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**Report on the Corridor Assessment and Ranking for
Selecting at Least One Pilot Smart Corridor**



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LIST OF ACRONYMS

AIDS	Acquired Immunity Deficiency Syndrome
ALCO	Abidjan Lagos Corridor Organization
ARTIN	African Regional Transport Infrastructure Network
AU	African Union
AUC	African Union Commission
BOT	Build, Operate and Transfer
CCTFA	Central Corridor Trade and Transport Facilitation Authority
CMI	Corridor Management Institution
CDCEMI	Corridor Development Coordination and Management Institution
COMESA	Common Market of Eastern and Southern Africa
CVTFS	COMESA Virtual Trade Facilitation System
DCC	Dar es Salaam Corridor Committee
DRC	Democratic Republic of Congo
EAC	East African Community
EU	European Union
ICT	Information and Communication Technology
ITS	Intelligent Transport Systems
LLC	Landlocked Countries
MCLI	Maputo Corridor Logistics Initiative
NSC	North South Corridor
NSW	National Single Window
OSBP/JBP	One Stop Border Post/ Joint Border Post
PIDA	Programme for Infrastructure Development in Africa
PIDA PAP	Programme for Infrastructure Development in Africa Priority Action Plan
REC	Regional Economic Community
SAD	Single Administrative Document
SADC	Southern African Development Community
SSATP	Sub-Saharan Africa Transport Policy Program
TCC	Transport Corridor Countries
TF	Trade Facilitation
UEMOA	West Africa Economic and Monetary Area

Executive Summary

The consultant collected data and information necessary for assessing and ranking the ten transport corridors according to the agreed multi-factor criteria for selecting at least one pilot smart corridor as per the project terms of reference. Both the ten corridors and the criteria were agreed on at the Validation Committee meeting of February 2016. Hereunder are the results of the assessment and ranking of the ten corridors.

Rank	Corridor	Score Achieved
1	North-South	80.0
2	Northern	73.5
3	Dar es Salaam	59.5
4	Maputo	58
5	Djibouti	53.5
6	Beira	50
7	Central	48
8	Dakar- Bamako-Niamey	47.5
9	Abidjan - Lagos	41
10	Douala-N'Djamena-Bangui	30

From a technical point of view and based on the results above, the consultant recommends that the North South Corridor be selected as the pilot smart corridor. This is one of the longest and busiest transport corridors on the African continent involving seven countries and sixteen borders. However, critical preconditions for successful design and implementation of a pilot smart corridor such as buy-in by key stakeholders should nevertheless also be taken into account in the final selection.

Main Report

1. Background

The Corridor Assessment and Ranking for selecting at least one pilot smart corridor was undertaken as one of the tasks of Component 2 of the project, that is, Support to PIDA PAP for the start-up of smart corridor activities.

The Project Steering Committee at its meeting held on 26th October 2015 approved a recommendation by the consultant to limit the number of corridors to be assessed to only 10 instead of 47 the consultant had identified. This was necessary due to unavailability of comparable, consistent and up-to-date information required for assessing the 47 corridors.

The consultant recommended to the Validation Committee that the ten priority corridors to be assessed be selected on the basis of their traffic volumes and economic importance as per the PIDA Study which ranked the top 25 priority corridors. The Validation Committee endorsed the recommendation by the consultant that the following corridors be assessed from which the consultant will select at least one Pilot Smart Corridor:

- a. North South Corridor
- b. Northern Corridor
- c. Beira corridor
- d. Central corridor
- e. Djibouti corridor
- f. Maputo corridor
- g. Dar es Salaam corridor
- h. Abidjan-Lagos (coastal corridor)
- i. Dakar-Bamako-Niamey corridor
- j. Douala-Ndjamena-Bangui corridor

The Validation Committee also agreed to the performance indicators to be used to assess the corridor performance as well as the methodology for ranking the corridors presented at the validation meeting held in February 2016.

2. Overall Approach/Methodology

A short-term Transport Economist (TE) was engaged in February to undertake desk research on the information necessary for assessing the above corridors. His scope of work was to:

- a) Search for available information necessary to assess the performance of the 10 corridors using the indicators agreed to by the Validation Committee i.e. volumes, transit times, costs and reliability.
- b) Search for available information necessary for analyzing existing operational parameters for corridor performance for the 10 corridors.
- c) Search for available information necessary for analyzing operational practices and implicated stakeholders for the 10 corridors.
- d) From the information obtained identify key infrastructural, institutional, policy, regulatory factors that impede corridor efficiency.
- e) Draft a Corridor Assessment/Ranking Report for the 10 corridors based on the information gathered and application of the multi-factor criteria for ranking for selecting a pilot smart corridor (s)

In order to analyse each corridor individually, as well as to be able to compare each corridor against the nine other corridors, the consultant planned to collect comparable data for each corridors encompassing the following five broad categories:

- Volume information (Current import-export information along the corridor as well as forecasts)
- Time parameters (dwell time at ports, custom and clearance time at port, number of road blocks along the corridor, border crossing time)
- Costs and reliability indicators ;
- Operating parameters (Number of truck stops, number of official agencies at border, road condition etc.)
- Operating practices (One stop Border Post, National Single window systems, Corridor Performance Monitoring systems, official and non-official stops, transport cost, fleet age etc.)

However, during the desk research it became apparent to the consultant that it would be unattainable to obtain consistent and up-to-date information for assessing all the ten corridors using the agreed performance indicators of volume, transit times, reliability and costs. Whilst studies exist for most of these `corridors on the information sought, almost all information found on operating parameters and operating practices was either out of date or not directly comparable across corridors.

Because of this information problem, the consultant has focused on collecting at least the information necessary to apply the multi-factor criteria for ranking the corridors. Below is the final list of the multi-factor criteria parameters used for assessing and ranking the corridors:

- a) Economic Factors (port volumes, current land-locked countries (LLC) imports and exports, 2020 PIDA LLC imports and exports, number of LLC countries served, and number of capitals connected)
- b) Trade Facilitation Factors (existence of National Single Window, Port Community System Single Administrative document, and One Stop Border Post)
- c) Institutional Factors (Presence or development of Corridor Management Institution)
- d) Infrastructural Factors (Road Condition i.e. % in fair, good and very good condition)

Table 1 below depicts the elements of the above factors, minimum and maximum points for each element as well as explanation notes as necessary.

Table 1: Factors Studied and Scoring System

<i>Factors studied</i>	Minimum points	Maximum points	Note
1. Economic Factors (50%)			
1. Volume of Traffic through the gateway port to all Transport Corridor Countries (TCC) 5 points for highest and 0.5 points for lowest	0.5	5	
2. Number of Landlocked Countries (LLCs) served by the corridor- 10 points for highest and 1 points for lowest.	1	10	0 if none or N/A
3. Volume of LLCs corridor imports – 10 points for highest and 1 points for lowest	1	10	0 if none or N/A
4. Volume of LLCs corridor exports – 10 points for the highest 1 points for the lowest	1	10	0 if none or N/A
5. Volume of PIDA Corridor 2020 Forecasted LLCs Imports - 5 points for the highest and 0.5 points for the lowest	0.5	5	0 if none or N/A
6. Volume of PIDA Corridor 2020 Forecasted LLCs Exports - 5 points for the highest and 0.5 points for the lowest	0.5	5	0 if none or N/A
7. Number of capital cities connected - 5 points for the highest and 0.5 points for the lowest	0.5	5	
2. Trade Facilitation Factors (25%)			
TCCs already implementing Trade Facilitation (TF) measures such as:			
1. Electronic National Single Window (NSW) – 10 points if all TCC have and 0 points if none has. (Partial points are allocated for partial implementation process)	1	10	0 if none or N/A
2. Port Community System (if no NSW) – 5 points coastal country has and 0 if it does not have. (Partial points are allocated for partial implementation process)	0.5	5	0 if none or N/A
3. Single Administrative Document (SAD) for Customs – 5 points if all TCCs use SAD and 0 points if none (Partial points will allocated for partial implementation process)	0.5	5	0 if none or N/A
4. One Stop Border Posts – 5 points if all borders are OSBPs and 0 points if none are OSBP (Partial points will allocated for partial implementation process)	0.5	5	0 If None Or N/A

3. Institutional Factors (5%)			
1. Corridor Management Institution (CMI)/Secretariat – 5 points yes, 0 if none. (Partial points are allocated for partial implementation process e.g. signed MOU for establishing a CMI, Joint Route Management Groups/Commissions)	0.5	5	0 if none or N/A
4. Infrastructural Factors (20%)			
1. % of good and fair roads along the corridor – 10 points for highest 0 points for lowest; (In the case where it's a road corridor only. Where there is road and rail, the highest points will be shared 5 points for road and 5 points for rail) Note: as no rail information was available only road infrastructure was considered.		20	0 if none or N/A

N/A stands for not available or applicable.

3. Data Collection

The consultant undertook desk research and used a wide variety of sources in order to obtain the information required for the scoring of the corridors. Most information was sourced from freely available information online and included:

- Port statistics from port websites
- Trade facilitation studies
- Transport Master Plan Studies
- Corridor Transport Observatory Annual Reports
- Consultant own information
- PIDA study forecasts
- Corridor websites

A full list of the documents consulted is provided in Annexure A.

In addition to the desk research, the consultant contacted corridor representatives by e-mails requesting the information missing for corridor assessment and ranking. This was facilitated by the informal discussions held with some of the corridor representatives during February 2016 validation committee.

For the North-South Corridor, Beira, Maputo and Djibouti-Addis Ababa Corridors the consultant was unable to find all the information critical for the application of the criteria through the above methods. As a result, the consultant visited the Durban, Maputo, Beira and Djibouti ports in an effort to collect the missing data from Port Authorities, Customs officials and other stakeholders at these ports.

4. Information and Data Collected on the Ten Corridors

4.1 General Corridor Information

Table 2 below depicts some general information about each of the ten corridors including corridor origins for imports, destinations, country capitals crossed, ports and approximate length. The consultant used some of this information in the scoring for each corridor in accordance with the multi-factor criteria.

Table 2: Basic Corridor Information

	a	b	c	d	e
Name	North South corridor	Northern Corridor	Beira corridor	Central corridor	Djibouti Corridor
Origin	Durban (South Africa)	Mombasa (Kenya)	Beira (Mozambique)	Dar-es-Salaam (Tanzania)	Djibouti (Djibouti)
Destination (s)	Kolwezi (DRC)	Kisangani (DRC) Bujumbura (Burundi) Juba (South Sudan)	Kolwezi (DRC) Lilongwe (Malawi)	Goma (DRC) Kampala (Uganda) Bujumbura (Burundi)	Juba (South Sudan)
Countries	South Africa Zimbabwe Botswana Zambia DRC Mozambique Malawi	Kenya Uganda Rwanda Burundi DRC South Sudan	Mozambique Zimbabwe Malawi Zambia DRC	Tanzania Burundi Rwanda DRC Uganda	Djibouti, Ethiopia, South Sudan
Capitals	Lilongwe Pretoria Harare Lusaka	Nairobi Kampala Kigali Bujumbura Juba	Harare Lilongwe Lusaka	Dar-Es-Salaam Bujumbura Kigali Kampala	Djibouti Addis-Ababa Juba
Port(s)	Durban	Mombasa	Beira	Dar-es-Salaam	Djibouti
Length (km)	3940	3810	2640	2450	2010

N.	f	g	h	i	j
Name	Maputo corridor	Dar es Salaam corridor	Abidjan-Lagos	Dakar-Bamako-Niamey corridor	Douala-Ndjamena – Bangui corridor
Origin	Maputo (Mozambique)	Dar-es-Salaam (Tanzania)	Abidjan (Ivory Coast)	Dakar (Senegal)	Douala/Kribi (Cameroun)
Destination (s)	Johannesburg (South Africa) Mbabane (Swaziland)	Kolwezi (DRC)	Lagos (Nigeria)	Niamey (Niger)	N'Djamena (Chad), Bangui (Central African Republic)
Countries	Mozambique, South Africa Swaziland	Tanzania Zambia DRC Malawi	Ivory Coast Ghana Togo Benin	Senegal Mali Burkina Faso Niger	Cameroun Chad Central African Republic

			Nigeria		
Capitals	Maputo Pretoria Mbabane	Dar-es-Salaam Lusaka Lilongwe	Accra Lome Cotonou	Dakar Bamako Ouagadougou Niamey	Yaounde N'Djamena Bangui
Ports/origin	Maputo	Dar-es-Salaam	Abidjan Accra Lome Cotonou Lagos	Dakar	Douala Kribi
Length	700	2850	1000	2720	2500

Below is a summary of the main information gathered during the desk research and the limited field visits on the ten corridors.

Economic Factors

Durban is the largest and most developed port in sub-Saharan Africa and has long functioned as the gateway port to Southern Africa through the North-South corridor. As such, it is not surprising to observe that it handles the largest volumes of total imports and exports of all corridors assessed. For traffic to/from LLC countries, it is the largest export port and the second largest import port. This despite the fact that Durban is further from the LLCs it serves compared to its competing ports such as Maputo, Beira, Dar es Salaam ports which serve the same LLCs. According to the 2020 PIDA study forecasts, the North-South corridor is expected to remain strong, remaining second in terms of volume for both LLC imports and exports behind the Northern corridor.

The Northern corridor is the main gateway to Uganda, Rwanda and north-east DRC as well as South Sudan. It is a highly developed corridor which is forecasted to become the largest corridor for both imports and export to LLCs in 2020. It competes against the Central corridor for traffic to/from Uganda, Rwanda and Burundi.

The Dar es Salaam corridor competes directly with the Beira corridor through Dar es Salaam port. It is however mainly constrained by the limited capacity of the Dar es Salaam port (12.4 million tons). This port also serves the Central corridor. Over 50% of imports and exports through the Dar es Salaam port is to and from the Tanzanian domestic market.

Maputo port is closer to the Greater Johannesburg Metropolitan Area than Durban port and mainly serves South Africa as an alternative to the Durban port. Maputo corridor is primarily used for goods to/from South Africa. However this corridor also serves the LLC of Swaziland although for much lower volume of traffic than that of South Africa.

Djibouti corridor is currently the only transport corridor to Ethiopia. It therefore carries all the imports and export traffic to/from Ethiopia through the Djibouti port. Serving a country of nearly 100 million inhabitants, this corridor carries a lot of traffic. This corridor will in the future be extended in Juba in South Sudan and even reach Kampala. Currently, it is not feasible to travel the full length of the corridor due to 270 km of missing roads in South Sudan.

Beira port has the same catchment area as Durban port through the Beira corridor. However, it does not handle as much traffic due to historic reasons (civil war), limited capacity and the need for timely dredging at the port. All these factors have been constraints on the development of this corridor. Beira port is the nearest port to the LLCs of Zimbabwe, Zambia and DRC and Malawi, much nearer than the Durban and Dar es Salaam ports.

The Central corridor is the main gateway to Burundi and competes with the Northern Corridor for traffic to Rwanda, Uganda and DRC. Its volumes are pretty limited due to the relatively small markets it serves (Rwanda, Burundi and DRC) and distance between Dar es Salaam and Uganda as well as the Dar es Salaam port capacity problems explained above.

The Dakar to Niamey corridor mainly serves international traffic between Dakar and Mali. The two other countries, namely Burkina Faso and Niamey, are mainly served by the ports located on the Abidjan-Lagos corridor. Due to the long distance, it is unlikely in the foreseeable future that sizeable volumes of traffic will be conveyed on this corridor between Mali and Niger.

The Abidjan-Lagos corridor does not serve any land-locked country. Ports along the corridor mainly serve their domestic market together with bordering land-locked countries. As such traffic within the corridor is currently quite limited. This corridor will however grow as regional trade improves between the countries within the corridor.

Finally, the Douala-N'Djamena/Bangui corridor is currently the only corridor enabling Chad and Central African Republic to have access to the sea. Corridor volumes are low compared to other corridors due to the limited market the corridor serves. This corridor however remains essential for both Chad and Central African Republic.

Trade Facilitation Measures

Virtually all Regional Economic Communities (RECs) are promoting the implementation of trade facilitation measures such as National Single Windows, Coordinated Border Management, One Stop Border Posts or Joint Border Posts, Customs Connectivity and Regional Bond Guarantees Schemes. Some countries already have National Single Windows (NSW)s, Port Community Systems and even Electronic Cargo Tracking Systems and many more countries are at an advanced planning stage of implementing these trade facilitation tools. COMESA has developed COMESA Virtual Trade Facilitation System (CVTFS) which is a powerful tool for facilitating trade that it is piloting on the Northern Corridor. EAC has introduced Single Customs Territory Customs procedures which are already being used on the Northern and Central corridors, albeit, for limited number of cargoes, which has significantly improved operational efficiencies on these corridors. ECOWAS is promoting the establishment of Joint Border Posts as well as Corridor Management Institutions. SADC has for years now introduced a Single Administrative Document for Customs declarations for all its members. UEMOA is pursuing the conversion of all its corridors into smart corridors.

However, implementation a number of these trade facilitation measures take time, and a number of them are not yet operational. As of now there is no single corridor in which all countries have NSWs or all borders are OSBPs/JBPs or have Coordinated Border Management. Even where OSBPs/JBPs have been introduced, they have not reduced the delays as much as was anticipated largely because of less attention on software issues than on hard infrastructural issues. Only one region, SADC has, a Single Administrative Document for Customs declarations. Nevertheless, when all the planned trade facilitation measures are fully implementation, there will be great improvement in this area.

Institutional Factors

Five out of the ten corridors have Corridor Management Institutions of one form or another and with different levels of effectiveness in monitoring the corridors performance.

Infrastructural Factors-Road Condition

Other than the Douala- N'djamena/Bangui corridor, all corridors have roads in reasonably good condition, with more than 75% of the length of the roads considered to be in good or fair condition. However, some sections of the roads in all corridors except the Maputo corridor need to be rehabilitated to bring them to good condition. Most of the Maputo corridor road is in good condition largely because it is managed by a concessionaire called TRAC under a Build-Operate and Transfer (BOT) contract which allows the levying of toll fees to pay for the upgrading and maintenance of the road. The road section connecting Swaziland to the Maputo port is also in good condition despite not being maintained by a private concessionaire.

Corridor Performance Monitoring Systems

There are Corridor Monitoring Systems in one form or another in five out of the ten corridors, however, the scope and the depth of the monitoring varies. The Northern Corridor Transit and Transport Coordination Authority (NCTTCA) through its Transport Observatory provides in-depth analysis about volumes, transit times through various corridor nodes, legal and illegal stops, whilst the Central Corridor Transit Transportation Facilitation Agency (CCTTFA) system focuses on trade barriers, transit times and road condition. The Abidjan-Lagos Trade and Transport Facilitation Project (ALTTFP) monitoring systems provide some information on transit times at borders and general road condition. However corridor performance monitoring system was not included in the multi-factor criteria.

4.2 Corridor Information for the Multi-factor Criteria Application

Tables 3 to 6 below show data for each of the elements of the economic, trade facilitation, institutional and infrastructural factors respectively for each of the ten corridors that that the consultant scored for ranking the corridors according to the criteria. Where no direct information was obtained, an explanation is provided in the tables on how data was estimated.

Table 3: Economic Factors Data

		A	B	C	D	E	F	G	H	I	J	
1. Economic Factors (50%)	Units	North-South	Northern	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Note
Volume of Traffic through the gateway port to all Transport Corridor Countries	Tons ('000)	42,440	22,133	7,466	4,615	15,517	19,309	7,829	6,997	12,217	10,858	Dar Es Salaam Port split between Central & Dar Es Salaam corridor according LLC imports/Exports split for Domestic Tanzania traffic and DRC traffic
Number of Landlocked Countries (LLCs) served by the corridor	Amount (Total)	5	5	4	4	2	2	3	-	3	2	-
Volume of LLCs corridor imports	Tons ('000)	8,077	6,211	2,083	1,425	9,982	-	2,071	-	1,638	515	No import information for North South Corridor. Used % Value of I from South Africa to LLC countries
Volume of LLCs corridor export	Tons ('000)	5,600	631	5,382	114	680	786	514	-	229	139	No import information for North South Corridor. Used % Value of Exports from South Africa to LLC countries
Volume of PIDA Corridor 2020 Forecasted Imports	Tons ('000)	26,317	33,286	2,495	1,479	13,101	-	3,480	-	4,361	1,511	-
Volume of PIDA Corridor 2020 Forecasted Exports	Tons ('000)	9,302	10,255	3,964	382	2,229	1,678	2,053	-	856	232	Forecasts for Maputo Corridor not included in PIDA 2020 corridor. Used weighted average of other corridors growth to calculate Maputo volume 2020
Number of capital countries connected	Amount (Total)	3	5	3	4	3	3	3	3	4	3	-

Table 4: Trade Facilitation Factors Data

		A	B	C	D	E	F	G	H	I	J	
2. Trade Facilitation Factors (25%)	Units	North-South	Northern Corridor	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Note
Electronic National Single Window (NSW)	Total Points	2.0	2.5	2.0	2.0	0.5	1.0	1.5	2.0	2.0	0.5	1 point for NSW, 0.5 for planned NSW
- Active	Amount (Total)	1.0	2	1	1	-	1	-	2	1	-	
- Being Implemented (Planning or trial stage)	Amount (Total)	2	1	2	2	1	-	3	-	2	1	
Port Community System (PCS) or similar system (if no NSW)	Amount (Total)	1	-	-	1	-	1	1	2	-	-	According to Best Information available
Single Administrative Document (SAD) for Customs	Amount (Total)	83%	50%	80%	0%	0%	100%	75%	-	50%	100%	% Of Total Corridor Countries with SAD
One Stop Border Posts	Amount (Total)	1	1	-	1	-	-	-	-	-	-	According to Best Information available

Table 5: Institutional Factors Data

		A	B	C	D	E	F	G	H	I	J	
3. Institutional Factors (5%)	Units	North-South	Northern Corridor	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Note
Corridor Management Institution (CMI)/Secretariat	Existence (1=Yes/0=No)	0.5	1.0	-	1.0	0.5	1.0	1.0	1.0	-	0.5	According to Best Information available

Table 6: Infrastructural Factors

		A	B	C	D	E	F	G	H	I	J	
4. Infrastructural Factors (20%)	Units	North-South	Northern Corridor	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Note
% of good and fair roads along the corridor	% Road in good condition	79.97%	75.14%	74.84%	75.00%	80.00%	100.00%	85.65%	87.15%	79.02%	64.94%	% of Corridor Road in good or fair condition

5. Scoring and Ranking of the Ten Corridors

Using the data shown in section 4 above, the consultant scored each corridor according to either a ranking system comparing each individual corridor against the others or according to their own merit. The results of this scoring are shown in table 7-10 below.

From an **Economic perspective (50% of total score)**, it is shown that the North-South Corridor, linking the port of Durban to DRC via Zimbabwe and Zambia as well as Malawi via Zimbabwe and Mozambique, has the greatest potential to be selected as a pilot smart corridor. Due to the volume carried (both current and forecasted) and the number of countries served this corridor has the greatest economic impact. Second placed, due to the same characteristics, is the Northern Corridor. Addis- Djibouti corridor scores very highly due to the volume carried to/from Ethiopia via Djibouti port. Beira and Dar es Salaam corridors, whilst smaller in volume, link the same countries served by the North-South Corridor and are ranked 4th and 5th. The Abidjan to Lagos corridor is ranked last on this assessment mainly because it does not serve any land-locked countries.

In terms of **Trade Facilitation (25% of total score)**, the North-South Corridor and the Maputo Corridor have the advantage that they are located in the SADC region which facilitates trade through the use of Single Administrative Document for Customs processes. The Northern, the Central and the North-South Corridors all have at least one operating One Stop Border Post each. This enables them to score further points on this parameter. All Corridors have been scored in comparison with each other.

On **Institutional factors (5% of total score)**, five of the ten corridors have Corridor Management Institutions with varying degrees of power and management authority and capability. Three (3) corridors are planning to establish CMIs or have some level corridor coordination which entails discussions of corridor issues. Beira Corridor does not appear to be planning to establish a Corridor Management Institution (CMI) according to the information collected.

Finally, regarding the **infrastructure factors (20% of total score)**, only Maputo Corridor has very good road on its entire length. Abidjan-Lagos Corridor has the next best maintained roads giving it the second highest score. Dar Corridor also scored quite well on this parameter according to the information the consultant obtained. Sizeable investment has recently been made on the Djibouti corridor explaining its high score (4th place). The other corridors are hampered by some poor sections of roads, some of which are currently being rehabilitated. Rail infrastructure was not included in the assessment because it was not possible to obtain necessary information from the stakeholders to assess it.

Table 7: Economic Factor Score

	Economic Factor Ranking (50%)		A	B	C	D	E	F	G	H	I	J	
	Method of scoring	Maximum score possible	North-South	Northern	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Scoring
Volume of Traffic through the gateway port to all Transport Corridor Countries	Ranked	5.0	5.00	4.50	1.50	0.50	3.50	4.00	2.00	1.00	3.00	2.50	Ranked from highest to lowest (Highest Volume = 5 points, Lowest = 0.5 points)
Number of Landlocked Countries (LLCs) served by the corridor	Own Merit	10.0	10.00	10.00	8.00	8.00	4.00	4.00	6.00	-	6.00	4.00	Ranked as follows: 5 Land Locked countries (Max): 10 points, 4 countries: 8 points, 3 countries: 6 points, 2 countries: 4 points, 1 country: 2 points, 0 countries (Min): 2 points
Volume of LLCs corridor imports	Ranked	10.0	9.00	8.00	7.00	4.00	10.00	-	6.00	-	5.00	3.00	Ranked from highest to lowest Volume (Highest = 10 points, Lowest = 2 points, 0 if no traffic)
Volume of LLCs corridor export	Ranked	10.0	10.00	6.00	9.00	2.00	7.00	8.00	5.00	1.00	4.00	3.00	Ranked from highest to lowest Volume (Highest = 10 points, Lowest = 2 points, 0 if no traffic)
Volume of PIDA Corridor 2020 Forecasted LLCs Imports	Ranked	5.0	4.50	5.00	2.50	1.50	4.00	-	3.00	-	3.50	2.00	Ranked from highest to lowest Volume (Highest = 5 points, Lowest = 1 point, 0 if no traffic)
Volume of PIDA Corridor 2020 Forecasted LLCs Exports	Ranked	5.0	4.50	5.00	4.00	1.50	3.50	2.50	3.00		2.00	1.00	Ranked from highest to lowest Volume (Highest = 5 points, Lowest = 1 point, 0 if no traffic)
Number of capital countries connected	Own Merit	5.0	3.00	5.00	3.00	4.00	3.00	3.00	3.00	3.00	4.00	3.00	Ranked as follows: 5 countries: 5 points, 4 countries: 4 points, 3 countries: 3 points, 2 countries: 2 points
Total Score		50.00	46.00	43.50	35.00	21.50	35.00	21.50	28.00	5.00	27.50	18.50	
	Ranking		1	2	3	7	3	7	5	10	6	9	

Table 8: Trade Facilitation Score

	Trade Facilitation Factors (25%)		A	B	C	D	E	F	G	H	I	J	
	Method of scoring	Maximum score possible	North-South	Northern	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Scoring
Electronic National Single Window (NSW)	Own Merit	10.00	8.00	10.00	8.00	8.00	2.00	4.00	6.00	8.00	8.00	2.00	Ranked as follows: Score of 2.5: 10 points, Score of 2.0 :8 points, Score of 1.5 : 6 points, Score of 1 : 4 points, Score of 0.5 :2 points
Port Community System (PCS) or similar system (if no NSW)	Own Merit	5.00	2.50	0.00	0.00	2.50	0.00	2.50	2.50	5.00	0.00	0.00	Ranked as follows: 2 PCS: 5 points, 1 PCS: 2.5 Points, 0 PCS, 0 Points
Single Administrative Document (SAD) for Customs	Ranked	5.00	4.00	2.00	3.00	0.00	0.00	5.00	2.00	0.00	2.00	5.00	Ranked from highest % to lowest (Highest = 5 points, Lowest = 0.5 points)
- One Stop Border Posts	Own Merit	5.00	5.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	Ranked as follows: Existence of at least 1 OSBP: 5 points, No OSBP": 0 points
Total Score		25.00	19.50	17.00	11.00	15.50	2.00	11.50	10.50	13.00	10.00	7.00	
Ranking		-	1	2	6	3	9	5	7	4	8	9	

Table 9: Institutional Factors Score

	Institutional Factors (5%)		A	B	C	D	E	F	G	H	I	J	
	Method of scoring	Maximum score possible	North-South	Northern	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djamena-Bangui	Scoring
Corridor Management Institution (CMI)/Secretariat	Own Merit	5.0	2.50	5.00	0.00	5.00	2.50	5.00	5.00	5.00	0.00	2.50	Ranked as follows: Existence of CMI: 5 points, Planning of CMI: 2.5 points, No CMI/No planning": 0 points
Total Score		5	2.5	5	0	5	2.5	5	5	5	0	2.5	
Ranking	Ranking	-	6	1	9	1	6	1	1	1	9	6	

Table 10: Infrastructural Factor

	Infrastructural Factors (20%)		A	B	C	D	E	F	G	H	I	J	Scoring
	Method of scoring	Maximum score possible	North-South	Northern	Beira	Central	Djibouti	Maputo	Dar es Salaam	Abidjan - Lagos	Dakar - Niamey	Douala-N'djame na-Bangui	
% of good and fair roads along the corridor	Ranking	20.0	12.00	8.00	4.00	6.00	14.00	20.00	16.00	18.00	10.00	2.00	Ranked from highest to lowest (Highest = 20 points, Lowest = 4 points)
Total Score		20.0	12.0	8.0	4.0	6.0	14.0	20.0	16.0	18.0	10.0	2.0	
	Ranking	-	5	7	9	8	4	1	3	2	6	10	

6. Corridor Ranking and Results based on the Criteria

The assessment above shows that the North-South Corridor comes first on the Economic and Trade Facilitation Factors of the criteria. The largest number of countries this corridor serves as well as the volume currently transiting through it explains this result. The Northern and Dar es Salaam come next respectively largely due to the volume of traffic, the number of countries they serve and their relatively good road infrastructure condition. Maputo corridor scores highly on the good road infrastructure but lowly on number of LLCs served.

Djibouti-Addis Ababa corridor scores highly due to the volume going through the corridor, followed by the Beira corridor which is still to reach its full potential given its shorter distances to land-locked countries it serves compared to other corridors. The Central corridor, together with Douala-N'djamena/Bangui corridor, rank low due to the lower volume transported along these corridors as well as their relative low score on the road infrastructure assessment compared to the other corridor. Finally, the Abidjan-Lagos corridor does not serve any land-locked countries resulting in low ranking.

Final Ranking Results are shown below in Table 11.

Tableau 11: Final Ranking of Corridors

Rank	Corridor	Score Achieved
1	North-South	80.0
2	Northern	73.5
3	Dar es Salaam	59.5
4	Maputo	58
5	Djibouti	53.5
6	Beira	50
7	Central	48
8	Dakar-Bamako - Niamey	47.5
9	Abidjan - Lagos	41
10	Douala-N'Djamena-Bangui	30

7. Recommendations

From a technical point of view and based on the results above, the consultant recommends that the North South Corridor be selected as the pilot smart corridor. This is one of the longest and busiest transport corridors on the African continent involving seven countries and sixteen borders.

But there are critical preconditions for successful design and implementation of a pilot smart corridor that were highlighted at the Validation Committee meeting and also noted by the consultant. These preconditions are that there must be:

- a) Buy-in and commitment by the transport corridor countries for the design and implementation of a pilot smart corridor.
- b) Safety and security for working in the transport corridor countries both for the design and implementation;
- c) Demonstrable Transport Corridor Countries (TCCs) political will and commitment at the highest levels to implement WTO/RECs Trade Facilitation (TF) measures and to address corridor infrastructural and safety issues;
- d) A champion institution such as a CMI, REC, Joint Route Management Group/Commission identified to work with the consultant both in the design and implementation of the pilot smart corridor.

Failure to meet these conditions will disqualify a corridor irrespective of its score based on the criteria. This is because design and implementation of the smart corridor activities will not take place unless there is the buy-in and commitment by TCCs demonstrated by the appointment of persons or institutions with the necessary capacity and political clout to move things forward.

8. Conclusions

The consultant will start working of the design and costing of the North-South Corridor as the selected pilot smart corridor. However, the work will commence subject to the Validation Committee consideration of the recommendations and the preconditions discussed above.

ANNEXURE A: LIST OF DOCUMENT CONSULTED

Document name & author	Year
Border posts, checkpoints, and intra-African trade: challenges and solutions, AFDB	2012
2011 audit of the implementation of regional SADC customs instruments and international conventions, AECOM international development for USAID/Southern Africa SADC secretariat	2011
Study on programme for infrastructure development in Africa (PIDA): Africa's infrastructure outlooks 2040, Sofreco & co for NEPAD/AFDB and au	2011
Corridor diagnostic study of the northern and central corridors of east Africa, Nathan Associates Inc. For East African Community (EAC)	2011
State of infrastructure in east Africa, AFDB	2013
SADC regional infrastructure development master plan transport sector plan, Aurecon for SADC	2012
North – south corridor networks road conditions as of December 2012, Mandalagis for Trademark southern Africa	2013
Summary of cargo handled at ports of South Africa January - December 2015, Transnet National Ports Authority	2014
The competitiveness of ports in emerging markets The case of Durban, South Africa, the international transport forum	2013
Africa transport infrastructure planning, Transnet soc ltd	2015
EAC railways sector enhancement project – working paper: traffic analysis, CPCS prepared for the East African community secretariat	2014
Impact assessment of the northern corridor performance improvement activities, CPCS prepared for northern corridor transit and transport coordination authority (NCTTCA)	2015
Master plan on logistics in northern economic corridor - progress report no.1 Executive summary, NipponKoei co., ltd et co for japan international corporation agency (JICA)	2015
Plan directeur des infrastructures du corridor nord, louis berger prepared for l'autorité de coordination du transport de transit du corridor nord	2011
Quarterly port community charter report - northern corridor performance dashboard outline July- September 2015 prepared by the northern corridor secretariat	2015
Northern Corridor Integration Projects website on Single Customs Territory	N/A
The northern corridor trade and transport facilitation study on improving the use of COMESA facilitation instruments and strengthening the northern corridor stakeholders forum/national trade facilitation committees final report, POHL consulting and associates Prepared for permanent secretariat of the northern corridor transit and transport co-ordination authority (NCTTA)	2014
Border crossing monitoring along northern corridor prepared by SSATP	2013
Transport observatory report northern corridor transit and transport coordination authority prepared by the Northern Corridor Transit and Transport Coordination Authority	2015
2007 update survey of non tariff barriers to trade: Mozambique, Imani development international (ltd) for the regional trade facilitation programme	2007
Port of Beira statistics, Cornelder de Moçambique	2015
Porto of beira profile & directory, Cornelder de Moçambique s.a.	2016

Document name & author	Year
Transport observatory annual report 2015, Central Corridor Transit Transport facilitation agency	2016
The Djibouti corridor authority strategic plan 2017 – 2021 study report presentation, Gilbert m Maeti, consultant	2016
Competitiveness of Maputo as a Regional port, draft final version, Ecorys for Ministry of Transport and Communications of the Republic of Mozambique /World bank	2008
What drives regional economic integration? Lessons from the Maputo Development corridor and the north-south corridor, European Centre for Development Policy Management	2014
2007 update survey of non-tariff barriers to trade: Mozambique – final report, Imani Development International ltd for Regional Trade Facilitation Programme	2007
Reviving trade routes: evidence from the Maputo corridor, SSATP	2014
Annual report & accounts for the year ended 30 th of June 2014, Tanzania port authority	2014
Second infrastructure projects public-private dialogue forum, breakout session 2 , development of the Dar es Salaam port presentation, Ntandumathayo, strategic planning director, Tanzania Port Authority (TPA) George Wolf, senior director, Trademark East Africa	2015
24th road governance report UEMOA- survey results for the second quarter 2013 , borderless /CILS	2013
Assessment of the road condition along the Abidjan-Lagos corridor in line with the international roughness index (IRI) for 2014 – final report, Abidjan-Lagos corridor organization (ALCO)	2014
Logistics cost study of transport Corridors in central and west Africa Draft final, Nathan Associates Inc. For World Bank	2013
Projet de facilitation du commerce et du transport Sur le corridor Abidjan Lagos (PFCTAL), rapport de l'an 5 – rapport final, organisation du corridor Abidjan Lagos	2015
Trans African highway data march 2016 , unknown source	2016
Rapport statistiques 2013 synthèse, port autonome de Dakar	2013
La mise en œuvre du transit routier inter-état Dans l'espace UEMOA: le cas du corridors Dakar Bamako presentation Mr. Birame SidyKane, inspecteur des douanes, direction générale des douanes Dakar, Sénégal	2013
Ouagadougou–Bamako transport corridor logistics analysis using fastpath, Nathan Associates inc. For review by theUnited States Agency For International Development. (USAID)	2012
Répartition du trafic port en transit 2014, port autonome de douala	2014
Evolution et comparatif du trafic entre 2011 - 2014, port autonome de douala	2014
Programme de facilitation des transports et transit en zone CEMAC et a la CEEAC, Communauté Economique et Monétaire de l'Afrique Centrale, département des Infrastructures et du Développement Durable	N/A

ANNEXURE B: LIST OF ORGANISATIONS CONTACTED/VISITED

Name	Position	Organisation	City & Country	Communication method	Date
M. Lucky Mthethwa	Account Manager	Transnet – National Ports Authority	Durban, South Africa	Site Visit	March 2016
Albertina Sawoni	Compliance Senior Officer	SARS (Customs)	Durban, South Africa	Site Visit	March 2016
Arnaldo Manjate	Engineering Director	CFM (Railways and Ports)	Maputo, Mozambique	Site Visit	April 2016
Abdul Hassan Magide	Technical Advisor to Board	CFM (Railways and Ports)	Maputo, Mozambique	Site Visit	April 2016
Gaspar Floniquela	First Secretary	Mozambique Chamber of Commerce	Maputo, Mozambique	Site Visit	April 2016
Lucrecis Langa	Communication officer	Mozambique Chamber of Commerce	Maputo, Mozambique	Site Visit	April 2016
Armindo Monteiro	Economist	Mozambique Chamber of Commerce	Maputo, Mozambique	Site Visit	April 2016
M. Defacos	First Secretary	Head of Customs	Maputo, Mozambique	Site Visit	April 2016
Jan Laurens de Vries	Commercial Manager	Cornelder/Port of beira	Beira, Mozambique	Site Visit	April 2016
Anselmo Guila	Operations Director	Cornelder/Port of beira	Mozambique	Site Visit	April 2016
Peter Massi	Executive Director	Dar es Salaam Corridor Secretariat	Dar es Salaam Corridor	E-Mail	April 2016
Rukia D. Shamte	Executive Secretary	Central Corridor Transit Transport Facilitation Agency	Central Corridor	E-Mail	April 2016
Nozipho P. Mdawe	Secretary General	Port Management Association of Eastern and Southern Africa (PMAESA)	Dar es Salaam & central Corridor	E-Mail	April 2016
Edy K.ANTHONY	Spécialiste en Transport	Corridor SIDA	Lagos-Abidjan Corridor	E-Mail	April 2016
Dominique NGASSAKI	Chef de Service des Infrastructures	Commission de la CEMAC	Douala – Ndjamena/Bangui corridor	E-Mail	April 2016
Philip Wyllie	Regional Transport Consultant to SAAFF	The South African Association of Freight Forwarders	North-South Corridor	E-Mail	April 2016
M. Appiah& M. Maliki	Road Infrastructure and Safety	Ecowas	Dakar – Niamey Corridor	E-Mail	April 2016