freight Forwarders and Shipping Agency Association (EFF-SAA)

The Ethiopian Freight Forwarders and Shipping Agents Association (EFFSAA) is an association of Freight Forwarders, Shipping Agents and Transport companies established in 1998 to achieve change in the sector of freight forwarding and shipping in Ethiopia. The EFFSAA's main task is to promote professionalism and excellence of the logistics industry through continuous learning and professional development.
The logistics sector in Ethiopia is be highly fragmented and considerably behind that of other countries in the Horn of Africa Region and other Sub-Saharan African (in particular landlocked) countries. This fragmentation of the Ethiopian logistics system is mainly due to the characteristics of the transportation industry in the country and to the imbalance of use of the different modes of transport. In Ethiopia, about 95 percent of cargo is transported by road (in particular, the country 's economy is hugely dependent on the dry cargo transportation sector), where the relevant operations are handled by a few big logistics companies and a large number of small transport operators, most of them with an in-adequate supply of vehicles with low carrying capacity and utilization rates. In the country, the current quota of commercial vehicles older than 10 years is more than 50% [139]. Transport companies offer in most case only basic transport and customs clearing services that do not include other auxiliary value-adding logistics services highly demanded by the import/export community, like warehousing [140], consolidation and packaging services. Moreover, most of them have invested little or nothing in tracking, freight and fleet management systems able to optimize route planning and increase vehicle utilization, so reducing their overall operating costs[141]. The level of professionalism of truck drivers is very low. Most of them are not capable of completing or understanding documents related to transportation of goods.

In 1992, the Ethiopian Government privatized the transport sector by liberalizing freight rates, which are now determined by the market, with the only exception of fuel transport, whose tariff rates are fixed unilaterally by the Ethiopian government. With the Transport Proclamation No. 468/2005, the government restructured the transport sector in a manner to create favourable conditions for the smooth and effective implementation of the transport policy and ensure the provision of competitive road

[139] National Logistics Strategy, 2017: Summary of commissioned study - Ethiopia, of the United Nations Development Programme Ethiopia.
[140] One of the major obstacles for efficient freight transport and logistics system of the country is the lack of storage facilities, adequate loading and unloading equipment and efficient man-agement of the system.
[141] Fleet Management Systems collect, store and provide complete comprehensive information about the current state of vehicles and cargo, the route history, the expected events, as well as the driver activities for the vehicle maintenance and operator companies.

transport services, in particular through the establishment of Transport Associations to pool together small transport companies and minor logistics organizations, in order to optimize transportation. Transport Associations are organizations of a cooperative nature, grouping individual truckers and small trucking firms. Their function is mainly to procure cargo for their members and to coordinate its movement for which a commission or service charge of 3 percent is payable calculated on the freight rate. Such a commission is applied only to transport companies with less than 50 trucks and is payable to the Association even if the cargo is not procured by the latter. In addition, transport companies with less than 50 trucks must register their trucks under the name of the Association and pay an annual fee of 3000 birr (75 USD), which contributes to raise transport costs for small transport companies, which are the majority in Ethiopia.

10.5.4 Borderless Alliance

Borderless Alliance (BA) is a partnership of private and public sector stakeholders working to increase trade in West Africa, and eliminate barriers to trade. Launched in May 2012 with support from the USAID West Africa Trade Hub, it provides an independent, sub-regional platform for producers, traders, transporters and financiers to propose and advocate for systemic and practical improvements to the movement of goods, transport, capital and services across West Africa. BA is also an established formal Observatory for the vari-ous corridors in West Africa. To this end BA, together with ECOWAS and its partners, developed a set of indicators to monitor the efficiency of the corridors in the region. BA also undertakes their own data collections.

Currently there are two e-platforms collecting data on corridor efficiency: one set by the UEMOA and the other set by Borderless Alliance. The latter is supposed to be acquired by ECOWAS. According to Borderless Alliance, the main bottlenecks along the Western Africa corridors are: high transport cost, presence of informal checkpoints, uncoordinated border crossing controls (presence of various agencies making the same checks) and infrastructure's gap. Concerning road safety problems along the corridor, the number of road fatalities are variable between the countries.

10.5.5 Cross-Border Road Transport Agency (C-BRTA)

The Cross-Border Road Transport Agency (C-BRTA)'s mandate is to improve the cross-border flow of commuters and freight operators who make use of road transport.

Even if the C-BRTA is officially a national agency based in South Africa, it acts as an interstate agency with a mandate to reduce mobility constraints in the whole Southern African Development Community (SADC) region, by promoting sustainable social and economic development in the transport sector.

Its action focuses on four main objectives:

1) Facilitating cross-border road transport operations;
2) Balancing the supply and demand of transport services;
3) Increasing business opportunities.
4) regulating market access through issuance of cross-border permits.

The ultimate goal in the C-BRTA's vision is the enhancement of intra-regional trade as a fundamental key to promote regional integration.

Apart from its specific legislative mandate, the C-BRTA also play a role in supporting public health authorities in addressing health issues within the transport domain.

Among its various tasks, the issuing of cross-border permits is one of the most important: the C-BRTA can issue permits for freight or passenger transport, whose validity differs from a very short term (14 days) up to 5 years. Each permit is issued for a specific destination and all cross-border operations are based on the individual permit.

10.5.6 Transport Operators Association of Zimbabwe (TOAZ)

The Transport Operators Association of Zimbabwe (TOAZ) is the officially recognized Transport Operating Industry Trade Association representing fleet owners/operators in Zimbabwe. TOAZ represents a fleet of around 8000 vehicles, mainly designated to road freight transport.

Around ninety percent of the fleet is deployed to cross-border operations and operate along the North-South Corridor, serving the ports of Durban and Beira.

Transport costs are the same for both corridors, about 2 USD/per ton-km loaded.

Even if Durban absorbed most of the traffic for decades, in the latest years there has been a notable increase in the traffic volumes from Beira, whose Corridor is mostly used for ag-ricultural commodities export to the Far East (China for instance). Copper and chrome exports from Zambia and Zimbabwe departs from Beira while traffic from South Africa is mainly channelled through the Beitbridge border. About security along the corridors, there are still major concerns in some sections, especially for trucks exiting South Africa border to Zambia and DRC (high risk of theft) and for high-value cargo, an escort is required.

The majority of the TOAZ members use fleet management systems; these electronic system devices are normally rented for an average cost of 30 USD.

Corridor infrastructure is considered in fair conditions but the operators complain of sensible delays at the border posts due to the inspection activities and clearing operations.

Regarding transport permits, Zimbabwe operators can use COMESA permits which are valid for all COMESA members or use the permits established by the bilateral agreements.

10.5.7 BASE Cameroon Ltd

Base Cameroon Ltd is a Cameroonian transportation company founded in 2016. The company, based in Douala, is structured into three distinct divisions focus on consulting, freight forwarding and project logistics Management services, and outsourced contract services.

Base Cameroon operates also in Chad and Central African Republic (CAR) through the two main corridors: Douala – Bangui and Douala – Ndjamena. Traffic to Bangui rose considerably in recent years due to the United Nations aid flow in the area, while the bulk to Ndjamena is composed essentially by commercial cargo.

Transport cost and fees[142] are established by the negotiations with national syndicates as well as the cargo allocation between different national transport operators: for instance, six out of ten containers that arrive at Douala with CAR as destination have to be transported by CAR operators (the same share is applied for Chad).

Nevertheless, when it comes to deliver sensitive or dangerous cargo, Cameroonians companies are preferred.

For Cameroonian freight forwarders, one of the main challenges, once delivered a cargo to Chad/CAR is to find a returning cargo to Douala, since both countries only export primary products to neighbouring countries. CAR export woods that mostly comes from DRC while Chad exports rely on seasonal products such as seeds, cotton, peanuts and Arabic gum.

Other main constraints on the Douala Corridors are:

- Security concerns
- Bribes and corruption
- Average old fleet of the operators
- Low level of professionalism

10.5.8 HEY Transport Uganda

Hey Transport is a leading Freight Forwarding and Customs Brokerage Services firm located in Kampala Uganda. As a logistic operator, Hey provides a full range of services in the sphere of customs clearance and transportation in all countries around the world for any type of cargo.

Hey is accredited for providing airfreight, sea freight and road haulage services for customs clearance of both export and import shipments at various Customs Business Centers (CBCs), Container Freight Stations (CFS), Inland Container Depots (ICDs), as well as in-ternational Airports around the world.

Ports of reference are the port of Mombasa in Kenya (where Hey also established a branch) and the port of Dar (albeit used much less than Mombasa). Therefore, the Northern Corridor is the main transport corridor for Hey.

In the port of Mombasa, no cargo allocation scheme is applied. Accordingly, incoming cargo is transported to

[142] More details on transport costs along the Douala Corridors are included in the relative Chapter 12.10

the interior of Kenya and in other neighbouring countries according to the normal market rules.

Hey uses GPS tracking systems, which are rented and installed in their trucks and whose cost is charged to the transporters (normally around 25/30 USD). The use of GPS tracking system significantly contributed to promote security along the itinerary.

Since the traffic is almost unidirectional, with Mombasa as origin and Kampala as a final destination, it is quite normal to see empty trucks leaving Kampala going back to Mombasa, also because the container has to return to the Container depot in Kenya, otherwise a hefty fine has to be paid as penalty.

Even if prohibited, overloading in the Northern Corridor is tolerated and compensated with a relative fee, depending of the extra weight. Normally transporters notify directly the corresponding overload at the border posts and check it at the weighbridge.

Regarding fleet conditions, apart from Kenyan transporters, in other EAC countries oper-ators use trucks whose average age is more than twenty years.

10.6 Other regulating authorities

10.6.1 Zambia Revenue Authority

In some countries, the revenue authorities are the institutions with the most reliable and updated data in terms of trade volumes at the borders. The Consultant selected Zambia as a sample for a well-connected landlocked country and conducted an interview with the Zambia Revenue Authority.

Zambia has various agencies responsible for the enforcement of road transport regula-tions. The Zambia Road Safety and Transport Agency is in charge of delivering cross-border permits.

In terms of axle load limit, these ones are harmonized with the SADC framework, but they are not harmonised with those adopted by the EAC partner States.

Major Corridors in the country are: (1) North-South Corridor, (2) Dar Corridor, (3) Naca-la Corridor, (4) Lobito Corridor (5) Walvis Bay Corridor and (6) Beira Corridor; the NS and the Dar Corridor are busiest ones even if in recent years it is observed a shift in traffic volumes from the Dar Corridor to the Beira Corridor. Major bottlenecks along these corridors are mainly due to: lengthy border formalities, infrastructure gaps (bad condition of some road sections), security concerns and many checkpoints where security officers ask bribes (in DRC, for instance).

Road tolls are applied on all foreign trucks moving through Zambia, whose amount is de-fined by the Tolls Regulations (2013) and depends on the vehicle's size and the country of registration of the truck. These tolls contribute to raise the transport costs on Zambian roads.

Among the border formalities constraints, the situation varies from border post to border post. For example, in Kasumbalesa (one of the more congested cross-border post, at the border with DRC) there is no OSBP, and border agencies have limited operativity (from 06:00 to 18:00) as their working time is not harmonised. This situation is also common to other border posts not organised as an OSBP. A border crossing fee is also applied in Kasumbalesa on vehicles entering to Zambia. On the other hand, in Chirundu, the first OSBP operationalised in Africa, at the border with Zimbabwe, the border post is opera-tional 24/7. Nevertheless, in Zambia commercial traffic cannot move during night-time (from 8 PM to 5 AM to reduce traffic accidents).

At the border between Zambia and Zimbabwe, crossing time ranges between 2 to 4 days and most of the delays are attributable to the clearance process for freight while for driv-ers is quite straightforward.

10.6.2 CEPCOR/DRC Ministry of Transport

The CEPCOR is the technical body of the Democratic Republic of Congo Government whose main mission is to ensure the follow-up of the implementation of the Regional Programs and Projects of the Activities.

DRC is served by several road trade corridors but the main are: the Northern Corridor and the Central Corridor.

Currently DRC has signed bilateral road agreements with two countries, namely Uganda and Angola:

- With Uganda, there is the NGURDOTO / TANZANIA agreement signed on September 08, 2007, where the two (2) parties met in Tanzania to decide on the practical modalities for the development of roads, railways and lake and river routes linking the two countries.
- With Angola, four (4) transport agreements were signed during the Angolan Presi-dent's visit to Kinshasa on January 19, 2015.

In addition, DRC is signatory of a series of multilateral agreements (Northern Corridor, Central Corridor and Walvis-bay-Ndola-Lubumbashi Corridor) and the SADC-COMESA-EAC tripartite which has adopted standard norms, agreements and model laws. pending promulgation by member states.

Any truck registered in another African country need a cross-border permit to enter the territory of DRC and have to pay a fee at the border post. The permit is valid for a period of time that must correspond to the duration of the visa obtained by the truck's crew.

DRC has not concluded any agreement for allocation of cargo with its neighbours; this is due to the fact that the DRC is not a completely landlocked country.

10.6.3 Permanent Interstate Committee for drought control in the Sahel - CILSS

The Permanent Inter-State Committee for Drought Control in the Sahel (known in the French name of *Comité permanent inter-Etats de lutte contre la sécheresse dans le Sahel,* CILSS) is an intergovernmental organization created on September 12, 1973. It brings together nine countries of the Sahelian zone: Burkina Faso, Cape Verde, Gambia, Guinea Bissau, Mali, Mauritania, Niger, Senegal, Chad.
Its current mandate is «to invest in the search for food security and in the fight against the effects of drought and desertification, for a new ecological balance» of the Sahel.

CILSS intervenes mainly in areas, such as: food insecurity, policy and strategies for the management of natural resources and climate change mitigation.

Even if the CILSS activities are not specifically focused on road transport, it plays an im-portant role in monitoring the trade of agricultural commodities within the ECOWAS region. In particular, it has established an observatory for identifying Non-Tariff Barriers (NTBs) which also include analysis of transport costs and of delays at the borders between its member countries.

In particular, the transport cost monitoring mechanism records variations in transport prices with regard to specific agricultural commodities (such as cotton, cocoa and caoutchouc), whose prices are mostly determined by big national export companies who own the monopoly in the trade of such products.

Main exports ports in the region are: Abidjan, Dakar, Cotonou, Lomè, Accra, San Pedro, Tema, Monrovia, Freetown, Bissau and Conakry while the corridors are :

- Accra – Ouagadougou – Niamey
- Abidjan - Ouagadougou – Niamey
- Abidjan – Bamako
- Dakar – Bamako

In addition, the Corridor Abidjan-Lagos is another key road corridor in the region, where high volumes of goods are moved.

Particularly important is the Observatory of Abnormal Practices (or in French Observatoire des Pratiques Anormales, OPA) set by CILSS, which carry out a diagnostic report for each member country to investigate the main hindrances to road transport causing delays and raising transport costs along the regional corridors.

11 Annex 2 : African Trade Volumes

11. Annex 2 - African Trade Volumes

This Chapter analyses the trade and economic performance of African countries, divided by regions, with a brief description of the impact of COVID-19 on their economies. Trade performances of each regional area of the African continent are analysed by taking into consideration the trade composition by main destinations and commodities; the consequences of the integration process and the intra-regional trade with its principal headwinds.

Broadly speaking, intraregional trade in Africa is relatively low, but rising, and dominated by food and manufactured goods. Much of this intraregional trade has been driven by the Southern African Development Community (SADC) and the EAC, which have the high-est levels of intra-regional trade, compared with the other RECs on the continent. Intra-African trade is dominated by food and manufactured goods with little level of processing or value addiction. In contrast, exports to the rest of the world are mainly dominated by primary commodities, which accounted for about 60 percent of total exports.[143]

Regarding the impact of COVID-19 on African economies, according to the latest AfDB forecasts (July 2020), real GDP in Africa was projected to contract by 1.7 percent in 2020, dropping by 5.6 percentage points from the January 2020 pre-COVID–19 projection (AfDB, April 2020) [144].

Nevertheless, these projections proved to be quite optimistic as shown by most recent cal-culations from the World Bank (January 2021). According to the WBG, Sub-Saharan Afri-ca has been hard hit by the COVID-19 pandemic, with activity in the region shrinking by an estimated 3.7 percent for the year 2020. Growth is forecast to resume at a moderate average pace of 3 percent in 2021-22—essentially zero in per capita terms and well below previous projections—as persistent outbreaks in several countries continue to inhibit the recovery.[145]

The current outlook is subject to greater-than-usual uncertainty and hinges on both the persistence of the COVID-19 shock, the availability of external financial support, and the availability of an effective, affordable, and trusted vaccine.

Moreover, the Consultant reported values from two renowned World Bank Indicators: Logistic Performance Index and the Ease of Doing Business.

The World Bank Logistic Performance Index (LPI) [146] allows for comparisons across 160 countries in six different areas: (1) Customs (2) Infrastructure (3) International Shipment (4) Logistics (5) Tracking & Tracing and (6) Timeliness. The LPI is based on a worldwide survey of operators on the ground (global freight forwarders and express carriers), providing feedback on the logistics "friendliness" of the countries in which they operate and those with which they trade. They combine in-depth knowledge of the countries in which they operate with informed qualitative assessments of other countries where they trade and experience of global logistics environment. Feedback from operators is supplemented with quantitative data on the performance of key components of the logistics chain in the country of work.

The World Bank Ease of Doing Business (EDB)[147] ranks world economies on their ease of doing business, in a scale ranging from 1 to 190. A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The rankings are determined by sorting the aggregate scores on 10 topics, each consisting of several indicators, giving equal weight to each topic.

In this context, "Trading across borders" is the only topic considered, together with its sub-components, which are time and cost for both border and documentary compliance, respectively for export and import.

Lastly, a short analysis of the potential consequences of the effective implementation of the African Continental Free Trade Area (AfCFTA) is reported.

[144] https://www.afdb.org/en/documents/african-economic-outlook-2020-supplement#:~:text=Real%20GDP%20in%20Africa%20is,impact%20but%20of%20short%20duration.

[145] http://pubdocs.worldbank.org/en/389631599838727666/Global-Economic-Prospects-January-2021-Analysis-SSA.pdf

[146] The Consultant considered the latest version of the LPI, which is dated 2018.

[147] The rankings for all economies are benchmarked to May 2019.

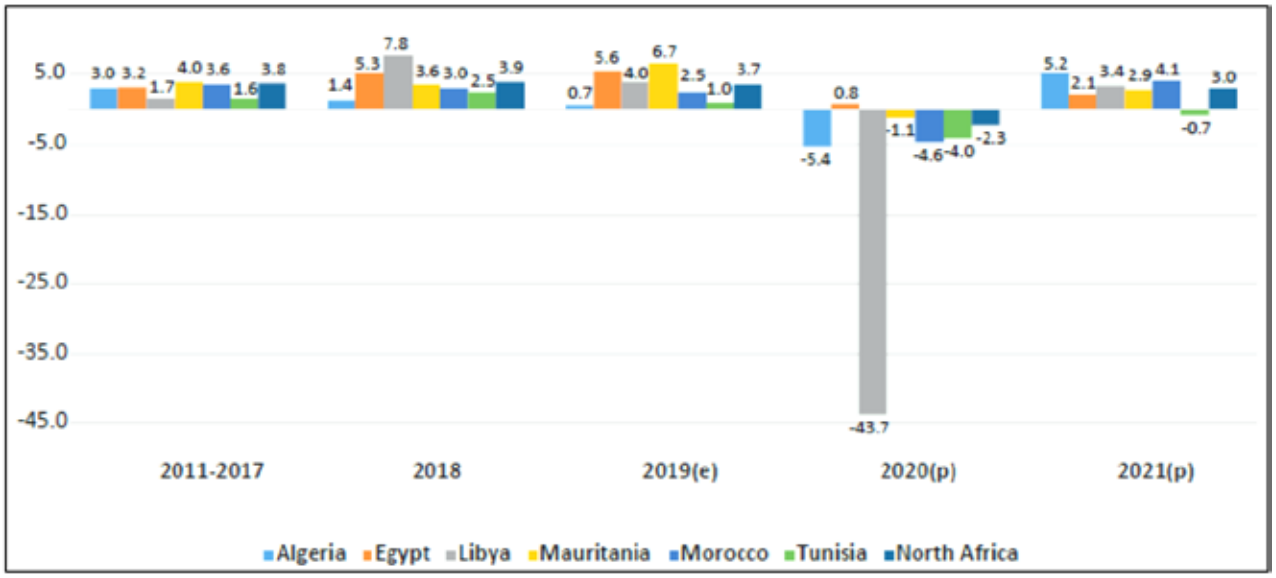
11.1 North Africa

11.1.1 Regional Economic Outlook and COVID-19 impact

Before the spread of the coronavirus (COVID-19) pandemic at the global level, economic growth in North Africa was expected to rebound to 4.4 percent and 4.5 percent respectively in 2020 and 2021. However, the uncertain global environment, the COVID-19 pandemic and the projected contraction in advanced economies will negatively impact the growth forecast for the region. Among all African regions, excluding South Africa, North Africa had registered the most important number of COVID-19 confirmed cases as of May 2020. The latest African Development Bank projections for 2020 indicate a loss of 5.2 points of growth in the region, from a growth rate of 4.4 percent to -0.8 percent if the pandemic were to last until June 2020 (baseline scenario) and a loss of 6.7 points with a growth rate of -2.3 percent if the pandemic were to perdure until December2020 (worst-case scenario).

In 2019, for the second year in a row, North Africa was the second-best performing re-gion in Africa with a growth rate estimated at 3.7 percent. However, the six countries of the region – Algeria, Egypt, Libya, Mauritania, Morocco and Tunisia – fared differently. Mauritania and Egypt were the most buoyant economies of the region with a 2019 rate of growth at 6.7 percent and 5.6 percent respectively. Morocco's growth was estimated at 2.5 percent, slightly down from 3 percent in 2018. In Algeria and Tunisia, growth was esti-mated to be modest, at 0.7 and 1.0 percent respectively, in 2019 (AfDB, North Africa Economic Outlook 2020).

Figure 16 North Africa GDP growth, by country 2011-2021 (%)



Source: African Development Bank, North Africa Economic Outlook 2020

11.1.2 Maghreb integration process

Maghreb countries have long recognized the benefits of greater economic integration, but the steps taken in this direction have been only partly successful. To promote intra-Maghreb trade, countries concluded a number of free trade agreements. In 1989, all five Maghreb countries established the Arab Maghreb Union (AMU) to promote cooperation and integration among the Arab states of North Africa. In this context, member countries negotiated the establishment of a Maghreb Free Trade Area for integration in all areas of economic activity. An agreement was initialled by trade ministers in 2010, but was never ratified. In addition to being members of the AMU, Libya, Morocco, and Tunisia signed the Pan-Arab Free Trade Area agreement in 1997. Morocco and Tunisia are also founder of the Agadir Agreement, signed in 2004, for the establishment of a free trade zone. While past initiatives have been useful to promote the spirit of integration, in practice they have had only limited impact on regional trade

and the Maghreb's trade balance is still strictly dependent on external partners.

Moreover, leveraging traditional trade links with Europe, Maghreb countries participate in several trade agreements: for instance, Algeria, Morocco, and Tunisia are part of the Euro-Mediterranean Agreement establishing an association with the European Union; Mauritania is part of the Economic Partnership Agreement between the EU and West African ; Morocco and Tunisia have signed trade liberalization agreements with the European Free Trade Association, and concluded bilateral free trade agreements with Turkey.

11.1.3 Maghreb trade performance

In recent years, trade openness has declined across all Maghreb countries, except Moroc-co. This decline has been consistent with international trends, including the overall weakness in international economic activity, particularly in investment; the waning pace of trade liberalization; the decline in commodity prices, including for oil; and slower growth of global value chains (GVCs). Lower commodity prices and insufficient diversification explain the decline in trade openness in Algeria, Libya, and Mauritania.

Maghreb countries, like many other emerging markets, import increasingly from China, whose export to the Maghreb have increased dramatically since the early 2000s, reaching 12 percent of the region's total imports in 2018 compared with less than 8 percent of the previous decade.

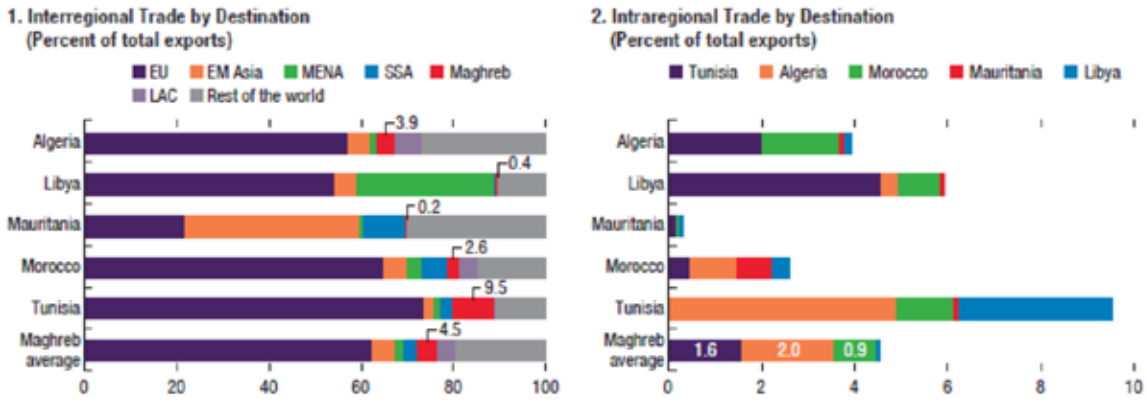
The Maghreb region shows significant country variation in market concentration: in Al-geria and Libya, fuels account for 90 percent and 98 percent of total exports, respectively; Mauritania's exports are dominated by primary commodities such as minerals, metals, and fisheries while, on the other hand, Morocco and Tunisia have a more diversified export base (manufacturing, agriculture, and services).

11.1.4 Intra-regional trade

Despite existing institutional arrangements, intra-Maghreb trade remains thin. Intra-Maghreb trade is less than 5 percent of its total trade, compared with intra-regional trade in Africa at about 16 percent, Latin America at 19 percent, Asia at 51 percent, North America at 54 percent, and Europe at 70 percent.

None of the five countries has one of its Maghreb neighbours as a major trading partner. The bulk of Maghreb trade is with Europe, which partly reflects historical conditions, the nature of trade commodities, and, more recently, efforts on the part of individual countries to liberalize trade with Europe. In all Maghreb countries except Mauritania, over half of exports goes to countries in the European Union, mainly France, Italy, and Spain, which are geographically the closest advanced economies to the Maghreb (Figure 3).

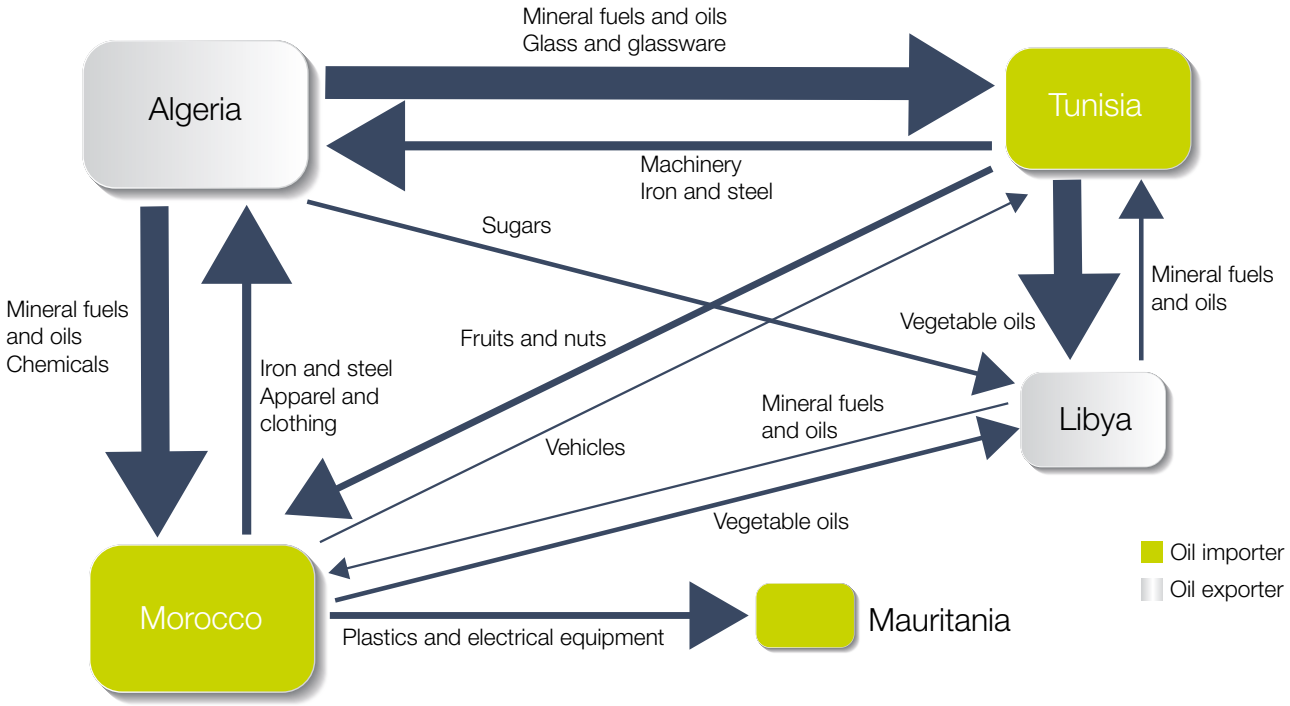
Figure 17 Directions of Trade and Investment



Source: IMF, Economic Integration in the Maghreb, 2019
Note: Exports are in USD. EU= European Union; EM=Emerging Markets; MENA= Middle East and North Africa; SSA= Sub Saharan Africa; LAC = Latin America and Caribbean

Only Tunisia and Algeria export much within the Maghreb as a share of their total trade (about 10 percent and 4 percent of exports, respectively). Intraregional trade within the Maghreb consists of only a few main flows: gas and oil exports from Algeria to Morocco and Tunisia; iron, steel, and clothing from Morocco to Algeria; iron and steel from Tunisia to Algeria; and animal and vegetable oil from Tunisia to Libya (Figure 5). All other trade flows are insignificant. Overall, only a quarter out of 20 possible bilateral trade flows are meaningfully present in intraregional trade among Maghreb countries.

Figure 18 **Intraregional Trade Flows**



Source: IMF, Economic Integration in the Maghreb, 2019
Note: size of the nodes is proportional to total exports; width of the arrows is proportional to the size of the flow

The underlying cause of this unsatisfactory performance are different.

Geopolitical factors have impeded regional integration. The AMU has been dormant for years due to disagreements between member countries, especially between Algeria and Morocco. Threats of terrorism have also prompted tighter border controls. Since 1994, the 1,000-mile border between Algeria and Morocco has been closed.

Trade within the Maghreb suffers also because of restrictive trade policies. Maghreb countries face lower tariffs with Europe than when trading among themselves. For example, the simple average tariff duty in Maghreb countries was about 14 percent in 2016, compared with 5 percent in the European Union, 4 percent in the United States, and 10 percent in China. Algeria is the most protected market, with an average tariff rate of 19 percent, while in other countries the rates are about 12 percent. Furthermore, selected sectors are heavily protected even in countries relatively open for trade. For example, the import duty on agricultural products is 28 percent in Morocco and 31 percent in Tunisia.

In addition to tariff barriers, intraregional trade also faces multiple nontariff impediments, or Non-Tariff Barriers (NTBs). For example, the average cost to export is one of the highest in the world and varies substantially across the region, between the most efficient exporters (Morocco and Tunisia) and the least efficient (Algeria, Libya and Mauritania). The time to export is broadly comparable to other emerging market and developing economies but substantially higher than in advanced economies.

The World Bank LPI for Maghreb suggests that traders face significant hurdles in the region. Among the NA countries, Morocco and Tunisia show a better score: the former be-cause of its infrastructure, the latter because of its efficiency in terms of Tracking and Tracing and in the timeliness. On the other side, Libya, because of its political tension is among the world worst performer.

Table 11 Logistics Performance Index 2018 ranks for Northern African countries

Country	LPI Overall Score	LPI 2018 Rank	Customs Rank	Infrastruc-ture Rank	International Shipment Rank	Logistic Rank	Tracking & Tracing Ran	Time-liness Rank
Morocco	2,54	109	115	93	103	101	112	114
Tunisia	2,57	105	107	133	115	123	71	70
Algeria	2,45	117	138	96	122	113	103	124
Libya	2,11	154	149	115	159	153	160	123
Mauritania	2,33	135	128	112	145	144	119	134

Source: LPI, 2018

Similarly, the Doing Business indicator for trading across borders indicates that the costs associated with export or import transactions remain high in the region. Additional impediments include numerous roadblocks, delays at border crossings, and the length and shortage of customs clearance procedures. Also here, Morocco and Tunisia show a better performance, reflected by the lower cost for border and documentary compliance.

Table 12 EDB, Trading across Borders component rank for Northern African countries

Country	Trading across Borders			EXPORT					IMPORT			
				Border compliance		Documentary compliance			Border compliance		Documentary compliance	
	Rank	Score	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Morocco	58	85.6	Land	6	156	26	67	Land	57	228	26	116
Tunisia	90	74.6	Port	12	375	3	200	Port	80	596	27	144
Algeria	172	38.4	Port	80	593	149	374	Port	210	409	96	400
Libya	129	64.7	Port	72	575	72	50	Port	79	637	96	60
Mauritania	144	60.3	Port	62	749	51	92	Port	69	580	64	400

Source: World Bank, Ease of Doing Business 2020

Greater integration would bring substantial benefits to the region through economies of scale, creating a large integrated market of almost 100 million consumers and raising the region's negotiating capacity in areas of common interest. Currently, each Maghreb country negotiates individually, often with much larger trading partners and their blocs. For example, each Maghreb country has already negotiated cooperation agreements with the EU bilaterally.

The characteristics of existing trade flows also confirm the substantial regional trade potential. According to IMF, Intra-Maghreb trade is also highly complementary[148]: the Maghreb's export structure corresponds to the region's import content, which is also similar to the import composition of its countries' major trading partners outside the region.

11.2 East Africa

11.2.1 Regional Economic Outlook and COVID-19 impact

Growth in East Africa was buoyed by strong growth in Rwanda, South Sudan, Ethiopia, Tanzania, Uganda, Kenya and Djibouti. Before the COVID-19 pandemic, East Africa was the fastest growing region in Africa, although the region's real GDP growth slipped marginally from 5.2 percent in 2018 to 5 percent in 2019. Pre-COVID-19 projections showed the region's real GDP growth recovering slightly to 5.1 and 5.4 percent in 2020 and 2021, respectively.

New projections by the African Development Bank indicate that as a result of COVID-19, the 2020 global growth that had in 2019 been projected at 2.9 percent will fall to -3.0 percent but would rebound to 5.8 percent in 2021 if the COVID-19 pandemic fades quickly (AfDB East African Economic Outlook 2020).

Weak export performance and high import bills drive a current account deficit in the region, calling for more structural reforms. The current account deficit is estimated at 5.9 percent of GDP in 2019 and was expected to deteriorate further (pre-COVID-19) to 6.1 and 6.3 percent in 2020 and 2021, respectively (Table 5).

This deterioration is driven by a mix of a crisis and the desire for growth. For instance, Rwanda's deficit is due to increased infrastructure spending financing coupled with declining traditional exports. In Sudan, the current account deficit has been driven by the post-secession crisis that reduced Foreign Direct Investment (FDI) to the country and the limited openness due to US sanctions. In Somalia, the deficit is explained by the countries' ab-solute dependence on imports. In Burundi, the narrow export base and rising international food and fuel prices have made the imports 6 to 7 times higher than its exports leading to the deficits.

With the COVID-19 pandemic and its impact in the East Africa's most important trading partners, including the EU, China, US and India, East Africa's exports to these partners will reduce leading to further deterioration in the current account balance. April 2020 projections show that as a result of COVID-19, the region's current account balance will deteriorate in 2020 to -7.0 percent of GDP in the baseline scenario and -7.2 percent in the worst-case scenario.

[148] https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2019/02/08/Economic-Integration-in-the-Maghreb-An-Untapped-Source-of-Growth-46273#:~:text=Summary%3A,least%20integrated%20in%20the%20world.&text=Restrictions%20on%20trade%20and%20capital,integration%20for%20the%20private%20sector.

Table 13 External Current Account Balance Including Grants by Country (percent of GDP)

Country				Pre COVID-19		Under COVID-19			
						Baseline		Worst-case	
	2017	2018	2019(e)	2020(p)	2021(p)	2020(p)	2021(p)	2020(p)	2021(p)
East Africa	**-6,9**	**-6,5**	**-5,9**	**-6,1**	**-6,3**	**-7,0**	**-6,4**	**-7,2**	**-6,8**
Burundi	-12,9	-10,3	-10,0	-9,6	-9,1	-11,0	-11,6	-11,3	-12,1
Comoros	-42	-9,1	-8,9	-8,8	-8,7	-5,3	-4,4	-5,9	-4,8
Djibouti	-19,0	-13,5	-12,5	-14,1	-15,1	-13,0	-12,9	-12,6	-11,9
Eritrea	23,8	16,6	11,3	13,2	8,1	10,3	9,4	10,9	9,7
Ethiopia	-8,5	-6,5	-5,7	-5,3	-5,0	-5,7	-5,0	-8,3	-5,9
Kenya	-6,2	-5,0	-4,9	-4,8	-4,9	-4,8	-4,5	-4,2	-3,9
Rwanda	-7,8	-7,7	-9,2	-9,1	-8,0	-18,8	-10,4	-17,5	-11,1
Seychelles	-18,4	-17,1	-18,9	-17,4	-182	-27,3	-23,8	-28,4	-25,4
Somalia	-9,0	-8,3	-8,0	-7,7	-7,6	-9,3	-8,8	-9,9	-9,1
South Sudan	-3,0	-4,5	-8,4	-1,8	-1,9	-8,8	-5,4	-9,3	-6,8
Sudan	-10,0	-13,6	-7,8	-10,1	-11,3	-14,9	-15,2	-16,3	-17,3
Tanzania	-3,4	-3,3	-3,4	-4,0	-4,3	-3,5	-3,3	-3,7	-3,4
Uganda	-5,5	-8,8	-9,8	-10,4	-11,0	-10,8	-10,2	-112	-10,4

Source of Data: AfDB, East African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

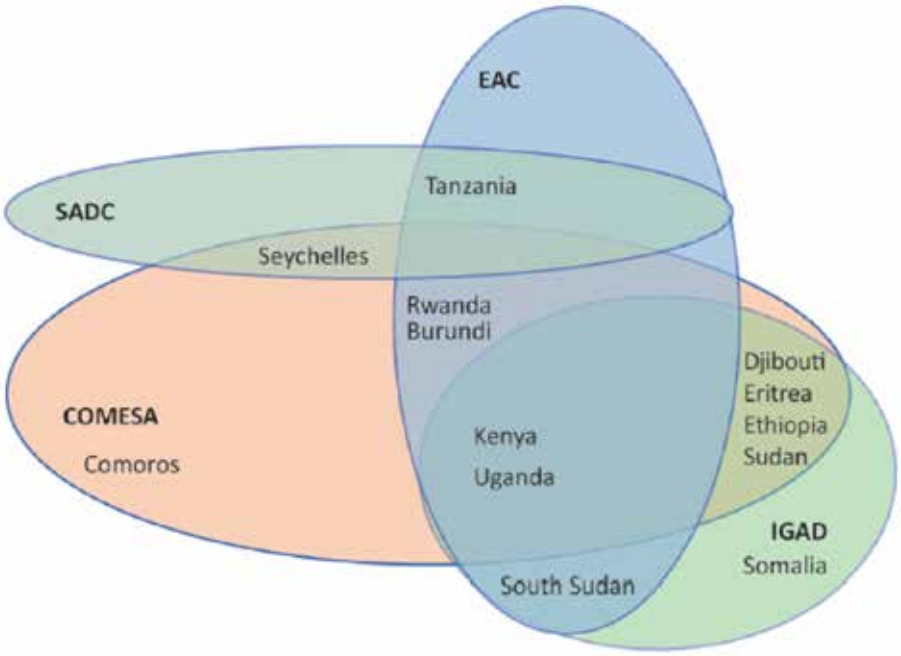
11.2.2 East Africa Integration and RECs

The members of the East Africa region belong to four different and overlapping trading blocs:

1. East African Community (EAC),
2. Common Market for Eastern and Southern Africa (COMESA),
3. Intergovernmental Authority on Development (IGAD) and
4. Southern African Development Community (SADC).

Competing interests among the countries in East Africa can explain multiple member-ships. However, the overlapping memberships also imply multiple and often conflicting agreements. Among the four blocks, EAC leads in progress towards full integration, fol-lowed by COMESA and IGAD. Movement towards macroeconomic convergence within the blocs, which is a prerequisite for full economic integration, plays a key role in regional macroeconomic stability and economic performance. Preventive and restrictive measures undertaken by member countries to control the spread of COVID-19 are slowing down trade, integration and other economic activity in the region. The movement of persons and goods across the borders have drastically reduced in the wake of COVID-19 outbreak.

Figure 19 East Africa RECs and overlaps



Source of Data: AfDB, East African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

11.2.3 EAC trade performance and intra-REC trade

The East African Community (EAC) is comprised of Burundi, Kenya, Rwanda, Tanzania, Uganda, and South Sudan. After several years of steady increases in the first years of the launch of the customs union, intra-EAC trade in goods has stabilized at around 19% of the total merchandise trade of the Community over the review period. On average, EAC countries source 6% of their total imports from the region, and supply 20% of their total exports to the region.

The ratio of EAC countries' trade (including intra-EAC trade) in goods and services to GDP remains moderate (about 50%) and declined noticeably from 57.2% in 2011 to 37.5% in 2017. Despite significant disparities between EAC countries in their individual trade performances, the ratio declined for all of them, except Rwanda. Merchandise trade re-mains important to the Community, accounting for over 70% of its total trade (in goods and services) throughout the review period (WTO, 2019),

Extra-EAC trade in goods continues to display a deficit, with exports generally covering less than 50% of imports (Table 6). The deficit recently narrowed from USD 25.3 billion in 2015 to USD 19.2 billion in 2017 as a result of falls in global prices of crude oil. Exports are dominated by commodities for which EAC countries are price takers: tea; coffee; cut flow-ers; and non-monetary gold. Imports are dominated by manufactured products, including fuels, chemicals (e.g., medicaments, fertilizers), and machinery and transport equipment.

In 2017, Kenya and Uganda are the major players in intra-EAC trade. Major traded goods across the region include agricultural products (e.g., sugar, maize, and vegetable and ani-mal oils) and manufactured products (e.g. cement, steel and steel products, plastics and pharmaceuticals).

The relative importance of extra-EAC trade partners has not significantly changed since 2011. The EAC has continually sourced its imports from Asian countries (almost 50% in 2017 up from 40.5% in 2011), mainly China and India. The European Union and the Unit-ed Arab Emirates are other

major suppliers. The European Union remains the EAC's main export market, but its share has declined in favour of countries such as India (Table 6). Moreover, despite the downward trend in their share of exports from the EAC, COMESA and SADC countries (excluding EAC member States) remain important destinations, accounting for about 21% of the total in 2017 (Table 6).

Table 14 Extra-EAC trade by major trading partners, 2011-173 - (USD billion and 0/0)

	2011	2012	2013	2014	2015	2016	2017
Total imports (USD billion)	**32.0**	**34.3**	**35.3**	**37.1**	**37.2**	**27.7**	**30.7**
	(% of total extra-EAC imports)						
China	10.6	12.0	13.1	16.2	17.3	22.8	21.3
India	13.5	13.6	20.2	19.3	14.3	16.5	11.9
EU-28	15.5	14.5	13.6	13.1	11.9	14.5	12.9
United Arab Emirates	12.5	9.9	8.8	7.9	6.5	7.7	8.9
Other	48	50.1	44.3	43.3	50	38.6	45
Areas							
Asia	40.5	40.9	49.7	51.3	45.1	55.0	48.9
Africa	10.3	9.2	8.3	7.1	6.4	8.1	10.4
COMESA and SADC	9.7	8.9	7.9	6.9	6.3	7.7	10.1
Total exports (USD billion)	**10.8**	**11.9**	**10.9**	**12.9**	**11.9**	**11.3**	**11.5**
	(% of total extra-EAC exports)						
EU-28	23.5	22.0	20.6	20.0	20.3	20.7	20.5
Switzerland	11.7	9.0	6.8	2.4	2.7	8.2	3.4
Dem. Rep. of the Congo	5.4	6.1	8.3	7.2	7.3	8.0	7.4
India	3.1	4.9	8.0	10.8	10.6	7.7	9.5
United Arab Emirates	4.7	6.1	5.4	3.6	5.0	7.6	9.5
Others	51.5	52	50.9	56.1	53.9	47.7	49.7

Source of Data: AfDB, East African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

11.2.4 COMESA trade performance and intra-REC trade

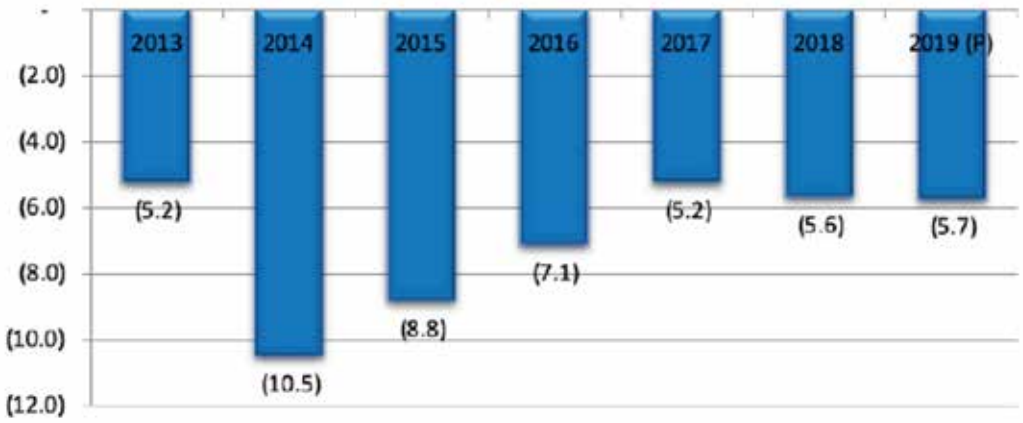
All East Africa countries, except Somalia, South Sudan and Tanzania, belong to COMESA where the export intensity index[149] remains low. The export intensity index for COMESA member countries shows a mixed trend between 2013 and 2017 but is generally below 30 percent except for the land-locked countries (Burundi, Rwanda and Uganda).

Negative growth for intra-COMESA exports and imports suggest that intra-COMESA trade is not expected to increase in the short-term. The low trade volumes coupled with multiple and overlapping memberships in the regional trading blocs are indication of the rising protectionism in the form of trade and technology barriers and trade tensions among the member countries.

External Current Account, including grants widened in the COMESA region, averaging about -5.6 percent of GDP in 2018 as compared to -5.2 % in 2017 and it was projected to be -5.7% in 2019 (pre-COVID-19 projections) (Figure 7).

[149] Export intensity index is the ratio of a trading partner's share to a country/region's total exports and the share of world exports going to the same trading partner. An index of more than 1 indicates that trade flow between countries/regions is larger than expected given their importance in world trade.

Figure 20 COMESA External Current Account (Including Grants as a % of GDP)



Source: COMESA 2018 Annual Report

The current account deficits to some extent depleted international reserves and increased dependence on external debt and investment. Most countries in the region do not produce enough exports to cover their import demands, relying almost entirely on external debt to close the huge infrastructure investment gap (COMESA Annual Report 2018). As depicted in the Table 7, the total exports in COMESA region increased by 6% from US$107 billion in 2017 to US$ 114 billion in 2018. Concurrently, the region's imports increased by 8% from US$182 billion in 2017 to US$195 billion in 2018. In the last five years, the region recorded trade deficits peaking in 2015 while recording the lowest trade deficit in 2017.

Table 15 COMESA Global Trade in US$ millions

Flow/Year	2014	2015	2016	2017	2018
Total Exports	102.281,3	90.440,9	87.151,6	107.254,7	114.065,1
Imports	209.617,7	202.637,6	186.840,6	181.525,1	195.305,4
Trade Balance	-107.336,3	-112.196,6	-99.689,0	-74.270,4	-81.240,2

Source of Data: AfDB, East African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

Looking at the World Bank international indicators, it is worthwhile to highlight that Eastern African countries are very uneven in terms of performance and logistical efficiency: on one side, in within the first third of the world ranking, there are countries like Rwanda, Kenya and Tanzania, while at the opposite extreme, there are Eritrea and Somalia, at the bottom of the ranking.

Table 16 Logistics Performance Index 2018 ranks for Northern African countries

Country	LPI Overall Score	LPI 2018 Rank	Customs Rank	Infrastruc-ture Rank	International Shipment Rank	Logistic Rank	Tracking & Tracing Ran	Time-liness Rank
Sudan	2,43	121	136	125	102	96	115	139
Ethiopia (*)	2,38	126	80	133	102	117	133	149
Eritrea	2,09	155	137	152	154	146	145	159
Djibouti	2,63	90	113	60	118	135	72	85
Somalia	2,21	144	145	157	100	121	140	157
Kenya	2,81	68	67	79	99	64	56	79
Uganda	2,58	102	76	124	78	99	123	110
Rwanda	2,97	57	64	65	29	60	86	61
Burundi	2,06	158	159	146	139	117	156	158
Tanzania (*)	2,99	61	60	60	63	58	60	64

Source: LPI, 2018 Note: (*) LPI 2018 not available, values from LPI 2016

The relatively satisfactory performance of Rwanda is also confirmed by the score in the Trading across borders EDB ranking, even if the average costs for border compliance is higher than the one in Kenya, Burundi and Ethiopia.

Table 17 EDB, Trading across Borders component rank for Northern African countries

Country	Trading across Borders		EXPORT					IMPORT				
				Border compliance		Documentary compliance			Border compliance		Documentary compliance	
	Rank	Score	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Sudan	185	19.0	port	180	967	190	428	port	144	1093	132	420
Ethiopia	156	56.0	land	51	172	76	175	land	72	120	194	750
Eritrea	188	0.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Djibouti	147	59.4	port	72	605	60	95	port	118	1055	50	100
Somalia	166	51.6	port	44	495	73	350	port	85	952	76	300
Kenya	117	67.4	land	16	143	19	191	port	194	833	60	115
Uganda	121	66.7	land	59	209	24	102	land	145	447	96	296
Rwanda	88	75.0	land	83	183	30	110	land	74	282	48	121
Burundi	169	47.3	land	59	109	120	150	land	154	444	180	1025
Tanzania	182	20.2	port	96	1175	96	275	port	402	1350	240	375

Source: World Bank, Ease of Doing Business 2020

11.3 West Africa

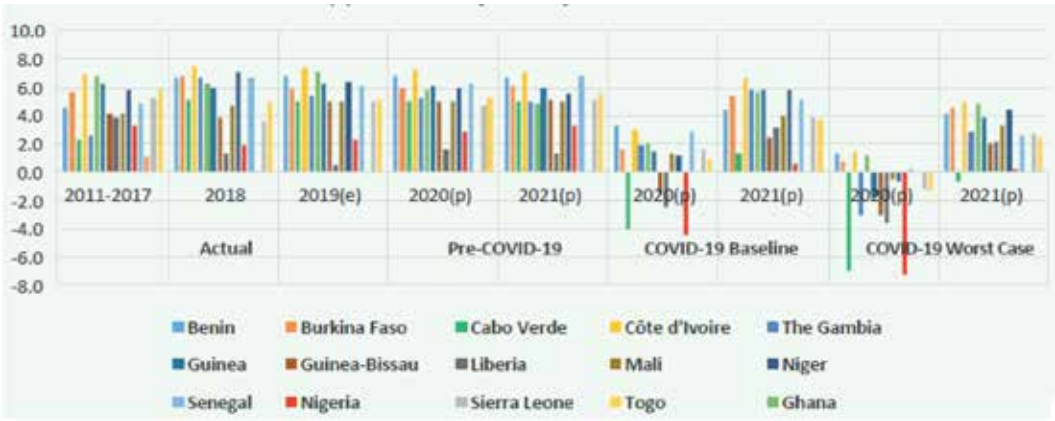
11.3.1 Regional Economic Outlook and COVID-19 impact

Prior to the outbreak of the COVID-19 pandemic, West Africa region was poised to ex-pand by 4.0 percent in 2020 (AfDB, 2020). The magnitude of socioeconomic impact of the COVID-19 pandemic on countries in West Africa may not be known with certainty as the situation remains fluid. However, early assessment suggests that the prospect for initial growth projection is now evidently remote.

In fact, according to the latest World Bank, GDP for WAEMU group (or UEMOA in French) is estimated on 0.3 for 2020 and is projected to rebound at 4.2 in 2021. Growth in the region will be affected through a combination of channels, including decline in com-modity prices, low financial flows, reduced tourism earnings and heightened volatility in financial markets.

After the slowdown in 2016 on the weight of Nigeria's economic recession, growth in West Africa picked up was far from uniform across the region. Average growth for the region was estimated at 3.6 percent in 2019, 0.2 percentage points higher than the preceding year. West Africa has consistently been the third fastest growing region in Africa, lagging behind East Africa and North Africa, although it has seen growth accelerate in more countries than in other regions, over the past two years.

Figure 21 Real GDP by country in West Africa



Source of Data: AfDB, West African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

11.3.2 ECOWAS trade and intra-REC performance

According to the UN definition, West Africa includes 16 countries, which are: Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. Except from Maurita-nia, which normally is perceived as member of Maghreb countries, all other countries are also member of the Economic Community of Western African States (ECOWAS).

ECOWAS exports show little product diversity, with a heavy reliance on extractive prod-ucts (e.g., petroleum, natural gas) and a few agricultural commodities (e.g., cocoa, rubber, cotton). Official ECOWAS food exports represent only 10% of total exports, and almost 60% of this 10% is represented by cocoa.

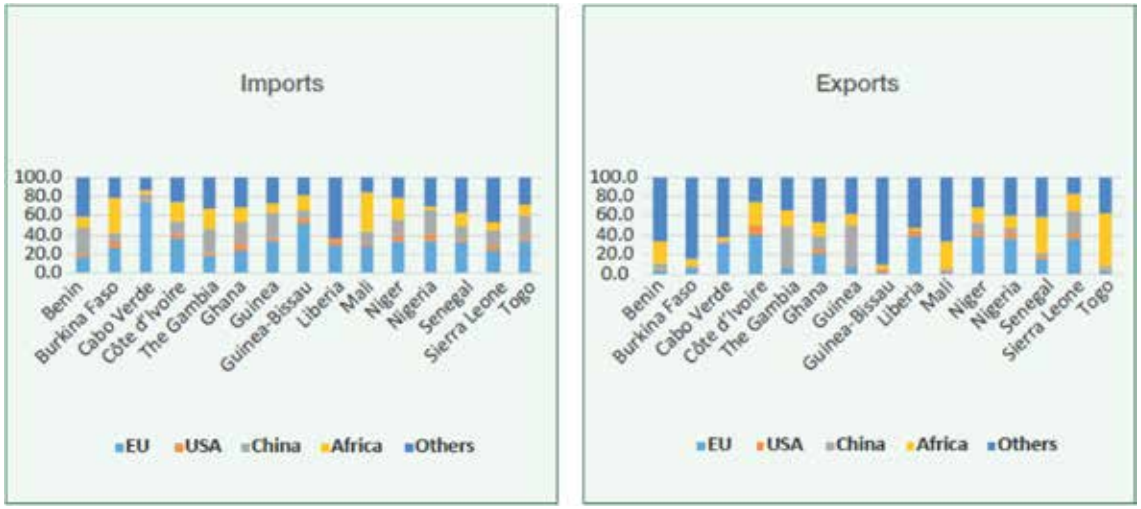
Trade figures differ considerably between West African countries. Nigeria accounts for 73,5% of total registered ECOWAS exports, primarily as a result of its petroleum exports but also due to its larger economy. The country also dominates total ECOWAS imports (52%) as well as food imports specifically (51%). The second and third

economy of the region, i.e., Ghana and Côte d'Ivoire, are the main ECOWAS food exporters, largely due to cocoa, followed by Nigeria.

West African trade is increasingly extra-regional rather than internally within ECOWAS. China, Europe Union and the U.S account for about 43 percent of West Africa exports and 57.9 percent of the region's imports (see Figure 9). Highly industrialised countries mainly buy raw materials and sell industrialised products from/to the region.

ECOWAS countries have a diversity of trade partners for a given commodity. Institutional, political and economic drivers influence the choice of trading partners by countries in the same geographical area and sharing significant socioeconomic similarities. For instance, the colonial heritage is evident: all francophone countries have France (and all Lusophony countries have Portugal) as one of the top five commercial partners. Within the region, intra-regional trade is higher between francophone countries. For instance, Senegal, Côte d'Ivoire, Mali, Burkina Faso, Niger and Togo have at least one ECOWAS francophone country among their top five trade partners. The historical connectedness and more sub-regional integration in UEMOA zone may have facilitated trade between francophone countries.

Figure 22 **Percent share of West Africa trade in total trade, 2018**



Source : Statistics Department, AfDB

However, as Table 9 shows, intra-regional trade in ECOWAS averaged about 11 percent of total ECOWAS trade and it has continued to decline since 2016. Low intra-regional trade reflects production and export concentration in primary commodities whose market is mainly with third countries: livestock, tobacco, vegetable fats and oils, processed food and fish are the five main intra-regionally traded food products, according to official data.

It has to be noted that due to the informality of trade, official statistics hide many important features of the real trade patterns and dynamics in the region. Official data not only give a distorted picture on the size of intra-regional trade, but also on its composition. Recent surveys conducted by USAID for several food staples estimate that between 66% and 80% of intraregional staple food trade is not accounted for in official statistics (World Bank, 2015).

Table 18 **Intra-ECOWAS Trade**

	2011	2012	2013	2014	2015	2016	2017	Average
Intra- ECOWAS Trade (USD billions)	10.6	12.0	13.1	16.2	17.3	22.8	21.3	21,8
Intra ECOWAS Trade (percent of total trade)	13.5	13.6	20.2	19.3	14.3	16.5	11.9	10,6
Intra ECOWAS exports (percent of total exports)	15.5	14.5	13.6	13.1	11.9	14.5	12.9	10,5
Intra ECOWAS imports (percent of total imports)	12.5	9.9	8.8	7.9	6.5	7.7	8.9	10,6

Source of Data: AfDB, West African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

Countries in West Africa appear as natural partners for agriculture and food trade, as different sub-regions have different comparative advantages, with diverse ecosystems yielding a wide range of produce. The natural complementarities among countries due to the agro-climatic conditions promote sizeable agricultural trade flows between coastal countries and the Sahelo-Sudan and Sahel countries (FAO, 2015).

The same intra-regional trade flows have been identified in USAID and CILSS (Comité Permanent Inter-État De Lutte Contre La Sécheresse au Sahel) 2013 report on cross-border trade flow in agricultural products in West Africa, based on CILSS data (Figure 10).

Figure 23 **Intra-regional trade flows of cattle, cereals, roots and tubers in ECOWAS**

Source: CILSS, 2013

With such outward trade orientation and product concentration, the dislocation in global supply chains created by the COVID-19 lockdown could severely impact export revenues for most West African countries. For instance, due to COVID-19 outbreak, expected total proceeds from oil exports in Ghana are estimated to decrease to USD2.2 billion from USD 4.4 billion originally projected. Nigeria's oil exports could fall by as much as 50 percent in 2020. In Côte d'Ivoire, a projected decline in cocoa production coupled with lower global demand in 2020 may lead to slowdown in West Africa's second largest economy.

From the point of view of logistical performance, it is worth underlining that Cote d'Ivoire is the second African country (after South Africa) to appear in the world ranking of the LPI, at the 50th position. Mali also shows a good ranking for being a landlocked country, a sign that the corridor development strategies it was far-sighted.

Table 19 Logistics Performance Index 2018 ranks for Northern African countries

Country	LPI Overall Score	LPI 2018 Rank	Customs Rank	Infrastruc-ture Rank	International Shipment Rank	Logistic Rank	Tracking & Tracing Ran	Time-liness Rank
Benin	2,75	76	82	83	83	98	87	57
Burkina Faso	2,62	91	100	95	60	106	124	95
Cabo Verde	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Cote d'Ivoire	3,08	50	51	56	45	37	49	71
Gambia	2,40	127	141	155	87	142	73	131
Ghana	2,57	106	92	90	109	95	106	115
Guinea	2,20	145	93	160	132	152	91	160
G. Bissau	2,39	129	144	159	108	126	80	116
Liberia	2,23	143	152	149	155	148	155	69
Mali	2,59	96	133	109	88	107	54	119
Niger	2,07	157	157	142	158	150	141	155
Nigeria	2,53	110	147	78	110	112	92	92
Senegal	2,25	141	130	118	128	149	150	145
Sierra Leone	2,08	156	155	156	147	156	134	154
Togo	2,45	118	119	116	111	134	120	112

Source: LPI, 2018

Mali is also the only country in West Africa to fall within the top 100 positions of the EDB trading across borders rank, due to the cheaper and faster procedures for border crossing.

Table 20 EDB, Trading across Borders component rank for Northern African countries

Country	Trading across Borders			EXPORT					IMPORT			
			Type	Border compliance		Documentary compliance		Type	Border compliance		Documentary compliance	
	Rank	Score		Time (hours)	Cost (USD)	Time (hours)	Cost (USD)		Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Benin	110	68.9	port	78	354	48	80	port	82	599	59	110
Burkina Faso	122	66.6	land	75	261	84	86	land	102	265	96	197
Cabo Verde	109	69.1	port	72	641	24	125	port	60	588	24	125
Cote d'Ivoire	163	52.4	port	239	423	84	136	port	125	456	89	267
Gambia	115	67.8	port	109	381	48	133	port	87	326	32	152
Ghana	158	54.8	port	108	490	89	155	port	80	553	36	474
Guinea	167	47.8	port	72	778	139	128	port	79	809	156	180
G. Bissau	146	59.6	port	118	585	60	160	port	84	550	36	205
Liberia	184	19.2	port	193	1113	144	330	port	217	1013	144	405
Mali	95	73.3	land	48	242	48	33	land	98	545	77	90

Country	Trading across Borders		EXPORT					IMPORT			
				Border compliance		Documentary compliance			Border compliance		Documentary compliance	
	Rank	Score	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Niger	126	65.4	land	48	391	51	39	land	78	462	156	282
Nigeria	179	29.2	port	128	786	74	250	port	242	1077	120	564
Senegal	142	60.9	port	61	547	26	96	port	53	702	72	545
Sierra Leone	165	51.9	port	55	552	72	227	port	120	821	82	387
Togo	131	63.7	land	67	163	11	25	port	168	612	180	252

Source: World Bank, Ease of Doing Business 2020

With intra-regional trade significantly low due to product concentration and weak regional logistical infrastructure, opportunities for market substitution are limited. This is further aggravated by unilateral actions to restrict imports by some countries [150]. This will severely weaken the region's trade balance unless there is an offsetting effect from imports. West African imports constitute mainly of machinery and transport equipment used in local manufacturing and extractive industries. Disruptions to global markets for such imports could slow down productive activity in the region. This could in turn have implications for local production and jobs and livelihoods. Although ECOWAS' trade policy was designed to promote commerce and trade within the region, trade remains limited among member states.

11.4 Central Africa

According to the African Development Bank Group, Central Africa area covers seven countries: Cameroon, the Central African Republic, Chad, Congo, the Democratic Republic of Congo, Equatorial Guinea, and Gabon. This list does not include all the member countries of the Economic Community of Central African States (ECCAS), which the Af-rican Union considers the regional economic community of Central Africa. In addition to the seven countries already mentioned, ECCAS comprises four additional countries: Angola, Burundi, Rwanda, and Sao Tome and Principe.

Apart from DRC the other countries are also member of the CEMAC, i.e., the Economic and Monetary Community of Central Africa *(Communauté Économique et Monétaire de l'Afrique Centrale)* to promote economic integration among countries that share a common currency, the CFA franc [151].

11.4.1 Regional Economic Outlook and COVID-19 impact

In 2019, Central Africa's growth rate was the same as in 2018, which remained lower than the Africa average (3.2%). As in 2018, the real GDP growth rate was 2.8% in 2019 - one of the lowest in the five regions of the continent.

In particular, growth was accelerated in Gabon, from 0.8% to 3.4% due to the buoyancy of non-oil activities (mining, timber and palm oil) and in Chad, from 2.4% to 3% mainly because of the sound performance of cereal cotton and oil production. In Cameroon, the growth rate remained stable at 4.1% between 2018 and 2019, while it slowed in Congo (from 1.6 % to 1.2 %), in CAR (from 3.8% to 3%) and in DRC (from 5.8% to 4.3%). Equatorial Guinea has posted negative growth for the 5th consecutive year with a more pronounced contraction of real GDP in 2019 (-6.1%) than in 2018 (-5.8%). This performance was due to the slowdown of the oil and gas sector following the 2014 drop in oil prices, lower operational oil well yields but also a lack of economic diversification.

[150] In August 2019, Nigeria imposed temporary border closures with its neighbours. This action was justified with the need to curb smuggling and dumping of goods along Nigeria's land borders.

[151] The CEMAC countries belong to the Franc Zone and comprise 14 African countries (the 6 CEMAC countries and 8 countries of the West African and Economic and Monetary Union - WAEMU6) using the CFA franc as a common currency, plus Comoros and France.

Figure 24 GDP growth rate by country, 2011-2019 (%)

Source African Development Bank statistics, April 2020

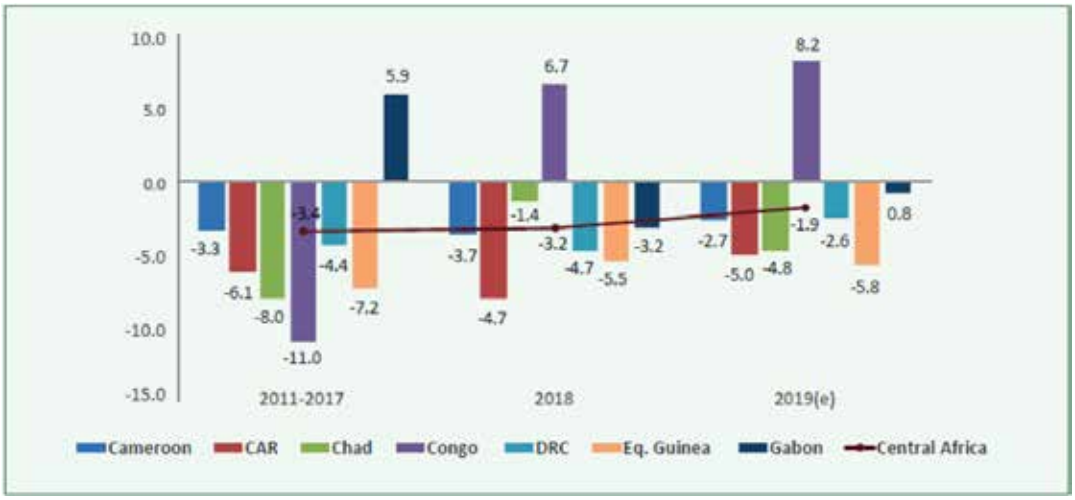
The prospects for medium-term economic growth in Central Africa were favorable before the coronavirus pandemic. The pre-COVID-19 real GDP growth rate for the region was projected at 3.5% in 2020 and 2.9% in 2021, supported by the continuing implementation of the reforms embarked upon, dividends from key investments, development of economic diversification and debt management efforts made. However, the prospects are now gloomier since the onset of the pandemic.

In the latest macroeconomic estimates (January 2021) that factor in the disease's potential impact, World Bank has estimated a negative growth rate of -3.8% for the region in 2020, a drop of 5.3 percentage points compared with 2019.

Although in deficit in 2019, Central Africa's current account balance has improved. The current account deficit stood at 1.9% of GDP compared with 3.2% in 2018, thereby achieving the best performance of all the regions. Continent-wide, the average current account balance deteriorated from -3.2% in 2018 to -4.3% in 2019.

In Central Africa, the improvement of the current balance was due to higher export revenue (crude oil, wood, cocoa and manganese) and especially the current account surplus equivalent to 8.2% of GDP posted by Congo, because of consolidation efforts made under the CEMAC Regional Economic and Financial Reform Program.

Figure 25 Current account balance by country (GDP %))



Source : African Development Bank statistics

The current account balances of Cameroon, Gabon, Central African Republic and DRC also improved between 2018 and 2019. In Cameroon, the narrowing was due to a reduction in imports of consumer goods and an increase in gas exports; in CAR the improved cur-rent account balance (from -8.3% of GDP in 2018 to -5.2% in 2019), is attributable to the resumption of domestic production and improvement of current transfers while in Gabon, the balance improved mainly thanks to a sharp increase in exports, especially manganese.

At the regional level, in the wake of CEMAC-led efforts, Central African economies posted a strong performance in financial integration and macroeconomic policy convergence. However, much remains to be done in terms of productive integration, especially concerning Equatorial Guinea and the Central African Republic (Table 1).

11.4.2 Intra –ECCAS trade

Central African intra-regional trade (trade within ECCAS) accounts for barely 2% of the region's total trade (Table 1). This situation is due to several factors, including the low production of tradable goods, an embryonic industrial fabric, a shortage of infrastructure, numerous tariff and non-tariff barriers, and countries' reluctance to implement reforms for the free movement of goods and persons. The ECCAS zone has five tariff profiles: CEMAC's common external tariff, the East African Community (Burundi and Rwanda), Angola, DRC, and Sao Tome and Principe.

Table 21 Intra-African Trade by Economic Area, 2017

Economic Area	AMU	CEN-SAD	COMESA	EAC	ECCAS	ECOWAS	ICAO	SADC	AFRICA	WORLD
Exports to	Percent of total exports									
AMU	4,4	6,0	2,2	0	0,4	1,5	0,3	0,3	7,9	100
CEN-SAD	2,2	9,3	2,9	1,0	1,6	6,6	1,3	3,5	15,4	100
COMESA	2,4	6,8	12,2	3,7	3,5	0,5	5,4	10,8	21	100
EAC	0,3	10,6	26,7	18.8	11,1	0,7	15,0	13,9	37,9	100
ECCAS	0,1	1,3	3,0	0,2	1,8	0,6	0,1	4,6	6,7	100
ECOWAS	0,3	11,5	0,3	0	2,0	10,8	0	5,2	18,3	100
IGAD	0,3	12,4	17,9	11.7	5,6	0,4	15,5	6,8	28,5	100
SADC	0,4	2,6	9,2	1,5	2,8	1,1	1,1	20,9	24,3	100
AFRICA	1,5	6,2	5,3	1,2	2,2	3,5	1,5	9,7	17,7	100
WORLD	0,7	1,8	1,0	0,2	0,3	0,7	0,3	1,0	3,4	100

Source: AfDB 2017

According to the Regional Integration Index, Cameroon and Gabon are the region's top scorers in the index's different dimensions. While these countries posted strong performance in trade, macroeconomic and financial integration, they must redouble their efforts in productive integration and free movement of people. Cameroon is also the only country in Central Africa that enter in the first hundred position in the LPI, while all other countries show poor logistics performance.

Table 22 Logistics Performance Index 2018 ranks for Northern African countries

Country	LPI Overall Score	LPI 2018 Rank	Customs Rank	Infrastruc-ture Rank	International Shipment Rank	Logistic Rank	Tracking & Tracing Ran	Time-liness Rank
Cameroon	2,60	95	90	76	63	87	118	142
CAR	2,15	151	126	148	135	157	151	156
Chad	2,42	123	134	104	125	86	127	138
Congo	2,43	120	108	132	127	100	114	133
DRC	2,49	115	123	138	64	127	125	103
Guinea Eq.	2,32	136	151	151	62	133	149	126
Gabon	2,16	150	148	136	153	151	153	135

Source: LPI, 2018

Nevertheless, concerning EDB Trading across borders ranking, all Central African countries are positioned at the bottom rank.

Table 23 EDB, Trading across Borders component rank for Northern African countries

Country	Trading across Borders		EXPORT					IMPORT				
				Border compliance		Documentary compliance			Border compliance		Documentary compliance	
	Rank	Score	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)	Type	Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Cameroon	186	16.0	port	202	983	66	306	port	271	1407	163	849
CAR	164	52.4	land	141	280	48	60	land	122	709	120	500
Chad	173	37.0	land	106	319	87	188	land	242	965	172	500
Congo	183	19.7	port	276	1975	120	165	port	397	1581	208	310
DRC	187	3.5	port	296	2223	192	500	port	336	3039	174	765
Guinea Eq.	183	19.7	port	276	1975	120	165	port	397	1581	208	310
Gabon	170	43.9	port	96	1633	60	200	port	84	1320	120	170

Source: World Bank, Ease of Doing Business 2020

Observation of foreign trade statistics of countries ECCAS members produced by Unctad, available over the period 1995-2014, shows three important regularities: i) intra-ECCAS trade is comparatively low to other African RECs; ii) the productive structure is very little diversified within member countries; iii) exchanges are also weakly complementary, and above all little correlated between member countries.

11.5 Southern Africa

11.5.1 Regional Economic Outlook and COVID 19 impacts

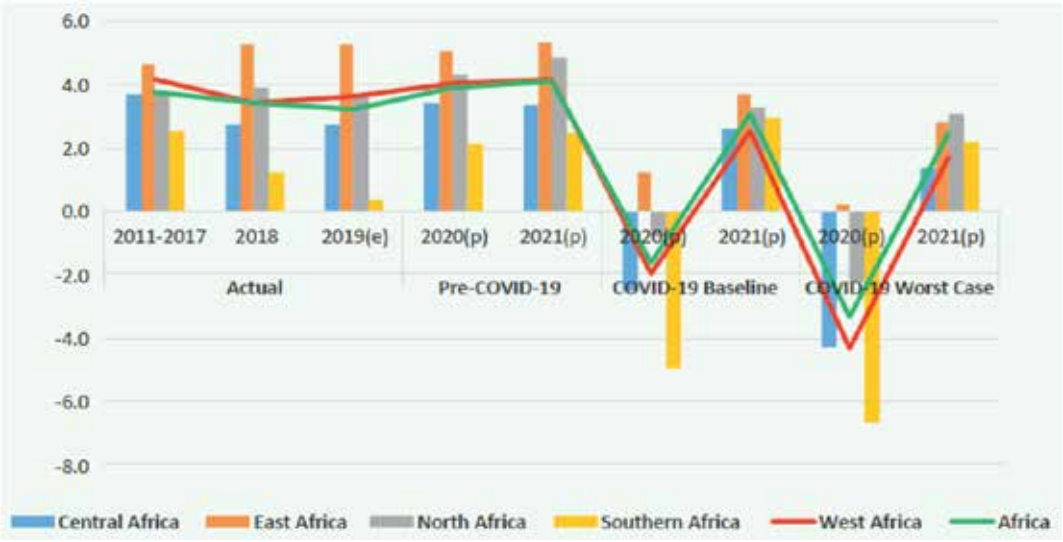
When compared with other regions of the world, Southern Africa's Gross Domestic Product (GDP) growth between 2011 and 2017 was higher than that of advanced economies . However, the region failed to maintain the growth momentum and had the lowest growth rates in 2018 and 2019 when compared with other parts of the world. The post-COVID-19 growth in the region is projected to strengthen only in 2021, with GDP growth rates at least above those of advanced economies.

Between 2011 and 2015, Southern Africa experienced the lowest GDP growth of 3.2 percent among the five subregions of Africa, as show in the Table 15. Factors contributing to the decline in economic growth in 2019 included depressed global demand, supply-side constraints, weak commodity prices that undermined export growth, and constrained fiscal space.

Additionally, extreme weather patterns such as droughts and cyclones Desmond, Idai and Kenneth weighed on economic growth in the region, especially given the region's dependence on rain-fed agriculture and climate sensitive resources. The worst of these, Cyclone Idai, hit Malawi, Mozambique and Zimbabwe hard, destroying more than 800,000 hectares of cropland, crops and seed stock, leaving 3.3 million people in need of immediate humanitarian assistance (SADC, 2019).

However, whilst Southern Africa's economic growth had initially projected to recover in 2020 to 2.1 percent, and further to 2.5 percent in 2021 amid a recovery in commodity prices, a rebound in oil production in Angola, and the implementation of structural and pro-business reforms, the COVID-19 pandemic is expected to erode this recovery due to trade disruptions, travel bans, depressed demand and earnings, volatile markets, and global credit distress.

Figure 26 **Real GDP growth rate comparisons between different Africa regions, 2011-2021 (%)**



Source of Data: AfDB, West African Economic Outlook – Coping with the COVID-19 Pandemic, April 2020

The impact of COVID-19 in South Africa, being one of the biggest economies in the region, is projected to trickle to the rest of the Southern African economies. For member states of the Rand Monetary Area and the Southern African Customs Union (SACU) [152], the impact of exchange rate depreciation and decline in SACU revenues would make Botswana, Eswatini, Lesotho and Namibia more vulnerable to South Africa's impending contraction in economic growth, while Mozambique's sales of gas and electricity could be adversely affected.

The AfDB forecast in April 2020 revised growth numbers under the worst-case scenario for some Southern Africa countries are: South Africa shrinking by 7.5 percent in 2020 and improving to 1.3 percent in 2021; Angola falling by 5.3 percent (2020) and bouncing to 1.2 percent (2021); Botswana declining by 7.3 percent (2020) and recovering to 5.5 per-cent (2021); and Zambia dropping by 6.5 percent in 2020 to recover to annual growth rate of 4.8 percent in 2021.

11.5.2 SADC trade and intra-REC performance

Most of the Southern African countries have failed to maintain the export momentum seen in 2018. The countries that were expected to be resilient and maintain steady export growth from 2018 to 2021 included Madagascar, Mauritius and Zambia.

Primary commodities dominate exports and exhibit a high level of concentration. For in-stance, in Angola, about 98 percent of exports are from oil and diamonds. In Malawi, tobacco accounts for 50 percent of exports and in São Tomé and Príncipe, cocoa exports represented about 66.6 percent of all exports in 2018. Hence, a fall in commodity prices inevitably affects export revenues and performance.

Boosting intra-regional trade in Africa, and also within the Southern African Development Community (SADC), has for some years now been an important focus of the re-gional

[152] The Southern African Customs Union (SACU), an African regional economic organization, is the world's oldest customs union, founded in 1910. Its members include Botswana, Lesotho, Namibia, South Africa, and Swaziland. The five member states maintain a common external tariff, share customs revenues, and coordinate policies and decision-making on a wide range of trade issues.

integration agenda. An array of strategic policies and legal arrangements have been implemented to advance intra-SADC trade.

The share of intra-SADC trade is relatively high compared with other regional economic communities in Africa (around 21 percent), but still low compared to other regions like the South-East Asian Nations (24%) and the European Union (40%).

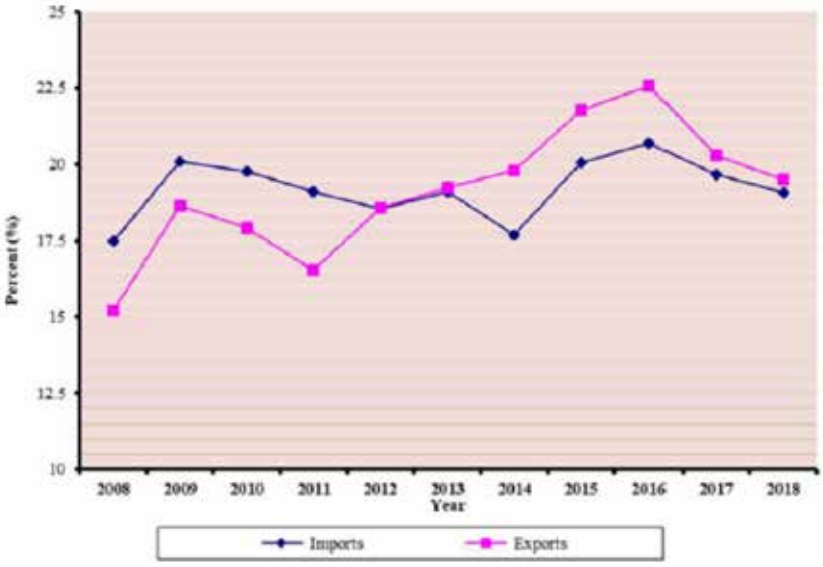
It has to be noted the intra-SADC trade is dominated by South Africa that enjoys a significant trade surplus for the region.

Export markets vary considerably between SADC members. While more than 80 percent of Botswana's exports go to the European Union, the comparable EU export shares are much lower for South Africa, Lesotho and Swaziland.

Concerning the export value, in 2018, SADC exports of goods (extra-SADC) stood at about $ 154 billion whilst imports stood at $ 149 billion.

In 2018, intra-SADC Exports of Goods stood at about $ 37.3 billion whilst intra-SADC Im-ports stood at $ 35.3 billion. Figure 15 illustrates trend in intra SADC exports and imports for the period 2008 – 2018. Intra-SADC Exports as a percentage of Total Exports of Goods increased from 15.2% in 2008 to reach 19.5% in 2018 whilst that of Imports increased from 17.5% to 19.1% during the same period. It is also worth noting that intra SADC share to Total Trade has been increasing constantly but marginally (SADC Selected Indicators 2018).

Figure 27 **Share of Intra-SADC Imports and Exports of Goods as a % of Total Imports and Exports**



Source: SADC 2019

Regarding the LPI for each SADC country, apart from South Africa, which is the top African performer, Botswana shows a very satisfactory performance (57th position), especially in terms of customs and infrastructure.

Table 24 Logistics Performance Index 2018 ranks for Northern African countries

Country	LPI Overall Score	LPI 2018 Rank	Customs Rank	Infrastruc-ture Rank	International Shipment Rank	Logistic Rank	Tracking & Tracing Ran	Time-liness Rank
Angola	2.05	159	160	153	143	155	157	140
Botswana (*)	3.05	57	48	54	70	75	70	43
Lesotho	2.28	139	110	145	140	154	129	132
Madagascar	2.39	128	118	128	146	118	102	128
Malawi	2.59	97	94	126	105	82	94	102
Mauritius	2.73	78	59	59	151	59	63	99
Mozambique (*)	2.68	84	88	116	58	109	79	97
Namibia (*)	2.74	79	73	64	86	86	100	85
Sao Tomé	2.65	89	57	106	121	84	81	97
South Africa	3.38	33	34	36	22	39	35	34
Eswatini (*)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Zambia	2.53	111	129	108	54	103	158	94
Zimbabwe	2.12	152	146	154	156	147	137	152

Source: LPI, 2018
Note: (*) LPI 2018 not available, values from LPI 2016

Relating the EDB Trading across borders ranking, the top performer are Botswana, Leso-tho and Eswatini.

Table 25 EDB, Trading across Borders component rank for Northern African countries

Country	Trading across Borders			EXPORT					IMPORT			
			Type	Border compliance		Documentary compliance		Type	Border compliance		Documentary compliance	
	Rank	Score		Time (hours)	Cost (USD)	Time (hours)	Cost (USD)		Time (hours)	Cost (USD)	Time (hours)	Cost (USD)
Angola	174	36.2	port	164	825	96	240	port	72	1030	96	460
Botswana	55	86.7	land	5	317	18	179	land	4	98	3	67
Lesotho	40	91.9	land	4	150	1	90	land	5	150	1	90
Madagascar	140	61.0	port	70	868	49	117	port	99	595	58	150
Malawi	127	65.3	land	78	243	75	342	land	55	143	55	162
Mauritius	72	81.0	port	24	303	9	128	port	41	372	9	166
Mozambique	94	73.8	port	66	602	36	160	land	9	399	16	60
Namibia	138	61.5	port	120	745	90	348	land	6	145	3	63
Sao Tomé	124	66.0	port	83	426	46	194	port	150	406	17	75
South Africa	145	59.6	port	92	1257	68	55	port	87	676	36	73
Eswatini	35	92.9	land	2	134	2	76	land	3	134	4	76
Zambia	155	56.9	land	120	370	96	200	land	120	380	72	175
Zimbabwe	159	54.3	land	88	285	99	170	land	228	562	81	150

Source: World Bank, Ease of Doing Business 2020

11.6 The african continental free trade area (AFCFTA)

In May 2019, African leaders launched the African Continental Free Trade Area (AfCFTA). The corresponding agreement will create the largest free trade area in the world measured by the number of countries participating. The pact connects 1.3 billion people across 55 countries with a combined gross domestic product (GDP) valued at US$3.4 trillion. According to the World Bank, the agreement has the potential to lift 30 million people out of extreme poverty, but achieving its full potential will depend on putting in place significant policy reforms and trade facilitation measures.

The same study affirms that real income gains from full implementation of AfCFTA could increase by 7 percent by 2035, or nearly US$450 billion (in 2014 prices and market exchange rates). But the aggregate numbers mask the heterogeneity of impacts across countries and sectors: there are countries such as Cote d'Ivoire and Zimbabwe with calculated income gains of 14 percent each while at the low end, a few countries would see real in-come gains of around 2 percent—including Madagascar, Malawi, and Mozambique. In fact, real income gains from tariff liberalization alone are small, about 0.2 percent at the conti-nental level, although some countries would record gains of more than 1 percent. Biggest gains would come from the reduction in NTBs and implementation of the TFA. Under combined tariff liberalization and reduction in NTBs, the real income gain would amount to 2.4 percent in 2035 at the continental level.

The AfCFTA would also have a strong impact on intraregional trade—which World Bank estimate would expand by more than 80 percent—but relatively limited adverse effects on trade with non-member countries ("trade diversion"). Increased intraregional trade would add about US$60 billion to African exports and support ongoing diversification efforts (World Bank, 2020) [153].

Nevertheless, the International Monetary Fund highlights that the implementation of the AfCFTA could also implicate some transitional costs, including: (1) tax revenue losses from lower import tariffs; (2) higher income inequality; and (3) higher unemployment, especially where trade liberalization is not accompanied by reforms to make labour markets more flexible and workers more mobile to grasp new opportunities. Given the gradual nature of trade barrier reduction envisaged by the agreement, countries should have time to mitigate these potential costs (IMF, May 2020).[154]

In estimating the impact of these transitional costs, the IMF argued that for the continent as a whole, tax revenue losses from the elimination of import tariffs are estimated to be modest. This reflects the low level of effectively applied intraregional import tariffs, the rather modest level of intraregional trade, and a small reduction in imports from the rest of the world. Moreover, any tariff revenue losses are likely to be offset eventually by higher tax revenue from increased consumption and income, as a result of reduced trade barriers, especially NTBs.

Improving revenue mobilization will be important. Given that income gains may take time to materialize, the corresponding revenue increases may not compensate for tariff revenue losses in the short term. In addition, higher revenues will also be needed to help finance infrastructure improvements and upgrade social safety nets to mitigate transitional costs from lowering trade barriers.

In general, with the peculiar recent situation with the global economy in turmoil due to the COVID-19 pandemic, the creation of the vast AfCFTA regional market could be a major opportunity to help African countries diversify their exports, accelerate growth, and attract foreign direct investment.

[153] https://openknowledge.worldbank.org/bitstream/handle/10986/34139/9781464815591.pdf
[154] https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2020/05/13/The-African-Continental-Free-Trade-Area-Potential-Economic-Impact-and-Challenges-46235

12 Annex 3 : Main transport & road corridors

12. Annex 3 - Main transport & road corridors

In this Chapter the main transport & road corridors are analysed in terms of road align-ment, cargo volumes, time, cost (where available), road safety, reliability & security of transport, transport regulation applied and Corridor governance.

12.1 Trans-maghreb corridor

12.1.1 Corridor Description

The Trans-Maghreb Motorway Axis (better known as the Trans-Maghreb Highway) is an important corridor connecting the 5 Maghreb countries (Egypt, Libya, Tunisia, Algeria and Morocco) with an additional link between the cities of Agadir (Morocco) and Nouakchott in Mauritania, which will run mostly parallel to the coast line of the Northern and Western Africa, as shown in the following figure. No landlocked country will be directly served by the Trans-Maghreb Highway.

Figure 28 **Trans-Maghreb Highway**

Source: Consultant's GIS elaboration

In this Chapter the main transport & road corridors are analysed in terms of road alignment, cargo volumes, time, cost (where available), road safety, reliability & security Once completed, the Trans-Maghreb Highway will serve 55 towns with a total population of over 60 million inhabitants; 22 international airports, the main ports, rail terminals, the main Universities and research centres, the largest hospitals as well as the main industrial and tourist areas. The highway will become the nerve centre for the region's economy, enabling inter-Maghreb trade.

Launched in 1990 by the Arab Maghreb Union, the Trans-Maghreb Highway project received support by the 5+5 GTMO, a cooperation forum between the Ministers of Transport of the five Maghreb countries and other five EU countries (France, Italy, Malta, Portugal

and Spain) that periodically meet in specific Transport Ministerial Conferences where they coordinate their respective transport policies in the Mediterranean area. Since its creation in 1995, GTMO (5+5) has been promoting cooperation in the field of transport in the Western Mediterranean and helping to strengthen the Euro-Mediterranean Partnership. At the sixth Transport Ministerial Conference, held in Tunis on 17 November 2008 [155] , the 5+5 GTMO adopted the decision to intensify efforts to complete the missing links in the central section of the Trans-Maghreb Highway, which interconnects the Algerian, Moroccan and Tunisian national motorway networks. The project, which is funded in part by budget allocations from the governments of the 3 governments crossed by the corridor, and in part through a system of loans and grants, aims at creating a continuous motorway corridor liking Agadir, in Morocco, to Ras Jedir, at the border between Tunisia and Libya. On the same corridor other projects have been planned within the Programme for Infrastructure Development in Africa (PIDA), with the aim of speeding up regional integration and simplify the crossing of borders by people and goods in the region, in particular by establishing six One Stop Border Posts (OSBPs) as described in the following Table [156] .Three of such OSBPs are in the Central Section.

Table 26 OSBPs planned along the Trans-Maghreb Highway

OSBP Name	Location (border)	Type	Year (of the Project)	Status
Dakla/Nouadhibou OSBP	Mauritania, Morocco	Upgrade	2013	Active
Ghardimaou OSBP	Algeria, Tunisia	Upgrade	2013	Active
Musaid-Soloum OSBP	Egypt, Libya	Upgrade	2013	Active
Nouakchott - Nouadhibou Road	Mauritania	Upgrade	2013	Active
Oujda Tlemcen OSBP	Algeria, Morocco	Upgrade	2013	Active
Ras Adjir OSBP	Libya, Tunisia	Upgrade	2013	Active (Transaction Support & Financial Close)

At infrastructural level, as confirmed by the interview with Arab Maghreb Union, the Trans-Maghreb Highway is almost completed for three countries: nowadays in Morocco there are only 24 km missing at the border with Algeria; in Algeria all sections have been upgraded; in Tunisia there are some 80 km which still need to be modernized while in Libya the detailed engineering design phase has been completed for 1.700 km of roads.

12.1.2 Cargo Volumes

There is no data is available on the volume of cargo transported along the Trans-Maghreb Highway. However, the Centre for Transportation Studies for the Western Mediterranean (CETMO) developed a series of indicators to assess the status of transport along the central section of this corridor, in the territories of Tunisia, Algeria and Morocco. Such indicators, among others, include the number of circulating vehicles, the motorization rate (number of passenger cars per thousand inhabitants), and the number of accidents per year [157], as shown in the following table.

[155] https://medthink5plus5.org/wp-content/uploads/2017/06/2008-Tunis-Transports.pdf
[156] Data on OSBP are from the web page: https://www.au-pida.org/pida-projects/
[157] https://www.cetmo.org/data-centre/indicators/road-transport

Table 27 Road Transport (after CETMO)

	Indicator	Units	Year	Value	Source
ALGERIA	ROAD TRANSPORT				
	Motor vehicles (> 2 wheels)	1000 vehicles	2015	42843	Eurostat
	Passenger cars	1000 vehicles	-	37859	Eurostat
	Highway length	km	2011	6943	Eurostat
	Motorization rate	‰	2015	707	CETMO after Eurostat
	Accidents	Absolut value	2010	--	---
	People killed	Absolut value	2015	3428	Eurostat
	People killed for 1,000 vehicles	‰	2015	0,08	Eurostat
	ROAD TRANSPORT				
MOROCCO	Motor vehicles (> 2 wheels)	1000 vehicles	2016	3736	Haut-Commissariat au Plan
	Passenger cars	1000 vehicles	2016	26711-	Haut-Commissariat au Plan
	Highway length	km	2015	117071-	Haut-Commissariat au Plan
	Motorization rate	‰	2016	108	CETMO after Eurostat
	Accidents	Absolut value	2016	78003	Haut-Commissariat au Plan
	People killed	Absolut value	2016	37761	Haut-Commissariat au Plan
	People killed for 1,000 vehicles	‰	2016	1010,721	Haut-Commissariat au Plan
	ROAD TRANSPORT				
TUNISIA	Motor vehicles (> 2 wheels)	1000 vehicles	--	--	--
	Passenger cars	1000 vehicles	--	--	INS
	Highway length	km	2014	360	Eurostat
	Motorization rate	‰	2015	8	CETMO after Eurostat
	Accidents	Absolut value	2015	7226	INS
	People killed	Absolut value	2015	1407	INS
	People killed for 1,000 vehicles	‰	--	--	INS

12.1.3 Time and Cost of Transport

As indicated above, no data is available on time and cost of transport along the Trans-Maghreb Highway.

12.1.4 Reliability and Security

The good road conditions and to the facilitation projects aiming to reduce the time in crossing borders, the corridor can be considered as time-reliable transport corridors.

12.1.5 Road Transport Regulation

As mentioned above, the Arab Maghreb Union member States signed in the road transport sector a main **Convention for the Transportation of Passengers and Goods and Transit** dated 23 July 1990, entered into force in 1993 [158], which has been followed by other no less important multilateral agreements that however have proven impossible to locate. In addition, a series of Bilateral Agreements have been concluded in the fields of road transport and transit between the AMU member States, some of them very dated, such as the bilateral agreement between Tunisia and Algeria relating to the exemption from

[158] Convention relative au transport routier des personnes et des biens, et au transit entre les pays de l'Union du Maghreb Arabe, available at: https://maghrebarabe.org/fr/wp-content/uploads/2020/09/convention-de-transport-routier-et-des-échanges-des-biens.pdf

duties and taxes levied on the road transport of passengers and goods on the occasion of border crossings[159] and the Customs Convention of 25 December 1971 on the international transport of goods by road between Algeria and Tunisia [160], while a more recent bilateral agreement on Transportation of Passengers and Goods and road Transit was concluded between Morocco and Mauritania on 14 April 2013 [161]. The coexistence of all these Agreements, both multilateral and bilateral, regulating road transport and transit operations, makes particularly hard to reconstruct the legal framework applicable to road transports in the Region.

Basically, the Convention for the Transportation of Passengers and Goods and Transit between the AMU countries (1990), establishes that truckers registered in one of the Arab Maghreb Union member States are authorized to carry out the transport of goods in other countries in the region exempted from the duties and taxes in force in the countries concerned, on condition that vehicles comply with the axle load and vehicle dimension standards in the country they are entering, which are currently not yet harmonized, but with the possibility, for those means of transport or loads exceeding the above limits, to obtain a special authorization from the Ministry of Transport of the country where they are entering that allows them to circulate in its territory. The Convention does not specify the pro-cedure for obtaining such authorization, as it only sets a series of general provisions whose content is quite vague, and therefore needs to be specified by more detailed provisions contained in the bilateral agreements. Such agreements however, do not introduce any quota system, mechanisms for allocation and distribution of cargo between national transporters or quantitative restrictions on road transport. This has led to a legal framework which is fragmented and unharmonized between the AMU member States, a situation that represents an obstacle for the smooth movement of cargo along the Trans-Maghreb Highway and other inter-State roads linking Maghreb countries.

12.1.6 Corridor Governance (and monitoring)

To date, no agency or any other institutional body has been established for the governance of the Trans-Maghreb Highway and to oversee and monitor transport operations along such a route. NEPAD [162], however, during a mission held in November 2017 in the Arab Maghreb Union (AMU), offered support for the creation of a Regional Observatory and of a Road Information System gathering information on road accidents along the corridor and allowing the exchange of experiences regarding investigations [163]. This initiative will probably pave the way to the establishment in future of a Corridor Management Authority to improve logistics performances and raise the quality of cargo transport services along the corridor.

12.2 Northern corridor

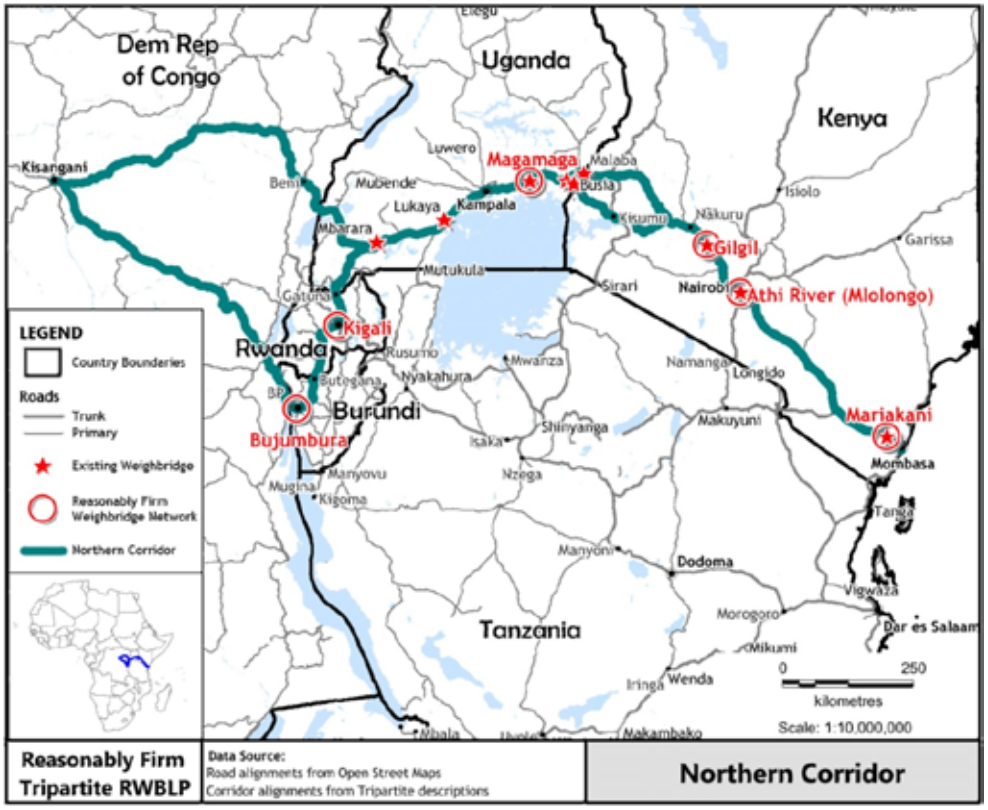
12.2.1 Corridor Description

The Northern Corridor links the Kenyan seaport of Mombasa, on the Indian Ocean, to the landlocked countries of Burundi, Democratic Republic of the Congo, Rwanda and Uganda, with additional links serving northern Tanzania, South Sudan and Ethiopia. It is managed by the Northern Corridor Transit Transport Coordination Authority (NCTTCA), based in Mombasa, and established in 1985 by the member States of Kenya, Uganda, Rwanda, Burundi, and Democratic Republic of Congo in accordance with the provisions of Article 37 of the Northern Corridor Transit Agreement (NCTA) with the purpose of facilitating transit transport by promoting development of infrastructure, harmonization of transport and customs policies, and private sector participation and investments along the corridor. A Permanent Secretariat, also based in Mombasa, oversees the implementation of the NCTA provisions and safeguards the interests of the member States and corridor users. The Permanent Secretariat maintains a Transport Observatory that constantly measures the performance of

[159] http://www.legislation.tn/sites/default/files/journal-officiel/1973/1973F/Jo02073.pdf
[160] http://www.ambdz.tn/Relation%20bilaterales/Rubriques%20Culturelles/pdf/74-27/Fp378%20final.pdf
[161] https://www.medias24.com/LE-FIL/695-L-accord-maroco-mauritanien-sur-le-transport-de-personnes-et-de-marchandises-stimulera-l- echange-commercial-bilateral.html
[162] New Partnership for Africa's Development (NEPAD). More info available at: https://www.nepad.org/
[163] https://www.au-pida.org/news/trans-maghreb-highway-facilitating-the-movement-of-people-vehicles-and-goods/

the different sections of the Corridor through a selected set of more than 40 indicators. The Observatory calculates the indicators value starting from raw data collected and recorded by stakeholders in the members States. The indicators are grouped in seven items, to cover all the aspect of the corridor effectiveness: Volume and capacity, Tariff and Rates, Transit Time and delay, Efficiency and Productivity, Intra-Regional Trade, Road Safety, Green Freight.

Figure 29 Northern Corridor



12.2.2 Cargo Volumes

The Northern Corridor serves through the Port of Mombasa Kenya and some East African landlocked countries, such as Burundi, DRC, Rwanda, South Sudan and Uganda. It also serves Somalia, Tanzania and other countries, some of them also served by the Dar Es Salaam Port in Tanzania. The following table shows the total traffic passing through the Port of Mombasa per destination country, divided into local traffic and transit traffic, where transit traffic is the quantity of cargo that is discharged or loaded at the port and destined to countries outside the port of loading or discharge. The table do not report the quantity of cargo that is carried to destination by road transport or by other transportation means.

Table 28 Total Traffic (x 1000) in metric tons through the Port of Mombasa

Country	2016	2017	2018	2019
Kenya	19027	20761	19996	21888
Uganda	6347	7113	7889	8133
South Sudan	598	674	734	770
D. R. Congo	377	360	471	547
Tanzania	183	272	2485	255
Rwanda	194	180	231	231
Burundi	36	22	22	2
Somalia	4	4	2	0.4
Others	11	13	7	9
Total Traffic	**26776**	**29398**	**29601**	**31836**

Source: Joint Northern and Central corridors performance Report 2020

Table 29 Total and Transit Traffic through the Port of Mombasa (x1000) in metric tons

Destination	2016	2017	2018	2019
Transit in - imports	7217	7903	8873	9244
Local in – imports (Kenya)	15899	17701	16602	18314
Transit out – exports	531	734	731	703
Local out – exports (Kenya)	3128	3060	3394	3574
Total Transit Traffic	**7748**	**8637**	**9604**	**9947**
Total Local Traffic	**19027**	**20761**	**19969**	**21888**

Source: Joint Northern and Central corridors performance Report 2020

As shown in the Table 21, total traffic has increased over the years from approximately 27 million of tons in 2016 up to about 32 million tons in 2019. Also, the transit traffic (Table 22) has increased from about 7.8 million tons in 2016 to about 10 million tons in 2019.

Beside Kenya, Uganda gather a relevant volume of traffic and it is the first country for the transit traffic volume, with a total traffic of over 8 million of tons.

It must be noted that also Tanzania has a significant share of traffic, with a very significant value on 2018. Probably, it is because some shippers located in the northern regions of Tanzania prefer routing their consignments through the Port of Mombasa instead of Dar Es Salaam.

In addition to the Port of Mombasa, the Government of Kenya, through the Kenya Port Authority (KPA) is also developing a second port, in Lamu, to better serve both South Sudan and Ethiopia. The development of the Lamu Port is framed in the "Lamu Port South Sudan Ethiopia Transport" (LAPSSET) initiative.

12.2.3 Time and Cost of Transport

The analysis of time and cost of freight transportation along the Northern Corridor has been mainly based on data extracted from the Joint Northern and Central Performance Report 2016 – 2019, integrated with additional data from the Quarterly Transport Obser-vatory Report July to September 2020. The choice to assess the road transportation efficiency on the basis of the 2016-2019 data, has been made based on the assumption that data referred to 2020 are affected by a number of exceptional protective measures intro-duced to curb the COVID-19 infection.

TRANSIT TIME

The Transit Time is measured from the time cargo is released by Customs in Mombasa to the time it arrives to the borders of the Northern Corridor of Kenya or from the Port of Mombasa to the destinations of cargo.

Data used to calculate the Transit Time are from the Regional Electronic Cargo Tracking System (RECTS) and from road transportation survey results. The RECTS connects Kenya, Rwanda and Uganda, allowing the national revenue authorities to track and monitor goods.
In the following table (Table 23), the transit time in Kenya, from the Mombasa Port up to the Malaba and Busia Exit Borders to Uganda is reported. The distance Mombasa - Malaba is 933 km; the distance Mombasa – Besia is 947 km.

Table 30 Transit Time (hours)

	2017	2018	2019
Mombasa – Malaba	68	60	57
Mombasa – Busia	69	64	66

Source: Northern Corridor Quarterly Report July – September 2020

The Quarterly report July – September 2020, on the same routes, indicates a transit time varying from 111 to 132 hours for the Mombasa–Malaba route, and from 108 to 125 hours for Mombasa–Busia. The increase in transit time, almost doubled, is due to the COVID-19 precautionary measures.

The target time proposed by NCTTCA for the two routes in Kenya is 72 hours. For the years 2017 – 2019, as shown in Table 22, the target of 3 days has been achieved (while it has been almost doubled for the 2020 quarterly July – September). The target has been achieved mainly thanks to the road infrastructure improvements along the two routes.

The following table (Table 24), shows the transit time from Mombasa port to:

- Kampala (Uganda), distance 1169 km;
- Kigali (Rwanda), distance 1682 km;
- Rubavu / Goma (DR Congo), distance 1727 km;
- Mpondwe (Uganda); 1611 km.

Table 31 Transit Time (hours) to destination out of Kenya

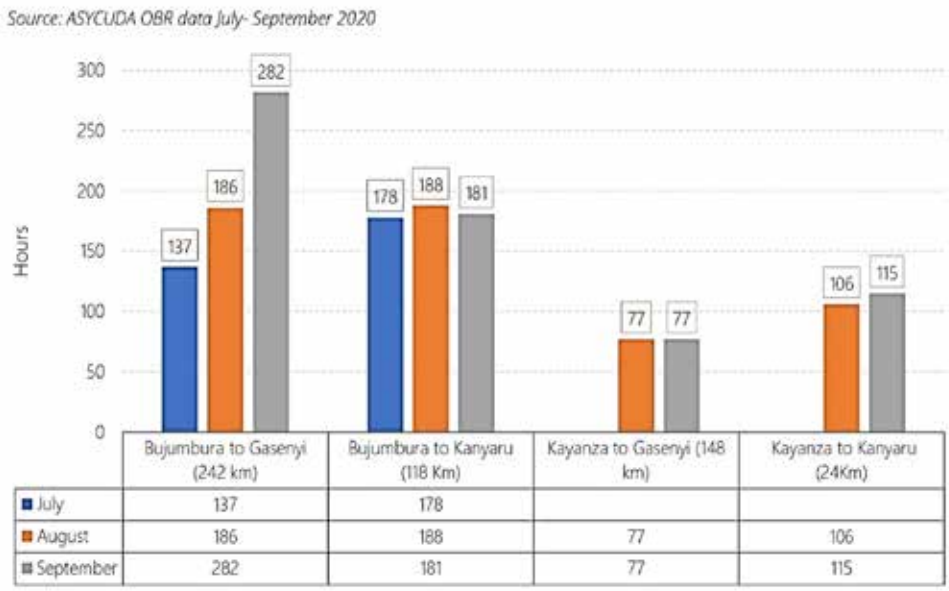
Destination	2017	2018	2019
Kampala	130	116	138
Kigali	–	160	184
Rubavu / Goma	–	210	229
Mpondwe	152	140	131

Source: Northern Corridor Quarterly Report July – September 2020

Transit Time, with the only exception of Mpondwe, has increased over the years. This is due to the congestion of traffic and the high number of the black spots. To reduce Transit Time, some initiatives seem to be necessary, including the improvement of the SCT framework and of the OSBPs.

No data is available for the Transit Time in Burundi, along the routes of the Northern Corridor. Only the “Quarterly Transport Observatory Report. July to September 2020” reports some data. It should be noted that the indicated Transit Time may be affected by the COVID-19 measures. Data from quarterly report are shown in the following Table.

Figure 30 Transit Time in Burundi



Source: Joint Northern and Central corridors performance Report 2020

TRANSPORT COSTS

The Joint Northern and Central Performance Report 2016 – 2019 gives the average transport tariff per container per km, from Mombasa Port up to the main destinations of the Northern Corridor. The report does not specify whether the reported rates (in US$) refer to the road transport only or if they are an average between the different transport media (road, rail, ferry). The report only states that the cost of transport from Mombasa to Nairobi is cheaper probably because of the competition with the railway, the SGR freight cargo.

Transportation costs (in US$) are reported in the following table (Table V).

Table 32 Tariff per container per km (US$) - Table V

	Mombasa – Nairobi (481 km)	Mombasa – Kampala (1169 km)	Mombasa – Kigali (1682 km)	Mombasa – Goma (1840 km)	Mombasa – Juba (1662 km)	Mombasa – Bujumbura (1957 km)
2015	2.24	2.61	2.11	1.98	2.45	1.74
2016	1.78	1.86	2.16	3.33	2.86	2.55
2017	1.62	1.79	2.23	3.13	3.01	3.07
2019	1.66	1.88	2.08	2.99	2.41	3.07

Source: Joint Northern and Central corridors performance Report 2020

These costs are also confirmed by the interviews to Ugandan transporters carried out by the Consultant, which stated that the cost to move container from Mombasa to Kampala is around 2,500 US$ (close to the tariffs reported in the Table above).

The highest costs recorded are from Mombasa to Goma (DR Congo), Juba (South Sudan) and Bujumbura (Burundi). This is due to the bottlenecks at the border crossing logistics and to political and security concerns.

There is an alternative route to Bujumbura, preferred by Burundi transporters, Through the Tavata and Holili towns and through the Voi and Holili towns. Transportation costs to Bujumbura from Mombasa through Taveta 7 Holili route is 2.9 US$ per container per km.

However, these rates can be increased due to the cost of returning the empty container to Mombasa in case the transporter is not able to find a return cargo. Normally, the same itinerary on the way back is cheaper (between 800 and 1,200 US$ to move a container from Kampala to Mombasa) just to cover transport costs with no profit margin.

12.2.4 Reliability and Security

Due to the good conditions of road the corridor is likely to be reliable. The works to reduce checkpoints and to transform weighbridge in single control post, shall increase the reliability of the corridor. Some concern about the reliability and security of the corridor section running in the Democratic Republic of Congo arise from the road poor conditions and social context.

12.2.5 Road Transport Regulation

The Northern Corridor is governed by a multilateral agreement first signed by Burundi, Kenya, Rwanda and Uganda on 19 February 1985, called Northern Corridor Transit Agreement (NCTA) and acceded by the Democratic Republic of the Congo in 1987. On 6th October 2007 the NCTA was revised and renamed **Northern Corridor Transit and Transport Agreement (NCTTA)**[164], entered into force on 6 December 2012 af-ter ratification of all the contracting parties. In the same date, the body responsible for the overall policy direction of the Authority, the Council of Ministers, approved the accession of South Sudan as the six members of the Northern Corridor.

As indicated in its preamble, the NCTTA aims at:

- ensuring the smooth and rapid movement of goods and persons originating from or destined to a contracting party in transit through the territory of other contracting parties, as well as the smooth and rapid movement of goods persons between their re-spective territories;
- providing an effective, efficient and competitive corridor where unnecessary delays are avoided, transport cost are minimized, and documentation and procedures at borders are simplified and harmonised.

The NCTTA is supplemented by 11 additional Protocols on: 1) Maritime Port Facilities; 2) Routes and Facilities; 3) Customs Controls and Operations; 4) Documentation and Proce-dures; 5) Transport of Goods by Rail; 6) Transport of Goods by Road; 7) Inland Waterways Transport of Good; 8) Transport by Pipeline; 9): Multimodal Transport of Goods; 10) Handling of Dangerous Goods and 11) Measures of Facilitation for Transit Agencies, Traders and Employees. The Protocol on Routes and Facilities, in particular, lists the designated routes where the package of facilitations established by the NCTTA are applicable.

12.2.6 Corridor Governance (and monitoring)

The NCTTCA institutional structure is made up of a policy organ, the Council of Ministers, an executive organ, the Executive Committee, and two additional bodies, both placed under the authority of the Executive Committee, that are responsible of advisory (Public Private Partnership Committee) and technical functions (Permanent Secretariat).

- the Council of Ministers, comprising the Ministers responsible for transportation in each of the contracting States, responsible for the overall policy direction of the Authority. It meets once a year;
- the Executive Committee, an inter-governmental

[164] http://www.ttcanc.org/documents/NORTHERN_CORRIDOR_TRANSIT_AND_TRANSPORT_AGREEMENT_2007.pdf

committee composed of Perma-nent Secretaries of the Ministers of Transport in each of the contracting States, or their equivalents, that is primarily responsible for formulating strategies for transport and trade facilitation, and for the harmonization of national and regional policies.

- The Public Private Partnership Committee (PPPC), Stakeholders Consultative Forum, is comprised of top-level representatives from public and private sector institutions of the Member States that meet in a Forum held once a year to review operational matters and to agree on practical solutions to problems related to the use of the corridor.
- the Permanent Secretariat based in Mombasa, Kenya, which is the executing organ of the Authority, charged with the responsibility of implementing the Northern Corridor Transit and Transport Agreement; and any other decisions and resolutions adopted by the Council of Ministers and the Executive Committee.

The structure of the NCTTCA is shown in the following figure

Figure 31 NCTTCA institutional structure

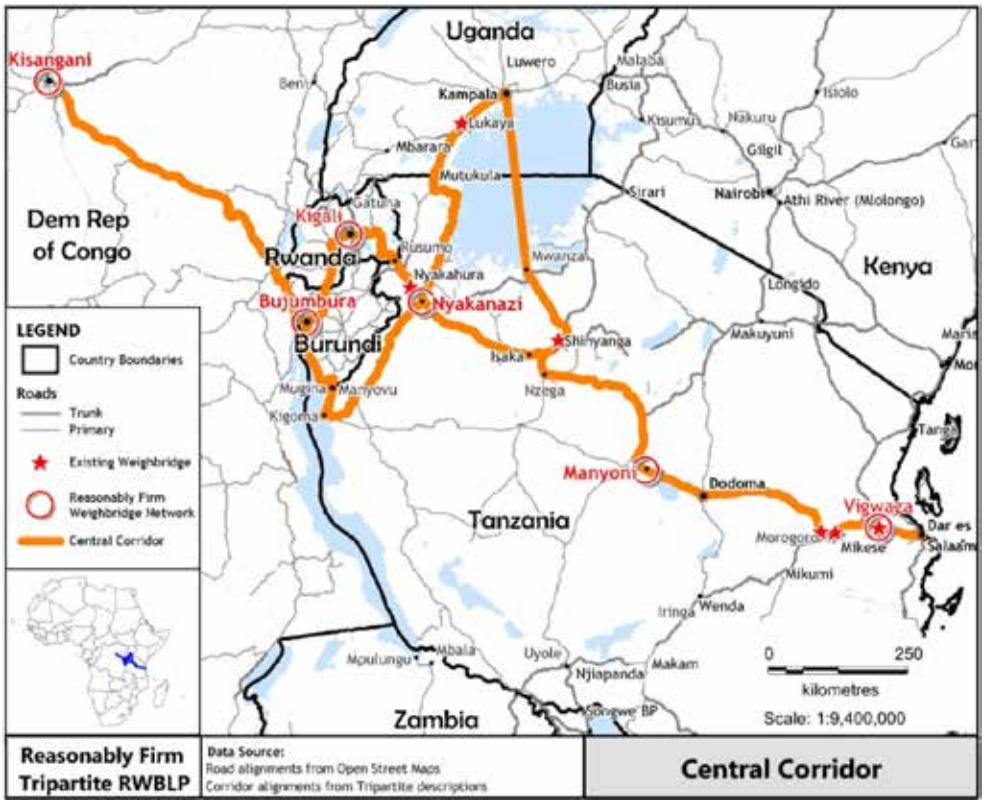
Source: Joint Northern and Central corridors performance Report 2020

12.3 Central corridor

12.3.1 Corridor Description

The Central Corridor is, together to the Northern Corridor, one of the two main road corridors in East Africa. It is a multimodal corridor connecting the Port of Dar es Salaam (handling approximately 17 million tons of cargo, of which 6 million tons is transit cargo), to Burundi, Rwanda, Uganda and the eastern part of the Democratic Republic of Congo, through a network of roads, railways and inland waterways. The backbone of the Central Corridor is the Central Rail Line, that runs between Dar es Salaam and Kigoma, in western Tanzania, and to Mwanza in the Northern Tanzania. While this railway was designed to handle 5 million metric tons of cargo per year, it currently only carries less than 2 percent of its capacity, although some renovation projects are underway, with countries such as China and Japan that have offered support and funding to refurbish the railroads and purchase new locomotives and carriages.

Figure 32 Central Corridor



The Corridor Road network stretches from the port of Dar es Salaam inland through Tanzania, where it splits to enter Burundi at Kobero/Kabanga; Rwanda at Rusumo; and Uganda at Mutukula borders. The Corridor extends to DRC as well, through Rusumo or Kabanga/Kobero borders.

Central Corridor Member States can count on an extensive road network and the distances between Member States major towns from the port of Dar es Salaam are as follows:

Dar-Kigali	1,495 Km
Dar-Bukavu	1,704 Km
Dar-Kampala	1,780 Km
Dar-Goma	1,635 Km
Dar-Bujumbura	1,630 Km

Generally, most of the Central Corridor roads are paved except for some sections such as the route from Nyakanazi to Kabanga/Kobero.

Central Corridors Member States average population in 2019 was approximately 214 million an equivalent of 4 percent of the world total population. Populations ranged from least of 11.2 million people in Burundi to a high of more than 56 million and 91 million people in Tanzania and DRC respectively, the continents' fifth and fourth most populous countries in Africa. This large population presents a huge market for trade and is projected to expand in the future.

The Central Corridor member countries with the highest economic growth in the recent years were Rwanda, Tanzania and Uganda. Due this peculiar COVID-19 pandemic situation IMF projections for 2020 are obviously revised downwards:

Table 33 Central Corridor member States IMF GDP projections

Country	GDP 2020	GDP 2025
Tanzania	1.9	6.7
Uganda	- 0.3	9.3
Rwanda	2.0	6.1
Burundi	- 3.2	2.6
DRC	- 2.2	4.3

Source: Joint Northern and Central corridors performance Report 2020

According to the World Bank parameters, Rwanda has the highest score of the entire continent for what concerns the ease of doing business, while its neighbours have much lower ranking. As for the subcomponent of Trading across borders, which is a critical parameter to multilateral trade logistics because it records the time and cost associated with the logistical process of exporting and importing goods, it is worth noting that Uganda improved its score by implementing the Single Customs Territory, as well as by developing the Uganda Electronic Single Window and the Centralized Document Processing Centre. DRC and Tanzania need to implement measures that will facilitate efficient trade across borders.

Regarding the Logistics Performance Index mean rank (2012-2018) Burundi is at the bottom line while there is no data for DRC.

Table 34 Central Corridor member States trade performance overview

	Rank as Doing Business out of 190 [165]	Overall score of doing Business score (0-100)	Trading across Borders score [166] (0-100)	Logistics Performance Index rank (1-167) [167] Mean 2012-2018
Tanzania	141	54.5	20.2	67
Uganda	116	60	66.7	72
Rwanda	38	76.5	75.0	65
Burundi	166	46.8	47.3	154
DRC	183	36.2	3.5	N.A.

Source: World Bank Ease of Doing Business Report and Logistics Performance Index

[165] he World Bank Ease of Doing Business index is meant to measure regulations directly affecting businesses and measures 190 economies around the world. Doing business gathers detailed and objective data on 11 areas/parameters of business regulation, helping governments diagnose issues in administrative procedures and correct them. The scores range from 0 (worst) to 100 (best) and help us to analyse economic outcomes and identify what reforms of business regulation have worked, where and why

[166] The trading across borders index ranks economies from 1 to 181, recording the time and cost associated with the logistical process of exporting and importing goods. The index measures the time and cost (excluding tariffs) associated with three sets of procedures; documentary compliance, border compliance and domestic transport that is within the overall process of exporting or importing a shipment of goods.

[167] The World Bank LPI is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance

12.3.2 Cargo Volumes

The Dar es Salaam port is the Tanzania principal port with a rated capacity of 4.1 million (dwt) dry cargo and 6.0 million (dwt) bulk liquid cargo. The Port has a total quay length of about 2,600 meters with eleven (11) deep-water berths. The port is strategically placed to serve as a convenient freight linkage not only to and from East and Central Africa countries but also to middle and Far East, Europe, Australia and America.

The Port handles about 95% of the Tanzania international trade, serving the landlocked countries of Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda and Ugan-da. The statistics show that there was an overall cargo throughput increase at the port of Dar es Salaam, 84% are Imports, 15% Exports and only 1% is Transshipment.

Further analysis also reveals that the Tanzania (domestic) cargo represents about 63% of all Imports at Dar es Salaam Port while transit cargo to Member countries takes about 37%.

The following Table shows the total cargo throughput at Dar es Salaam port for the four-year period ending 2019. From the analysis, port throughput increased steadily from about 14 million metric tons in 2016 to approximately 16 million metric tons in 2019.The year 2017 to 2018 recorded an increase of 1,649,757 metric tons, which is equivalent to 12% annual increase. Also referring the year 2018 to 2019, recorded a slight increase of 329,159 metric tons which is equivalent 2.1%. The performance was mainly attributed to port improvements in terms of effectiveness and efficiency on handling & operational management as well as easy facilitation of doing business in Tanzania.

Table 35 Annual Total Cargo Throughput at the port of Dar es Salaam in MT '000'

Type of Cargo	2016	2017	2018	2019
Imports	11.261	11.461	12.683	12.988
Exports	2.039	2.045	2.452	2.373
Transhipment	289	256	267	87
Total Traffic	13.589	13.762	15.401	154/18
Total Coastal Traffic	197	282	293	575
Total Cargo Throughput	**13.786**	**14.044**	**15.694**	**16.023**
Annual % change		*1,9*	*11,7*	*2,1*

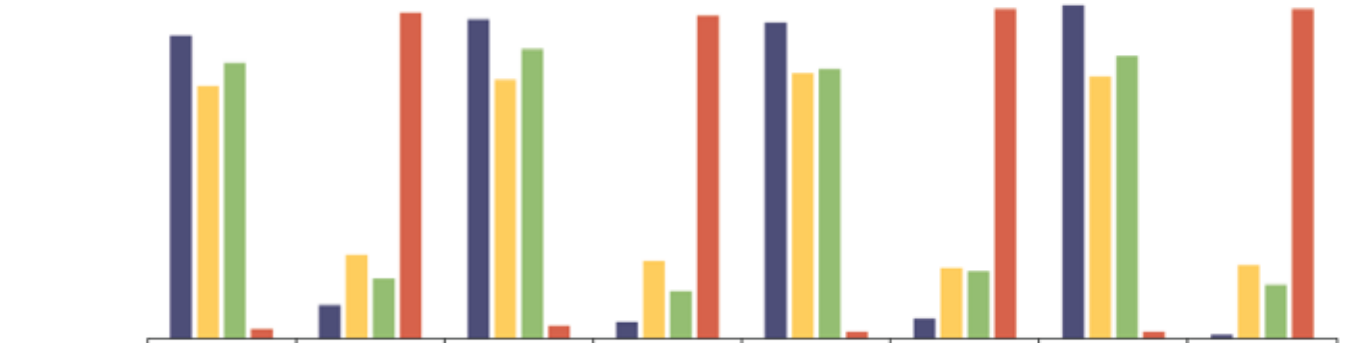
Source: Joint Northern and Central corridors performance Report 2020

Overall, Kenya and Tanzania serve some similar landlocked countries with their ports. The main destinations of cargo coming through Dar Es Salaam port are Burundi, DRC, Rwanda, Uganda, Zambia, and Malawi. The main destinations of cargo coming through Mombasa port are Burundi, DRC, Rwanda, South Sudan, Uganda, Somalia, Tanzania and others. Dar es Salaam is the preferred port in the transit traffic for Burundi, Rwanda, and DRC because Tanzania has absolute advantage on distance from the coast to these countries compared to Mombasa port. This translates to cost advantage as well as time utility.

Statistics in figure 6 below show that transit cargo for Burundi through Dar es Salaam port accounts for over 90%, DRC accounts for 70% and Rwanda accounts for over 80% of her total traffic volume through the port of Dar es Salaam. On the other hand, Uganda re-mains the top destination of all transit traffic through the Port of Mombasa accounting for over 90%.

According to the CCTTFA statistics, the Corridor moves around 60 million tons of freight per year.

Figure 33 **Comparing transit volumes between the port of Mombasa Port and Dar es Salaam in MT**



	Dar es Salaam Port 2016	Mombasa Port 2016	Dar es Salaam Port 2017	Mombasa Port 2017	Dar es Salaam Port 2018	Mombasa Port 2018	Dar es Salaam Port 2019	Mombasa Port 2019
Burundi	90%	10%	95%	5%	94%	6%	99%	1%
DRC	75%	25%	77%	23%	79%	21%	78%	22%
Rwanda	82%	18%	86%	14%	80%	20%	84%	16%
Uganda	3%	97%	4%	96%	2%	98%	2%	98%

Source: KPA and TPA 2016/2017/2018 and 2019

12.3.3 Time and Cost of Transport

Indicators of Transit time and delays within the Central Corridor are obtained from Electronic Cargo Tracking System (ECTS) from TRA and the GPS road survey results. Corri-dor monitoring starts from when goods/ cargo leaves Dar es Salaam port till when they reach their final destinations.

Transit time to Tanzania exit borders refers to the time taken by the transit truck from the Port of Dar es Salaam to the respective borders between Central Corridor Member States and Tanzania, measured from the time difference in days between Stop date at the border and Start date from Dar Port. The borders are Rusumo for Tanzania – Rwanda, Kabanga/Kobero for Tanzania– Burundi and Mutukula for Tanzania – Uganda. Trucks heading to D.R Congo through Central Corridor normally passes through Rusumo or Kabanga/Kobero borders. For all the three borders the target time is set at 60 hours; nev-ertheless, as showed in the following Table, there is still progress to be made; especially the transit time to Mutukula border is still high compared to the set target of 60 hours but plans are in place to reduce the overall transit time including removal of unnecessary delays and encourage drivers to reduce personal stoppages.

Table 36 **Transit time from the port of Dar to borders (hours)**

	Rusumo (Rwanda)	Kabanga (Burundi)	Mutukula (Uganda)
2106	82.8	96.24	88.32
2017	86.16	90.72	101.76
2018	81.84	86.16	98.88
2019	83.60	91.04	96.32
TARGET	60	60	60

Source: Joint Northern and Central corridors performance Report 2020

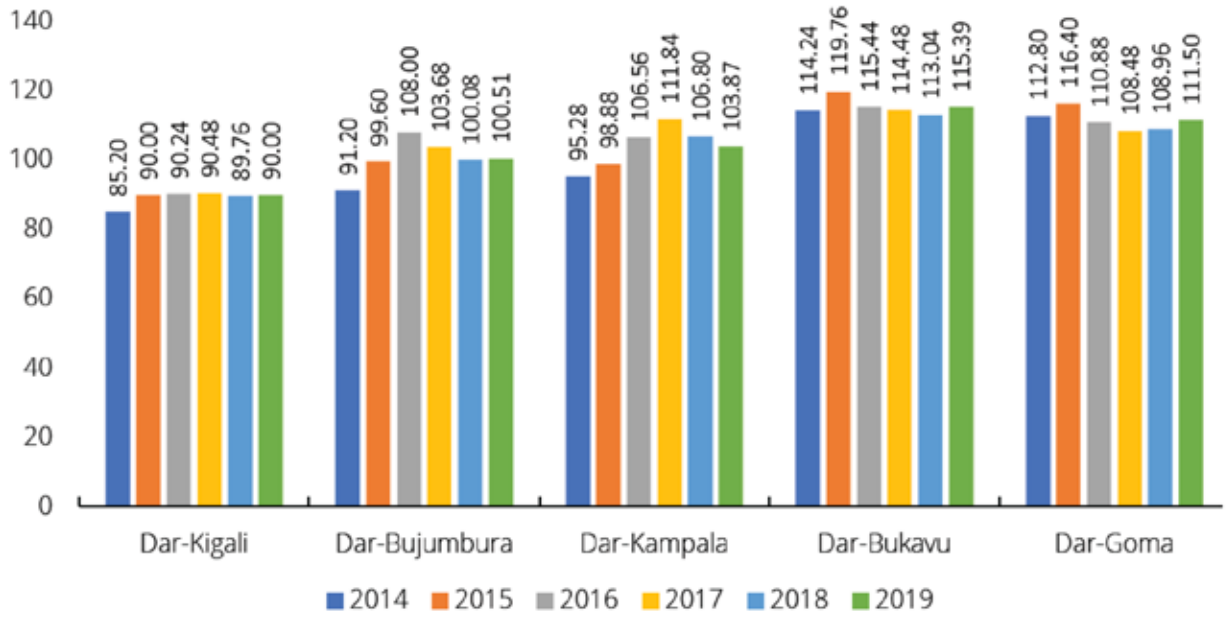
Regarding the transit time from the port of Dar to various destinations in the CC member States, it is affected by stoppages along the corridor. This is mainly due to: drivers' personal reasons, police checks, weighbridges, company checkpoints, road condition and custom checks, among other reasons.

Some of the measures that have been put in place to minimize stoppages and improve transit time include the implementation of the High-Speed Weigh in Motion (HSWIM) weighbridges in Tanzania, implementation of one-stop border posts (OSBPs) almost at all border points in the Central Corridor member countries, construction of One Stop Inspection stations (OSIS) in Tanzania which is being piloted by allowing trucks to stop and being inspected at only three weighbridges and lastly, the implementation of the Single Customs Territory (SCT) which is another measure that enhanced clearance of the goods across borders.

The Transit time to destination is measured from the time cargo starts its journey from the port of Dar es salaam to the time it arrives at various destinations in the Central Corridor member countries. The data used in the analysis of this indicator is from the Transporters tracking systems through Transporters Associations including Tanzania Truck Owners Association (TATOA) and Transporters Association of Tanzania (TAT) and the GPS/road transport surveys results.

All the destinations from Dar es Salaam have observed a marginal increase in an average transit time to destinations in 2019 when compared to 2018 with exceptional of Dar – Kampala route. The marginal increase on the transit time to various destinations may have partly been contributed by poor road section between Lusahunga to Rusumo in Kagera region of which its rehabilitation is ongoing.

Figure 34 **Average transit time to destination 2014-2019**



Source: GPS Road surveys data (2014-2017) & TATOA/TAT data 2018-2019

Concerning to the transport cost, this can be categorized into three main groups namely: (1) the costs paid to the Transporter (Truckers) which are normally referred as Transport rates, (2) the costs paid to the Freight Forwarders and (3) the Costs paid to the Customs Freight Agents (CFA) at the inland borders.

The Table below indicates the Road Transport rates (Import) to various destinations per container for the year 2019.

Table 37 Road transport rates (Imports) per container

Direction	Destination	Transport rates (USD/TEU&FEU)	Distance (Km)	Cost (USD/Km)
Imports	Kigali	2.900	1.495	1,94
	Bujumbura	3.100	1.640	1,89
	Kampala	3.250	1.780	1,83
	Bukavu	4.900	1.769	2,77
	Goma	4.200	1.635	2,57

Source: Joint Northern and Central corridors performance Report 2020

Shipping costs on the Central Corridor have less variation between origin/destination than transport costs since freight forwarders tend to charge a flat rate per consignment type and flow while Clearing and Freight Agent (CFA) charges at the border vary by consignment, flow, and origin/destination.

The table below indicates the Freight Forwarders Charges (USD/Container) and Clearing and Freight Agent (CFA) costs along the Central Corridor.

Table 38 Freight Forwarders Charges (USD/Container)

Direction	Origin/Destination	Container type	FF Charges	CFA charges
Imports	Bujumbura	20ft/40ft	200/300	100/100
	Kigali	20ft/40ft	200/300	170/160
	Kampala	20ft/40ft	200/300	58/60
	Goma	20ft/40ft	200/350	200/200
	Bukavu	20ft/40ft	200/350	200/200
Exports	Bujumbura	20ft/40ft	70/70	40/45
	Kigali	20ft/40ft	70/70	40/45
	Kampala	20ft/40ft	70/70	40/40
	Goma	20ft/40ft	100/100	100/100
	Bukavu	20ft/40ft	100/100	100/100

Source: CFAs and Transporters Transport Surveys - 2019

12.3.4 Road Transport Regulation

The Central Corridor Transit Transport Facilitation Agency Agreement (CCTTFA) is a multilateral agreement concluded in Dar es Salaam, Tanzania, on September 2, 2006, by the 5 Governments of Burundi, Democratic Republic of Congo, Rwanda, Tanzania and Uganda. The CCTTFA entered into force on 20th of November 2008, after the governments of Burundi, Tanzania, and Uganda deposited their instruments of ratification at the United Nations Economic Commission for Africa (UNECA).

The main objectives set out by the CCTTFA Agreement are to provide access to sea to the landlocked states of Burundi, DRC, Rwanda, and Uganda, to actively market the corridor with a view to encourage its increased utilization in order to improve international and domestic traffic levels; to support planning and operations of the Corridor by member States through proactive collection, processing and dissemination of traffic data, analysis of competitive corridors and business information and to promote the sustained maintenance of infrastructure. The CCTTFA Agreement also aims at reducing costs associated with moving freight along the corridor; improving customs transit procedures and customs controls at land borders

and seaports; as well as to harmonise the regulatory frameworks currently in force in the corridor states, especially for what concerns the existing bilateral transport Agreements concluded by them [168].

The CCTTFA Agreement is supplemented by 11 Protocols that form an integral part of it. Such Protocols basically correspond to the 11 additional Protocols to the NCTTA, as they have the same contents and objectives.

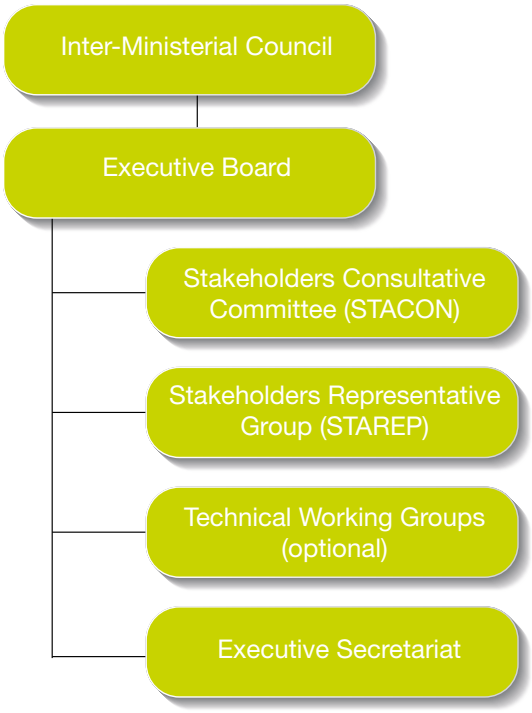
CORRIDOR GOVERNANCE

The Central Corridor is managed by the Central Corridor Transit Transport Facilitation Agency (CCTTFA), a multilateral Agency created in 2006 by an Agreement concluded by the Governments of Burundi, Democratic Republic of Congo, Rwanda, Tanzania, and Uganda.

The organizational structure of the CCTTFA's reflects the structure of the Northern Cor-ridor Transit and Transport Authority, being made up of a policy organ (the Interstate Council of Ministers), and an executive organ (the Executive Board), the latter overseeing 2 advisory bodies (the Stakeholder's Consultative Committee and the Stakeholder's Representative Group), as well as a technical body which serves as an operational tool for im-plementation of decisions and resolutions adopted by the decision-making organs (Permanent Secretariat). The specific functions of such organs are the following.

- The Interstate Council of Ministers: is responsible for directing and coordinating policy issues of the Central Corridor Transit Transport Facilitation Agency. This organ is composed of Ministers of Transport from contracting States. It meets once a year
- The Executive Board: is composed of Permanent Secretaries from the Ministries of Transport and 5 representatives from the private sector from all contracting States. It meets twice a year, although extraordinary meetings can be held upon request of any member state forwarded through the Permanent Secretariat.
- The Stakeholder's Consultative Committee (STACON): this is a consultative committee of the Executive Board that meets at least twice a year to discuss various issues affecting the development of the corridor, including recommendations for facilitating trade and transit transport between the member countries of the Central Corridor. A Stakeholder's Representative Group (STAREP) is established within STACON to manage and supervise affairs of such body between its meetings. STAREP is also charged with responsibility to supervise the Permanent Secretariat and to ensure that such organ implements the decisions and resolutions adopted by the Interstate Council of Ministers and the Executive Board.
- The Permanent Secretariat: based in Dar e Salaam, its main function is to ensure the implementation of decisions and resolutions adopted by the Interstate Council of Ministers and the Executive Board and the provision of technical advice to the governing organs. The Secretariat officially started work in July 2010. The Permanent Secretariat also administers a Transport Observatory (Central Corridor Transport Observatory, CCTO), established in 2012 to collect data on corridor operations and monitor corridor performance.

Figure 35 Central Corridor Institutional Structure



Source: Joint Northern and Central corridors performance Report 2020

[168] Dukundane, D., Sabiiti, C. H., "Central Corridor TTFA paper for the 12th joint transport sector review meeting", Central Corridor Transit Transport Facilitation Agency, 4 December 2018.

12.4 Dar-es-salaam corridor

12.4.1 Corridor Description

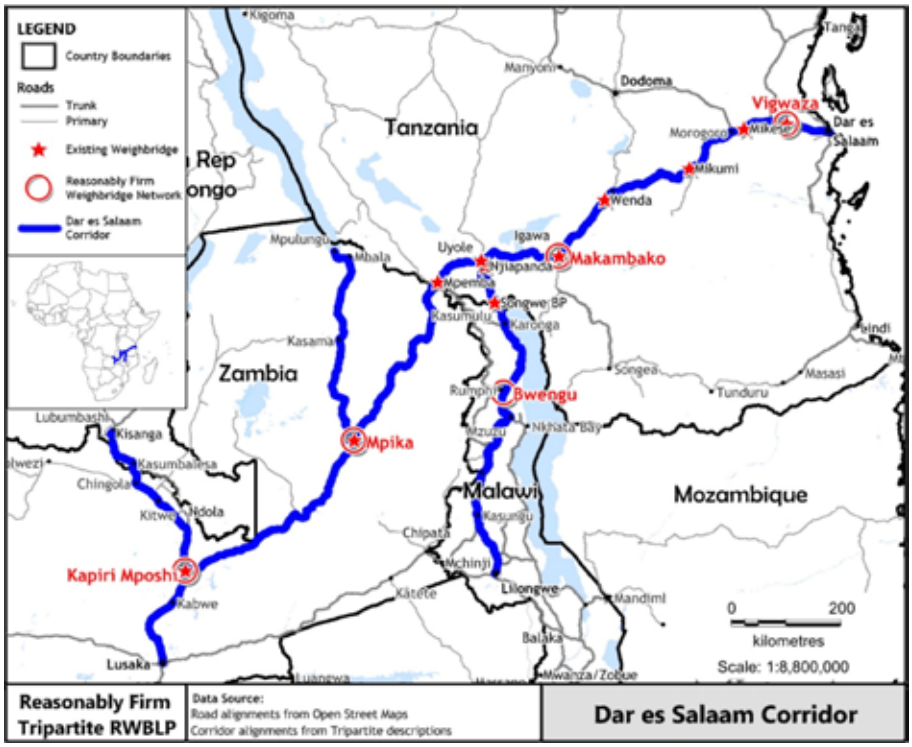
The Dar es Salaam Development Corridor/TAZARA Corridor connects the Dar es Salaam port with the southern and south-eastern highlands of Tanzania through the Tanzania-Zambia railway line (TAZARA railway)[169], the Dar es Salaam – Tunduma highway [170] and the Tanzania Zambia Oil Pipeline (TANZAM). TAZARA is jointly owned by the governments of Tanzania and Zambia. This corridor serves as important pillar for infrastructure in the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), a Public-Private Partnership with an ultimate objective of boosting agricultural productivity, improving food security, reducing poverty and ensuring environmental sustainability through the commercialization of smallholder agriculture that includes areas of agricultural land within the Rufiji River basin of central Tanzania.

The Dar-es-Salaam corridor covers a total distance of 5400km. Since the Corridor is managed under the SADC ruling framework, it excludes cabotage (cabotage is the loading and unloading of goods for transport between 2 countries along the corridor by a vehicle that is not registered in these countries) and there is no quota system implemented.

The containerization rate is very high, as in Tanzania each cargo must be carried in containers by law (no bulk permitted). The main Corridor constraints are the following:

- Difference in the level of development of the transport industry's actors among the members is a constraint since weaker economies are reluctant to accept agreements that can potentially cut the off;
- Difference in the harmonisation process: some of the member countries respond to EAC while others to SADC;
- Difference in average fleet age
- Difference in the road network condition, even if many rehabilitation interventions have been carried out recently under the patronage of World Bank and AfDB;

Figure 36 Dar es Salaam Corridor



[169] TAZARA is a bi-national railway linking the Southern Africa Regional transport network to Eastern Africa's seaport of Dar es Salaam, offering both freight and passenger transportation services between and within Tanzania and Zambia.

[170] Also known as TANZAM Highway, it runs from Lusaka to Dar es Salaam and was built from 1968 to 1973 in several stages to provide seaport access for Zambia and to expand the transport options for Zambia, Malawi and the then Zaire (now Democratic Republic of Congo).

12.4.2 Cargo Volumes

Statistics and data on the corridor traffic volumes along the Dar-es-Salaam corridor are not available, since there are no data or reports available. Moreover, the corridor's website is still not active.

12.4.3 Time and Cost of Transport

Concerning the transit cost, the International Road Transport Union (IRU) in 2016 carried out a study on transit costs on different East and Southern Africa Road corridors.[171]

According to the IRU report, there is only one option along this corridor, that being the national bond system. The COMESA Regional Customs Transit Guarantee (RCTG) Carnet, which is applied at a rate of 1.5% of the duties and VAT payable in the country of destination, has not been implemented along the Dar Corridor as it still has to be ratified by the DRC.

In the following tables reported transit cost for each member country for two different products: radial truck tyres and diesel fuel oil.

Table 39 40" Containerised load of radial truck tyres-costs of national bonds on Dar Corridor

Product: radial truck tyres		Customs Tariff Code: 4011.20.00					Cargo value: USD 100,000	
	Customs Authority	Duty	Tax (VAT)	WHT	CIF	Amount payable	Transit bond fee charged by clearing agent	Amount payable by transporter
1	Tanzania (TM)	25%	18%	0%	0%	USD 43,000	1,5%	**USD 645**
2	Zambia (ZRA)	25%	16%	0%	0%	USD 41,000	USD 120	**USD 120**
3	DRC (OFIDA)	25%	16%	0%	0%	USD 41,000	Duty & Taxes Due on Entry	
							TOTAL	**USD 765**

Source: IRU, Transit costs in Eastern and Southern Africa, 2016

Table 40 Road tanker carrying diesel oil fuel-cost of national bonds on Dar Corridor

Product: diesel oil fuel		Customs Tariff Code: 2709.00.00					Cargo value: USD 30,000	
	Customs Authority	Duty	Tax (VAT)	WHT	CIF	Amount payable	Transit bond fee charged by clearing agent	Amount payable by transporter
1	Tanzania (TM)	0%	18%	0%	0%	USD 5,400	1,5%	**USD 81**
2	Zambia (ZRA)	0%	16%	0%	0%	USD 4,800	USD 120	**USD 120**
3	DRC (OFIDA)	0%	16%	0%	0%	USD 4,800	Duty & Taxes Due on Entry	
							TOTAL	**USD 201**

Source: IRU, Transit costs in Eastern and Southern Africa, 2016

[171] https://www.iru.org/sites/default/files/2016-09/0352%20Africa%20report%20v2%20_web.pdf

12.4.4 Road Transport Regulation

The Dar es Salaam Corridor is governed by a Multilateral Public-Private Agreement (called "Corridor Constitution"), signed on 8 October 2003 by a number of government agencies and private sector associations in Malawi, Tanzania and Zambia representing the interests of statutory bodies or legal persons from the countries served by the corridor. The concept at the basis of such kind of Agreement is that public and private sector are equal and that both parties can commit to reaching common objectives by introducing a cooperative structure that allows the two different types of stakeholders to reconcile their respective interests. However, the difficulty with this model has been the length of time taken to obtain membership of all stakeholders [172].

12.4.5 Corridor Governance

The Dar es Salaam Corridor Constitution establishes a forum for regional cooperation on cross border transport policy formulation, regulation and operation, called Dar es Salaam Corridor Committee (DCC), a Public-Private Partnership (PPP) comprising both government and private sector institutions from Tanzania, Zambia and Malawi, established in 2003 under the auspices of the Southern Africa Development Community (SADC). The DCC aim is to facilitate and promote trade in and among member states using the corridor by reducing the transit time and transport cost for corridor traffic. The DCC's tasks include the promotion of infrastructure development and simplification and harmonisation of regulations and it can form sub-committees and working groups to undertake specific functions on its behalf.

Some of the key programs and projects that are currently pursued by the DCC are the development of a system for monitoring corridor performance; of OSBPs at borders; of self-regulation for transport operators, and the establishment of wellness centres along the corridor to prevent the spread of HIV [173]. Other key institutions of the corridor committee are:

- the Executive Committee: it consists of a chairperson, a vice chairperson of the Corridor Coordinating Committee, and at least three but not more than five members nominated by the Corridor Committee;
- the National Corridor Committees: in each member state there are National Corridor Committees to ensure effective national support to corridor activities. Mem-bership is drawn from the country's representatives on the DCC. Each National Corridor Committee comprises a chairperson and a vice chairperson, one from a government organization or department and the other from the private sector.
- the Secretariat: the main functions of this body, as established by the Dar es Salaam Corridor Constitution, are the provision of support to the implementation of interventions and measures agreed by the DCC members, the implementation of the corridor development programs in consultation with DCC Members and the facilitation of engagement with donor agencies to sponsor identified projects. However, this body is not yet operational because of lack of funding. In the interim, the Tanzania Port Authority provides part-time secretariat services. The absence of a full-time secretariat remains a constraint to the implementation of the committee's activities.

12.5 Maputo corridor

12.5.1 Corridor Description

The Maputo Development Corridor (MDC is a multimodal transport system comprising a toll road, a railway line and a gas pipeline that links the Port of Maputo in Mozambique to the landlocked regions of South Africa (Gauteng, Mpumalanga and Limpopo) and the Kingdom of eSwatini (previously known as Swaziland) to Mozambique. The MDC is one of the successful examples of the NEPAD Spatial Development Initiatives (SDI).

This corridor comprises road, rail, border posts, port and terminal facilities. The main road on the South African side of the MDC is the N4, a two to four-lane national toll road. In Mozambique the N4 becomes the EN4 after crossing the Mozambican side of the border and progresses to Maputo. The condition of road infrastructure on both highways is very good.

[172] https://www.gtkp.com/themepage.php&themepgid=245

[173] Southern Africa Global Competitiveness Hub, "Action Plan for Financing Operations of the Dar es Salaam Corridor Committee (DCC) Secretariat using the User-Pay Principle", Technical Report, Gaborone, Botswana November, 2009.

The EN4 is connected to the port in Maputo by a new port access road, which carries heavy road traffic clear of downtown Maputo and connects the harbour directly with the M4 Highway running 600 km westwards through the industrial and mining heartlands of South Africa.

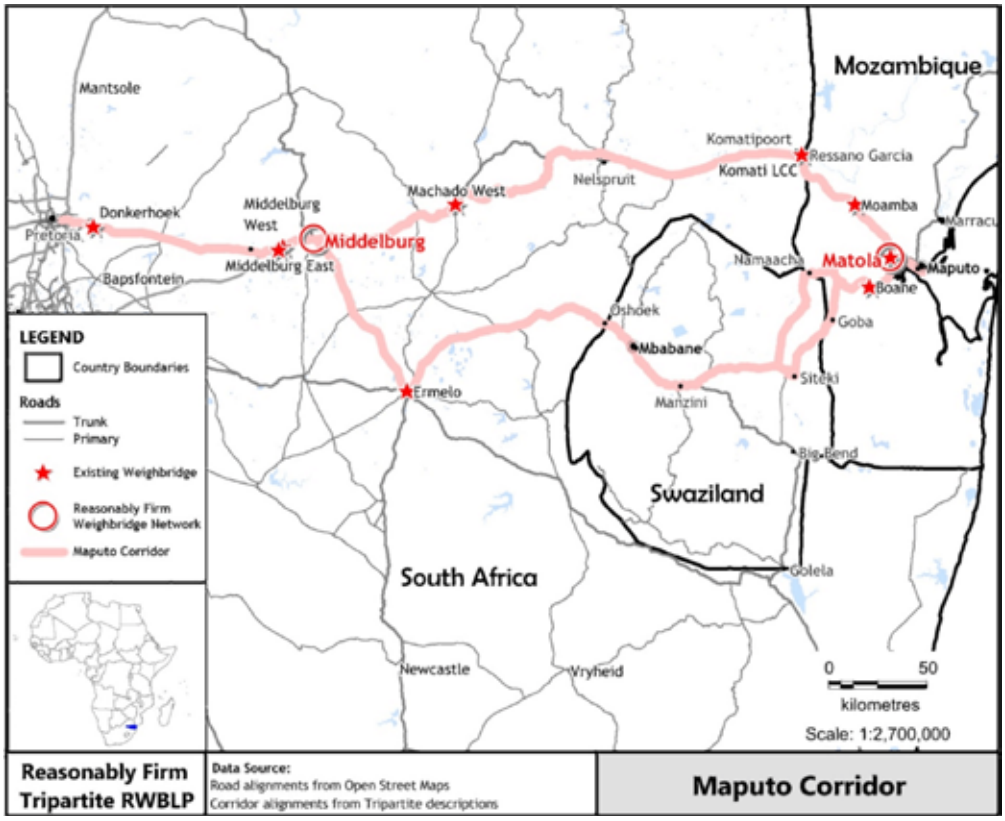
Maputo port has significant regional potential as an important gateway to South Africa and other regional countries such as Botswana, Swaziland and Zimbabwe. Continuous infrastructure improvements programmes - i.e., dredging of the 76 km approach channel, upgrading of the container depot, extension of the current car, ferry, coal and container terminals, the extension of quays and rail sidings and the refurbishment of old warehouses and construction of new ones – makes Maputo port competitive for regional and international markets.

The Lebombo Border Dry Port, developed on the former Komatipoort airport site and located alongside the N4 highway, with safe and easy slip roads off and back onto the Maputo Corridor route, offers a truck stop with 24-hour diesel supplies, weighbridge and overnight accommodation for truckers.

Cross-border transporters moving commodities along the N4 highway cross into Mozambique at the Lebombo/ Ressano Garcia border post, whose peculiar topography makes it difficult to develop or expand border post infrastructure. As a result, the border experiences high levels of congestion, especially during peak-periods. Although the Lebombo/Ressano Garcia border is earmarked as an OSBP candidate, and while OSBP infrastructure has already been built, this border is still functioning as a traditional border post.

Cross-border operators moving traffic along road networks in Swaziland can cross into Mozambique at the Lomahasha / Namaacha border and Goba / Mhlumeni borders, whereas South African operators can cross into Swaziland via the Jeppe's Reef / Matsomo border (see map).

Figure 37 Maputo Corridor



12.5.2 Cargo Volumes

The MDC is a busy trade route, despite being a short route with a route distance of only 590 km from Johannesburg and 560 km from Pretoria to Maputo. Over the past 15 years the MDC has seen exponential growth in trade and investment across the border between South Africa and Mozambique. There are two main freight flows along the MDC:

- Road freight which consists of bulk and other commodities from Mpumalanga for export and goods from Gauteng for domestic consumption in Mozambique; and
- Rail freight which consists of bulk exports in Mpumalanga and Limpopo provinces, destined for export through Maputo port.

Trade relations between South Africa and Mozambique favours South Africa, insofar most exports (around 96%) are exported from South Africa, with Mozambique only importing 4% of goods from South Africa (source: C-BRTA, 2019). This imbalance often results in empty back-hauls along the MDC that increases the cost of doing business along this corridor.

Most cross-border traffic movements take place at the Lebombo / Ressano Garcia border post between South Africa and Mozambique.

12.5.3 Corridor Achievements & Constraints

Corridor achievements include, but are not limited to the following:

- Continuous infrastructure improvements at the port of Maputo have increased port capacity and reduced through-put costs at the port;
- Excellent corridor management and coordination provided by the MCLI over the years that led to a reduction in transport and transit costs along the MDC;
- Exponential growth in trade and investment along the MDC between 2004 and 2019;
- Well-maintained road infrastructure between South Africa and Mozambique;
- The building of a freight bypass road and designated cargo processing facilities (re-ferred to as Km7 and Km4) has allowed for freight to be cleared in a one-stop opera-tion at KM7 on the South African side, before the border post. Thus, only the hando-ver of documents is necessary at the border, with the process replicated at KM4 on the Mozambican side for cargo moving into South Africa. This achievement has resulted in significant traffic flow improvements through the border post; and
- OSBP infrastructure has been constructed at the Lebombo / Ressano Garcia border post.
- Despite the above successes, several challenges prevail, and they include the following:
- The operating hours of the Lebombo border which operates for 18 hours per day is not aligned to the port of Maputo (24 hours per day). Because of non-alignment, cross-border vehicles pile up at the border entrance during night when the border closes;
- The Lebombo / Ressano Garcia border post still operates as a traditional two-stop bor-der even though OSBP infrastructure has been build;
- There is an unequal flow of traffic along the corridor, with South African exports outweighing Mozambique imports by far. The status quo increases operational difficulties and logistics costs for traders who use the MDC; and
- Only a limited number of truck stops are located along the MDC.

12.5.4 Road Transport Regulation

Similarly, to the Dar es Salam corridor, the Maputo Corridor is governed by a Corridor Constitution (Constitution of the Maputo Corridor Logistics Initiative), that establishes the basic objectives of the MCLI, the PPP managing this corridor, as explained in the following Chapter. Such objectives are indicated as follows:

- To rehabilitate, in partnership with the private sector, the primary infrastructure network along the Corridor, including road and rail links between South Africa and Maputo, the border post between the two neighbours, and the Port of Maputo.
- To maximize investment in the potential of the Corridor area and in added opportunities that infrastructure

rehabilitation would create.
- To maximize social development and employment opportunities, and increase participation of historically disadvantaged communities.
- To ensure sustainability by developing policy, strategies and frame- works for a holistic, participatory and environmentally sustainable approaches to development.

12.5.5 Corridor Governance

Since the early 1970s, the port of Maputo has been one of the main conduits for South Africa's trade, linked to Mpumalanga, Gauteng, and Northern Provinces, where more than 40% of its trade traffic was passing. During the period between the Mozambique's independence (in 1975) and the end of apartheid in South Africa (in 1994), traffic volumes drastically collapsed and infrastructure deteriorated. In 1996, South Africa launched a pro-ject of rehabilitation and upgrading of the road connecting Maputo to the provinces of Mpumalanga and Gauteng, to encourage economic growth and enhance South Africa's international competitiveness [174]. A development company, the **Maputo Corridor Company**, was set up on July 27, 1996 by the Ministers of Transport of South Africa and Mozambique, whose function was the rehabilitation and management of the port of Ma-puto and the rail link to the South African border. The company was 51 percent privately–owned, with participation from government agencies in both Mozambique and South Africa, including CFM, the national railways of Mozambique, which had a 30 percent share [175]. In 2004, due to its ineffectiveness, the MCC was replaced by the **Maputo Corridor Logistics Initiative (MCLI)**, a non-profit company incorporated in South Africa and developed under the public-private partnership scheme (the first private sector corridor management institution on the African continent), whose objective was to o support the development of the Maputo Corridor into a sustainable, highly efficient transportation route, creating an increasingly favourable climate for investment and new opportunities for communities along the length and breadth of the Corridor.

The MCLI was established by eight founding members comprising of private sector investors, service providers and cargo owners operating along the corridor [176]. Its highest decision-making body was the **MCLI Board of Directors**, initially consisting of nine executive directors – appointed by and representing each founding member – and nine non-executive directors, predominantly from public and private sector representatives and investment agencies in South Africa, Mozambique and Swaziland, namely, the CFM (Caminhos de Ferro de Moçambique), the Department of Transport of South Africa, Grindrod Mozambique Limitada, Kudumba Investments, Ministry of Transport and Communications of Mozambique, Swaziland Railways and TransnetFreightRail. Its main func-tions are the following:

- promoting the objectives of MCLI;
- providing policy direction by setting and reviewing specific directives and priorities for MCLI;
- monitoring implementation;
- monitoring the operating structure, finances and administration of MCLI and for this purpose to appoint an audit committee;
- determining and approving the operating and capital budgets of MCLI.

The Board of Directors also established ad hoc committees to address specific issues affecting the operational performance of the corridor, and tasked with documenting key corridor bottlenecks from the perspective of private users, and with lobbying the respective government agency for important changes to take place.

Below the Board of Directors, an Executive Committee was basically responsible for the financial management of the MCLI.

The MCLI ceased operations on 28 February 2019 because of the inability of certain members to regularly pay the contributions [177].

[174] Söderbaum, F., Taylor, I., "Afro-regions, the dynamics of cross-border micro-regionalism in Africa", Nordiska Afrikainstitutet, 2008.
[175] SInternational Monetary Fund, "Republic of Mozambique—Recent Economic Developments", IMF Staff Country Report No. 96/142, December 1996.
[176] The MCLI founding members were MPDC (Maputo Port Development Com- pany), MIPS (Maputo International Services), TCM (Coal Terminal Matola), TRAC (Trans-Africa Concessions), MMC (Manganese Metal Company), TSB, TAL and later, the Department of Transport of South Africa, which joined MCLI in 2006.
[177] https://www.mcli.co.za

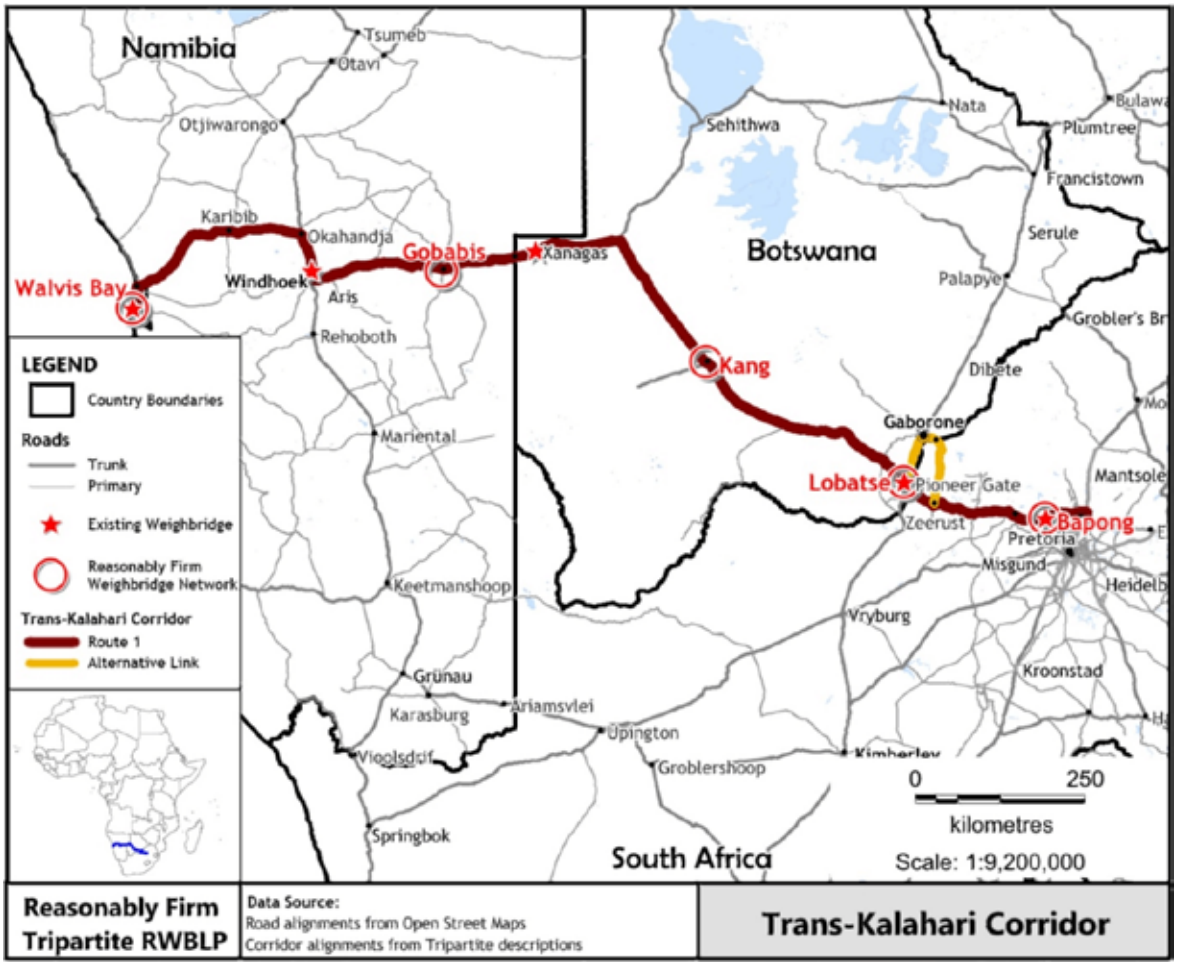
12.6 Trans-Kalahari corridor (TKC)

12.6.1 Corridor Description

The Trans Kalahari Corridor (TKC) is a road network of approximately 1900 kilometres that starts in the Gauteng Province in South Africa and continues through Rustenburg and Zeerust in the North-West Province, through Lobatse and Kanye in Botswana, the Mamuno and Trans Kalahari Border Posts, through Gobabis, Windhoek and Okahandja in Namibia and right through to the Port of Walvis Bay. The TKC cuts the distance between southern Namibia to South Africa's Gauteng by 400 kilometres, and provides a short transport link across the entire breadth of the South African Sub-continent, reducing logistical costs to users. The corridor was jointly built by the Namibian and Botswana Governments in the 1990s and officially opened in 1998. TKC is a tripartite trans-boundary Corridor Management Institution, established with a vision to pursue or contribute towards deeper regional integration programmes.

The TKC includes also a railway line from the Port of Walvis Bay to Gobabis (via Wind-hoek), where transhipment facilities are available, and continues from Lobatse in Botswana.

Figure 38 Trans-Kalahari Corridor



The port of Walvis Bay on the west coast of Namibia strategically links to other Corri-dors in the sub-region, namely: Trans Cunene Corridor, Walvis Bay-Ndola-Lubumbashi (Trans Caprivi) Corridor, Windhoek-Luanda Corridor and Trans Oranje Corridor. Road network linkages cut across these Corridors creating a strategic network. The TKC also connects the ports of Walvis Bay with the Maputo Corridor, resulting in the Coast-to-Coast Corridor. It has to be noted that the port of Walvis Bay has recently ended the construction of the new container terminal, increasing its capacity from 355,000 TEUs (20-foot equivalent unit) to 750,000 TEUs yearly and also reducing vessel waiting time to less than 8 hours and cut container transit time from 14.5 days to 9.5 days.[178]

This Corridor is known for providing a short transport link across the entire breadth of the South African Sub-continent. Compared to the traditional routes via southern Namibia to South Africa's Gauteng, the TKC cuts the distance by 400 kilometres, making it a preferred route and providing cost effective logistical advantages to users. The TKC is a strategic route-of-choice that provides linkages between the Americas and East European markets into the southern African hinterland.

The TKC road network is a surfaced road that is in a good condition. Infrastructure impediments relate mostly to Namibia in the form of incomplete road works and narrow road infrastructure. A lack of road signage in Namibia and Botswana and the absence of properly designed truck stops along the corridor pose a safety threat to commercial road transport operators.

Even though the TKC is predominantly a road transport corridor there are no properly designed truck stops along this corridor. As a result, many drivers sleep in their trucks and stop at multiple locations to rest, eat or access health services.

The following border posts are located along the corridor:

- Buitepos / Mamuno – (Namibia / Botswana); and
- Pioneer Gate / Skilpadshek – (Botswana / South Africa).

Of the two border posts along the TKC, the Buitepos/ Mamuno border post is earmarked for transformation into an OSBP while the other (Pioneer Gate/Skilpadshek) will remain a conventional two-stop facility.

None of the above-mentioned border posts are currently operating 24 hours per day. Furthermore, in the absence of ICT systems integration, most clearance procedures still take place at the borders, causing bottlenecks and time delays when heavy traffic flows are experienced.

12.6.2 Cargo Volumes

The port of Walvis Bay is Namibia's largest commercial port, receiving approximately 3,000 vessel calls each year and handling about 5 million tonnes of cargo.

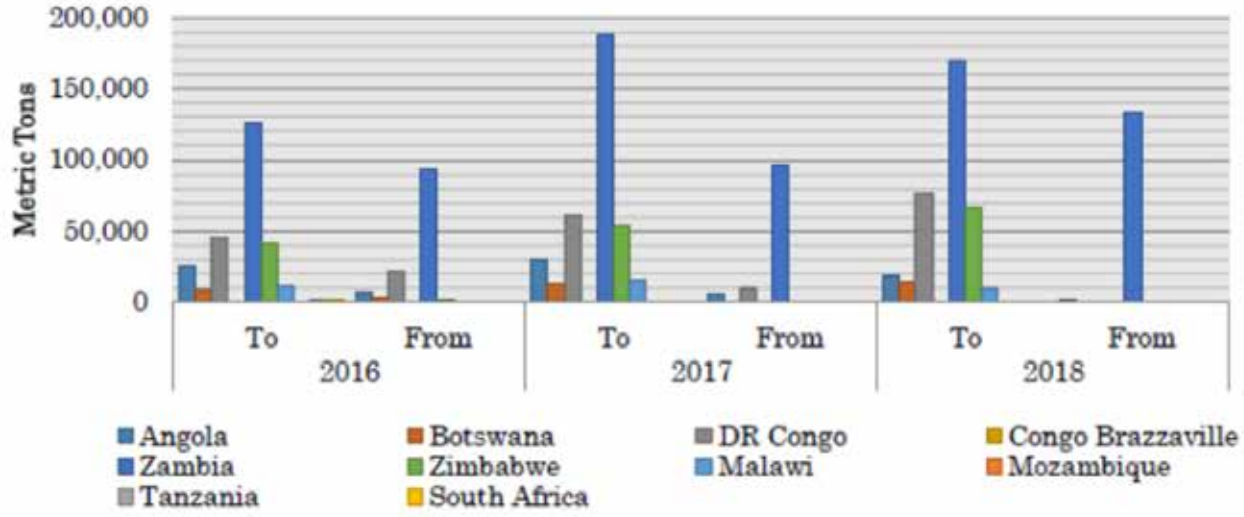
The 2018 Namibia State of Logistics Report [179], drafted by the Walvis Bay Corridor Group (WBCG) jointly with the Namibian-German Centre for Logistics, show the most recent statistics from the Namibian Ports Authority.

According to these data, Zambia is the dominant market for transit cargo for both imports and exports going through the Port of Walvis Bay (Figure 17). In 2017 Zambia imports accounted for 51.8 percent of all inbound transit cargo via the Port of Walvis Bay, up from 47.9 percent in 2016 representing a 50.9 percent increase in the volume of imports to Zambia. Similarly, Zambian exports comprising mostly copper and wooden products accounted for 85.7 percent of total outbound transit cargo by volume (metric tons), up from 72.5 percent in 2016.

[178] Constructed on 40 hectares of land reclaimed from the ocean as part of a nearly $300 million project, the expansion has steered Walvis Bay towards becoming a logistics hub for south-ern Africa that aims to meet the growing demand for freight, while promoting new maritime access to serve the landlocked countries of the Southern Africa Development Community (SADC). The African Development Bank provided a ZAR 2,982 million loan representing over 70% of the project funding. https://www.afdb.org/en/success-stories/namibia-walvis-bay-port-now-regional-logistic-hub-new-container-terminal-fully-operational-37779#:~:text=The%20new%20container%20terminal%20at,published%20on%203%20September%202020.

[179] http://www.wbcg.com.na/wp-content/uploads/2019/03/2018-Namibia_of_State_of_Logistics-Report.pdf

Figure 39 Total Throughput Walvis Bay, Metric Tons for destination country (2016-2018)



Source: Namibian Ports Authority

Ah showed the strongest interaction is between Walvis Bay and Zambia (all years, both in-bound and outbound flows), followed by DRC and Zimbabwe. Zambia and Zimbabwe are countries without seaports, i.e., both have to seek for the most advantageous gateway(s) for most of their imports and exports.

Road freight accounts for more than 80 percent of total tonne-kilometres of goods transported in Namibia include transit cargo.

The same report shows that of the three corridors connecting Walvis Bay with coun-tries in the SADC region WBNLDC is the busiest, followed by Trans-Cunene and Trans-Kalahari Corridor (TKC) in that order with respect to transit cargo.

Total road freight by year tonne-kilometres (TKM) transported along each corridor for the last three years is shown in Table 1. In 2017, 1,150 million TKM of freight was transported along WBNLDC, up 39.2 percent from 2016 when 826.1 million TKM was transported. The comparative volumes for Trans-Cunene were 54.1 million TKM in 2017, up from 50.5 million TKM in 2016 (or 7.1 percent annual increase), while TKC experienced a decrease of -7.3 percent from 20.5 million TKM in 2016 to 19.0 million TKM in 2017.

Table 41 Total Freight (in million tonne-km) by year, Namibian Corridors

Corridor	2016	2017	2018
WBNLDC	826	1,150	1,094
Trans-Cunene	50.5	54.1	30.0
Trans-Kalahari	20.5	19.0	20.0
Trans-Oranje	Missing data	Missing data	Missing data

Source: Namibia State of Logistics report 2018

12.6.3 Time and Cost of Transport

Transit time from the Port of Walvis Bay to the main corridor destinations are relatively short: in two days freight can reach Gaborone or Johannesburg. The customs clearance time is about 30 minutes.

Transit Times are show in the Table below.

Country	Location	Distance from Walvis Bay	Transit Time
Botswana	Francistown	1,781 km	3 days
	Gaborone	1,366 km	2 days
Namibia	Gobabis	605 km	2 days
	Windhoek	384 km	1 day
South Africa	Johannesburg	1,900 km	2 days

Source: WBCG

Due to the proximity to the west, shipping costs to and from Walvis Bay are the most competitive in the region (6% less). It is estimated that trucking costs are also very competitive when compared to other routes in the region which are 30 more percent higher while handling fees through TKC are said to be 15 percent less. No other information about transport cost and fees are available.

12.6.4 Corridor Achievements and Constraints

Over the years the TKC has established itself as an efficient transport corridor. Corridor successes, include, but are not limited to the following:

- The road network is generally in a good condition, although narrow in Namibia;
- Progress towards transforming the Buitepos/ Mamuno border post is noted in the completion of a feasibility study for OSBP establishment and the formation of national negotiating committees at MS level; and
- Massive infrastructure programmes at the port of Walvis Bay, notably the construction of a new container terminal, built between 2014 and 2019, which gives the country a high-end port facility. This may lead in the next future to a diversion of traffic from South African ports (Durban and Cape Town).

Despite the above successes, several impediments undermine the seamless flow of traffic along the TKC. Examples of constraints include the following:

- Border posts along the TKC still act as two-stop borders and are not operational 24 hours per day;
- There is a general lack of safety along the TKC;
- The TKC runs through a fragmented regulatory environment of 3 different countries which affects the capacity to harmonise and coordinate trade and transport initiatives across the corridor; and
- The absence of truck stops imposes a danger to drivers along the TKC.

12.6.5 Road Transport Regulation

The TKC is regulated by a Memorandum of Understanding (MoU) on the Development and Management of the Trans Kalahari Corridor dated 3 November 2003 [180], whose main objectives are to facilitate the movement of goods and persons on the TKC by simplifying and harmonizing the requirements and controls that govern the movement of goods and persons with a view to reducing transportation costs and transit times. More precisely, the MoU dictates a series of provisions urging member countries to simplify and harmonize their respective customs procedures, by introduc-ing joint customs controls on the TKC, to adopt a common transit procedure to govern the movement of goods on the TKC, and to coordinate as much as possible their security and other State agencies responsible for border integrity. To this effect, contracting par-ties must conclude border post management agreements providing, amongst others, for the designation of areas where joint customs controls may be carried out and have to extend the business hours of border posts to facilitate the movement of goods and persons where this is justified by the level of commercial traffic.

The MoU also urges the contracting parties to develop and implement harmonized and non-discriminatory cross-border road user charging systems and to ensure that the relevant profits are utilised for the upgrading, maintenance and operation of roads. Lastly, they the MoU obliges the TKC member States to harmonize standards in respect of

[180] https://www.ssatp.org/sites/ssatp/files/publications/HTML/legal_review/Annexes_fr/Annexes%20VI_fr/Annexe%20VI-18.pdf

a) vehicle fitness and equipment on or in respect of vehicles;
b) vehicle dimensions, combinations and projections;
c) loads on goods and passenger vehicles;
d) traffic signs including traffic signals, road signs and markings;
e) speed limits; and
f) driving hours.

Additional provisions of the MoU are referred to the development of coordinated strategies for road traffic control and road traffic law enforcement; of a common schedule of road traffic related offences and penalties (as well as documents used by law enforcers); to the promotion of the joint training of road traffic law enforcement officials as far as practically possible; and to the development of harmonized standards in respect of road traffic law enforcement equipment, including the scheduling of regular inspections to monitor the accuracy and calibration of such equipment.

Lastly, a group of provisions are aimed at harmonising training and testing of drivers; the rules for transportation of hazardous substances on the TKC and road traffic safety rules.

12.6.6 Corridor Governance

The Trans Kalahari Corridor is governed by an executive body called Trans Kalahari Corridor Management Committee (TKCMC), made up of both public and private sector stakeholders, whose main functions include the monitoring of performances of the TKC by developing specific performance indicators on trade and traffic flows, container volumes, adequacy of facilities, processing times at border posts and average point-to-point transit times. The TKCMC also specifies the actions and allocates respon-sibility required to implement the provisions of the MoU on the Development and Management of the Trans Kalahari Corridor, identifying the necessary resources. Key actors of the TKCMC include Transport Ministries/Departments, Transport Agencies, Customs Administrations, Immigration Authorities, Police Services, Port Authorities, Road Transport Associations, Freight Forwarders and Clearing Agents. In the execution of its functions, the TKCMC operates thorough an Operation Committee (made up by the Chairperson of the TKCMC, plus two officials each representing one of the Competent Authorities of different signatory states than the one represented by the Chairperson; and not more than three members nominated by the Contracting Parties representative of the private sector in the signatory states). Other additional committees and working groups can from time to time be established as the need arises.

The Trans Kalahari Corridor Secretariat (TKCS) was established on 1 March 2007, with its Headquarters is in Windhoek, Namibia. It provides support to TKCMC by overseeing the day-to-day administration and operations of the MoU under the TKCMC leadership. Other functions of the TKCS include the provision of support to the Contracting Parties in implementation of the provisions of the MoU and monitoring compliance.

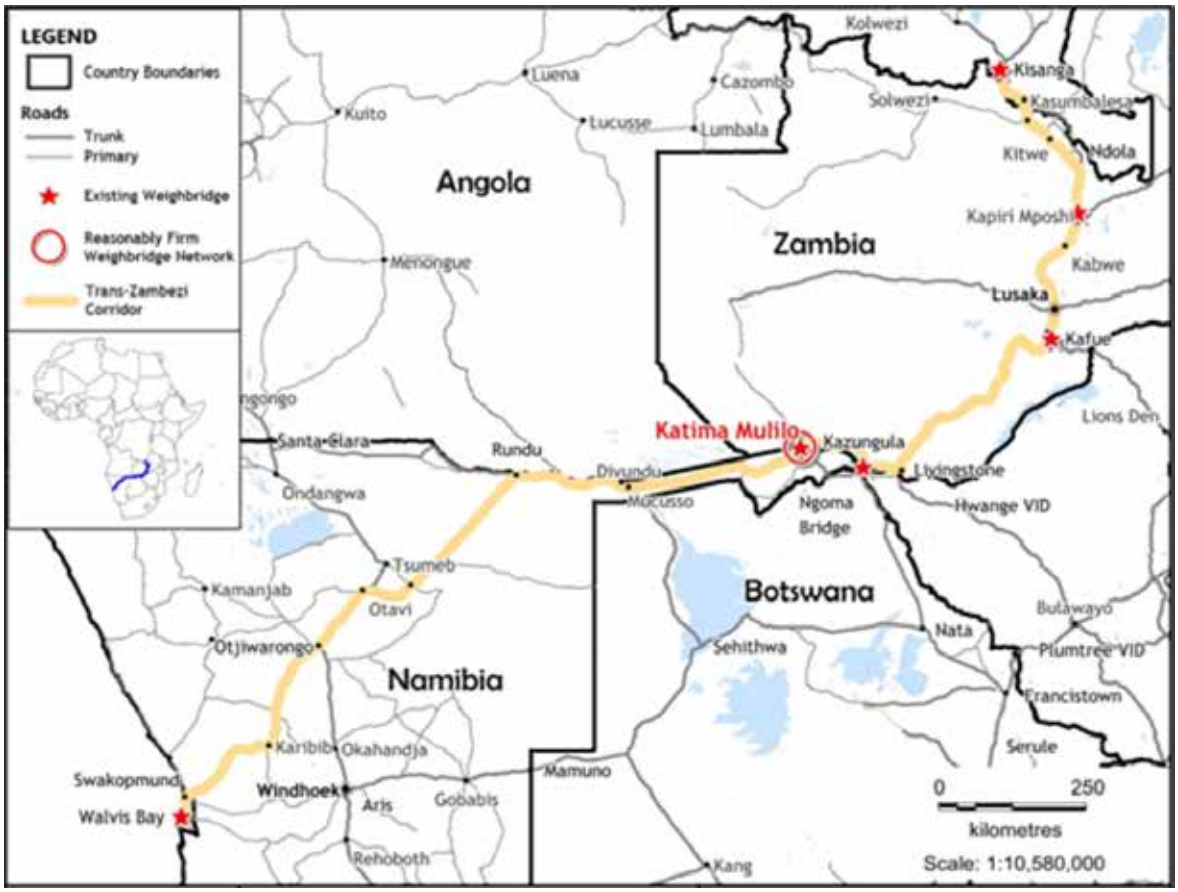
12.7 Walvis bay – Ndola – Lubumbashi corridor (Trans – Caprivi)

12.7.1 Corridor Description

The Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC), previously known as Trans-Caprivi Corridor, is part of the Walvis Bay Corridors, an integrated system of well-maintained tarred roads and rail networks – accommodating all modes of transport – providing landlocked SADC countries access to transatlantic markets. The WBNLDC, in particular, links the Port of Walvis Bay with Zambia to the southern Democratic Republic of Congo (DRC) and Zimbabwe. This corridor, which also con-nects via Zambia into Malawi and Tanzania, runs via the former Caprivi Strip in north-eastern Namibia and enters Zambia via the Katima Mulilo bridge, which was completed in 2004.

The corridor stretches over 2,500 km, and is supported by a railway line between Walvis Bay and Grootfontein, where transhipment facilities are available. The railway line resumes in Livingstone, Zambia.

Figure 40 Walvis bay – Ndola – Lubumbashi corridor



12.7.2 Cargo Volumes

Information on the Walvis Bay port annual throughput and freight volumes along the WBNLDC are reported in the previous section concerning Trans-Kalahari Corridor (TKC).

12.7.3 Time and Cost Transport

Transit time from the Port of Walvis Bay to the main corridor destinations are relatively short: freight can reach in two days the border with Zambia at Katima Mulillo while it takes 4-5 days to reach Lusaka, Harare or Lubumbashi in DRC. Transit time is show in the table below.

Table 42 WBNLDC Transit Time

Country	Location	Distance from Walvis Bay	Transit Time
DRC	Lubumbashi	2,690 km	4-5 days
Namibia	Groofontein	598 km	1 day
	Katima Mulillo	1,354 km	2 days
	Windhoek	384 km	1 day
Zambia	Livingstone	1,565 km	3 days
	Lusaka	2,050 km	4-5 days
	Ndola	2,395 km	4-5 days
Zimbabwe	Harare	1,890 km	4 days
	Bulawayo	2,515 km	4 days

Source: WBCG

Custom clearance time is only 2 hours at the border with Zambia (Katima Mulil-lo/Sesheke) while at Livingstone and Lusaka are much longer (generally 2 days). Border Post Operating hours ae not standardized among the various country.

Table 43 Border Post Operating Hours and Time

Country	Location	Average clearance days	Operating Hours
Namibia	Port of Walvis Bay	3 days	08:00-17:00
Namibia/Zambia	Katima Mulillo / Sesheke	2 hours (final clearance) 30 minutes (Report order)	06:00-18:00
Zambia	Livingstone	2 days (Final clearance)	08:00-17:00
	Lusaka	2 days (Final clearance)	08:00-17:00

Source: WBCG

Concerning the transit cost, the International Road Transport Union (IRU)[181] in 2016 carried out an interesting study on transit costs on different East and Southern Africa road corridors.[182]

The following bonds are offered either by individual clearing agents in each country or by a single agent used at each border post. In the following tables reported transit cost for each member country for two different products: radial truck tyres and diesel fuel oil.

Table 44 40" Containerised load of radial truck tyres-costs of national bonds on WBNL Corridor

Product: radial truck tyres		Customs Tariff Code: 4011.20.00					Cargo value: USD 100,000	
	Customs Authority	Duty	Tax (VAT)	WHT	CIF	Amount payable	Transit bond fee charged by clearing agent	Amount payable by transporter
1	Namibia (NRA	25%	15%	0%	0%	USD 40,000	1,5%	**USD 600**
2	Zambia (ZRA)	25%	16%	0%	0%	USD 41,000	USD 120	**USD 120**
3	DRC (OFIDA)	25%	16%	0%	0%	USD 41,000	Duty & Taxes Due on Entry	
							TOTAL	**USD 720**

Source: IRU, Transit costs in East & Southern Africa 2016

[181] IRU is an International Association of Transport Operators & Trade with around 100 members, whose mandate includes the identification of constraints and administrative impediments to transport and trade, while they are not directly involved in infrastructure development.

[182] https://www.iru.org/sites/default/files/2016-09/0352%20Africa%20report%20v2%20_web.pdf

Table 45 Road tanker carrying diesel oil fuel-cost of national bonds on WBNL Corridor

Product: diesel oil fuel		Customs Tariff Code: 2709.00.00					Cargo value: USD 30,000	
	Customs Authority	Duty	Tax (VAT)	WHT	CIF	Amount payable	Transit bond fee charged by clearing agent	Amount payable by transporter
1	Namibia (NRA)	0%	15%	0%	0%	USD 4,500	1,5%	**USD 67.50**
2	Zambia (ZRA)	0%	16%	0%	0%	USD 4,800	USD 120	**USD 120**
3	DRC (OFIDA)	0%	16%	0%	0%	USD 4,800	Duty & Taxes Due on Entry	
							TOTAL	**USD 187.50**

Source: IRU, Transit costs in East & Southern Africa 2016

12.7.4 Road Transport Regulation

The Walvis Bay-Ndola-Lubumbashi Development Corridor was established with a Memorandum of Understanding (MOU) signed in March 2010 by the Ministers responsible for transport of the DRC, Namibia and Zambia with the aim of facilitating trade and movement of persons and goods along the corridor, promoting regional and inter-national transport; stimulating economic and social development in the territories of the contracting parties and offering safe, fast and competitive transport and transit services.

12.7.5 Corridor Governance

Walvis Bay-Ndola-Lubumbashi Development Corridor is administered by the **Walvis Bay-Ndola-Lubumbashi Development Corridor's Management Committee (WBNLDCMC)**, also known as the Trans-Caprivi Corridor Management Committee, which was set up in 2010 in partnership with the private sector. A second regional body, namely the **Trans-Caprivi Corridor Cluster Committee**, was initiated by the Namibian and Zambian Governments, supported by UNCTAD's Capacity-building Programme on Transport and Trade Facilitation for Landlocked and Transit Developing Countries. The Committee comprises of both public and private transport representatives and meet twice a year to address corridor issues.

The Walvis Bay Corridor Group (WBCG) serves as the **Interim Secretariat**, hosted at its Lusaka, Zambia office.

12.8 Nacala corridor

12.8.1 Corridor Description

Nacala Port is the third-largest port in Mozambique when measured by volume of cargo handled. The largest natural deep-water port on the eastern coast of Africa, Nacala enables unrestricted entry and exit of vessels, regardless of draught, 24 hours a day, and requires no dredging.

After the port rehabilitation in 1996, Mozambique set a framework for public-private partnerships (PPPs) in transport infrastructure. The concession to operate the Nacala Port and Railway for a period of 20 years was awarded in 2000 to CDN-CEAR[183], with shareholding split between SDCN[184] (51%) and CFM North[185] (49%).

[183] Corredor Desenvolvimento de Nacala (CDN) and Central East African Railways (CEAR) were the names that the original concessionaire, Edlows Resources and Railroad Development Corporation (United States), and CFM (Mozambique) gave to the Mozambique and Malawi freight railway network respectively.

[184] Sociedade de Desenvolvimento do Corredor de Nacala (SDCN) consisted of 42.5% Vale (Brazil), 42.5% Mitsui (Japan), and 15% Local Investors (Mozambique).

[185] Portos e Caminhos de Ferro de Moçambique (CFM) is a state-owned enterprise comprising four branches: CFM North, CFM Central, CFM South, and CFM Zambezia, which operate railway lines in these geographic zones and is also responsible for port infrastructure and services.

However, due to the poor performance of the initial investors, the concession did not perform well and began to get traction only in 2007, when Vale decided to anchor coal exports from the Moatize mine in Tete Province to a new proposed coal export terminal at Nacala-a-Velha, located on the opposite side of the Nacala bay to the existing port.

The decision by Vale to anchor coal exports out of Nacala rather than Beira was the game changer for the Nacala Corridor. Between 2013 and 2017 in excess of US$3 billion was invested in rehabilitating existing and constructing new rail and port infrastructure. This upgrade ensured that the corridor had the capacity to export up to 18 million tons of coal and 4 million tons (coal equivalent) of general cargo on an annual basis.

The Nacala multimodal Corridor (road and rail) covers the central and southern regions of Malawi and five provinces in northern Mozambique: Cabo Delgado, Nampula, Niassa, Tete, and Zambezia. In terms of catchment area, both Nacala and Beira port are competing for the Malawi's regional and international trade.

The agricultural sector dominates economic activity in both Mozambique and Malawi: it accounts for 26 percent of GDP for Mozambique, and 25.5 percent of GDP for Malawi and it employs respectively the 70% and the 76% of the workforce [186]. Along the Nacala Corridor, the larger share of the labour force is employed in the agriculture/ agribusiness sector. The majority of this population is smallholder farmers engaged in subsistence farming, although production of cash crops is also slowly taking off.

Transport costs along the corridor are high, which make it harder for subsistence farmers to access markets, as they cannot afford to pay these costs in case they do reach higher volumes. Agricultural production and high transport costs are interdependent in that the improvement of current conditions in one would lead to an improvement in the other.

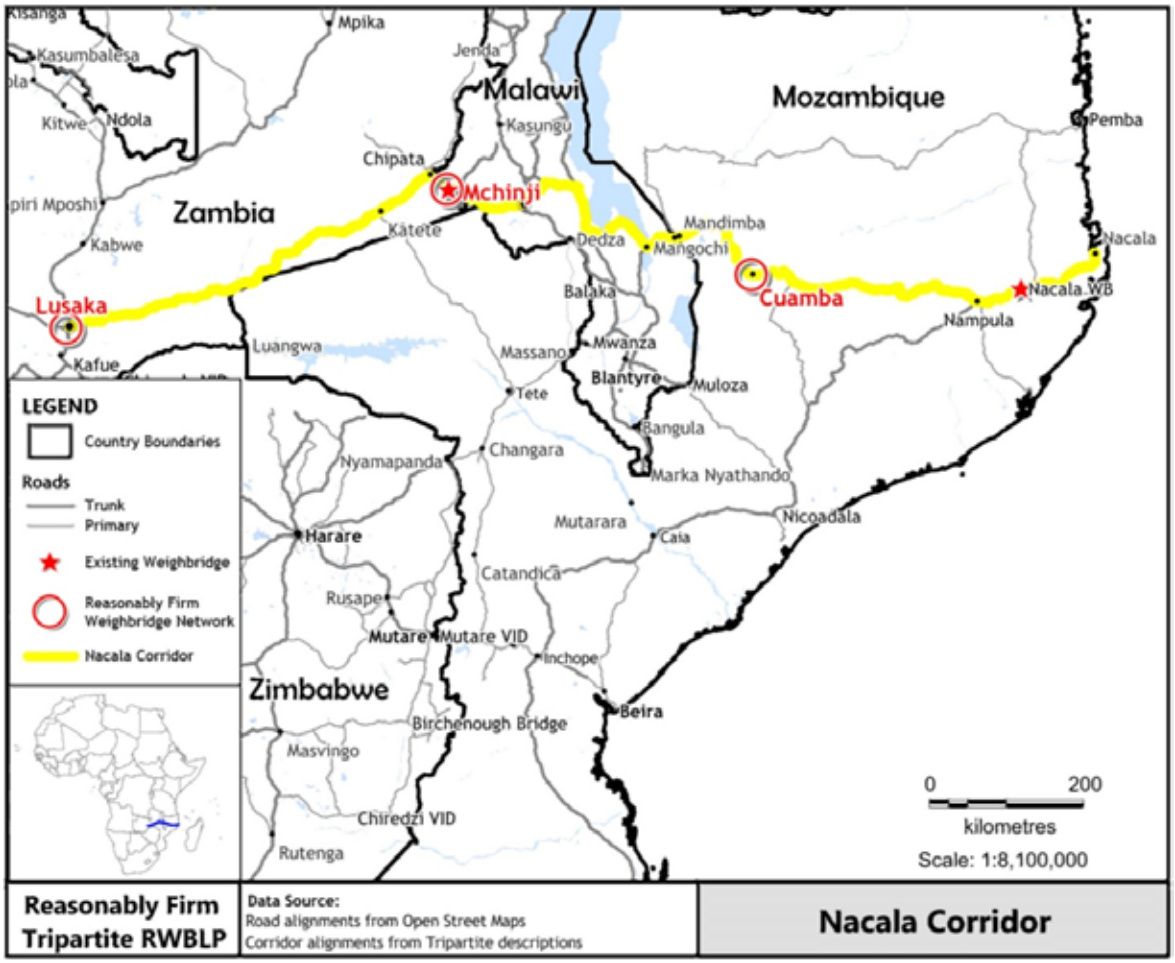
Mega-Projects have driven infrastructure improvements along the corridor. The most significant development has been the recently completed mega-project investment by the Vale-Mitsui Consortium comprising the construction of a coal mine at Moatize, a new section of railway and rehabilitation of the existing railroad, and a new coal terminal at Nacala-A-Velha, a distance of 912 kilometres, at a cost of US$7 billion [187].

Nacala was preferred over Beira because of the unrestricted depth of the bay, allowing large bulk vessels to be used for coal exports, with reduced sea freight rates. This was despite the fact that Beira is about 340 km closer by rail to Moatize and that Vale had already developed a coal terminal at Beira.

[186] World Bank, World Development Indicators , 2020

[187] https://mozambiqueminingpost.com/2017/11/15/mozambique-logistics-vale-diverts-its-coal-exports-to-nacala-a-velha-terminal/#:~:text=Mozambique%20Resources%20Post-,Mozambique%20Logistics%3A%20Vale%20diverts%20its%20coal%20exports%20to%20Nacala%2Da,central%20Mozambican%20port%20of%20Beira.

Figure 41 Nacala Corridor



Apart from its 912 km rail corridor, the governments of Malawi, Mozambique, and Zambia have committed investment, with support from the EU, AfDB, JICA, and Korea EXIM, for the Nacala Corridor Road Project, which is being implemented in five phases, at a cost of approximately US$800 million. Phase V is dated May 2019. The project was developed as follows:

- Phase I involved the rehabilitation of 348 km of road from Nampula to Cuamba in Mozambique and construction of 13 km bypass road west of Lilongwe city in Malawi;
- Phase II involved the rehabilitation of 360 km of road from Luangwa Bridge to Mwami in Zambia;
- Phase III involved the rehabilitation of 175 km from Cuamba to Lichinga, including a spur to Mandimba, in Mozambique.
- Phase IV involved rehabilitation of 75 km between Liwonde and Mangochi in Malawi and construction and establishment of One-Stop-Border-Posts (OSBP) between Malawi and Zambia at Mchinji/ Mwami border post;
- Phase V will involve the rehabilitation of a 55 km road between Nsipe and Liwonde in Malawi; and establishment of a one-stop border post (OSBP) between Malawi and Mozambique at Chiponde.[188]

[188] https://www.afdb.org/en/documents/document/malawi-multinational-nacala-road-corridor-development-project-phase-v-appraisal-report-110072

12.8.2 Cargo Volumes

Regarding the Nacala port traffic volumes, the February 2018 USAID report on Nacala Corridor and Port Performance Assessment, shows total volume growth through the Nacala port has been an impressive, growing at an average annual rate of 6.2% from 2007 to 2016. However, there has been a significant decline in recent years from a peak of 2.17 million tons in 2014 to 1.64 million tons in 2016.[189] Data are reported in the Ta-ble below.

Table 46 Nacala Port – Total Volumes 2007-2016 (000' tons)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Transit	952	876	1,050	1,155	1,354	1,351	1,912	2,171	1,716	1,635
Average Annual Growth : 6.2 %										

Source: Portos do Norte – Official Port Statistics (2012-2016)

Nevertheless, table above shows that total volume growth of transit cargoes through the Nacala port has been less than impressive, growing at an average annual growth rate of just 1.7% from 2007 to 2016. Moreover, transit cargoes to Malawi dropped from 22.5% of total volumes to 15.2% over this period. In contrast to overall traffic volumes, transit traffic remained more or less the same from 2014 to 2016.

Table 47 Nacala Port – Malawi Transit Cargo Volumes 2007-2016 (000' tons)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Transit	214	227	261	221	203	206	291	251	231	249
% Traffic	22.5	25.9	24.8	19.1	45.0	15.2	15.2	11.6	13.5	15.2
Average Annual Growth: 1.7 %										

Source: Portos do Norte – Official Port Statistics (2012-2016)

As stated before, Nacala and Beira both have captive traffic zones and compete for traffic where their catchment areas overlap. Table above shows that the Beira port continues to handle more transit imports and exports for Malawi than the Nacala port. The fact that the market share of Nacala has remained constant suggests that users are relatively stable and that new customers need to be attracted to the corridor.

Table 48 Nacala vs Beira Port – Malawi Transit Cargo 2013-1015 (000' tons)

	2013	2014	2015
Beira Corridor	538	397	581
Market share of Total Malawi Trade (%)	15.5	14.4	22
Nacala Corridor	291	251	231
Market share of Total Malawi Trade (%)	8.4	9.1	8.8

Source: Cornelder Mozambique - Portos do Norte – Official Port Statistics (2012-2016)

[189] https://www.agenceecofin.com/files/31/Hebdo/176/Ecofin-Hebdo-1-2018-02_-_USAID_-Nacala-Corridor-Draft-Final-Report-2018-02-12.pdf

12.8.3 Time and Cost of Transport

A detailed analysis on road transport cost along the Nacala Corridor was carried out in the USAID Report Nacala Corridor and Port Performance Assessment, using the FastPath analysis[190]. The results of this analysis are reported below.

Road transport costs are typically quoted by trucking companies as "all in" prices from the origin to destination. Those costs are split into cost per link (i.e. trucking costs) and node (road user fees, checkpoint fees, and weighbridge fees) in order to identify see where costs are higher.

According to the analysis, traveling the Nacala corridor to Blantyre Road user fees are estimated at $64 in Malawi and over $400 in Mozambique.

Traveling from Nacala to Lichinga, road users noted informal checkpoint fees and charges including 1,500–2,000 MT at a non-functional weighbridge on the Cuamba-Lichinga road, 2,500 MT at the weighbridge near Nacala, and 2000–3000 MT for bribes at various checkpoints along the corridor (US$1 = MZN 59– 23 Jan 2018).

Table 49 Fastpath2 Nacala Corridor Time and Cost Summary

Section	Type	Price US$	Price US$/t	Time (hours)
Nacala – Blantyre	Road Link	1,741	75.67	17
	Border Post Node	77	3.33	1
	Road Node – Mozambique	419	18.22	14
	Road Node – Malawi	64	2.78	0
	Seaport Node	430	18.69	71
	Total	**2,730**	**118.7**	**103**
Nacala – Lichinga	Road Link	2,300	100.00	18
	Border Post Node	46	2.00	14
	Intermodal Container Terminal	380	16.52	9
	Seaport Node	430	18.69	71
	Total	**2,976**	**129.39**	**103**

Source: USAID Nacala Corridor and Port Performance Assessment, 2018

It has to be noted that Mozambican exporters consistently mentioned to the consultancy company in charge of the aforementioned study, that the Nacala corridor was more expensive than competing corridors due to the Terminal de Exportação Especial de Nacala (TEEN - Nacala Port and Special Export Terminal) whose use was mandatory until July 2017 [191]. Costs were estimated at approximately $380 for a 20' and $500 for a 40' container, representing 11% of transport costs (assuming TEEN costs for a 20' container). Regarding transit time bottlenecks related to the Nacala Corridor, road rehabilitation projects have already improved road transport from Nacala to Malawi (with the exception of one remaining section) and have led to reduced time and cost on these mainline road sections. Lichinga currently

[190] FastPathTM consists of a rapid assessment audit methodology and a computerized model. The audit methodology captures the range of data needed to assess performance and the model measures the performance in detail.

[191] On February 2010, the GoM approved the creation of a new port terminal, the Nacala Special Export Terminal (TEEN). As stated by the proponents, this decision stemmed from the need to optimize operations, as well as alleviate traffic going to the overloaded Nacala International Maritime Terminal. Between 2010 and 2012, both TEEN and the maritime termi-nal were operational, providing the same services to exporters and imports. On January 18, 2012 Customs Authority passed Internal Service Order No, 04/GD/DGA/2012 that made the use of TEEN mandatory and required that all exports, with the exception of transit cargo, pass through this terminal. Occupying 15 hectares, with an annual capacity of 100,000 TEUs with 552 ground slots, TEEN became the single option for road cargo inspections. Despite its efforts to provide all services including the availability of full-time agents from Cus-toms Authority, MoA, MIC, and others, users frequently contested the legality of the mandatory use. Users indicated that TEEN aggravated costs and efficiencies of exporting out of Nacala, first because of its location 9 km from Nacala Port, and second, because tariffs charged were higher than other terminals in the region. Following years of dissatisfaction, in Ju-ly 2017 the Minister of Economy and Finance decided that "the customs clearing procedures for exports must occur in free manner, in any of the terminals legally recognized by the Government".

faces issues of poor road conditions, but the same should be the case for Niassa over the next few years. Other areas around cities face congestion issues, which slow transit times.

Road transport time was quoted at two days from Nacala-Blantyre with an overnight stop near the border. Transport time to Cuamba can be done in one day but travel to Lichinga requires an overnight stop near Cuamba.

12.8.4 Road Transport Regulations

Currently, operations along the Nacala corridor are not regulated by any specific regulation.

12.8.5 Corridor Governance

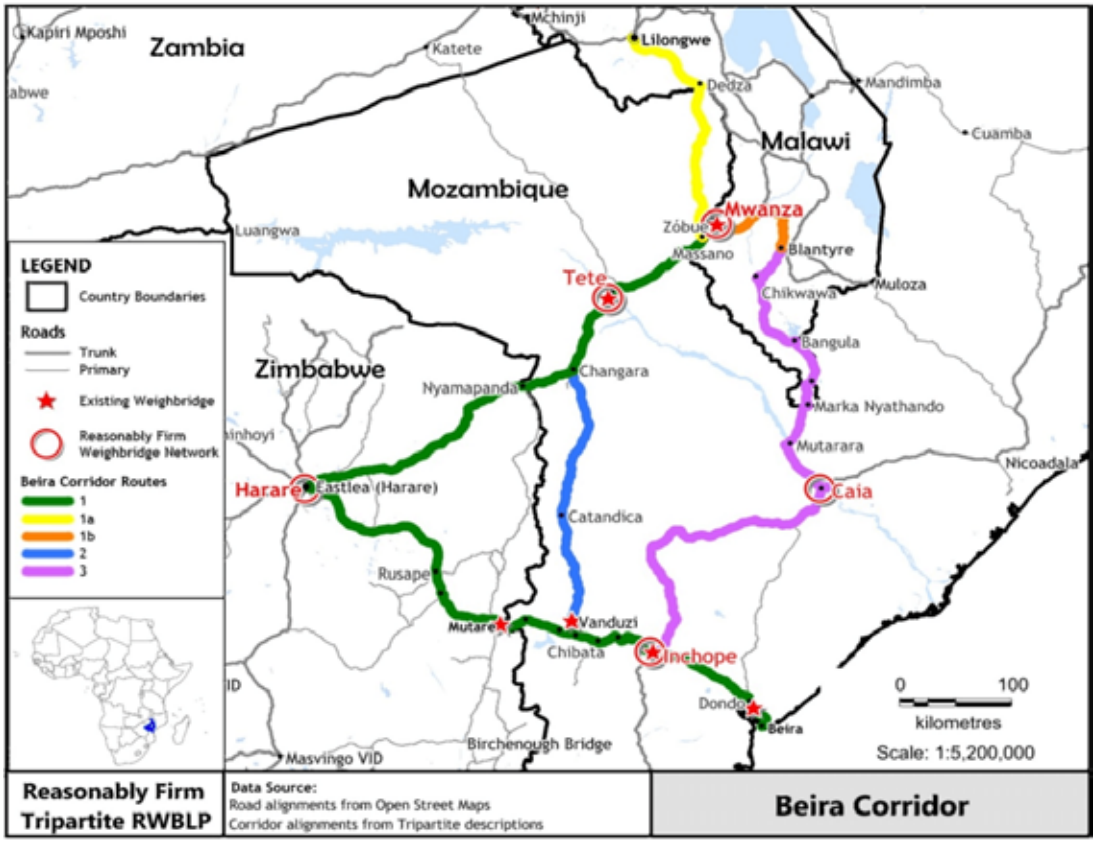
Currently there is no established corridor management authority managing the Nacala Corridor. A Nacala Corridor Fund does exist but this is a privately managed and Luxembourg regulated SICAR fund promoted by the Brazilian FGV Foundation which target to develop several integrated agricultural projects and related infrastructure developments in the Nacala Corridor. The Nacala Corridor Fund is a 10-year private equity fund that provides private equity funding for the development of sustainable, agribusiness operations in the tropical savannah of the Nacala Corridor.

12.9 Beira corridor

12.9.1 Corridor Description

As noted above, the Beira Road corridor is the Nacala corridor's main competitor for traffic to and from Malawi. The prime catchment area for Beira is central Mozambique, Zimbabwe, Zambia, the copper belt, and southern Malawi. Beira port has traditionally served as the prime port for Malawi's international trade, up to 1985 via the Sena railway to Limbe, and after 1985 by road through Tete. The railway has not been operational since 1985, and it is unlikely that the railway will be reinstated in the foreseeable future due to the projected high rehabilitation costs.

Figure 42 Beira Corridor



The Port of Beira has been operated by the Dutch firm Cornelder since winning the concession in 1998. Though volumes have expanded and efficiency improved thanks to USD 500m of investment through more than 70 projects, making Beira one of the most modern port infrastructures in Africa, many observers point to state-business linkages. The concession is in partnership with CFM and Mozambican private sector investors.

Beira port is several times larger than Nacala with respect to area, number of berth, shipping calls, and freight volume. However, the port suffers from limited depth and a long 40 km access channel that requires constant maintenance dredging. As a result, operating costs and risks are high. Cornelder has invested heavily in Beira port, dredging the access channel, a continuous issue in Beira in contrast to Nacala port, contributing to financing access roads, entrance gates, and new terminal operating systems among others. As noted in the previous chapter, Vale chose to move its coal via the Nacala corridor, despite the existing coal terminal in Beira. This switch has arguably also encouraged port diversification into handling other cargo bound for or exported from Zimbabwe, Zambia and Malawi.

According to data by Cornelder, as of 2018 most exports (about 80%) are containerised. This includes food exports (e.g., tobacco, beans, tea, and sugar among others) while mineral resources (especially coal) are exported in bulk or a mix of bulk and container (e.g., chrome and granite from Zimbabwe; copper and manganese from Zambia). Some food like sugar and maize fall in the third category of a mix between bulk and containerised exports. Imports on the other hand, are mostly bulk, including clinker, wheat, fertilizers, palm oil etc.

The road link between Beira and Malawi carries more than one mtpa of freight, mostly in the import direction for Malawi. According to the USAID 2018 Report, sections of the roads have been very poor in the past but have recently been upgraded[192]. The roads (below) in Malawi are generally in good condition:

- Malawi via Mwanza, through Tete, and also carrying the freight to and from South Africa and Zimbabwe. It is congested in sections and is now in good condition, except for 30 km from Beira, which is undergoing repair.
- Malawi via Dedza, also routed through Tete, but the traffic to and from Lilongwe is routed through the border post at Dedza. It is generally good in good condition.
- Zambia via Katete, used for freight to and from eastern Zambia including Chipata is generally in fair to good condition.

The general picture of road transport operating from Beira is of a relatively small group of large, professional trucking services essentially dominating the market, though several small subcontractors also exist. This may be to do with economies of scale and ability to sustain frequent accidents and losses, to buy parts in bulk, and to have dedicated road mechanical equipment on standby to assist trailers that breakdown (Pèrez-Niño, 2015), but also the growth in trade flows that have allowed trucking companies to grow. Many of today's large fleets were single-truck, family businesses that managed to grow in the post-war boom of the 1990s, where humanitarian assistance contracts provided through Beira provided a regular clientele – "in brief, they created the sector" (Pérez-Niño, 2015).

In terms of competition with Malawian truckers, Mozambican truckers have the advantage of being closest to the port and therefore have easier access to loads in transit to Malawi (Vilakazi and Paelo, 2017). Unlike in other regions of Africa, SADC transport rules imply no specific rules for Malawian trucks to carry Malawi-bound goods although Malawi has reportedly tried to impose this. For instance, for wet goods, essentially fuel, there is an allocation of 70-30 for Malawi and Mozambican truckers that is respected "given that fuel is strategic" (interview, GV3). But for other cargo, Mozambican trans-porters have an advantage, for instance, while Malawi-registered truckers have to pay about $300 for an import permit to Mozambique, Mozambican truckers transporting goods into Malawi pay only $100." (Vilakazi and Paelo, 2017).

Though Murithi et al. (2012) estimates that around 35% of the vehicles using the Beira Corridor used to be overloaded, interviewees report that axle loads are now being applied more rigorously.

[192] https://www.agenceecofin.com/files/31/Hebdo/176/Ecofin-Hebdo-1-2018-02_-_USAID_-Nacala-Corridor-Draft-Final-Report-2018-02-12.pdf

More generally, given the rising flows in trade volumes, there is a broad sense among Beira actors that the port and the surrounding investments are well placed to take advantage of these. As discussed below, there is also a sense among interviewees that Nacala will remain more expensive, and essentially serve northern Mozambique and Malawi, while Beira's proximity to the additional markets of Zimbabwe and Zambia, not to mention DRC, underpin its viability.

12.9.2 Time and Cost of Transport

Regarding the time and cost of transport along the Beira Corridor, a detailed analysis on road transport cost along the Beira Corridor vs the Nacala Corridor was carried out in the USAID Report Nacala Corridor and Port Performance Assessment, using the FastPath analysis [193].

As stated before, the rail link to Beira is currently not operational, and all traffic is by road. The roads are generally in good condition, but the route is heavily travelled. Based on the data collected, road costs to Beira were similar to or more competitive than those to Nacala, but more expensive than transport by rail.

Transporters indicated that the road route to Beira had more issues at the border posts than Nacala, in particular at Mwanza-Zobue where delays ranged between one and three days. The border post has issues with electricity, as did the Milange border post on the Nacala corridor. Further, the area also has had recent security concerns and theft issues. The Beira Corridor costs are captured in table below.

Table 50 Fastpath2 Beira Corridor Time and Cost Summary

Corridor n	Type	Price US$	Price US$/t	Time (hours)
Beira - Blantyre	Road Link	1,503	65.35	17
	Border Post Node	95	4.13	24
	Road Node – Malawi	132	5.74	0
	Road Node – Mozambique	370	16.09	12
	Seaport Node	370	16.09	12
	Total	**2,630**	**114.33**	**186**
Beira - Lilongwe	Road Link	1,697	73.78	21
	Border Post Node	95	4,13	24
	Road Node – Malawi	238	10.35	0
	Road Node – Mozambique	370	16.09	12
	Seaport Node	530	23.03	133
	Total	**2,930**	**127.38**	**190**
Beira – Chipata	Road Link	2,194	95.37	20
	Border Post Node	79	3.41	24
	Road Node	258	11.22	12
	Seaport Node	530	23.03	133
	Total	**2,630**	**114.33**	**186**
Beira - Lichinga	Road Link	3,000	130.43	25
	Border Post Node	0	0.00	0
	Road Node	46	2.00	12
	Seaport Node	530	23.03	133
	Total	**3,576**	**155.47**	**170**

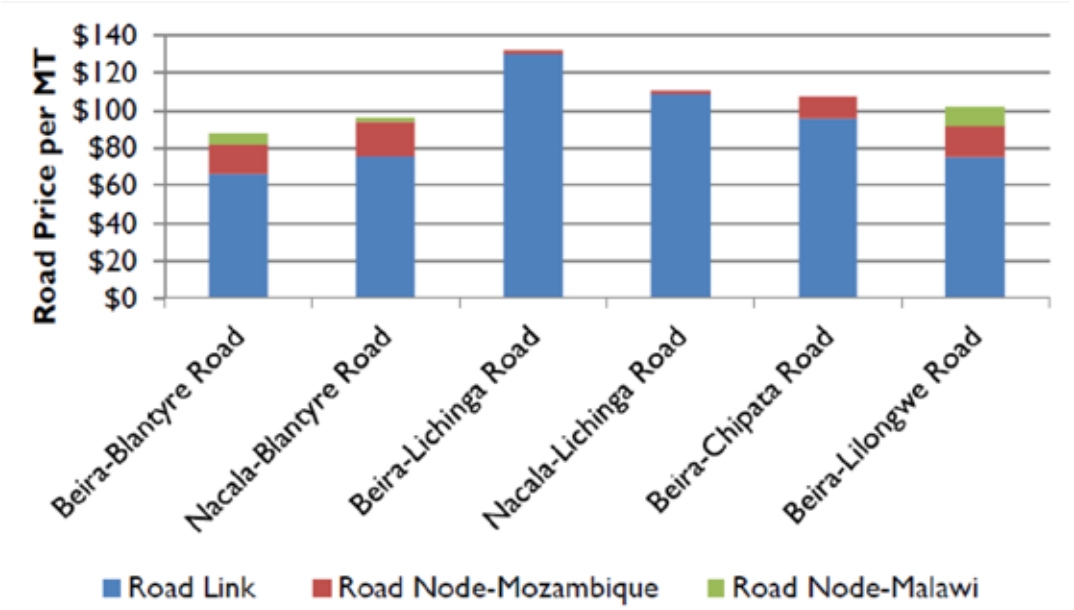
Source: USAID Nacala Corridor and Port Performance Assessment, 2018

[193] FastPathTM consists of a rapid assessment audit methodology and a computerized model. The audit methodology captures the range of data needed to assess performance and the model measures the performance in detail.

Regarding the cost comparison with the competitor Nacala Corridor, road costs to/from Nacala are similar to those to Beira, after the repeal of mandatory use of TEEN. Road transport costs on the main routes are typically considered to be acceptable, although road user fees/tolls in both Mozambique and Malawi are high and add significantly to trucking costs.

For example, traveling from Beira to Blantyre, road user fees/tolls were estimated to be US$132 in Malawi and US$350 in Mozambique, plus a US$20 fee at Tete weighbridge. From Blantyre to Nacala, these fees were estimated to be US$64 in Malawi and US$403 in Mozambique.

Figure 43 **Road Costs per metric ton (link and node)**



Source: Nathan estimates form FastPath2 (2017)

12.9.3 Road Transport Regulation

Currently, operations along the Beira corridor are not regulated by any specific regulation.

12.9.4 Corridor Governance

The Beira Agricultural Growth Corridor (BAGC) concept was launched to link transport infrastructures with investments in agricultural production, processing and storage. BAGC was created in 2010 as a public private partnership between the Government of Mozambique, private investors, farmer organisations and international agencies to promote increased investments in commercial agriculture and agribusiness within the Beira Corridor (Tete, Sofala and Manica Provinces).The primary objective is to alleviate the systemic problems hindering the sustainable development of commercial agribusiness, in particular the lack of infrastructure, technical support services, high costs of inputs and finance and the lack of effective routes to market. BAGC's long-term aim is to expand and develop the Beira Agricultural Corridor as a cohesive, modern commercial agricultural area. The outcomes will be to simultaneously foster growth in modern, commercial agriculture as well as generating a new force for rural development, improved food security and poverty reduction.

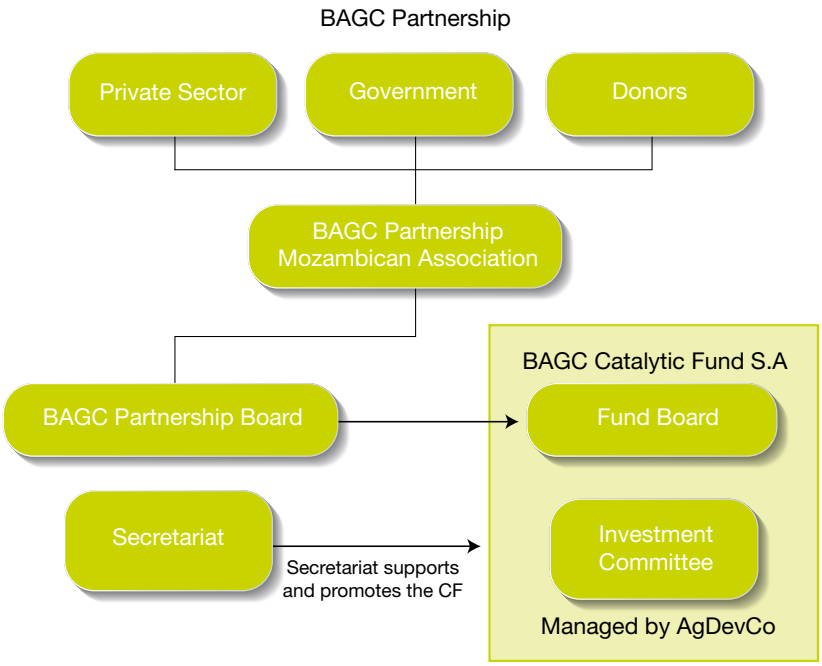
The BAGC initiative has two institutional pillars: 1) the **Beira Agricultural Growth Corridor (BAGC) Partnership**, a not-for-profit association which is managed by a full-time Secretariat; and 2) the **BAGC Catalytic** Fund, which is an investment company. Both are incorporated as separate Mozambican legal entities with a common purpose which is to further the aims of the BAGC initiative.

The BAGC Partnership is composed both of Mozambique government agencies and pri-vate sector actors, including farmers' organizations, finance institutions, and NGOs. It is governed by a Board of Directors assisted by a full-time Secretariat. The Board is composed of: 1) a representative of the Ministry of Agriculture (Cepagri); 2) a representa-tive of the National Farmer´s Organization; 3) 2 representatives of the private sector; and 4) the Executive Director of the BAGCP Secretariat.

The aim of BAGC Board is to represent and coordinate the interests of the members translating them into concrete actions and plans, while the BAGC Secretariat provides a platform for the coordination and facilitation of operational support for the work of the BAGC partnership. The Secretariat also acts as a coordinating body bringing together stakeholders to discuss specific issues and share information. Moreover, it lobbies government and development partners to address key constraints on agricultural development, implements specific programmes funded by development partners which support the overall aims of the BAGC, advises the Catalytic Fund on use of concessional and grant funding for smallholder farmer development programmes and monitors and evaluates the overall impacts of the BAGC initiative including investments made by the Catalytic Fund.

The BAGC Catalytic invests in early-stage farming and agro-processing businesses which incorporate smallholder and emergent farmers. It has a board of four directors, three of whom are appointed by the board of the BAGC Partnership, while the fourth director is a representative of the fund manager, AgDevCo, a private limited company incorporated in the United Kingdom, whose mission is to invest in African agriculture for impact. The BAGC Catalytic Fund has an Investment Committee which is responsible for making all decisions on how funds are allocated in accordance the recommendation of the fund manager. Two of the members of the Investment Committee are non-executive directors of the fund manager. The other two members of the Investment Committee are appointed by the BAGC Board.

Figure 44 BAGC Institutional Arrangement



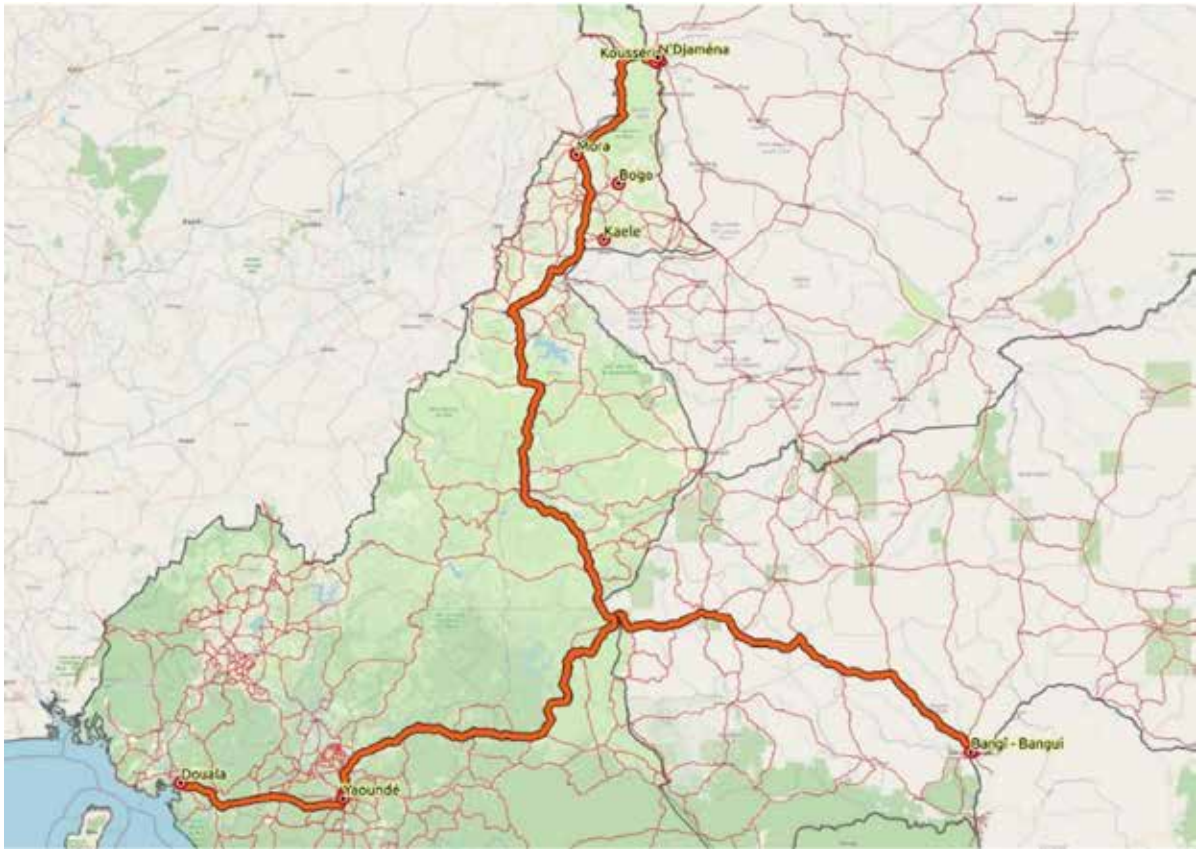
12.10 Douala – Ndjamena corridor / Douala – Bangui corridor

12.10.1 Corridor Description

The port of Douala attracts over 95% of the total port traffic of Cameroon and plays a vital role in sub-regional integration. The port is the main gateway for the trade and traffic of goods of the two landlocked countries bordering the Cameroon as it is the terminal of the Douala-N'Djamena corridor toward the Tchad and the corridor Douala-Bangui in Centre African Republic.

The two corridors share a common section from Douala to Garua Boulai, close to the Central African Republic (CAR). The distance of N'djamena to Douala is about 1750 km, while Bangui is about 1400 km from Douala.

Figure 45 **Douala – Ndjamena corridor / Douala – Bangui corridor**



The road conditions are not good in all the sections of the two corridor and a Project started in 2007, funded by the African Development Bank, is aimed to improve the road conditions and the general reliability of the two corridors. In 2006, 37% of roads along the two corridors were in poor condition. Thanks to the project the length of roads in poor condition were estimated to reduce up to 16% in 2015. An analysis carried out on Open Street Map data shows that still significant road sections remain unpaved. The Project to enhance the road reliability funded by the AfDB designed to be completed in several phases.

To improve the efficiency of the corridors, reducing the transit times, a project to reduce the control posts is in progress, there are project to upgrade the following border posts [194] :

[194] https://www.au-pida.org/view-programme/35/

Border Post	Location
Garoua Boulai OSBP	Cameroon, Central African Republic
Kousséré OSBP	Cameroon, Chad
Koutéré OSBP	Cameroon, Chad

Despite the efforts to reduce the number of the checkpoints, there are still a great number of stops along the corridor it is often observed that apart from regular checks, vehicles using the Douala - Bangui and Douala - N'Djamena corridors undergo several checks by the various services (Police, Gendarmerie, Road Brigade, Customs, Water and Forest, Service), present all along the said corridors.

A CEMAC Project (funded by European Union) is aimed to realize a system for the electronic procedures of cutoms in the three countries crossed by the two corridors [195], removing non-physical obstacles along transit corridors. The system should be realized with an interconnection of the ASYCUDA system. No information is given on the time to complete the project.

A Report on the efficiency of corridors, to select at least one pilot smart corridor [196], ranked the Douala-N'djamena and Douala-Bangui corridors at the 10th position, the last out of the ten corridors considered.

12.10.2 Cargo Volumes

The port of Douala is the main gateway to the maritime transport of the two landlocked countries, Tchad and CAR, through the two corridors Douala-N'djamena and Douala-Bangui. A report by NATHAN ("Logistics Cost Study of Transport Corridors in Central and West Africa" – NATHAN 2013)[197] gives the total traffic, by trade direction, stating that " *In total, six countries within the Central African region are served by traffic transiting at the port of Douala .... This traffic fluctuated tremendously from 2002 to 2006, but from 2007 total freight has increased steadily with 2011 as the busiest year. Among all six concerned countries, Chad and CAR share up to 74 percent of the total traffic, because of their landlocked status.*"

In total the following Table the total amount of cargo on the two corridors is reported (from NATHAN – 2013).

Table 51 Estimated Corridor Trade Flows in 2009 and 2010 (000 tons)

Type of Trade Flow	2009	2010	%2010
TOTAL DOUALA-NDJAMENA			
Transit traffic	502	491	-2%
Regional traffic-petroleum products	2	175	9,095%
Regional trade-other products	61	322	425%
Total trade flows	565	988	75%
TOTAL DOUALA-BANGUI			
Transit traffic	200	551	176%
Regional traffic-petroleum products		18	7,348%
Regional trade-other products	33	64	92%
Total trade flows	233	633	171%

Source: Port Authority of Douala, COMTRADE 2021 and SOFRECO 2011 Note: "- "means a small number greater than zero

It is not known the amount of traffic by road and by rail, but it is likely that the traffic by road be the greatest part of the total amount shown in the Table above.

Most of the inbound traffic is containerized, about 80-85%, while this percentage low-ers to 30% when it comes to the outbound traffic.

12.10.3 Time and Cost of Transport

The transit times, as reported by the various interviews carried out by the Consultant are the following:

[195] Interconnexion des Douanes de la Communauté Economique et Monétaire de l'Afrique Centrale (CEMAC) - web site: http://www.sydonia.cemac.int/projet/corridors.html

[196] European Development Fund: "Report on the Corridor Assessment and Ranking for Selecting at Least One Pilot Smart Corridor - May 2016", downloadable at: https://www.tralac.org/images/News/Documents/Report%20on%20the%20Corridor%20Assessment%20and%20Ranking%20for%20Selecting%20at%20Least%20One%20Pilot%20Smart%20Corridor%20May%202016.pdf

[197] https://www.ssatp.org/sites/ssatp/files/publications/SSATP_Logistics_Cost_Study_Complete%20with%20annexes%20Final%20September %202013.pdf

- Douala – Yaoundé: 2 hours
- Douala – Ndjamena: 4 days to 5 days
- Douala – Bangui: 7 days to 11 days.

National newspapers [198] of Cameroon report that starting from 1st January 2020 the prices of transport by road to N'djamena and to Bangui has been fixed at: 3,500,000 FCFA (around 5,300 Euros) for the corridor Douala-Bangui et 4,000,000 (around 6,000 Euros) for the corridor Douala-N'djamena. The prices before were ranging from 2200000 up to 2700000 FCFA for the travel to Bangui and from 2400000 up to 2900000 FCFA for the N'djamena destination. The prices have been increased following a decision of the Transporters Association *(Syndicats National des Transports Routiers au Cameroun, SNTRC)*.

Those tariffs are more or less confirmed by the interviews carried out with Cameroonian Transporters that reported a flat fee of 5,010 Euros for a roundtrip truck Douala – Ndjamena and about 5,250 Euros for the roundtrip Douala – Bangui, while from Douala to Yaoundé the fee is about 950 Euros.

Road tolls are present in both corridors with various weighbridges along the itinerary: eight in the Douala-Bangui and nine in Douala N'djamena.

12.10.4 Reliability and Security

The reliability of the two corridors is very low, due to the great number of control posts and to a widespread practice of bribery and of the harassment toward the transporters that according to the Syndicat National des Transporteurs Routiers du Cameroun (SNTRC) have a cost on the transport economic sector of about 1,2 billion FCFA (about 92,227,000 USD) per year [199].

The lack of security also explains the unusual long transit time from Douala to Bangui (from 7 to 11 days) which is due to the obligation for the transporters to ask for a military escort along the itinerary, because of the recent episodes of civil unrests. Military escorts are supposed to be provided by the CAR government but in fact there is an administrative fee of about 40E per truck.

12.10.5 Other Corridors features

According to the interviews carried out with Cameroonian Transporters and Freight Forwarders, the main constraint along both corridors is the difficulty in finding a return cargo once delivered in Bangui/N'djamena because of the nature of the export of Chad and CAR; those countries mainly export primary products to neighbouring countries: CAR re-exports wood which mostly comes from DRC while Chad export is essentially composed by sesame, cotton, peanuts and Arabic gum. Therefore, containers coming back to Douala are basically empty.

The average age of trucks used in the Douala Corridors are various: in Cameroon about 60% of the fleet is composed by second-handed trucks; surprisingly in Chad most of the fleet is new while in CAR there is a blend of newer and older trucks.

12.10.6 Road Transport Regulation

Currently, operations along the Douala-N'Djamena and the Douala-Bangui corridors are not regulated by any specific regulation, but as mentioned above, Cameroon has concluded Bilateral Agreements on road transport with both Chad and Central African Republic allocating transit traffic moving from the Douala port to N'Djamena and Bangui in the ratio, respectively, of 65 and 60 per cent to Chadian and Central African car-riers and of 35 and 40 per cent to Cameroonian carriers. Cameroonian Transporters in-terviewed said they were somewhat sceptical about the real possibility of abolishing the queueing system as well as passing from paper documents filling at the borders to an online system.

12.10.7 Corridor Governance

Both the Douala-N'Djamena corridor and the Douala-Bangui corridor have no authority or institutional body charged of their governance.

[198] https://www.cameroon-tribune.cm/article.html/28964/fr.html/corridors-douala-bangui-douala-ndjamena-le-cout-du-transport-va-augmenter#

[199] https://www.financialafrik.com/2019/06/24/corridors-douala-ndjamena-banguides-mesures-pour-faciliter-le-transit/

12.11 Abidjan – Lagos corridor

12.11.1 Corridor Description

The Abidjan – Lagos Corridor is 1,028 km long and crosses 4 coastal borders. As the backbone of economic and social development, the corridor drains 75% of the sub re-gion's commercial activities and it includes a population of about 30 million in 2016. The transiting population is estimated over 45 million, reaching 70 million by 2040. The new highway, which is the corridor's central axis, will consist of six lanes (2x3 lanes) and it will follow a new route incorporating sections of the old route whenever necessary in order to optimize the itinerary.

The Abidjan-Lagos section is the eastern part of the Dakar-Lagos Corridor on the east-west coastline of the region and covers five countries: Côte d'Ivoire, Ghana, Togo, Benin and Nigeria. It covers a distance of 1,028 kilometres and has eight (8) border crossing points. The current corridor route runs through all major economic centres of the five countries, from the «Place de la République» in Abidjan to the terminus at Mile 2 (Eric Moore) in Lagos. The new highway, which is the central axis of the Corridor project, will include six lanes (2x3 lanes). It will follow a new trail, incorporating sections of the existing one, where necessary, to optimize the route. Border crossings will take place through joint checkpoints.

Joint border checkpoints must allow better cooperation between the police, customs and immigration authorities of the two States operating the border. By bringing these control services together in the same space, resources can be federated, information exchange can be facilitated, and multiple checkpoints can be removed from the border. The joint border checkpoints combine physical components (buildings, hangars and roads, ICT connectivity) and intellectual or managerial components (legal framework and operational and management procedures). Once operational, joint border check-points should allow the application of the ECOWAS and UEMOA Guidelines on the limitation of roadside checkpoints on corridors. They will facilitate border crossing in line with the ECOWAS protocol on the free movement of goods and people and will al-so help to reduce transport costs. The corridor has today 2 joint border checkpoints, one in Sémé-Kraké (where an OSBP has been established) and one under construction in Hilacondji-SeveCondji.

This project will make it possible to continue with a considerable multiplier effect the efforts already made to improve road infrastructures and transport systems. «The ECOWAS region is one of the sub-regions that have provided the largest funding for the implementation of regional road projects. There have been real advances in the adoption of regulatory frameworks for the facilitation of road transport and transit in the sub-region». In recent years, considerable investment has been made for construction or rehabilitation of roads on several sections in the various countries crossed by the Corridor and for Trade and transport Facilitation Projects. The five Corridor States with the support of several donors and stakeholders have been engaged in these achievements. 290 kms of highway and 630 kms of roads are concerned and the works are either completed or still under way in 2017. According to the experts, the Standardization of the technical standards of all these sections is necessary to preserve the character of the corridor that belongs to the entire itinerary. A positive effect on the overall state of the road network is already perceptible as indicated below. In addition, the five Corridor States supported by ECOWAS created the Abidjan-Lagos Corridor Organization (ALCO) in 2004

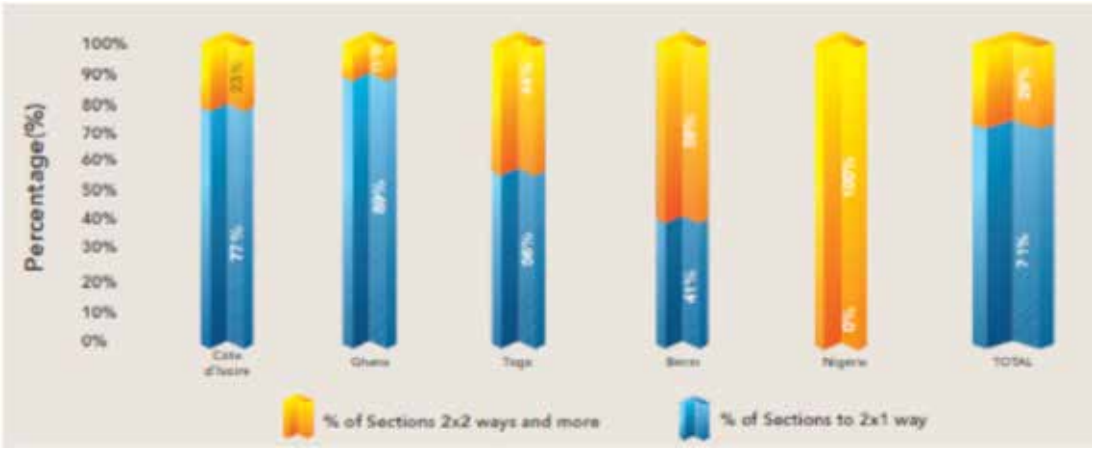
Figure 46 Abidjan – Lagos Corridor

Source: ECOWAS, Abidjan- Lagos Corridor, One Road One Vision

In the corridor, 79% of the lanes (nearly 800 km) have a good surface index, 12% of the corridor has an average surface area index (nearly 120 km). 9% of the corridor has a bad surface index (About 90 km).

For the entire length of the corridor, 280 km-29% of the total length- are of motorway type (ALCO studies, 2016).

Figure 47 Cross profiles of the corridors by country



Source: ALCO 2016

12.11.2 Cargo Volumes

Traffic along this corridor is the heaviest in Western and Central Africa, reflecting the intense economic exchange in its influence area; based on ALCO Observatory reports 130,000 people and 1,000 of vehicles cross the borders every day. Traffic is diverse: many passenger vehicles, particularly near the cities, including many motorcycles in Togo and Benin. The overlapping of origins and destinations is evident in the heavy passenger and freight traffic of every type and size of vehicle and cargo. In contrast with the vehicle mix on transit corridors, the average size of cargo vehicles on ALC is heterogeneous

In 2013 field visits from Nathan Associates consultants reported various considerations on the traffic along the corridor in the report Logistics Cost Study of Transport

Corridors in Central and West Africa [200]. The conclusions of the study are the following:

- Between Lagos and Lomé, volume is low and vehicles are predominantly low-capacity trucks, although large long-distance Nigerian trucks were observed in the border areas.
- Traffic between Lomé and Benin was heavier, probably linked to ports, although not containerized.
- The highest density of high-capacity vehicles was found in Ghana near the border with Togo.
- Between Côte d'Ivoire and Ghana traffic levels were low, and big Nigerian trucks were observed at the border post.

12.11.3 Major Constraints

Abidjan- Lagos Major constraints are related to:

- **Truck fleet age.** Trucking fleet is very old. Some studies show that the average age of vehicles exceeds 20 years, and some estimate that the average is closer or even more than 25 years, like in the case of Benin. This results in higher operating costs, including fuel and maintenance.
- **Size of trucking companies.** Few operators are companies while an estimated 90 percent of the fleet belongs to individuals. This breaks up supply and reduces access to financing. Indeed, one of the main reasons behind the advanced age of the fleet and the lack of specialized equipment is that no credit is available and buyers must pay in cash.
- **Type of trucks.** The types of trucks used in the ALC are usually multipurpose vehicles transporting general, not consolidated, cargo. Field observations by Nathan Associates also found that most trucks carry a combination of packages of different sizes and shapes. Interviewees consistently highlighted a lack of special equipment such as refrigerated trucks, cisterns, and container trucks, but specialized equipment needs maintenance and/or is costly. This situation was found in all countries but is slightly better in Ghana. This situation affects the profitable trade in perishable goods along the ALC.
- **Return cargo.** Return cargo along the corridor is almost non-existent. One reason besides the lack of coordination is cultural barriers—a trader from a French-speaking country delivering goods to Nigeria or Ghana will probably not get return cargo because of distrust between countries with different cultural roots and languages. This pattern affects mostly occasional, low-volume exchanges. Freight-exchange solutions that could reduce the impact of return cargo on transport costs have not been adopted in the ALC.
- **Seasonality.** During the cotton season there is a lack of available trucks to transport other products. When trucks are scarce, some transport unions decide what goods to transport, especially goods heading for landlocked countries from ports.
- **Overloading, lack of maintenance and quality of equipment.** Vehicle maintenance along the corridor is poor, as evidenced by the broken-down vehicles observed during the field trip. Frequent accidents have caused some municipalities to erect obsta-cles to reduce speed near cities and towns. Overloading is common but is expected to decline with the adoption of the regional agreement on axle weight.
- **Quotas for transit cargo.** The quota for cargo in transit to an ALC country is 50/50 for destination/ origin country of transporters IST Convention, Article 20, stipulates that "Inter-State allocation of freight shall be those laid down by the Inter-State freight offices of Member States".

[200] https://www.ssatp.org/sites/ssatp/files/publications/SSATP_Logistics_Cost_Study_Complete%20with%20annexes%20Final%20September%202013.pdf

12.11.4 Reliability and Security

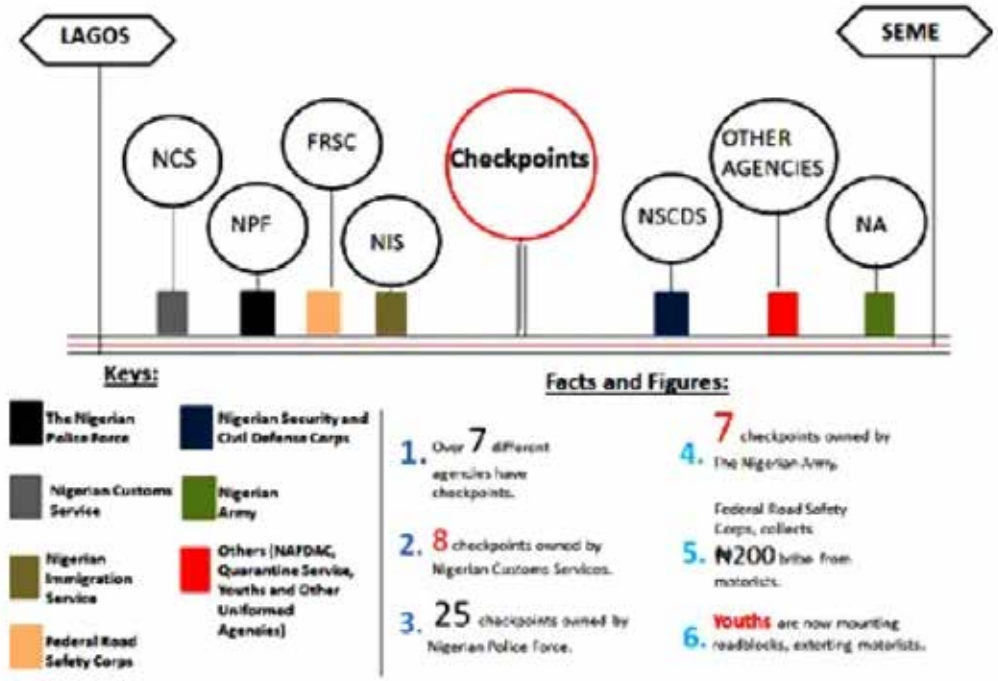
The physical crossing of the corridor reveals great disparities in the quality of road surfaces and structures and an uneven level of service according to the sections. There are few or no parking areas, resulting in congestion of conurbations and of port access by many lines of trucks. The presence of often improvised and unregulated «speed bumps» at many points in the corridor is a cause of both discomfort for users and deterioration for vehicles.

The prevailing finding is that there is no road fluidity, even if the traffic remains easy on several sections.

However, beyond the functional deficiencies of infrastructure and physical barriers, there are also non-physical barriers such as the many roadblocks, where illegal levies (sometimes systematic rackets) often take place that disrupt traffic and dissuade travellers and economic operators from using roads. An article published on 7 September 2019 on the online newspaper "Punch"[201] in Nigeria, describes the journey made along the Lagos-Badagry-Seme Road by a reporter. The article states that on the road there were "*a ring of checkpoints manned by policemen …, immigration officers from the Federal Operations Unit and some soldiers…". According to the author, "the driver paid the officers 100 naira at each checkpoint" and concludes" If you are not careful, they could smash your screen while demanding the money*".

A previous report from Vanguard Maritime published in November 2018, in Nigeria, revealed that still over 7 different agencies used to maintain checkpoints along this road, 25 of them being owned by the Nigeria Police, 8 by Customs and 7 by the Nigerian Army. The report also observes that in addition to the governmental agencies, occasionally unofficial controls were mounted by unauthorized individuals falsely claiming being security officials, who extorted important amounts from the truckers, bus operators and passengers (see next figure).

Figure 48 Many checkpoints at the Lagos – Seme Route



Source: Vanguard Maritime

[201] https://punchng.com/seme-border-closure-turns-cash-cow-for-security-agencies/

Along the Abidjan-Lagos corridor, and in general, all the West Africa corridors, the proliferation of controls and checkpoints is a factor particularly disruptive for transport, being their main purpose not to control the adherence to laws and regulations, but simply to collect money from those using the road. Because of this, logistics services providers charge the importer or the exporter with an extra charge which is incorporated in the overall cost of transport, to be used as "petty cash" for the payment of bribes by their drivers.

In addition to roadblocks, cumbersome customs and management border operations at border crossings cause long queues of passengers and vehicles that in case of freight trucks can be kilometres long.

This obviously results in major obstacles to trade between the countries of the sub-region, which maintains the level of intra-regional trade well below the region's potential (intra-Community trade in the ECOWAS region accounts for only 12% of total trade of the region).

Removing the constraints on the road sector is imperative, especially as economic players adapt to a degraded situation by shifting these constraints and associated additional costs to final consumers, i.e., the overwhelming majority of the population, and especially the most fragile. Moreover, in West Africa, road transport accounts for most of the flows (about 80% of external trade in transit from ports and more than 90% of intra-regional trade). Reducing by one day the transport land time would lead to a 7% decrease in transport costs.

Improvements in this direction are already evident on the corridor.

Figure 49 Abidjan – Lagos Corridor border crossing time

Source: ECOWAS, Abidjan- Lagos Corridor, One Road One Vision

12.11.5 Road Transport Regulation

The Abidjan–Lagos Corridor is regulated by the Treaty on the creation of the Abidjan–Lagos Corridor [202], signed in March 2014 in Yamoussoukro by the Presidents of Côte d'Ivoire, Ghana, Nigeria, Togo and the Minister for Foreign Affairs of Benin. The Treaty indicates among the objectives of the corridor (art. 3) the facilitation of the safe and efficient movement of persons and goods, regional and international and transport by improving the road infrastructure and simplifying and harmonizing the requirements and controls that govern the movement of persons and goods with the aim of reducing transportation costs and transit times. In particular, the Treaty indicates the full imple-mentation of the Convention on the Inter-State Road Transit of Goods (ISRT) and of the ECOWAS Protocol on Brown Card Third Party Motor Insurance among the main measures necessary to harmonise and simplify procedures along the corridor, together with the reduction of the number of documents and formalities required for interstate and transit traffic and the development of an interconnection between the customs management systems of the States served by the corridor.

12.11.6 Corridor Governance

Currently, an authority or institutional body charged of the governance of the Abidjan-Lagos corridor has not yet been established. The Abidjan-Lagos Corridor Organisation (ALCO), at the moment has not the status of Corridor Management Authority, being a subregional organisation that simply supports policies for development, health and free movement in its member states Benin, Ghana, Ivory Coast, Nigeria and Togo.

Its tasks include, among others, the coordination of the national strategies and policies to fight STDs[203] /HIV/AIDS along the corridor and to promote these policies at the same time; the control of the spread of HIV/AIDS and STDs; the facilitation of the access to prevention measures and care centres for migrants and local populations in contact with them; and the reinforcement of the capacities of national public and private structures to combat HIV/AIDS, including the facilitation of their cooperation. ALCO also monitors corridor performances by publishing the data in specific reports.

However, on the 15 July, 2017, a Draft Final Institutional Design, Legal Framework for the creation of an Abidjan – Lagos Corridor Development Authority (ALCoMA), was validated by ECOWAS [204]. In accordance with Article 2 of the Abidjan-Lagos Corridor Treaty, once established, ALCoMA will play a full managerial role in the affairs of the Corridor, by guaranteeing its smooth operation, development and maintenance.

Article 6 of the Treaty on the Establishment of the Abidjan – Lagos Corridor mandates a Steering Committee (Article 8) to be established by the Heads of State and composed of Ministers responsible for Road Transport/Highway/Infrastructure/Works matters from each contracting party and the Commissioner for Infrastructure of the ECOWAS Commission, with the task of creating ALCoMA by virtue of an Intergovernmental Agreement to be ratifies by member States that will define its legal status and specify its powers, purpose, objectives, functions and responsibilities.

The Intergovernmental Agreement will also outline the principles within which the ALCoMA will operate that according to the Treaty on the Establishment of the Abidjan – Lagos Corridor will include, amongst others, equal treatment of the stakeholders within the Corridor, transparency, harmonisation, facilitation, mutual assistance and consensus.

[202] http://ir.parliament.gh/bitstream/handle/123456789/390/MEMORANDUM%20TO%20PARLIAMENT%20ON%20THE%20TREATY%20ON%20THE%20ESTABLISHMENT%20OF%20THE%20ABIDJAN-LA-GOS%20CORRIDOR%20AMONG%20THE%20GOVERNMENT%20OF%20THE%20REPUBLIC%20OF%20BENIN%2c%20THE%20REPUBLIC%20OF%20COTE%20D%27IVOIRE%2c%20THE%20REPUBLIC%20OF%20GHANA%2c%20THE%20FEDERAL%20REPUBLIC%20OF%20NIGERIA%20AND%20TOGOLE.pdf?sequence=1&isAllowed=y

[203] Sexually Transmitted Diseases.

[204] https://www.ecowas.int/experts-finalise-the-draft-design-legal-framework-of-abidjan-lagos-corridor/

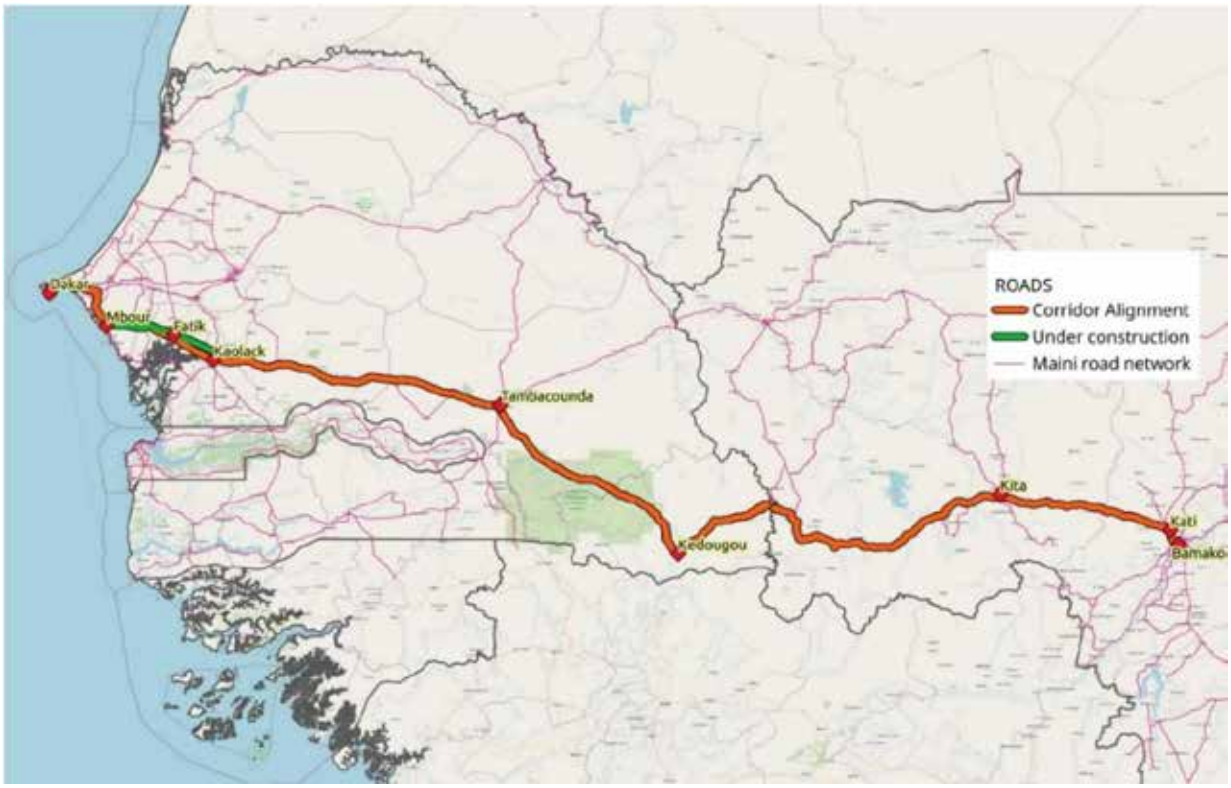
The Steering Committee will have supervisory authority over the ALCoMA. After the adoption of the Intergovernmental Agreement for the establishment of ALCoMA, the Steering Committee will adopt its the rules of procedure of the Authority [205].

12.12 Dakar – Bamako corridor

12.12.1 Corridor Description

Mali and Senegal have a long-standing history of cooperation on trade and transport. Senegal is a point of entry for exchanges with Mali, especially through the Port of Dakar. The two countries are connected by road and railway linking Bamako to the Port of Dakar and serving many towns, agricultural and mineral potential areas. In the recent years, the dominant mode of transport on the corridor switched from rail to road. Be-fore the Cote d'Ivoire crisis, goods moved exclusively by rail, largely due to its pricing advantage and because the road network was little developed.

Figure 50 Dakar – Bamako Corridor



Source: Consultant GIS elaboration

The surge in volumes could not be accommodated by the rail, despite the hopes placed in the concession of the Dakar- Bamako railway with the Transrail concession in 2003, putting pressure on the road sector to handle the overflow. Transrail concession which was cancelled in December 2015 and rail traffic completely stopped in 2018.

[205] The Rules of Procedure will regulate the procedural aspects and relationship between the Steering Committee and the ALCoMA.

The Dakar-Bamako Corridor comprises three different multimodal routes:

I the 1,288-railway connection (of which 1,057 km in Senegal, and 582 km in Mali) on which the traffic has ceased since March 2018;
II a parallel Northern Road corridor which is currently the main route being used for freight between Senegal and Mali, linking the cities of Dakar– Kaolak– Tambacounda (Senegal) – Kidira/Diboli (border) – Kayes (Mali) – Bamako over a length of 1,470 km;
III the Southern Road corridor, connecting Tambacounda – Kédougou – Saraya (Senegal) – Moussala (border) – Kita (Mali) – Kati – Bamako.
IV Although the Southern corridor is shorter by about 200 km, it is currently more difficult to access by heavily charged trucks (it is used by some trucks on the return empty trip). Development partners (AfDB, JICA) finance the rehabilitation of several sections of the route on the Senegalese side. In Mali the road connecting the Southern corridor is not yet paved.

Both Mali and Senegal are exploring ways to address the conflicting demands on the urban road networks of Dakar and Bamako by individuals and freight, through the development of new terminals and logistics zones that will impact the organization of the logistics chains. In Dakar, new port platforms in Ndayane (DPWorld project for a new port with the relocation of the container terminal first, and then the RoRo terminal); and Bagry-Sendou (private mineral terminal) are under construction or planned.

In Bamako, the current truck terminal for the Dakar Bamako corridor is in Kati, but alternative scenarios are under consideration: (i) near Noussoumbougou (linked to a project in association with DP World); (ii) upstream of Kati (close to the rail, but the availability of space and topography are to be analysed); (iii) at Korofina (the historic logistics platform for rail; Korofina involves the descent of trains from Kati to Bamako with a maximum gradient of >2%, which requires complex rail manoeuvres including addition of a second locomotive or unbundling of trains, and presents complexities for traffic in central Bamako).

12.12.2 Cargo Volumes

Traffic at the port of Dakar stood at 19.2 million tons in 2017, up 5 percent relative to the year before, of which about 2.6 million tons (14 percent) was transit traffic to Mali (Port Autonome de Dakar, 2018). The share in tonnage of Malian imports transiting through the Dakar-Bamako corridor stands at 60 percent. In addition to maritime transit, bilateral trade between the two countries represents a high proportion of the corridor traffic, as notably petroleum products and cement are locally purchased by Malian operators.

Transit along the corridor (both road and rail) steadily increased from 2005 to 2015, passing from 897,000 to 3.6 million tons in 10 years. Exports to Mali from Senegal represent the vast majority of the traffic, as shown in the table below.

Table 52 Freight traffic (in tons) to/from Mali along the Dakar – Bamako Corridor

	2010	2011	2012	2013	2014	2015	2016
Total Traffic	1,977,586	2,360,630	2,332,868	2,616,632	2,796,867	3,582,299	3,483,146
Road Import	1,681,812	2,050,257	2,016,142	2,208,459	2,358,677	2,814,603	2,982,310
Road Export	20,628	52,322	68,556	151,908	136,276	115,360	136,647

Source: EMASE

According to the AGEROUTE (Agence de Gestion des Routes du Senegal), the Senegalese Road Agency, in 2015 around 500 trucks crossed daily the border with Mali along the Northern itinerary of the corridor.

Table 53 Annual Average Daily Traffic (AADT) by section

Section	AADT (one way)	2014
Thiaroye – Rufisque	15,430	2,702
Rufisque – Barny	11,898	4,011
Bagny - Diamniado	11,341	2,877
Diamniado - Mbour	4,204	790
Fatick - Kaolack	2,362	886
Kaolack - Kaffrine	1,574	787
Kaffrine - Koumpentoum	1,552	785
Tambacounda - Koussanaf	1,526	751
Bacounda – Kidira (Tamba level)	810	442
Bacounda – Kidira (Kidira level)	745	466

Source: AGEROUTE 2015

12.12.3 Time and Cost of Transport

The road corridor efficiency is low, with transport costs estimated at 30 percent of merchandise value in 2016.

The average time for goods to reach Bamako from Dakar in 2015 was 23.7 days, with a minimum of 10.8 days and a maximum of 37 days. The main contributor to the length of time and variation is the time the merchandise spends at the port of Dakar, which is 13 days on average with a wide range going from a minimum of 4.5 days to a maximum of 18 days.

Table 54 Dakar – Bamako transport time (hours)

	Mini-mum	Ave-rage	Maxi-mum
Dwell time in Dakar	4.5	13	18
Transport time	3.3	6.7	18
Dwell time at the terminal	3	4	7
Corridor Total Time	10.8	23.7	37

Source: AGEROUTE 2015

12.12.4 Road transport industry

The trucking industry in Mali was, and still is, largely artisanal, and ill equipped to respond to the increase in demand. With the lack of performance of the rail, which eventually led to the cancellation of the concession, and a trucking industry that remains disorganized, large shippers have taken steps to secure their own needs, but medium and smaller economic operators face challenges for their transport and logistics needs. In the longer term, this situation is detrimental to the economic development of Mali, and to some extent to Senegal too, as it prevents smaller size operators to compete on equal terms with large operators, opening the risk of rent seeking behaviour. It also prevents the diversification of the economy because emerging operators do not find the transport and logistics services that are necessary for their growth.

Although Mali is the most impacted by this situation, Senegal is also facing negative externalities from the exclusive reliance on road transport. Furthermore, its transport and logistics industry has limited access to international transport as large Malian traders rely on their internal resources for their own logistics needs. Truck traffic in Dakar has reached unsustainable levels, aggravated by the location of the port, fully enclosed by the city. About 1,300 trucks per day enter the PAD container terminal, creating con-gestion and constraining port operations.

The road transport industry in both countries is divided into two contrasted segments, with small commercial trucking operators facing numerous challenges on one hand, and large fleet operated by own account industries and traders on the other. The smaller operators with ageing truck fleets tend to compensate for the low level of utilization of their trucks by overloading, in order to maximize revenue per trip, which in turn affects the quality of the road infrastructure. Own account operators, on the other hand, often operate recent trucks, having better utilization and therefore lower fixed costs per trip. The legal framework for transport professions in both countries is currently lacking, notably regarding the regulation of drivers and freight companies. The weak regulatory environment leads to low professional standards and thus poor quality and inefficiency of freight services.

12.12.5 Reliability and Security

The future developments of bilateral trade and transport links has been on the agenda of the two countries: in 2016, an agreement to modernize the railway connecting the two

capitals which could transform the freight market in the region; the bilateral protocol on road transport between the two countries is currently under joint revision; the two countries are among the four countries piloting the new ECOWAS PACIR program to unify transit declarations. Cooperation also exists in the field of customs since the administrative assistance agreement between the Governments of Mali and Senegal, signed in September 14, 1967. This framework aims at strengthening the bilateral customs cooperation to facilitate cross-border trade, to secure the supply chain and to ensure the collection of customs revenues.

Not only the road freight market is fragmented between own account and commercial transport, it is also fragmented between Mali and Senegal. A bilateral agreement protocol of 1993 organizes transit freight according to national quotas, leading to market inefficiencies. It formalizes the application of quotas for freight allocation at the port of Dakar in the form of 2/3 for Malian operators and 1/3 for Senegalese operators. The bilateral agreement could also benefit from an update to include measures to facilitate trade and transit between the two countries. The agreement reserves 'strategic products' to Malian operators: petroleum products notably, and cotton exports. In practice, Senegalese trucks delivering goods in Mali are obliged to return empty, making the corridor route less attractive to them.

The negative impact of inefficient trade procedures on the corridor is high. Multiple transit regimes (both international and domestic initiated at the Malian entry border) followed by final clearance led to lengthy border procedures. The digitization and interconnection of customs within and between the two countries is incomplete. The single window in the port of Dakar is not yet fully operational despite the digitization of procedures and a single window does not yet exist in Mali. In Senegal, the electronic connection between the customs border posts at Moussala and Kidira (with Mali) with the central system in Dakar is missing. In both countries, the use of risk management mechanisms for customs clearance is still limited.

12.12.6 Road Transport Regulation

There are no specific agreement regulating transport on the Bamako-Dakar corridor. However, as indicated above, a MOU on Road Transport concluded was concluded on 2 April 1993 between Mali and Senegal that organizes transit freight from/to the port of Dakar in the form of 2/3 for Malian operators and 1/3 for Senegalese operators.

12.12.7 Corridor Governance

The Bamako-Dakar corridor, as more generally all road corridors in West Africa, is not overseen by any Corridor Management Authority (CMA). Accordingly, each state is responsible for its own portion of the infrastructure. Nevertheless, Senegal and Mali, with the support of donors, have initiated a bilateral committee to monitor the performance of trade facilitation on the corridor, an initiative that could led in future to the creation of joint institutions governing the trade and transport relations between the two States. Mali is also an important stakeholder in the developments of Dakar port, as the "Entrepôts Maliens au Sénégal" (EMASE) sits on the board of the PAD.

12.13 Tema – Ouagadougou – Bamako corridor

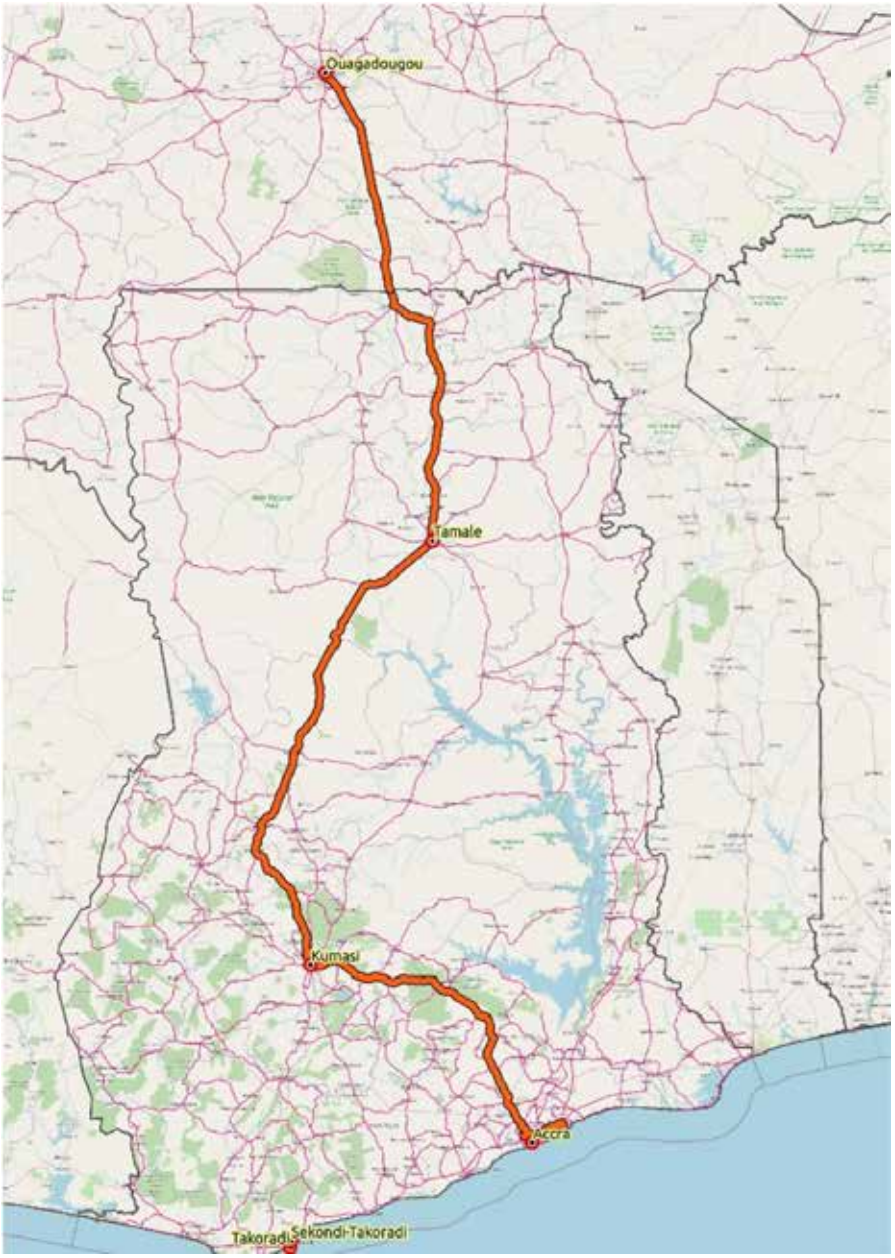
12.13.1 Corridor description

Historically, the Abidjan-Ouagadougou-Bamako Corridor was the main sea access corridor for both Burkina Faso and Mali. However, because of the deteriorating security sit-uation in Côte d'Ivoire in 2002-2007 there was an urgent need to seek alternative access to ports for the landlocked countries—Burkina Faso and Mali.

The regional transit pattern shifted to Tema port in Ghana, which experienced an in-crease in transit traffic to and from Burkina Faso and Mali by about 500 percent be-tween 2001 and 2005.

Since peace returned to Cote d'Ivoire in 2011, Abidjan has regained its status as the number one port for its neighbour to the north. The port in Abidjan is 712 miles from Ouagadougou, and goods arriving in Abidjan take on average 7 days (not including time taken for formalities at the port or export control) to reach Burkina Faso's capital. Lomé (Togo) is the second-most important port for trade with Burkina Faso, while the port of Tema in Ghana is the third-most important port.

Figure 51 **Tema – Ouagadougou Corridor**



Source: Consultant GIS elaboration

Even once the security situation in Cote d'Ivoire stabilizes, the Corridor will continue to remain a major entry point for goods transiting to Burkina Faso and Mali. This is because both Mali and Burkina Faso are actively encouraging a corridor diversification strategy to ensure greater competition between the major West African corridors and increase transit security.

From the moment a vessel drops anchor outside Tema port and starts waiting for a berth to unload, the transport leg which is under the control of West African authorities and operators begins. Imported goods arrive in containers and in bulk. The goods are unloaded from the vessel to the port and then cleared by customs, a cumbersome process involving a significant amount of time and paperwork, before they are loaded onto trucks.

Once loaded on a truck, customs, insurance agents, the port authority and national se-curity agents check the truck and cargo for compliance with laws and regulations. The truck carrying the goods is outfitted by Ghana's Customs, Excise and Preventive Ser-vices (CEPS) with a Global Positioning System (GPS) device for tracking before it leaves on its journey to Ouagadougou. The trip involves a number of stops at checkpoints within Ghana operated by police, customs and transport unions, among others, before the truck arrives at the Ghana Burkina Faso border. At the border, police and customs officials on both sides inspect and process the shipment before the truck continues to Ouagadougou where customs clear the goods and the importer ultimately takes posses-sion.

The distance between Tema and Ouagadougou is 1,040 kilometres and the road surface is in good/fair condition on 82% of the distance, which is above average for West Africa.

One hundred percent of the transit cargo that is transported by surface in the Tema-Ouagadougou corridor uses the road for transportation along the route.

The border post infrastructure in both Paga and Dakola is simple, with a yard on each side of the border for temporary parking of trucks while paperwork is executed. Depending on the volume of trucks, the parking facilities fill rapidly, and trucks must park temporarily on the road.

The crossing facilities include a single-line gate in both Paga and Dakola that remains closed until the paperwork is finalized and trucks are allowed to cross.

The WA Trade Hub and corridor stakeholders suggested that about 70 percent of the inbound containers are stripped at the port before undertaking the transit process. In the outbound direction (Burkina Faso to Ghana), only 30 percent is transported in containers. The remaining 70 percent is transported as noncontainerized cargo and consolidated at the shipping line yard before it is transferred to Tema port.

Eighty percent of inbound transit cargo is medium-to-high value; ninety percent of outbound transit cargo is medium value.

This comparison underlines the extent to which transport and logistics in West Africa are handicapped by high costs, long transit times, uncertainty in costs and transit times, and corruption. Transporting goods from Tema port to Ouagadougou costs five times as much as moving goods the same distance from Newark to Chicago.

12.13.2 Corridor Governance

At the present there is no established Corridor Management Authority overseeing operations along this corridor, therefore each state is responsible for its own portion of the infrastructure.

12.13.3 Cargo Volumes

Within Ghana, Tema port competes with Takoradi, Ghana's second port, which emerged as a transit port as a result of Tema port approaching full capacity. Takoradi port handles about 4 million tonnes of cargo annually, of which transit traffic represents only about 200,000 tonnes.

Burkina Faso accounts for more than half the transit volume, which had been rising steadily until 2006. Almost two-thirds of Tema transit cargo arrives containerized. Of the containerized transit traffic destined for Burkina Faso, 80% is unloaded from the container in the port before onward transport to Ouagadougou as break-bulk.

12.13.4 Time and Cost of Transport

The West African leg of importing takes an unpredictable average from 13 to 22 days, compared to the highly predictable 5 days it takes from the arrival of the vessel in Newark until the cargo arrives at the terminal in Chicago. In the case of export, the Ouagadougou-Tema leg costs more than twice as much as moving goods from Chicago to Newark and takes an unpredictable 6 to 9 days compared to the predictable 2.5 days it takes in the U.S.

Table 55 Tema-Ouagadougou corridor-import versus export costs for containerized cargo

	Import	Export
Transport & logistics costs	US$ 3,200/TEU*	US$ 1,755/TEU
Transit time	13.5-22 days	6-9 days
Brides	USD 207/TEU	USD 66/TEU

Note: Cost per TEU when two 20' containers are transported on one truck

On the other hand, the Tema-Ouagadougou corridor compares favourably with other corridors in: the total cargo handling costs in the port; customs costs at the port; and, border post costs and transit time in Ghana in the inbound direction.

For other aspects of performance, such as reliability, the Tema-Ouagadougou corridor is about average compared with other corridors. The percent of unofficial payments is better than the worst countries but can be improved.
Prices for trucking services on the Tema-Ouagadougou corridor are not formally regulated. However, the Organisation des Transporteurs Routiers du Faso (OTRAF) publishes annual indicative tariffs from West African ports to Burkina Faso as a guide to its members. Actual rates charged by transporters seldom vary from the published ones by more than 10 to 15%. OTRAF is the largest truckers' union in Burkina Faso and has a representative in Tema port. Table 13 shows OTRAF suggested trucking tariffs for the Tema-Ouagadougou corridor in 2007.

Table 56 2007 OTRAF reference trucking rates, northbound from Tema to Ouagadougou

Load Type	XOF	USD
1x20' (up to 15 tonnes)	900.000	2.142
2x20'/1x40' (up to 30 tonnes)	1.300.000	3.094
Additional containerized cargo per tonne	30.000	71
Average bulk per tonne	30.000	71

Source: OTRAF records 2008

The high formal and informal costs, the time it takes to move the cargo through each transport leg, and the uncertainty in both costs and times are all important factors that determine the competitiveness of the Tema - Ouagadougou corridor.

Figure below shows the major T&L legs on the Tema - Ouagadougou corridor (Tema port, the road transport leg and Ouagarinter terminal) and the distribution of costs, times and delays among these.

Table 57 Distribution of cost and time for an average truckload on the Tema-Ouagadougou corridor

Transport leg	Costs distribution %		Time distribution %	
Imports	**Total T&L**	**of which informal**	**Standard**	**Delays**
Tema port	13	14	45	53
Trucking Tema-Ouaga	63	34	32	12
Ouagarinter	24	51		34
Total	100%	100%	100%	100%
Total average	**$ 5,371**	**$ 438**	**13.5 days**	**8.7 days**

Imports	Total T&L	of which informal	Standard	Delays
Ouagarinter	10	18	5	22
Trucking Tema-Ouaga	60	67	80	60
Tema port	30	15	15	18
Total	100%	100%	100%	100%
Total average	**$ 3,537**	**$ 860**	**5.8 days**	**2.8 days**

Figure 52 The main links on the Tema-Ouagadougou corridor

The study found that Tema port is the major bottleneck on the import side, as almost as almost half the standard processing time and more than half the additional delays occur there. The trucking leg for imports represents more than 60% of the total West Africa T&L costs, while more than 50% of informal costs are incurred in Ouagarinter. That most bribes are paid in Ouagarinter is not surprising as that is where duties and taxes are paid and thus where most money change hands.

Exports attract much less official attention and intervention any duties and taxes to be paid. The result is that the exporter is faced with fewer costs, and shorter times and de-lays in Ouagarinter and Tema port.

12.13.5 Reliability and Security

The number of legal and illegal checkpoints along the Corridor remains a source of delays and cost for transit traffic. An UEMOA 2003 survey of illegal practices on selected inter-state roads (Burkina Faso, Ghana, Niger and Togo)[206] estimated that the number of illegal payments collected at roadblocks was about 60,000 Francs CFA (about US$120) on average with 32,000 Francs CFA (about US$64) for the Ghana-Burkina Faso section of the Corridor. A more recent 2006-2007 survey conducted by the West Africa Trade Hub (WATH) found 49 checkpoints along the Corridor with an average of 4.6 stops per 100 km in Mali compared to about 1 stop per 100 km in Burkina Faso. The loss of time caused by the checkpoints was considerable and was estimated at about eight hours per 1,000 km. In addition to the time delays and direct cost of the bribes that have to be paid at the various check points, the current situation is a major disincentive for trans-porters to comply with transit regulations. This is because transporters still have to make payments to get through check points irrespective of whether or not they comply with existing transit regulations.

After completing the customs-clearance process in Tema, trucks leave on a 3 to 5-day journey (881 km) to Paga at the Ghana-Burkina Faso border. However, many trucks are in poor condition and therefore often break down or have accidents along the road. Because of this the journey from Tema to Paga can take more than a week.

[206] UEMOA, Rapport d'analyse des résultats de l'enquête des Chauffeurs, Octobre 2003

Along the roads in Ghana, drivers encounter about 15 control points operated primarily by police and customs agents. These barriers cause on average a total of 160 minutes de-lay and the payment of the equivalent of USD 11.84 in bribes between Tema and Paga. These bribes are paid by the transporter and are included in the trucking price. Table 14 shows the details of delays and bribes along the Ghana section of the corridor while Figure 17 shows the location of the checkpoints along several transport corridors during the third quarter of 2008 (when the Trade Hub collected its detailed data on T&L costs).

Table 58 IRTG Results for Ghana from June to September 2008

IRTG Results :16 June to 30 Sept. 2008 Checkpoints, Bribery and Delays Tema-Paga (Ghana border with Burkina Faso)									
Number of voyages	Distance covered(km)	Checkpoints and bribes						Delays (min)	
		Police	Border police and immigration	Customs	Transport associations and unions	Total	Ratio per 100km	Total	Ratio per 100 km
67	881	Average number of checkpoints by type of agency						160	19
		5,84	1,00	836	0,09	15,3	1.73		
		Bribes, equivalence in USD							
		4,00	0,17	7,30	0,37	11,84	1,35		

Source: 5th improved Road Transport Governance report published by UEMOA and the West Africa Trade Hub

After completing formalities at the border, trucks travel the 176 km to Ouagadougou in convoys that take approximately 3-5 hours. On the short 176 km distance to Ouagadougou, the trucks can expect to encounter 6 checkpoints at which they pay the equivalent of about USD 21 in bribes and which cause extra delays of about 1.5 hours.

Table 59 IRTG Results for Burkina Faso from June to September 2008

IRTG Results: 16 June to 30 Sept. 2008 Checkpoints, Bribery and Delays Dakola (Burkina Faso's border with Ghana) to Ouagadougou										
Number of voyages	Distance covered (km)	Checkpoints and bribes							Delays (min)	
		Police	Border police and immigration	Customs	Gendar-merie	Transport associations and unions	Total	Ratio per 100km	Total	Ratio per 100 km
67	176	Average number of checkpoints by type of agency							89	48
		0,84	1.00	3.24	0,87	0,01	6,00	3,38		
		Bribes, equivalence in USD								
		3,89	3,60	8,79	3,99	0,04	20,94	11,90		

Source: 5th improved Road Transport Governance report published by UEMOA and the West Africa Trade Hub

Figure 53 Checkpoints on major transport corridors

Souce: USAID Tema-Ouagadougou Corridor Road Governance Report 2013

Informal costs, also known as bribes, represent 8.2% and 2.9% of the transport cost for imports and exports respectively for an average truck load on the Tema-Ouagadougou corridor. The lower level of corruption for exports is primarily due to the fact that exports are subject to much less rigorous customs procedures than imports.
Informal costs are a much bigger problem than the costs of the bribes themselves because of the delays and uncertainty they generate. In particular, it is a common strategy for uniformed officials to delay the processing of a particular transaction in order to extract bribes to speed up the process and thereby increase the unpredictability of the transaction in terms of overall cost and time.

Informal costs are offered and/or demanded all along the transport and logistics chain. Most informal payments/ bribes are paid by forwarders and truckers and are included in the prices they quote to traders.

The first challenge of the trucking leg is to match the cargo with available trucks. OTRAF manages a cargo and truck allocation system queuing system, which works on a "first-come, first-served" basis. This system keeps some poorly maintained trucks in business since it guarantees availability of cargo. Road transport to and from landlocked countries in West Africa is, in general, governed by bilateral freight-sharing rules between coastal and Sahelian countries.

These freight-sharing rules, which in the case of Burkina Faso is managed by the Conseil Burkinabé des Chargeurs (CBC), usually specify that two-thirds of transit cargo should be carried by trucks registered in the landlocked country while one-third of the cargo should be carried by trucks from the port country. For strategic goods, such as Burkinabé Government cargoes of rice or sugar, CBC has the right to allocate 100% of the cargo to Burkinabé trucks.

The loading in Tema port of cargo destined for Burkina Faso, including cargo shipped on a through bill of lading (TBL) basis, is subject to a number of procedures mainly involving CBC and freight forwarders as follows:

- The freight forwarder, representing the importer, submits a pre-load-shipment no-tification form called a “freight declaration” to the CBC office at the port thus informing it of cargo to be cleared for onward transport to Burkina Faso. This notification should be submitted at least 48 hours before the loading of the truck is due to start. Submission and processing of the declaration are free of charge.
- CBC endorses the freight declaration, processes it, and sends a copy to OTRAF as the sole representative of Burkinabé truckers present in the port area.
- The freight forwarder liaises with OTRAF for the selection of trucks required to load the consignment. The freight forwarder has the right to reject a truck proposed by OTRAF (if he doubts its road worthiness, for example), and to enter directly into a contract with the transporter(s) of his choice.
- The freight forwarder submits the details of the trucks selected to CBC, which issues a “loading note” for each truck on the list. The trucks then proceed to the loading point within the port. Terminal or warehouse operators check the loading note before the trucks are loaded. GPHA requires haulage companies to obtain loading notes from the transit country’s shippers’ council and checks them before the truck leaves the port’s transit yard.
- Once the trucks are loaded and the freight forwarder has information on the partic-ulars of the consignment loaded onto each truck, he obtains an interstate road way-bill from CBC for every truck before the truck leaves the port. This document covers the vehicle and cargo up to its final destination and is part of Burkinabé customs requirements: Customs agents will check the interstate road waybill at the Burkin-abé entry office at Dakola, as well as at the destination office in Ouagadougou. GPHA security officers check that every truck loaded with Burkina transit cargo has obtained an interstate waybill before it leaves the port’s transit yard.
- To further the efficiency and safety of the business, GPHA has taken steps to com-pile a register of all vehicles engaged in the transport of transit cargo from the port. The information includes data on chassis and license numbers of each vehicle, its driver’s name and address, and endorsements by the recognized transport association to which the vehicle owner may belong. GPHA passes this information on to CEPS, which releases only registered vehicles to undertake the transit journey to Burkina Faso.
- In order to engage in regional transport, trucks must be insured through the ECOWAS Brown Card motor vehicle insurance scheme.

To facilitate bypassing the official truck-queuing system, informal middlemen, known as “transport agents”, or “coxeurs”, offer to match freight to trucks on a fast-track basis. They contact the drivers and promise to find them cargo quickly, while also letting freight forwarders know that they have trucks ready to load. The transporter pays the transport agent a commission of about XOF 60,000 (USD 142.80) per truck for this service. The transport agent is strictly a matchmaker who offers no additional services, such as guarantees of a lorry’s roadworthiness or the importer’s ability to pay.

12.13.6 Road Transport Regulation

The Tema – Ouagadougou – Bamako corridor is not regulated by any specific Agreement. However, as mentioned above, ECOWAS has adopted two conventions to set up harmonized transport procedures in the region, which are also applicable to this corridor. These are the Inter-State Transport Convention (IST) and the Inter-State Road Transit Convention (ISRT), introduce rules on axle load control, vehicle certification as well as a common transit logbook and a bond guarantee system. However, the imple-mentation of both conventions is still poor, and this has hindered the free flow of traffic along the corridor. Furthermore, the ISRT common logbook has still not been applied, and the existing bond guarantee system covers only the section of the Corridor of the country that has emitted the bond and not the whole Corridor. Finally, countries along the Corridor maintain a nationality-based quota system ('tour de role' system) to share transit traffic among transporters of coastal and landlocked countries that as indicated, restricts competition in road transport services for the movement of transit cargo, leading to higher transit costs [207].

12.13.7 Corridor Governance

The Tema – Ouagadougou – Bamako corridor is currently not overseen by any Corridor Management Authority (CMA).

[207] Kunaka C., Tanase, V., Fouad, A., in "Road Freight Transport: What Bilateral Agreements Tell Us About Trade Openness", World Bank, May 14, 2013 observe that trade corridors with limited competition face much higher costs than corridors with more competition.

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