Report

INFRASTRUCTURE COMPONENTS OF THE NORTH-SOUTH CORRIDOR

Prepared on behalf of the Tripartite Task Force by TradeMark SA

Sir Otto Beit Bridge between Zambia and Zimbabwe


North–South
Corridor
Transforming Regional
Infrastructure and
African Trade

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1. INTRODUCTION

1. Early on in its cooperation, COMESA, EAC and SADC decided that the Tripartite would replace the traditional project and national approach to transport corridor development with a regional approach. Traditionally, development and rehabilitation of surface transport infrastructure along all corridors has been done as separate and disjointed projects, and nationally not regionally. The Tripartite's North South Corridor (NSC) Aid for Trade Programme was designed as a transit and transport value chain and to address transport constraints in a sequenced and multi-modal way. The NSC programme comprises inter-related projects that address: road infrastructure; road transport facilitation; management of railway systems and rail infrastructure; physical and procedural improvements at border crossings; port infrastructure; management of air transport; and energy interconnectors.

2. The NSC programme was officially launched at a High Level Meeting held in Lusaka in April 2009. This report gives an overview of progress in implementing the NSC programme over the past two and a half years.

2. NORTH SOUTH CORRIDOR FINANCING ISSUES

3. At the NSC Financing Conference of April 2009, pledges of $1.2 billion were made for implementation of NSC and related projects:

- DBSA: US$1.5 billion in loans over 4 years for projects (under preparation and new) in the roads, ICT and energy sectors and a grant contribution to the Tripartite trust Account (TTA).
- UK-DFID: £33m technical assistance for the TradeMark Southern Africa programme in support of the Tripartite regional integration agenda and £67m grant funds for project investments channelled through the Tripartite Trust Account.
- World Bank: US$500 million loans specifically for infrastructure projects on the NSC and another US$500m in loans for other areas not related to infrastructure but supporting capacity building and overall economic development.
- African Development Bank: US$380 million loans for the NSC and US$160 million loans for the Nacala Corridor.
- European Union: €115 million in grants.

4. Detailed information on actual disbursements against the amounts pledged at the NSC Conference is not available to the Tripartite but the following information, as regards the disbursements to projects on the North-South Corridor, is known:

- DBSA: Has provided a grant of US$1m to the Tripartite Trust Account in five annual tranches of US$200,000. It has made loans to: the Kasumbalesa Border Post concessionaire of US$20m; to the Government of Zimbabwe to upgrade sections of the NSC road they are responsible for; and to sponsors of power projects.
- UK-DFID: Has disbursed a grant of GBP67 million to the Tripartite Trust Account; grants for construction and modifications of buildings and improved communications at Chirundu border post and funds to prepare projects to a Project Implementation Memorandum (PIM) stage. This is in addition to the technical assistance support provided through TradeMark Southern Africa to the administration, monitoring and planning aspects of the North-South Corridor.
- World Bank: Has financed a number of road section rehabilitations in Zambia and are planning to support NSC

- African Development Bank: Has continued to finance the preparation of the bridge design and related infrastructure designs at the Kazungula Border Post and are financing road rehabilitation of some sectors on the Nacala corridor that are also part of the North-South Corridor Aid for Trade Programme.
- European Union: Has, through the IRCC EDF Contribution Agreement provided €10m in project preparation funds for the Serenje-Nakonde road in Zambia and the Zambia-Tanzania-Kenya interconnector (to finance the PIU and transaction adviser); €50m in grants to support infrastructure improvements; and are financing road rehabilitation of some sectors on the Nacala corridor that are also part of the North-South Corridor Aid for Trade Programme.

5. In addition to commitments and disbursements of these pledges, other financiers, particularly from China, have provided loans for infrastructure rehabilitation and, in the case of power generation, new projects.

6. The conclusion from a number of studies by the International Financial Institutions (IFIs) and NEPAD is that Africa's economic development and integration is critically dependent on rehabilitation of existing infrastructure and on building new infrastructure. The World Bank's Africa Infrastructure Country Diagnostic for the COMESA region estimates that achieving regional integration for Eastern and Southern Arica would require sustained spending of US$5.5 billion a year on regional infrastructure. To meet these funding requirements for upgrading the continent's infrastructure, funding will have to be sourced not only from governments and the donor community but also from the private sector.

7. However, transport infrastructure projects remain unattractive for private sector investors, at least in the short term, due to inadequate regulatory environments, low returns on infrastructure investments and other factors reducing the financial viability of these projects. The implication for the NSC road network is that it perpetuates reliance on governments and donors/IFIs in the short term, while it also does not guarantee sufficient levels of investments for keeping the NSC road network in a fair to good condition. The results of a recent study[1] indicate that many African countries are experiencing substantial deficits in infrastructure maintenance funding, despite substantial inflows of official development aid. The low-income, politically fragile group of countries is worst off in this regard.

8. Since the NSC High Level Conference, some NSC countries have made progress in establishing regulatory frameworks for Public-Private-Partnerships (PPP). Zimbabwe has introduced the tolling of roads to supplement public sector funding for road maintenance. Zambia has passed a PPP Act and established a PPP Unit within the Ministry of Finance and Economic Development.

9. Although these developments are positive, a sustainable and long-term solution to financing infrastructure on the NSC requires a regional approach and actions, recognising that the NSC is regional infrastructure for the benefit of all. For example, the road from Nata to Kazungula in Botswana, as an integral part of the NSC road network, is being upgraded from what may be termed a tourist road (single lane, narrow lanes and calcrete base) to a dual carriage road with wider lanes and hard shoulders that are designed to take heavy goods traffic (56 ton GVM, seven axle trucks) that transport goods mainly to and from the DR Congo and Zambian Copperbelt to Gauteng. The main beneficiaries of this section of the NSC road could be considered to be exporters and importers in Zambia and DR Congo but Botswana is expected to finance reconstruction of the road and pay for its maintenance, with some contributions from fuel tax receipts and road user charges.

10. The Tripartite is working on proposals[2] to finance this regional infrastructure through region-wide revenue sources, regional instruments and / or regional mechanisms, but these proposals need to be championed politically.

11. Currently, the Tripartite Trust Account is the Tripartite's only regional financing mechanism for infrastructure investment. It has been operational for almost 2 years. The Account manager is the Development Bank of Southern Africa (DBSA) and the Investment Committee comprises representatives from the COMESA, EAC and SADC Secretariats (with the Chair being the Chair of the Tripartite Task Force), DFID, DBSA (as donor and Account Manager) and TMSA (as acting secretariat to the TTF). Financing has come from DFID (with an initial tranche of GBP67 million) and DBSA (US$1 million over 5 years). No other donor has contributed to the TTA, but this may be because: potential contributors

1 "Africa's Transport Infrastructure" by Ken Gwilliam (published March 2011)

2 See paper presented to the COMESA Summit of Heads of State and Government in Malawi in October 2011 entitled "Financing Regional Integration in COMESA – A Concept Note".

are waiting to gauge success of the TTA before committing financing, the Trust Account is perceived to have restrictive entry and exit requirements or, simply because some donors prefer to create new mechanisms for channelling their funds to regional infrastructure. Better donor coordination and tackling regional infrastructure within a programme context may be compromised by perpetuating the traditional way of working on discrete projects / activities and according to unique donor requirements.

12. Implementation of a common funding framework together with other aspects such as corridor performance monitoring system would be critically dependent on formalisation of the NSC institutional and cooperation arrangements. Some progress was made in 2010 in establishing these but this progress stalled in 2011.

13. In 2010 the Ministers responsible for the NSC met in Harare to review progress on the implementation of NSC projects. The Ministers, inter-alia, recommended establishment of institutions to provide oversight and co-ordination of projects and activities on the NSC. Since then technical experts have met to develop the Memorandum of Understanding (MoU) for corridor co-ordination and management and it was expected that the MOU would be signed during the latter half of 2011.

14. However, due to a lack of consensus among the NSC countries on aspects of the management Committee funding instruments, the MoU has not been signed and the Committee is not as yet operational.

15. The Tripartite is building a pipeline of projects for presentation to potential financiers and funding agencies. In order to build institutional capacity the Tripartite Task Force has established a Project Preparation and Implementation Unit (PPIU) in Lusaka, Zambia, with initial financing by TradeMark Southern Africa (TMSA). Personnel have been recruited through regional tenders, offices have been secured and equipped and the PPIU has started work on the PPIU GIS database.

16. The main functions and responsibilities of the PPIU, as determined by the Tripartite Task Force, are as follows:

- Working with the REC Secretariats and other relevant bodies and programmes to identify a corridors-based infrastructure project pipeline;
- Preparing project identification sheets for TTF approval and then assisting project preparation facilities with detailed project preparations;
- Following up and monitoring project preparation by the main project preparation facilities;
- Designing and implementing small projects;
- Working with the Tripartite Trust Account Investment Committee and the Fund Manager on TTA project preparation, monitoring and implementation; and
- Monitoring other corridor infrastructure projects.

17. It is envisaged that the PPIU will remain in constant contact with the TTA Fund Manager to:

- Facilitate project appraisals and submissions;
- Cooperate in project implementation, supervision and monitoring; and
- Deal with any issues with regard to the responsibilities of the fund manager so as to ensure smooth project processing and implementation

18. The PPIU's functions will, furthermore, include advocacy (to ensure stakeholder ownership and ensure a continuous flow of project proposals); collecting information from Member States on their Infrastructure development strategies and policies with a view of harmonising project implementation; capacity building and training; harmonising implementation of regional projects; facilitating project origination, identification, preparation and implementation; facilitating the creation of an enabling environment in the implementation of cross-border projects; and facilitating the preparation of Project Information Memoranda (PIMs).

19. The immediate priority of the PPIU is to develop the project pipeline for financing, by creating and populating the PPIU GIS database. This PPIU GIS database has used, as its starting base, projects identified by Tripartite countries during the preparation of the COMESA-EAC-IOC-IGAD Transport and Communications Sectors Priority Investment Programme (TCS/PIP) and the SADC Regional Infrastructure Master Plan. The immediate priority of the PPIU is to update all of the project datasheets that comprise the PPIU's GIS database. After completion of a project data sheet, it is envisaged that teams would be deployed to develop projects, which have a positive economic rate of return. Project Implementation Memorandums (PIM) would be developed for new projects or a Financing Proposals and Tender Documents in the case of rehabilitation projects.

4. ROAD NETWORK

20. With current costs, tariffs and efficiencies, road transport is the most economical mode of transport in Sub-Saharan Africa and, as such, is the most important mode of transport along the North-South Corridor, with over 95% of goods being transported by road. Despite this fact, except for a few sections - mainly in South Africa, the total costs of road maintenance and rehabilitation cannot be borne solely by the user. With a 20 year cost recovery period and a toll of US$0.03-US$0.06 per vehicle kilometre, there should be a minimum of 13,000 to 15,000 vehicles per day on the road to cover the full costs of tolling and road maintenance and very few sections of the NSC have this level of traffic.

21. Given the relative importance of road transport compared with rail, a comprehensive assessment was done to review the condition of the NSC road network. The entire NSC road network outside of South Africa (8,600km) was physically inspected[3] and the state of roads was categorised into those in need of immediate attention (red category); those requiring attention in 2-5 years (amber category); and those in good condition and which required no more than routine maintenance in the medium term (green category). This assessment of the entire NSC road network (outside of South Africa) enabled the Tripartite to identify major bottlenecks in the NSC road infrastructure. This suggested a strong focus on the immediate need to rehabilitate the red category roads. The assessment concentrated on utilising the existing infrastructure more efficiently and did not suggest the need to build any new roads.

22. Following the physical inspection of roads, an HDM-4 analysis was done by the University of Birmingham for NSC roads that treated the road network as one network, and which included an assessment of the benefits of reforming border posts along the corridor. This analysis generated an economic rationale of upgrading and maintaining the entire NSC road network to a good condition, coupled with improvements at the border posts that would result in a 50% reduction in crossing times, for a 20 year period and concluded that the costs of upgrading and maintaining the entire road network (excluding South African roads[4]) was US$6.9 (of which US$4.5 billion is for capital investment and US$2.4 billion is recurrent costs) with an internal rate of return of 3.6. The economic rationale of upgrading and maintaining the NSC road network is, therefore, clear.

23. The GIS map (www.tmsagis.co.za) plots all the road sections by category (red, amber, and green). As at November 2010 (the last time a full physical inspection of the NSC road network was done on behalf of the Tripartite), the 8,600 km of road network across 7 countries was comprised of:

- 2,403 km of good roads;
- 5,156 km of roads in good or fair condition, but in need of upgrading or rehabilitation in the next 2-5 years; and
- 1,041 km of roads in need of immediate rehabilitation or upgrading.

24. Progress is as follows:

- Sections of the Mbeya-Dar es Salaam road (152.4 km) are being rehabilitated with finance from Danida.

3 This also included visiting national Road Agencies and Government Departments responsible for national road networks and collecting relevant information on the NSC trunk road network, including HDM-4 information.

4 The costs of rehabilitating and then maintaining the entire NSC road network including the South African NSC road network to a good standard was calculated as US$9.1 billion (of which US$5.9 billion is for capital investment and US$3.1 billion is recurrent costs) with an internal rate of return of 3.1.

- The Serenje–Nakonde road of 613km has finance ($5m) for design from a Contribution Agreement under the EDF10. Total construction costs are expected to be approximately US$600 million, for which finance is required.
- The Kitwe–Chingola road (50km) is being considered as a Public Private Partnership (PPP). The Government of Zambia is yet to identify the most appropriate form of PPP arrangement.
- Two of the three links of the Lusaka-Chirundu road (from Lusaka, 65.6km) will be financed by the World Bank. Designs have been completed and tenders issued (in May 2011) for construction. The reconstruction of the last link (from Lusaka) of the Lusaka-Chirundu road of 25km (together with the rehabilitation and upgrade of the Kafue weighbridge) is in the process of being financed through the Tripartite Trust Account and will shortly be tendered for construction. Together with the completion of the road link down the escarpment (which was completed by a Chinese contractor in 2009) when construction of these additional three links are completed the entire Lusaka – Chirundu road section will have been upgraded.
- A 135 km section of the Nata-Kazungula road is under construction financed by the Government of Botswana.

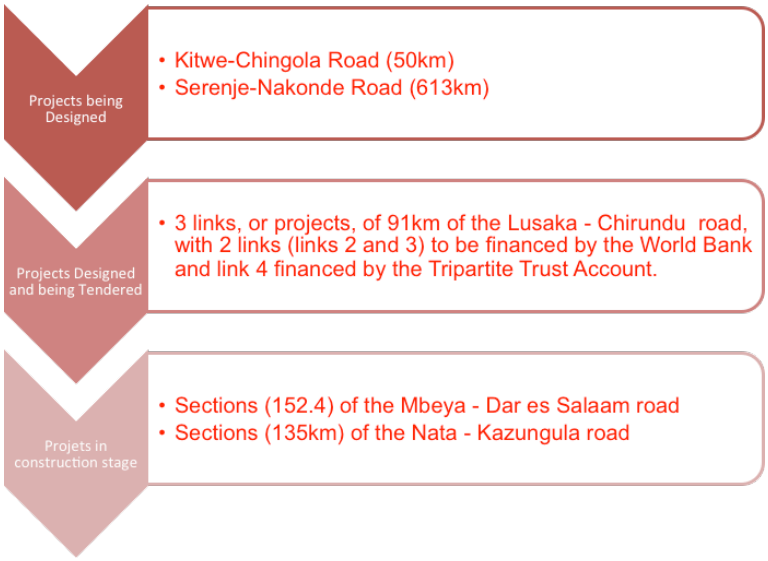


Figure 1: Current stages of Implementation of the Category Red Roads

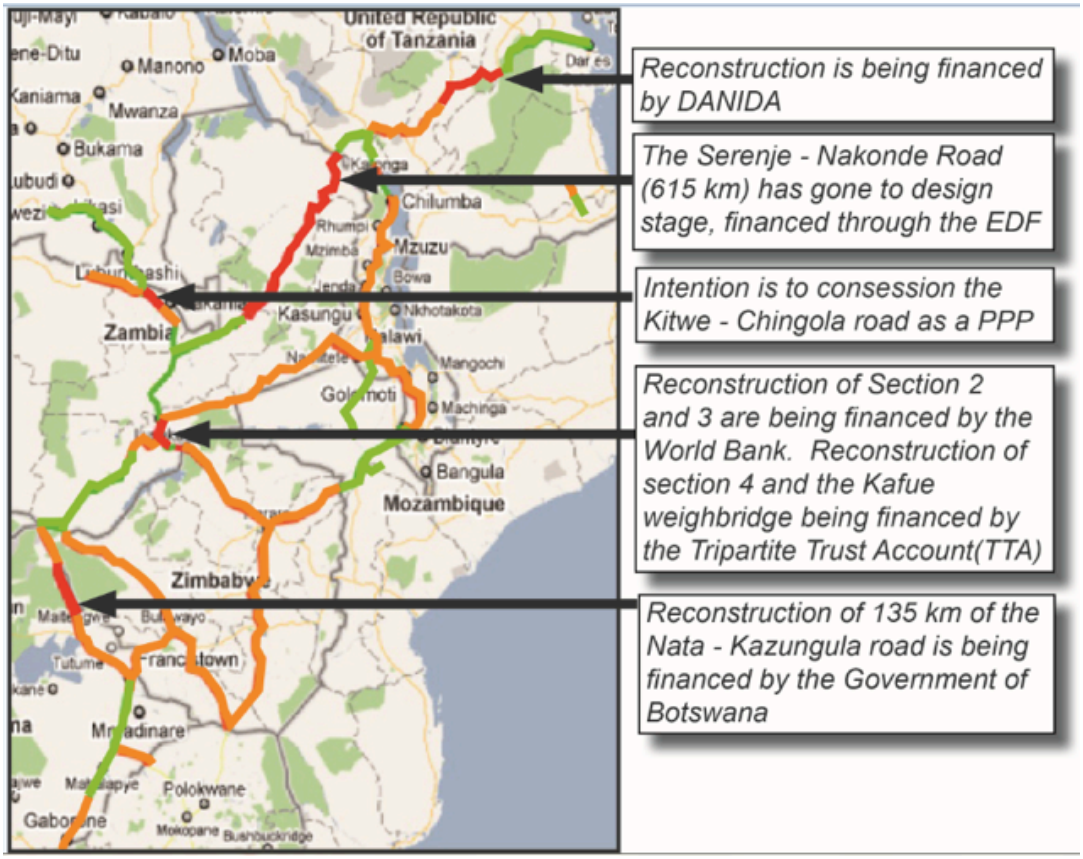
25. Table 1 shows that 1,041 km of category red roads, comprising seven road links, are either being prepared for upgrading and/or rehabilitation, or construction is underway. The Table also shows that the 1,041km of road that were identified in November 2010 as being category red roads are in the process of being rehabilitated, being either in the design stage or the construction stage. To accelerate progress in addressing these red category roads, funds for reconstructing the Serenje-Nakonde road need to be secured soon, and PPP arrangements for Zambian roads need to be finalised.

Table 1 – Progress on Implementing North South Corridor Road Projects

Stages of Projects*	Status of NSC Roads in Nov 2010					
	Red		Amber		Green	
	No	Kms	No	Kms	No	Kms
Projects identified by sponsor but with no or insufficient documentation	1	50	15	1,549	0	0
Projects in preparation or ready for financing	1	613	3	260	0	0
Projects close to being financed	3	91	4	176	0	0
Projects financed and being implemented	2	287	0	0	0	0
Projects requiring no immediate action	0	0	0	3,171	0	2,403
Totals	**7**	**1,041**	**20**	**5,156**	**0**	**2,403**

*Note: - All projects are for road re-construction or major repair

Figure 2 – On-going work to rehabilitate the 1,041km of roads on the North-South Corridor in urgent need of rehabilitation (as at November 2010).



26. Table 2 shows that between 2008/9 and 2010 sections of the road network (e.g. Serenje-Nakonde) have deteriorated (amber to red or green to amber) and for others conditions have improved (red or amber to green)

27. Taking these recent changes into account, Table 2 shows 487 km of previously red category roads have been repaired:

- 400 km improved in southern DR Congo now believed to be in good to fair condition and a shift from red to amber/green; and
- 87 km in Zambia (from Zimba to Livingstone) reconstructed, representing a movement from red to green

Table 2: Change in Status of the NSC Road Network from 2008-9 to 2010[5]

Movements of Project Status over Time	2008-9 to Nov 2010
Movement from Red to Green	487
Movement from Amber to Green	502
Movement from Green to Amber	1,402
Movement from Amber to Red	753
Remained Green	1,414
Remained Amber	2,947
Red in 2008-9 and Amber or under construction in 2010	352
Unclassified in 2008-9 and Amber in 2010	743
Total	8,600

5. Note that every section cannot be compared to every other section as some road links (a total of 626km) were not surveyed in 2008-9 and were surveyed in 2010.

28. In addition, 352 km of roads categorised as red in 2008-9 are now amber or under construction, these sections being:

- 135km between Nata and Pandamatenga in Botswana under construction;
- 64km between Nata and Pandamatenga in Botswana now as Amber; and
- 153km between Iringa and Iyovi (between Mbeya and Dar es Salaam under construction.

29. In conclusion, as regards the NSC road network:

- 487km of road that were classified as red (so in urgent need of reconstruction) in 2008-9 have now been repaired or reconstructed and are now classified as green.
- 1,041km of road that were classified as red in November 2011 are now either in the process of being designed, or have gone to tender for a rehabilitation contract, or are being reconstructed.
- 3 road links (260km) that are classified as amber are considered to be ready to be implemented as reconstruction projects at an estimated total cost of US$551 million.
- 4 road links (176km) that are classified as amber are considered to be at a stage where they are close to being financed in that they only require updates to the design to be made.
- 15 road links (1,549kms) that are classified as amber have been identified by Project Sponsors but have insufficient information to be considered for funding.

5. BORDER POSTS

30. From the initial scoping study done for the NSC Aid for Trade programme, and assessments of costs of regional transport done by a number of IFIs, it is clear that the high costs of transport along the NSC can be attributed to the costs associated with crossing borders (operating costs such as the price of fuel and depreciation of transport equipment are excluded from these calculations). Border crossing costs relate to delays at borders. Conventional wisdom suggests that if border crossing delays could be reduced, then the costs of transport along the NSC could also be reduced.

31. The most effective way to reduce border post delays is to make the procedures at borders more efficient, including through reviewing and redesigning customs and immigration procedures. The infrastructure cost component of border post improvements on the NSC is closely related to the infrastructure improvements or modifications needed to make the border posts operate more efficiently and so to reduce the time taken to cross a border.

5.1 CHIRUNDU ONE STOP BORDER POST

32. The Chirundu border crossing opened as Africa's first OSBP in December 2009. After only one year in operation, following initial procedures, waiting times have been reduced by an average 50% (from 3 days to same-day clearance) for freight transport and 83% (from 3 hours to 30 minutes) for passenger transport. A border monitoring mechanism is being piloted at Chirundu and results are promising. Further reduction in crossing times is possible by changing procedures and making additional improvements, e.g. a study to examine the feasibility of extending opening hours has been completed and a proposal is being finalised.

33. It is possible to improve communications between the Zambian and Zimbabwean sides of the border.

- A contract with a private sector company to lay a fibre optic cable between Zambia and Zimbabwe sides of the border was awarded to Liquid Communications and fibre has been laid to connect all points on the Zambian and Zimbabwean sides of the control zone. However, the commissioning of the fibre has been delayed for months owing to the fact that the Government of Zimbabwe will not authorise Liquid Communications to lay a fibre across the bridge to link the two sides of the control zone.
- Documents for a request for proposals for the rehabilitation of the Sir Otto Beit bridge have been prepared.
- Requests for Proposals for computerisation of the Zambia Immigration department have been issued and it is expected that the contract for this will be awarded in early 2012.
- Improvements will be made to signage as part of the implementation of the Link 4 contract.

5.1 BEITBRIDGE BORDER POST

34. The Beitbridge border crossing handles significant numbers of trucks, averaging about 470 per day and about 800 passenger vehicles per day. The Tripartite prioritised Beitbridge as the next border post to work on following the succes at Chirundu, in terms of alleviating congestion. A stakeholders' workshop was convened at Beitbridge in May 2009 and subsequent meetings of stakeholders have developed the Beitbridge Efficiency Management System (BBEMS) with a work programme that is anchored in the COMESA-EAC-SADC Tripartite work programme. However, programme implementation is significantly behind schedule due to differences in policies and approaches to border management.

35. In the meantime, Zimbabwe has concessioned its side of the border to a private sector company who is expected to upgrade parking areas, roads, fencing, the existing border post main building and staff accommodation. The concessionaire has also made a proposal to either expand the existing bridge across the Limpopo to 4 lanes and/or construct a new bridge. It is understood that the estimated cost for these improvements is about US$90m with the concessionaire to toll all trucks entering and exiting the Beitbridge control zone. However, by the end of 2011 the works appeared to be very far behind schedule and there was no indication of the concessionaire having been on site.

5.3 NYAMAPANDA/CUCHIMANO AND FORBES/MACHIPANDA

36. Facilities and infrastructure at Forbes/Machipanda and Nyamapanda/Cuchimano are no longer adequate to handle the current levels of traffic passing through the border posts. Zimbabwe has prepared improvement plans for both Forbes and Nyamapanda that have been ready since 2005 but have not been implemented. The improvement plans envisage the expansion of the border control area and building of additional facilities and infrastructure. The existing Forbes border post building is currently under renovation and expansion to accommodate commercial office and increasing space in the travellers' clearance hall. On the Mozambique side construction of the dry port between Machipanda and the town of Manica along the Beira Corridor is taking place. ICT connectivity and systems interface, water and electricity supply require upgrading. There is critical shortage of staff accommodation. Customs formalities are computerised and two different customs management systems are used, with Mozambique using TEAMS while Zimbabwe uses ASYCUDA World.

5.4 KASUMBALESA

37. This is the busiest border crossing between Zambia and DR Congo, with about 500 trucks crossing per day, and almost all exports out of, and imports into, southern DR Congo transit through this border post. The border post was designated as a one-stop border post but the recent improvements made have not followed a one-stop border post design. The border is still operating as a traditional two-stop border post and there are no known plans to change the way the border post operates. The Government of DR Congo, using its own resources and with assistance from the international community, has constructed a new border post on the DR Congo side of the border, situated about eleven kilometres into the DR Congo from the actual border barrier with Zambia. Investments in infrastructure have also taken place on the Zambian and DR Congo sides of the border through a Public-Private-Partnership with a foreign investor. The concessionaire charges rates/tariffs for the use of the new border post facilities (on both sides – about USD230 for a single crossing for a seven-axle truck), whether south or north bound, loaded or empty.

5.5 KAZUNGULA

38. Kazungula is the border post between Botswana and Zambia on the NSC. It is used mainly as an alternative to the Beitbridge-Chirundu route from South Africa to the Copperbelt. The African Development Bank has financed a study that has as its outputs improvements in trade facilitation, the design of a one-stop border post between Zambia and Botswana and the construction of a bridge. Crossing the Kazungula Border Post is currently done by a ferry. A bridge is justified on grounds that the ferry moves about 30 trucks per day, which is slow and accident prone, contributing to delays and high transport costs. All reports concerning the Economic Feasibility and Detailed Design studies of the Kazungula Bridge, Border Facilities, and Corridor Facilities have now been completed and adopted by the Governments of Botswana and Zambia. The Study proposes the construction of a 923 metre-long cable-stayed road-rail bridge; 3km of approach roads and railway lines; and one-stop-border posts facilities. The total estimated cost of the physical components and project management is US$220 million including contingencies and allowance for resettlement and taxes. The estimated construction period for the bridge and approach roads is 48 months. A construction period of 28 months, which will be within the 48 months, has been estimated for the border facilities. The Project will be moving to the next phase of implementation in 2012. The Governments of Botswana and Zambia will host a Donor round table conference to solicit funding for implementation of the project resulting from the Study.

5.6 NAKONDE/TUNDUMA

39. This border between Tanzania and Zambia is a very busy border with heavy road traffic congestion. Customs operations of both administrations cover both road and rail traffic on the TAZARA railway jointly owned by Zambia and Tanzania. On the Zambian side of the border (Nakonde) a new integrated office infrastructure was being constructed by a Chinese firm and financed by the Government of Zambia. However, these works have now stopped and the buildings were handed over to the same concessionaire which was awarded the concession at the Kasumbalesa border post. The costs of improvements on the Zambian (Nakonde) side of the border are not known (nor are the plans for what improvements are to be made) but the estimated costs of the physical improvements at the Tunduma (Tanzanian) Border Post are about US$14.6 million.

5.7 MCHINJI-MWAMI

40. The Mchinji-Mwami border post, between Malawi and Zambia, close to Chipata, is not a busy border post, with about 80 trucks and 3 buses a day at its peak. The buildings on the Zambian side (Mwami) were built in 1976 and the Government of Zambia is planning an integrated medium sized office complex at Mwami that is to be designed as a One Stop Border Post. The proposed design is for a combined passenger control and freight terminal with offices for Customs, NECOR and Immigration and parking spaces for buses, trucks and passenger cars. The office buildings at Mchinji are relatively new, having been constructed in 2005, using EDF financing. These new offices were constructed about 100 metres from the border so moving the buildings about 12 kilometres closer to the border. Although this facilitates the operation of an OSBP, the new buildings are not considered ideal for the operation of a one stop border post, mainly because of the very limited space available. It is expected that the border will also cater for the clearance of goods that may use the railway line from Chipata to the port at Nacala in Mozambique (or the port of Beira once the southern Malawi railway link has been re-opened).

5.8 KATIMA MULILO/WENELA

41. This is the border between Zambia and Namibia. On the Zambian side (Katima Mulilo) the existing infrastructure is considered to be inadequate for the operations of an OSBP. New construction of offices was completed in 2010 but, as the contractor has yet to be paid, they are not occupied. On the Namibian side (Wenela) the new offices were opened and occupied in December 2009. Two new scanners have been installed and are operational. The Clearing and Forwarding agents operating at Wenela are housed in containerised offices situated just outside the main office complex. If this border post were to be upgraded into an OSBP, Namibia would need to pass legislation allowing extraterritorial authority for purposes implementing an OSBP system. In addition, modifications to the infrastructure may be needed.

5.9 RESSANO GARCIA – LEBOMBO

42. The Ressano Garcia – Lebombo border post on the Maputo corridor between South Africa and Mozambique was designated as a one-stop border post by the two countries more than 15 years ago but progress has been slow. South Africa pledged R600,000 for the construction of new passenger and freight terminals at the border and Mozambique also pledged a contribution, and drawings were prepared but construction has not been according to the original plans. However, congestion at the border has been reduced as a result of improvements in traffic flows following separation of commercial and non-commercial traffic. Commercial traffic is now being cleared at KM4 (Mozambique) and KM7 (SA) with clearance being jointly undertaken only in the country of entry. The existing border facilities, which have been modified, are now servicing private vehicles, buses and coaches and a separate pedestrian facility has been built and is

operational. In addition, a generic draft of an enabling legal framework that will form the basis for developing an OSBP Act has been prepared and the draft has been signed off by the South African and Mozambican government officials. The draft legal framework is being considered by SA Cabinet and once approved it will be ratified together with the Bilateral Agreement. An Operating Model was also prepared.

43. In conclusion, the main constraint faced by the Tripartite in implementing a programme of interventions at the border posts was the decision of the previous Government of Zambia to concession most of the border posts to a private operator[6]. Concessioning in itself is not a cause for concern in terms of improving efficiencies in procedures, but the responsibilities of the concessionaire are not clear in the existing concession agreement for Kasumbalesa.

44. When the new Government of Zambia assumed office power in September 2011 one of the first things it did was to establish a Commission of Enquiry into Zambia Revenue Authority. The Terms of Reference of this Commission included an examination of the concessioning of border posts. The Commission of Enquiry reported its findings by mid-December 2011. Once these findings have been made public and decisions of Government are known, it is hoped to get this border post programme on the NSC back on track.

45. Table 3 gives summary details of the projects being implemented at various border posts on the NSC.

Table 3 – Infrastructure Projects at Border Posts on the North South Corridor

Border Post	Project Description	Funding US$	Source	Funding Gap
Chirundu	A contract with a private sector company to lay a fibre optic cable between Zambia and Zimbabwe to improve communications was awarded. The contract will be finalised when approval from the Government of Zimbabwe is granted to bring the fibre across the bridge so that the two halves of the control zone can be connected.	20,000	TMSA	0
	A contract has been signed with Liquid Telecommunications to link the fibre with the main fibre going to Lusaka from Chirundu.	Contract arrangement between ZRA and LT	TMSA and ZRA	0
	Documents for a request for proposals for the rehabilitation of the Sir Otto Beit bridge have been prepared and Requests for Proposals are being prepared.	1,000,000	TMSA	0
	A tender for the computerisation of the Zambia Immigration department has been prepared and the tender issued, with proposals being expected to be available for appraisal in January 2012.	500,000	TMSA	0
	Improvements are being made to signage as part of the Link 4 works contract	75,000	TMSA and TTA	0
	Discussions with the Zimbabwean and Zambian Revenue Authorities have commenced on how to develop and implement a community platform at Chirundu.	1,000,000	TMSA	800,000
	A study on lincreasing opening times of the border has been completed but no decisions have been made as yet.	30,000	TMSA	0

6 The border posts in Zambia that are being considered to be concessioned to the same concessionaire are Kasumbalesa (border with DR Congo), Nakonde (border with Tanzania) Mwami (border with Malawi), Kazungula (border with Botswana) and Katimo Mulimo (border with Namibia)

	Improvements to the air conditioning system, water reticulation system, staff housing, fencing and lighting will be required to allow an extension of the border operating times.	TBD	TBD	TBD
Beitbridge	Zimbabwe has concessioned its side of the border to a private sector company who is expected to upgrade parking areas, roads, fencing, the existing border post main building and staff accommodation. However, at the end of 2011 it would appear that the performance of this contract is significantly behind schedule.	N/A	Private	0
	The concessionaire has also made a proposal to either expand the existing bridge across the Limpopo to 4 lanes and/or construct a new bridge	N/A	Private	0
	After an encouraging start, implementation of the Beitbridge Efficiency Management System (BBEMS) has stalled	TBD	TMSA	0
Nyamapanda Cuchimano & Forbes Machipanda	Zimbabwe prepared improvement plans for both Forbes and Nyamapanda in 2005 but these plans have not been implemented or costed. These plans envisage the expansion of the border control area and building of additional facilities and infrastructure.	TBD	TBD	TBD
	The existing Forbes border post building is under renovation and expansion to accommodate commercial offices and increasing space in the travellers' clearance hall.	TBD	TBD	TBD
	On the Mozambique side construction of the dry port between Machipanda and the town of Manica along the Beira Corridor is taking place.	TBD	TBD	TBD
	ICT connectivity and systems interface, water and electricity supply require upgrading.	TBD	TBD	TBD

Kasumbalesa	The Government of DRC, using its own resources, and with assistance from the international community, has constructed a new border post about eleven kilometres into the DRC from the border barrier with Zambia.	N/A	DRC, France, EDF	0
	Investments in infrastructure were done on the Zambian side of the border through a Public-Private-Partnership with a foreign investor.	25,000000	Concessionaire	0
	Investments in infrastructure have also taken place on the DRC side of the border through a Public-Private-Partnership with a foreign investor.	N/A	Concessionaire	0
Kazungula	Construction of: a 923 metre-long cable-stayed road-rail bridge; 3km of approach roads and railway lines; and one-stop-border posts facilities.	220,000,000	TBD	220 million
Nakonde Tunduma	On the Zambian side of the border (Nakonde) a new integrated office infra-structure was being constructed by a Chinese construction firm and financed by the Government of Zambia. However, these works werestopped and the buildings handed over to the concessionaire.	N/A	Private	TBD
	Physical improvements at the Tunduma (Tanzanian) Border Post are estimated to cost about US$14.6 million.	14,600,000	Partly financed by TMEA	TBD
Mchinji-Mwami	Government of Zambia is planning an integrated medium sized office complex at Mwami that is to be designed as an OSBP. The proposed design is for a combined passenger control and freight terminal.	TBD	TBD	TBD

8. RAILWAYS

48. Most of the railway systems in eastern and southern Africa (ESA) are not functioning as they should. This is corroborated by evidence from their budgets and performance indicator achievements. They are extremely unreliable, with high accident and failure rates. Their operating costs are high and volumes of goods transported are low compared to that transported by road in that about 5% of regional traffic volumes (excluding South Africa) travel by rail. They are loss making institutions, spending income on salaries and fuel and leaving inadequate funds for maintenance and repair of both infrastructure and equipment.

49. The railways thus continue to deteriorate, lose customers, and are increasingly unable to attract the necessary funding required to return to competitive levels of reliability. It can be safely said that that the traffic volumes and income have fallen below that required for sustainable operations and that railway systems, outside of South Africa, in their present state and condition, are not financially viable. On average traffic and income levels would have to increase by three to four times if financial viability and a sustainable level of operations are to be achieved.

50. The reasons for the decline of the regions' railways have been well documented and are as a result of a lack of investment in the railways and poor management, coupled with the rise in importance of the road sector which has received high levels of public sector investment and subsidies[7]. The road sector has been deregulated, compared to the rail sector, and this, coupled with advances in technology, has allowed road transport to carry higher payloads at lower costs. This has introduced competition between service providers in the road sector and between the road and rail sectors. The road sector is now much more competitive than the rail sector so the railways have lost traffic and business to the road sector leading to a decline in railway revenue, resulting in deferred maintenance, leading to further unreliability, loss of capacity, further loss of business and revenue and a spiral of decline.

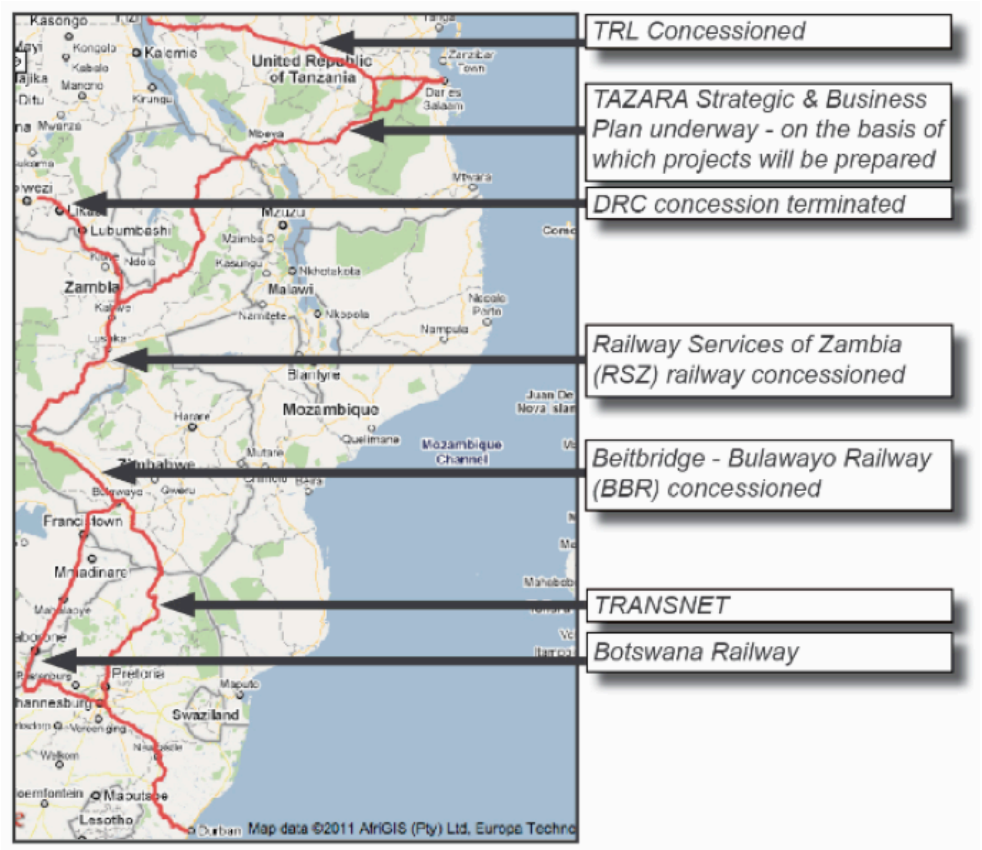


Figure 3 – North South Corridor Regional Railway System and Links

51. The region's governments responded to this crisis mainly by concessioning the railways to private sector operators – one for each railway system. Concessioning has taken place throughout the Eastern and Southern Africa region, including in Mozambique, Malawi, Zambia, Zimbabwe, Kenya, Uganda, and Tanzania[8]. However, the process of privatisation of railway systems through long term concessioning was in many cases flawed. The process took much too long, during which time there were no provisions for funding, the agreements were generally weak and the choice of concessionaire was often poor in that there was a lack of serious bidders with the appropriate skills and resources.

52. After many years of neglect of the railways, governments and other stakeholders have shown a renewed interest in the railways and efforts are being made to explore ways of how best to revive the railway systems so that they are part of a more efficient multi-modal transport system and take the pressure off the road transport sector. The road sector itself is now at a stage where it is having difficulty in meeting all of the region's surface transport needs, resulting in high wear and tear on the road network, and associated high costs of road rehabilitation and maintenance and congestion,

7 In most sub-Saharan African countries roads are regarded as a public good and the construction, maintenance and rehabilitation of roads have been financed using public funds from donors and the government budget. Although various taxes, such as fuel tax, have been introduced to finance the upkeep of the road network, it is still the case that road users are subsidised from public funds. Conversely, railways operate on a user-pays-all basis with no or limited public sector subsidies. In fact, because fuel tax is an across-the-board tax, the railway system usually subsidises the road system through payment of fuel taxes.

8 The basic model followed by the concessioning countries has been a model developed by the World Bank but the challenges faced in making the concessions operate effectively and efficiently are more to do with the way the concessions were negotiated and the text of the final agreement.

especially at borders that delay freight movement and increase costs of imports and exports. In addition, there are environmental, safety and economic benefits to moving some goods, such as fuel, acid, coal, minerals, cement and grain, by rail rather than by road.

53. At present it is difficult to foresee where the required funding to revamp the region's railway systems will come from. National governments, on their own, do not have the resources to revamp the railways. It is unlikely that the large IFIs or Development Banks have the ability or appetite to fully finance the complete revitalisation of the railways; and the private sector will not invest in railways to the required level unless some forms of guarantees, in terms of securities, and revenue earning opportunities (such as contracts with mines, fuel distributors, etc.) can be locked in in advance.

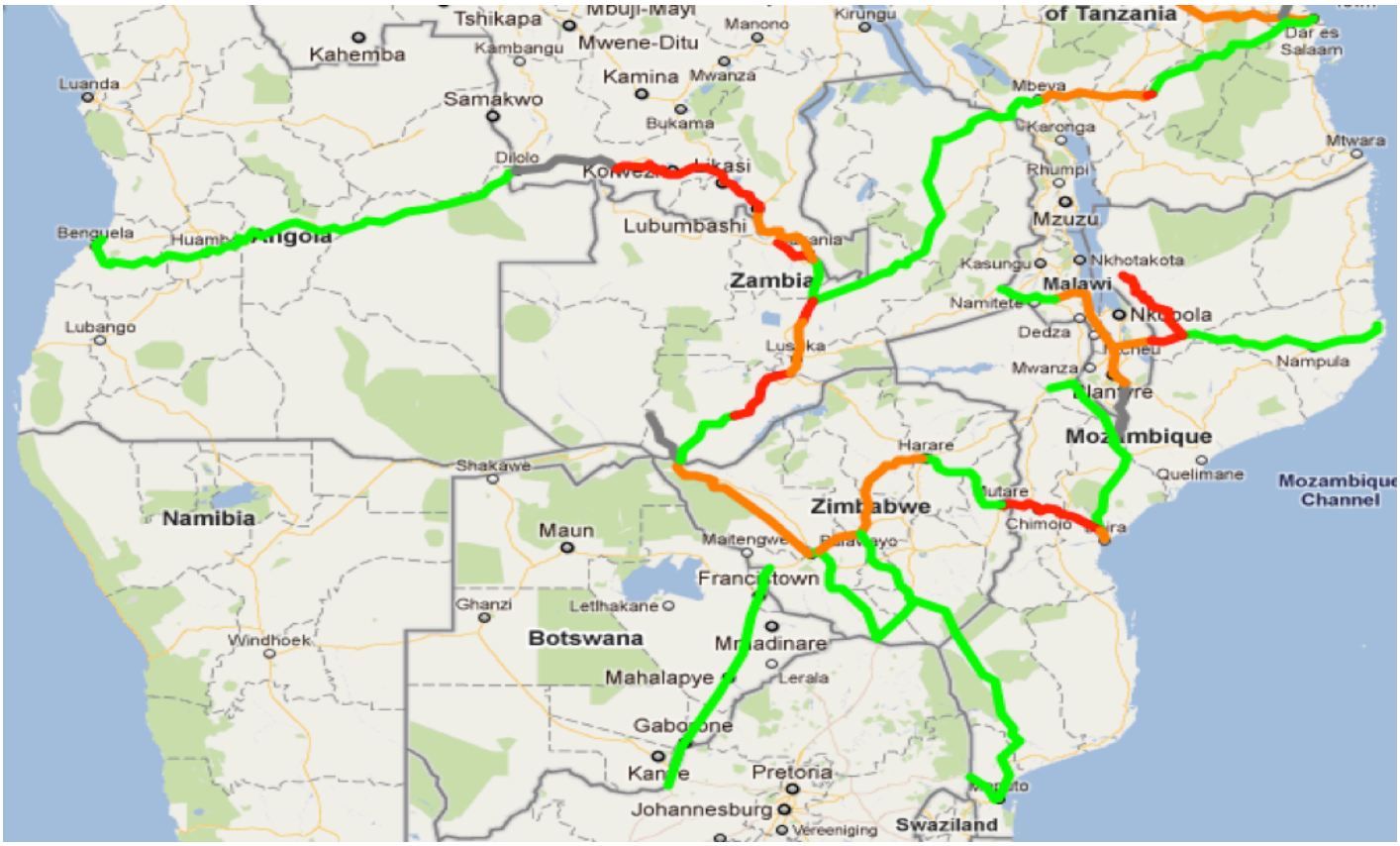
54. The solution probably lies in financing packages involving public funds (from government budgets); grants and concessionary loans (from donors, IFIs and Development Banks) with the private sector providing the bulk of the financing and management.

55. The Tripartite has been trying to influence the process of reviving the railways in a number of ways, including:

- Preparing a paper on how to revive the region's railway systems which was presented at various regional fora, including at the Southern Africa Railway Association (SARA) meeting in November 2011. This paper's recommendations suggest a phased restructuring process that involves the rehabilitation of existing track and equipment rather than embarking on new investments at this stage. A revival of the region's railways will need a reworking of the concession agreements but it is recommended that this be done without litigation as there have been faults in implementing the concessions on both the governments' side and by the concessionaires.

  Perhaps the single biggest change that will be required in all concession agreements, if the concessions are to be financially and economically viable, and if the railway system is to be revived, is to delink rehabilitation of the track from provision of a rail service. The paper also makes the point that the railways will need to be treated as a single network if the revival of the railways are to take place.

Figure 4 – Track Assessment of the East and Southern Africa Railways – December 2011[9]



9 This map is based on a desk study carried out by Bo Giersing of the track condition of the Region's railways by section and is a general assessment.

- Preparation of a rail track assessment which, based on existing information, provides an assessment of the condition of the region's rail track (a desk study). The results were plotted onto a GIS map (www.tmsagis.co.za) and one of the maps from the GIS database is produced at Figure 4. This data requires an additional round of verification but it is thought that the data is reasonably accurate as it is. The railways paper mentioned above does provide a proposal on how to finance the rehabilitation of the region's rail track.

- The Tripartite, through TMSA, are working, with senior management of TAZARA, on a strategic and business plan for the TAZARA. The initial phase of this exercise has been finished and is being considered by TAZARA senior management. The proposal also includes a proposal on how to finance the implementation of the business plan.

7. PORTS

56. The only ports on the NSC are the ports of Dar es Salaam and Durban:

- Donors and IFIs are working with the Tanzania Ports Authority (TPA) to implement its Master Plan. One of the more urgent projects being considered under the TPA is the construction of two new berths at 13 and 14 which are planned for completion in 2014 and this would have a major effect on the performance of the port.

- The port of Durban has recently completed major new improvements. The entrance channel has a depth of 12.8m from Chart Datum and the channel width has been widened to 222m at its narrowest point. The entrance channel is now 19m deep in the outer entrance but with a 16.5m draught in the inner channel. Prior to the widening and deepening of the entrance channel ships during daylight were supposedly restricted to 243.8m length with a maximum width of 35m and a draught of 11.9m, or 12.2m according to tide and harbour master's clearance. Larger vessels have been common and ships up to 300m length and 37m beam are regular callers in Durban. Night restrictions were for a ship length of 200m and a beam of 26m, maximum draught of 11.6m. The above limitations have been redrawn since the harbour widening and deepening exercise was completed on 31 March 2010.

8. POWER DISTRIBUTION

57. A number of new power generation projects have been started in the Eastern and Southern Africa region. Two of the "closest" to the North-South Corridor, these being Lower Kafue and Itezhi Tezhi, are marked on the map in figure 5

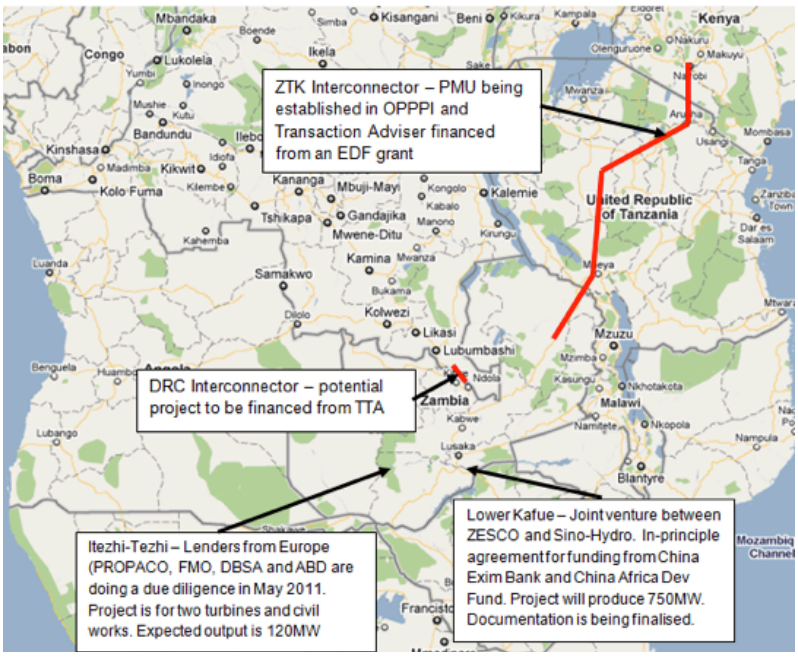


Figure 5 – Power projects planned for the North South Corridor

58. There are two power interconnectors that are considered to be on the NSC, these being the Zambia-Tanzania-Kenya interconnector and the DR Congo-Zambia interconnector. The ZTK interconnector needs to be fully designed and funding, estimated at about US$800 million, will then be required for its construction.

59. The Zambian section of the DRC-Zambia interconnector (which links to the power line financed by the World Bank in DR Congo) will require financing of about US$12m and, when constructed, will link DRC to the Southern Africa Power Pool.

Table 4 – Power Interconnector Projects on the North South Corridor

Power Distribution	Project Description	Funding US$	Source
ZTK Transaction Adviser and PIU	The sponsors have reached agreement on power supply, project structure and establishment of a Project Implementation Unit that will then be transformed into a Special Purpose Vehicle (SPV) to be owned by the three sponsors (Zambia, Tanzania, and Kenya). The sponsors will inject equity into the company and the company will obtain debt or loan finance (secured by wheeling agreements) from lenders to fund implementation.	4,000,000	EDF
ZTK construction	The ZTK project is expected to facilitate the wheeling of 400MW of electric power from Zambia to Tanzania and at least 300MW from Tanzania to Kenya and to lead to the trading of about 2,800 giga-watt hours per year.	800,000,000	TBD
DRC – Zambia Interconnector construction	Copperbelt Energy Corporation (CEC) is intending to construct the Zambian section of the Second Zambia – DR Congo 220kV interconnector. The Interconnector has a total length of 142km, out of which about 51km is located in Zambia while 91km is located in DR Congo.	12,000,000	TBD

9. CONCLUSION AND WAY FORWARD

60. In conclusion, the Tripartite has made significant progress in improving infrastructure on the North-South Corridor. This has been done by addressing the most pressing needs first and then moving to the next set of infrastructure constraints. However, there are still a number of challenges that need to be addressed, including the following:

- Develop and design a financing model that will support a more rational means of financing infrastructure development on the NSC. The financing model would especially need to address the financing of the NSC road network and be based on the results of an HDM-4 analysis as well as take account of national road fund mechanisms. Such a financing model would allow a proactive approach to financing the NSC road network in a programmed way and would go some way to ensuring that the road networks are adequately maintained and resourced.
- Secure additional funds for the Tripartite Trust Account.
- Find a way of obtaining detailed data from both governments and IFIs / donors on the projects that they plan to finance and when the financing will become available so that a rolling muti-year implementation plan can be prepared for the NSC.
- Continue to develop the PPIU project GIS database and project pipeline. Once PIMs and tender documents have been prepared, financing for these projects has to be secured.

- Ensure that if infrastructure at a border posts is upgraded, either by a concessionaire or through public sector financing, that the infrastructure improvements are accompanied by improvements in border procedures; the necessary changes in the legal and regulatory system to allow border staff to operate at least extra-territorially and adequate ICT infrastructure to support modern border management systems.
- Ensure that adequate monitoring and evaluation systems are in place to measure performance of the corridor over time.
- Hold a Tripartite meeting on railways involving the region's railway stakeholders to discuss how to revive the region's railway system so that it is able to provide a useful and cost-efficient transport service.
- Carry out a rail track assessment of the region's railways so as to verify and update the desk-study rail track assessment and to estimate the costs of upgrading the track to at least a fair condition throughout.
- Prepare a strategic and business plan for the NSC railway system (excluding Transnet) and a strategy to finance the implementation of this plan.
- Prepare a plan of assistance to finance port improvements at Dar-es-Salaam port in line with the approved Tanzanian Port Master Plan as it refers to Dar-es-Salaam.
- Secure financing for the construction of power interconnectors on the NSC.

ANNEXURE

Tripartite Trust Account

The COMESA-EAC-SADC Tripartite Task Force, working together with the UK's Department for International Development (DFID) and the Development Bank of Southern Africa (DBSA), have established a Tripartite Trust Account as was agreed at the North South Corridor High Level Conference that was held in April 2009 in Lusaka. The request from the Tripartite Task Force was for DBSA to establish and manage a bank account on their behalf (the Tripartite Trust Account or TTA) that would provide targeted funding aimed at, at least partially, making up the deficit in regional infrastructure in particular on the North South Corridor.

The main features of the TTA Agreement, which was signed by all parties in November/December 2009, are as follows:

- The TTA is viewed by both donors and the Tripartite as a catalytic infrastructure investment grant fund to leverage commercial and quasi commercial investments to supplement member country public funds.
- The TTA is open to all donors and each donor or donor group is free to specify the conditions in which this donation can be used in a separate agreement with the DBSA as TTA Manager.
- Donor contributions of at least Twenty Million Euro (€20,000,000) or its equivalent will secure membership of the Investment Committee, although the TTA will be maintained in US Dollars.
- Participating governments should take ownership of projects and all projects should be justified on economic grounds and conform to the selection criteria specified in the TTA Agreement.
- In all projects co-funding by private entities and public-private-partnerships (PPP's) shall be promoted where feasible.
- The Investment Committee shall comprise 1 representative of each donor contributing €20m or more; 3 representatives of the Tripartite (COMESA, EAC and SADC); 1 representative of the Tripartite Secretariat and 3 independent representatives. The TTAManager will be an observer.
- The Investment Committee will oversee and supervise the TTA Manager, shall report to the Tripartite Task Force and be subject to the strategic and policy guidance of the Tripartite Task Force.
- The TTA Manager will be responsible for establishing a separate account, ring-fenced from its own balance sheet and operations, and thereafter to administer the account according to the provisions of the TTA Agreement.
- The TTA Manager shall be responsible for the day to day executive functions associated with coordination, management, implementation and reporting to the Investment Committee. The functions to be performed by the TTA Manager to co-ordinate and manage the account are divided into financial management functions and appraisal of proposals, project negotiation and implementation supervision and monitoring.
- The TTA Manager shall also be responsible for the treasury function, including cash flow management, and shall prudently invest surplus funds, while obtaining an acceptable return on such investment.

The Operational Procedures are as follows:

i) Identification and project preparation will be done by third parties wishing to apply to the Tripartite Trust Account for financial support.

ii) On receipt of an application it shall be registered and notified to the Investment Committee at the next meeting of the Investment Committee.

iii) The TTA Manager will undertake a preliminary appraisal to assess whether the project proposal meets the eligibility criteria set out in this agreement, the conditions of use set by the relevant donor(s) and approved by the vInvestment Committee; and the project appears to have economic and social benefit. The TTA Manager shall, within four (4) weeks of receipt of the application, submit its recommendation on the project proposal to the Investment Committee for an in principle decision.

iv) On acceptance of the project in principle by the Investment Committee a full appraisal shall be undertaken, cov ering economic, financial, social, technical, environmental legal and institutional aspects.

v) After approval by the Investment Committee negotiations will take place with the project sponsor/grantee and a contract or contracts concluded allowing the project to move to implementation phase.

vi) During the implementation period the project will be supervised and monitored and regular progress reports submitted to the Investment Committee.

vii) All disbursement towards approved projects shall be:

a. Direct grants to a project having substantial economic and social benefits;

b. Capital grants or any other form of grant approved by the Investment Committee to accommodate a specific project requirements; or

c. As a lump sum when funding requirements are met or in terms of disbursement schedule decisions by the Investment Committee.

viii) After completion of the project, performance will be monitored for a year and the file closed by the acceptance of a completion report by the Investment Committee. This report will indicate the economic, social and environmental outcomes or impact as well as detailing financial, technical and management performance.

ix) The maximum support for any one project and/or sector and/or country shall be determined by the Investment Committee.

An Investment Committee has been established that guides the DBSA in making investment decisions using the Tripartite Trust Account according to an agreed set of project eligibility criteria.

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