



PERMANENT SECRETARIAT OF THE TRANSIT  
TRANSPORT CO-ORDINATION AUTHORITY OF THE  
NORTHERN CORRIDOR  
AUTORITÉ DE COORDINATION DU TRANSPORT  
ET TRANSIT DU CORRIDOR NORD



# CORRIDOR DIAGNOSTIC STUDY OF THE NORTHERN AND CENTRAL CORRIDORS OF EAST AFRICA

## *ACTION PLAN*

### *Volume 2: Technical Papers*

#### *A. Goals, Approach and Methodology*

**SUBMITTED TO**  
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# Acronyms

CBA	cost-benefit analysis
CDS	Corridor Diagnostic Study
CC	Central Corridor
CCTTFA	Central Corridor Transit Transport Facilitation Agency
COMESA	Common Market for Eastern and Southern Africa
DFID	U.K. Department for International Development
DRC	Democratic Republic of Congo
EAC	East African Community
EDI	Electronic Data Interchange
FOB	free on board
GIS	geographic information system
NC	Northern Corridor
NCTTCA	Northern Corridor Transit Transport Coordination Authority
OD	origin/destination
PL	logistics provider
PPP	private-public partnership
TCG	Task Coordination Group
TEU	twenty-foot equivalent unit
TIR	total internal return
SACU	Southern African Customs Union
SADC	Southern African Development Community
SSA	Sub-Saharan Africa
USAID	U.S. Agency for International Development

# 1. Introduction

## Background

The Northern Corridor anchored by the port of Mombasa in Kenya, and the Central Corridor, anchored by the port of Dar es Salaam in Tanzania, are principal and crucial transport routes for national, regional and international trade of the five East African Community (EAC) countries, namely; Burundi, Kenya, Rwanda, Tanzania and Uganda. Due to inadequate physical infrastructure and inefficiency, these corridors are characterized by long transit times and high cost. Freight costs per km are more than 50 percent higher than the USA and Europe and for the landlocked countries; transport costs can be as high as 75 percent of the value of exports. Modernization of transport infrastructure and removal of non-tariff barriers along these corridors is critical for trade expansion and economic growth, which are key to the success of regional integration as well as creation of wealth and poverty alleviation in the individual countries.

The Heads of State in the COMESA, EAC and SADC, the Tripartite, have determined that the transport inefficiencies are among the biggest impediments to realizing their vision to lead their countries out of poverty. Transport costs are prohibitively high and are a barrier to trade and investment, which are the cornerstone for the aspired economic growth to regional prosperity.

Having had the experience of successful development of an action plan to effectively tackle transport bottlenecks on the North-South Corridor, the Tripartite have ordered the preparation of a similar action plan for the key trade routes of Eastern Africa. As a technical foundation for the action plan, regional stakeholders in March 2009 agreed to carry out a Corridor Diagnostic Study (CDS) with funding from the U.S. Agency for International Development (USAID) and the U.K. Department for International Development (DFID).

## Goals of the Study

To overcome the challenges the Governments face in the region, the Corridor Diagnostic Study's goals will focus on:

- Collecting and synthesizing existing information on time and cost of transporting goods

- Compiling and assessing national and regional policies
- Analyzing costs and benefits of interventions
- Setting a baseline to measure future corridor improvement
- Highlighting solutions that include PPPs
- Creating an Action Plan

Figure 1 describes the goals, approach and methodology of the study corresponding to each phase from the general perspective; while Figure 2 presents the general study flow diagram at the task level.

Figure 1. Goals, Approach and Methodology Diagram

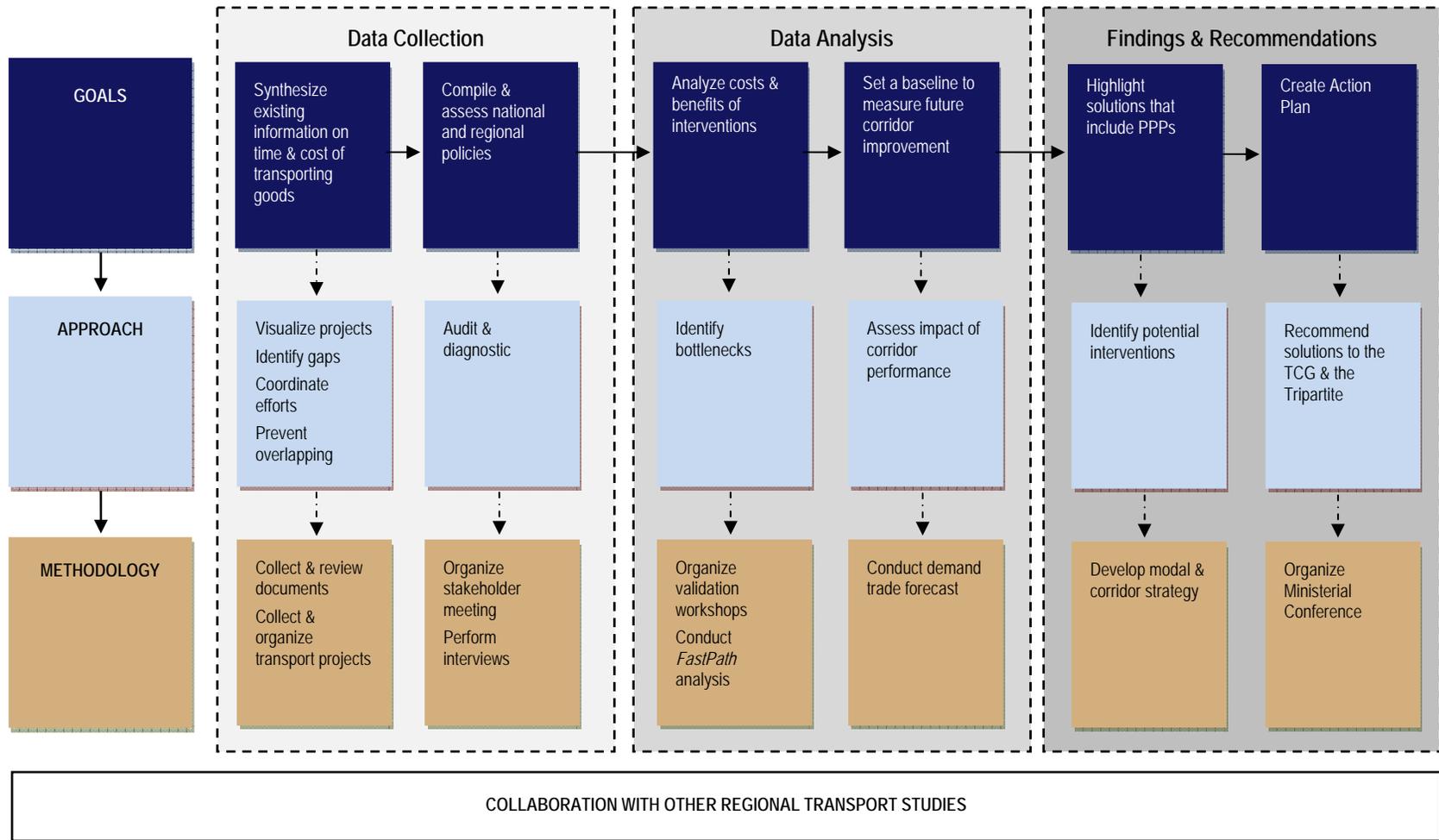
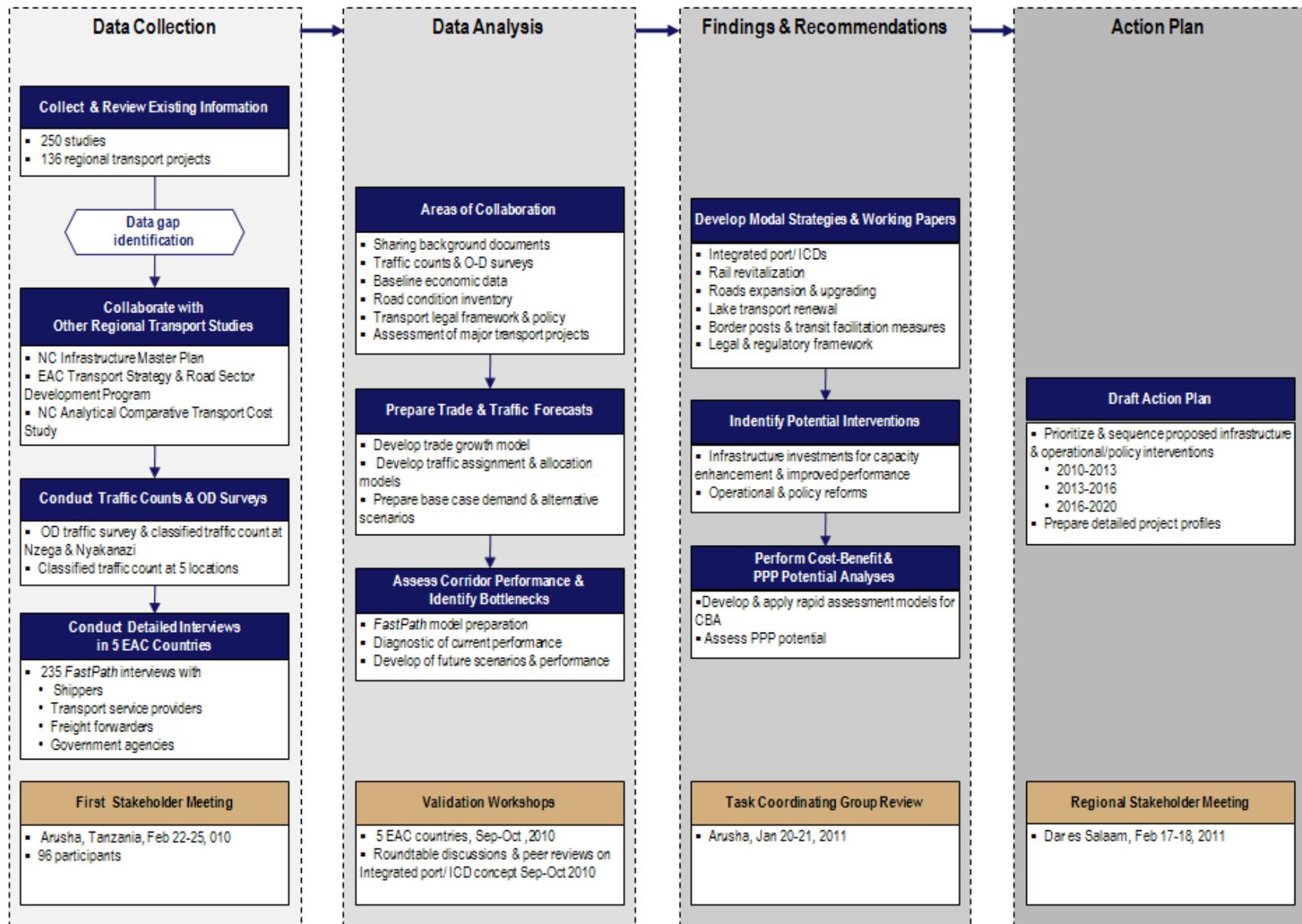


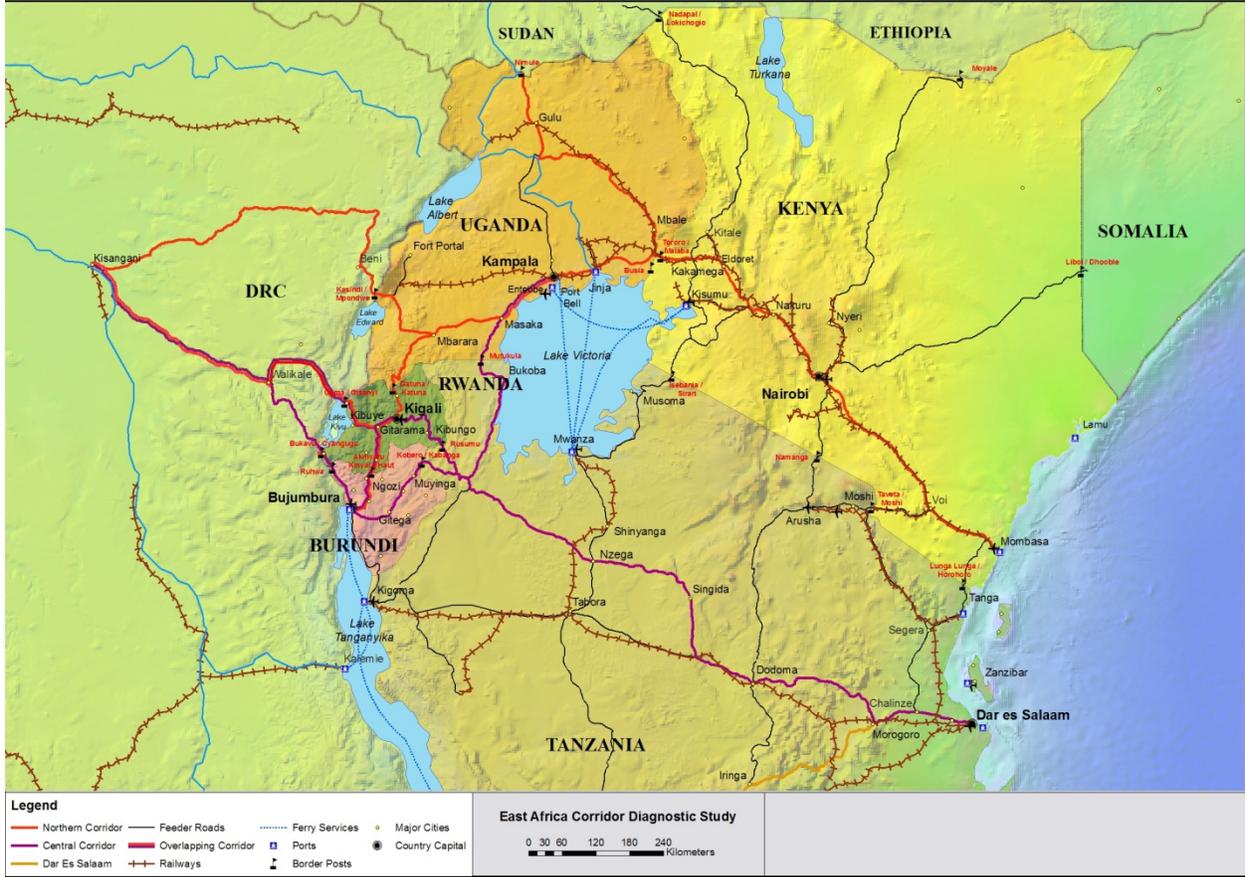
Figure 2. General Study Flow Diagram



# Geographic Scope of Study

The Corridor Diagnostic Study reviewed the infrastructure condition and regulatory policy of the Northern Corridor anchored by the port of Mombasa in Kenya, and the Central Corridor, anchored by the port of Dar es Salaam in Tanzania, which are principal and crucial transport routes for national, regional and international trade of the five East African Community (EAC) countries, namely; Burundi, Kenya, Rwanda, Tanzania and Uganda (see Figure 3). The CDS analysis also includes the extension of the Northern and Central Corridors to the Democratic Republic of the Congo and links to Southern Sudan, Ethiopia and Zambia.

Figure 3. CDS Geographic Scope



## NORTHERN CORRIDOR

We have identified each corridor as a combination of port, railways, inland waterways, main road and several branches or feeder roads leading to other countries and large populated areas that contribute to traffic volumes. The thicker lines indicate the main corridor. If solid, these lines represent highways only. Striped lines indicate a combination of highways and parallel railroad tracks (see legend for more details). The

diagrams are intended to be indicative of the corridor elements and as aids in project discussions. They are not exact nor to scale. There were three guiding principles used to select which roads would be included in the diagrams:

- All national roads connected to the corridor's main line
- Main paved roads (or planned to be paved) that lead to border crossings or to major towns
- Major new proposed regional linkages that will connect to the corridor (included in regional plans)

Major towns or important road intersections are marked with circles and border stations are indicated with black rings. Please note that some border stations may have two names, one for each country. We have only indicated one to keep the diagram as simple as possible. The branches typically end at the borders with countries not covered in the analysis. Possible connections with Central or Northern Corridors are indicated as traffic can use the connecting points to take the other corridor as an alternative route.

The corridor transport network and road connections into the Democratic Republic of Congo (DRC) are shown in Figure 4. Of the three connections to the DRC, the northernmost road was recently improved (still unpaved) while the southern connections to Kisangani remain impassable. The planned ring roads in Nairobi and Kampala are indicated with a red color in the diagram even though they are not constructed yet. Their associated time savings, reduction of pollution and accidents are expected to be significant.

There is a pipeline that runs parallel to the Mombasa-Nairobi-El Doret road. There are proposals to extend the pipeline all the way to Bujumbura. Given the simplicity of the pipeline and to avoid cluttering the diagrams it was kept in a separate diagram.

## **CENTRAL CORRIDOR**

The port, road and rail network for the Central Corridor is shown in Figure 5. Additional branches include the ferry services offered in Lake Victoria that link Kenya (Kisumu) and Uganda (Port Bell and Port Jinja) with Tanzania (Mwanza) where there are connections with the road and railroad network in the Central Corridor. Another Lake service on Lake Tanganyika connects Kigoma (Tanzania) with Bujumbura (Burundi) and Kalemie and Uvira (DRC), after traveling by train from the port of Dar es Salaam. In general, ferry services are not very competitive and unreliable due to old and insufficient equipment and infrastructure.

## **Collaboration with Other Regional Transport Studies**

Concurrent with the CDS effort, there are several other regional transport studies addressing current corridor performance and identifying priorities for future infrastructure investments. These studies include:

- Northern Corridor Infrastructure Master Plan conducted for the NCTTCA by Louis Berger International
- EAC Transport Strategy & Road Sector Development Program conducted for the EAC by Aurecon
- Northern Corridor Analytical Comparative Transport Cost Study conducted for the NCTTCA by CPCS Transcom Limited
- Definition and Investment Strategy for a Core Strategic Network for Eastern and Southern Africa conducted for the World Bank by Nathan Associates Inc.

As directed by the studies' sponsors, the four firms responsible for these studies identified areas of commonality in which to share data, information and analytical findings in order to make the most effective use of study resources and to enhance the studies' quality and consistency. Principal areas in which collaboration occurred include:

- Sharing of background documents
- Conducting traffic counts and O-D surveys
- Baseline economic data
- Completing the road condition inventory
- Assessing the transport legal, policy and institutional framework
- Assessment of major transport projects and initiatives

Further collaboration included the joint review and discussion of the proposed infrastructure and operational projects included in the Action Plan.

The focus of these other studies differs from that of the CDS in several regards. First the time horizon of the Northern Corridor Infrastructure Master Plan (to 2030), the Core Strategic Network (to 2030) and the EAC Transport Strategy (to 2020) is longer than the horizon of the CDS Action Plan which covers the five-year period to 2016. Second, the geographic scopes also differ. The two Northern Corridor studies deal primarily with just the Northern Corridor. The EAC Transport Strategy covers the entire area of the EAC and not just the Northern and Central Corridors. The Core Strategic Network covers 15 corridors from the Horn of Africa to southern Africa.

Nathan Associates Inc. conducted both the CDS and the Definition and Investment Strategy for a Core Strategic Transport Network for Eastern and Southern Africa study. While there are some common elements, a much more in-depth analysis of the Northern and Central Corridors was performed for the CDS project. For example, the Core Strategic Network study only looked at one type of container movements as illustrative of all cargo types whereas the CDS examined specifically heavy and light containers, dry bulk, liquid bulk and general cargo. The objectives also differ in that the CDS focuses on specific near-term improvements in the two

corridor efficiency with development of specific project profiles while the Core Strategic Network study has a much broader regional perspective. The latter's objective was to identify the strategic transport network required for eastern and southern Africa to meet the trade projections up to 2030 and to foster economic growth and regional integration of this region as a whole. The investment plan was to address the overall network development and strengthening. Thus the objectives are different. The two studies benefited from collaboration on collection of baseline trade and traffic data and the preparation of trade and traffic forecasts. While different, both studies benefited from the analysis done for the other and the synergies between the two have enhanced both products.

## **Organization of the Technical Paper**

This paper is organized as follows. Chapter 2 describes the literature review process and how the transport project database was assembled and presented. Chapters 3 and 4 explain the *FastPath* methodology and the interview process respectively. Chapter 5 focuses on the traffic and trade forecast. Chapter 6 concentrates on the communication strategy and Chapter 7 describes all the interactions with stakeholders to receive feedback.

Figure 4. Northern Corridor Roads and Rail

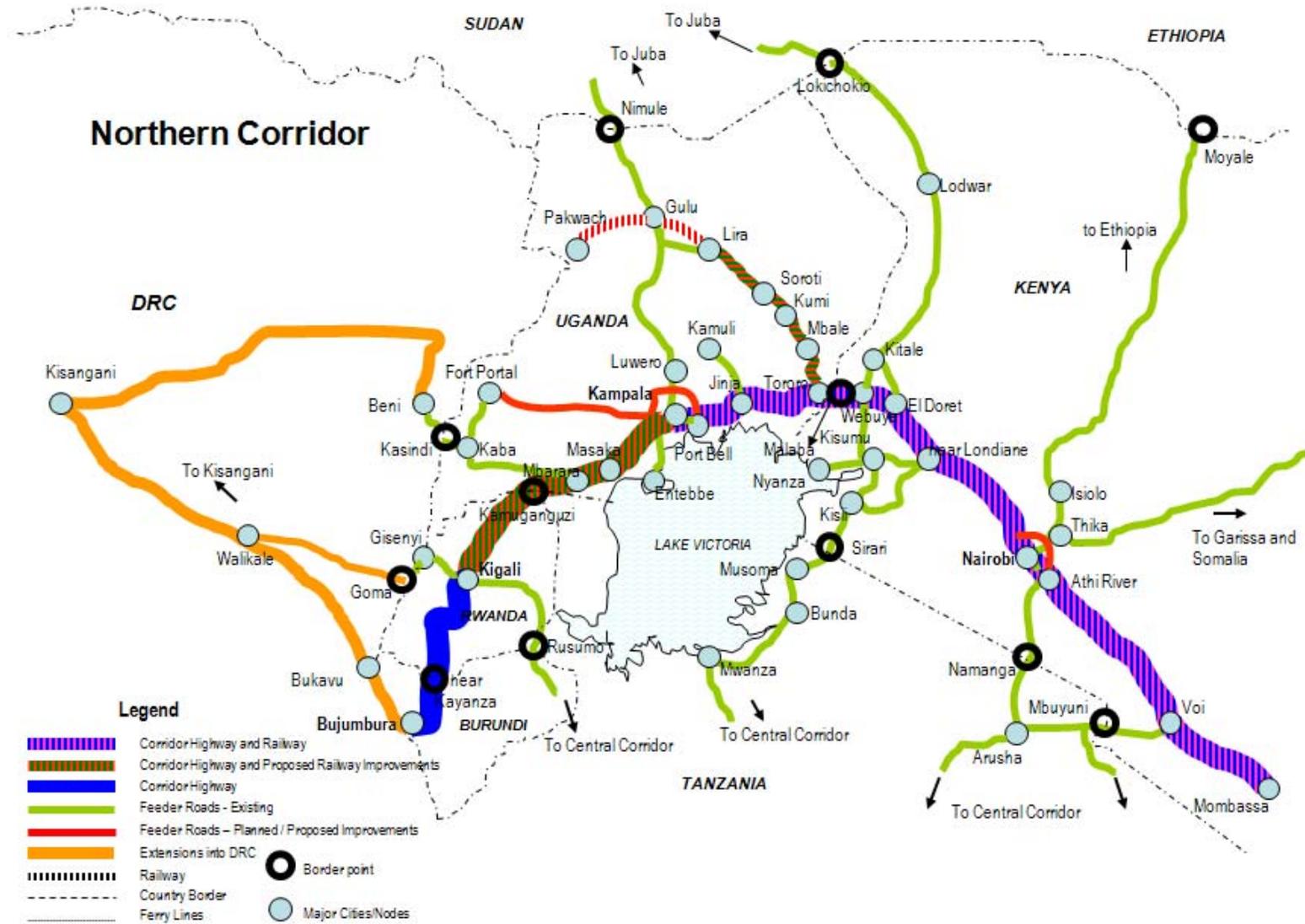
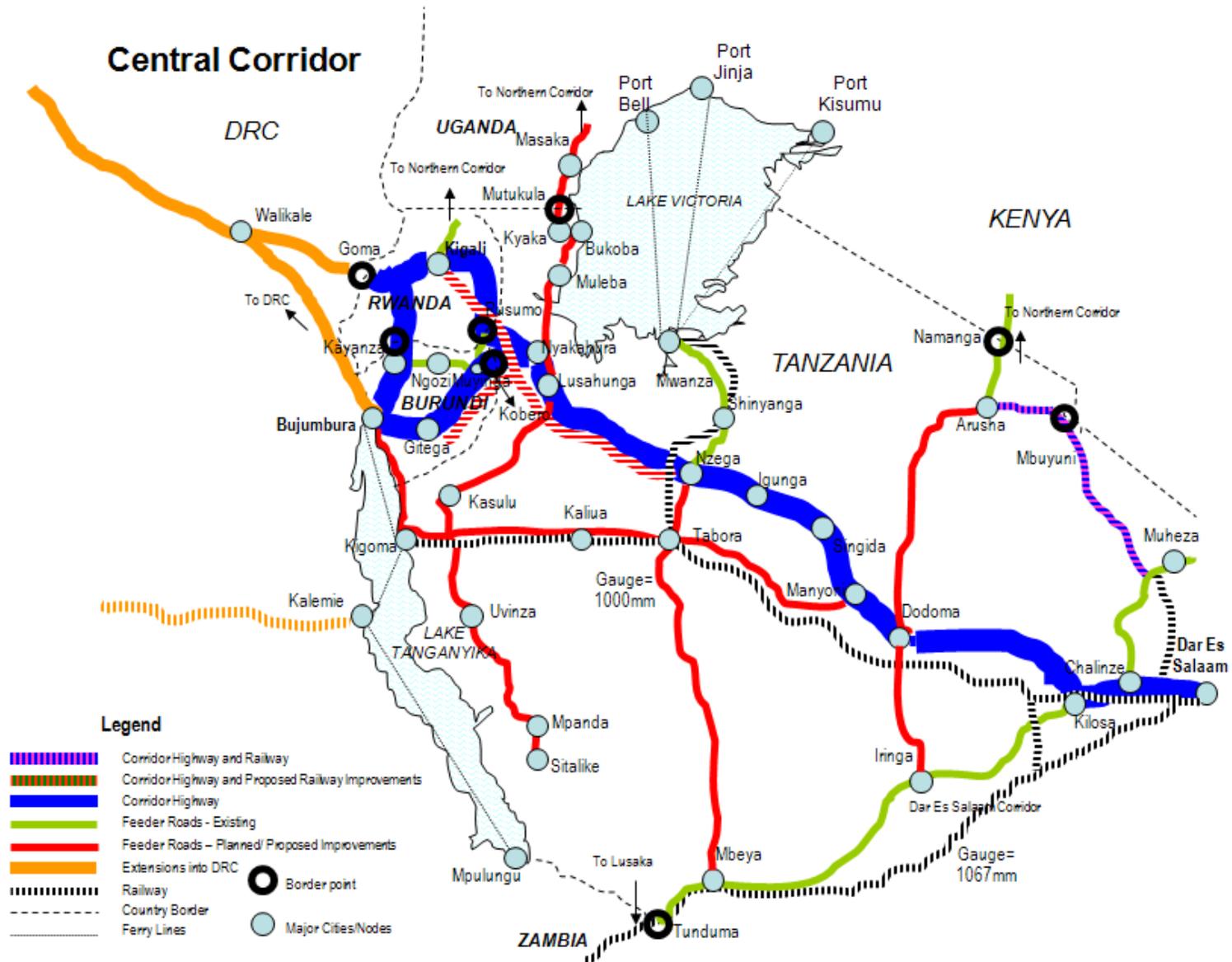


Figure 5. Central Corridor Roads and Rail



## 2. Literature Review and Development of On-going Project Database

The team undertook a comprehensive analysis of relevant past studies and data collection, performed a verification of all aspects affecting infrastructure and the performance of the two corridors, and identified information gaps. We carried out an inventory of the status, condition of infrastructure and ongoing development programs and projects.

### **Transport Library**

As one of the first steps of the Corridor Diagnostic Study, it was necessary to create a synthesis of existing studies and recent data on transit efficiency. While the main focus was on the Northern and Central Corridors, the geographic and contextual scope of the documents contained in this library was much wider and included documents pertaining to individual countries, other African corridors, and more general corridor and trade best practices.<sup>1</sup>

Originally, collection of these documents allowed sharing and easy access for project team members, as well as relevant studies' team members and stakeholders involved in the CDS. The studies and data contained in the library were then used for assessing a baseline of information for subsequent analysis, avoiding repetition in efforts and optimizing overlaps. The CDS team reviewed, selected, organized and classified the documents received, and ensured the quality of the product we would present for public view. We prepared a bibliography of all the documents in the library, listing entries for title, author, publication date, source/destination organization, document type and abstracts for each.

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<sup>1</sup> Data collected included technical documents on transit procedures, road and port infrastructure, operational practices in ports and freight corridors, customs operations, transport costs, operational regulations, market structure, and transport policies relevant to the Northern and Central Corridors.

Currently, the library of nearly 300 documents is publicly accessible via the internet on the [www.eastafricancorridors.org](http://www.eastafricancorridors.org) website, a one-stop shop for information and data related to SSA transport corridors. The online library serves as a platform for direct access and easy sharing of documents for stakeholders, policy makers, government representatives, technical experts and researchers. The library includes a searchable database by title, author, year, source, document type, keywords, countries and corridors and allows any user to contribute uploading documents. Appendix B lists current documents available at the website.

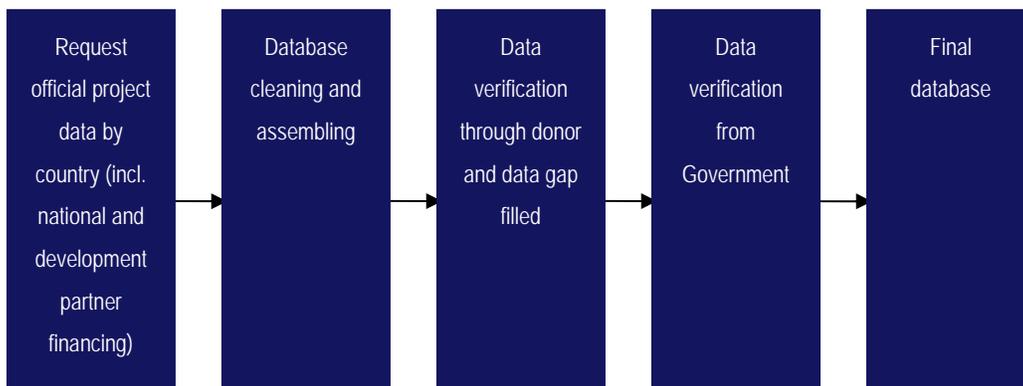
## Project Coordination Database

In the last decades, substantial resources have been being mobilized to improve transport corridors in Africa. Prior reports have highlighted numerous transport projects and the need for exchange of information and coordination. There is a need for updatable project information system that should be maintained within the region and which benefits would be:

- Visualize transport related projects
- Identify infrastructure gaps in the region
- Coordinate efforts to ensure more efficient allocation of resources
- Prevent overlapping projects among financial sponsors

Therefore, we have collected and synthesized current transport related activities financed by each of the five EAC Governments and principal donors along the Northern and Central corridor<sup>2</sup>. A central element of this exercise was to contact the right people to obtain the required data. The CDS team followed the general methodology which is illustrated in Figure 6.

Figure 6. Data Collection Methodology



<sup>2</sup> The CDS team built on an initial study completed by Sophie Walker, Graham Ravenhill and Silas Kanamugire (2009). "Findings from the Mapping of Development Partner Activity to Support the Transport Corridor: Summary Report." Working paper for the Stakeholder Coordination Conference held in Nairobi, Kenya in March 2009.

We identified in Table 1 a set of official documents containing information about infrastructure related projects and contacted representatives from the World Bank, African Development Bank (AfDB), European Union (EU), U.S. Trade and Development Agency (USTDA), Japan International Cooperation Agency (JICA), Danish International Development Agency (DANIDA), Norwegian Agency for Development Cooperation (NORAD), Kreditanstalt für Wiederaufbau (KfW), Swedish International Development Cooperation Agency (SIDA), DFID and USAID to verify and fill the data gaps .

Table 1. Primary Data Sources

	Tanzania	Kenya	Uganda	Rwanda	Burundi
<b>O F F I C I A L   D O C U M E N T S</b>					
Infrastructure Development Plan	√ <sup>3</sup>	√ <sup>4</sup>	√	√	√
Medium-Term Expenditure Framework (MTEF)	√	√	√	√	√
Infrastructure Round Table	√		√		
Joint Sector Review	√		√		
Public Investment Program				√	

We collected data on projects related to roads, railways, sea ports, lake ports and airports (see Table 2). The analysis covered on-going projects whose start and finish dates range from 2002 and 2015. Any project completed before 2010 was not included. The information on transport activity included the current status of each project and (if applicable) a listing and links to available reports.

Table 2. Sample of Transport Database Variables

General Project Information	Up-to-Date Project Data
<ul style="list-style-type: none"> <li>• Project name</li> <li>• Financial sponsor/s and implementing partner</li> <li>• Objective</li> <li>• Total project funding</li> <li>• Start/expected finish years</li> <li>• Countries engaged</li> <li>• Sector and sub-sector</li> <li>• Project output</li> </ul>	<ul style="list-style-type: none"> <li>• Project disbursement and outputs by calendar year</li> <li>• Cumulative project disbursement and output prior to 2009</li> <li>• Related documents</li> <li>• Photos</li> </ul>

<sup>3</sup> For example, Transport Sector Investment Program (TSIP).

<sup>4</sup> For example, Infrastructure Master Plan.

## **PROJECT DATABASE ACCESSIBILITY**

The final project database was presented in an Excel file to the clients jointly with the collected material in electronic format. The database is accessible via the internet in an updatable format on a GIS map on the [www.eastafricancorridors.org](http://www.eastafricancorridors.org) website. The interactive GIS map has the ability to select the projects from drop down menus, export data to Excel, view project photos and download relevant reports.

## 3. *FastPath* Methodology

### Conceptual Approach

A transport logistics chain is a system of links and nodes that represent transport legs and processes occurring along the chain (Figure 7). Depending on the corridor, the system may have many links and nodes (e.g., for cargo originating from or destined to landlocked regions or countries) or relatively few (e.g., international cargoes destined for domestic deliveries to areas near a port). In both cases, shippers can be “victims” of onerous procedures that delay domestic or cross-border shipments. On the port side, slow cargo loading or discharge rates extend a vessel’s time in port, incurring an extraordinary cost that is passed on to shippers in higher freight rates.

Nathan Associates Inc. developed *FastPath*® to apply to transport logistics chains to measure the current state of performance (in terms of time, cost, and reliability) and to identify bottlenecks and potential solutions<sup>5</sup>. We recognized through our projects and research that governments did not have the ability to measure corridor performance in the same way that supply chain managers measure costs of logistics services they seek to move freight. Supply chain managers, however, have no control over the infrastructure and institutional frameworks affecting their supply chains. Governments needed a way to define the problems in consistent terms and to identify potential solutions and their impacts. Nathan Associates Inc. developed *FastPath* in order to help transport ministries, port authority managers, and logistics industry interests establish priorities for resolving transport logistics problems.

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5  **FASTPATH**® | improving transport logistics performance

FastPath is a proprietary diagnostic tool developed in a partnership between USAID and Nathan Associates to analyze transport infrastructure and operational inefficiencies in the transport/logistics chains serving import and export traffic. FastPath provides a quantitative basis for monitoring corridor performance. The audit methodology consists of surveys and questionnaires to identify bottlenecks and appropriate improvements to freight corridors.

*FastPath's* process also encourages discussion and consensus building between and among stakeholders and policymakers of transport and logistics chain problems and solutions to inefficiencies. *FastPath's* tools constitute a screening system that (1) assesses and quantifies the relative importance of a problem in a logistics chain, and (2) helps users prioritize areas for improvement credibly and transparently so that all parties can participate in the analysis to arrive at a mutually acceptable result. Though *FastPath* facilitates decision making and analysis of the consequences of decisions, it does not make decisions. Rather, it provides the basis for making informed decisions over policy, investment, and institutional changes.

#### Box 1. *FastPath*<sup>®</sup>, Diagnostic Tool

Developed in partnership between USAID and Nathan, *FastPath* is a diagnostic tool used to analyze transport infrastructure and operational inefficiencies in the transport/logistics chains serving import and export traffic. *FastPath* provides a quantitative basis for monitoring corridor performance. It can also provide a basis for aid agencies and developing country stakeholders and policymakers to agree on the relative importance of port and logistics chain inefficiencies and evaluate improvements to eliminate inefficiencies. The audit methodology consists of surveys and questionnaires to

identify bottlenecks and appropriate improvements to freight corridors. Data are inputted into the software to generate time, cost, and reliability "scores", and to test the merits of proposed solutions. *FastPath* methodology constitute a screening system that (1) assesses and quantifies the relative importance of a problem in a logistics chain, and (2) helps users prioritize areas for improvement credibly and transparently so that all parties can participate in the analysis to arrive at a mutually acceptable result.

Deciding which initiatives will be most beneficial requires understanding how initiatives affect service quality. This differs from the traditional approach of measuring the economic efficiency of individual transport and cargo handling activities. Two examples illustrate this difference. The first is an investment in additional road capacity, the second an investment in container berth and gantry cranes.

Widening a road link or constructing a new link will, by adding capacity, reduce congestion and average travel time thereby increasing the productivity of trucks and drivers. Road surface improvements also reduce truck maintenance costs. The savings in operating costs that result can be estimated to provide a measure of the benefits from the investment. But from the shippers' perspective, the only benefits are those realized in the form of lower tariffs, which will depend on the level of competition in the trucking sector. The increase in average velocity and reduction in variance of travel time as a result of less congestion will cut inventory carrying costs provided that these are transmitted through the supply chain and to reduce total transit time. More significant benefits could be realized if the road improvements allow the logistics providers to operate

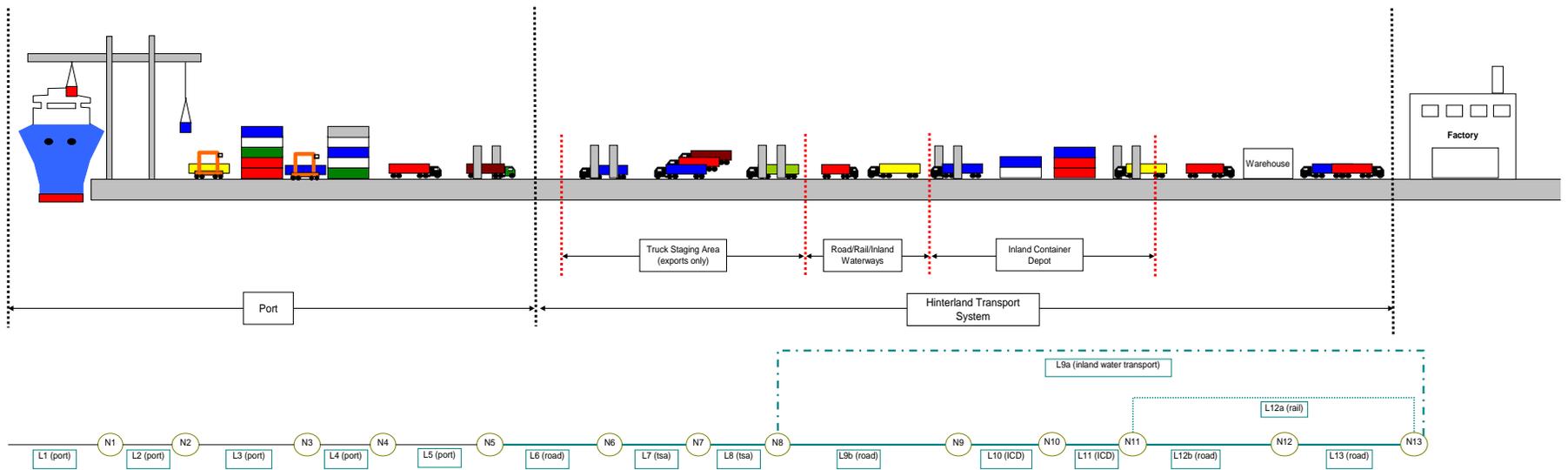
newer, larger trucks on longer routes and to increase the number of trips per day on their shorter routes. Shippers would also benefit from safer transport for larger shipments and more frequent service.

Investing in container berths and ship-to-shore gantry cranes provides faster turnaround of vessels at berth, which lowers berth occupancy and reduces vessel waiting time. The benefits from this investment are calculated based on the estimate of average savings in ship time multiplied by the value of ship's time.<sup>6</sup> But from the shippers' perspective, this benefit is realized only if it results in a reduction in freight rates. This rarely occurs quickly unless there is a congestion surcharge that is removed once congestion is eliminated. It will occur gradually, assuming sufficient competition. The shipper may realize a significant benefit if shorter port time translates into shorter transit time, but this is unlikely as most voyage patterns are designed to achieve day-of-the-week service at ports of call. However, substantial benefits could accrue if the reduction in turnaround time and congestion allows the shipping lines to convert from an unscheduled or loosely scheduled service to a day-of-the week schedule.

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<sup>6</sup> This value is generally done as an accounting exercise rather than trying to understand the opportunity cost for ship's time. As a result, the benefits are overestimated when there is excess shipping capacity and underestimated when there is a shortage of ship capacity. Since the latter is a more common occurrence, the more likely error is an overestimate of the benefits.

Figure 7. Links and Nodes of the Transport Logistics Chain



Source: FastPath User's Manual

Both the impact of changes in specific logistics activities and the overall effectiveness of supply chains can be measured using the same quality of service measures as the shippers and consignees use to determine the competitiveness of the underlying trade in goods. These are, aside from cost and quality of production, time and cost for delivery. Embedded in all these is the factor of reliability. Some common terms used for these measures are:

- Total delivered cost - cost of good delivered to the buyer including that for logistics
- Order cycle time - time from placing initial order to receipt of the goods ordered
- Order fulfillment - probability of receipt of the goods in the correct amount, in good condition in accordance with the agreed delivery schedule

The measurement of cost is generally stated as the total unit cost (i.e., the total cost for the delivered goods divided by the quantity of goods shipped). This may be specified as a percentage of the selling price for the goods at either the origin or the destination (e.g., 10 percent of FOB value) or as a cost per unit of weight, volume, or cargo unit (e.g., US\$ per TEU, truckload, or wagonload).

The measurement of time is the average times for delivery of inputs from suppliers to a production/assembly process, for delivery of outputs from this process to the market, and for delivery of parts and after-sales technical support to the buyers. This may be the gross time between initiating and completing the shipment or the net time to complete the shipment after subtracting the time for discretionary activities (e.g., intermediate storage or delays requested by the buyer or the seller).

The measurement of reliability is more complex but can be expressed as a range (e.g. +two days, +10 percent, maximum 10 days - minimum six days), a standard deviation/coefficient of variance, or a confidence limit (e.g., 10 days or less for 95 percent of the shipments).

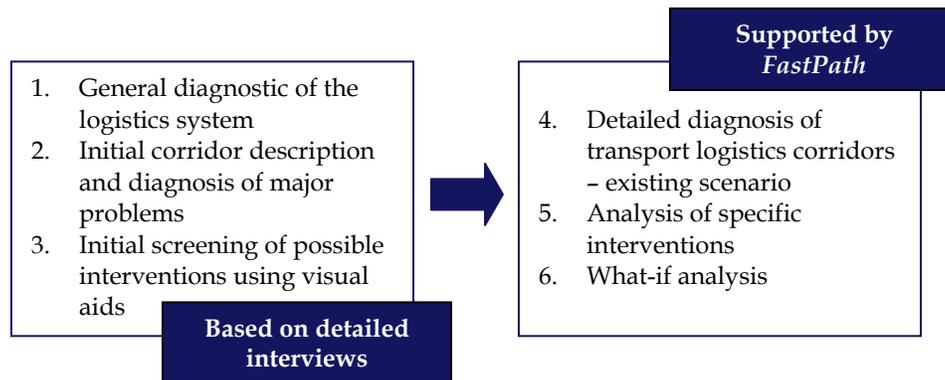
A reduction in time or cost for delivery or an increase in reliability in meeting delivery schedules will benefit all shippers. However, the value of these benefits to individual shippers will depend on the relative importance given to cost, time, and reliability. This, in turn, varies with the type of goods and the markets in which they are sold. For high-value goods and dynamic markets, there will be a premium on the order time. For inputs to a continuous production activity, the greatest concern will be reliability of delivery, whereas for the goods produced, the principal concern is likely to be the delivered cost. Even individual shippers will have different priorities depending on what is being shipped and to which market. Because of these differences, it is important that the logistics sector offer different combinations of cost, time, and reliability to meet the requirements of different shippers.

The *FastPath* methodology reflects a comprehensive understanding of shipper requirements as well as the policy, regulatory, institutional, and infrastructure insight that ultimately leads to optimal and consensus built solutions.

## ***FastPath* Audit Stages**

Diagnosing the problems in a transport logistics chain while working with stakeholders requires a detailed audit process that consists of six stages (Figure 8)

Figure 8. Audit Process Stages



The first three stages are diagnostic steps based on detailed interviews conducted with stakeholders and serve as a means to define the logistics issues on a sector basis. This is not computerized. The purpose of these stages is to develop a detailed understanding of the impact of problems on the competitiveness of the region's trade logistics system. This entails identifying and defining in detail the logistics problems in specific corridors and the related trade flows. Data collected cover the time and cost for each link and node of the typical shipment in each selected logistics chain and the principal sources of inefficiency and reliability problems. The relative sensitivity of these trade flows to the time it takes to respond to orders for logistics services and equipment and to the variation in transit times from one end of the logistics chain to the other is also examined. Chapter 4 describes the participants' selection process and how the interviews were conducted.

The second three stages serve as a detailed analysis of specific transport and logistics corridors and are supported by the *FastPath* software. The software application is used to (1) define the transport and logistics system; (2) record the specific performance of each component of the system in terms of cost, time, and reliability; (3) compare these performance measures with international norms; (4) add the performance measures for the total logistics chain and its subchains, and (5) report on the results in tabular and graphic forms.

Finally, to diagnose performance, one must compare actual performance to benchmarks. This can be done first for an entire corridor, then for each mode, and eventually for each process in the transport logistics chain. Whatever the level, the methodology involves comparing actual or perceived performance to benchmarks or norms.

## 4. *FastPath* Interviews

### Background

We assessed and analyzed all aspects related to the transport of goods along each corridor. A central element of the audit and diagnostic is the conduct of detailed interviews with stakeholders using sets of semi-structured questionnaires to guide the discussions. Information obtained in the interviews is validated by reviewing original documents and/or collaborated by discussions with others. Further confirmation is obtained by physically driving each corridor and its spurs up to the borders with neighboring countries.

Given the range of activities encompassed by logistics, the variety of problems that can affect the quality of services is immense. For the purposes of identifying and evaluating these problems, it is often necessary to group them into categories according to their source. The primary sources identified for this purpose are as follows:

- Physical operations and assets used in the transport, handling, and storage of goods.
- Transactions related to these operations that occur between shippers and logistics service providers as well as among third parties involved in a supply chain, including Customs.
- Government policy that regulates these operations and the underlying trade as well as safety and environment issues.
- Ancillary services such as financing and communications that contribute to the efficiency of these operations.

### PHYSICAL OPERATIONS AND ASSETS

The principal source of problems, and the area most frequently analyzed, is the physical assets used for the transport, handling, and storage of goods moving through a supply chain. These assets are subdivided into infrastructure, equipment, and labor. Problems with the condition and capacity of infrastructure and equipment limit the throughput of these activities thereby increasing cost and time and reducing reliability. These problems are usually addressed by renewing existing assets or procuring new assets. Problems with labor, which are frequently more serious, affect not only time and costs but also the productivity of existing as

well as new infrastructure and equipment. These problems are addressed by enhancing skills and, where necessary and in cases of overstaffing, by reducing the labor force.

An equally important problem affecting the use of the assets is management performance. Logistics service providers normally evolve from individual operators to small enterprises providing a single service (e.g., cargo clearance, truck transport, warehousing). Their planning, monitoring and communications are rudimentary and they rarely provide complementary value-added services. As these enterprises grow, they may make small improvements in management capacity, but significant improvements do not occur until they interact with international logistics companies with modern management practices, including specialization and delegation. This enhancement can be accomplished through a correspondent or agency arrangement, a joint venture or direct competition where there is significant technology transfer.

## **TRANSACTIONS**

Because supply chains are usually constructed from a number of separate logistics activities, the movement of goods through a supply chain requires a number of commercial transactions between logistics service providers and/or between them and the cargo owners. A large percentage of logistics problems are caused by difficulties with these transactions as they add costs, delays, and uncertainty to the movement of goods through the supply chain.

Another set of transactions that frequently cause problems are those between shippers or logistics providers and the public officials whose approvals are required to move goods through the supply chain. While transactions involving public officials are usually minimal for domestic trade, they can be problematic within the country where provincial governments regulate the movement of goods transiting their province. For international trade they have traditionally been identified as a major source of cost and delay.

These transactions can be distinguished between those that must be completed prior to an activity taking place and those which occur as part of an activity. For example, a customs declaration must be submitted prior to clearance of import cargo and a contract of affreightment as well as, where applicable, bond guarantees, prior to transport of cargo but the bill of lading is issued after the cargo is loaded and transferred to the consignee while the vessel is en-route. The more complex the supply chain, the greater the number of transactions and their associated costs and delays. The more complex these transactions, the greater the cost and delays incurred.

Two of the most effective mechanisms for reducing the cost and delays associated with these transactions have been to simplify the documentation and to eliminate redundant requests for information. For this purpose, forwarders have introduced combined bills of lading; customs officials have introduced Single Administrative

Documents, and trucking organizations have acquired TIR carnets<sup>7</sup>. Efforts to simplify transactions allow for greater integration of logistics services but require a suitable environment. The government must reduce paperwork and the number of signatures required while reforming inefficient and corrupt practices. The private sector must adopt modern business practices, including increased transparency, more specialization of management functions, delegation of authority, and investment in information communication technology.

A third mechanism has been to automate data processing. While the procedures for storage and retrieval of data related to goods and their movement through a supply chain are well established, the use of this data to facilitate that movement is still evolving. Track and trace systems are a standard offering by the larger logistics service providers, especially those operating internationally, but are only now being offered by smaller providers. Similarly, while most forwarders offer warehousing only the international service providers and some large domestic providers offer inventory management systems. The ability to embed logistics information systems into the enterprise software of clients has become an important value-added service but relatively few fourth-party logistics providers/ advisors (4PLs) have this capability.

## **GOVERNMENT REGULATIONS AND POLICIES**

The effect of government policies on logistics has received more attention because of the substantial economic benefits of deregulation and privatization. Economic regulations have created significant problems for logistics activities when they prevented pricing from adjusting to market conditions and when they increased barriers to entry for new providers entering existing markets and existing logistics providers entering new markets. These not only increased costs but also reduced the variety of time and cost combinations offered by three PLs. Safety and environmental regulations have also increased operating costs but often provided compensating public benefits.<sup>8</sup> However, they can cause problems for logistics service providers when they are enforced in an arbitrary or selective manner. The resulting loss of transparency discourages competition, thereby severely reducing any benefits that the regulation might have provided. These problems can be addressed through programs of reform and deregulation.

Regulation of international trade can also add time and costs to logistics activities. The imposition of duties and taxes on traded goods, restrictions on the types of goods traded (based on trade agreements and protection of domestic industries), and enforcement of safety, sanitary and phytosanitary standards increases the time and cost of moving goods across land borders or through international gateways, can be justified on political and economic grounds. Problems arise where there is a lack of diligence, consistency and transparency in

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<sup>7</sup> Formal in-transit documents for bonded cargo.

<sup>8</sup> These regulations can increase short-term freight rates, but reduce long-term costs to the shippers. For example, the introduction of a requirement for annual certification of roadworthiness can force trucks operators to renew their fleet thereby providing safer and more reliable transport of goods.

enforcement of these regulations or where the procedures are inefficient thus introducing unnecessary costs, delays and uncertainty.

Another area of government policy that affects performance in the logistics sector is investment in public transport infrastructure assets. The role of the private sector in these investments has been the subject of considerable experimentation over the last two decades. This has led to an increase in the number of privately operated toll roads and rail track as well as port and airport terminal concessions. There are various models for allocating responsibility between the public and private sector but the principle criteria of success is whether they provide sufficient capacity in a timely manner, at reasonable cost, and with acceptable quality. Otherwise, they significantly increase the time and cost for the logistics activities that use this infrastructure.

A final area of government policy that affects logistics is taxation and subsidization. Excessive taxation of transport equipment can discourage investment while increasing transport costs. This problem is often sited with regard to imports of equipment, especially parts. Subsidization can be a problem especially when it is used to maintain inefficient transport services thereby lowering the returns to efficient transport or when it provides a competitive advantage to less efficient logistics service providers.

### **ANCILLARY ACTIVITIES**

The remaining source of problems for the logistics sector are activities that facilitate logistics management, in particular, the acquisition of assets, the coordination of transactions and compliance with government regulations. Of particular concern is the lack of access to modern financial and communications services. The role of the government in financing public infrastructure has already been discussed. Of equal importance is the availability of commercial financing for both capital investment and working capital. This is a significant problem for the logistics sector. In many countries, banks are reluctant to lend to transport service providers for the procurement of equipment unless the loan is securitized with property or other fixed assets. This has led to extensive use of leasing arrangements in some countries, but in others, it has left transport service providers dependent on savings of families and friends to acquire new equipment.

Logistics service providers who act as forwarders but do not own transport equipment or other significant fixed assets still need working capital. The amount can be significant where transport companies and other logistics service providers require payment from forwarders on less favorable terms than the forwarders can obtain from the shippers. Producers and traders also require working capital. This is often financed against firm orders or buyers' Letters of Credit. Difficulties in obtaining this finance not only limit the amount of competition in the logistics sector but also prevent existing providers from expanding into new markets and increasing their market share.

The introduction of automatic debit systems has simplified transactions especially between logistics service providers and public agencies. These not only reduce the time required to complete transactions but improve transparency and eliminate the number of money exchanges between private parties and public officials.

Modern communications has been an essential part of logistics management. Email has replaced the telephone and fax as primary mode of communication, though internet-based transactions are usually limited either because electronic signatures are not legally recognized or because supporting financial services are not available.

Electronic data interchange (EDI) has also transformed transactions between the public and private logistics service providers. EDI allows supply chain participants to share information in a format that also supports data processing. While EDI has become essential in international transport and logistics, domestic providers have been slow to make the necessary investment. The public sector has often delayed the introduction of EDI because of difficulties in selecting a standard format (EDIFACT, XML/EDI, Rosetta.net, ebXML), method of access (VAN, VPN, or Internet), or, more commonly, right of access. Some government agencies have tried to discourage the use of EDI by restricting access, requiring hardcopy backup, and assigning strict liability for the data transmitted, but these actions are generally part of a broader effort to discourage transparency. At the same time, EDI has become essential for international trade and lack of it constitutes a competitive disadvantage.

In the section below, we discuss the types of organizations targeted for CDS diagnostic interviews that were conducted to complete the first three stages of the *FastPath* analysis.

### **COMBINING TYPES AND SOURCES OF PROBLEMS**

The sources of problems discussed above can be linked to the general problems of inefficiency, competition, complexity, and compatibility as shown in Table 3. Problems with physical operations and assets generally result in inefficiency and incompatible interfaces. Problems due to excessive or complex transactions not only reduce efficiency but are symptomatic of complex supply chains. Difficulties associated with public regulation commonly lead to the complementary problems of inefficiency and lack of competition. Public policies related to international trade frequently lead to problems with compatibility at the borders and gateways. Limitations on ancillary activities constrain the growth of the logistics industry thereby maintaining the existing complexity of supply chains.

Table 3. Relationship between Type and Source of Problems

Problems	Inefficiency	Competition	Complexity	Compatibility
<b>A S S E T S   A N D   O P E R A T I O N S</b>				
Infrastructure	√√	√		√
Equipment	√√			√
Labor	√√	√	√	√
Management	√√		√√	√
<b>T R A N S A C T I O N S</b>				
Between private logistics service providers	√	√	√√	√√
With public officials	√√		√√	
Data processing	√√		√√	√√
<b>P U B L I C   P O L I C Y</b>				
Economic regulation	√√	√√		
Regulation of trade	√	√		√√
Regulation of operations		√		√
Enforcement of regulations	√√	√		√√
Taxation and subsidization	√	√		
<b>A N C I L L A R Y   A C T I V I T I E S</b>				
Public finance for capital investment		√√	√	
Commercial finance for capital investment	√	√√		
Working capital	√	√√	√√	√
Data communications	√√		√√	√√
EDI	√√		√√	

## Types of Organizations Targeted for Diagnostic Interviews

Because of the diversity of logistics services and the large number of service providers, interviews were targeted for groups representing specific sectors rather than individual companies or agencies<sup>9</sup>, as follows:

- **Shippers** – traders, manufacturers, and retailers

<sup>9</sup> In some cases, participants could be classified in more than one group of organization; however, for purposes of this methodological note, they have been only counted once and placed in the organization group that is believed to correspond to their primary interest.

- **Transport service providers** – ports, shipping lines, inland container depots, truckers, railways and pipeline operators
- **Freight forwarders** – freight forwarders, clearing agents, insurance companies
- **Government ministries and agencies** – transport ministries, customs agencies, regulatory entities and multinational or regional government entities

## SHIPPERS

Cargo owners – importers and exporters – are not necessarily bound by the same rules. Large companies can be small importers and exporters in terms of volume, and small companies can often use large transport service providers. Large companies involved in manufacturing and distribution will often have their own in-house transport and logistics division with their own transport fleet, or alternatively, use the services of a large three or four PL logistics company. Many large companies have in-house transport and top it up with private operators. Others give annual contracts to established companies and top it up as needed. One typical scenario within the region is for a trader to make frequent flights to Dubai (or China, or Nairobi) to purchase own goods of less than a full container load, and to use small transport and logistics service providers in order to save money.

## TRANSPORT SERVICE PROVIDERS

The logical observation and general rule is that the larger service providers are more resourceful and are able to provide better and faster service. The large trucking companies and logistics companies generally have influential owners and shareholders, and are less prone to being harassed at police road blocks and having to pay bribes. The smaller trucking companies are less likely to have a back up service in the event of a breakdown, and their transit times will be less predictable/ reliable than the larger companies. They may drive longer hours and in fact have shorter times. With a smaller customer profile, the smaller companies are less likely to be able to pick up a return load, and their profit margins will be lower.

## FREIGHT FORWARDERS

Similarly for clearing agents, freight forwarders and ship agents, the smaller companies generally have longer clearance times and lower service levels than the large companies, but with lower prices, and their customer base will tend to be smaller companies where the price is more important than the quality of the service. The general rule for transport service providers is that the smaller the company, the worse the service levels, the lower the price, and the lower the profit margin. Of the very many small independent operators, only a few well managed companies, operated by previous employees of the larger companies, have prospects for growth. Improving service levels by tighter regulation will likely lead to a reduction in the number of smaller companies. In case of servicing transit traffic or traffic moving in bond, the bigger companies have capacity to organize guarantees for higher value bonds compared to smaller companies. Therefore bigger companies are in better position to handle transit traffic with higher value and bigger volume traffic.

## **GOVERNMENT MINISTRIES AND AGENCIES**

For public officials, it is important to interview those responsible for regulation of logistics services and for the provision of public infrastructure. Responsibility for regulation of logistics services is generally distributed among a number of ministries. While the extent of regulation of the logistics services sector is usually limited, these same ministries are responsible for public policies that affect the structure of the industry. As such, it is important that they be interviewed as a group. Responsibility for organizing this group should be given to this senior ministry involved, which is often the Ministry of Finance. For international trade, it is necessary to interview the Customs officials and the customs clearance agents. These could be done as separate interviews with the latter interviewed together with the freight forwarders.

### **Definition of Small Organization or Entities**

In identifying organizations to be interviewed, care was taken to include both large and small entities so as to obtain a balanced perspective of the issues, concerns and performance of the corridors. For purposes of the study, it was necessary to identify some general criteria as to what constitutes a small organization or entity.

For the CDS freight scenarios, small is defined as a small importer or exporter, typically less than 500 TEUs or 10,000 tons per year often less than a full container, using small trucking company with less than 20 trucks, and using small clearing agent with less than 25 employees. All government entities were classified as large entities.

## **Process for Identifying Participants**

A multifaceted approach was used to identify participants to be included in the diagnostic interviews. This approach included the following elements:

1. Discussing with senior officials of the two corridor authorities (NCTTCA and CCTTFA) regarding the objectives of the interviews and seeking suggestions and contact information for organizations and participants.
2. Contacting associations relevant to the transport and logistics sector, including main shippers and consignee organizations, clearing and forwarding agencies, shipping lines' agencies, shipper's councils, chambers of commerce, association of exporters, association of transporters and product association of main commodities.
3. With the help of the associations, we identified a representative group of shippers and consignees to provide detailed data on the steps involved when exporting and importing their products along each corridor. We placed special attention in selecting a representative group of companies to ensure that the sample adequately characterize different size of companies and degrees of participation for specific products.
4. Contacting transport service providers directly from our prior experience and contacts in the region including the railroads, shipping lines, port operators and inland container depot operators.

5. Discussing with senior officials of relevant national ministries and government agencies the objectives of the interviews and seeking suggestions of government officials to include in the interviews.
6. Reviewing list of organizations and participants in regional workshops and conferences dealing with the transport sector.
7. Reviewing lists of organizations and participants contacted by prior regional transport and logistics studies.
8. Identifying new organizations and participants for a fresh look at sector issues by asking those interviewed to recommend additional candidates.

## **Number of CDS Interviews Targeted and Conducted**

A complete list of those organizations and participants targeted for interviews and conducted is presented in Appendix A. In the sections below we discuss those organizations and participants targeted for interview, those that were actually interviewed, and the representativeness of the interviews conducted of the transport and logistics sector.

### **CDS INTERVIEWS TARGETED**

Table 4 shows a breakdown of the 336 interviews that were targeted for the CDS by type and size of organization and country. The target set of interviews included more than 100 transport service providers, 100 government entities, more than 70 shippers and more than 50 freight forwarders. In terms of size, 266 interviews were targeted with large organizations and 70 interviews with small organizations. Excluding interviews targeted with government entities, the 70 interviews with small organizations represents 30 percent of the total.

In terms of countries, the target of 336 interviews was distributed as follows: Kenya, 106 interviews (32 percent); Tanzania, 90 interviews (27 percent); Uganda, 60 interviews (18 percent); Burundi, 35 interviews (10 percent); and Rwanda, 45 interviews (13 percent).

Table 4. CDS Interviews Targeted by Type of Organization and Country

Type and Size of Organization	Burundi	Kenya	Rwanda	Tanzania	Uganda	Total
<b>Large Organizations</b>						
Freight Forwarders	6	4	9	4	1	24
Transport Service Providers	-	47	3	33	5	88
Shippers	4	12	6	16	16	54
Government Entities	15	26	12	23	24	100
Subtotal	25	89	30	76	46	266
<b>Small Organizations</b>						
Freight Forwarders	4	7	8	5	5	29
Transport Service Providers	3	9	3	7	2	24
Shippers	3	1	4	2	7	17
Government Entities	-	-	-	-	-	-
Subtotal	10	17	15	14	14	70
<b>All Organizations</b>						
Freight Forwarders	10	11	17	9	6	53
Transport Service Providers	3	56	6	40	7	112
Shippers	7	13	10	18	23	71
Government Entities	15	26	12	23	24	100
Subtotal	35	106	45	90	60	336
<i>Source: Nathan Associates</i>						

## INTERVIEWS CONDUCTED

Table 5 shows a breakdown of the 236 interviews that were conducted by type of and size of organization and country. Interviews were conducted with 91 transport service providers, 71 government entities, 39 shippers and 35 freight forwarders.

In terms of size, 189 interviews were conducted with large organizations and 47 interviews with small organizations. Excluding interviews targeted with government entities, the 47 interviews with small organizations represents 28 percent of the total.

Table 5. CDS Interviews Conducted by Type of Organization and Country

Type and Size of Organization	Burundi	Kenya	Rwanda	Tanzania	Uganda	Total
<b>Large Organizations</b>						
Freight Forwarders	3	3	7	2	-	15
Transport Service Providers	-	38	3	31	3	75
Shippers	3	9	3	10	3	28
Government Entities	11	22	10	13	15	71
Subtotal	17	72	23	56	21	189
<b>Small Organizations</b>						
Freight Forwarders	4	7	2	5	2	20
Transport Service Providers	3	7	3	3	-	16
Shippers	3	1	1	2	4	11
Government Entities	-	-	-	-	-	-
Subtotal	10	15	6	10	6	47
<b>All Organizations</b>						
Freight Forwarders	7	10	9	7	2	35
Transport Service Providers	3	45	6	34	3	91
Shippers	6	10	4	12	7	39
Government Entities	11	22	10	13	15	71
Subtotal	27	87	29	66	27	236
<i>Source: Nathan Associates</i>						

In terms of countries, the 236 interviews conducted were distributed as follows: Kenya, 95 interviews (40 percent); Tanzania, 67 interviews (27 percent); Uganda, 27 interviews (10 percent); Burundi, 27 interviews (10 percent); and Rwanda, 29 interviews (13 percent).

The percent of CDS interviews conducted of those targeted is shown in Table 6. Overall 70 percent of the interviews targeted were actually conducted. In some instances, the persons targeted for the interview were not available due to other commitments or illness. In many instances, the CDS team was able to interview a knowledgeable colleague or associate of the person not available. The interview rate of 70 percent is considered acceptable and is above that achieved by other recent regional transport studies.

Table 6. Percent of CDS Interviews Targeted that were Conducted by Type of Organization and Country

Type and Size of Organization	Burundi	Kenya	Rwanda	Tanzania	Uganda	Total
<b>Large Organizations</b>						
Freight Forwarders	50	75	78	50	-	63
Transport Service Providers	0	81	100	94	60	85
Shippers	75	75	50	63	19	52
Government Entities	73	85	83	57	63	71
Subtotal	68	81	77	74	46	71
<b>Small Organizations</b>						
Freight Forwarders	100	100	25	100	40	69
Transport Service Providers	100	78	100	43	-	67
Shippers	100	100	25	100	57	65
Government Entities	-	-	-	-	-	-
Subtotal	100	88	40	71	43	67
<b>All Organizations</b>						
Freight Forwarders	70	91	53	78	33	66
Transport Service Providers	100	80	100	85	43	81
Shippers	86	77	40	67	30	55
Government Entities	73	85	83	57	63	71
Subtotal	77	82	64	73	45	70

*Source: Nathan Associates*

## REPRESENTATIVENESS OF CDS INTERVIEWS CONDUCTED

Overall, a credible distribution of interviews by organization type, size and country was obtained relative to the CDS information requirements. For example, the number of interviews conducted allowed information needed for the *FastPath* methodology from different organizations to be compared and contrasted and for a both a high and low range of values to be defined as well as average or typical values. The number of interviews also permitted the analysis to probe further into subsequent issues that may have been only briefly mentioned in an earlier interview. Finally, the distribution of interviews conducted is generally representative of the size and complexity of each organization type in the five study countries. The percentage of small entities interviewed at 28 percent of non-government interviews, is consistent with the target rate of 30 percent and provided ample information and data on the particular issues, concerns, and logistics performance encountered by small entities.

The CDS interviews included organizations that deal with principal cargo types and commodities transported on the Northern and Central Corridors. This includes imports, exports and transit cargoes shipped in heavy and light containers, dry bulk and liquid bulk, and break-bulk. Interviews included those with institutions

involved in shipments via road, rail, pipeline, maritime and lake ports. Principal commodities that were addressed in the interviews include manufactured goods, coffee, tea, cereals and milled products, sugar, vegetable oil, clinker and stones, cement, fertilizer, steel and steel products, project cargo and petroleum and petroleum products. These products represent more than 80 percent of the commodities transported along the corridors.

Finally, the information obtained during the CDS interviews has been cross-checked with available information from actual invoices, published tariffs, and with discussions with unbiased third parties. The information will be further checked in the series of validation workshops that will be conducted in each country.

## **Administration of the CDS Interviews**

Generally, interviews were conducted as open-ended group discussions organized as follows:

- Introductions
- Background discussion
- Major issues and problems
- Detailed discussion on specific areas
- Prioritization of concerns
- Planned and potential initiatives

During the interviews we addressed issues associated with trade competitiveness or the lack of it, quality of logistics services and logistics industry structure, management of supply chains, facilitation of trade and transport, transport services quality and existing fleet capabilities and capacities, transport services variety and efficiency, regulation and enforcement of transport services, ongoing planned and proposed initiatives, among others. Data was collected and analyzed on transport logistics practices, behavior, and requirements, data on export and import transactions, identification of cost, time and reliability, cargo volumes, operational reports, and others. Detailed notes of the interviews were recorded and these notes have been entered into *FastPath* to derive estimates of time, cost and reliability of each corridor's performance by type of cargo, significance of the shipment by size, origin and destination pairs, and mode(s) of transport used.

## 5. Trade and Traffic Forecast

As previously described, we have analyzed the current performance of existing infrastructure using the *FastPath* methodology. We then continued and identified infrastructure and operational improvements needed through 2020 to evaluate the economic viability of proposed interventions. The identification of these improvements was based on a demand forecast through 2030.

### Traffic Forecasting Approach

An overview of the traffic forecasting approach is given this section. This approach is specifically tailored for the project and it improves on work documented in recent reports. A more detailed presentation of the trade and traffic forecasting methodology is provided in Technical Paper B. on Trade and Traffic Forecast.

There were seven major steps involved in the methodology. The major steps of the methodology are summarized below and presented in a diagram in Figure 9.

#### 1. Review historic trade and traffic data in the corridors

The forecast activities start with a review of historic trade data in the study area and traffic flows in the corridors in order to provide a reference point for future forecasts. Trade data was collected for country pairs within the study area and between country and overseas regional partners, in terms of values for the years 1998-2008. Traffic data was obtained from port data in the form of transit flows to landlocked countries for both Mombasa and Dar es Salaam; as well as from customs data for several of the study area countries. Historical data on economic country indicators (GDP and population) were collected..

#### 2. Produce GDP and population forecasts

Data on GDP and population values for CDS study area countries were collected, reviewed and cleaned. Once reorganized, the historical economic data was used to forecast future values from 2009 to 2030. The results were compared and contrasted with the country economic forecasts in the reference studies; adjustments were made where necessary to render the data more accurate.

### **3. Create forecast of trade flows**

First, using the data collected on historical trade flows, GDP and population in the first step and the forecasts calculated in the second step, total trade values for all countries in the study area were estimated. Then, trade values (import and export flows) for trading partners were forecasted from 2009 to 2030, through a regression model. Trade shares obtained from the results of the regression model were applied to total regional trade obtained from country level trade values, and produced the trade forecasts. The adjusted results in values were finally converted into tonnages; through conversion factors using commodities the study area countries trade.

### **4. Assign trade flows to corridors and modes to obtain status quo traffic forecasts**

Once demand was estimated between trading partners, trade flows were assigned to corridors, by mode: road, rail and ports. The allocation was based on corridor performance data (price, time and reliability as perceived by shippers) estimated by *FastPath*, socioeconomic indicators (language groupings and economic association groupings), and policy indicators (mode preference for certain types of traffic and preference for or bias against specific ports or countries). This activity produces a set of status quo traffic forecasts, meaning that the forecasts assume that only regular upgrade, maintenance and expansion works of the corridor are incorporated; excluding any proposed projects that would lead to improvements in corridor performance. This analysis was done for years 2015 and 2030.

### **5. Identify potential impact of proposed projects on corridor performance**

In order to estimate the impact of the proposed projects, their localized impact on performance variables (time, cost, reliability) was coded into *FastPath* for each link, node or logistics component. From *FastPath*, we obtained corridor level performance results, which were then compared against status quo baseline to estimate impact.

### **6. Recalculate corridor and mode shares with improved corridor parameters**

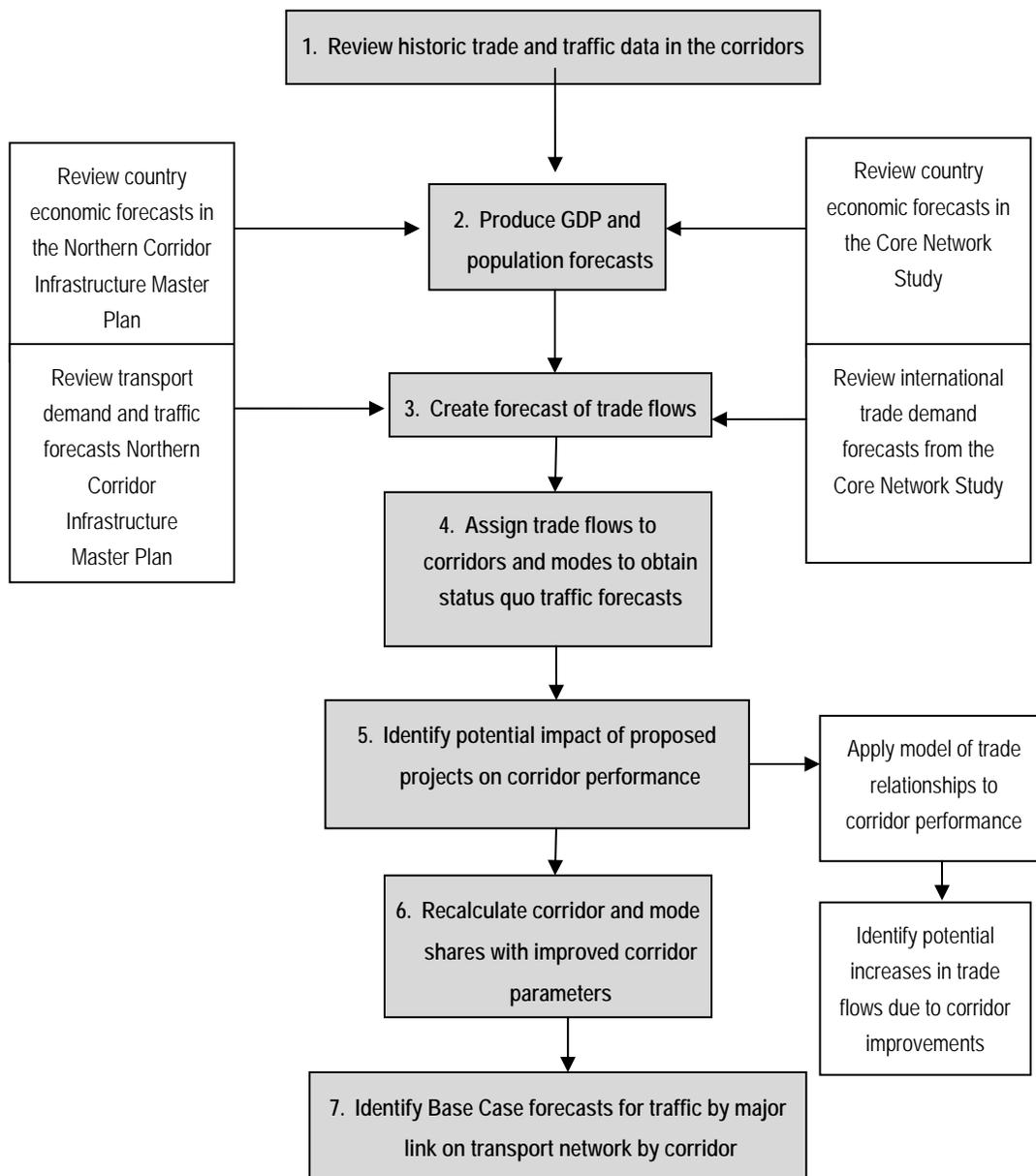
The improved performance based on proposed projects is entered into Corridor and Mode Choice Model to produce new shares.

### **7. Identify Base Case forecasts for traffic by major link on transport network by corridor**

The new shares are used by the Corridor and Mode Choice Assignment Model to reallocate traffic to corridors and modes, to obtain Base Case traffic forecasts.

Once the set of Base Case demand forecasts was produced, a separate model was applied to forecast the potential additional trade that might be induced by improvements to the corridor infrastructure and operations. This model estimated the magnitude of the relationship (elasticity) between generalized cost and trade. This elasticity value was applied to the change in generalized cost caused by the improvements in order to find an estimate for the amount of induced trade.

Figure 9. Traffic Forecasting Methodology



As noted above, there are two models used in the forecast methodology: a corridor choice model and a trade model. These are described below

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## CORRIDOR CHOICE MODEL

The import and export forecasts were assigned to a corridor/port combination and to road or multimodal subchains of the corridor according to a corridor choice model that has been developed from (1) annual historical data on percentage of trade flow for all corridors in Eastern and Southern Africa, (2) measures of corridor performance for each corridor and subchain from *FastPath* analysis, and (3) policy indicators for shipping and trade facilitation/constraint issues.

Two versions of the corridor choice model were created, one for regional international trade and one for overseas trade. The form of these models is a logit model. The models will be developed using ArcView Network Analyst, a GIS-based software extension developed by ESRI to be applied with the compatible ESRI product, ArcView GIS, full-featured GIS software for visualizing, managing, creating, and analyzing geographic data. ArcView GIS is the current industry standard and is most widely used desktop GIS software in the world. For the corridor choice model the following variables were tested for significance:

- Regional or overseas flow
- Commodity group
- Price to the shipper
- Transit time
- Reliability/predictability of transit time
- Multimodal or road
- Frequency of rail service
- Safety and security of the corridor
- Historical ties (e.g. member of EAC, etc.)
- Shipping structure (feeder lines vs. direct calls, number of port calls by region for general cargo and container ships, largest general cargo vessels accommodated, etc.)
- Dummy variables for selected commodities and ports
- Special variables for commodities such as the location of tea auctions

For a given trade flow with a commodity group, origin, and destination, these models estimated the percentage of flow which would have taken each corridor associated with the origin and destination. This is very useful for allocating traffic to the corridors in the regional network with and without improvements.

## TRADE MODEL

This model calculated total potential trade flows among countries in the region. This model can also estimate the amount of induced traffic that will result from specific sets of improvements to the regional network or changes in the regional customs union.

The trade model has the form of a gravity model. The total trade between pairs of trading partners is assumed to be a function of the economic size of the trading partners and inversely related to the disutility of shipping

freight between them. This disutility is assumed to be some combination of price, time and reliability of these shipments. Other factors may also be significant. The model is being calibrated on regional trade data for all trading partners on the characteristics of the trading partners and shipping disutility measures. In the Trade Model the following variables were tested for significance:

- GDP
- Regional or overseas trade
- Commodity group
- Price, time and reliability
- Member of economic association (EAC, COMESA, SACU, SADC)
- Common language
- Total hassle factor for trade (time required for import and for export documentation from Doing Business Surveys)
- Trade compatibility between trading partners

Various formulations of these variables are being tested and the version with the most explanatory power will be selected.

## 6. Communications

Strong communications and outreach are critical to translating rigorous research and analysis into action. CDS communications activities were designed to coordinate donor-funded, national and regional transport corridor reform initiatives to promote efficiency and reduce overlap; educate and raise awareness among corridor reform stakeholders of the importance of improving corridor efficiency and safety; inspire decision makers to carry out corridor reforms; and motivate public and private sector champions to invest in corridor improvements. Communications activities also informed CDS funders and stakeholders of project progress, and facilitated cooperation among multiple stakeholders and donors.

The design and implementation of communications products, including print and electronic media (e.g., website, email newsletters, press releases) and a series of short educational/campaign films, were guided by a comprehensive communications strategy conceptualized shortly after CDS mobilization. Strategy implementation was overseen by a short-term expatriate Communications Expert based in Nairobi, with significant contributions from regional- and Washington-based CDS team members.

### COMMUNICATIONS STRATEGY

CDS has a broad range of stakeholders and audiences, all of whom must be considered to achieve communications objectives. The CDS Communications Strategy, submitted with the CDS Inception Report on December 16, 2009, identified specific objectives, messages and media for target audiences including regional stakeholders, national public sector stakeholders, the private sector, CDS clients, other donors and implementers, and the general public. The strategy also emphasized engaging journalists from the national and regional newspapers, radio and television stations and East Africa based correspondents with links to the international media, press and wire services, to (1) raise awareness of the CDS activity and promote milestones and events; and (2) raise general awareness among regional stakeholders, national stakeholders, private sector and the general public of the importance of trade facilitation and efficient corridors. The CDS Communications Strategy is summarized in Table 7 below.

Table 7. CDS Communications Strategy Summary Chart

Audience	Objectives	Messages	Comm. Product
Regional Stakeholders (RECs, Transit Corridor Committees)	<ul style="list-style-type: none"> <li>(1) Raise awareness of and provide updates on the progress of the CDS</li> <li>(2) Educate and raise awareness of the importance of improving corridor efficiency and road safety</li> </ul>	<ul style="list-style-type: none"> <li>(1) CDS will not replicate past studies, progressing on a clear course of action that will not end with the study alone</li> <li>(2) Improving regional transport corridors can lower the costs of doing business for the region</li> <li>(3) CDS contributes to achieving broader goals for regional integration (Tripartite meetings – EAC-SADC-COMESA)</li> </ul>	<ul style="list-style-type: none"> <li>(1) Stakeholder meetings</li> <li>(2) Website</li> <li>(3) E-mail updates</li> <li>(4) Targeted leaflets</li> <li>(5) Press releases</li> <li>(6) Short film</li> </ul>
National-Level Public Sector Stakeholders (Ministers of Transport, Works, Finance, Trade and Industry, Customs, Port Authorities, national regulatory agencies)	<ul style="list-style-type: none"> <li>(1) Raise awareness of and provide updates on the progress of the CDS</li> <li>(2) Educate and raise awareness of the importance of improving corridor efficiency and road safety</li> <li>(3) Motivate action to implement corridor improvement projects identified by the CDS</li> </ul>	<ul style="list-style-type: none"> <li>(1) National policies effect regional policies and vice versa; streamlining and coordinating policies benefits your nation and the region overall.</li> </ul>	<ul style="list-style-type: none"> <li>(1) Stakeholder meetings</li> <li>(2) Website</li> <li>(3) E-mail updates</li> <li>(4) Targeted leaflets</li> <li>(5) Press releases</li> <li>(6) Short film</li> </ul>
Private Sector (service providers, users, shippers, transport operators associations, clearing and forwarding agents associations)	<ul style="list-style-type: none"> <li>(1) Raise awareness of the CDS activity, provide updates on progress and events and encourage participation in the audit interview process</li> <li>(2) Educate and raise awareness of the importance of improving corridor efficiency and road safety to firm, national and regional competitiveness</li> <li>(3) Provide tools to advocate for change and increased investments</li> </ul>	<ul style="list-style-type: none"> <li>(1) Improvements to the corridor increase the efficiency and transparency of business, and therefore your bottom line</li> <li>(2) Strategic investment in corridor infrastructure projects can reap dividends, improve firm, country and regional competitiveness, promote technology transfer, and more</li> </ul>	<ul style="list-style-type: none"> <li>(1) Stakeholder meetings</li> <li>(2) Website</li> <li>(3) E-mail updates</li> <li>(4) Targeted leaflets</li> <li>(5) Press releases</li> <li>(6) Short film</li> </ul>
CDS Clients (USAID, DfID, TCG)	<ul style="list-style-type: none"> <li>(1) Keep clients/key stakeholders informed of progress against contract deliverables so that progress can be monitored and evaluated</li> <li>(2) Facilitate effective communication between CDS staff, CDS funders and the TSG.</li> </ul>	<ul style="list-style-type: none"> <li>(1) We are committed to undertaking a comprehensive diagnostic that will help you push forward a coordinated regional effort to improve the corridors</li> <li>(2) We are here to support you in achieving maximum corridor efficiency</li> <li>(3) We seek to provide the information, data and analysis that will allow</li> </ul>	<ul style="list-style-type: none"> <li>(1) Monthly reports</li> <li>(2) Email updates</li> <li>(3) Meetings/telcons</li> </ul>

Audience	Objectives	Messages	Comm. Product
		all stakeholders to work together to prioritize initiatives and leverage resources.	
Other Donors and Implementers	(1) Raise awareness of the CDS activity and provide updates on progress and events (2) Promote donor coordination, contribution to the donor coordination database and participation in stakeholder meetings (3) Attract investment, grants, and funding for the implementation follow-on phase	(1) We're all in this together – let's coordinate efforts for the best results. (2) Improved corridor performance will result in better value for money of your support to the development agenda of East Africa	(1) Stakeholder meetings (2) Website (3) Collaboration database (4) E-mail updates (5) Targeted leaflets (6) Press releases (7) Short film
General Public	(1) Raise awareness of the CDS activity and educate on the importance of efficient trade corridors	(1) Better corridors mean increased livelihoods and a way out of poverty. Encourage and support your national and regional governments to improve corridors	(1) Website (2) Press releases (3) Short films (PSA)

## COMMUNICATIONS PRODUCTS

The design of CDS communications products was driven by key objectives and messages, including generating “buzz” around the CDS and regional initiatives to improve transport corridor efficiency. Communications products were designed and created for print, electronic, and audiovisual media. All products were appropriately branded according to USAID and DFID regulations, while considering the contributions of other donors and regional political dynamics regarding ownership and buy-in.

## PRINT AND ELECTRONIC MEDIA

**Website.** In response to the Tripartite’s (COMESA, EAC, and SADC) need for a one-stop shop for information and data related to East Africa's Northern and Central Corridors, CDS and the USAID-funded COMPETE program designed and launched the “East Africa Corridors” website ([www.eastafricacorridors.org](http://www.eastafricacorridors.org)). The website provides a wealth of information and data related to the corridors, including a searchable library of 288 studies and documents related to the Northern and Central Corridors and broader issues related to transport in East and Southern Africa. Under the Projects section on the website, 136 transit-related projects are pin-pointed on a GIS map where users can access information such as overall funding, implementing agency, progress and completion date. Users can register to obtain a username and password, which will allow them to add documents to the Library and update and upload projects, photographs and video clips onto the GIS Map.

All CDS project documents will be posted to the website and the Action Plan recommendations will also be posted to the GIS Map.

The website is expected to outlive the CDS and remain a common platform to download key materials, view photographs, read news and press releases and keep the ever widening community of internet users informed of the importance of efficient trade corridors. CDS has explored the possibility of handing over website maintenance to the EAC Secretariat, in close coordination with the Northern and Central Corridor Secretariats. The DFID TradeMark and USAID COMPETE projects would provide ongoing technical and resource support. Operationalizing the sustainability of [www.EastAfricanCorridors.org](http://www.EastAfricanCorridors.org) will fall to EAC, DFID and USAID.

***Flyers and fact sheets.*** For the February 2010 stakeholder workshop in Arusha, CDS produced a handsome bifold informational poster for distribution to regional and national stakeholders. The poster featured information about CDS objectives, beneficiaries, methodology and desired outputs. It also provided phone numbers and email addresses for the USAID, DFID and CDS points of contact, should the reader hope to contribute to the study or learn more information. The unique bifold poster design allowed several fact sheets on the regional infrastructure to be included among the materials. When unfolded completely, the back of the bifold poster functioned as a regional map, which highlighted the routes of the Northern and Central Corridors. This map can also be downloaded from the [East Africa Corridors.org](http://EastAfricaCorridors.org) website.

Similar materials are being prepared for the February 2011 stakeholder workshop to be held in Dar es Salaam.

***Bimonthly email updates.*** CDS also produced concise bimonthly e-mail updates to provide all stakeholders with regular progress updates, activities and upcoming events related to the CDS. The original CDS scope of work called for monthly updates; however, CDS, USAID and DFID ultimately agreed that a bimonthly update would suffice.

The bimonthly updates featured project updates as well as a “Spotlight” section highlighting the work of specific CDS experts [e.g. the *FastPath* survey team, the lake ports expert, or the CDS film crew (see below)]. The updates also featured key news stories on regional trade & transportation events and contact information for key CDS points of contact at USAID, DFID and CDS. The bimonthly update “e-format”, designed by Serendipity Creative, capitalized on the latest means of sharing information: the updates can be shared with other interested parties via forwarding email, or posted to social media websites including Facebook, Twitter and Linked In with one click of a mouse. The CDS mailing list was drawn from the March 2009 Donor Conference and Stakeholder meeting and amended as appropriate.

***Press releases.*** To generate broader public interest in the regional trade corridors and the importance of trade facilitation, CDS invited the media to report on milestones and high profile events. In advance of the February 2010 meetings in Arusha, CDS worked closely with the USAID communications specialist in Nairobi to develop a concise and targeted press release informing the general public of CDS goals and objectives. Local, regional and international press representatives will be invited to the February 2011 conference in Arusha and a new press release developed and distributed. In addition, information products such as the flyers and fact-sheets will be distributed to journalists attending these events.

***Stakeholder workshops.*** In September-October 2010, the CDS technical team held five stakeholder diagnostic validation workshops (one in each of the five countries) to review the key information used in the diagnostic study. While these meetings did not warrant press conferences, they provided an opportunity to disseminate CDS information and line up high-level interviewees for the CDS film series.

## AUDIOVISUAL MEDIA (FILM SERIES)

Issues come alive in film and pictures in a way they do not as the written word. Educational ,informational and campaign videos that raise awareness, tell a story and illustrate key issues can galvanize interest in the development of regional corridors – reaching a broad audience of policy makers, key stakeholders and the general public.

In September 2010, after soliciting a Request for Quotes to vendors in East and Southern Africa, the USA and UK and reviewing proposals from four different vendors, the CDS team selected Silverfish Media USA to produce a series of short educational films. These films include:

- ***East Africa Corridors Film*** – the major film product will be a 15 minute overview film of East Africa’s Northern and Central Corridors, designed to galvanize interest in corridor development. It is expected to discuss the importance of trade facilitation in the region, focusing on these two corridors to address key issues, challenges and needs. It will be a ‘curtain raiser’ shown at the final stakeholder conference (scheduled for February 2011) when the final results of the CDS are presented. It will also be made available to stakeholders and donors on DVD to show at other events.
- ***Investor Film*** – a 5-7 minute film to motivate potential financiers and investors to allocate increased or additional resources for implementation of recommended projects and interventions
- ***CDS Short Film*** – a 5-10 minute film on the stages of the CDS as a standalone product to be used by stakeholders and donors to discuss the approach and methodology behind the work undertaken. It will also be made available on DVD.
- ***Northern and Central Corridor Short Films*** – two 5-10 minute films, one on each of the Northern and Central Corridors, using the footage gathered for the East Africa film. This will leverage the work that goes into the flagship film and provide each of the corridor secretariats with a marketing and education film about their corridor for their own use.
- ***Public Service Announcement with Key Figures*** – to promote buy-in, create a buzz and a sense of urgency, we will develop 40 second public service announcements featuring key East African figures at sites such as ports, border posts, railway stations, weigh bridges. Each clip will highlight a pressing reason to “get moving” on corridor development. A “sexy” product like this may create more interest in corridor development than any of the other communications and activities put together. It will also get key decision makers involved – literally in the limelight. These clips will target all stakeholders and the general public. These products will be produced using interviews obtained during and main shoot and will be targeted for the end of the project so that they can be used in a ‘campaign-like’ way to create momentum for implementation of the CDS recommendations.

Silverfish demonstrated a proven track record in producing a comparable film for the North-South Corridor, offered an experienced team and state of the art filming specifications, had the most flexible approach in terms of filming/production schedule, had experience filming in all five EAC countries, and had resources to draw upon in Rwanda and Tanzania. Their style was also the most compatible for the desired look and feel for the

films – an informative, yet dynamic feel that conveys action and momentum – something that complements the CDS Action Plan.

CDS and Silverfish actively engaged USAID and DFID in developing the overall concept for the films – sending a draft Concept Note and comparable films from SA Trade Hub, World Bank, and the North-South Corridor), for their review, so all could agree on the tone and content of the film in advance. The approach to the films was to focus on action needed to improve transit times and reduce costs, not on current inefficiencies, although challenges would be highlighted in order to emphasize the urgency of action. The overall approach highlighted (1) opportunities that are unexploited or underexploited because of the challenges in corridor performance; (2) what is being done, planned or needs to be done further to deal with challenges – investment and other interventions; and (3) the will and determination to reform to create the necessary environment to attract investment, encourage innovation and achieve higher levels of efficiency.

Filming began in mid- November 2010 and covered all five EAC countries (Burundi, Kenya, Rwanda, Tanzania, and Uganda). The team covered industries key to the economic growth of the region (e.g., agriculture, textiles, handicrafts and mining), emphasizing how the efficiency of transport impacts competitiveness. The footage shot included interviews with over 60 regional and national stakeholders (e.g., Transit Corridor Committees, national Ministers of Transport, national customs administrations), private sector entities, relevant NGOs and “people on the street” whose livelihoods are impacted by corridor improvements. CDS has been actively involved with reviewing film rough cuts and shaping the final products.

Initial distribution of the films will be the responsibility of the CDS, in close consultation with the EAC secretariat. Main avenues of distribution will include the screening of films at events organized by the stakeholders involved in the CDS and the posting of the films on the CDS and other websites. Final films will be available in DVD format and also prepared for streaming over the internet, for viewing within East Africa and internationally (North America, UK, and Europe). Public Service Announcement clips will be available on DVD, for streaming and for regional television broadcast.

The films will be handed over to the EAC secretariat and corridor secretariats to assist in their activities. Copies of the films will also be made available directly to other key stakeholders’ associations in DVD format for their discretionary use provided that it is in line with the key objective of the project: to mobilize support for improvements in corridor efficiency.

## **CONCLUSION/NEXT STEPS**

The success of the CDS will be determined by the ultimate uptake and implementation of the studies recommendations. The communications products and activities were designed to inform, inspire and motivate stakeholders toward the ultimate goal of improving the efficiency of the regions corridors. The final step in the strategy is to work with the TCG to design a campaign to launch the implementation phase following the CDS. Elements of this campaign will include the website, films and public service announcements developed during the CDS, as well as a slogan developed with the TCG.

## 7. Feedback from Stakeholders

### Task Coordination Group Reviews

A Task Coordination Group (TCG) was established to provide direction and guidance to the CDS and to review CDS reports and recommendations. The TCG is chaired by EAC, and comprising the Tripartite (represented by COMESA, EAC and SADC Secretariats), the Northern and Central Corridor Secretariats, representatives of national governments and development partners (led by USAID, DFID, JICA, AfDB, EU and World Bank).

#### FIRST TCG MEETING OCTOBER 16, 2009

The first CDS technical coordination meeting held on October 16, 2009 in Nairobi involved representatives of funding, coordinating and implementation agencies of various diagnostic and infrastructure studies on the Northern Corridor and Central Corridor. The meeting was attended by representatives from EAC (chair), NC-TTCA, USAID/EA, DfID, JICA, AfDB, USAID/COMPETE project, Nathan Associates Inc (contractor for CDS), and Louis Berger Group Inc (contractor for Northern Corridor Infrastructure master plan study). The World Bank/FIAS attended via a video conference. Representatives of CC-TTFA and COMESA were not able to attend the meeting. Key observations/decisions relevant to CDS included:

- In order to avoid duplication, the three contractors for ongoing studies on the Northern Corridor and Central Corridor should identify and plan how to coordinate work in areas of duplication. The contractors concerned were Nathan Associates Inc (Corridor Diagnostic Study for Northern Corridor and Central Corridor), Louis Berger Group Inc (Northern Corridor Infrastructure Master Plan Study) and CPCS Transcom, Ltd. (Analytical Comparative Transport Cost Study on Northern Corridor). Savings to be identified out of such coordination should be used to undertake additional work;
- Other donor activities were elaborated and have to be taken into account. These are USAID/COMPETE project, DfID funded one stop border posts' in depth audits, JICA supported customs capacity building project for East Africa, World Bank FIAS/EAC program covering trade logistics, business licensing and regulatory reform, and special economic zones;

- Ultimately the objective of all studies and initiatives is to generate an integrated corridors development programs and projects to be presented at an Investment Conference, as directed by the region's Heads of State and Governments.

## **SECOND TCG MEETING FEBRUARY 25, 2010**

The second TCG meeting was held in Arusha on February 25, 2010 immediately following the conclusion of the First Stakeholder Workshop. Guidance was provided to the Consultants regarding the need to coordinate with the East African Transport Strategy Regional Road Sector Development Program for the EAC, being implemented by Aurecon. There were also recommendations that a workshop/ retreat of the consulting teams currently engaged on corridor-related studies should be convened to compare recommendations re policy, regulatory and institutional reforms and proposed transport investments. The workshop /retreat should occur prior to the presentation of the Draft Action Plan to stakeholders. The project schedule was reviewed within the objective of conducting an investment conference where the synthesized action plan will be presented under the auspices of the Tripartite. This is expected to be taken up by the Tripartite when the action plan is ready.

## **THIRD TCG MEETING JANUARY 20-21, 2011**

A third TCG meetings was held on January 20-21, 2011 in Arusha to review the Draft Action Plan. The Task Coordination Group (TCG) meeting to review the Draft Action Plan proposed by the Corridor Diagnostic Study (CDS) for the Northern and Central Corridors was held on January 20 – 21, 2011 in Arusha, Tanzania. The meeting was hosted by the East African Community (EAC), and supported by the United Kingdom Department for International Development (DFID) and the United States Agency for International Development (USAID). The meeting agenda is attached as Appendix A and the list of participants, comprising all members of the TCG except AfDB, is attached as Appendix B. Members of the TCG include the Tripartite comprising EAC, chair, COMESA and SADC; the CCTTFA and NCTTCA secretariats; representatives of governments of the five EAC member states; and selected development partners (DFID, USAID, JICA, AfDB, World Bank and EU). However, the AfDB sent apologies and was thus not represented.

This report records the key conclusions and recommendations made in the meeting and summarizes the key points presented in each of the sessions during the two days.

### *Meeting Background and Objectives*

The objective of meeting was to obtain views, comments and further inputs from the TCG, which has the responsibility to steer the project. These inputs would help to improve the accuracy and quality of the report and recommendations to be submitted to the regional stakeholders workshop February 24 – 25, 2011. The meeting also provided an opportunity for TCG members to exchange information on what projects or activities they are implementing of relevance to the CDS.

### *Key Conclusions and Recommendations*

The key conclusions and recommendations of the TCG Meeting to Review the CDS Draft Action Plan were as follows:

- The GDP and traffic growth rates used are comparable between the three corridor studies whose consultants have collaborated in the CDS (Aurecon, Louis Berger and Nathan Associates). Despite different approaches by the consultants the end results were in a common range between the optimistic/high and pessimistic/low scenarios giving a forecast of total regional demand of approximately 50 million tons by 2015 and 140 million tons by 2030.
- No matter what the exact numbers for forecasts are, traffic is increasing in any case and this has major implication in the challenge to develop transport infrastructure that will be able to cater for such demand.
- A sensitivity analysis made should be included regarding the traffic demand forecasts; looking at the impact of changing factors of analysis on the trade and traffic outcomes.
- The data on cost, time and reliability on the FastPath corridor analysis charts should be checked and verified since some were not easy to understand. Furthermore where differences are significant, FastPath results should be given according to commodities handled.
- It would be useful to give more details regarding the FastPath corridor efficiency analysis charts. For example, information for border posts could be split between processes at point of entry and point of exit.
- The unit costs used for capacity expansion, rehabilitation and upgrades projects appeared to be low compared to the unit costs currently applied in the region. For example road capacity estimate of US\$ 400,000 per km was low compared to around US\$ 600,000 or more now prevalent in regional road projects. It was pointed out that some of the proposed capacity upgrades consist of a single climbing lane and this partially explained some of the differences in unit costs noted.
- Data on road dimensions in the region are more varied than what is implied in the Aurecon work, which has an impact on road safety. It was suggested that this data needs further validation.
- In some instances, data on road traffic volumes along some roads appears lower than actual situation. For example it is stated that there are no roads with average daily traffic above 1,500 vehicles whereas several section of the Northern Corridor (e.g., Mombasa to Malaba) exceed 7,000 vehicles and could require improvement from two to four lane or dual carriageway roads. It was also pointed out the possibility of higher rail utilization should be considered when calculating road expansion requirements.
- Clarification was requested on how critical reliability or higher costs were and what the difference would be in modal share if reliability and safety indicators changed as a result of improvements in TRL, given a US\$ 600 million rehabilitation plan.

- In the area of reform it was urged to include exemption of railways from paying the fuel levy to contribute to the road fund.
- There was a request to elaborate the rationale for the participation of public sector in railways.
- There was a request to check or verify calculations on reliability indicators for the rail and lake modal alternatives.
- The consultant should identify the five top priority projects based on return on investments in the region for trade facilitation, given the effort and time dedicated to time and cost analysis in this study.
- One-Stop Border Posts (OSBP) are not a panacea and that the ensuing model might not work for each and every port. Therefore it is important to mention specific border posts for which OSBPs would work effectively and to prioritize which ones are the most critical to fund.
- The importance of understanding how priorities were made was emphasized. A mapping of economic rates of return would be useful.
- The consulting firms involved in CDS were thanked for their effective coordination, although they are competitors. Abundant analysis was performed to come to the results presented and the presentations could only show brief summaries of the outcomes.
- The revised schedule for completion of the CDS project was discussed, revised and approved.

## **First Stakeholder Workshop**

The First Stakeholder Workshop on the “Corridor Diagnostic Study (CDS) for the Northern (Mombasa) and Central (Dar es Salaam) Corridors” was held in Arusha, Tanzania, February 24-25, 2010. The workshop was hosted by the East African Community (EAC), and supported by the United Kingdom Department for International Development (DFID) and the United States Agency for International Development (USAID). The purpose of the First Stakeholder Workshop was to:

- Inform the stakeholders about the CDS scope, progress, methodology for future tasks and expected final results and benefits.
- Prepare the stakeholders for providing necessary data and information for the study.
- Present the work program of various consultants who will be visiting the region.
- Provide an opportunity to coordinate various related studies and initiatives.
- Promote broad study ownership by the stakeholders.

Over 80 participants attended the workshop including representatives from the two Corridor Management Groups (NCTTCA and CCTTFA), the Tripartite (EAC and COMESA), the donor community (USAID, DFID,

WB, JICA, AfDB, EU, MCC, among others), the six governments (Burundi, DRC, Kenya, Rwanda, Tanzania and Uganda), the private sector, and other consulting firms/contractors, among others.

During the first day of the two day workshop, NAI presented the overall Corridor Diagnostic Study goals, the data collection approach, the methodology (including the *FastPath*® analysis and the demand forecast exercise) and the preliminary outcomes, such as the library of documents, the EAC transport project database and map, the communication strategy, among others.

On Day Two, other on-going studies were also presented such as the “Northern Corridor Infrastructure Master Plan” being developed by LBG, the “Analytical Comparative Transport Cost Study along the Northern Corridor Region” carried out by CPCS, and the “East Africa Transport Strategy Regional Road Sector Development Program” performed by Aurecon. In addition, the donor For more information please refer to the Report on First Stakeholder Workshop.

Key conclusions and recommendations of the First Stakeholder Workshop included:

- As requested by the clients during the meeting on October 16, 2009 in Nairobi, NAI, LBG and CPCS coordinated their scopes of work. However, more coordination with other regional studies, such as the “EAC Transport Strategy and Road Sector Development Program” carried out by Aurecon, should be taken on board.
- The East African Corridors website ([www.eastafricancorridors.org](http://www.eastafricancorridors.org)) is a tool that should be promoted among participants. The website will include information about the CDS, a library of documents, and GIS map which will include regional transport project information, photos and relevant reports. All the First Stakeholder Workshop presentations will be accessible online on March 5, 2010. All stakeholders were encouraged to join the mailing list by signing up at the website.
- Participants agreed that information technologies had a major role to play in increasing efficiencies at the nodes. They specifically cited the community based system being developed for Mombasa.
- With regard to one stop border post developments, the stakeholders concurred that there is need to be cautious in designing border infrastructure and facilities because the region may move to a non-stop system in the future. Also most of the issues involved are of a procedural nature and could be addressed for example through increased use of information technology. There is therefore no need for massive infrastructure. Instead more attention should be paid to the required legal frameworks, harmonized procedures and traffic flow management.
- The role of stakeholders in providing inputs (data, information, documents) is critical to the successful completion of the CDS work. However stakeholders also complained of the number of times they are asked for the same information from various consultants. They expressed hope that in the future there will be less studies and more action to resolve the longstanding inefficiencies along the corridors. The CDS Team will validate with stakeholders data and information collected due to high risk of inaccuracy; however stakeholders were therefore urged to share with the CDS Team all the relevant material at their disposal.

- Private sector stakeholders expressed need for assistance in developing frameworks and capacity for self-policing and regulation. They asked that programs, such as USAID/COMPETE, consider including this in their plans.
- Road safety and securities issues will be identified but no specific detailed audits will be conducted. However, the CDS has the capability to link other programs such as the IRAP program.
- Considering that all ongoing studies are expected to come up with a list of priority projects and interventions, there is need for information sharing and coordination. More specifically the studies' consulting firms/contractors should consider using common criteria in selecting and prioritizing projects and a common format in presenting them. Participants also asked that a single Action Plan and priority projects should emerge from the studies.
- All stakeholders should become champions of the Action Plan and other interventions that will come out of the CDS.

## Validation Workshops

In order to confirm that we have the most current information regarding the model inputs and that the information provided to us was interpreted correctly, we conducted a series of five validation workshops. Additionally we presented preliminary results from our analysis to elicit comments from the different stakeholders. The validation workshops were held at the following locations and dates:

- Bujumbura September 20-21, 2010
- Kigali September 16 and September 22, 2010
- Kampala September 23-24
- Mombasa September 27-28, 2010
- Dar es Salaam September 30 and October 1, 2010

The validation workshops were conducted in a two day process. The morning of the first day consisted of overview of the project objectives and preliminary findings in the following areas:

- Maritime infrastructure and services (including ICDs)
- Railroad infrastructure and transport services
- Road infrastructure and transport services
- Border posts and customs procedures
- Lake transport infrastructure and transport services
- Legal and regulatory framework

During the afternoon of the first day the sessions focussed on the presentation of the *FastPath* analysis and consisted of the following components:

- Methodology (process and elements)

- Data inputs (share total cost and time to transport different types of cargo)
- Preliminary Results
  - Issues identified (discussion)
  - Potential interventions identified (from interviews and analysis – discussion)
- Data gaps (discussion)

During the morning of the second day, topical meetings with specific groups were held (e.g. lake transport with port authority, lake transporters, road transporters, rail transporters, shippers, forwarders). This was followed by afternoon sessions with one-on-one clarification interviews with freight forwarders, transporters and other participants that had particular data to be updated or validated.

Participants at the five validation workshops are listed in Appendix C. The comments received at the validation workshop are presented in Appendix E.

## **Integrated ICD Stakeholders' Roundtable Meetings**

Two special stakeholders' roundtable meetings were held in Mombasa and Dar es Salaam to review preliminary recommendations to integrate ICDs/CFSs with ports. The meetings in Dar es Salaam were held on October 1 and 4, 2010 with the management and staff of the Dar es Salaam port; while the meeting in Mombasa was held on October 5. There were nearly 55 participants in total attending these meetings. Participants are listed in Appendix D. For more information please refer to the Working Paper on Integrated ICDs.

## **Integrated ICD Peer Review Meetings**

A series of discussions between the CDS team and five ICD experts were held during two in face-to-face meetings and respective phone and video conferences on October 4 and 6, 2010 in Mombasa and Nairobi to review the initial Draft Working Paper describing the proposed Integrated ICDs program (Integration Program). The concerns and responses were organized as follows:

- ICD Performance
- Alternative Solutions
- Ancillary Improvements
- Limited Benefits or Increased Costs

For more information please refer to the Working Paper on Integrated ICDs.

## **Second Regional Stakeholder Workshop**

The Second Regional Stakeholders' Workshop of the Corridor Diagnostic Study (CDS) for the Northern and Central Corridors was held on February 24-25, 2011 in Dar-es Salaam, Tanzania. The meeting was hosted by the East African Community (EAC), and supported by the United Kingdom Department for International Development (DfID) and the United States Agency for International Development (USAID). There were 145

stakeholders representing different organizations including governments, shippers, transport operators, logistics and facilitation service providers and development partners.

The purpose and objectives of this workshop were for the Stakeholders to review the Draft Action Plan and accompanying Technical Papers; and to provide input to be incorporated in the Final Integrated Action Plan. The complementary objective was also to promote broad ownership of the proposed Integrated Action Plan by the stakeholders.

The key conclusions and recommendations of the Second Regional Stakeholders Workshop were as follows:

- The Draft Action Plan was adopted subject to incorporating the comments and suggestions received at the workshop any other to be sent to the consultant by stakeholders within two weeks. The main conclusions and recommendations are:
  - Regional integration and harmonization of policies are necessary to move forward with coordinated implementation of projects along corridors;
  - Coordination between stakeholders, (public and private sectors, development partners, regional economic communities, environmentalists among others), is essential. There needs to be consensus on which entities will be responsible for which tasks, as well as the timing for implementation, in order to reach intended outcomes in an efficient manner. Political support is crucial to secure implementation of the proposed projects;
  - There are substantial non physical barriers which curtail corridors' efficiency, such as lack of sensitisation, documentations, non implementation of existing legal frameworks, corruption and lack of enforcement. There is a need for establishing client service charters that bind service providers to act according to standards agreed upon. Policy makers should make a determined effort to deal with the remaining long outstanding NTBs (eg axle load limits) by agreeing on what should be done, how and by who;
  - Amongst the proposed projects, all projects with secured funding and ongoing work should be reflected and excluded from the list of proposed projects that require financing. Lists by mode were expanded and updated by comments from the stakeholders (particularly for roads);
  - Roadblocks are not bad in themselves; however the fact that there are too many of them makes them inefficient. Achieving efficiencies across the board is important;
  - Safety and security along corridors are also important; there should be concerted effort to improve safety and security levels;
  - Projects proposed by the CDS Draft Action Plan are conceptualized with an "integrated" mindset; rather than aiming to develop an individual unit, the projects have the efficient functioning of the entire logistics chain in perspective and that individual units should complement each other;

- There is need for establishing and maintaining a quantifiable monitoring and evaluation system to ensure that the implementation of the priority projects is measurable, benchmarked and that each country maintains necessary regional character of the transport system/projects. If a priority project links two countries its implementation must be on both sides of the borders to ensure seamless connectivity for the corridors;
- There is need to maintain a sustainable financing system for implementation of infrastructure projects to enable planners to plan for the necessary projects and programmes and more importantly to ensure timely interventions and investments;
- There is an urgent need for the revival of rail services in the East Africa region; the incorporation of effectively functioning rail services (especially in Tanzania) would relieve much of the traffic pressure on the corridors. A consensus is needed on timing of the interventions especially on railways revival in the short term and conversion to standard gauge in the long term. Issues needing consensus include (unsettled concessions, core investments, competitiveness, railways gauge, subsidisation of operational costs etc.). Governments need to initiate and assist this process, while the private sector should complement government's efforts by undertaking the operational and management aspects of railways. This is the approach taken in the CDS which proposes short-term projects for rail revitalization. TRL should seek a strategic partner for rail improvement with a good track record of long-term profitability, following the example of RVR;
- Affirmative privatization should be considered, for example giving a stake to landlocked countries in the corridor systems. At the same time there is need to take into account the disproportionate investment requirements shouldered by the Maritime States and more so in the Ports, Roads, and Railways. Mechanisms should be put in place to conserve the infrastructure provided and recovery of investment and maintenance costs;
- Within the CDS focus of 3-5 years horizon, it is important to target projects which are ready to go for the planned Investment Conference. Longer term prioritisation and preparation should continue. Fortunately for the EAC region, the EAC Transport Strategy and the Roads Development Programme targeting a period up to 2018 is in the final stages of completion and should supplement the need for the longer term framework;
- Sustainable financing mechanisms for the proposed projects should be put in place. Public-private partnerships (PPPs) not only offer a solution for financing but they also offer effective model for efficient operations of infrastructure and services. It is crucial to improve the enabling environment for the success of PPPs in the region, as guided by the Technical Assistance (TA) projects. It is recognized that currently the environment for feasibility of PPP projects in East Africa is far from perfect. This issue can be tackled with choosing from a variety of PPP models, provide possibility for ancillary revenue sources and review and mitigation of risks borne by public and private sectors;

- There is need for rapid capacity development (human, ICT, legal and legislative frameworks; negotiation and project management skills etc) to support the implementation of the prioritised projects and programmes in the CDS;
  - Investment is critically needed in collecting and maintaining planning statistics in order to mitigate the problem of inadequacy of data;
  - The EAC has a shared vision and wants to make a concerted effort for realizing results;
  - EAC is focused on being pro-business and therefore plans to mitigate costs and risks of doing business in the region. Transport, communications and the energy sector are areas where cross-cutting issues are essential to business.
- Key recommendations made are:
    - Priority projects which are not fully funded at country level provide an opportunity or window for accessing regional funding. A prioritised and costed package of projects covering roads, railways, ports, inland waterways, border posts and other soft issues – in the next three to five years costed at approximately US \$ 4.1 billion;
    - The implementation of the prioritised projects and programmes requires their adoption and approval by the COMESA/EAC/SADC and the EAC Policy Organs. This should be accomplished by end of April 2011;
    - The Tripartite Infrastructure conference planned for September 2011 should be targeted as a forum for resource mobilisation for well packaged and ready to implement projects from the CDS;
    - There is need for a lead development partner/s to assist the region promote the projects and programmes prioritised under the CDS;
    - The establishment of the EAC Development Fund focussed on infrastructure development should be fast tracked to support the generation of counterpart resources to leverage contributions from the development partners;
    - Implementation of the EAC Common Market Protocol should be expedited since it will eliminate many NTBs;
    - The EAC countries need to pursue harmonization of transport policies, especially on axle load limits and control as well as other policies;
    - Regional PPPs is critical and should be established/strengthened in all of the five EAC countries;
    - In order to convince governments of the urgency to act of trade facilitation, there should be intensive advocacy efforts from the private sector, associations, law reformers, etc.;
    - The EAC countries need to improve planning and development of railways in EAC -- AfDB is supporting EAC to establish a railways planning unit. Consensus building in the

development of the EA Railways should continue and this task should be part of the TORs for the proposed railways project implementation unit at the EAC, the Corridor Authorities and the Railways Corporations;

- The stakeholders should also take note that the EAC is in the process of finalising a regional legal frameworks on the operationalisation of the One-Stop-Border-Posts (OSBPs), Axle Load Control, and the Public Private Partnerships. These documents will enhance infrastructure operational and investment efficiencies in the region;
- The CDS report should be adopted subject to amendments proposed by the workshop.

## Conferences

The CDS team participated in several conferences since 2009 in which the Study was presented and Stakeholders provided feedback. Among those conferences, we could mention:

- Donor Caucus Meeting (Mombasa, Sept 2009)
- Central Corridor Railway Ministerial Meeting (Kigali, Dec 2009)
- Workshop on One Stop Border Posts (Arusha, January 2010)
- Central Corridor Stakeholder Meeting (Dar es Salaam, January 2010)
- JICA Workshop (Mombasa, February 2010)
- EAC Railways Development Strategy Meeting(Dar es Salaam, March 2010)
- CDS Stakeholder Workshop (Arusha, February 2010)
- EAC Transport Strategy Workshop (Arusha April 2010)
- Tripartite Task Force Infrastructure Sub Committee (Dar es Salaam, September 2010)
- Tripartite and IGAD Infrastructure Investor Conference (Nairobi, October 2010)

# Appendix A. Organizations and Participants Interviewed

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
1	ABEC (Coffee Traders)	Angele Ciza, Chairperson	Shipper	Small	Burundi
2	Autorite de Regulation de la Filiere Café du Burundi	Evariste Ngayempore, Directeur General	Shipper	Large	Burundi
3	Batralac SA	Helmes Ndolicimpa, Manager	Transport Services Provider	Small	Burundi
4	Brarudi	Canisius Ntahe, Director des Approvisionnements	Shipper	Large	Burundi
5	Chamber of Commerce & Industry	Pierre-Claver Nduwumwami, Consultant to Secretary General	Shipper	Small	Burundi
6	Chamber of Commerce & Industry	Yves Desire	Shipper	Large	Burundi
7	Customs Agents Association (ABADI)	Christella Munyana	Clearing and Forwarding	Small	Burundi
8	Customs and Excise, Bujumbura	Joseph Ndarishikanye, Commissioner of Customs and Excise	Government Entity	Large	Burundi
9	Global Cargo Services (G.C.S)	Petit-Jean Ndikumana, Managing Director	Clearing and Forwarding	Small	Burundi
10	Industrial Committee of Chamber of Commerce & Industry	Runyutu Leonidas, Vice Chairperson	Shipper	Small	Burundi
11	Intercargo SA	Mathew Bizimana, Managing Director	Clearing and Forwarding	Small	Burundi
12	Ministere du Commerce et de l'Industrie	Jeremie Banigwaninzi, Director general du Commerce	Government Entity	Large	Burundi
13	Ministere du Commerce, Industrie et Tourisme	Leopold Bizindavyi, Director of Commerce	Government Entity	Large	Burundi
14	Ministere du Commerce, Industrie et Tourisme	Nkengurutse Radegonde, Director of External Trade	Government Entity	Large	Burundi
15	Ministere du Commerce, Industrie et Tourisme	Dismas Baradandikanya	Government Entity	Large	Burundi
16	Ministere du Commerce, Industrie et Tourisme	Athanase Nsabumwami, Advisor	Government Entity	Large	Burundi
17	Ministry of Transport, Posts and Telecommunications	Vital Narakwiye, Director General	Government Entity	Large	Burundi
18	Ministry of Transport, Posts and Telecommunications	Philippe Njoni, Minister	Government Entity	Large	Burundi
19	Ministry of Transport, Posts and Telecommunications	Edouard Nyandwi, Road Advisor to the Minister	Government Entity	Large	Burundi
20	Ministry of Transport, Posts and Telecommunications	Melchior Barantadikiye, Director of International Transport	Government Entity	Large	Burundi
21	Petroleum Operator at Port	Operations Manager	Transport Services Provider	Small	Burundi
22	Road Agency	John Ndikunwami, Chief of Cooperation Section	Government Entity	Large	Burundi
23	Societe Concessionnaire de	Hon. Christian Nkurunziza,	Transport Services	Small	Burundi

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
	l'Exploitation du Port de Bujumbura	Administrateur Directeur General, a.i.	Provider		
24	Sodetra (SPRL) Limited	Daniel Ntawurishira, Director of Operations and Logistics	Clearing and Forwarding	Large	Burundi
25	SODETRA (SPRL) Ltd.	Antoine Ntisigana, Managing Director	Clearing and Forwarding	Large	Burundi
26	Star Cargo SA (Agence en Dououane, Transport et Transit)	Joseph Kennedy Ndikuriyo, Director General	Clearing and Forwarding	Small	Burundi
27	UTI Burundi Sarl and ABADT	Deo Ntibibuka, Director (& Chair of ABADT)	Clearing and Forwarding	Large	Burundi
28	Andy Forwarders Services Ltd.	Daniel Nzeki, Branch Manager Mombasa	Clearing and Forwarding	Small	Kenya
29	Cargill	Ivan Fernandes, Managing Director	Shipper	Large	Kenya
30	Civicon Limited	David Horsey, Director	Transport Services Provider	Large	Kenya
31	CMA CGM Delmas	Sreeni Ram Prabhu, Managing Director	Transport Services Provider	Large	Kenya
32	East African Tea Trade Association	Brian C. Ngwiri, Marketing Manager	Shipper	Large	Kenya
33	ECU Line Kenya Limited	Benjamin Kioko Nzoka, Director	Transport Services Provider	Large	Kenya
34	Emirates (Kenya) Shipping Line	Niroshan Jayasinghe, Assistant General Manager	Transport Services Provider	Large	Kenya
35	Express Shipping and Logistics (ESL)	Silvester M Kituta, CEO	Transport Services Provider	Large	Kenya
36	Federation of East African Freight Forwarder Assn.	John Muthenge, Regional Executive Officer	Clearing and Forwarding	Small	Kenya
37	GBHL	Marwan Rashid, Project Consultant	Shipper	Small	Kenya
38	I. Messina (K) Ltd	Paul Nalyanya, Finance Manager	Transport Services Provider	Large	Kenya
39	I. Messina (K) Ltd	Peter Kwinga, Shipping Manager	Transport Services Provider	Large	Kenya
40	I. Messina (K) Ltd	Capt. Giuseppe Fedele, Managing Director	Transport Services Provider	Large	Kenya
41	I. Messina (K) Ltd	Fred Otieno, Operation Manager	Transport Services Provider	Large	Kenya
42	Inchcape Shipping Services - MOL Tanzania	David Mackay, Vice President - East Africa	Transport Services Provider	Large	Kenya
43	Inchcape Shipping Services - MOL Tanzania	Caroli V. Odera, Operations Manager	Transport Services Provider	Large	Kenya
44	Inter-Governmental Standing Committee on Shipping (ISCOS)	A.S.C. Mgondah, Secretary General	Government Entity	Large	Kenya
45	Inter-Governmental Standing Committee on Shipping (ISCOS)	Jairus Esau Esibwe, Director of Parts and Statistics	Government Entity	Large	Kenya
46	JKIA Branch Office, Nairobi	Peter Mungai	Transport Services Provider	Large	Kenya
47	JKIA Cargo Village	Lawrence Mangarunyi	Transport Services Provider	Large	Kenya
48	Kenya Highway Authority	Eng Samuel Okech Omer, Engineer	Government Entity	Large	Kenya
49	Kenya International Freight & Warehousing Association (KIFWA)	Mwaisaka Mwakamba, Chairman Southern Region	Clearing and Forwarding	Small	Kenya

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
50	Kenya International Freight & Warehousing Association (KIFWA)	Grace Kabira, Executive Officer	Clearing and Forwarding	Small	Kenya
51	Kenya Maritime Authority	Tumaini Namoya	Government Entity	Large	Kenya
52	Kenya Maritime Authority	John Omingo, Commercial Shipping Manager	Government Entity	Large	Kenya
53	Kenya National Highways Authority	Eng. K. Ndungu, Manager Axle Load Control	Transport Services Provider	Large	Kenya
54	Kenya Ports Authority	Peter Oremo, Lamu Port Company	Transport Services Provider	Large	Kenya
55	Kenya Ports Authority	Rogers D. Mwayayi, Principal Terminal Engineering (ICDS)	Transport Services Provider	Large	Kenya
56	Kenya Ports Authority	T.M. Muia, Marketing Officer - ICD	Transport Services Provider	Large	Kenya
57	Kenya Ports Authority	Jane M. Kivaa, Marketing and Customer Care Officer (ICD)	Transport Services Provider	Large	Kenya
58	Kenya Ports Authority	Eng. Joseph O Atonga, Chief Operations Manager	Transport Services Provider	Large	Kenya
59	Kenya Ports Authority	Josphat K. Thiongo, Senior Operations Officer	Transport Services Provider	Large	Kenya
60	Kenya Ports Authority	Samuel O. Helu, Principal Planning Officer	Transport Services Provider	Large	Kenya
61	Kenya Ports Authority	Mohamed Yuraf Faruk	Transport Services Provider	Large	Kenya
62	Kenya Ports Authority CFS	Edward Opiyo, Depot Manager	Transport Services Provider	Large	Kenya
63	Kenya Railways Corporation	Jonathan D Mturi, Chairman	Transport Services Provider	Large	Kenya
64	Kenya Railways Corporation	Eng. Vitalis O'gong'o, Deputy Managing Director	Transport Services Provider	Large	Kenya
65	Kenya Railways Corporation	Philip Jamuhuri Mainga, Research and Planning Manager	Transport Services Provider	Large	Kenya
66	Kenya Revenue Authority	George M. Muia, Deputy Commissioner, Compliance and Enforcement	Government Entity	Large	Kenya
67	Kenya Revenue Authority	Fred Mukhanyi, Senior Revenue Officer - Programs	Government Entity	Large	Kenya
68	Kenya Revenue Authority	Isaac Chelimo Kiprop, Assistant Commissioner - Customs Statistics	Government Entity	Large	Kenya
69	Kenya Revenue Authority	Nyagokana D Kangwana, Assistant Commissioner - Licensing	Government Entity	Large	Kenya
70	Kenya Revenue Authority	Hadi Abdullahi, Senior Assistant commissioner-National Policy, Customs	Government Entity	Large	Kenya
71	Kenya Revenue Authority	Alice M Ndungu, Revenue Officer	Government Entity	Large	Kenya
72	Kenya Shippers Council	Christine Munywe	Shipper	Large	Kenya
73	Kenya Shippers' Council	Agayo Ogambi	Shipper	Large	Kenya
74	Kenya Shippers' Council	Christine Munywe	Shipper	Large	Kenya
75	Kenya Shippers' Council	Gilbert Langat, Executive Officer	Shipper	Large	Kenya
76	Kenya Ships Agents Association	Capt. Frederick O. Wahutu, Executive Officer	Transport Services Provider	Small	Kenya
77	Kenya Transport Association	Eunice Mwanyalo, Executive Officer	Transport Services	Small	Kenya

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
			Provider		
78	M+R SPEDAG Group	Joseph Ngugi, Deputy General Manager	Clearing and Forwarding	Small	Kenya
79	Mabati Rolling Mills Ltd (MRM)	Stephen B. Ndege, Manager: Trade & Strategic Affairs	Shipper	Large	Kenya
80	Mabati Rolling Mills Ltd (MRM)	George Arodi, Export Manager	Shipper	Large	Kenya
81	Maersk (Kenya) Line	Rolf Nielsen, Manager Director	Transport Services Provider	Large	Kenya
82	Maersk (Kenya) Line	Jim A. Siro, General Manager: Operations Kenya Cluster	Transport Services Provider	Large	Kenya
83	Matsingbert Clearing and Forwarding	Emmanuel Mathai, Director	Clearing and Forwarding	Small	Kenya
84	Ministry of Nairobi Metropolitan Development	M.D. Ndirangu, Head: Central Planning & Project Monitoring Unit	Government Entity	Large	Kenya
85	Ministry of Transport	Peter K Thuro, Director of Shipping and Maritime Affairs	Government Entity	Large	Kenya
86	Ministry of Transport	Duncan Hunda, Senior Economist	Government Entity	Large	Kenya
87	Ministry of Transport	A.M. Kitolo, Chief Economist	Government Entity	Large	Kenya
88	Mitchell Cotts Freight Kenya Ltd	Daniel K. Tanui, Managing Director	Clearing and Forwarding	Large	Kenya
89	Musthafa Enterprises	Jean Baptiste Gasangwa	Clearing and Forwarding	Small	Kenya
90	National Single Window System Project	Daniel M. Kiange, Senior Business Analyst	Government Entity	Large	Kenya
91	National Single Window System Project	Alex Kabuga, Project Implementation Team Leader	Government Entity	Large	Kenya
92	Permanent Secretariat of the Transit Transport Co-ordination Authority of the Northern Corridor	Venant, Facilities	Government Entity	Large	Kenya
93	Permanent Secretariat of the Transit Transport Co-ordination Authority of the Northern Corridor	Lisumbu Eiliombo, Ag. Executive Secretary	Government Entity	Large	Kenya
94	Permanent Secretariat of the Transit Transport Co-ordination Authority of the Northern Corridor	Fred Tumwebaze Hunter, Head of Private Sector Investment	Government Entity	Large	Kenya
95	PIL (Kenya) Limited	Bhaskar J. Modi, Managing Director	Transport Services Provider	Large	Kenya
96	Port Management Association of Eastern & Southern Africa - PMAESA	Jemimah Mwanymba, Project Development Officer	Transport Services Provider	Small	Kenya
97	Port Management Association of Eastern & Southern Africa - PMAESA	Jean Rukankama, Communications Expert	Transport Services Provider	Small	Kenya
98	Port Management Association of Eastern & Southern Africa - PMAESA	Issac Onyango Omoke, Port Statistics Specialist	Transport Services Provider	Small	Kenya
99	Port of Kisumu	Eng. Benjamin Nzive, Port Manager	Transport Services Provider	Large	Kenya
100	Rift Valley Railways	James O. Ng'ang'a, Ag. Chief Marketing and Commercial	Transport Services Provider	Large	Kenya

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
		Manager			
101	Rift Valley Railways	Dorothy Muluka, Business Development Manager	Transport Services Provider	Large	Kenya
102	Rift Valley Railways	Susan Amernya, Business Officer	Transport Services Provider	Large	Kenya
103	Rift Valley Railways	Ishmael Ronote, Planning Manager	Transport Services Provider	Large	Kenya
104	Rift Valley Railways	Peter N. Mungai, Civil Engineering	Transport Services Provider	Large	Kenya
105	Roadtainers (Mombasa) Ltd.	Ibrahim Pasta, Managing Director	Transport Services Provider	Small	Kenya
106	SDV (Kenya) Transami	Jean-Christophe Tranchepain, Managing Director	Clearing and Forwarding	Large	Kenya
107	SDV TRANSAMI	Charles Maina, Commercial Manager: Sea Imports Transit	Clearing and Forwarding	Large	Kenya
108	Shiva Carriers Limited	Sam Machio, General Manager	Transport Services Provider	Small	Kenya
109	Siginon Freight Ltd	Lawrence Mangarunyi, Division Manager: Transport	Transport Services Provider	Large	Kenya
110	Siginon Freight Ltd	Peter Mungai, Logistics Manager	Transport Services Provider	Large	Kenya
111	The Kenya National Chamber of Commerce & Industry	David M. Kinyua, Director	Shipper	Large	Kenya
112	TTCA-NC	Lisumbu Eiliombo, Ag. Executive Secretary	Government Entity	Large	Kenya
113	TTCA-NC	Fred Tumwebaze Hunter, Head of Private Sector Investment	Government Entity	Large	Kenya
114	ZIM (Kenya) Limited	Michael Inyasi	Transport Services Provider	Large	Kenya
115	Africa Worldwide Logistics Limited	David M. Ngaracu, Commercial Director	Clearing and Forwarding	Large	Rwanda
116	Africa Worldwide Logistics Limited	Abdou Mbaya, Operations Director	Clearing and Forwarding	Large	Rwanda
117	Association of Heavy Truck Drivers in Rwanda (ACPLRWA)	Theodore Murenzi, Executive Secretary	Transport Services Provider	Small	Rwanda
118	CCTFA	Emanuel Rutagengwa, Transport Economist	Government Entity	Large	Rwanda
119	Customs and Cargo Clearing & Forwarding (Royallinks) Ltd	Grace Mbabazi Mulinda, Managing Director	Clearing and Forwarding	Small	Rwanda
120	Foreign Affairs and International Trade Canada	Donald Bobiash, Director General of Africa (GFD)	Government Entity	Large	Rwanda
121	Magasins Generaux du Rwanda S.A. (Magerwa-Lloyd's Agents)	Lambert E. Nyoni, Managing Director	Transport Services Provider	Large	Rwanda
122	Merez Petroleum	Eric Mutaganda,0	Shipper	Small	Rwanda
123	Northern Line Shipping (R) Ltd / Jasmine International	Alphonse Mihayo, Managing Director	Transport Services Provider	Small	Rwanda
124	Road Maintenance Fund	Eng. Soteri Gatera, Director General	Government Entity	Large	Rwanda
125	Rwanda Private Sector Federation (RPSF)	Robert Bayigamba	Shipper	Large	Rwanda
126	Rwanda Revenue Authority (RRA)	Eugene Mugenyi Torero, Dep. Commissioner Gen. & Commissioner for Customs Office	Government Entity	Large	Rwanda

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
127	Rwanda Tea Authority OCIR-THE	Corneille Ntakirutimana, Head of Planning and Strategic Management	Shipper	Large	Rwanda
128	Rwanda Utilities Regulatory Agency	Col. Diogene Mudenge, Vice-Chairman of Regulatory Board & Director General	Government Entity	Large	Rwanda
129	SDV Transami	Rodolphe Kembukuswa, Country Manager	Clearing and Forwarding	Large	Rwanda
130	Transport Programmes and Projects Management Cell	Jean Kanyamuhanda, Coordinator	Government Entity	Large	Rwanda
131	Asam Inland Container Depot (CFS)	Ashraf Khan, General Manager	Transport Services Provider	Large	Tanzania
132	Azania Wheat Flour, Mikoani Traders Co. Ltd	Fuad Edha Awadh, Managing Director	Shipper	Large	Tanzania
133	BP, Tanzania	Telesfor Malibate, Terminal Manager	Shipper	Large	Tanzania
134	BP, Tanzania	Rashid Mkokwa, Terminal Despatcher	Shipper	Large	Tanzania
135	CCTFA	Rukia Shamte, Executive Secretary	Government Entity	Large	Tanzania
136	CMA CGM Tanzania Ltd	Rajan P. Joshi, Managing Director	Transport Services Provider	Large	Tanzania
137	CNF (Trade/Export of General goods)	P Kishor, Country Representative	Shipper	Small	Tanzania
138	Emirates (Tanzania) Shipping Line	Nirjhar S. Bhaduri, General Manager	Transport Services Provider	Large	Tanzania
139	Export Trading, Director (Bulk imports and Trade - incl fertiliser)	Mr Manchoo, Sales and Marketing Manager	Shipper	Large	Tanzania
140	Freedom Freight Forwarders Co. Ltd	Major T.E. Mallya (rtd)	Clearing and Forwarding	Small	Tanzania
141	Inchcape Shipping Services - MOL Tanzania	Dharma Subasinghe, General Manager	Transport Services Provider	Large	Tanzania
142	Jumbo Freight Ltd	Joe Mzuanda, Managing Director	Clearing and Forwarding	Small	Tanzania
143	Kabanga Nickel Company	Kevin Olshafsky, Manager	Shipper	Large	Tanzania
144	Kassim Kidugwa Co. Ltd (General goods)	Kassim Kidugwa, Managing Director	Shipper	Small	Tanzania
145	Lupalila Company (T) Ltd	Salifius G. Mligo, Managing Director	Clearing and Forwarding	Small	Tanzania
146	Maersk (Tanzania) Line	Jamal Mangush, Operations Manager	Transport Services Provider	Large	Tanzania
147	Marine Service Company Ltd	Henry Robert Kajange, Commercial Officer	Transport Services Provider	Small	Tanzania
148	Marine Services Company Ltd	Hilda Mremi, Liaison Officer, Dar es Salaam	Transport Services Provider	Small	Tanzania
149	Ministry of Finance and Economic Affairs	Titus T. Mwisomba, Principal Statistician	Government Entity	Large	Tanzania
150	Ministry of Infrastructure Development	Elihemba Obed Mollel, Economist	Government Entity	Large	Tanzania
151	Ministry of Infrastructure Development	Mr Kipande, Director of Road Safety	Government Entity	Large	Tanzania
152	Ministry of Infrastructure Development	B	Government Entity	Large	Tanzania
153	Ministry of Infrastructure Development	Khalid H. Kachenje, Principal Transport Officer	Government Entity	Large	Tanzania

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
154	Ministry of Infrastructure Development	Eng. Patrick A. L. Mfugale	Government Entity	Large	Tanzania
155	Ministry of Infrastructure Development	Fanuel J. Mathiya	Government Entity	Large	Tanzania
156	Mpongo Enterprises (T) Ltd	Richard Mpongo, Director	Clearing and Forwarding	Small	Tanzania
157	Nyota (Tanzania) Ltd	Charles Moret, Managing Director	Transport Services Provider	Large	Tanzania
158	Oceanair Freight Ltd	Ally Kirro, Export Operation Manager	Transport Services Provider	Large	Tanzania
159	Panache (Clearing & Forwarding)	Coco Pundugu, CEO & Managing Director	Clearing and Forwarding	Small	Tanzania
160	PII (Tanzania) Limited	D. Suresh Kumar, Deputy General Manager	Transport Services Provider	Large	Tanzania
161	Port of Kigoma	Hebel Mhanga, Kigoma Ports Master: TPA	Transport Services Provider	Large	Tanzania
162	Port of Mwanza	Robbin M. Maseke, Senior Operations Officer: TPA	Transport Services Provider	Large	Tanzania
163	Prime Fuels	Waweru, Sales and Marketing Manager	Shipper	Large	Tanzania
164	Reli Assets Holding Company (RAHCO)	Juma M. Lugendo, Senior Commercial Manager	Transport Services Provider	Large	Tanzania
165	Reliassets Holding Company	Eng. Mohamed R. Mohamed, Acting Director Technical Services	Transport Services Provider	Large	Tanzania
166	Reliassets Holding Company	Eng. Michael Kisaka, Sr. Engr. Movable Assets	Transport Services Provider	Large	Tanzania
167	RVR	Jimmy Sekito, Tanzania Representative	Transport Services Provider	Large	Tanzania
168	Sodetra (SPRL) Limited	Felix Niteretse, Resident Representative	Clearing and Forwarding	Large	Tanzania
169	SSB Milling Company	Said Muhammad Said Abeid, General Manager	Shipper	Large	Tanzania
170	SSB Milling Company	Selemani Iddi, Logistics Manager	Shipper	Large	Tanzania
171	SUMATRA	Anastas K. Selemani, Director of Road Transport Regulation	Government Entity	Large	Tanzania
172	SUMATRA	Chalton A. Mwakasungula, Manager: Industry Analysis, Planning and Monitoring	Government Entity	Large	Tanzania
173	TANROADS	Eng. Jason M Rwiza, Director of Planning	Government Entity	Large	Tanzania
174	TANROADS	Eng. Feya R. Malekela, Head of Weighbridge Operations	Government Entity	Large	Tanzania
175	Tanzania Freight Forwarders Association (TAFFA)	Stephen Ngatunga, Executive Councillor	Clearing and Forwarding	Large	Tanzania
176	Tanzania International Container Terminal Services (TICTS)	Jay New, Commercial Manager	Transport Services Provider	Large	Tanzania
177	Tanzania International Container Terminal Services Ltd (TICTS)	Donald H. Talawa, Terminal Manager	Transport Services Provider	Large	Tanzania
178	Tanzania Portland Cement Company Ltd (Twiga Cement)	Ekwabi Majigo, Sales & Marketing Director	Shipper	Large	Tanzania
179	Tanzania Ports Authority (TPA)	Cassian Ng'amilo, Assistant Port Manager (Operations & Technical)	Transport Services Provider	Large	Tanzania

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
180	Tanzania Ports Authority (TPA)	Hebel J. Mwasenga, Principal Statistics Officer	Transport Services Provider	Large	Tanzania
181	Tanzania Ports Authority (TPA)	Francisca Muindi, Marketing Manager	Transport Services Provider	Large	Tanzania
182	Tanzania Ports Authority (TPA)	J.R. Ngokota, Operations Manager (GC)	Transport Services Provider	Large	Tanzania
183	Tanzania Ports Authority (TPA)	Florence Nkya, Director of Planning	Transport Services Provider	Large	Tanzania
184	Tanzania Railways Limited	H L Chaudary, Managing Director	Transport Services Provider	Large	Tanzania
185	Tanzania Railways Limited	Mukesh Rathore, Executive Director (Rolling Stock)	Transport Services Provider	Large	Tanzania
186	Tanzania Railways Limited	Dhananjay Naik, Additional Executive Director	Transport Services Provider	Large	Tanzania
187	Tanzania Railways Limited	Eng. Kam Kisamfu	Transport Services Provider	Large	Tanzania
188	Tanzania Revenue Authority	Njande Mdenda, Asst Manager Transit Monitoring Unit	Government Entity	Large	Tanzania
189	Tanzania Shipping Agents Association (TASAA)	Anil Patel, Managing Director	Transport Services Provider	Large	Tanzania
190	Tanzania Shipping Agents Association (TASAA)	Emanuel B. Mallya, Chairman	Transport Services Provider	Small	Tanzania
191	Tanzania Truck Owners Association	Zacharia Hans Poppe, Exec Committee	Transport Services Provider	Large	Tanzania
192	TPA (Lake Ports)	Winnie P. Mulindwa, Lake Ports Manager: TPA	Transport Services Provider	Large	Tanzania
193	Transcargo Ltd. Haulage Contractors	Al-Karim Dawood	Transport Services Provider	Large	Tanzania
194	World Food Program	C	Shipper	Large	Tanzania
195	Zim Tanzania Limited	Emanuel B. Mallya, Managing Director	Transport Services Provider	Large	Tanzania
196	Zim Tanzania Limited	Regnold George, Manager	Transport Services Provider	Large	Tanzania
197	BTS Clearing & Forwarding	Merian Sebunya	Clearing and Forwarding	Small	Uganda
198	Cargo International Ltd	Charles Kareba, Managing Director	Clearing and Forwarding	Small	Uganda
199	Kenya Ports Authority	William B. Mtengo, Resident Representative	Transport Services Provider	Large	Uganda
200	Ministry of Tourism, Trade & Industry	Okilangole Patrick, Principal Commercial Officer	Government Entity	Large	Uganda
201	Ministry of Works and Transport	Kajuna Benon Mwebaze, Assistant Commissioner: Transport Policy & Planning	Government Entity	Large	Uganda
202	Ministry of Works and Transport	Patrick Sanya, Commissioner: Transport Regulation	Government Entity	Large	Uganda
203	Ministry of Works and Transport	Okello Cypriano, Senior Planner/ Transport	Government Entity	Large	Uganda
204	Mukwano Group of Companies, Uganda	B.W. Rwabwogo, General Manager: Operations	Shipper	Large	Uganda
205	Petroleum Exploration and Production Department	Ernest N.T. Rubondo, Acting Commissioner	Government Entity	Large	Uganda
206	RVR	Christina Sigowa-Wadulo, General Manager, Western Region	Transport Services Provider	Large	Uganda

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
207	RVR (Port Bell Office)	Henry Ategeka, Marine Officer	Transport Services Provider	Large	Uganda
208	Tullow Uganda Operations (Pty) Ltd	Terry Morrison, Contracts & Procurement	Shipper	Large	Uganda
209	Tullow Uganda Operations (Pty) Ltd	Laura Hughes, Senior Commercial Officer	Shipper	Large	Uganda
210	Uganda Bureau of Statistics	Chris Ndatira Mukiza, PhD, Director: Macro Economic Statistics	Government Entity	Large	Uganda
211	Uganda Bureau of Statistics	Alfred Geresom Musamali, Senior Information Officer/Editor	Government Entity	Large	Uganda
212	Uganda Manufacturers Association	Robert Mawanda, Communication & Business Support Officer	Shipper	Small	Uganda
213	Uganda Manufacturers Association	Kyalimpa Joseph Amooti, Training Consultant	Shipper	Small	Uganda
214	Uganda Manufacturers Association	Peter Kaddu, Trade Officer	Shipper	Small	Uganda
215	Uganda Manufacturers Association	Sebaggala M. Kigozi, Executive Director	Shipper	Small	Uganda
216	Uganda National Roads Authority	Enid Kansime, Monitoring and Evaluation Officer	Government Entity	Large	Uganda
217	Uganda National Roads Authority	David Luyimbazi, Director: Planning	Government Entity	Large	Uganda
218	Uganda Railways Corporation	Henry Alinaitwe, Assistant Chief Civil Engineer	Government Entity	Large	Uganda
219	Uganda Revenue Authority	Victoria Nabitaka Makumbi, Manager: Planning	Government Entity	Large	Uganda
220	Uganda Revenue Authority	Moses Nambale Bwire, Assistant Commissioner: Customs Audit, Customs Dep.	Government Entity	Large	Uganda
221	Uganda Revenue Authority	Phoebe Lutaaya Kanya, Assistant Commissioner - Compliance	Government Entity	Large	Uganda
222	PETROCOM	Karekezi Jean, Director General	Shipper	Large	Rwanda
223	DOMUS Ltd.	Cyrille Ntaganira	Clearing and Forwarding	Small	Rwanda
224	SDV Transami	Iranzi Rutigunga, SDV	Clearing and Forwarding	Large	Rwanda
225	SPEMAG	Bastian Scmitz, Managing Director	Clearing and Forwarding	Large	Rwanda
226	Kenfreight	Moses Njoroge	Transport Services Provider	Large	Rwanda
227	INTRACARGO	Josephine Nyebaza	Clearing and Forwarding	Large	Rwanda
228	Freight Logistics Services (R) Ltd. (FLS)	Florence Umurungi, Managing Director	Transport Services Provider	Small	Rwanda
229	Uganda National Roads Authority	Jerry Burton, Planning and Maintenance Engineer	Government Entity	Large	Uganda
230	Uganda Revenue Authority	Manager, Risk Management Unit	Government Entity	Large	Uganda
231	Rwanda Transport Development Agency	Fred Addo Abedi	Government Entity	Large	Rwanda
232	Rwanda Transport Development Agency	Pasteur Kayisire, Road Engineer	Government Entity	Large	Rwanda
233	Waterway and Transport Rwanda Utilities Regulatory Agency (RURA)	Eng. Emmanuel Katarwa Asaba, Director	Government Entity	Large	Rwanda

No	Name of Organization	Name/Position of Person Interviewed	Summary Type of Organization	Organization Size	Country
234	SOFARU	Mr. Ruterana	Transport Services Provider	Large	Rwanda
235	RRA	Muhigi Zephania, Head, Customs Operation Division	Clearing and Forwarding	Large	Rwanda
236	Ministry of Infrastructure, Rwanda	Marie Claire Mukasine, Permanent Secretary	Government Entity	Large	Rwanda

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14	Group 6		June 16, 2008		Dar es Salaam Port Community Workshop
15	Group 7: ICDs		June 16, 2008		Dar es Salaam Port Community Workshop

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160	North-South Corridor Pilot Aid for Trade Programme: Status Report		October, 2008	Regional Trade Facilitation Programme, Project Management Unit (Pretoria, South Africa)	
161	Scoping Study Developing and Upgrading of Infrastructure in Southern Africa's Transport Corridors: Draft Report		January 31, 2007	Kagiso Urban Management	DFID – CNTR 06 7548
162	Facilitation of Transport in Eastern and Southern Africa Transport Corridors		2005	Port Management Association of Eastern and Southern Africa (PMAESA)	
163	Integrated National Transport Policy: Moving a Working Nation		May, 2009	Ministry of Transport of Republic of Kenya	
164	Road Sector Programme		April, 2007	Malawi Ministry of Transport and Public Works	
165	Uganda Road Network		2001	Road Agency Formation Unit	
166	The Uganda Transport and Communication Profile				
167	10-Year Road and Bridges Investment Plan: 2008-2017		2008	Uganda National Roads Authority	

No.	Title	Author	Date	Source	Prepared for
168	Uganda Roads			Uganda National Roads Authority	
169	Findings from the Mapping of Development Partner Activity to Support the Transport Corridors: Summary Report	Walker, Sophie; Ravenhill, Graham; Kanamugire, Silas	March, 2009		Stakeholder Coordination Conference on March 17-19 2009 (Nairobi, Kenya)
170	Africa's Infrastructure: A Time for Transformation	Foster, Vivien; Briceño-Garmendia, Cecilia	2009	World Bank	
171	Road Network Upgrading and Overland Trade Expansion in Sub-Saharan Africa	Buyts, Piet; Deichmann, Uwe; Wheeler, David	February, 2006	World Bank, Development Research Group	
172	Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa	Adzibgey, Yao; Kunaka, Charles; Nahusenay Mitiku, Tesfamichael	October, 2007	World Bank, SSATP Working Paper No. 86	
173	Regional Road Transport - How Competitive?	Curtis, Barney	March 12, 2008		World Bank Feedback Workshop by Federation of East and Southern African Road Transport Associations (Pretoria, South Africa)
174	EABC Border Survey Study Report		July, 2008	Integrated Development Consultants	
175	Study on a Framework for Joint Utilization of Border Post Infrastructure Facilities	Lunogelo; Bohela	December, 2004	East African Community	
176	Feasibility Study for the Establishment of One Stop/Joint Border Post at Busia, Namanga, Isabania/Sirari, Lungalunga/Horohoro, Gatuna/Katuna and Kagitumba/Mirama Hills		August, 2005	East and Central Africa Global Competitiveness Hub	Kenya Ministry of Transport
177	Enhancing Regional Integration	Kaombwe, SMAK	August 8, 2008		NEPAD-SADC Infrastructure Projects Conference, Presentation on Central Development Corridor
178	Terms of Reference for Carrying Out a Scoping Study on Identification of the Missing Links and Bottlenecks Affecting the Performance of the East African Community Central Corridor			East African Community	
179	Scoping of the Bas-Congo Corridor Spatial Development Initiative		March, 2006	Regional Spatial Development Initiatives Programme	

No.	Title	Author	Date	Source	Prepared for
180	Reforming for Real Growth: Working Groups Reports			Tanzania National Business Council	7th International Investors' Roundtable Meeting
181	Tanzania Roads Transportation Network			DCW/VMAP0; AICD First Order Mapping and Secondary Road Network; GRUMP; DAFIF; WPI	
182	TANROADS Sub-Sector Paper		October, 2009	Tanzania National Roads Agency	3rd Joint Infrastructure Sector Review Meeting
183	TANROADS Sub-Sector Paper: Presentation		August, 2009	Tanzania National Roads Agency	3rd Joint Infrastructure Sector Review Meeting
184	Performance Linked to Mkukuta Goals and Targets		2008	Tanzania National Roads Agency	3rd Joint Infrastructure Sector Review Meeting
185	Trunk/Regional Roads Upgrading and Rehabilitation - Physical			Tanzania National Roads Agency	3rd Joint Infrastructure Sector Review Meeting
186	EAC-EC-EPA Development Cooperation Strategy	Pearson, Mark	September 7, 2009		Regional Trade Facilitation Programme (Dar es Salaam, Tanzania)
187	Terms of Reference for the Preparation of the EAC Road Transport Sector Development Strategy		May, 2007	East African Community	
188	Financing Options and a Regional Strategy to Promote Pro-Poor Growth in Africa	Gajewski, Gregory	April 13, 2008		U.S. - African Growth and Opportunity Act Transportation and Trade Forum (Cape Town, South Africa)
189	Rural Road Networks & Transit Corridors: A Strategy to Reduce Poverty in West Africa	Gajewski, Gregory	July 9, 2009		Smart, Appropriate & Resource -Efficient Technologies & Products for Rural Communities Conference organized by Foundation for Democracy in Africa (Abuja, Nigeria)
190	Transport Prices and Costs in Africa: A Review of the Main International Corridors	Teravaninthorn, Supee; Raballand, Gaël	2009	World Bank	
191	Terms of Reference for the Northern Corridor Infrastructure Master Plan Study		2009	Northern Corridor Transit Transport Coordinating Authority	The winning consulting company (Louis Berger Group Inc)
192	East Africa Transport Corridor Development Map		March, 2009	Regional Center for Mapping of Resources for Development	
193	Africa Corridor Map		2009	Louis Berger Group Inc	
194	List of Participants: Workshop Infrastructure Master Plan Study along the Northern Corridor- Adoption of Inception Report	Louis Berger Group Inc.	July, 2005	Louis Berger Group Inc	

No.	Title	Author	Date	Source	Prepared for
195	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	
196	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting-Road, Rail, Port, Waterway and Pipeline Issues	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	Inception Report Stakeholders Meeting: Road, Rail, Port, Waterway and Pipeline Issues (Hilton Nairobi)
197	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting- The Study Methodology	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	
198	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting- Schedule and Data Collection Issues	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	
199	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting- Study Area Definition	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	
200	Northern Corridor Infrastructure Masterplan Inception Report Stakeholders Meeting- Purpose and Overview	Louis Berger Group Inc.	January 9, 2010	Louis Berger Group Inc	
201	Improving Transit Transport in East Africa: Challenges and Opportunities	Mbuli, Ernest Vitta	June, 2007	United Nations Conference on Trade and Development	Mid-Term Review of the Almaty Programme of Action
202	Regional Conference on Transport and Trade Logistics. Improving Northern Corridor's Trade and Transport Systems: Towards Reducing the Cost of Doing Business	Permanent Secretariat of the Northern Corridor	September, 2009	Permanent Secretariat of the Northern Corridor	
203	Economic Benefits of an Efficient North-South Corridor Strategic Level Analysis of Investments in the North-South Corridor Using HDM-4: Final Report	Odoki, Jennaro; Anyala Michael; Akena, Robert	April, 2009	Regional Trade Facilitation Programme, Project Management Unit (Pretoria, South Africa)	
204	Etude de Base pour la Mise en place d'un Observatoire des Barrières non Physiques sur le Corridor Fluvial Brazzaville-Kinshasa- Bangui- Kisangani	Studi International	December, 2009	Studi International	Commission Internationale du Bassin Congo-Oubangui- Sangha
205	Doing Business 2010- Kenya	World Bank/IFC	2009	World Bank; International Finance Corporation	
206	Mineral Potential of Malawi: Opportunities for Mineral Investment	Ministry of Mines Natural Resources and Environment	November, 2005	Malawi Ministry of Mines Natural Resources and Environment	

No.	Title	Author	Date	Source	Prepared for
207	The State of Logistics: A Five-Year Review	Ittmann, Hans W.; King, David; Havenga, Dr Jan	2009	CSIR (Pretoria, South Africa)	SAPICS (Pretoria, South Africa)
208	The Fourth Annual State of Logistics Survey for South Africa: Logistics for Regional Growth and Development	CSIR	2007	CSIR (Pretoria, South Africa)	
209	JISR TMA Meteorological Agency Sub-Sector Paper	Tanzania Ministry of Infrastructure Development, Tanzania Meteorological Agency (TMA)	2009	Tanzania Meteorological Agency	3rd Joint Infrastructure Sector Review Meeting
210	JISR TCAA Aviation Sub-Sector Paper	Tanzania Civil Aviation Authority	September, 2009	Tanzania Civil Aviation Authority	3rd Joint Infrastructure Sector Review Meeting
211	JISR TAA Airports Sub-Sector Paper	Ministry of Infrastructure Development Tanzania Airports Authority (TAA)	August, 2009	Tanzania Airports Authority	3rd Joint Infrastructure Sector Review Meeting
212	Uganda Key Economic Indicators 70th Issue: Fourth Quarter 2007/08	Uganda Bureau of Statistics	September, 2008	Uganda Bureau of Statistics	
213	Uganda Statistical Abstract	Uganda Bureau of Statistics	2005	Uganda Bureau of Statistics	
214	Record of Caucus Meeting on Donor Coordination		October 1, 2009		Fringes of the Regional Conference of the Northern Corridor Transport and Trade Facilitation under the Theme: "Towards Reducing the Cost of Doing Business" (Mombasa, Kenya)
215	List of Participants at the Donor Coordination Meeting Held at the USAID/COMPETE Offices		October 16, 2009		
216	Overview of the COMPETE Program		October 16, 2009		Corridor Diagnostic Study Work Plan Meeting (Nairobi, Kenya)
217	Sub-Saharan Africa: Effects of Infrastructure Conditions on Export Competitiveness: Third Annual Report	United States International Trade Commission.	April, 2009	United States International Trade Commission, Publication 4071	
218	Options for Strengthening East African Community's Trade Integration	World Bank and EAC	September 24, 2007	World Bank; East African Community	
219	International Trade Statistics 2008	World Trade Organization	2008	World Trade Organization	
220	Feasibility Study for the Isaka-Kigali/Keza-Gitega-Musongati Railway Project: Presentation		March, 2009	DB International GmbH	African Development Bank
221	Feasibility Study for the Isaka-Kigali/Keza-Gitega-Musongati Railway Project: Economic Analysis		May, 2009	DB International GmbH	

No.	Title	Author	Date	Source	Prepared for
222	Feasibility Study for the Isaka-Kigali/Keza-Gitega-Musongati Railway Project: Transport Demand		December, 2007	DB International GmbH	
223	The Central Corridor	Shamte, Rukia		Central Corridor Transit Transport Facilitation Agency	
224	Sustainable Maintenance of District, Urban and Community Access Roads		June, 2003	Ministry of Works and Transport, Republic of Uganda	
225	Uganda Roads Development Plan				
226	Lessons of Corridor Performance Measurement		May, 2008	Sub-Saharan Africa Transport Policy Program	
227	Eastern African Railways Master Plan Study: Traffic Working Paper		November, 2007	CPCS	East African Community
228	East Africa Railways Map				
229	East Africa Trade and Transport Facilitation Project: Appraisal Report		October, 2006	African Development Fund Infrastructure Department	
230	Information on COMESA Axle Load Limits Gross Vehicle Mass and Heights		2008	Common Market for Eastern and Southern Africa	
231	Lowering Trade Costs for Development in Africa: A Summary Overview	Portugal-Perez, Alberto; Wilson, John	June, 2008	World Bank, Development Research Group	
232	EAC Road Network Project- Including Proposed Additional Road Links			East African Community	
233	An Indicative Assessment to Determine Prospects for a NEPAD Spatial Development Programme		February, 2006	Regional SDI Programme Support Unit & MINTEK	
234	Detailed Profiles of Portfolio of Possible SDIs		March, 2006	MINTEK	
235	Best Practices in Promoting Investment for Development with Special Reference to Infrastructure Development in Sub-Saharan Africa	Kiwanuka, Semakula	March, 2008	Organisation for Economic Co-operation and Development Global Forum on International Investment	
236	Consultative Workshop on Port Congestion in the PMAESA		September, 2008	Port Management Association of Eastern and Southern Africa	
237	The ROOLA Project: Negotiating Team Preparatory Session		April, 2006		
238	Transport and the Millennium Development Goals in Africa		February, 2005	African Development Bank; World Bank; European Union	

No.	Title	Author	Date	Source	Prepared for
239	Transport and Trade Facilitation East and Southern Africa. Review of Present Problems and Reform Initiatives		July, 2003	Consilium Legis (Pty) Ltd	World Bank
240	Improving Transit Transport in East Africa: Challenges and Opportunities	Mbuli, Ernest Vitta	June, 2007	United Nations Conference on Trade and Development	
241	Results of Railway Privatization in Africa	Bullock, Richard	September, 2005	World Bank, Transport Paper # 8	
242	Gender and Trade in East Africa: A Review of the Literature	Shaw, Amanda	February, 2010	UK Department for International Development	
243	Strengthening Responses to Create Wealth and Reduce Poverty for Women in Informal Cross-border Trade in Africa		2009	United Nations Development Fund for Women	
244	Identification of CDC Infrastructure Gaps and Investment and PPP Opportunities: Final Report		April 30, 2008	CRISIL Risk & Infrastructure Solutions Limited	Development Bank for Southern Africa
245	1985 Northern Corridor Transit Agreement: Protocol No 1 Maritime Port Facilities		1985		
246	1985 Northern Corridor Transit Agreement: Protocol No 2 Transit Routes and Facilities		1985		
247	1985 Northern Corridor Transit Agreement: Protocol No 3 Customs Control		1985		
248	1985 Northern Corridor Transit Agreement: Protocol No 4 Documentation and Procedures		1985		
249	1985 Northern Corridor Transit Agreement: Protocol No 5 Transport by Rail of Goods in Transit		1985		
250	1985 Northern Corridor Transit Agreement: Protocol No 6 Transport by Road of Goods in Transit		1985		
251	Gender and Trade in East Africa: A Review of the Literature	Amanda Shaw	February, 2010	DFID	
252	Strengthening Responses to Create Wealth and Reduce Poverty for Women in Informal Cross-border Trade in Africa		2009	UNIFEM	
253	CDS Background, Objectives and Work Program	Richard Blankfeld	February 24, 2010	Nathan Associates	USAID/DFID
254	Information and Data Collection	SMAK Kaombwe	February 24, 2010	Nathan Associates	USAID/DFID
255	EAC Transport Projects Database and Map Presentation	Patricia Macchi	February 24, 2010	Nathan Associates	USAID/DFID

No.	Title	Author	Date	Source	Prepared for
256	Legal & Regulatory Frameworks, Policy Development & Planning Processes	Rean Botha	February 24, 2010	Nathan Associates	USAID/DFID
257	<i>FastPath</i> Approach to Transport and Logistics Analysis	Mauricio Posada	February 24, 2010	Nathan Associates	USAID/DFID
258	Transport Demand Forecast	Carlos Espindola	February 24, 2010	Nathan Associates	USAID/DFID
259	Additional Initiatives for Ports, Border Posts and Trade Facilitation	Lynn Harmon	February 24, 2010	Nathan Associates	USAID/DFID
260	Communications Strategy	Lisa Yarmoshuk	February 24, 2010	Nathan Associates	USAID/DFID
261	Northern Corridor Infrastructure Master Plan Study	Louis Berger Group Inc	February 24, 2010	Louis Berger Group Inc	
262	Analytical Comparative Transport Cost Study Along the Northern Corridor Region	CPCS	February 24, 2010	CPCS	
263	Trade Mark East Africa Overview	DFID	February 24, 2010	DFID	
264	Trade Flows and Partnerships for Logistics Efficiency	USAID	February 24, 2010	USAID	
265	EAC Transport Strategy and Road Sector Development Programme Study	EAC	February 24, 2010	EAC	
266	Preparations for Investors Conference Experience North South Corridor	Mark Pearson, Frank Matsaert	February 24, 2010	TradeMark, DFID	
267	CDC First Stakeholders' Workshop Agenda		February 24, 2010		
268	CDC First Stakeholders' Workshop List of Participants		February 24, 2010		
269	Feasibility Study: Upgrade of the Dar es Salaam to Isaka Railway	BNSF Railway	September 1, 2009		USTDA
270	Recommendations on Integrated National Transport Policy: Moving a Working Nation- Volume I Main Document	The National Transport Policy Committee, Ministry of Transport and Communications	February 1, 2004	The National Transport Policy Committee, Ministry of Transport and Communications	
271	Recommendations on Integrated National Transport Policy: Moving a Working Nation- Volume II Sub-Sector Policy Papers and Implementation Matrices	The National Transport Policy Committee, Ministry of Transport and Communications	February 1, 2004	The National Transport Policy Committee, Ministry of Transport and Communications	Minister for Transport and Communications
272	Recommendations on Integrated National Transport Policy: Moving a Working Nation- Volume III Summary of Implementation Strategies	The National Transport Policy Committee, Ministry of Transport and Communications	February 1, 2004	The National Transport Policy Committee, Ministry of Transport and Communications	
273	Tanzania Ports Master Plan: Draft Final Report: Appendices	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	

No.	Title	Author	Date	Source	Prepared for
274	Tanzania Ports Master Plan: Draft Final Report/ Introduction	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
275	Tanzania Ports Master Plan: Draft Final Report/ Perspective on National Port Development	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
276	Tanzania Ports Master Plan: Draft Final Report/ Dar es Salaam	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
277	Tanzania Ports Master Plan: Draft Final Report/ Tanga	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
278	Tanzania Ports Master Plan: Draft Final Report/ Nyasa	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
279	Tanzania Ports Master Plan: Draft Final Report/ Mtwara	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
280	Tanzania Ports Master Plan: Draft Final Report/ Small Coastal Ports	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
281	Tanzania Ports Master Plan: Draft Final Report/ Lake Victoria	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
282	Tanzania Ports Master Plan: Draft Final Report/ Lake Tanganyika	Tanzania Ports Authority	November 8, 2008	Tanzania Ports Authority	
283	Tanzania Ports Master Plan: Final Report- Appendices Vol I	Tanzania Ports Authority	February, 2009	Tanzania Ports Authority	
284	Tanzania Ports Master Plan: Final Report- Appendices Vol II	Tanzania Ports Authority	February, 2009	Tanzania Ports Authority	
285	The Research on Cross-Border Transport Infrastructure	Padeco Co., Ltd.; Mitsubishi UFJ Research and Consulting Co	March 1, 2009		Japan International Cooperation Agency
286	An Infrastructure Action Plan for Burundi: Accelerating Regional Integration	African Development Bank	September 1, 2009	African Development Bank	
287	Rural Road Investment Efficiency	Raballand, Gael; Macchi, Patricia; Petracco, Carly	July 2, 1905	World Bank	
288	Trade & Development in Least Developed Countries	Daggupaty, Vasudave; Ksoll, Christian; Ogunlewe, Yetunde; Singh, Achintya	July 2, 1905		Sciences Po
289	Preparatory Survey for Southern Africa Integrated Regional Transport Program	Padeco Co., Ltd.; Mitsubishi UFJ Research and Consulting Co	March 1, 2010		JICA
290	Northern Corridor Infrastructure Master Plan: Interim Report	Louis Berger Group Inc	June, 2010		Northern Corridor Transit Transport Coordination Authority

# Appendix C. Validation Workshops Participants

No.	Surname	First Name	Organization/ Company	Designation	Country
1	Dukundane	Dieudonne	International Transport Department, Ministry of Transport, Public Works & Equipment	Ag. Director	Burundi
2	Barantandikiye	Melchoir	Central Corridor Transit Transport Facilitation	Logistics Expert	Burundi
3	Hatungimana	Richard	Port of Bujumbura	Chief of Statistics	Burundi
4	Ndikumana	Petit Jean	Global Cargo Services	Directeur	Burundi
5	Bizimana	Mathew	Intercargo	Managing Director	Burundi
6	Ntsigana	Antoine	SODETRA	Managing Director	Burundi
7	Sebahene	Mathias	Burundi Mining Metallurgical	Technical Director	Burundi
8	Moncheur	Charles	Burundi Mining Metallurgical	Financial Director	Burundi
9	Munyana	Christella	ABADT	Executive Secretary	Burundi
10	Kanyamuneza	Spes	Dovaves	Officer	Burundi
11	Ndamama	Natacha	ARNOLAC - Cargo Shipping	Commercial & Financial Director	Burundi
12	Ntaconayigire	Emilienne	Ministry of Transport, TPE	Advisor	Burundi
13	Ntahonsigaye	Venant	NCTICA	Consultant	Kenya
14	Kapeku	Joseph	Kenya Maritime Authority	Assistant Commercial Officer	Kenya
15	Mwanza	John	ISCOS	Director of Shipping/Liason	Kenya
16	Kahuthu	Charles	Kenya National Chamber of Commerce	Manager	Kenya
17	Ng'ang'a	James	Rift Valley Railways	Marketing & General Manager	Kenya
18	Kwinga	Peter	I. Messina (K) Ltd	Shipping Manager	Kenya
19	Wairimu	Esther	Ministry of Transport	Economist	Kenya
20	Kiange	Daniel	National Single Window	Senior Business Analyst	Kenya
21	Mwangi	Wamboi	KIFWA	Member	Kenya
22	Kagumo	Gerald	FEAFFA	Vice President	Kenya
23	Oremo	Peter	Kenya Ports Authority	Manager	Kenya
24	Kenza	Jimmy	Kenya Ports Authority	Manager	Kenya
25	Kemboi	Job	Siginon Freight	Operations Officer	Kenya
26	Kisembe	Humphrey	Kenya Shippers Council	Economist	Kenya
27	Kabuga	Alex	National Single Window	Project Team Leader	Kenya
28	Esibwe	Jairus	ISCOS	Director for Ports & Statistics	Kenya
29	Giuseppe	Fedele	I. Messina (K) Ltd	Managing Director	Kenya
30	Assenga	Predi	TICTS	Ag. Commercial Manager	Tanzania
31	Barantandikiye	Melchoir	TTFA Central Corridor	Logistics Specialist	Tanzania
32	Bhaduri	Nirjhar	Emirates Shipping Line	General Manager	Tanzania
33	Elago	Paulina	Trademark Tanzania	Country Director	Tanzania
34	Geva	Shaban	TAFFA	Director	Tanzania

No.	Surname	First Name	Organization/ Company	Designation	Country
35	Hine	John	Ministry of Infrastructure	Technical Advisor	Tanzania
36	Juma	Lugendo	RAHCO	Senior Commercial Manager	Tanzania
37	Juma	Dau Juma	Ministry of Immigration	Immigration Officer	Tanzania
38	Kaale	Jackson V.R	TASAA & Rais Shipping Seviles	Member, Management Council	Tanzania
39	Kachenje	Khalid	Ministry of Infrastructure	Principal Transport Officer	Tanzania
40	Kagenzi	Aderick	Ministry of Infrastructure	Senior Surface Training Officer	Tanzania
41	Kakusa	Miwi	Tanzania Ports Authority	Manager, Planning	Tanzania
42	Karavina	Ally Aman	Spatial Development Ltd	Chief Executive Officer	Tanzania
43	Kaski	Salum	Ibutungwa Transport Co.	Director	Tanzania
44	Kumar	Suresh	PIL	General Manager	Tanzania
45	Kway	Oscar T.	BP (T) Ltd	Transport Supervisor	Tanzania
46	Lilani	Ali	RTRH	Operations Manager	Tanzania
47	Loms	Raymond	SSB - AZAM ICD	Operation/Safety	Tanzania
48	Lugendo	Juma	RAHCO	Senior Commercial Manager	Tanzania
49	Malisa	Boniface T. N	TANROADS	Senior Engineer - Projects	Tanzania
50	Mnkeni	Fahamuel	SUMATRA	CAO	Tanzania
51	Mohamed	Eng. H. A	AD/Rails	Managing Director	Tanzania
52	Moret	Charles	Nyota Tanzania Ltd	Managing Director	Tanzania
53	Mremi	Hilda W.	Marine Services Company	Liaison Officer	Tanzania
54	Ngatunga	Stephen	TAFFA	Executive Councillor	Tanzania
55	Ngeze	Hamvi R	Ibutungwa Transport Co.	Finance, Admin Officer	Tanzania
56	Ngoga	Frank	TTFA Central Corridor	Customs Specialist	Tanzania
57	Nyamugali	George	TTFA Central Corridor	Marketing Officer	Tanzania
58	Povey	Mark	Trademark Tanzania	Trade Adviser	Tanzania
59	Pundugu	Coco	PANACHE Ltd	CEO & Managing Director	Tanzania
60	Ruhiza	Lewis	SODETRA (SPRL)	Director	Tanzania
61	Salvatory	Verena	Tanzania Inter Container TER Services	Marketing Officer	Tanzania
62	Sampeblo	Marcos	European Union	Program Manager	Tanzania
63	Senkoro	Aziz	TAFFA	National Treasurer	Tanzania
64	Shamte	Rukia	TTFA Central Corridor	Executive Secretary	Tanzania
65	Shirwa	Awale	Transporter	Director	Tanzania
66	Uka	Yashwant	CNF (T) Ltd	Director	Tanzania
67	Wandwi	Hussein A	TATOA	Executive Operations Officer	Tanzania
68	Burton	Jeremy	Uganda National Roads Authority	Adviser	Uganda
69	Luyimbazi	David	Uganda National Roads Authority	Director of Planning	Uganda
70	Nayiga	Grace	UFFA	Administrator	Uganda
71	Wadda	Agnes	UFFA	Administrator	Uganda
72	Wandera	Godfrey	Ministry of Works & Transport	Commissioner, Transport Planning	Uganda
73	Rwabwogo	B.W	Mukwano Group	General Manager, Operations	Uganda
74	Ngoga	Frank	CCTTFA	Customs Specialist	Uganda
75	Sanya	Patrick	Ministry of Works & Transport	Commissioner, Transport Regulation	Uganda

No.	Surname	First Name	Organization/ Company	Designation	Country
76	Atama	Gabriel	Ministry of East African Community	Program Officer, Infrastructure	Uganda
77	Barente	Silver	Ministry of East African Community	SARO, Protocol	Uganda
78	Wesonga	Lamech	UMA	Policy Analyst	Uganda
79	Musamali	Alfred Gereson	Uganda Bureau of Statistics	Senior Information Officer	Uganda
80	Katabira	Daniel	Rift Valley Railways	Operations Manager	Uganda
81	Kansiime	Enid	Uganda National Roads Authority	M&E Officer	Uganda
82	Kasiita	Jalia	Uganda Clearing Industry & Forwarders Association	Office Administrator	Uganda
83	Opio	Peter	Uganda Bureau of Statistics	Principal Statistician	Uganda
84	Musobozi	David	Technology Bureau of Services	Director General	Uganda
85	Ntabi	Robert	Ministry of Works & Transport	Senior Transport Officer	Uganda
86	Wagaba	Frank	Uganda Network of Businesses	Training & Capacity Building	Uganda
87	Byarugaba	Joseph	MTTI	Commercial Officer	Uganda
88	Kamya	Phoebe	Uganda Railway Authority	Assistant Commissioner, CBA	Uganda
89	Musiime	Samuel	NPA	Assistant Commissioner	Uganda
90	Uchoun	Rajab	Nordic Freight	Managing Director	Uganda
91	Johansson	Lars	SIDA	Program Manager	Rwanda
92	Vestine	Uwamaliya	SORWADETRA	Manager	Rwanda
93	Rutagengwa	Emmanuel	Central Corridor TTFA	Transport Economist	Rwanda
94	Wiberforce	Musoni	Good Freight Ltd	Manager	Rwanda
95	Mbabazi	Grace, M.	Royallinks Ltd	Managing Director	Rwanda
96	Kayisire	Pasteur	RTDA	Engineer	Rwanda
97	Priestley	Mark	TMEA	Country Director, Rwanda	Rwanda
98	Dukundane	Jean de Dieu	Maxinet Group	Vice President	Rwanda
99	Ngyendo	Wilson	Ministry of EAC	Researcher of Strategic Studies & Policy Analysis	Rwanda
100	Kalisa	John Bosco	Trade & Development Links	Economist	Rwanda
101	Nuwagaba	Fred	Rwanda Revenue Authority	Manager, Transport & Exports	Rwanda
102	Ntirikwendera	John Bosco	SONARWA	Statistics Research	Rwanda
103	Nyoni	Lambert	MAGERWA	Managing Director	Rwanda
104	Rumenera	Philippe	MINICOM	Trade Expert	Rwanda
105	Kamali	Ephrem	MINIDUC	PFR	Rwanda
106	Mbundu	Faustin	EABC	Chairman	Rwanda
107	Musoni	Wilberforce	Good Freight Ltd	Manager	Rwanda
108	Ngurumatse	Jackline	Good Freight Ltd	Marketing	Rwanda
109	Safari	Vincent	Private Sector Foundation	Trade & Policy Advocacy Director	Rwanda
110	Uwamaliya	Vestine	SORWADETRA/Net Freight	Manager	Rwanda



# Appendix D. Roundtable Meetings Participants

Table D1. List of Participants - Tanzania Roundtable on Ports, October 1, 2010

No.	Surname	First Name	Organization/Company	Designation
1	Assenga	Predi	TICTS	Ag. Commercial Manager
2	Barantandikiye	Melchoir	TTFA Central Corridor	Logistics Specialist
3	Bhaduri	Nirjhar	Emirates Shipping Line	General Manager
4	Geva	Shaban	TAFFA	Director
5	Kaale	Jackson V.R	TASAA and Rails Shipping Services	Member, Management Council
6	Kakusa	Miwi	Tanzania Ports Authority	Manager, Planning
7	Karavina	Ally Aman	Spatial Development Ltd	Chief Executive Officer
8	Kumar	Suresh	PIL	General Manager
9	Lilani	Ali Hassan	TRH	PEMA
10	Loms	Raymond	SSB - Azam ICD	Operation/Safety
11	Moret	Charles	Nyota Tanzania Ltd	Managing Director
12	Ngatunga	Stephen	TAFFA	Executive Councilor
13	Ngoga	Frank	TTFA Central Corridor	Customs Specialist
14	Salvatory	Verena	TICTS	Marketing Officer
15	Senkoro	Aziz	TAFFA	National Treasurer
16	Shamte	Rukia	TTFA Central Corridor	Executive Secretary
17	Wandwi	Hussein, A.	TATO	Executive Operations Officer

Table D2. List of Participants- Integrated ICD Concept - Dar es Salaam Port Management- October 4, 2010

No.	Name	Organization/Company	Designation
1	Iddi Mkwata	TPA Dar Port	Dar Port Manager (Chair)
2	Eng. V.J. Madingo	TPA Dar Port	Principal Mechanical Engineer
3	M. W. Kakusa	TPA Dar Port	Manager, Planning (TPA)
4	Peter Millanzi	TPA Dar Port	Ag. Principal Administration Officer
5	Capt. Andrew P. Matillya	TPA Dar Port	Oil Terminal Manager
6	H. A Hotti	TPA Dar Port	Ag. Revenue Manager
7	J. S. Sigera	TPA Dar Port	CTM
8	H. H. Arika	TPA Dar Port	CM
9	Eng. P. O. Ogulo	TPA Dar Port	Maintenance Engineer
10	Capt. Juma Saire	TPA Dar Port	HM
11	D. S. O. Kissa	TPA Dar Port	TM
12	H. J. Mwasenga	TPA Dar Port	PSTO
13	Stephen A. Mlabwa	TPA Dar Port	BOM
14	James M. Nglwandy	TPA Dar Port	PSO
15	Eng. W. Bashushu	TPA Dar Port	CTE
16	Gati Nyirabu	TPA Dar Port	SOO
17	Juma Mwenda	TPA Dar Port	SA
18	Michael Chinamo	TPA Dar Port	Ag. Financial Manager
19	Mathew Anthony	TPA Dar Port	Principal CPS Officer
20	Maghibo Murta John	TPA Dar Port	SOO
21	Bosco Mganwa	TPA Dar Port	SME

No.	Name	Organization/Company	Designation
22	Tatu A. Moyo	TPA Dar Port	SOO

Table D3. List of Participants Roundtable on Integrated ICD Concept - Mombasa  
October 5, 2010

No.	Name	Organization/Company	Designation
1	Geoffrey Mwangi	Kenya Maritime Authority	Research & Development
2	Charles Kahuthu	Kenya National Chamber of Commerce	Manager
3	Daniel Kiange	National Single Window System	SBA
4	James Mwayayi	Kenya Ports Authority	Operations Officer
5	Alex Kabuga	National Single Window System	Project Team Leader
6	John Mwanza	ISCOS	Director of Shipping
7	Peter Oremo	Kenya Ports Authority	Manager
8	Jairus Esibwe	ISCOS	Director of Ports & Statistics
9	Grace Maina	Kenya Transport Association	Ag. Executive Officer
10	Salim Nasib Mbarak	Weston Logistics	Managing Director
11	Jim Siro	Maersk K Ltd	Operations Manager
12	Mansour Mohammed	Interpel CFS	Marketing Manager
13	Sudi Amani	Kenya Ports Authority	Terminal Manager

# Appendix E. Validation Workshops Comments

## Introduction

### BACKGROUND AND OBJECTIVES

In order to confirm that we have the most current information regarding the model inputs and that the information provided to us was interpreted correctly, we conducted a series of five validation workshops. Additionally we presented preliminary results from our analysis to elicit comments from the different stakeholders and conducted additional meetings to deepen our understanding of specific subjects relevant to the different transport markets.

The validation workshops were held at the following locations and dates:

- Bujumbura September 20-21, 2010
- Kigali September 16 and September 22, 2010
- Kampala September 23-24
- Mombasa September 27-28, 2010
- Dar es Salaam September 30 and October 1, 2010

The validation workshops were conducted in a two day process. The morning of the first day consisted of overview of the project objectives and preliminary findings in the following areas:

- Maritime infrastructure and services (including ICDs))
- Railroad infrastructure and transport services
- Road infrastructure and transport services
- Border posts and customs procedures
- Lake transport infrastructure and transport services
- Legal and regulatory framework

During the afternoon of the first day the sessions focussed on the presentation of the *FastPath* analysis and consisted of the following components:

- Methodology (process and elements)
- Data inputs (share total cost and time to transport different types of cargo)
- Preliminary Results
  - Issues identified (discussion)
  - Potential interventions identified (from interviews and analysis – discussion)
- Data gaps (discussion)

During the morning of the second day, topical meetings with specific groups were held (e.g. lake transport with port authority, lake transporters, road transporters, rail transporters, shippers, forwarders). This was followed by afternoon sessions with one-on-one clarification interviews with freight forwarders, transporters and other participants that had particular data to be updated or validated.

## **Bujumbura, September 20-21, 2010**

### **FIRST DAY**

#### *Main Topics*

- The traffic carried has decreased from its peak in 1994 of 150,000 ton/year to 62,000 ton/year in 2007 according to a Haskoning Lake Report. Now there is an average of 410 ton/day.
- The rail operation is not reliable with old locomotives, high tariffs (recently increased by 60%) and prepayment of service before the wagons are delivered. Currently, the trains are made up of only 10 wagons because the mountains in the Ilala to Dodoma section prevent the small locomotives from pulling 20 wagons. Ideally they would like to see a reliable lake plus rail service with a total time to Dar es Salaam of 3 days.
- Burundi companies are interested in participating in the Tanzanian rail company (TRL) because they are very dependent on the management of the company. An extension of the rail into Burundi would give them more rights to participate. This extension could be from Uvinza to Musongati (185 km) or from Uvinza to Banda (border post). On the other hand, Burundi shippers are not interested in the connection to Isaka.
- The port of Kigoma handles most of the DRC cargo destined to Kalamie and also a significant share of the Burundi cargo. In order to handle more cargo, this port requires infrastructure upgrades, more equipment and staff. In contrast, the port of Bujumbura is the best port on the Lake Tanganyika. The port still needs to invest more on IT and in next year (2011) the Master Plan for the Port of Bujumbura will be completed (by the Port of Zeebrugge in Belgium). JICA is funding it but has delayed its start

due to the elections and fear of political unrest. In October they expect to see the start of the dredging of the Oil Terminal and other dredging will be part of an agreement with Brussels as part of the Bujumbura-Mpulungu Development Corridor of the North South Corridor.

## SECOND DAY

### *Main Topics*

**Road Transport:** The participants would like to see the 9 weighbridges along the CC removed. They think that for transit cargo one at the port and one at the border would be enough.

**Transit starts at the port, problems start there.**

- construct new terminals
- Implement customs clearance at the borders. Promote OSBP.

### **Burundi Revenue Authority**

- Reduce the institutions at the borders
- Institute new procedures to reduce bureaucracy
- Increased working hours at the border

### **Mining**

- Burundi exported 35,000 tons and imported 360,000 tons in 2009.
- The mine will export 50,000 tons per year. Equal to 1.5 times of the country exports.
- They are preparing to implement a Transport Study for their project.
- They would be interested in our recommendations by 2013
- Smelting requires electricity (which is not available at the moment)
- They are conducting exploration, testing the concentration and metallurgy of the field

### **Railway**

- Why not expand the rail from Kigoma to Musongati in the north?

### **Time and Costs at the corridors**

- Central: \$3,000 in 12-14 days
- North: \$5,500 in 7 days travel plus 5 days clearance = 12-14 days

### *Lessons Learned*

Burundi is mostly oriented towards the Central Corridor given its shorter distance to the sea. This reduces the cost of transport. There is a very strong interest in the revival of the lake plus rail connection to Dar es Salaam. It's not only the historic connection to the rest of the world but the shortest route as well as potentially the cheapest if the rail operates reliably again. Burundi is very interested in participating in the management of TRL to protect their interest caused by their dependency on this connection for imports and exports. Investment is also required at the Kigoma and Bujumbura ports with the first requiring significant upgrades.

The Customs agency is planning to modernize their procedures in line with what is being done by their neighbors in the Northern and Central Corridors including the implementation of RADDEX (or ASYCUDA), regional bond, longer border post hours, etc.

## **Kigali, September 16 and September 22, 2010**

### **FIRST DAY**

#### *Main Topics*

- Planned rail projects include the Isaka-Kigali rail extension plus improvements on the Dar to Isaka segment and feasibility for the Nyakahura to Msungu segment. The procurement of the Phase 2 of the project which includes detailed design plus TA was being implemented in September. The detailed design was expected to take 8 months and the expected completion of the construction phase was estimated for year 2017.
- Customs clearance procedures: they are implementing major innovations at the border posts aided by improved IT connectivity (RADDEX is being implemented along the Northern Corridor). They have pre-cleared companies using risk management and implementing a blue channel at the border for them. It takes 3 hours to clear them at the border. They are also working to implement an Authorized Economic Operator (which is a regional initiative) to also expedite border clearance and complete the procedures at the shipper's warehouses. Globally, the clearance time has been reduced from 5 days to 2 days as a result of their service charter that requires them to comply with a 2 day clearance time. They are working on 24 hours schedule in Gatuna, Gisanyi and Bukavu and an 11 hour schedule in Rusumu. They are now working with 3 non-intrusive scanners at Rusumu, Gatuna and Majela.
- Significant work is also under way to improve the clearance of oil imports through the partnership with a private company that is constructing a depot that will double current capacity. Pre-payment is allowed and there is a bank in Gatuna. Finally, Gatuna and Rusumu are being planned to become One Stop Border Posts.

### **SECOND DAY**

#### *Main Topics*

##### **Lake Transport**

- Better ships are required
- Viability needs to be studied
- Poor infrastructure
- Private companies are interested in the Mpulungu-Bujumbura route to transport sugar, cement and other construction materials. They are also interested in the transport of consumer goods from Kisumu to Bukoba (Mutukula)

##### **Facilitation**

- Share project documents with stakeholders so they can provide their inputs
- Coordinate with Trade Development programs
- Reduce informal payments and repair infrastructure

### Customs

- Rwanda requires that commercial trucks used for transit goods to register. Local transport trucks do not need to do so. EAC also requires that transit trucks register
- License fee is not uniform: Rwanda (\$200/truck), TZ \$350/truck, KY \$400/truck while the rest is harmonized
- TZ has duty free for truck imports. Rwanda also has a duty free for commercial trucks and charges 5% for small trucks (regular duties are about 20-30%)
- Goods with a maximum \$1,700 can be cleared at the borders in Rusumo, Gatuna and Gisenyi. Goods with a maximum value of \$850 in the other border posts.
- They are extending the work hours
- They are reducing the number of documents from 10 down to 3 to improve the time releases
- 2 OSBP are already operational and 3 in the pipeline
- They are connected through RADDEX with Kenya, Uganda and Tanzania. Fully operational for goods from Mombasa and Dar-es-Salaam

### Rwanda Revenue Authority

- Software accessible at the border for pre-clearance, blue channel, decentralization of export procedures at all borders (including export documents)
- Still, high value products are preferred to be cleared in Kigali to check the seals

### Costs

- More corruption in the NC - more expensive
- Dar-Kigali 20ft \$3000-\$3500/\$4,600. Return is the same (no taxes) in 14-15 days
- Mombasa-Kigali \$5,200 in 19 days
- Why more trade travels on the NC if they perform similarly?
  - Kenyan industries use NC while Asia/Europe use CC
- Does Rwanda have a leader for the Isaka Intermodal station?
  - Government should be the leader

### *Lessons Learned*

The revenue authority is modernizing the customs agency at a very significant pace. The customs agency has a very strong customer oriented charter that gives them flexibility to modify their procedures in order to be responsive to shipper's requests and needs.

Transporting goods to Dar es Salaam is cheaper but it takes longer due mostly to the performance of the port. The transport rates have been decreasing as a result of increased competition between trucking companies. There are more trucks available as a result of the low import tariffs on used trucks in Burundi and Rwanda.

## **Kampala, September 23-24, 2010**

### **FIRST DAY**

#### *Main Topics*

##### **Weightbridges / Overloading**

- Increased used of IT to prevent corruption
- Decriminalize overloading
- Implement weight-in-motion to reduce costly delays
- If rail was fully operational, heavy goods would use it reducing the overloading and corruption at the weightbridges.

##### **Regulation**

- The Ministry of Transport has issued an EOI to study the overloading. They are also preparing
  - Draft Policy for Axle Load Control
  - A new proposal for a Traffic Safety Act (Law) to harmonize with EAC
  - Launch in October 2010 an Axle Load Monitoring Unit under the Ministry of Transport with equipment and vehicles.
- There is great need to harmonize regulation within the countries and EAC. It's a source of corruption. The standards are one area that needs attention.
- The resource allocation needs to be changed. Need to change strategies and reduce the focus on road
- The Council of Ministers needs to coordinate the policies to prevent unnecessary interference from other agencies. They need to clarify appointments and responsibilities.

##### **Customs**

- Implement a blue channel and economic agent

##### **Railway**

- Standard gauge should be considered in the very long term considering that it is an enormous investment that will overhaul the entire system but the tonnages to make it viable are not there in the short term.
- RVR is planning investments targeted to increase their traffic 4 times in 4 years. They are currently carrying 1000 TEUs from Mombasa to Kampala, DRC and Sudan. There are about 7,000 TEUS available and are targeting to capture 5,000 TEUs.
- They will invest in improving the track, reduce accidents, rehabilitate their locomotives and train their management. They want to double their available capacity through these investments. They will also avoid breaking up trains.
- New contract should demand more resources from government and concessionaire. Subsidies may be required (similar to UK). Currently, only left to the market forces.
- In the evaluation of the assignment of additional resources stress the replacement of trucks by rail.
- For the cargo coming from Dar es Salaam in the wagon ferry, customs has an office in Port Bell that checks the paper work of the cargo in the trains. There is no delay because final clearance is done in Kampala.

## Sudan

- Uganda is the gateway to Sudan

## Competitive Index

- It's bad due to poor infrastructure
- The Ministry of Transport wants to decrease the cost
- There is a large investment program in place with the Northern Corridor being upgraded.

## SECOND DAY

### *Main Topics*

### **RVR's Ferry Service on Lake Victoria**

- **There are currently two ferry boats in operation** at Lake Victoria. One based on Mwanza and other based on Kisumu. They sail as needed and there is no scheduled service. There used to be other 5 ferries operating in the system. However, existing demand is minimal given the lack of reliability of TRL and the ships. The historic demand has shifted to road and will take a significant effort to attract it. The EAFTFP fixed one of the ships and the other will be fixed under the auspices of the Ugandan government.
- **Current service.** 5 sailings a week and it takes 15-17 hours to cross the lake. Loading and offloading takes about 45 minutes. At Port Bell there is no customs clearance, the train is assembled and taken straight to Kampala where the cargo is cleared at the RVR terminal.
- They have the same tripartite interchange agreement as before between KRC, TRC and URC. The operating network earns the revenue.
- The KRC and TRC railroads have a grace period of 14 days to return the wagons from URC. If they fail they incur in charges of \$20/day from day 14 to 30, the rate increases to \$30/day between day 30 and 90. Beyond 90 days they require a replacement. URC on the other hand, given that operates a smaller network is required to return the wagons sooner with a grace period of 7 days.
- Demurrage is also charged to the customers at a escalating rate. However, they have the ability to modify or waive the charges depending on the circumstances. If they operated by the book a significant number of customers would have to pay.
- The sales department serves as a single point of contact for the entire trip. They have representation in Dar and RVR would aim to resolve any problems.
- They have experienced difficulties with KRA when they tried to change the routing of some cargo from Malaba to Kisumu. It took KRA one week to authorize the change of route.

- In 2004, URC transported 1,000,000 tons. In 2001, the lake system transported 470,000 tons and in 2002 it transported 510,000 tons.
- The ferry capacity is about 22 wagons at 1,000 tons/wagon for a total of 22,000 tons. There are about 10-13 voyages/month for each ferry.
- URC transports 55 wagons per day or 55,000 tons per day. The track section between Jinja and Kampala has limited capacity that requires breaking up the trains from Mombasa into shorter trains.

### **RVR's Rail service to Mombasa from Kampala**

- It currently takes 8 days to travel from Mombasa to Kampala. The trip from Dar to Kampala could take from 3-4 days. During the best years of operation a round trip of Dar-Kampala-Dar took as little as 7 days.
- RVR is responsible for the maintenance, major rehabilitation and upgrade of the track. They are also responsible for the equipment, machinery and civil works. They go through a process of reconciliation with a regulator to take credit for improvements on sections where maintenance was deferred before the concession.
- RVR received 28 locomotives as part of the concession, 18 were serviceable while 10 were not and had their maintenance deferred. They would rehabilitate these 10 locomotives before purchasing new ones. They are mainline tripping locos between 900 and 1200 HP. They would require larger locos to operate with a single loco in the Jinja-Kampala section (currently they use two).
- The design axle load is 14.5 tons and the operational load is 13.5 tons/axle or 40 tons/wagon or 60 tons gross weight/wagon.

### **RVR's Investment Priorities**

There are about 40 kilometers of track with speed restrictions out of 260 km of the line. The restrictions are between 18 and 20 mph.

The priority of investments is listed below. These investments may change as volume increases.

- Track
- Wagons
- Locos
- Human resources training
- Corporate image

If the government fixes the tracks to Kasese and Pachwach, RVR would have the first chance to take over them in concession for 25 years.

RVR is implementing new commercial strategies such as an MOU with trucking companies to establish strategic partnerships to offer door to door service. Additionally they are operating an intermodal service Kigali and to Sudan using their intermodal terminal in Kampala. They are also building a new ICD with a capacity of 200 TEU/day.

### *Lessons Learned*

Lake Ferryboat Services are still highly desirable. They were very demanded in the past and offer flexibility to shippers. They are still viable from the commercial/contractual point of view. Lack of reliability of operations and scheduled services are an obstacle to shippers and low existing demand for the operators. Harmonization of regulation as well as domestication of regional regulations is a priority to all the participants.

## **Mombasa, September 27-28, 2010**

### **FIRST DAY**

#### *Main Topics*

#### **Rift Valley Railways (RVR)**

- Investor Structure (new structure approved on August 25 and 27 in Kenya and Uganda): Citadel 51%, Trans-century 34%, Uganda 15%. New sources of funding: IFC, AfDB, Imagine Fund (London)
- There is a new management team from Brazil. They have a 5 year turn-around plan to achieve 5 mtpa. They will rehabilitate equipment and track. They are working on a 24 month rehabilitation program to improve locomotives, wagons and track in critical areas. Citadel has issued a shareholder loan for two years to order rails to improve Mombasa-Nairobi section (100 km) while long term funding is sorted out. The rails are been brought from France.
- Last year there were 2-3 derailments/day. The OPEX capital will be provided by local banks. They expect to have a 2 year moratorium to put investor money in place before returns.
- The Uganda intermodal terminal is not very good. They aim to replicate the Ipakasi ICD in Uganda with EATFP funds. They expect to complete this project within 24 months. In the meantime they will use an ICD from a shipping line. They want to use the same as the Mokuano rail station ICD.
- Competition from road is pretty fierce. RVR has lost customers to road. They have kept only large customers with heavy commodities. This has at the same time helped them to concentrate in their core business and offer the possibility of block trains for those customers. The exception is Mpakasi which has mixed cargo from several shipping lines.

## Lake Services

- The agreement to use the Kenyan vessel was unrealistic and therefore was revised. The ship can carry 22 wagons and it is expected to serve a triangular route. It may eventually change into a dedicated service between Port Bell and Mwanza depending on demand. RVR intends to negotiate with their biggest clients and TRL for transport services into Dar from Uganda.
- The cost of transport on the NC is \$30 lower than on the CC.

## Rehabilitation of Lines to Kasese and Pakwach

- RVR is interested to connect with the new oil resources by Lake Albert. They are very interested in shipping the oil to Mombasa during the 3-4 year period that will take for the completion of the refinery. Once that takes place the volumes transported will be reduced.

## Security of cargo on rail

- In the past people broke into the containers while on transit. RVR developed a system of welded bars on the wagon through which the 40ft containers are not possible to open. They are studying a similar solution for 20 ft containers. This has reduced incidents down from 100 cases (2007) to 34 cases (9 months in 2010). The wagons are retrofitted when sent to rehabilitation.
- What is the possibility of having rail passenger services? Service is challenging, 96% of their trains are cargo related.
- Ministry of Transport agrees rail is the most economical way to transport heavy goods in large volumes. They are encouraged by the amount of capital coming in.
- The lake-rail services contribute to efficiencies in the corridors. There is a 2008 study on how to transform the lake services. Kisumu has grown significantly because of trade with Mwanza.
- They would like to see a more modern way of transporting goods at the lake. The wagon-ferry is a technology from the 50's. In the US/Europe they use barges and Lake Victoria is conducive for them. We are currently moving wagons when we should only move cargo (15 ton dwt/wagon times 22 wagons= 210 tons unutilized capacity). They could develop a mini container terminal to load the barges.
- There will be an Investors Conference for the Lake Region in Mwanza on December 2<sup>nd</sup> and 3<sup>rd</sup> organized by the EAC Lake Victoria Commission (based on Kisumu). **RVR can send us their agenda.**

RVR representative has seen barges on Lake Victoria. They have asked GOU to allow for private investment on lake ports. They need legal/policy framework.

## Container Freight Stations (CFS)

- They are not controlled by port authority. The containers are allocated to them by KPA. Change slide to replace “controlled”.
- Other solutions to increase capacity should include the modernization of equipment and the simplification of procedures.
- Improve the connectivity between KPA and RVR to make better use of the ICD in Kisumu. This ICD allows for transit cargo as opposed to the one in Nairobi.

## SECOND DAY

### *Main Topics*

#### **Interface Port-Rail**

- The port has the capacity of assembling trains of 30 wagons in the loading zone. The loading zone has four tracks of around 450 m in length each. The locomotives can pull 17 to 20 wagons (depending on weight of containers). The ideal is to run block trains. Their operations are easy because they require less shunting. They are unable to do this all the time because they have to match the weight of containers to specific wagons. At times they received a mix of containers from different shipping lines which requires shunting. For transit containers, the manifest needs to be sent by shippers after some customs reviews it instead of directly from the shipping lines as the ship arrives.
- The communications between the port and RVR are very basic. RVR only communicates the arrival time of the trains and the number of wagons. Therefore they cannot prepare the position of the containers to match the wagon sequence (and their carrying capacity characteristics). The Ugandan wagons are of the N series with a carrying capacity of 46 tons. Most Kenyan wagons have a capacity of 42 tons. The matching of containers to wagons is what makes the process take longer. Then the trains need to be restructured requiring shunting. RVR hired a private company to help transport and organize the containers from the key to the train loading area.
- Ideally, they would like to integrate longer trains with two locomotives. However, the couplings are a challenge because of their reduced capacity. The longer trains are between 650-1,000 gross tons.

#### **Train turnaround time**

- It takes 6-8 hours to load assuming that the cargo is ready at the loading zone and the train brings flat wagons. Their shortest time is 3 hours. There is little time spent at the yard by the containers. Shunting is done at the train yard before the train leaves, pushing heavy wagons close to the locomotive. Customs seals are placed in the containers. In as much as possible they run unit trains, specialty trains for containers, tankers and bulk trains to make their clearance easier.

- Once the terminal expansion is completed, one of the four tracks in the loading area will be converted into the access track to the new terminal. Instead of having several separate small loading areas, the big clients are lobbying for a single larger loading area for all terminals. RVR supports that plan.
- The manifest is transmitted from the shipping line to RVR and that allows them to transport good to Nairobi ICD where they are cleared with customs. This process is not possible for goods destined to Kampala. At the moment, the consignees need to make the manifest available to RVR to do that. This causes additional delays. The aim is to replicate as much as possible the efficient system in place for Nairobi.
- Their customers prefer the rail service because it is able to absorb 20-30 containers at a time. They are currently running 1.2 trains per day to Embakasi.
- The passing loops on the mainline are able to handle up to 35 wagons. Coming down to Mombasa, the trains are longer up to 35 wagons because mostly are empty. Trains running to Nairobi are normally 17 wagons. They plan to invest on longer loops. The current capacity of the system allows them to run 13 trains to Nairobi and 11 trains to Mombasa.
- Is it possible to take containers into the ICD in Kisumu? At the moment the ICD is not under the direct control of RVR. Current law does not allow for transit cargo there.
- They are planning a new CFS at Mariakani (a logistics center) to remove cargo from the town because they create congestion. Currently, 80% of the cargo goes out of Mombasa and 20% stays in Mombasa. There is plenty of open space in that location 50 km away from Mombasa. It's planned as a KPA facility with possibility of private participation.

## Customs

- Some of the participants believe the problem is not lack of space. The obstacle is customs procedure. The time from port to customer has not decreased. If anything it's more expensive and complicated.
- They are planning to simply simplification through the national single window system. They are removing obstacles. KRA needs to implement more their risk management tools and a document processing center. A payment center connected to the banks. The single window project will connect the port, border posts and airports and it got recent approval. They expect to show the initial results next year. KPA and KRA have a common gate pass.
- Attitude and approach is the biggest obstacle. All parties need o accept the system. They are trying to design the process in order to avoid that human intervention is able to stop the process. They are trying to address that.

## Facilitation

- The agencies involved in the clearance of cargo only care for their own process without regard to the overall process. They do not consider the impact on the entire process. Their attitude is one of suspicion. Policy changes are not communicated to the people. There is a need for better communication and training about the changes. There is a need to avoid intermediaries but the information needs to be communicated broadly.
- It is difficult to know who is in charge at the port. Nobody takes responsibility for the overall process.

## *Lessons Learned*

- A very serious effort is underway to improve the performance of RVR through much needed investments in infrastructure, rolling stock and management. The new investment partner has very good reputation coupled with a serious operator instill confidence that the performance will indeed improve.
- There still issues to resolve in order to make the current proposal to improve the operation of the CFS viable. The return of empty containers is quite serious and at the moment remains unresolved.
- The weighbridges remain a challenge in terms of corruption resulting in increased transport costs. Limitation by KRA to use trucks either for transit or domestic cargo reduces the vehicle utilization and increases costs.

## **Dar es Salaam, September 30 and October 1, 2010**

### **FIRST DAY**

#### *Main Topics*

#### **Empty backhaul of containers**

- After delivery in Kigali and Kampala on the Northern Corridor, the containers can be interchanged with others. On the other hand, the transporters on the Central Corridor have to wait for the container that was carried.
- Maersk empty containers need to be returned to Mombasa.
- In Mombasa there are designated ICDs to handle empty containers. In Dar es Salaam, trucks wanting to return empty containers have to wait loaded for TICS to designate an offloading location. This could take 3-4 days.
- Shipping lines are charging very high costs to importers through demurrage charges. The shippers say that rates are not realistic charging US\$ 18/day for empty containers. The free time is 11 days for

domestic and 30 days for transit cargo. Considering that transit cargo takes more than 30 days the shipping lines are collecting demurrage charges for **all** shipments. Additionally, instead of a letter of warranty they are demanding **cash**. Other charges include rust charges, piracy surcharge and among others. It takes up to two months to receive a refund of the warranty (at around US\$ 1,500 per container).

## Road Transport

- Government should have invested more on rail infrastructure. Lack of reliable rail service leave shippers with limited choice of transport. Lack of competition from rail reduces competition in the corridor. Excessive reliance on road transport has an impact on high road maintenance requirements.
- Historically, Northern Corridor has had better road infrastructure to Kigali and Bujumbura when the entire length of the Central Corridor was not completed.
- Time restrictions to reach checkpoints are very stringent and lead to potential dangerous behavior (lack of rest for truckers). For rail on the other hand there is no restriction once the wagons are loaded. A paper is stamped at each checkpoint. Additional complications include very slow loading of cargo at the port where TICS may not have equipment available or there is a breakdown. They have 5 hours to reach Kibaha (Zuruzuru) and in the morning congestion is not possible to reach in less than 6 or 7 hours. Long queues at checkpoints also cause truckers not to meet the time requirements. If late, transporters pay a fine of T\$ 40,000 (no matter the reason), paid in cash by the driver. The fine may double for significant delays. There should be a mechanism to notify the next checkpoint that a breakdown has occurred and that the truck will be late.
- It takes up to 24 hours to pickup cargo at the port. The front loaders are not available or they breakdown. The same driver that picked up the cargo then needs to drive fast to reach the first checkpoint (preventing him to rest). The agency responsible is not responsive to requests from cargo owners to modify procedure.
- Truckers would like to gain access to long term low interest loans to finance the purchase of trucks, fund the operations (including payment of taxes), maintain the trucks and provide training to drivers. Short term loans from local banks are for 1 to 3 years while the IFC issues longer term loans but only to larger companies such as Coca Cola.
- Dedicated truck access to the port is necessary probably connected to the ring road projects for Dar es Salaam.

## ICD

- Transfer to ICDs is US\$119 for a 40 ft container

## Shipping to DRC

- There is no standard rate for the transport. Changes frequently as a function of volumes, period, and availability of return cargo (empty containers are not allowed by shipping companies to be loaded with cargo; therefore increasing costs even higher).

## Community based system

- Its details were presented. It's expected to be hosted by TPA. There is a feasibility and design study available.
- There are 17 parties in the public/private partnership (49% private and 51% public). TPA has the leadership position. The intent is to remove human intervention which in their view causes delays.
- In theory TICS can release cargo within a day. The rest of the time is spent waiting or completing customs or other processes.

## TICS

- They have a booking system to pick up cargo. People don't come in the morning to pickup cargo. Most come in the afternoon and that creates congestion. Truckers don't respect the schedules and come at any time. TICS receive them with no penalty for missing their appointment. If too late in the evening, truckers chose to leave the cargo at the port for security reasons to be picked up in the morning.
- There is no staging area for trucks waiting to enter the port. They all queue outside the port gate, creating significant delays at the gate. Trucks waiting to get business also park at the gate, adding to the congestion.
- Average dwell time at TICS is 10 days. People wait longer to pick up their cargo while they collect money to pay duties. TICS could potentially reduce it to 8 days.
- Clearing at night has several problems that include security, tax evasion, freight forwarders need more staff and on more shift at the port that could charge extra for a night shift. Customs also would need a third shift and they are apparently understaffed at the moment.
- At the moment the containers are not weighted at the port. They only get a seal and they are weighted at the first weighbridge. This causes a problem because at that point the container can't be opened and its weight reduced (unless they travel to a bonded warehouse, breach the seal and remove the excess). Also, even if an officer allows a slight overweight the next officer may not. 20 metrix tons is the maximum cargo. For that reason preplanning is very important for transit cargo.
- Dwell time at the port is around 12 days. There are handling, stevedoring and wharfage charges.

## SECOND DAY

### *Main Topics*

#### ICDs

- At the moment only domestic cargo gets sent to ICDs. Transit is kept by TPA at the ports
- The ICDs can be a long term solution to congestion.

- Optimally all boxes should move by rail to the ICDs. Around 60% of the cargo is transit. Most ICDs don't have rail connection. There are only two with it. TRH is only on the TAZARA line.
- The cost of the transfer is a sensitive issue. Some shippers consider a move to Mombasa to save amounts in the US\$ 35 order.
- Road access to the ICDs needs to be strengthened to avoid deterioration of the pavement as well as to avoid congestion in as much as possible.
- Initially there were only two ICDs from TPA but due to the increased concession they opened the option for private participation.
- Most of the time is spent by trucks waiting at the port gate. If the port gate was only handling ICD bound traffic, then the flow would be easier. The aim should be to resolve problems as a system.
- Shipping agents agree with the proposal but additional constraints need to be resolved before they can make a final determination. They would like to change the current ICD model. It relies on storage charges and as a result is unsustainable. Their tariffs need to be restructured and their model changed so they make a real economic contribution.
- Implementation can be made in stages. The shipping lines would be willing to accept an increase in land charges as long as they save days on the sea side (in exchange for port efficiencies). Removal of trucks at the gate would improve operations.
- Concern exists to when traffic increases back to pre-depression levels.
- The truckers are not very comfortable with the idea of ICDs. Under TPA, ICDs were well run and transfers were made at no charge. Rail was also used for the transfers. Now every ICD proposes its own transfer charges up to US\$ 350. The current setup puts the port performance in the hands of the ICDs and the shipping lines.
- The biggest capital costs are represented by the ships. Every hour of their time is worth a lot of money. Productivity at the berth is below world standards. Delays are costing the ships and general economy a lot of money. No additional cranes can be added because the yard is not working. The savings to the ships through the improved use of the ICDs can help to pay the transfers to the ICDs and possibly result in a net reduction of rates for the EAC.
- TPA has conducted a congestion study and their recommendations were included in their Master Plan. Additionally, there is an ongoing study for a new ICD for overflow at Kisarawe which would be accessible by rail.

### *Lessons Learned*

In principle the concept proposed is understood to be accepted. Issues need to be worked out. We will prepare a summary to try to work with TPA to further the implementation.