

**Integrated Framework (IF)
Rwanda Diagnostic Trade Integration Study
(DTIS)**

Chapter xx

Transport Sector



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Acronyms

ADB	African Development Bank
ADF	African Development Fund
AFRAA	African Airlines Association
AIP	Aeronautical Information Publication
AIPA	Africa Institute for Policy Analysis and Economic Integration
ATM	Air Traffic Management
BASA	Bilateral Air Service Agreements
CAA	Civil Aviation Administration
CNS	Communication, Navigation, Surveillance
COMESA	Common Market for Eastern and Southern Africa
DR Congo	Democratic Republic of Congo
DTDR	Déclaration de Transit Douanier par Route
EAC	East African Community
EATTA	East African Tea Trade Association
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EU	European Union
GDP	Gross Domestic Product
HDI	Human Development Index
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IGAD	Intergovernmental Authority for Development
IMF	International Monetary Fund
kVA	Kilo-Volt-Ampere
MaGeRwa	Magasins Généraux du Rwanda
MTOW	Maximum Take-Off Weight
NCTA	Northern Corridor Transit Agreement
NEPAD	New Partnership for Africa's Development
OCIR	Office des Cafés du Rwanda
ONATRACOM	Office National des Transports en Commun
PPP	Purchasing Power Parity
PSP	Private Sector Participation
PSP	Private Sector Participation
PTA	Preferential Trade Area for Eastern and Southern Africa
RAR	Rwanda Airport's Authority
RIPA	Rwanda Investment Promotion Agency report
RMF	Roads Maintenance Fund
RPD	Revenue Protection Department
RRA	Rwanda Revenue Authority
RWF	Rwandan Franc
SADC	Southern African Development Community
SARP	Standards and Recommended Practices
TAZARA	Tanzania-Zambia Railways
TRC	Tanzania Railway Corporation
TTCA	Transit Transport Coordination Authority
TZS	Tanzanian Shilling
UNDP	United Nations Development Programme
USD	United States Dollar
VFR	Visual Flight Rules
VOC	Vehicle Operating Cost
WDI	World Development Indicators

Executive summary

A. Introduction and context

1. **Landlocked developing countries face serious constraints in world trade.** They are generally very poor countries with weak growth rates and depend on a very limited number of export commodities, which unavoidably transit through other countries. Additional border crossings and long distance from the market substantially increase the total cost for transport. For these countries developing a transport infrastructure for international trade is very difficult as they have almost no control over the development of the infrastructure, transport management and policies in their neighboring countries. In most cases the transit neighbors have a similar economic structure and are beset by similar scarcities of resources and shape their transport network according to their own national interests.

2. The difficult challenges of landlocked countries are reflected in their economic development. In the Human Development Report 2004 nine out of fourteen countries ranked with the lowest Human Development Index (HDI) Scores are landlocked countries; all of them are situated on the African continent. Comparing the HDI of landlocked countries with their maritime neighbors one can identify that countries with maritime access usually score a higher level than their landlocked neighbors. In the East African region, Uganda is the only landlocked country scoring higher than the average HDI of countries with maritime access; all countries of the region, except Sudan, are classified “Low Human Development”. (UNDP 2004)

Table 1 Human Development in Eastern Africa

HDI rank	Country	Landlocked country	Human Development Index (HDI) value 2002	HDI components		
				GDP per capita (PPP USD) 2002	Life Expectancy Index	Education Index
139	Sudan		0,505	1820	0,51	0,52
146	Uganda	X	0,493	1390	0,34	0,70
148	Kenya		0,488	1020	0,34	0,74
154	Djibouti		0,454	1990	0,35	0,52
156	Eritrea		0,439	890	0,46	0,49
159	Rwanda	X	0,431	1270	0,23	0,64
162	Tanzania		0,407	580	0,31	0,62
170	Ethiopia	X	0,359	780	0,34	0,39
173	Burundi	X	0,339	630	0,26	0,45
Average of maritime			0,459	1260	0,39	0,58
Average of landlocked			0,406	1018	0,29	0,55

*) The HDI for Somalia is not available

**) Shading indicates landlocked countries

Source: UNDP 2004

3. High trade costs in landlocked countries are a significant obstacle to economic development and are on average much higher compared to their maritime neighbors. The ratio of transport and insurance costs to the total value of exports is roughly 80 percent greater for landlocked countries than for the maritime countries. For the Eastern African region the average ratio for landlocked countries is 85 percent greater than that of the eastern neighboring countries with maritime access (see following table). (Faye et. al. 2004; IMF 2001; WDI 2002. Transport costs and exports have been matched by year.)

Table 2 Cost of trade, population and exports per capita in Eastern Africa

Country	Ratio of transport costs to value of exports in 2000	Total population (2002 in million)	Exports per capita (2002 in USD)
Kenya	0.13	31.5	104
Tanzania	0.18	36.3	44
Djibouti	0.21	0.7	390
Ethiopia	0.29	69.0	14
Sudan	0.29	32.9	59
Burundi	0.31	6.6	6
Uganda	0.35	25.0	27
Rwanda	0.51	8.3	14
Eritrea	N/A	4.0	46
Somalia	N/A	9.5	N/A
Average of maritime	0.20	Weighted average	69.0
Average of landlocked	0.37	Weighted average	16.5

*) Shading indicates landlocked countries

Source: ADB 2004; Faye et. al. 2004

4. The higher costs of transport are also reflected in the export volumes of landlocked countries. These countries export on average less than one-half the per-capita amount of their maritime neighbors. In Eastern Africa, the landlocked countries export per capita is on weighted average only 24 percent that of their maritime neighbors.

5. Much of the poor economical performance of landlocked countries can be attributed to the dependence on other countries' transit routes for access to the overseas markets. The dependence on transit countries is influenced through the following four factors: (i) Transit infrastructure, (ii) political relations with neighbors, (iii) peace and stability with political neighbors and (iv) administrative processes in transit.

6. The impact of poor infrastructure of transit countries is particular severe in the Eastern African region for Rwanda, Uganda and Burundi. All three countries are linked closely together through two major corridors providing access to the Indian Ocean and the international shipping markets. The Northern Corridor is the main artery for these countries from the port of Mombasa in Kenya through Uganda, Rwanda to Burundi. An alternative route is the Central Corridor with the port of Dar-Es-Salaam in Tanzania through Rwanda to Burundi and Uganda. On both corridors, a rail link is only partially available from the port of Mombasa via Nairobi to Kampala and from the port of Dar-Es-Salaam to Mwanza (via the dry port of Isaka) and to Kigomo. Rwanda and Burundi have a relatively good to very good main road network but are suffering from poor connections to the ports at the Indian Ocean. Both countries primary transit routes follow the Northern Corridor.

7. In the mid 1990's Burundi's access through the Northern Corridor was closed due to political reasons and the country had to look for alternative routes. The fact that an alternative route to Durban in South Africa, which was approximately 3,000 kilometers longer with several border crossings and modal changes, was used highlights the importance of peace and stability and good political relations and cooperation with neighboring transit countries. The United Nations Convention¹ is outlining the rights of access to the sea for landlocked

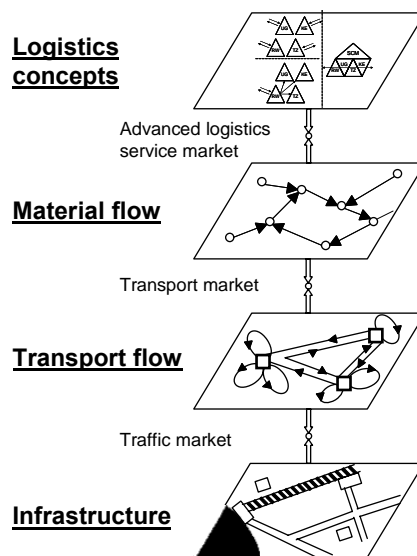
¹ United Nations Convention on the Law of the Sea of 10 December 1982 - Part X Right of access of landlocked states to and from the sea and freedom of transit. For further information see: [Annex xx](#) and http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm

countries, however, the actual implementation has to be defined through bilateral agreements and good neighborly cooperation.

8. Border crossing procedures with different kinds of direct transit and custom charges are often adding a significant amount to the total transport costs. The more borders have to be crossed, the higher the costs. Time consuming transit related administrative paperwork and bureaucratic procedures shippers have to deal with add up to the costs of transport. Time consuming and inconsistent transit procedures create an severe obstacle as shippers have great difficulty estimating the time of arrival of shipments at a port where preparations and reservations for further maritime shipping have to be made.

9. **Structure of the chapter.** The following figure presents the freight transport system as a four level system where the different levels interact with each other on a demand and supply basis. On the lowest level is the transport infrastructure providing capacity to the traffic market. Transport service providers like hauliers, airlines and shipping lines operate the transport flow creating a demand for transport infrastructure and supplying transport services for the materials flow. The material flow is the flow of shipments of individual companies buying transport and logistics services and forms the demand on the transport market. These three levels are enabling factors for logistics concepts which is the fourth level of the hierarchy. Advanced logistics concepts often require active co-operation between the company and a third party logistics service provider.

Figure 1 Four level freight transport system model



Source: Adapted from Ojala & Naula 2002

10. This chapter is divided into three sections adapting the freight transport systems model. The first section describes and analyses the available transport infrastructure, in the second section the traffic- and transport market are discussed including current transport costs and the third section discusses available logistics services.

B. Transport infrastructure

Institutional, regulatory and legal framework

11. The Ministry of Public Works, Transportation and Communications (Minitraco) and the Ministry of Water, Energy and Natural Resources (Minerena) were combined in 2003 to form the Ministry of Infrastructure (Mininfra). Under the Secretary General the ministry is divided into five directorates: Directorate of Transport, Directorate of Roads, Directorate of Mining and Geology, Directorate of urban development and public infrastructure and Rwanda Airports Authority, the later to be transformed into the Rwanda Civil Aviation Authority within the year 2005.

12. The overall responsibility for roads policy is dedicated to the Directorate of Roads within the Transport Department of the Ministry of Infrastructure. Until recently the Department of Roads of the Ministry of Infrastructure (earlier: Ministry of Transport, Public Works, and Communication) was responsible of maintaining all main paved and unpaved roads of the country. In accordance with the decentralization policy of the government some of these tasks have been transferred from the central government to the provincial governments. These tasks include maintaining the unpaved national roads and communal road network. Maintenance of paved roads is carried out by the private sector under national competitive tender arrangements administered by the National Tender Board. Local communities carry out simple maintenance activities of paved roads supervised by the Directorate of Roads.

	<i>Public Sector</i>		<i>Private Sector</i>	
	Central government	Regional authorities	Corporate sector	Community and individuals
Policymaking	Overall policy responsibility rests with the Ministry of Infrastructure, Directorate of Roads			
Planning	Overall policy responsibility rests with the Ministry of Infrastructure, Directorate of Roads, in liaison with regional authorities			
Maintenance	Ministry of Infrastructure used to be responsible for maintaining all main roads. Maintenance of the paved roads is now carried out by the private sector under national competitive tender arrangements handled by the National Tender Board. The maintenance itself is supervised by the Directorate of Roads.			Local communities are now providing some road maintenance services on unpaved roads under the supervision of regional road engineers.
Ownership	The government of Rwanda has ownership.			
Funding	Responsibility for funding rests with the Roads Maintenance Fund, with the shortfall, in principle though not in practice, being made up by government. Some charges are collected by agencies, such as the Revenue Authority and the Traffic Police.			
Operation			Road works contracts to be awarded through the National Tender Board, in collaboration with the Ministry of Infrastructure and the Kigali City Council	

Source: The World Bank 2004

Figure 2 Roads: Roles and Responsibilities

13. Rwanda's entire road network is state-owned. Funding for road maintenance is provided through the Roads Maintenance Fund (RMF), which was established as a road fund in the early 1990's and transformed into an independent body through the legal notice No. 14 bis/98 amending the legal notice No. 20/89 of 11/09/1989. Income of the fund is derived variously from a charge on fuel (RWF xx per liter on gasoline; RWF xx per liter on diesel), a toll on foreign registered vehicles per border crossing (USD 76-152 depending on the size of the vehicle), an axle-load charge and penalties for overloaded vehicles (only sporadically enforced), road damage compensation and government contributions. The following table highlights the overall allocation of roles and responsibilities within the road sector.

14. The overall policy framework in transport is currently under review, however, the government's policy main objectives with respect to road transportation are as follows (Source: The World Bank 2004):

- To enhance Rwanda's integration into the regional economy and to make Rwanda a regional trade and transit center
- To focus transport sector investment on expanding and improving Rwanda's infrastructure, protecting existing capital investments, and improving road safety
- To institute a policy framework for the accelerated development of the road sub sector
- To have road networks contracts awarded through the National Tender Board, in collaboration with the Ministry of Infrastructure and the Kigali City Council
- To finance road maintenance works through the RMF, which is funded through the budget, a direct levy on fuel, a cross-border charge, and various penalty charges
- To encourage community participation in road maintenance through the district development committees
- To improve the ability and quality of local road infrastructure, thereby enabling the rural community to market its crops
- To create an environment conducive to the encouragement of Private Sector Participation (PSP) in rehabilitating, maintaining, and developing road infrastructure.

15. Several measures have been taken or are being introduced to implement these policy objectives including the following (Source: The World Bank 2004):

- The RMF has been established to finance road maintenance and to strengthen the Directorate of Roads. The incorporation of the Directorate into the new Ministry of Infrastructure is also expected to add to the department strength.
- Road works contracts are awarded through the National Tender Board.
- In line with Rwanda's broader decentralization policy, responsibility maintaining both the unpaved main roads and the unpaved rural road network is now being moved to the provinces and is being carried out by the local communities. Supervisory responsibility is to rest with the regional road engineers of the former Roads Department, who are being transferred to the various provincial governments.

16. The Rwanda Airports Authority (RAR) is a semi-autonomous governmental organization with responsibilities and tasks usually connected to a Civil Aviation Authority (CAA). With personnel of 280, the authority is responsible for all management and operational aspects of the Rwandan National Airports Network and the Air Space Management System. The tasks include Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM). The RAR emphasizes on improving the aviation

infrastructure, reducing costs in operations, improve productivity and obtaining a high level of security. With the financial and technical support of International Civil Aviation Organization (ICAO) and the UNDP, the RAR will be transformed to an independent Civil Aviation Authority. In the beginning of 2004, the government of Rwanda set out the legal ground to establish the Rwanda Civil Aviation Authority. The implementation is estimated to cost USD 1.15 million and is expected to be completed by 2005. The main obstacle of implementing the authority is lack of expertise and further support from international civil aviation organizations is needed as well as bilateral or multilateral cooperation for training technical personnel to operate the new air traffic management system.

17. Air transport liberalization programs are in the implementation phase. The principle of implementation of the Fifth Freedom² has been accepted in Rwanda in accordance with the Yamoussoukro Decision³ and Common Market for Eastern and Southern Africa (COMESA) legal notice No.2 on liberalization⁴ and full liberalization is expected in the short term future.

Table 3 Rwanda's Bilateral Air Service Agreements (BASA) and int. conventions

Country	Date	Ratified
Kingdom of Belgium	1966	1974
Federal Democratic Republic of Ethiopia	1970	1972
Democratic Republic of the Congo (ex Zaire)	1970	1972
Republic of Congo	1971	1972
French Republic	1973	1974
Republic of Burundi	1973	1974
Swiss Confederation	1974	1974
Gabonese Republic	1976	1977
Arab Republic of Egypt	1977	1974
Republic of Zambia	1982	1983

List of international aviation conventions signed by Rwanda

Chicago Convention	1944
Tokyo Convention	1963
Geneva Convention	1948
Warsaw protocol	1929
The Hague Protocol	1955
Warsaw Convention Supplement	1961

Source: Rwanda AIP 2004

18. **Transport legislation is in the process of revision.** Many of the current transport laws date back to the colonial period of the 1920's. Current legal basis is a transport law adopted in

² International Civil Aviation Organization; Manual on the Regulation of International Air Transport (Doc 9626, Part 4) For further information see: http://www.icao.int/icao/en/trivia/freedoms_air.htm

³ The "Decision on the Implementation of the Yamoussoukro Declaration concerning the Liberalization of Access to the Air Transport Markets in Africa" adopted by African ministers responsible for civil aviation in November 1999, provides for a continent-wide aviation agreement to liberalize the African Skies with the aim of realizing full liberalization by the year 2002. The main thrust of the Decision is to gradually liberalize the scheduled and non-scheduled intra African air transport services with the aim to facilitate access to air transport markets in Africa. For further information see: Economic Commission for Africa - Issues on Yamoussoukro Decision, <http://www.uneca.org/itca/yamoussoukro/>

⁴ For COMESA members the main guideline is the COMESA treaty with the articles 84 and 87 regarding the "Policy on Air Transport". In May 1999, the "COMESA Regulations for the implementation of Liberalization of Air Transport Services – Legal Notice No.2 of 1999" were introduced. However, the two-phased liberalization program, which was supposed to be implemented by October 2001, faced some delays in the implementation. For further information see: Common Market for Eastern and Southern Africa, <http://www.comesa.int/>

1992 “Legislation des transports de la Republique Rwandaise”, which is based on the outcomes of a World Bank project⁵. However, this document needs to be revised as it is partially outdated and does not regulate e.g. the operation of taxi services, domestic transport of animals or domestic transport of agricultural products.

16. **International treaties.** In Eastern Africa there is a long history of international cooperation between states dating back to colonial times of the early 1900’s. Currently there are three sets of instruments to facilitate transport issues in the region: The Northern Corridor Transit Agreement (NCTA) of 1985, the Treaty for the establishment of the East African Community (EAC) of 1999 and Intergovernmental Authority for Development (IGAD). Several institutions of the Eastern and Southern African region overlap like the Preferential Trade Area for Eastern and Southern Africa (PTA) a forerunner of the Common Market for Eastern and Southern Africa (COMESA) treaty The objective of the SADC is among others to achieve development and economic growth, alleviate poverty, enhance the standard and quality of life in Southern Africa.⁶

Table 4 Membership in organizations in the Eastern and Southern African region

	COMESA	EAC	SADC	PTA	NCTA
Burundi	X			X	X
Djibouti	X			X	
DR Congo	X		X		X
Eritrea	X				
Ethiopia	X			X	
Kenya	X	X		X	X
Rwanda	X			X	X
Sudan	X				
Tanzania		X	X	X	
Uganda		X		X	X

Source: de Matons, 2004

19. The main objective of the NCTA is to promote the usage of the Northern Corridor as the most effective route for transporting goods between Partner States. The contracting states have agreed to grant each other the right to transit through their territories and to facilitate and support these transit transports without discrimination. The PTA was a first step towards the COMESA treaty. In 1993, the COMESA treaty was signed with the objective to attain sustainable growth and development of partner states in an overall system of economic cooperation.

Road infrastructure

20. Information on the extent, condition and performance of road assets is based on the “Private Solutions for Infrastructure in Rwanda” report published in 2004, the Scetauroute’s report published in 2003 and findings and discussions with transport operators and freight forwarders during the DTIS mission.

21. The total length of Rwanda’s road network is estimated to be about 14,000 kilometers long, of which some 5,350 to 5,408 kilometers is classified as main road network. The extent and of the paved main road network is about 1,000 kilometers depending on the source of information. Thus the unpaved main road network extends some 4,300 to 4,400 kilometers.

⁵ de Matons, Jean Grosdidier (2004) A Review of international Legal Instruments. Sub-Saharan Africa Transport Policy Program SSATP Working Paper No.73, The World Bank May 2004

⁶ For further information on international treaties see: de Matons, Jean Grosdidier (2004) A Review of international Legal Instruments. Sub-Saharan Africa Transport Policy Program SSATP Working Paper No.73, The World Bank May 2004.

The roads between Kigali and the main cities as well as between the regional centers are reported to be paved and in good to very good condition. The following map illustrates Rwanda's cities and road network.



Source: UN Map No. 3717 Rev. 9, January 2004

Figure 3 Map of Rwanda

22. In November 2004, rehabilitation work of older road surfaces was under way in Kigali City and on the road between Kigali to Butare. Adequate road conditions are also available towards the border-crossing points to Tanzania, Burundi, Democratic Republic of Congo and Uganda. Due to the hilly terrain the number of bridges, viaducts and culverts must be significant, however, detailed records are not available.

Table 5 Paved roads in Central Africa in early 2000

	kilometers	kilometers per 1,000 km ²	kilometers per million population
Burundi	1,200	44	197
Rwanda	1,000	38	128
Kenya	8,600	15	272
Uganda	2,600	11	101
Cameroon	3,500	7	222
Gabon	900	3.5	681
Republic of the Congo	500	1.5	169
Democratic Republic of Congo	2,000	0.8	35
Tanzania *)	4,250	4.8	118

Source: Great Lakes Initiative, Transport Sector. African Economic Commission 2002; *) The World Factbook edition 2003

23. Both reports, the Scetauroute and the Africa Institute for Policy Analysis and Economic Integration (AIPA) reports discuss the condition of the road network and findings are summarized in the following table. As of the paved roads, the condition is observed and confirmed through several sources as good to very good. Many of the paved main roads have been and are currently rehabilitated in the past years mainly through European Union funding. Vehicle traffic is modest on the narrow paved roads but people walking and cycling on the roads, often with large loadings of goods or crops, are in danger as trucks are passing by, vehicles overtake or face opposite traffic.

Table 6 Extent of the Classified Road Network in kilometers in Rwanda in 2002

Type of road	Data Source		
	AIPA *)	Scetauroute **)	Ministry of Infrastructure data
Paved main roads	930	1,022	1,100
Unpaved main roads	4,436	4,386	4,250
Unengineered roads	1,750		
Total	5,366	5,408	5,350

Source: *) Rwanda Investment Promotion Agency report (RIPA) by Africa Institute for Policy Analysis and Economic Integration (AIPA); **) European Union report by Scetauroute

24. The very poor condition of unpaved roads is causing major concerns to local transport entrepreneurs and public transport service providers. The poor condition is related to heavy rainfalls during the rainy seasons and lack of maintenance. Narrow roads or paths in conjunction with narrow curves and steep gradients used by small pick-up trucks and buses consist of no more than laterite, a red soil produced by rock decay. Heavy rain showers wash out trenches and holes into the surface damaging vehicles springs and shock absorber driving through. The bad conditions of the roads also lengthen transport times as vehicles have to drive at walking speed.

Table 7 Condition of the Classified Road Network in percentage in Rwanda in 2002

Category of road	Data Source		
	AIPA ^{*)}	Scetauroute ^{**)}	
<i>Category 1: international or cross-border roads</i>	Very good and good	45	23
	Acceptable		37
	Fair	30	
	Mediocre		30
	Poor	35	
	Bad or very bad		10
Total	110 a)	100	
<i>Category 2: national roads</i>	Very good and good		5
	Acceptable		20
	Undetermined		75
Total		100	
<i>Category 3: communal roads, incl. feeder roads</i>	Very good and good		2
	Acceptable		8
	Undetermined		90
Total		100	
<i>Categories 2 and 3</i>	Good	10	
	Fair	40	
	Poor	50	
	Total	100	

a) Total is as set out in AIPA 2002

Source: *) Rwanda Investment Promotion Agency report (RIPA) by Africa Institute for Policy Analysis and Economic Integration (AIPA) (mid-2002); **) European Union report by Scetauroute (Jan 2002)

25. The following table lists distances between the major regional centers in Rwanda.

Table 8 Distances between principal town centers in kilometer.

Kigali														
51	Gitama													
133	83	Butare												
161	112	28	Gikongoro											
290	238	155	126	Cyangugu										
126	75	169	197	130	Kibuye									
156	164	247	312	248	110	Gisenyi								
94	109	183	213	302	160	62	Ruhengeri							
66	119	199	227	336	204	169	106	Byumba						
114	167	247	273	399	247	280	224	183	Kibungo					
176	227	310	338	464	302	332	270	242	134	Umutara				

Source: Rwanda Toursit Map

26. In March 2003, the Rwanda Revenue Authority started to renew registration plates of all registered vehicles. This project was planned to be finalized by October 2003, but faced delays and was still ongoing by the end of the year. As of December 2003, 24,784 vehicles have been issued a new registration plate. The following table illustrates the number and type of vehicles registered in the period 1995-2000. The high number of trucks and trailers/lorries (total: 1,580 as of 2000) is in great contrast to statements from freight forwarders and exporters/importers interviewed during the DTIS mission who estimated a significant lower number of these type of vehicles at around 200-250.

Table 9 Number of registered vehicles in Rwanda from 1995-2000

	1995	1996	1997	1998	1999	2000
Automobile (Number)						
Total *)	3,257	9,355	17,268	21,843	28,720	27,018
Taxi car		23	52	98	173	205
Minibus	462	1,256	2,467	3,141	4,054	5,269
Pick up truck	972	2,782	5,499	6,911	8,120	9,443
Truck	164	407	738	927	1,025	1,116
Trailer/Lorry	67	164	266	355	397	464
Personal car	1,233	3,136	5,788	7,558	8,986	10,521
Project vehicles					872	
Official vehicles					2,059	
Temporary immatriculation	298	1,406	2,121	2,447	2,583	
Diplomatic Corps	61	181	337	406	451	
Special engines (tractor, bulldozer, construction equipment, etc.)	32	75	204	228	242	251

*) Total does not include special engines

Source: Ministry of Finance and Economic Planning 2003

27. **Traffic accidents and fatalities are increasing.** After a decline of around 10 percent in accidents and fatalities from 1999-2000, the number of accidents has increased by 15 percent from 2001-2002, the number of deaths increased by more than 20 percent in the same period.

Table 10 Number of traffic accidents and fatalities from 1996-2002

	1996	1997	1998	1999	2000	2001	2002
Accidents	1,624	2,795	3,181	3,824	3,490	3,780	4,344
Injuries	766	2,319	2,091	2,863	2,787	2,846	3,474
Deaths	96	574	562	437	401	393	451

Source: Ministry of Finance 2003

Civil aviation – airport infrastructure

28. Rwanda has undertaken many efforts to comply with ICAO Standards and Recommended Practices (SARP) and successfully completed several tasks: (i) Training of personnel has been conducted in countries having ICAO approved training facilities. Although a number of aeronautical operational personnel completed its training, more qualified personnel is needed. (ii) The Aeronautical Information Publication (AIP) has been revised and has been published on 5. August 2004. (iii) Navigational aides have been improved at several airports. The Instrument Landing System (ILS) at Kigali International Airport has been calibrated in 2004 and is currently functioning satisfactorily. The VHF Omnidirectional Radio Range/Distance Measuring Equipment (VOR/DME) has been upgraded. Installation of Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) and World Geodetic System-84⁷ (WGS-84) at Kigali international airport, Kamembe airport (CNS/ATM) and Gesenyi airport are in progress or already completed. In cooperation with the Southern African Development Community (SADC) a Very Small Aperture Terminal⁸ (VSAT) system has been established in August 2004.

29. **Rwanda has two international and four domestic airports.** The main airport for international traffic is Kigali International Airport (KGL) situated 10 km west of Kigali city centre. The second international airport is Kamembe (KME) situated 5 km north of Cyangugu. The airport has recently been upgraded for international traffic and is able to

⁷ WGS-84 (World Geodetic System-84) For further information see: <http://www.wgs84.com/>

⁸ VSAT (Very Small Aperture Terminal) is a satellite communications system that shares aviation and navigation data via satellite technology.

perform all formalities concerning customs, immigration, health and similar procedures. Currently no scheduled flights are operated from this airport. Four other airports/airfields are situated in Butare (BTQ), Gisenyi (GYI), Nemba and Ruhengeri (RHG) and are only for domestic unscheduled and private air traffic. See [Annex xx](#) for airports characteristics.



Figure 4 Map of Rwanda's airports

30. Kigali International Airport has a 3,500 meter long runway, which has been recently rehabilitated, and handles annually about 116,000 passengers and 7 tons of cargo including mail (as of 2003). Although the terminal has an annual passenger capacity of 500,000 passengers at 500 passengers per hour the airport may face difficulties with increasing traffic volumes due to lack of aircraft parking areas and lack of handling equipment.

31. The current Kigali International Airport rehabilitation program consists of five lots: (i) apron (part of the aerodrome set aside for loading and unloading or maintaining aircraft) and runway, (ii) airfield lighting, (iii) energy, (iv) navigation aides and (v) fire fighting facilities. The EUR 23 million project is financed by the EIB (EUR 11 million), EBRD (EUR 11 million) and Kigali International Airport (EUR 2 million).

32. The rehabilitation of the apron has been completed and currently the surface of the runway is under way. The runway has been lengthened from 2,700 meters to 3,500 meters. The main obstacle is that works can only proceed at night between the last arrival/departure in the evening and in the morning. The progress is further slowed down by unscheduled e.g. government-, military- or MedEvac-flights. However, it is expected that the runway construction is being completed by February 2005.

33. Parallel to the reconstruction of the runway, lighting cables and lights are being renewed. Some of the cables are in such a bad condition that they break on landings of heavy aircraft types like the Ilyushin IL-76 or Antonov AN-124 used for heavy cargo shipments causing blackouts in the lighting of runway and apron. This lot is also to be completed by February 2005.

34. Electricity to the airport is provided by Electrogaz (Rwanda's power utility company). In consideration of unpredictable electricity blackouts in the country the energy lot contains three electricity generators with an output of 350 kVA each, which are going to be used for three different purposes. One generator will be dedicated to airport operations, the second one to commercial purposes and the third one will be used as a back up unit. In case of a power

blackout the switchover is supposed to be happen within seven seconds. The equipment is already imported and installation is expected to be finished by March 2005.

35. The fourth lot on navigation aides is in the preparation phase and groundwork has been completed. The equipment is expected to arrive in December 2004. After final completion of lot four, scheduled by June 2005, the airport's landing guidance complies with CAT I requirements of the International Civil Aviation Organization. Lot five has been completed and fire fighting equipment has been acquired and fire fighters have been trained. The airport now fulfills standard CAT 9 which means that rescue and fire fighting capabilities are available for aircraft with an overall length of up to 76 meters and a maximum fuselage width of 7 meters⁹ (e.g. Boeing B747).

Railway

36. The government of Rwanda has stressed its interest to built a railway connection from the dry port of Isaka to Kigali in order improve the countries access to the Indian Ocean and the international markets. Transport costs are significantly lower for goods carried by rail than they are by road (see Transports costs). The feasibility of a rail link can not be established within this audit. It is recommended to initiate a pre-feasibility study to analyze potential cost savings of a rail connection between Kigali and Isaka.

37. In October 2004, the African Development Fund (ADF) announced to finance a feasibility study considering the possibility of providing landlocked Rwanda direct access to the sea. The study on the Isaka - Kigali railway, for which the ADF approved funding in the amount of USD 2.4 million, will contribute to the creation of a transport community program promoting regional economic integration. The aim of the study is to determine an optimum solution for the creation of a railway link between Isaka in Tanzania and Kigali on the Central Corridor. A railway connection to Rwanda would drastically improve the transport link between the Port of Dar-Es-Salaam and the landlocked countries Rwanda, Burundi and Uganda as well as eastern parts of the DR Congo.

Box 1 Tanzania Railway Corporation

The Tanzania Railway Corporation (TRC) is one of two Tanzanian railway systems providers. (Second: Tanzania - Zambia Railway Authority [TAZARA]) The TRC operates on two lines from Dar es Salaam to Tabora with two branches; one to Kigoma in the west along lake Tanganyika and a second branch from Tabora to Mwanza port on Lake Victoria with the dry port of Isaka on the route. Both branches provide passenger and cargo services for the domestics region as well as the landlocked countries Uganda, Rwanda, Burundi and eastern parts of the DR Congo
The other line runs from Ruvu northward to Korogwe and splits then into two branches to Tanga port on the Indian Ocean and to Moshi with a further connection to Kenya railway system.

Both the Tanzania Railway Corporation (TRC) and Tanzania-Zambia Railway (TAZARA) are up for privatization.

For further information see: United Republic of Tanzania-Presidential parastatal sector reform commission, 2004

Critical issues and recommendations

38. Legal

39. Road

⁹ For further information see: International Civil Aviation Organization - ICAO DOC 9137 Chapter 2/(2.1.6)

40. An increase of flight movements at Kigali International Airport would require the construction of a taxiway parallel to the runway. All aircraft with an AUW (all up weight) of 30 tons or more are not allowed to make half-turns on the runway. Such aircraft have to taxi to the turn-around area at the end of the runway and then return the runway in order to taxi to their final stand on the apron. During that time the runway can not be used by other aircraft for take-off or landing. Construction of a second taxiway is estimated to cost USD 1.9 million (FRW 1,060 million).

41. Another concern is the size of the available apron. Aircrafts have to be parked nose-out as there is no equipment available to perform push-backs of the aircraft. In a push-back (or push-out), an aircraft with passengers and crew on board is pushed out backwards from its parking position to a taxiway. From there it can taxi under its own power to the runway. This nose out taxiing maneuver of the aircraft requires much more space of the apron and limits the number of available parking positions. Two possibilities should be taken into consideration for the medium term future: Enlargement of the existing apron and/or purchasing of push back tugs to facilitate aircraft maneuvering and increasing the number of parking stands. The enlargement of the apron is estimated to cost USD 1.2 million (FRW 637 million), used suitable push-up tugs are available starting from USD 30,000 (not incl. freight and taxes).

42. Training of local personnel abroad has faced some bureaucratic obstacles as the processing of travel applications takes too much time. Training courses for technicians offered by foreign contractors could not be attended as travel permissions were not available. Reportedly in order to send personnel abroad the airport has to file a travel request with the Ministry of Infrastructure, from there the request is forwarded to the Prime Minister's office; the Prime Minister's office forwards the request to the President's office where the decision is made whether the request is granted. The ruling is sent back to the Prime Minister's office where the travel permit is issued if the request has been favored. This procedure may take 10 days or more creating some difficulties to send personnel abroad for training. Such decision makings should be given to the responsibility of an airport manager or a division manager.

43. Currently a feasibility study is undertaken to investigate the possibility to build a new airport approximately 40 kilometers outside of Kigali. The long-term plan is to have a domestic airport (Kigali - Katembe) and an international airport which would be the new built. If realized, the new airport should be operational in 8-10 years.

C. Transport markets

Domestic Road Transport

Goods transport

44. Domestic distribution of crops involves usually several middlemen in the transport chain each one of them receiving payments for rendered service increasing costs of transport and reducing the revenue of farmers. The need for intermediaries can be attributed to small plots of farms producing small quantities of crops, limited access to warehouse facilities in the proximity of farms and the lack of own means of transport.

45. For the majority of farmers the only affordable means of transport is walking and head loading their agricultural products to the market. Those who can afford it are using public transportation or they buy the transport service from local entrepreneurs of small pick-up trucks. In Rwanda, more than 9,000 pickup trucks were registered in 2000 and are a major factor in domestic transport of goods. Other modes of transport like carts drawn by animals,

pack animals are unavailable. Bicycles are occasionally used and usually provide a bigger capacity but are often overloaded so that they have to be pushed consuming more time. Motorcycles are mostly uncommon.

46. Most pick-up trucks are from Asian manufacturers like Daihatsu, Isuzu, Mitsubishi, or Toyota, built in of late 1980's early 1990's. The normal capacity of such a pick-up truck is according to manufacturers from 1.5- 4 tons; however, several sources reported that these pick-ups are loaded on average with 6-8 tons of goods. These overloads are likely to increase total operating costs. Overloaded trucks not only damage the vehicles, but also wear the already bad roads through poor or broken suspension systems. Pick-ups are often used on the unpaved rural roads and suffer a lot from bad road condition. Reportedly, the lifetime of a pick-up truck is down to 2.5 years from 5 years on normal road conditions. Spare parts have to be purchased on a regular basis especially parts related to the shock absorbing system and tires of the vehicle.

47. Crops of tea and coffee, which are mainly destined for exports, are bought through middleman who either own the pick-up or buy the transport service from a third party. Most of the vehicles are in private ownership and the vehicle owners are one-man entrepreneurs, who either drive the vehicle by themselves or sometimes hire a driver and a second person to assist with loading and unloading the goods. Few transport service providers operate up to 6 pick-ups.

48. Coffee crops are usually taken to regional intermediary warehouses where part of the crop is bought from representatives of major coffee exporters. Larger shipments are then prepared for further transport to Kigali where the coffee beans are prepared for export. Some of the coffee is transported to coffee washing stations which are situated around the country before they are shipped to Kigali. Washed coffee has a higher quality and can be sold at a higher price. The important issue is that coffee beans have to be washed within six hours after harvest in order to keep the high quality. This poses an important challenge to the transport pipeline.

Public transport

49. ONATRACOM, the Rwandese national transport company, is a government owned company established in the early 1960's providing regional and interregional public transport services within the country. Prior the genocide of 1994 the company operated an estimated fleet of 250 busses and coaches. In November 2004, the company has 66 busses with a seating capacity of 50 passengers, actual total number of passengers is often up to 80. The company employs 242 drivers and 35 in administrative duties.

50. In June 2004, the company operated a connection to Kampala in Uganda and there are plans to open a connection to Burundi in the medium term future. Currently the company negotiates to acquire 93 busses supplied from the Japanese government. Of these busses plans are to allocate 70 to rural transport and 23 for city transport. The privatization of this company is in its preparatory stages.

51. In 2003, 3.6 million passengers were transported by ONATRACOM and for 2004 the number is estimated to be above 4 million passengers. The main problem the company has to deal with is damages to busses caused through bad road conditions. Approximately 98 percent of the company's network goes along unpaved roads. Of the annual budget some 25 percent is allocated to maintenance, spare parts and tires for busses and is the second highest lot of the budget, 42 percent is used for fuel, 17 percent for personnel and 2-3 percent is used for insurance premiums.

52. The main damages are caused to broken springs which have to be replaced on a regular basis. Emphasis is given to reduce damages by training drivers and avoiding overloading of buses. The bad conditions of roads create long transport times. The route Gisenyi-Gitarma-Kigali, a distance of 156 kilometers, takes approximately 8 hours which is an average speed of 19.5 km/h. The route from Gisenyi-Kibuye- Cyangugu takes two days with an overnight stop in Kibuye. The total driving time for this 248 km long leg is estimated to be 16 hours, which is an average speed of 15.5 km/h. For comparison a bus from London to Cardiff in the UK takes around 3.5 hours for 250 kilometers at approximately 70 km/h. This comparison does not take into consideration the stops Rwandan buses make at approximately every 5 kilometer.

53. Several private companies operate fleets of minibuses providing rural transport services. These buses have a seating capacity of 10-15 but also often overloaded causing damages to vehicles. Public transport is a key mode of transport for the population and serves also as transport mode for goods. Many farmers use the mini busses and busses to transport their crops to the markets. The number of taxi operators is limited and concentrates to the Kigali city area.

International Road/Rail Transport

54. In 2003, exports value continued to decline by 6.4 percent compared to 2002. Currently, two crops, coffee and tea, are the dominant export items based on value, which contributed 35.7 percent and 23.8 percent respectively of total exports in 2003. Total export volumes of coffee in tons decreased by 25 percent, however, the investment in coffee washing stations in Rwanda and the increase of global coffee market prices increased the export value of coffee by 2.5 percent. The value of tea increased by 2.3 percent. Coffee and tea exports combined accumulate for almost 60 percent of export value in 2003. Exports of minerals declined by 30 percent which can be attributed to a fall in international market prices.

Table 11 Exports from Rwanda 1999-2003 (FOB value in million USD)

	1999	2000	2001	2002	2003
Coffee	26.5	22.5	19.4	14.7	15.0
<i>% of total exports</i>	43	33	21	22	24
Tea	17.5	24.3	22.7	22.0	22.5
<i>% of total exports</i>	28	35	24	33	36
Mineral products	6.9	12.6	42.6	15.9	11.1
<i>% of total exports</i>	11	18	46	24	18
Hide & skins	0.5	0.4	0.8	2.6	3.8
<i>% of total exports</i>	1	1	1	4	6
Pyrethrum *) & cinchona	0.3	0	1.8	1.1	1.3
<i>% of total exports</i>	1	0	2	2	2
Other exports	10.2	9.2	5.1	8.5	9.1
<i>% of total exports</i>	16	13	5	13	14
<i>Adjustments</i>	0.1	0.1	1.2	2.6	0.3
Total FOB	62.0	69.0	93.5	67.4	63.1

*) A natural insecticide that is extracted from chrysanthemums. It is a toxic, nonvolatile hydrocarbon related to kerosene.

**) Any of about 40 species, mostly trees, that make up the genus Cinchona in the madder family

Source: Rwanda Revenue Authority 2004

55. Coffee and tea are usually shipped by truck via the Northern and Central corridor to the ports of Mombasa in Kenya and Dar-Es-Salaam in Tanzania. Tea is, almost without exception, transported via the Northern corridor as the major auction for tea for the region is situated in Mombasa. The Mombasa Tea Auction is one of the largest in the world held under

auspices of the East African Tea Trade Association (EATTA). The auction attracts also tea exporters from neighboring countries and has the advantage that tea can be shipped immediately from the port after auction.

Table 12 Coffee exports from Rwanda 1997-2004(Jan-Nov)

	1997	1998	1999	2000	2001	2002	2003	2004
Volume (in thousand tons)	14.3	14.3	18.9	16.0	18.0	19.5	14.7	23.3
Value (in million USD)	45.3	25.9	30.6	22.4	19.4	19.2	15.0	N/A
<i>Percentage of total exports</i>	<i>48.7</i>	<i>40.2</i>	<i>49.4</i>	<i>32.5</i>	<i>26.6</i>	<i>29.1</i>	<i>23.8</i>	<i>N/A</i>

Source: OCIR Café 2004

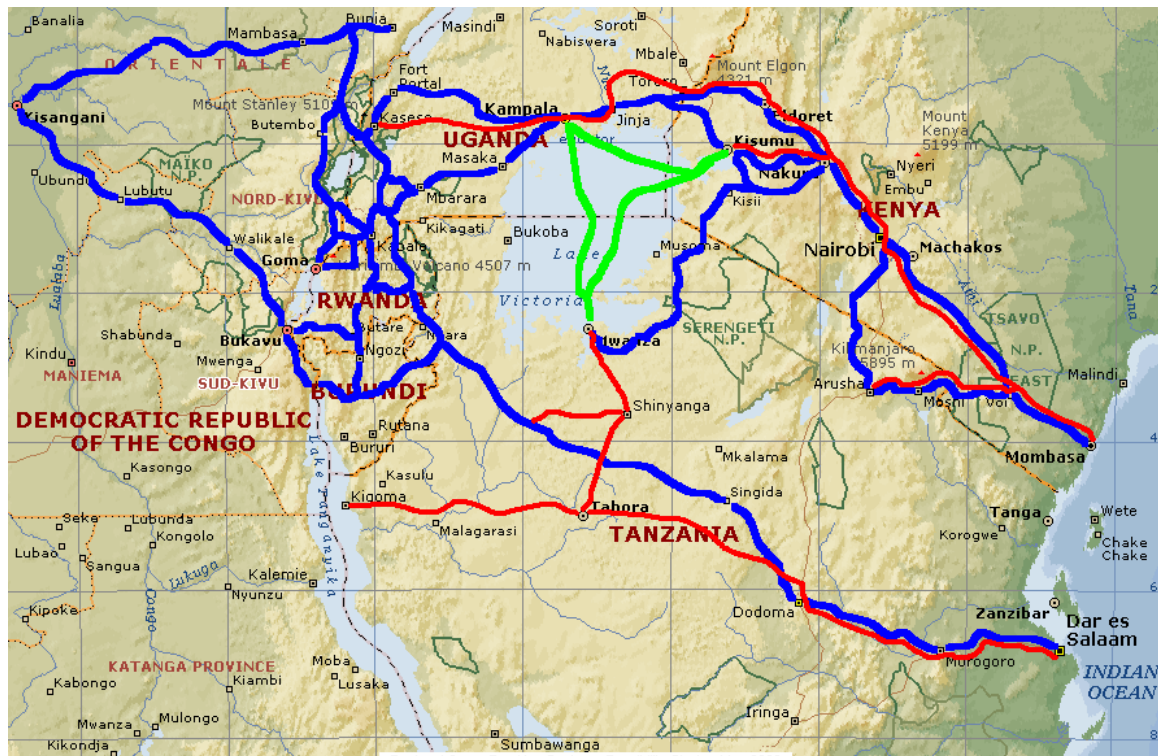
56. Efforts are being made to promote the export of high value horticultural crops as well as handcrafts. Cut flowers from Rwanda attract a premium on world markets. Other non-traditional export crops that have been identified in the agricultural sector include avocado, pears, pineapples, passion fruit, green peppers, and processed bananas, sunflowers, and pyrethrum. After harvest usually these perishable goods have to be placed and kept in a cold chain and transport times have to be kept to a minimum. In Rwanda this is especially difficult as cold room storage facilities are very limited to non-available and destinations for air transport are limited and expensive.

Description of the Northern and Central Corridors

57. The following description of the Northern and Central Corridor is compiled from the “Feasibility study for a regional cargo tracking system on the Mombasa (Northern) and Dar-Es-Salaam (Central) Corridors. Main Report. Volume II” prepared for the TTCA¹⁰ and findings of the DTIS mission.

58. A transport corridor is simply defined as being the set of infrastructures, facilities, and services serving the hinterland of a port. The Northern and the Central corridors, which are served by the ports of Dar-Es-Salaam and Mombasa, comprise the road, rail, lake and pipeline infrastructures and modes of transport, to the landlocked countries of Eastern and Central Africa (Burundi, Eastern DR Congo, Uganda and Rwanda).

¹⁰ Transit Transport Coordination Authority (TTCA): The TTCA was founded in 1985 to improve operations in the Northern Transport Corridor (Mombasa port link to other countries). TTCA became operational in 1986 with Kenya, Uganda, Rwanda, Congo, and Burundi as members. Tanzania has always maintained an observer status. TTCA is governed by a Council for Transport Ministers, which meets annually; a Technical Executive Committee, which meets biannually; and a Permanent Secretariate, which meets regularly and manages day-to-day issues.



Source: Kabanguka et. al. 2003

Figure 5 Map indicating the corridors routes and modes of transport is below

Northern Corridor (Mombasa Port Corridor)

59. The Northern Corridor via the Port of Mombasa covers transport routes from the port of Mombasa to Uganda, Rwanda, Burundi, and Eastern DR Congo, as well as Tanzania. Various modes of transport and modal combinations, which include roads, rail, and lake are applicable along the corridor. The port of Mombasa also serves parts of Sudan and Ethiopia.

60. Mombasa's Port is capable to accommodate a wide range of ships. It has 16 deep-water quays, a container terminal, two bulk terminals (cereals and cement), and two oil terminals. It is connected with hinterland by road, rail and pipeline.

61. The road network radiates around the main axis Mombasa-Nairobi-Kampala-Kigali-Bujumbura. This artery serves the eastern DR Congo by road axes through Uganda via Bunagana, Mpondwe, Ishasha, Goli and Aru border crossing points, and through Rwanda along Kigali-Goma and Kigali-Bukavu roads.

62. An important alternative route to Rwanda and Burundi is the road leaving Nakuru in Kenya to Northern Tanzania via Isebania (Kenya/Tanzania border). The road continues passing south of Lake Victoria through Mwanza. The road connects with road network to Rwanda and Burundi and passes through Rusumo and Kobero border crossing points.

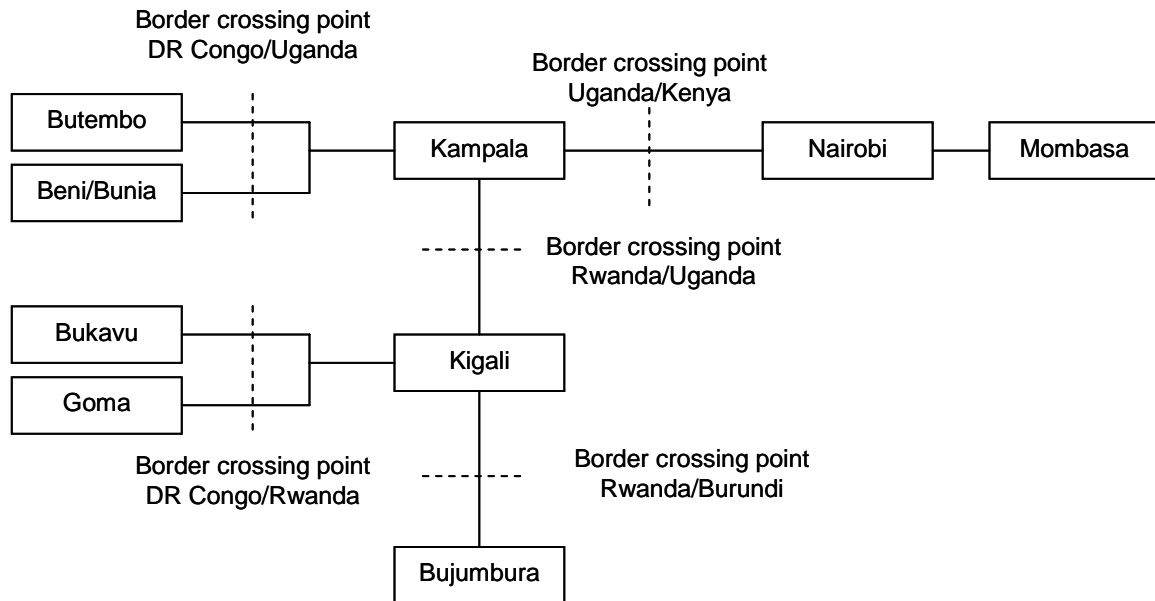


Figure 6 Main route of the Northern Corridor

63. The railway network splits into two principal branches at Nakuru. The main branch continues to Kampala (Uganda) through Malaba. The other branch goes along to Kisumu on Lake Victoria, where wagons are loaded onto the lake ferries going to Port-Bell (Uganda).

64. The wagons are unloaded to the railway line at Port-Bell and routed to Kampala (distance 9km). The railway line from Kampala to Kasese is presently closed and requires rehabilitation.

65. The transport by pipeline was initially limited between Nairobi and Mombasa. The pipeline was extended to Nakuru, Kisumu and Eldoret. Besides Kenya, the oil depots at Eldoret and Kisumu serve Uganda, Rwanda, Burundi, DR Congo and Sudan. Negotiations between Kenya and Uganda for the extension of the pipeline are currently underway. Rwanda has presented a project on extension of the pipeline to Kigali within the framework of the New Partnership for Africa's Development (NEPAD). This could be realized after the extension of the pipeline to Kampala.

Central Corridor (Dar-Es-Salaam Port Corridor)

66. The Dar-Es-Salaam Corridor starts from the Port of Dar-Es-Salaam to Uganda, Rwanda, Burundi and Eastern DR Congo. Various modes of transport and modal combinations, which include roads, rail and lake are applicable on the corridor. Dar-Es-Salaam port also serves Malawi and Zambia through the TAZARA (Tanzania-Zambia Railway) Corridor.

67. The Port of Dar-Es-Salaam is undergoing reorganization and has increased its operational performances. It has 14 deep-water quays, one oil terminal, and a container terminal, which is privately operated.

68. The port has intermodal connections by road and rail (TRC [Tanzania Railways Corporation] and TAZARA networks), and by pipeline to Zambia.

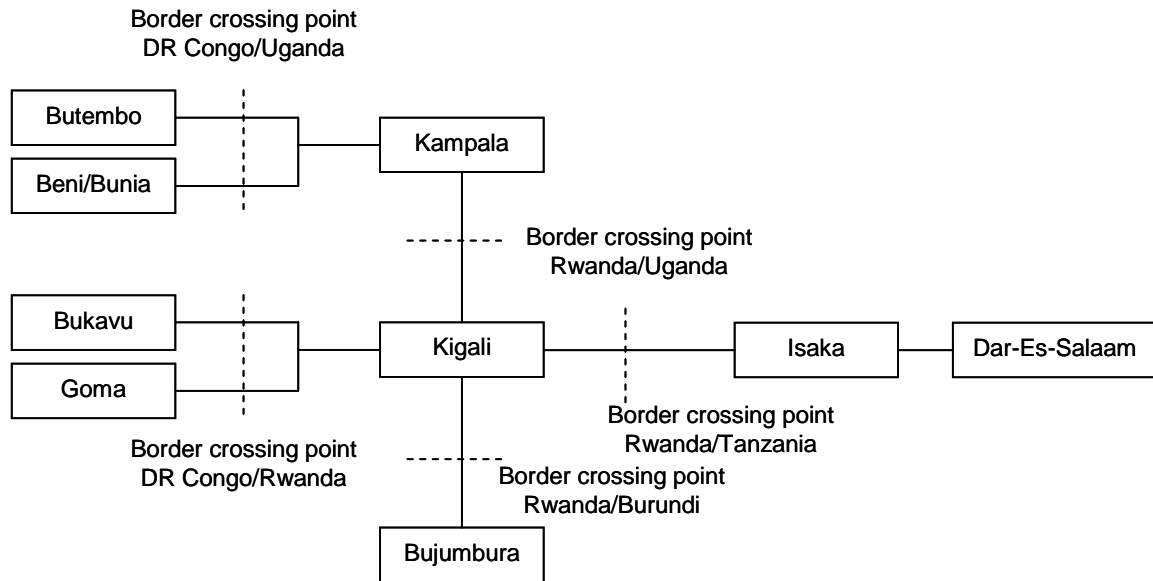


Figure 7 Main route of the Central Corridor

69. The road network of the Central Corridor constitutes an artery from Dar-Es-Salaam, to Lusahunga, where the road split to Rwanda and Burundi. The road between Dar-Es-Salaam and Dodoma is reported to be in very bad condition as the main part is not paved although in rehabilitation. During the rainy season potholes and mudslides hinder traffic and make roads almost impassable. The leg between the dry port of Isaka and Rusumo is paved and reported to be in good condition. The bridge crossing the river Kagera is narrow but in good condition. The road between Rusumo and Kigali border crossing point is also paved and in good to very good condition.

70. The rail network of the Central Corridor is in acceptable condition considering the rail infrastructures in Eastern Africa. The railway line is good between Dar-Es-Salaam-Tabora-Kaliua-Kigoma and Dar-Es-Salaam-Tabora-Shinyanga-Mwanza, including Shinyanga-Isaka. Wagon ferries run on the Lake Victoria from Mwanza to Port Bell and Kisumu. The ferries are operated by the Marine Services Corporation. Mwanza constitutes a very important breaking point for the Tanzania Railways Corporation.

Freight volumes and flows by road/rail

71. Both the Mombasa and Dar-Es-Salaam ports, which serve the Northern and Central corridors, handled a total of 15,257,314 tons in 2002. Mombasa port handled 69 percent of the total port throughput. Local cargo that comprises the domestic imports and exports for Kenya and Tanzania accounted 74 percent of the total throughput for the two ports. Transit cargo accounted 21 percent, while transshipment and bunkers both accounted 5 percent. A summary of cargo handled by the ports is indicated in the table below.

Table 13 Mombasa & Dar-Es-Salaam Port freight throughput in 1000 tons in 2002

	Mombasa		Dar es Salaam		GRAND TOTAL	
	thousand tons	%	thousand tons	%	thousand tons	%
Local	7.9	75	3.4	73	11.3	74
Transit	2.2	21	0.9	20	3.2	21
Transshipment *)	0.3	3	0.3	7	0.7	4
Bunkers	0.1	1	0.0	0	0.0	1
Total	10.5	100	4.6	100	15.2	100
%	69		31		100	

*) Transshipment recorded as IN and OUT

Source: KPA and THA Port Statistics

72. Both Northern and Central corridors serves the hinterlands that extend beyond Uganda, Rwanda, Burundi and eastern part of DR Congo. The following table shows ports transit traffic to the three landlocked countries and the two coastal countries of Tanzania and DR Congo.

Table 14 Freight transit traffic at Mombasa & Dar-Es-Salaam ports in 1000 tons in 2002

	Mombasa				Dar Es Salaam			
	Import	Export	Total	%	Import	Export	Total	%
Uganda	1,427	283	1,710	82	24	16	40	16
Rwanda	66	15	81	4	40	8	48	19
Burundi	25	4	29	1	51	14	65	25
DR Congo *)	86	15	100	5	100	1	101	40
Tanzania	135	22	157	8				
TOTAL	1,739	339	2,077	100	215	39	254	1
%	89				11			

*) Some DR Congo traffic go through TAZARA Corridor.

Source: KPA and THA Port Statistics

73. For the common hinterland served by the corridors, 89 percent of the port transit traffic was handled through the Mombasa port in 2002, while Dar-Es-Salaam port handled 11 percent. Imports through the two ports accounted 84 percent of the total port transit traffic. Overall, Uganda is the major market for imports and exports and accounted 73 percent of the market share for total transit imports and 75 percent for total transit exports in 2002.

74. On port basis, 82 percent of the transit imports and exports of the port of Mombasa were delivered and generated from Uganda in 2002. DR Congo account for the largest transit traffic through the port of Dar-Es-Salaam (40 percent in 2002).

75. The following table presents the mode of transport used for container transports from the port of Dar-Es-Salaam and Mombasa. The figures reflect only goods transported in containers as data on bulk cargo was not available. However, it is estimated that almost 80-90 percent of all cargo from these ports is carried in container.

Table 15 Mode of transport to/from Dar-Es-Salaam (No. of TEU's¹¹) in 2002

Destination	Road	Rail	Total	Share of rail in %
Domestic Tanzania	51,344	1,442	52,786	2,7
Total transit	12,356	15,326	27,682	55,4
<i>BRUC</i>	8,951	6,748	15,699	43,0
<i>Others (TAZARA Corridor)</i>	3,405	8,578	11,983	71,6
TOTAL	63,700	16,768	80,468	20,8

Note: BRUC stands for Uganda, Rwanda, Burundi and DR Congo

Source: Kabanguka et. al. 2003

Table 16 Mode of transport to/from Mombasa (No. of TEU's) in 2002

Destination	Road	Rail	Total	Share of rail in %
Domestic Kenya	127,841	22,392	150,233	14,9
Total BRUC	31,485	10,463	41,948	24,9
<i>Import BRUC</i>	23,456	6,914	30,370	22,8
<i>Export BRUC</i>	8,029	3,549	11,578	30,7
Total	185,554	39,769	225,323	17,6

Note: BRUC stands for Uganda, Rwanda, Burundi and DR Congo

Source: Kabanguka et. al. 2003

76. For domestic deliveries, road is the dominant mode, particularly in Tanzania. Only 15 percent of imports are routed by rail from Mombasa, and 3 percent for Dar-Es-Salaam. This is because Nairobi in Kenya, Dar-Es-Salaam in Tanzania are the respective economic centre of activity, involving greater distances in Kenya.

77. For transit cargo to the four landlocked countries, rail plays a greater role, with a share of 23 percent in Mombasa, and 43 percent in Dar-Es-Salaam. For other transit countries served by Dar-Es-Salaam through the TAZARA corridor (outside the scope of this study), that share is even greater, with 72 percent.

78. For transit exports in Mombasa, the share of rail is greater than for imports, with 31 percent. However, no information is available for Dar-Es-Salaam.

79. In the past the Central Corridor has been avoided for several reasons. In the late 1990's, when coffee prices were high, trucks were robbed and shipments disappeared in the border region on the Tanzanian side of the border. Today, a military escort is sometimes provided for trucks from the Rwandan/Tanzanian border to Dar-Es-Salaam. Several sources reported that robberies still occur on this route; others denied having problems of that nature on that route.

Limited number of road transport service operators

80. In Rwanda, there are reportedly only 3-5 transport companies operating trucks able to carry twenty-foot- (TEU) or forty-foot containers (FEU). Each of these companies operates approximately 1-4 trucks. According to freight forwarders and exporters the supply of operators is insufficient. On occasion, trucks have to be requested from neighboring countries like Uganda to pick up goods from Kigali for export.

¹¹ The capacity of containers is measured in twenty-foot equivalent units (TEU). A twenty-foot equivalent unit is a measure of containerized cargo equal to one standard 20 ft (length) × 8 ft (width) × 8.5 ft (height) container (approximately 40.92 m³). Two TEU are referred to as one FEU or "Forty-foot equivalent unit".

81. Establishing a transport company is not very tempting due to various reasons. First, the investment for a truck has in most cases to be financed through a bank loan with high interest rates. Many entrepreneurs who had taken loans and invested into a truck are in financial difficulties and many have lost their investment to the banks as they were not able to pay interest rates (18 percent) and installments. People are not willing to take the risk to end up in bankruptcy. Second, trucks capable of transporting TEU's have usually a payload capacity of 60 tones, which due to the weight restrictions can not be utilized. The imposed restrictions reduced the income of transport service providers and put many in financial difficulties. Third, long-term contracts with exporters of freight forwarders are not available. Although there is lack of local transport service providers, shippers are able to negotiate favorable terms for shipments destined to the ports of Mombasa or Dar-Es-Salaam. Given the fact that import volumes are much higher than export volumes truck owners are desperate to get shipments for export. It is estimated that approximately 50 percent of all containers returning to the ports are empty.

Weight limitations for trucks are increasing transport costs

82. To protect the newly constructed road networks in East-Africa the donors of road rehabilitation projects required a weight restriction for trucks. Weight limitations are enforced through static and mobile weighbridges in Kenya, Uganda and Tanzania. Penalty fees have to be paid if trucks exceed the maximum axle load, gross weight or vehicle dimensions. These restrictions were imposed in 1998-99 and have since then increased transportation costs. The imposition of axle weight limitations in neighboring countries has increased transport costs that were already high due to Rwanda's distance to the sea and dependence upon road transport. Prior the limitation trucks were able to carry up to 60 tons of goods.

Table 17 Axle load limits set by COMESA, NCTA and Tanzania

	Steering axle Two tires	Single axle Two tires	Single axle Dual tires	Tandem axle Four tires	Tandem axle Six tires	Tandem axle Dual tires	Tridem axle Dual tires	Tridem axle 12 tires	Max. GVM *)
COMESA	8	8	8	16	16	16	24	24	53
NCTA	8	10	8	16	16	16	24	24	53
Tanzania	7	8	10	12	15	18	15	24	56

*) Gross Vehicle Mass

Source: Kenya Transport Association 2003. For further information see Annexes x-x

83. The axle load limits set out by the NCTA were adopted with minor modifications by COMESA but are introduced in the member countries under different regulations. Although the axle load limits should be uniform in the whole region, Kenya introduced a four-axle load group with a maximum of 32 tons. Trucks with such modifications are (unofficially) allowed to operate within the other NCTA member countries.

84. Tanzania, not a member of the NCTA, adopted axle load limits from the SDAC with minor modifications Road Traffic Regulations 2001 Act setting the limits on maximum dimensions and weights of vehicles. The slightly different weight limitations between COMESA and Tanzania have to be taken into consideration by transport operators. The Tanzania National Roads Agency (Tanroads) is enforcing the axle weight limits very strict and effective and campaigns also against weighbridge operators extorting bribes from road users. Transport operators confirmed that the enforcement of axle weight limits appears to be stricter on the Central Corridor as on the Northern Corridor. However, it was also being reported that minor overloads are not being fined if other unofficial payments are made at the weighbridges.

85. In comparison, the maximum authorized vehicle weight in the European Union (EU) is 40 tons for road trains and 44 tons for three-axle motor vehicles with 2 or 3-axle semi-trailer

carrying a FEU container. In the EU the maximum axle weight (both for the driving axle and the tandem axle) is 11.5 tons.

86. The force transmitted to the road causing road wear is depending on the total weight of the vehicle and on the distribution of the total weight over the axles. Thus, significant is the weight of the individual axles rather than the total weight of the vehicle. Road wear can be reduced by spreading loads evenly and avoiding heavy individual axles. Many transport service providers are well aware of this fact and this issue is taken into consideration when goods are loaded on the vehicles.

87. Determination of axle weight limitation is mainly depending on the characteristics of the road and bridges. Road wear is approximately proportional to the weight of an axle, raised to its fourth power. This means that a vehicle with an 11.5 ton axle weight causes about 30-45 percent more road wear than a vehicle with a 10.5 ton axle weight.

88. The efficiency of a vehicle's suspension is another factor influencing the degree of road wear. Good suspension system consisting of soft springs and good dampers prevent large axle loads from being passed to the road by a moving vehicle. Findings of the DTIS mission suggest that at least these suspension systems of coaches and smaller pick-up trucks are often in poor condition and contributing to the road wear. Further statistical data on specifications of used vehicles and specific transport volumes per trip (e.g. number of axles, condition of suspension systems, average load factor and max. load capacity) would be needed to further analyze these issues.

89. As axle weight limitations are set by COMESA, although implemented through national legislation, the effects of changes in axle weight limitations have to be evaluated throughout the region. From the transport sector point of view, it is important to have same requirements throughout the region and efforts should be made to enforce the limits with same measures everywhere. Tanzania has slightly different axle weight limitations having adopted the limitations recommended by the SDAC. To facilitate road transport through the Central Corridor and cross-regional transport traffic efforts should be made to harmonize different sets of limitations through COMESA and SDAC, however, taking the consequent effects mentioned above into consideration.

Table 18 Overload fee structure in Tanzania in 2002

Overload per axle in kg	Overload fee per axle in USD	
	Single or multiaxle(s)	GVM *)
100	8	
200	16	
300	25	
400	34	
500	43	22
1000	92	45
1500	149	70
2000	214	95
10000	2986	779

*) Gross Vehicle Mass
Source: Marowa, 2003

90. Although in Tanzania an overload fee structure has been introduced, several operators reported that the current penalty fee in Tanzania is USD 386 (TZS 400,000) independent of the overweight others report USD 78 (TZS 78,000) per ton overweight. Several sources confirmed also that if the overweight is in the range of maximum 2-3 tons the fine can be

settled through an unofficial fee of approximately USD 48 (TZS 50,000). In Tanzania, there are reportedly five weighbridges on the route between Dar-Es-Salaam and Rusumo border crossing point of which two are static and one is a mobile unit. Reportedly there is some inconsistency in procedures as some report that in a case of excess weight a receipt of a paid fine is valid at following weighbridges but others stated that a fine has to be paid at each weighbridge. Trucks with major overload have to unload the goods at the weighbridge or are sent back to its point of origin. Some trucks do consciously overload as trucks using the central corridor are usually carrying fuel for the whole roundtrip from Dar-Es-Salaam to Kigali. With the consumption of fuel during the journey the truck loses on weight and does not exceed the limits at later weighbridges.

91. In Rwanda the axle weight limitation is not yet countrywide enforced due to the lack of equipment. Eight weighbridges were imported to Rwanda in 2002 but none is reported to be operational. The weighbridge at Rusumo border crossing point is in construction but necessary computer equipment is still not available. This weighbridge is expected to be set by early 2004. A weighbridge at the Magasins Généraux du Rwanda (MaGeRwa), a company operating public bonded warehouses, in Kigali is weighing goods only for statistical purposes.

92. **Border crossing procedures are time consuming and need improvement.** Import procedure via road through the Rusumo border crossing point. The border crossing point at Rusumo is operational from 7.00am to 6.00pm, seven days a week. A truck with imports entering the Republic of Rwanda is filing an entry card from customs where details of the truck and driver are registered as well as cargo details taken from the transport documents.

93. Customs then checks whether the container is sealed and checks the destination of the shipment whether it is in transit or arriving at its final destination. The truck is then parked in a holding area and documents are taken to a local branch of a customs clearing agency. All customs clearance agents have a branch or their representatives at all border crossing points. The customs clearing agent files a DTDR (Road Customs transit Declaration), which is a document showing all goods imported by road: the origin, the importer, the packaging, the cost and the insurer during the period of entering the country. Those DTDR documents have to be accompanied by other DTDR documents issued by the last country through which the goods passed and are then taken back to customs. After customs has recorded the transit document and checked the status of the bond deposited by the customs clearing agent the truck can be released. All goods valued greater than USD 364 (FRW 200,000) are sent to MaGeRwa in Kigali for final declaration to pay taxes and duties.

94. Customs clearance agents charge approximately USD 50 for goods with final destination in Rwanda and USD 100 for goods in transit. The truck is now in customs transit and is not allowed to deviate on its route to Kigali or open and unload the shipment. On the way to Kigali there are several road check points (between Rusumo-Kigali 4-5) where trucks are checked and the transit documents have to be stamped. Through this procedure customs prevents tax fraud and smuggling. Once a day an officer of Revenue Protection Department (RPD) of the Rwanda Revenue Authority (RRA) collects all copies of the transit documents from the border crossing point and takes them to customs headquarters in Kigali for final processing.

The main function of the Revenue Protection Department (RPD) are to combat external fraud and smuggling including intelligence- gathering work and providing a credible and effective deterrent to tax fraud and evasion by investigating cases of tax and providing means of prosecuting offenders.

The following is a summary of the progress on the priorities that were set for 2003.

- Management of transit and convoy systems: About 19,563 vehicles involved in transit were escorted in 2003. The purpose of this exercise was to minimize transit dumping and other related diversionary offences. Among those that violated transit procedures numbered 8*) and these were accordingly dealt with.
- Anti-smuggling operations: Many seizures of fraudulent cases led to recovery of taxes that would have otherwise been evaded. That total of cash / cheque recoveries made during 2003 amounted to Rwf714.8 millions**).
- The intelligence unit of RPD also discovered many cases of fraud and correctives measures were accordingly made. Some of the cases identified fell in the following areas: taxes avoidance by non declaration and under declaration of sales especially under reporting of profit for corporate and individual income tax purposes, Rwanda vehicles fraudulently used Congo registration numbers again to evade income taxes, Illegal warehouses, Smuggling of cosmetics, Motor vehicle transfer irregularities and many other.
- The investigation Division managed to finalise 62 cases. An assessment of Rwf989.9 million***) of revenue was made and first notice of assessment issued.

Source: Taken from Republic of Rwanda - Rwanda Revenue Authority, Annual Report 2003 Kigali, July 2004 p.20

*) 0.00041 percent of all vehicles **) USD 1.3 million ***) USD 1.8 million

95. At the Rusumo border crossing point MaGeRwa operates a small warehouse for goods customs cleared at the border (CIF value below USD 364 (FRW 200,000)). Goods that are customs cleared at the border are stored for inspection and in case the customs duty can not be paid by the importer goods are kept in storage. In addition certain agricultural products which are destined for local markets in the region of Kibungo are exempted from customs.

96. MaGeRwa is also in charge of a weighbridge. At the Rusumo border crossing point there are two weighbridges of which one has been out of order for at least 1½ years and a second one is still in construction. The main construction is finished and currently only a computer with the software to run the weighbridge is missing. The weighbridge is expected to be operational within the near future.

97. One of the main obstacles for customs and MaGeRwa operations at the Rusumo border crossing point is the lack of electricity. With the introduction of the weighbridge a new generator will also be installed easing the situation. Another obstacle is communication. There is only one phone land line available that occasionally out of order during the day time and completely disconnected during nights. These constraints would have to be solved before an introduction of automated customs clearance procedures.

98. **Export procedure.** Customs needs up to two to three days to process an export declaration. A customs requirement is that the documents must include the trucks registration before the application can be processed. As trucks are booked on a basis on availability it is almost impossible to schedule in advance, which specific truck will carry which shipment abroad. Thus, once truck has been chosen the truck has to wait up to three days in Kigali for the export declaration. During that time a foreign registered truck is not allowed to do local transport. Customs export procedures need to be facilitated that an export shipment can be processed without an registration number and/or processing time should be reduced from days to hours.

International Air Transport

There are only a limited number of destinations and flights available to/from Kigali International Airport. The Eastern African region is well covered with regular flights on a daily basis to Kenya operated by Rwandair Express and Kenyan Airways on a code share agreement. SN Brussels Airlines is the only airline offering scheduled passenger flights outside of Africa. The following map indicates the passenger and cargo destination available from Kigali on a scheduled basis and the number of flights per week.

Figure 8 Scheduled passenger and cargo destinations and number of flights per week

Freight volumes and flows by air

99. Airfreight is transported on a scheduled and non-scheduled basis to it's a African neighbors and to several European destinations. Most scheduled flight carry passengers and cargo to destinations in Uganda, Ethiopia, Kenya, South Africa, Burundi and Belgium the only destination for scheduled passenger flights outside of Africa. The following table presents passenger, cargo and aircraft movements statistics from 1999 to 2004.

Table 19 Passengers, cargo and aircraft movements from Kigali airport 1999-2004

	1999	2000	2001	2002	2003	June '04
Passenger	120,051	115,938	112,509	115,570	116,394	80,177
Cargo (in tons)	2,092	5,073	6,533	5,561	6,841	
Mail (in tons)	116	112	138	257	169	
Aircraft movements	11,476	9,516	8,819	10,141	9,262	

Source: RAR 2004

100. Passenger numbers have remained steady through the period of 1999-2004 with alternating increasing and decreasing figures of 1-3 percent. In cargo and mail volumes no clear trend can be identified. In 1999 cargo volumes dropped by 56 percent compared to 1998. After that volumes increased and decreased at around 10-25 percent. The number of aircraft movements is also varying between +/- 15 percent with average change of 0 percent over the past five years.

101. The irregular pattern of cargo volumes and flight movements can be attributed to the many unscheduled flights arriving and departing from Kigali. Many of these flights carry relief goods or project related equipment. Heavy transport aircraft with payloads of up to 120 tons can significantly alter the cargo volumes as total cargo volumes through Kigali airport are relatively modest. Unfortunately no detailed statistics on scheduled and unscheduled flights were available for this audit. It is recommended that statistical data about the type of flights and there nature of goods is being collected for further analysis.

102. Rwandair Express, the national flag carrier, is the handling company for flights to/from Kigali airport. In 2003, the company handled approximately 65 percent of all cargo movements and 98 percent of all passengers at the airport. Of this cargo volume, 60 percent originate from more or less scheduled freighter airlines like DAS Air Cargo, Demavia and MartinAir, the remaining 40 percent is carried with scheduled passenger flights. Of all cargo carried with scheduled passenger flights SN Brussels Airlines carried above 60 percent in 2003 on its flights twice a week to/from Brussels, Belgium via Nairobi, Kenya.

103. Based on passenger statistics from December 2002 to October 2003, Kenyan Airways carried approximately 35 percent of all passengers to/from Kigali airport. Rwandair Express holds a share of 27 percent, however, in the first three quarters the airline gained market share from Kenyan Airways and increased in share to more than 30 percent of all passengers. SN Brussels carries approximately 18 percent of all passengers on its flights to/from Brussels.

Table 20 Airline's passengers share on flights from Kigali in Dec 2002 to Sept 2004

airline	share of passengers
Rwandair Express	27 %
Kenya Airways	35 %
SN Brussels Airlines	18 %
Ethiopian Airlines	9 %
Air Burundi	8 %
South African Airways	4 %

Source: Rwandair Express

Airlines operating to/from Kigali International Airport

104. The national flag carrier was established in 2002 after the termination of the regional airline "Alliance Express" and as the government of Rwanda saw the need for a national flag carrier. In December 2002, Rwandair Express retained its ground handling operations at Kigali International Airport. In April 2003, the company took delivery of a 5-year old Boeing 737-500 aircraft and returned to the skies. The company's shareholders are the Rwandan government with 77 percent and another Rwandan cargo airline "Silverback Cargo Freighters" with 23 percent. Silverback Cargo freighters operates two Boeing DC-8-62F (payload up to 39 tons). In the medium term future it is planned to fully privatize the Rwandan airline.

105. Currently the airline operates a MD-82 with a seat capacity of 142 and a cargo compartment of 35.5 cu m and a maximum range of 3,798 km. The airline offers scheduled services from Kigali daily to Nairobi/Kenya, three times a week to Bujumbura/Burundi and Entebbe/Uganda and once a week to Kilimanjaro/Tanzania and Johannesburg/South Africa. The airline has a code share agreement with Kenya's national flag carrier Kenya Airways. The airline wants to develop Kigali International Airport to a mini-hub for the East African region with destinations in Dubai and Cairo in the medium-term future as well as destinations to Europe in the long-term future. Cairo and especially Dubai airport are major hubs for global passenger and cargo transport. Further regional destinations are planned to Mombasa and Dar-Es-Salaam. A feasibility study to develop a five year strategy plan is currently conducted by the consulting company KPMG.

106. The airline plans to acquire a larger aircraft in the medium term future to operate destinations like Dubai in the United Arab Emirates, that is currently out of range. A second, commuter aircraft, is also in the acquisition planning to serve the domestic airports in the country and close region. This aircraft would serve the Lake Kivu and two national parks regions.

107. In the past 20 months the airline has developed successfully its regional network. The government should support further development of the airline through negotiation of bilateral air service agreements and possibly back financial arrangements to strengthen the airlines' future. The airline should also strive for further alliances and code-share agreements to foster their regional network.

108. Passenger manifests, air waybills, master air waybills and other related documents are filled out manually and carried with the crew of the aircraft. Plans to develop EDI-solution for transmitting documents lay in the medium-term future. The airline is member of the International Air Transport Association (IATA), IATA Clearing House¹², BSP-IATA¹³ and African Airlines Association (AFRAA).

109. **Other airlines offering scheduled services to/from Kigali International Airport.** Five other airlines - Air Burundi, Ethiopian Airlines, Kenyan Airways, SN Brussels Airlines, South African Airways - offer scheduled passenger services to Bujumbura, Addis Ababa, Nairobi (codeshare w/ Rwandair Express), Brussels (only direct destination outside of Africa) and Johannesburg.

110. **Three all-cargo carriers offer services to/from Kigali.** Demavia Airlines is a Belgium registered all-cargo carrier offering unscheduled airfreight services. The company operates two types of aircraft with payloads of up to 120 tons and 41 tons respectively. Demavia operates flights on a weekly basis from Brussels to Kinshasa, DR Congo and to Kigali and Bujumbura, Burundi. Currently the airline operates only on an irregular basis when sufficient cargo is available.

Table 21 Cargo import volumes in tons to/from Kigali Airport by airlines in 2003/2004

Import cargo (incl. mail) in tons	2003	2004 (Jan-Oct)
Martinair	1,065	1,051
DAS Air Cargo	1,305	996
SN Brussels	1,009	802
Kenya Airways	289	257
Ethiopian Airways	180	96
Demavia	788	92
South African Airways	43	21
Total	4,677	3,315

Source: Rwandair Express

111. DAS Air Cargo is an all-cargo Ugandan airline with hubs in Amsterdam, London/Gatwick, Dubai, Entebbe and Lagos, offering scheduled services between Africa, Europe, the Middle East and Asia. The company operates mainly with six widebodied aircraft with a payload of up to 80 tons. The airline offers weekly services to Rwanda on the route London/Gatwick (GB)-Bahrain (BH)-Dubai (AE)-Entebbe (UG)-Kigali (RW)-Nairobi (KE)-Amsterdam (NL)-London/Gatwick. Ad-hoc charters are also available.

¹² The IATA Clearing House enables the world's airlines, airline-associated companies and Travel Partner companies to settle their interline billings Securely, Efficiently and On-time.

For further information see: <http://www.iata.org/ps/services/clearinghouse.htm>

¹³ The Billing Settlement Plan (BSP) is a standardized system for airlines and agents, providing them with a simplified approach to the selling, reporting and administration of passenger air transportation.

For further information see: <http://www.iata.org/worldwide/bsp.htm>

Table 22 Cargo export volumes in tons to/from Kigali Airport by airlines in 2003/2004

Export cargo (incl. mail) in tons	2003	2004 (Jan-Oct)
SN Brussels	206	258
DAS Air Cargo	81	72
Kenya Airways	21	41
Ethiopian Airways	35	30
South African Airways	6	4
Martinair	17	0
Demavia	0	0
Total	367	406

Source: Rwandair Express

112. Martinair is the Netherlands second largest airline after KLM. Scheduled cargo flights are offered on several aircraft to The Americas, Middle East, Far East, Africa and Australia with hubs in Miami in the USA, Nairobi in Africa and Hong Kong in the Far East. Further destinations in Africa are Entebbe (UG), Harare (ZW) and Johannesburg (ZA). Martinair Cargo full freighter aircraft fleet comprises one aircraft with a payload of up to 100 tons and two aircraft with a payload of up to 90 tons.

113. Goods transported to Kigali relief goods and project related items for various organizations like United Nations (UN), World Food Program (WFP), United States Agency for International Development (USAID) and the European Union (EU), diplomatic mail and personal effects. Export items comprise of perishable goods like flowers, vegetables and fruits. Flowers are carried by Kenyan Airways to Nairobi from where high volumes from Kenya and the region are carried further to the Amsterdam flower auction.

114. It takes approximately two hours to unload and another two hours to load a DC-10F. The unloading and offloading of goods and passengers for the SN Brussels flight has to be done in one hour. These times exceed up to 1.20h-1.30h for the SN Brussels Airlines flight as handling equipment break down. This situation is especially unpleasant for scheduled flights where passengers are continuing their travel on connecting flights. Goods arriving on Friday after 17pm or over the weekend like the DAS Air Cargo or SN Brussels Airlines flights from Brussels are not processed until the following Monday and is the earliest day the arrival note to the importer is issued.

Two major constraints for perishable cargo exports

115. Horticultural products are perishables, which deteriorate in quality unless they are delivered in time to the market. The exporter receives less revenue for bad quality or in the worst case the products will be totally rejected. The lack of regular flight connections to major markets and poor handling facilities are considered the major obstacles in exporting horticultural products from African countries. At Kigali International Airport the cold storage facilities of MaGerWa are insufficient and in bad condition for exports of high volume perishable goods. MaGerWa operates four TEU's modified as cold storage, of which three are out of order. On three containers the temperature range can be set between -50°C and +50°C, and one between -40°C and +40°C. The currently operating container is set between 2°C and 8°C. The hygienic condition of this functioning container is at a low level and less suitable for storing food or medicaments (import). All four containers are placed outside covered by corrugated sheet iron and are subject to extreme weather conditions of heavy rain and sunrays. For imports a fee of RWF 50 per kg is charged independent of the period of time, for export no fees have to be paid.

116. An increase in exports of horticultural products from Rwanda will require the development and expansion of cold storage facilities to secure the cold chain. A refrigerated

storage system should be able to accommodate different types of products being shipped to/from Rwanda. Given the fact that different products have various temperature requirements several cold rooms have to be set up. Setting up a cold room facility requires careful planning and demand analysis as different types of products have different cooling requirements. Where some products require near-freezing temperatures others can be damaged by too low temperatures. Facilities should consist of a cooler with a temperature of 8-15°C (46-59°F), a chiller 2-8°C (37-46°F) and a freezer below -18°C (0°F). The needed capacity for the different storages at Kigali International Airport requires further analysis. In addition it has to be taken into consideration that some fruits and vegetables produce ethylene gas as a natural product of ripening. These gases may be harmful to other products and must not be stored in the same storage.

117. Second, the number of available flights per week to major hubs is too limited. Currently perishables have to be harvested the same day as the aircraft is scheduled to departure as perishables can not be properly stored at the airport. There is a high risk of damage and spoilage to transfer such cargoes at the Kigali airport as well as at connecting regional airports.

118. **Aircraft handling is performed by Rwandair Express.** Starting from December 2002, Rwandair Express performed all aircraft handling at Kigali International Airport. Shipments for import/export are on-/offloaded by the national carrier and delivered/picked-up to the MaGeRwa facilities for import/export declaration. Total handling costs for handling a Boeing 737 sized aircraft is approximately USD 500 and a Airbus A330 sized aircraft approximately USD 1,200-1,500. In addition cargo is charged by weight between USD 0.10-0.15 per kg.

119. The MaGeRwa facilities at Kigali International airport comprise three warehouses and four refrigerating containers (TEU) of which currently only one is working. The main warehouse is dedicated to imports and the two smaller hangars for export shipments. No shelves are available in either warehouse and goods have to be placed on the ground. Due to limited space, bulky import shipments have to be stored in the export hangars. The construction of a fourth warehouse dedicated for exports is under construction. There are three forklifts available of which only one is working. A new investment program is to be set up in order to improve the cargo handling facilities including shelves in the main warehouse. A cold storage room is to be planned operational by the year 2005. Detailed information of that program was not available.

120. **Security at the airport facilities.** The area of the airport is divided into two zones: (i) a public zone comprising the vehicle parking areas in front of the passenger and cargo terminal as well as parts of the passenger terminal itself and (ii) a restricted area comprising the rest of the terminal, cargo terminals and airside of the airport. Access to the restricted area is authorized only under conditions prescribed by special rules issued by the airport. In general the level of security at the airport is rated good.

121. ICAO Recommended Practices state that processing international departure passengers should not take more than 60 minutes from presentation at first processing point to the scheduled time of flight departure. For international arrival passengers processing from disembarkation to completion of last clearance process should not take more than 45 minutes. These recommended times are currently more or less met at Kigali International Airport, however, an increase in passenger volumes is likely to exceed these recommended times. For an international flight to Europe the airline recommended to be at the airport at least 1½ hour before departure.

122. **Export airfreight is 100 percent screened.** A new cargo scanner by Heimann Systems was installed in 2003. The scanner is specially designed to meet the requirements of airports, customs facilities, carriers, parcel services required. The X-ray cargo inspection system has a

tunnel dimension of 180x180 cm (5.90x5.90 ft). It permits the inspection of skeleton containers, pallets, very large pieces of checked luggage, parcels and crates. There have been complaints that this scanner has been very often out of order due to high electricity peaks in the electricity network damaging the machine. Repairing the scanner takes sometimes days as service experts from R & D Screening Technologies in from South Africa have to be flown to do the repair work. In these cases cargo has to be inspected manually which may take a lot of time in case of a large pallet or crate that has been prepared for shipment. Sometimes goods can not be loaded in time and may be delayed for several days as in the case of flights to Brussels.

123. A major constraint is caused by the opening hours of the MaGerWa warehouse facilities and customs. Opening hours are from 08.00 to 17.00 during which time all goods for export have to be processed regardless the scheduled time of departure. Taken into consideration that the only flight to Europe is scheduled to leave at 20.45 goods have to be processed almost four hours before departure. Further, there are complaints that MaGeRwa and customs procedures are inconsistent and may change on a daily basis. No written document on proper procedures for the exportation of goods is available.

124. In August 2004, the procedure for releasing express goods where customs declaration and payment of duties is postponed has been changed. The new practice demands that these kinds of goods can only be released personally by the customs commissioner, the head of Rwandan customs. The importer or freight forwarder has to take the documents from the airport to the Rwandan Revenue Authority in Kigali city centre and ask for an appointment with the commissioner. After the release has been signed off documents must be taken back to the airport before the goods can be picked-up by the importer. Express mail (UPS/DHL/FedEx) is handled as unaccompanied luggage and does not go through MaGeRwa facilities. Customs checks the goods at the passenger terminal along with other arriving luggage. For UPS express mail arrives daily with Rwandair Express/Kenyan Airways from Nairobi.

125. **The issuance of an arrival note takes on average two days.** Considering that airfreight is used to transport time-sensitive goods handling time from landing of the aircraft to the release of goods is at an unacceptable level. Sometimes goods are delayed for several days longer when the recipient's address is unknown. The introduction of an accelerated import procedure where goods can be released immediately and customs clearance and payment of duties at a later stage should be considered.

126. ICAO recommended practice for the processing of import cargo is to release all general cargo within 4 hours from the time documentation is presented. These times are currently not met at Kigali International Airport and require adjustment.

127. It is recommended that airlines, forwarders, handling company, customs, warehouse operator and airport develop in cooperation procedures to reduce unnecessary long clearing times of cargo and to assess the possibility to implement automated cargo clearance procedures. Further, operational hours of customs and warehouse operator should be adjusted to the demand of airline schedules.

Box 3 Automated Cargo Clearance

In recent years the automation of the air cargo clearance process has been a high-priority item on the agenda of the customs services of the world as a means of managing the vast amount of data which is exchanged among the various parties involved, i.e. customs, shipper, consignee, air carrier, customs broker, agriculture and other interested government agencies. The need to enhance controls in the face of increased risks posed by drug trafficking, violations of intellectual property rights, smuggling of endangered species and other illegal activities, combined with the growth in international trade volumes, has made it increasingly difficult for government inspection agencies to perform their enforcement missions with finite resources. Moreover, studies of traditional air cargo systems have concluded that the average "dwell time" of an imported shipment (from its arrival to its release for delivery) is 4.5 days a delay which to most air cargo customers is unacceptable. Automated solutions are sought by air carriers, customs brokers, and the authorities, to ensure better compliance with laws and faster clearance of low-risk cargo by managing the traffic more efficiently.

Automated cargo systems consist of two principal components. A system for processing entries in an automated manner is fundamental to the States in which Customs is automated. The automated manifest component, developed in some States, completes the automation of the air cargo clearance process. Cargo manifest and air waybill data which are transmitted by the air carrier are matched in the Customs system with entry data which has been transmitted by the importer or customs broker, and are reviewed by the inspector with the aid of data bases and other intelligence to determine whether the goods can be released on the basis of the information or whether a physical examination needs to be made. If the information from both components of the system is transmitted early enough, this decision can be made before the arrival of the flight.

The most recent edition (11th) of Annex 9 to the Chicago Convention contains the following SARPs that encourage the development of electronic data interchange systems for cargo facilitation:

1. Standard 2.8 Subject to the technological capabilities of the Contracting State, documents for the entry and departure of aircraft shall be accepted when presented:
 - a) in electronic form, transmitted to an information system of the public authorities;
 - b) in paper form, produced or transmitted electronically; or
 - c) in paper form, completed manually following the formats depicted in this Annex.
2. Standard 2.9 When a particular document is transmitted by or on behalf of the operator and received by the public authorities in electronic form, the Contracting State shall not require the presentation of the same document in paper form.
3. Standard 4.11 Subject to the technological capabilities of the Contracting State, documents for the importation or exportation of goods, including the Cargo Manifest and/or air waybills, shall be accepted when presented in electronic form transmitted to an information system of the public authorities.
4. Standard 4.14 When documents for the importation or exportation of goods are presented in paper form, the format shall be based on the UN layout key, as regards the goods declaration, and on the format of Appendix 3 to Annex 9, as regards the Cargo Manifest. When such documents are submitted in electronic form, the format shall be based on international standards for the exchange of electronic information.
5. Recommended Practice 4.16— Electronic information systems for the release and clearance of goods should cover their transfer between air and other modes of transport.

Source: International Civil Aviation Organization

Transport costs

128. Transport costs in Africa have been rated amongst the highest in the world caused through a number of reasons. The road and rail networks are generally inadequate and in poor

condition due to very old networks, many railroads are almost 100 years old, and lack of maintenance. In many regions official and unofficial roadblocks where payments or bribes are collected do not only directly increase costs of transport but also indirectly in the form of longer transit times. The longer the goods are on the road the higher the costs to the shipper and the recipient who have to establish bigger safety stocks in order to ensure production and supply. Time delays caused by complicated and slow customs procedures add also to the total transport costs. Both factors, unofficial costs and unnecessary delays are often identified as the main reasons for high transport costs in the African countries.

129. A recent study by UNCTAD indicates that freight costs in African countries are significantly higher than other developing or industrialized countries. In 2000, the freight costs as a percentage of total import value was 13 percent for Africa, 8.8 percent for other developing countries and 5.5 percent for industrialized countries. In the African sub-regions the highest transport costs were identified in Eastern and Southern Africa with 15.2 percent of total import value, followed by West Africa with 14 percent and North Africa with 11 percent. (UNCTAD, 2002) High transport costs are directly effecting a country's ability to participate in international trade as imported products become more expensive for the consumer and exported goods are less competitive on the international market.

130. Many studies substantiate that African landlocked developing countries face much higher transport costs than other landlocked counties or their neighboring countries with maritime access. In landlocked countries final prices of imported goods are rated to be at least 30 percent higher than the Free on Board Value (FOB) of the goods. UNCTAD calculated the transportation and insurance payments as a proportion of total export of goods for African landlocked countries to be 48.4 percent for Rwanda, 23.8 percent for Burundi and 35.5 percent for Uganda.

Domestic transport costs

131. The poor road conditions, especially in the rural areas, have drastically increased the Vehicle Operating Costs (VOC), which is high by comparison with African neighbor countries as well as the associated reduction in the operational life-time of vehicles. These increased costs are a major factor contributing to the high transport costs and an obstacle to develop the national economy. According to a World Bank the lack of maintenance on the road between Gitarama and Kibuye (distance 76 kilometers) raised VOCs from a 1989 level of USD 1.00 per kilometer to almost USD 3.40 per kilometer in 1996. The recent rehabilitation of the road between Gitarama and Kibuye has resulted in a drop of VOC by 50 percent and to a reduction of overall transport costs of about 40 percent. As a result, agricultural surpluses in the area can now be sold in markets throughout the country, and a general shift is taking place from subsistence agricultural to production for the market.

International road/rail transport costs

132. The road/rail transport costs presented in the following tables are compiled from the TCNA report and findings of the DTIS mission. Transport charges through the Northern and Central Corridor vary depending on several factors. Charges on deliveries of cargo depending on the mode of transport used, packaging of shipments (containerized/loose cargo) and direction of goods. It is estimated that approximately xx percent of all cargo exported and imported from/to Rwanda is containerized.

133. The following tables provide an overview of port charges for imports and exports at the port of Dar-Es-Salaam and Mombasa. Total port charges for imported containers are approximately 20 percent higher at Mombasa port than for Dar-Es-Salaam. This can be mainly attributed to a terminal handling charge levied by the shipping lines which account for almost 20 percent of total port charges per container and 30 percent for loose goods. On average the port charges of imported containers or for bulk goods is 8 percent higher than for exported containers or bulk goods.

Table 23 Selected ports transit charges on imports in Mombasa and Dar-Es-Salaam

Charges in USD	Container 20' (TEU)		Container 40' (FEU)		Breakbulk (per ton)	
	Mombasa	Dar	Mombasa	Dar	Mombasa	Dar
Wharfage/Stevedore	100	80	120	120	8	5
Shorehandling	120	70	160	105	8	4.5
Removal charges	25	36	25	72	1	4
Storage charges*)	10	20*)	20	40*)	1	1,00*)
Terminal Handling Charges	70	0	80	0	8	0

*) Per day per ton after grace period of 15 days for imports

Source: Kabanguka et. al. 2003

Table 24 Selected ports transit charges on exports in Mombasa and Dar-Es-Salaam

Charges in dollars	Container 20' (TEU)		Container 40' (FEU)		Breakbulk (per ton)	
	Mombasa	Dar	Mombasa	Dar	Mombasa	Dar
Wharfage/Stevedore	100	80	120	120	8	5
Shorehandling	100	70	120	105	6	4
Removal Charges	25	20	25	40	2	4
Storage charges *)	10	16*)	20	32*)	0.5	0.5*
Terminal Handling Charges	70	0	80	0	8	0

*) Per day per ton after grace period of 21 days for exports

Source: Kabanguka et. al. 2003

134. Average rail freight charges range between USD 0.8-1.2/km. Rail freight rates are in the Central Corridor on average USD 0.4/km cheaper than on the Northern Corridor. On both corridor routes exporting containers is approximately 30 percent less expensive than imported containers. Charges for a 40 foot container are in general twice the charge of a 20 foot container.

Table 25 Freight rates on railways along the Northern and Central Corridors in USD

Route	IMPORTS			EXPORTS		
	TEU	FEU	B/bulk	TEU	FEU	B/bulk
Northern Corridor						
Mombasa - Malaba/Kisumu	650	1,100	40	350	600	20
Malaba/Kisumu – Kampala	355	710	22.5	251,6	503,2	10
<i>Total</i>	1,005.8	1,810	62.5	601,6	1,103,2	30
Central Corridor						
Dar-Es-Salaam – Mwanza	725	1,450	37	261	512	28
Mwanza – Kampala	354	705	27	251,6	503,2	10
<i>Total</i>	1,154	2,305	64	873	1,736	44
Dar-Es-Salaam – Isaka	1,043	1,782	45.8	1,093	1,882	
Dar-Es-Salaam – Kigoma	1,245	2,098	54.7			

Source: Kabanguka et. al. 2003

Table 26 Freight rates on roads along the Northern and Central Corridor in USD

Route	IMPORTS			EXPORTS		
	TEU	FEU	B/bulk	TEU	FEU	B/bulk
Northern Corridor						
Kampala – Mombasa	1,800	3,000	100	1,200	2,000	70
Kigali – Mombasa	2,450	4,700	170	1,950	3,900	90
Bujumbura – Mombasa	3,500	4,500	230	2,100	3,800	180
Goma – Mombasa	3,500	7,000	220	2,000	4,000	180
Central Corridor						
Kigali - Dar-Es-Salaam	2,175	4,350	135			105
Bujumbura – Dar-Es-Salaam	3,000	4,800	145			120

Source: Kabanguka et. al. 2003

135. Road freight costs for the Northern Corridor are approximately 10-15 percent more expensive than for the Central Corridor. As with the rail transport costs, exporting containers is on average 30 percent less expensive than importing containers. Comparing the transport costs of the Northern and Central Corridor, the Central Corridor is less expensive on both modes of transport rail and road. Rail transport costs are almost half the costs of road transport costs on both corridors, however, the difference is less for exported containers. Several reasons explain the lower costs of the Central Corridor like the number of border crossing points and shorter distances.

136. Despite the shorter distances in the Central corridor transit times for road and rail are much higher than in the Northern corridor. The longer transit times can be attributed to two reasons. In Tanzania, the road between Dodoma and Isaka (~500km) is in a very poor condition, especially during the rainy season. However, the unpaved section of the route is currently in rehabilitation and being paved. It is expected that by the end of 2005 the Central Corridor in Tanzania is completely paved from the port of Dar-Es-Salaam to the Rusumo border crossing point reducing road transit times. Rail delays are very common on the section between Dar-Es-Salaam and the dry port of Isaka. Although the transport costs on the rail are much lower, many shippers reported avoiding the rail because control over the shipment is being lost. Shippers are not able to trace the location of the shipment's until they "appear" in Isaka or Dar-Es-Salaam.

Table 27 Average transit times in days on the Northern and Central Corridor

Route	IMPORTS			EXPORTS		
	Rail	Road	Rail/Road	Rail	Road	Rail/Road
Northern Corridor						
Kampala – Mombasa	12	6	-	8	4	-
Kigali – Mombasa	-	8	20	-	6	16
Bujumbura – Mombasa	-	12	22	-	8	18
Goma – Mombasa	-	13	23	-	9	20
Central Corridor						
Kigali – Dar-Es-Salaam	-	12	14	-	12	12
Bujumbura – Dar-Es-Salaam	-	13	18	-	12	15

Source: Kabanguka et. al. 2003

137. Following fees apply only to foreign registered vehicles. Local registered trucks were exempted from entry fees since September 2002. A fee of FRW 5,000 has to be paid for the entry card. At Rusumo border crossing point a narrow bridge over the river Kagera is connecting Rwanda with Tanzania. A toll bridge fee of FRW 400 has also to be paid at customs. Both fees are transferred to the Rwanda Revenue Authority. Foreign registered trucks also need to file a manifest document costing a fee of FRW 500. A road fee of USD 152 for heavy trucks and trucks with trailer and USD 76 for smaller trucks has to be paid.

Foreign registered pick-ups and smaller vehicles are exempted of the road fee. These fees are transferred to the Road Fund.

Table 28 Border crossing costs (in USD) into Rwanda in 2004

	Domestic registered	Foreign registered
Entry card	0.0	9.1
Bridge toll fee	0.0	0.7
Manifest document	-	0.9
Road Fund		
Heavy trucks/trailer	0.0	152.0
Light trucks	0.0	76.0
Pick-ups	0.0	0.0
Personal cars	0.0	0.0
Customs clearing agent		
final destination	50.0	50.00
in transit	100.0	100.0
Total	0	388.7

138. A truck leaving the country has to file for a departure card. Foreign registered trucks are exempted of all fees. Local registered trucks pay FRW 5,000 for a departure card and FRW 400 toll bridge fee.

Table 29 Border crossing costs (in USD) out of Rwanda in 2004

	Domestic registered	Foreign registered
Departure card	9,1	0,0
Bridge toll fee	0,7	0
Total	9,8	0,0

Air transport costs

139. Airport landing fees consist of landing fee, navigation fees both depending on Maximum Take-Off Weight (MTOW), a 10 percent handling surcharge of total costs charged by Rwandair Express from services rendered to other airlines, and airport passenger tax (10USD per passenger arriving from COMESA member countries; 20 USD other point of origins).

Table 30 Airline roundtrip fares (incl. taxes) in USD from Kigali in 2004

From	IATA code	Airline	Fare (Economy class)	Tax	Total	Distance between airports (in km)	USD/km
Kigali	KGL						
To							
Addis Ababa (ET)	ADD	Ethiopian Airlines	500	30	530	1550	0.34
Brussels (BE)	BRU	SN Brussels Airlines	1143	93	1236	6357	0.19
Bujumbura (BI)	BJM	Rwandair Express	175	30	205	177	1.16
Bujumbura (BI)	BJM	Air Burundi	175	25	200	177	1.13
Entebbe (UG)	EBB	Rwandair Express	199	70	269	341	0.79
Johannesburg (ZA)	JNB	Rwandair Express	530	90	620	2707	0.23
Johannesburg (ZA)	JNB	South African Airways	530	100	630	2707	0.23
Nairobi (KE)	NBO	Rwandair Express	330	50	380	759	0.50
Nairobi (KE)	NBO	Kenya Airways	330	50	380	759	0.50

Source: International Tours and Travel 2004

140. DAS Air Cargo charges USD 2,5/kg for general cargo United Kingdom – Kigali

141. DAS Air Cargo charges USD 1,2/kg for perishables Rwanda – Amsterdam

Critical issues and recommendations

D. Logistics services

Overview and current situation

142. Only a limited number of logistics services providers are available in Rwanda. The French freight forwarder SDV International Logistics, a subsidiary of the Bolloré Group, has a global network of 500 stations on five continents. A second major freight forwarder is Worldfreight S.A.R.L., which is an exclusive agent for global logistics service provider Panalpina. East African Cargo SA is an agent for United Parcel Service (UPS) and General Sales and Service Agent (GSSA) for SN Brussels Airlines. All companies offer logistics related services including customs brokerage, road, sea and air imports and exports, some transportation, international packing and removals.

143. **MaGeRwa (Magasins Généraux du Rwanda) is a public-private company for the management of bonded warehouses.** The company was created in July 1969 and has seven shareholders as follows: Banque Rwandaise de Développement BRD (68.74%), The Rwandese Government (6.25%), Banque de Kigali BK (6.25%), Banque Commerciale du Rwanda BCR (6.25%), SDV Rwanda (6.25%), AMIFIN Holding (6.25%), RWANDA LINKS (0.01%). MaGeRwa handles around 90% of total imports and exports of Rwanda, and also some transit traffic for Burundi and the Democratic Republic of Congo (DR Congo). The four main objectives of MaGeRwa are (i) warehousing, (ii) issuance of arrival notices, (iii) loading, unloading and handling of goods and (iv) management. The company employs approximately 200 employees of which 40 are in administrative duties.

144. A ministerial decree from the ministry of finance issued on 2. January 1970 concise the opening of a public warehouse to the company “Magasins Généraux du Rwanda” and under supervision to the customs office of Kigali. The decree also defines the duties and operational practices. Another ministerial decree, issued on 22. May 1975, defines the validity of the first

decree to five years ending on 2. January 1975. Since then the decree has been renewed every five years and has been awarded to MaGeRwa without any public tender. The main purpose of the renewal procedure is to revise tariffs and fees charged by MaGeRwa from its customers.

145. The main storage and warehouse facilities situated in Kigali, in the district of Gikondo, consist of a stacking area of 38,000 m², two container yard areas (approximately 2,200 m² and 600 m²) and five warehouses (2,500 m²). Three warehouses (EDA-EDC [Entrepôt de Douane A-C]) are used for general cargo, warehouse number four is used for agricultural products and warehouse number four is for containers with small office spaces. Goods stored in the warehouse are usually placed on pallets and depending on the nature of the goods stacked on each other. In the warehouses, no shelves are available limiting the full use of the 4-6 meter high ceiling of the warehouses.

146. Smaller warehouse facilities and MaGeRwa offices are situated at the border crossing points to neighboring countries in Gatuna, Rusumo, Kagitumba, Butare, Gisenyi, Rusizi and at Kigali International airport (see Figure xx).



Figure 9 MaGeRwa warehouse and office locations

147. Trucks with import or transit goods entering the Republic of Rwanda are inspected at the by customs and MaGeRwa officials. This inspection is limited to the transport documents and containers are sealed by customs.

148. All goods that are imported from Burundi via the Akenyaru Haut border post are cleared at the warehouse facilities in Butare. These goods are usually sugar from Zambia and alcoholic beverages (Amstel beer) from Bujumbura in Burundi.

149. Of all containers handled at the facilities, 75 percent are TEU's and 25 percent FEU's. It is estimated that approximately 25 percent of all containers handled exceed the current axle weight limitation in force in Rwanda and neighboring transit countries.

150. Trucks arriving with imported goods at the MaGeRwa facilities in Kigali enter a parking area where the trucks are recorded and weight. The weighing of the trucks is only for verification of the weight of goods stated in the transport documents and is not used to establish violation of axle weight limitations. After this procedure the truck driver receives a

waiting number in order to proceed to the warehouse areas where the goods are unloaded for verification of quantity and quality and customs purposes. After goods are unloaded a “l’Avis-d’arrivée” (Arrival Note) is issued and sent to the importer. The importer has then to file a customs declaration via a customs clearing agency, pay customs duties and can then receive and pick-up his goods from the warehouses. Due to legislative reasons a customs clearance can only be filed via a registered customs clearance agency.

151. MaGeRwa’s aim is to issue the note of arrival within three days including the day of arrival. However, this limit is often exceeded and it can last up to 5-6 days before a note of arrival is issued. Several reasons causes delays at the warehouse facilities like lack of warehouse capacity, broken or limited number of available handling equipment, lack of employees. Sometimes an importer wishes to be present when the seal of his container is broken.

152. Trucks in transit have also to pass the MaGeRwa facilities, however goods are not unloaded and can usually continue on the same but usually next day.

153. Customs clearance takes too much time. Many sources complained that customs is not working very efficient and that staff is not enough trained and the number of staff is too little.

154. MaGeRwa operating hours are from Monday-Friday from 8am to 5pm. A truck arriving in Kigali on a Friday after 5 pm can not enter the MaGeRwa parking area and has to wait outside until next Monday 8am before the truck can be processed. The administration has acknowledged the dissatisfaction of clients due to very long clearing procedures.

155. The handling- and storing fees of imported goods are based on the CIF¹⁴ Kigali value of goods. 4 percent of the value are charged of which 1 percent receives the MaGeRwa and 3 percent are levied to the state. Exporters of goods are charged a weighing fee of FRW 3,700 (USD 6.6) per ton.

156. **Efficient operations suffer due to lack of capacity and old equipment.** The available area is currently too small to handle all arriving trucks which cause them to stay outside the parking area upon arrival blocking and congesting surrounding roads. The available warehouse facilities are also too small and it is estimated that two additional warehouses of similar size would be needed to offer satisfying services. The company has three reach stackers with a lifting capacity of 2 x 40 tons and 1 x 45 tons, three mobile cranes (12 tons, 23 tons and 50 tons) and 12 forklifts (10 x 3 tons, 1 x 3.7 tons and 1 x 8 tons). However, handling equipment is very old and breakdowns are causing delays in handling goods at the facilities. At least a dozen forklifts and 2-4 reach stackers or mobile cranes are needed. Lack of pallets causes also delays in unloading goods from containers.

Critical issues and recommendations

157. The services provided by MaGeRwa are basic logistics services which are commonly performed by private companies in a competitive environment. The four percent handling fee charged from importers is an unnecessarily increasing the countries transport cost. The three percent share, which is rendered to the state, is basically an import tax that should be collected as such. Based on the available information the contract between MaGeRwa and the government is Rwanda is renewed every five year to adjust tariffs MaGeRwa charges from

¹⁴ CIF stands for Cost, Insurance and Freight and is one of 13 standard trade definitions called Incoterms. Incoterms are most commonly used in international sales contracts. Devised and published by the International Chamber of Commerce (ICC), these standard trade definitions protected by ICC copyright. For further information see: http://www.iccwbo.org/index_incoterms.asp

importers and exporters for services rendered. On this assumption and the first five year period from 1970 to 1975 the current contract is due January 2005.

158. Two types of bonded warehouses are commonly in use - public and private. A public bonded warehouse is either operated by a customs office, a customs agent or a private company (e.g. logistics service provider) licensed by the local customs or revenue authority to do so. This operator is obliged to accept goods for storage owned by third parties like importers or exporters. By contrast, a private bonded warehouse is primarily used by the operator of the warehouse and may accept goods belonging to third parties only under a commission or customer service contract between the operator and a third party.

159. In neighboring Uganda, the government introduced the operation of licensed bonded warehouses very successfully. Approximately 124 licensed bonded warehouses are operated through third party logistics service provider, local exporters and importers as well as oil installations. Competition between operator's of bonded warehouses is likely to increase the quality of service, reduce dwell times and decrease transport costs.

160. It is recommended that the operation of bonded warehouses should not be restricted to MaGeRwa. Importers, exporters and third party logistics service provider with appropriate facilities should be able to apply and granted licenses for operating bonded warehouses. In Rwanda, there are a couple logistics service provider resident who have international experience in operating these kinds of facilities. The legislative decree granting MaGeRwa a monopolistic environment should be abolished in the medium term future and the logistics service of operating a public bonded warehouse should be subject to procurement by public tender.

References

- de Matons, Jean Grosdidier (2004) *A Review of international Legal Instruments*. Sub-Saharan Africa Transport Policy Program SSATP Working Paper No.73, The World Bank May 2004.
- Faye, Michael L. - McArthur, John W. – Sachs, Jeffrey D. – Snow, Thomas (2004) *The Challenges Facing Landlocked Countries*. Journal of Human Development. Vol.5, No. 1, March 2004.
- Kabanguka, Jean K. – Athman, Athman M. – Murithi, Anthony (2003) *Feasibility study for a regional cargo tracking system on the Mombasa (Northern) and Dar-Es-Salaam (Central) corridors*. Final report. December 2003
- Kenya Transport Association (2003) *The KTA magazine*. No.3 July-September 2003, p. 44-48
- Marowa, Evan S. (2003) *Technical Report: Proposed Harmonized System for Vehicle Overload Control*. Chemonics International Inc. for USAID
- Ministry of Finance and Economic Planning – Statistics Department (2003) *Rwanda Development Indicators 2003*. Edition No.6, August 2003.
- Rwanda Airports Authority (2004) *Aeronautical Information Publication*.
- Rwanda Revenue Authority (2004) *Annual Report 2003*. Kigali, July 2004
- Scetauroute International (2002) *Preparation du cadre sectoriel et programme d'investissement, Rapport N° 8*
- The World Bank (2004) *A country framework report: Private Solutions for infrastructure in Rwanda*. Washington.
- United Nations - Economic Commission for Africa (2003) *Report on the implementation of the Yamoussoukro declaration*.
- United Nations (2004) *Map of Rwanda*. Map No. 3717 Rev. 9, January 2004
- United Nations Development Programme (2004) *Human Development Report 2004 - Cultural liberty in today's diverse world*. New York.
- United Republic of Tanzania-Presidential parastatal sector reform commission (2004) *Investors Flyer for the Tanzania Railway Corporation Concession*. August, 2004

Annexes

Annex 1 List of interviewees

Company	Name	Position	Category
Brucargo Airfreight	Seka Fred Rwumbuguzza	Operations Manager	Airline
CECMA	Rugerinyange	Coordinator	Association
Coffee Business Center	Jean Paul Rwagasana	General Manager	Exporter
DAS Air Cargo	Gilbert Bagarukayo	Station Manager	Airline
East African Cargo	Didier Clerebaut	General Manager	Freight forwarder
International Tours and Travel	Agnes Mutete	Sales and reservation agent	Travel agency
Intraspeed Ltd.	John Boseo Rusagara	General Manager	Freight forwarder
Magasins Generaux du Rwanda	Eraste Kabera	General Manager	Warehouse
Magasins Generaux du Rwanda	André Kimonyo	Head of warehouses	Warehouse
Magasins Generaux du Rwanda	Georges Haguma	Head of Airport warehouse	Warehouse
Magasins Generaux du Rwanda	Silas Mutware	Acting Chief of warehouses	Warehouse
Ministry of Infrastructure	Philippe Munyaruyenz	Director of Transport	Ministry
Ministry of Infrastructure	Philippe Munyaruyenzi	Director of Transport	Ministry
Office des Cafés du Rwanda	Léon P. J. Haguma	Commercial Manager	Gov. Association
Onatracom	Vincent Gatwabyeye	Managing Director	Public transport
Private Sector Federation, Association of Transport	Egide Gakuba Rubojo	Director	Association
RWACOF S.A.R.L.	Emmanuel Akiba	Export Manager	Exporter
RWACOF S.A.R.L.	Anbalagan D. Swamy	General Manager	Exporter
Rwanda Airports Authority	Médard Rutayisire	Chief of Planning, Co-ordinator Airport Rehabilitation	Airport
Rwanda Airports Authority	Godefrey Karamuzi	Director of Statistics	Airport
Rwanda Civil Aviation Authority	Peter Mugenzi	Managing Director	Ministry
Rwanda Revenue Authority	Albert Gahanuzi	Border Post Manager	Customs
Rwandair Express	Amin Javer	Chief Executive Officer	Airline
Rwandex S.A.	Alain Vignerou	General Director	Exporter/Importer
SDV Transami	Suzanne Iyakaremeye	Operations Manager	Freight forwarder
SONARWA s.a.	Kalisa Anicet	Sales manager	Insurance company
Unknown	Unknown	Truck driver	Transport company
Unknown	Unknown	Truck driver	Transport company
Unknown	Unknown	Truck driver	Transport company
Worldfreight S.A.R.L.	Eric Nsengimana	Operations Manager	Freight forwarder

Annex 2 United Nations Convention on the Law of the Sea of 10 December 1982 -
Part X Right of access of landlocked states to and from the sea and freedom
of transit.

Article 124
Use of terms

1. For the purposes of this Convention:

- (a) "land-locked State" means a State which has no sea-coast;
- (b) "transit State" means a State, with or without a sea-coast, situated between a land-locked State and the sea, through whose territory traffic in transit passes;
- (c) "traffic in transit" means transit of persons, baggage, goods and means of transport across the territory of one or more transit States, when the passage across such territory, with or without trans-shipment, warehousing, breaking bulk or change in the mode of transport, is only a portion of a complete journey which begins or terminates within the territory of the land-locked State;
- (d) "means of transport" means:
 - (i) railway rolling stock, sea, lake and river craft and road vehicles;
 - (ii) where local conditions so require, porters and pack animals.

2. Land-locked States and transit States may, by agreement between them, include as means of transport pipelines and gas lines and means of transport other than those included in paragraph 1.

Article 125
Right of access to and from the sea and freedom of transit

1. Land-locked States shall have the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention including those relating to the freedom of the high seas and the common heritage of mankind. To this end, land-locked States shall enjoy freedom of transit through the territory of transit States by all means of transport.
2. The terms and modalities for exercising freedom of transit shall be agreed between the land-locked States and transit States concerned through bilateral, subregional or regional agreements.
3. Transit States, in the exercise of their full sovereignty over their territory, shall have the right to take all measures necessary to ensure that the rights and facilities provided for in this Part for land-locked States shall in no way infringe their legitimate interests.

Article 126
Exclusion of application of the most-favoured-nation clause

The provisions of this Convention, as well as special agreements relating to the exercise of the right of access to and from the sea, establishing rights and facilities on account of the special geographical position of land-locked States, are excluded from the application of the most-favoured-nation clause.

Article 127
Customs duties, taxes and other charges

1. Traffic in transit shall not be subject to any customs duties, taxes or other charges except charges levied for specific services rendered in connection with such traffic.
2. Means of transport in transit and other facilities provided for and used by land-locked States shall not be subject to taxes or charges higher than those levied for the use of means of transport of the transit State.

Article 128
Free zones and other customs facilities

For the convenience of traffic in transit, free zones or other customs facilities may be provided at the ports of entry and exit in the transit States, by agreement between those States and the land-locked States.

Article129

Cooperation in the construction and improvement of means of transport

Where there are no means of transport in transit States to give effect to the freedom of transit or where the existing means, including the port installations and equipment, are inadequate in any respect, the transit States and land-locked States concerned may cooperate in constructing or improving them.

Article130

Measures to avoid or eliminate delays or other difficulties of a technical nature in traffic in transit

1. Transit States shall take all appropriate measures to avoid delays or other difficulties of a technical nature in traffic in transit.
2. Should such delays or difficulties occur, the competent authorities of the transit States and land-locked States concerned shall cooperate towards their expeditious elimination.

Article131

Equal treatment in maritime ports

Ships flying the flag of land-locked States shall enjoy treatment equal to that accorded to other foreign ships in maritime ports.

Article132

Grant of greater transit facilities

This Convention does not entail in any way the withdrawal of transit facilities which are greater than those provided for in this Convention and which are agreed between States Parties to this Convention or granted by a State Party. This Convention also does not preclude such grant of greater facilities in the future.

For further information see:

http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm

Annex 3 Rwanda airport characteristics in 2004

Location	IACO/IATA -code	Runway in meters (surface)	IFR-VFR
Butare	HRYI/BTQ	860x25 (Asphalt)	VFR
Gisenyi	HRYG/GYI	1,000x43 (Asphalt)	VFR
Kamembe	HRZA/KME	1,500x45 (Asphalt)	VFR
Kigali International Airport	HRYR/KGL	3,500x45 (Asphalt)	IFR-VFR
Nemba	HRYN/	1,100x25 (Latérite)	VFR
Ruhengeri	HRYU/RHG	1,480x35 (Grass/lava)	VFR

Source: Rwanda AIP 2004

Annex 4 Maximum axle loads and gross vehicle weights for Tanzania

Source: Kenya Transport Association, 2003

Annex 5 Maximum axle loads and gross vehicle weights for Uganda

Source: Kenya Transport Association, 2003

Annex 6 Maximum axle loads and gross vehicle weights for Kenya

Source: Kenya Transport Association, 2003

Annex 7 Distances to Rwanda, Uganda Burundi and DR Congo in kilometers

A. Distances to Rwanda in kilometers

Kigali (Rwanda)	Northern Corridor				Central Corridor			
	Rail	Lake	Road	Total	Rail	Lake	Road	Total
Distances in km								
Road via Malaba			1 690	1 690				
Road via Kisumu			1 710	1 710				
Road via Isaka							1 380	1 380
Rail/Lake/Road via Kigoma					1 252	185	359	1 796
Rail/Road via Isaka					982		480	1 462
Rail/Road via Malaba	1 333		520	1 853				
Rail/Road via Kisumu	938	284	520	1 742				

B. Distances to Uganda in kilometers

Kampala (Uganda)	Northern Corridor				Central Corridor			
	Rail	Lake	Road	Total	Rail	Lake	Road	Total
Distances in km								
Road via Malaba			1 170	1 170				
Road via Kisumu			1 190	1 190				
Rail via Malaba	1 333			1 333				
Rail/Lake via Kisumu	938	284		1 222				
Rail/Lake via Mwanza					1 229	440		1 669

C. Distances to Burundi in kilometers

Bujumbura (Burundi)	Northern Corridor				Central Corridor			
	Rail	Lake	Road	Total	Rail	Lake	Road	Total
Distances in km								
Road via Malaba			1 970	1 970				
Road via Isaka							1 400	1 400
Rail/Road via Malaba	1 333		800	2 133				
Rail/Lake/Road via Kisumu	938	284	800	2 022				
Rail/Road via Isaka					982		500	1 482
Rail/Lake via Kigoma					1 252	185		1 437

D. Distances to DR Congo in kilometers

Goma (DR Congo)	Northern Corridor				Central Corridor			
	Rail	Lake	Road	Total	Rail	Lake	Road	Total
Distances in km								
Road via Malaba			1 846	1 846				
Road via Kisumu			1 866	1 866				
Road via Isaka							1 536	1 536
Rail/Lake/Road via Kigoma					1 252	185	515	1 952
Rail/Road via Isaka					982		636	1 618
Rail/Road via Malaba	1 333		679	2 012				
Rail/Road via Kisumu	938	284	679	1 901				