

THE IMPACT OF CORRIDOR DELAYS ON CROSS BORDER ROAD TRANSPORT IN THE SADC REGION: FINDINGS FROM RESEARCH CONDUCTED BY THE CROSS-BORDER ROAD TRANSPORT AGENCY

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ABSTRACT

Given the geographical landscape of the Southern African Development Community (SADC) region, cross border road transport plays a pivotal role in facilitating trade between countries, enhancing economic growth, regional development and socio-economic integration. However, cross border road transport faces a multitude of challenges that include high operational costs, inadequate infrastructure, inefficient regulatory and corridor management systems, accidents and delays, and environmental pollution. These challenges have an impact on the sustainability, productivity, efficiency, quality, and cost of transport services as well as the cost of products traded in the region. This paper looks at the impact of delays on cross border road transport movement in the SADC region. The paper is based on research conducted by the Cross-Border Road Transport Agency (C-BRTA) in 2014 and in essence, analyses the impact of delays on segments of corridors between border posts and at border posts. In delivering the study, qualitative and quantitative research methods were used. This paper quantifies the delays in financial terms with a view to determine the micro and macro impact in the transport sector and the South African economy. It was established that law enforcement operations and procedures contribute significantly to corridor delays next to the traditional border post processes. In order to effectively address corridor delays, there is need for decisive interventions deployment and the interventions need to be implemented on a corridor basis. This paper outlines recommended interventions to reduce delays that include a review of corridor management systems, implementation of accreditation systems to compliant transport operators and traders, combining law enforcement operations where possible, coordinated border management, single window systems and one stop border posts in the region.

1 INTRODUCTION

This paper focuses on the impact of delays on cross border road transport movement, one of the many challenges affecting cross border transport in the SADC region. Cross border road transport plays a pivotal role in facilitating trade,

enhancing economic growth, regional development and socio-economic integration in SADC. Up to 40% of SADC member states are landlocked. Hansen and Jakab, (2008:68) describes a landlocked country as “a country enclosed or nearly enclosed by land, without direct coastal access to the sea”. They further assert that “being landlocked has always been considered disadvantageous, and historically countries have made efforts to avoid being landlocked. Landlocked countries are not just cut off from sea resources but, much more importantly, they have no direct access to seaborne trade, which continues to be essential for a successful participation in international commerce”. Thus, given the SADC landscape, where there are so many countries that are landlocked and where road transport carries over 80% of cross border traffic compared to rail at 20%, the significance and need for cross border road transport need not be overemphasised.

In the SADC region, cross border road transport faces many challenges ranging from high operating costs to inadequate infrastructure, inefficient regulatory and corridor management systems and poor safety levels. Some of these challenges are manifested through extensive delays which are experienced on some segments of the regional transport system. The challenges in turn have an impact on industry sustainability, productivity, efficiency, quality and cost of transport services. In the region the major constraint to trade is no longer traditional limitations to market access, but more of getting the freight from points of production and/ or origin to the destination points without major delays. Governments in the region are increasingly required to re-orient strategies and efforts towards creating an enabling environment where freight can be efficiently transported. This way, the region would be positioned to facilitate unimpeded flow of cross border road traffic in the region. Thus, this paper focuses on the impact of delays on cross border road transport movement in the region and proposes interventions that may be implemented towards facilitating seamless cross border movements in the SADC region.

The paper is based on research conducted by the C-BRTA in 2014, and in essence, analyses the impact of delays on segments of corridors between border posts and at border posts as well. This paper further quantifies the delays with a view to determine their micro and macro impact to the transport sector and the South African economy.

2 BACKGROUND

The SADC Protocol on Transport, Communications and Meteorology (the Protocol) requires member states to “facilitate the unimpeded flow of goods and passengers between and across their respective territories by promoting the development of a strong and competitive commercial road transport industry which provides effective transport services to consumers” (SADC Protocol: 1996:17). Of significance to note is the fact that unimpeded flow of goods and passengers can only be achieved where and when there is reduction in non-tariff barriers (NTBs): which in essence are non-financial barriers (physical, regulatory, legislative, processes, procedural, systems and structures) which increases the cost of doing business, elimination of uncoordinated working approaches and too many checkpoints, and reduction in delays experienced by cross border road transport operators. On this note it is also necessary to mention that increasing checkpoints and law enforcement points does

not necessarily lead to better compliance levels. It only increases the probability of identifying non-compliance. SADC corridors are thick and there is evidence that NTBs exist to the detriment of the achievement of regional integration, intra-Africa trade and economic development in the region. The NTBs further pose a long term threat to the sustainability of the cross-border road transport industry as a whole and the economic competitiveness of the SADC region. It is important to amplify that the direct output of NTBs put together is delays. According to the SADC Protocol, “member states are encouraged to develop a harmonized road transport policy providing for equal treatment, non-discrimination, reciprocity and fair competition, harmonized operating conditions and promoting the establishment of an integrated transport system”. It is anticipated that such a transport system would operate efficiently and characterised by minimal operational inefficiencies and constraints.

The major emerging issues in the cross border industry include the heightened focus by regional stakeholders on the need to enhance not just corridor efficiency but also productivity, the emergence of new entities, the COMESA, EAC and SADC Tripartite agenda on Transport and Trade Facilitation, various Customs improvement programmes, the heightened need for harmonisation, implementation of transport and trade facilitation tools that include Coordinated Border Management, One Stop Border Posts, Single Window Systems and accreditation systems. These initiatives are partly influenced by evolving best practices in other parts of the world and the need to facilitate efficient cross border road transport movement and productivity. It is a fact that SADC corridors are congested and solutions are needed now and not later. Thus, workable and sustainable approaches are needed in the region if the SADC is to reduce delays in corridors and achieve regional aspirations.

2.1 The SADC cross border road transport industry

The ability of a country or a region to facilitate seamless movement of freight, people and services in time and at low cost is a key determinant of its global economic competitiveness and trade facilitation capability. The enhancement of seamless cross border movement is heavily influenced by corridor performance which in turn is determined by the level of effectiveness of corridor management systems, border management systems, efficiency of regulatory institutions, and extent of impediments in the corridors. The movement of cross border road transport in SADC is conducted mainly within the broader framework of the SADC Protocol ratified in 1996 by member states. Broadly, the Protocol seeks to advance development and cooperation in the areas of transport, communications and meteorology and in regard to road transport seeks to achieve a road transport system that is characterised by high quality, safety, reliability, dependability and affordability. It is envisaged that such a road transport system would facilitate smooth flow of goods and passenger transport in the SADC region. Further to the Protocol, cross border road transport movement is facilitated by bilateral road transport agreements and various memoranda of understanding (MoUs) completed between member states. Examples include bilateral agreements on road transport between South Africa and Malawi, Mozambique, Zambia and Zimbabwe as well as the Southern African Customs Union (SACU) and Trans-Kalahari Corridor (TKC) MoUs on Road Transportation. In spite of these instruments that shape the operating framework and terms of reference, the regional road transport system has remained fragmented in regard to institutional arrangements, regulatory and operational approaches and practices. The consequences of this on the regional transport system include

deficiencies in network productivity, high logistical costs, delays and many other transport externalities.

According to the World Bank doing business report for 2010, Sub-Saharan Africa experiences highest transport costs in the World while service levels are poor. In this respect, transport costs are four (4) to six (6) times higher than in other regional economic blocs and three (3) to four (4) times higher than in countries like Pakistan, Indonesia and Vietnam. This is largely due to cumbersome and repetitive trade processes and procedures, excessive and repetitive time consuming documentation, silo regulatory and law enforcement regimes, lack of harmonisation of (vehicle, rules, standards, policies, road user charges, vehicle weights and dimensions and third party motor vehicle insurance among others) standards, operating procedures, lack of coordination and cooperation, and poor quality transport infrastructure, which culminate in huge delays along regional corridors. The bulk of the SADC transport, corridor and border environments are neither sustainable and adequate nor desirable to support legitimate trade and seamless cross border movement. The World Bank report further estimated that intra-Africa trade constitutes approximately a mere 12%, compared to approximately 40% in the European Union (EU) and about 60% in Western Europe. The reason why intra-Africa trade is low is that member states are not able to trade more amongst themselves due a number of reasons. One of the reasons is that transport systems particularly road transport experiences many non-tariff barriers, which culminate in high cost of traded goods. This fact demonstrates that the inefficiencies in the cross border road transport industry indeed contribute to low levels of trade in the SADC region, further calling for the eradication of delays in corridors.

2.2 The challenges faced by cross border road transport industry in SADC

Cross border road transport in SADC region faces a plethora of challenges. The major sources of the challenges are fragmentation of regulatory regimes within and between member states, inefficient corridor and border management systems and non-implementation of regional transport agreements. Due to this, cross border road transport operators are faced with a number of challenges which include delays, longer journey times, less return trips, high operating costs, reduced reliability and dependability of services culminating in reduced productivity and capital inefficiency. On the other hand regulatory authorities face a number of challenges that include in some instances inadequate mandate, inadequate funding and resources to fully operationalise the mandate and implement high impact fit-for-purpose interventions, inadequate skills, lack of capacity to respond to incidences, outdated systems, limited technology and inadequate capacity to deal with industry matters. These limitations were exposed by the incident that occurred in November 2014 at Kasumbalesa border post where many truckers lost their lives due to a fire accident. The regulatory authorities also find themselves working in an environment where there is un-harmonised legislation and standards which retard their capability to deliver their respective mandates. In some cases it is difficult to establish if indeed regulatory authorities have political support on their side, a major setback in regard to mobilising industry stakeholders. This has been exacerbated by an over-focus on finding solutions to border challenges negating corridor segments between border posts.

2.3 The role of the C-BRTA in cross border industry

The C-BRTA is one of the agencies of the Department of Transport (in South Africa) and is mandated to improve the unimpeded flow by road of freight and passengers in the region, liberalise market access progressively in respect of cross-border freight road transport, introduce regulated competition in respect of cross-border passenger road transport, reduce operational constraints for the cross-border road transport industry as a whole, enhance and strengthen the capacity of the public sector in support of its strategic planning, enabling and monitoring functions, empower the cross-border road transport industry to maximise business opportunities and to regulate themselves incrementally to improve safety, security, reliability, quality and efficiency of services. It is from this mandate that the C-BRTA conducted a study entitled “Business Case for Corridor and Border Management Reform”, which was one of the ‘Changing Gears’ Strategic Projects. Through the study, the Agency sought to identify and quantify delays faced by cross border road transport operators with a view to establish a feasible and sustainable solution. This would then be a tool towards mobilising stakeholders in the cross border road transport sector towards implementing solutions to cross border challenges. Road transport regulatory authorities in the COMESA-EAC-SADC tripartite are challenged to find lasting solutions to non-tariff barriers and the effects of regulatory and legislative fragmentation at national and regional levels. In this regard, regulatory authorities are challenged to come up with effective and efficient industry responsive strategies that are inculcated into the regional and domestic policies and legislative environment. This would culminate in seamless movement of goods and passengers in the region, harmonisation of standards and regulations and reduction of constraints including corridor delays.

3 THE STUDY DESIGN

Although as many as seventeen major corridors traverse the SADC region, the focus of this study was only on three corridors namely the North South Corridor, Trans-Kalahari Corridor and Maputo Corridor. The rationale for the selection of these corridors was informed by the cross-border traffic volumes and flow dynamics on the corridors. The corridors also serve as major gateways to most landlocked countries in the SADC region. Extensive literature review was conducted to identify historical challenges facing cross border road transport, the state of the regional transport system and to assess key regional and national regulatory frameworks governing the cross border road transport environment. In-depth interviews and workshops were conducted with regulatory authorities, transport operators and with selected logistics service providers as well as shippers and technical experts in the SADC region. These were conducted with a view to eliciting detailed information regarding the state and challenges faced by cross border road operators on the prioritised corridors. Various methods were used and they include field observations, telephonic interviews and face to face discussions. During interviews, guided questionnaires were used. Key to note is that, all individuals were selected on the basis of their extensive experience and knowledge in the transport and logistics field, particularly on the three identified corridors. Benchmarking was also conducted in the MERCOSUR region with a view to identify interventions that would resolve NTBs in regional corridors. It was envisaged that these would culminate in reduction of delays. MERCOSUR was prioritized as the preferred international destination for

benchmarking because of its close similarities to the SADC region. Cost benefit analyses was conducted to determine the (baseline) key aspects or points of delay on the corridors under study with a view to establish the extent of time delays in the status quo at respective points of delay, estimate possible reductions in time delays at points of delay for scenario analyses, and estimate the impact of savings in time delays at micro and macro levels.

4 DISCUSSIONS

An environmental high-level scanning exercise was conducted during the early phases of the project to determine developments (positive and negative) that affect the efficiency and optimal performance of road transport corridors and border posts. This paper was largely informed by the Business Case Study which focused on three major corridors as discussed earlier. The existence of various hard and soft infrastructure impediments prevents the free flow of traffic across national borders. These exist at domestic, national and regional corridor levels. The NTBs mostly culminate in delays which in turn lead to higher transport costs. Furthermore, the number of delay points and extent of delay time are directly related to the value offered to corridor users. The longer the delay, the less value offered to corridor users. In light of the above, various calculations were performed during the Cost Benefit Analysis phase to illustrate the potential monetary benefits to be achieved by the introduction of interventions that would reduce time delays at fixed measuring points along corridors. During the study the fixed measuring points were identified to be toll gates, weighbridges and border posts.

Due to the time constraints in completing the study and given the unavailability of reliable freight and transport data beyond South African borders, all cost benefit calculations were limited to the South African section of the North-South, Trans-Kalahari and Maputo corridors. The major assumption adopted as the departure point for the cost benefit calculations was that a reduction in delays (costs) at fixed law enforcement and monitoring points would improve trade flows and trade facilitation. Other costing assumptions that were made during the calculations are that reducing delays at fixed measuring points will create additional capacity along corridors (including border posts) and reduction in delays at fixed measuring points, will improve trade flows. The truck costing model utilised as basis for deriving fixed and variable operating costs was a six axle combination consisting of a 6x4 truck tractor and a twelve (12) meter tridem semi-trailer. The selected load was a 12 meter International Standards Organisation (ISO) container (or similarly 36 tons of break bulk cargo). Some other data that was used as input variable to the Cost Benefit Analyses, not detailed in this paper, but available include average operational costs including fuel, travel time, fleet operating time per annum, travel speed, insurance and payload. The costs were estimated for corridors in Botswana, DRC, Mozambique, Namibia, South Africa, Zambia and Zimbabwe.

Fixed cost assumptions were also established in regard to vehicle purchase cost, additional operating extras, tyres, and depreciation over a 6 year period for a truck tractor. The same was estimated for the trailer, however at a depreciation period of 7 years. Data in regard to toll road cost, the number of weighbridges and permit costs was factual as at 30 September 2013. Load volumes, maintenance costs, driver

wages, vehicle and operating licences, management and administration as well as operating mark-up per annum were also estimated.

Based on the above cost standards and assumptions, a time saving model and cost benefit scenario was calculated that took into account a possible reduction in time delays on the North South, Maputo and Trans-Kalahari corridors at the pre-determined delay measuring points. The findings from the model are discussed in section 5. However, it was established that the cross border road transport industry faces the following challenges among others:

- High operational costs;
- Inadequate infrastructure, inefficient regulatory and corridor management systems;
- Transport externalities that include accidents, delays and environmental pollution;
- Regulatory fragmentation;
- Absence of regional authority to enforce the implementation of regional road transport agreements;
- Poor implementation of regional initiatives due to the absence of sanctions against defaulting member states;
- Lack of political will amongst some SADC member states to conform to regional requirements;
- Lack of interaction and cooperation amongst institutional entities to drive transport and trade facilitation initiatives; and
- Lack of skills and resources capacity.

5 STUDY FINDINGS AND RESULTS

Based on the study, the following findings and results were established, on a corridor basis.

5.1 Findings from the Trans-Kalahari Corridor

Table1 shows the overall findings from the cost benefit calculations for the Trans-Kalahari Corridor.

Findings from the TKC Corridor

Table 1 Findings from the TKC Corridor

| Time delay Assumptions in the status quo | Weighbridges =15 min Tollgates = 5 minutes Border Post = 60 minutes (1 hour) |
|--|---|
| Possible Time Saving at Skilpadshek border | 15 minutes |
| Total reduction in delays | 60 minutes |
| Increase in additional trips per vehicle per annum | 0.76 |
| Impact on macro- economic trade | R992 778 006.00 |

Table 1 indicates time delay calculation conducted at the set measuring points, being the Skilpadshek border post, as well as at weighbridges and toll gates along the South African section of the Trans-Kalahari corridor. A 15 minutes time saving variable was utilised at the Skilpadshek border, which is based on field observations. Simultaneously, a relatively small reduction in time delay of only 5 minutes per toll gate and weighbridge was modelled to illustrate the potential accumulated time saving impact following a small reduction in time delays at these measuring points. A total reduction in delays of 60 minutes (1 hour) on the South African portion of the TKC resulted in an additional transport fleet capacity that can complete an additional 0.76 trips per vehicle per annum, assuming that the improvement in efficiency results in additional capacity at the Skilpadshek border.

It was established that a potential increase in trade due to time savings amounts to a staggering R992 778 006.00 (in commodity value). It must be acknowledged that only 16.6 percent of the travelling distance is within South African jurisdiction. Therefore, if similar improvements are possible along the entire route, a significant reduction in logistics costs can be expected. However, if the entire corridor cannot accommodate increased freight volumes, then the investment will be fruitless since the impediment (time delays) will merely shift to another point along the corridor.

5.2 Findings from the North-South Corridor

Tables 2 and 3 indicate the overall findings from the cost benefit calculations for the North South Corridor. The cost benefit calculations for the North-South Corridor are presented in two scenarios. Scenario 1 proposes a 90 minute time saving at Beitbridge border, whereas scenario 2 proposes a 655 minute time saving at the same border. Furthermore, a relatively small reduction in time delay of only 5 minutes per toll gate and weighbridge was modelled for both scenarios.

Findings from the NSC Scenario 1

Table 2 Findings from NSC Scenario 1

| Time delays | Weighbridges = 15 min Tollgates = 5 minutes Border Post = 1080 minutes (18 hours) |
|--|--|
| Possible Time Saving at Beitbridge border | 90 minutes (1,5 hours) |
| Total reduction in delays | 190 minutes (3.17 hours) |
| Increase in additional trips per vehicle per annum | 0.31 |
| Impact on macro-economic trade | R13 242 351 723.73 |

A total reduction in delays of 190 minutes (3.17 hours) on the South African portion of the NSC will result in additional transport fleet capacity and represents an increase of 0.31 additional trips per vehicle per annum, assuming that the improvement in efficiency result in additional capacity at the Beitbridge border. The potential increase in trade due to a possible reduction in border post, toll gate and weighbridge delays amounts to R13 242 351 723.73. It must be acknowledged that only 36 percent of the travelling distance is within South African jurisdiction. Therefore, if similar improvements are possible along the entire North-South Corridor, a significant reduction in logistics costs can be expected. Table 3 illustrates

the impact of a 655 minutes time saving variable at the Beitbridge border to illustrate the total time saving result if substantial improvements were realised at this border post.

Findings from the NSC Scenario 2

Table 3 Findings from NSC Scenario 2

| Time delays | Weighbridges = 15 min Tollgates = 5 minutes Border Post = 1080 minutes (18 hours) |
|--|--|
| Possible Time Saving at Beitbridge border | 655 minutes (10.9 hours) |
| Total reduction in delays | 755 minutes (12.58 hours) |
| Increase in additional trips per vehicle per annum | 1.31 |
| Impact on macro- economic trade | R55 109 900 265.80 |

A total reduction in delays of 755 minutes (12.58 hours, emanating from reduction in border post, toll gate and weighbridge delays) on the South African portion of the North-South Corridor would result in additional transport fleet capacity and represents an increase of 1.31 additional trips per vehicle per annum, assuming that the improvement in efficiency result in additional capacity at the Beitbridge border. The potential increase in trade due to a reduction in border post, toll gate and weighbridge delay time amounts to R55 109 900 265.80.

5.3 Findings from Maputo Corridor

Table 4 indicates the overall findings from the cost benefit calculations for the Maputo Corridor.

Findings from the Maputo Corridor

Table 4 Findings from Maputo Corridor

| Time delays | Weighbridges = 15 min Tollgates = 5 minutes Border Post = 120 minutes (2 hours) |
|--|--|
| Possible Time Saving at Lebombo border post | 15 minutes |
| Total reduction in delays | 70 minutes (1.17 hours) |
| Increase in additional trips per vehicle per annum | 5.41 |
| Impact on macro- economic trade | R118 962 661 255.18 |

A total reduction in delays of 70 minutes on the South African portion of the Maputo Corridor will result in additional transport fleet capacity and represents an increase of 5.41 additional trips per vehicle per annum, assuming that the improvement in efficiency results in additional capacity at the Lebombo border post. The potential increase in trade due to a possible reduction in border post, toll gate and weighbridge delays amounts to staggering R118 962 661 25.18.

From the costing examples above it is evident that the most beneficial impact would be experienced within the macro economy of South Africa with less benefit to the individual vehicle operator. The relatively small impact of singular uncoordinated trade facilitation improvements, when compared to improvements across the entire corridor, illustrates the requirement to view the corridor in totality and to identify the weakest link in the corridor, since improvements to the weakest link will render the greatest impact.

The cost benefit analysis was only performed for the South African segment of each of the 3 prioritized corridors and not for the entire corridor from end to end. This was due to lack of reliable corridor information beyond South African borders. However, the micro and macro benefits established by the study may also be gained by the respective member states, transport operators and traders assuming the proposed reform measures are implemented.

5.4 The issue of carbon emissions

Carbon (CO₂) emissions can be described as polluting carbon substances that are released into the atmosphere and motor vehicles are responsible for a large portion of these emissions.

The carbon emissions

Table 5 Carbon emissions due to delays

| CORRIDOR | ESTIMATED DELAY AT WEIGH BRIDGES & TOLLGATES PER TRIP | ESTIMATED EMISSIONS PER DELAY PERIOD |
|--------------------------------|--|---|
| North-South Corridor | 3.17 hours | 262.66 kg |
| Maputo Corridor | 2.08 hours | 172.34 kg |
| Trans-Kalahari Corridor | 1.42 hour | 117.66 kg |

Weighbridge and tollgate delays contribute to an average of 1.381kg/minute CO₂ emitted for a 30 tonne truck while idling dependable on the make and model. The impact of delays on carbon emissions are summarised in table 5. The calculations took into account the utilised weighbridges and toll gates for each of the 3 prioritized corridors situated in South Africa, based on the delay periods applied for the calculations in the table.

6 CONCLUSIONS

Based on the findings from the study, it can be concluded that cross border road transport in the SADC region faces challenges. The challenges include high operational costs, inadequate infrastructure, inefficient regulatory and corridor management systems, accidents and delays, and environmental pollution. These challenges have an impact on the sustainability, productivity, efficiency, quality, and cost of transport services as well as the cost of products traded in the region.

The study also indicated that most of the challenges experienced in corridors culminate in delays. It was also established that delays have a negative impact to cross border road transport operators and the economy. Due to delays, turnaround trips were less than scenarios where and when delays were reduced. The same effect was realised in regard to the economic impact. A reduction in delays led to increased trade volumes and earnings per corridor. It was also concluded that the challenges have an impact on the sustainability, productivity, efficiency, quality, and cost of transport services as well as the cost of products traded in the region. The study established that corridor delays reduce productive time for cross border road transport. This reduces the capacity of the region to facilitate trade, regional integration and economic development.

The cost benefit calculations performed indicated potential significant logistics costs savings that could be realized with focussed cross border road transport and trade facilitation initiatives that have potential to reduce delays on regional corridors. It was established that the most significant results would be achieved on the Maputo Corridor as the portion of the South African contribution to the total corridor is 83%. This implies that very little further impact can be achieved as a result of improvements beyond South African border posts. By reducing delay times by fairly small reductions of 70 minutes across the corridor, this would result in the existing fleet of trucks operating on that route potentially being able to undertake 5.41 more trips per vehicle. This potentially would result in 5.41 more trade value passing along the corridor. However, this was not the case with the other 2 corridors where South African delays only account for 36% of the total North-South corridor and 16.6% of the Trans-Kalahari Corridor. These improvements appear far less impressive on paper however if these results can be achieved across the entire corridor, trade within the region would be significantly improved with very little to no investment as it is purely based on efficiency improvements (e.g. improved institutional, governance and management systems).

It should be noted that in order to achieve optimum results, interventions should as far as possible be introduced over the entire corridor and not be limited to the South African portion of the corridor. It should also be noted that by eliminating a delay in one portion of the corridor only, one creates another delay elsewhere on the corridor, thus the net effect will be close to nothing.

The one corridor that indicated the best return on investment on the South African portion with limited benefit from the remaining sector would be the Maputo corridor where the South African portion accounts for 83%. Implementation of interventions on this corridor would be expected to yield significant logistics cost savings, with the potential of increasing the trade value through the Lebombo border post by approximately 5 times.

The analysis clearly indicated that it is important to facilitate transport movement from a regional perspective. This way the economic benefit would be very significant to the SADC region. Based on the analysis, it would also be anticipated that if a holistic approach is taken and the entire corridor is addressed, the North-South corridor due to its reach within the region would become the most significant corridor from a regional transport and trade facilitation perspective.

7 RECOMMENDATIONS

Overcoming corridor delays should be priority number one for the SADC region if effective and efficient cross border road transport movement facilitation is to be achieved. Furthermore, attainment of regional aspirations on trade, economic development and regional integration needs a regional approach. Regional regulatory authorities need to clearly appreciate the effect of current delays on cross border road transport movement. A closer look on the net effect of reducing delays in corridors needs to be appreciated. Any solution that is recommended to overcome delays should be implemented on a corridor basis and not be limited to individual member states as this would limit the net impact of initiatives at a regional level. The study identified specific interventions that SADC region can implement to reduce cross border delays and these include:

- Complete implementation of international transport agreements: A strong departure point for the SADC region is for all member states to fully operationalise international transport agreements. Implementation of these agreements would set a solid ground for member states to tackle fragmentation, lack of harmonisation and regulatory differences. This would also address cross border movement challenges, constraints and non-tariff barriers which significantly contribute to cross border delays;
- Harnessing political-will: Cross border road transport challenges, including delays are trans-boundary in nature. For any solution to work, it will have to be implemented across member states' boundaries. This requires that member states cooperate and collaborate towards realisation of the intervention. In some instances this may even require the two member state to contribute resources and this needs to have political support;
- Capacitation of regulatory authorities: Regulatory authorities need to be capacitated from a mandate view point in order to be able to actively engage beyond their respective border posts. Furthermore, regulatory authorities need skilled resources and this requires capital. They also need to be adequately financed in order to be implement interventions that really work towards reduction of delays;
- Regional monitoring platforms: The roles of the regional secretariats need to be revised. The institutions need to be capacitated to make member states accountable for defaulting international transport agreements and requirements;
- Accreditation systems for transport operators and traders: These programmes entail accreditation of transport operators in the cross border road transport sector and traders in the region based on compliance to legislative and regulatory requirements. Accredited operators will need not to stop at all law enforcement and inspection points. Based on the study findings, such systems have huge potential to reduce delays in regional corridors. The Operator Compliance Accreditation Scheme and the Trusted Trader programme being developed mainly in South Africa need to be adopted at regional level;
- Performance based standards: Introduction of performance based standards in the cross border road transport sector has potential to reduce traffic volumes on corridors and the SADC region need to initiate the development of the same;

- Combing law enforcement activities at toll gates: It is envisaged that this has potential to reduce stoppages on corridors without necessarily compromising compliance. As such, this should be pursued as an alternative to address delays in corridors; and
- Use of technology: Law enforcement need not necessarily depend on physical vehicle stoppages and inspections. The SADC region need to adopt technologies that limits dwell time and the need for stopping a vehicle, such as vehicle weigh in motion and electronic tolling systems.

Apart from these recommended interventions delays in corridors can be reduced through implementation of transport and trade facilitation tools such as Coordinated Border Management, Single Window Systems, and One Stop Border Posts. It should not be seen as over ambitious for the SADC region to start thinking about non-stop border posts where vehicles need not to stop at all at border posts. The SADC region should not tire in regard to implementing lasting solutions to cross border road transport challenges. Effort need to be sustained leveraging on gains already made in some segments of the regional road transport corridors. Through concerted effort and political will the SADC region would one day achieve sufficient progress in regard to reducing corridor delays, a feat that would go a long way towards enabling sustainable cross border road transport movement in the region.

8 REFERENCES

Behar, A, and Edwards, L, 2011. How integrated is SADC? Trends in intra-regional and extra-regional trade flows and policy. Policy research working paper 5625, The World Bank, Washington.

Cross-Border Road Transport Agency. 2014. The Business Case for Corridor and Border Management Reform (unpublished).

Cross-Border Road Transport Act 4, of 1998 as amended. Government Gazzette, Pretoria.

Hansen, P and Jakab, L.A 2008. Facilitating Cross-Border Movement of Goods: A Sustainable Approach, The Global Enabling Trade Report, World Economic Forum.

Njinkeu, D and Fossol, B P. 2006. Intra-African Trade and Regional Integration.

OECD.2011.Moving Freight with Better Trucks: Improving Safety, Productivity and Sustainability, OECD Publishing.

Southern African Development Community, 1996. SADC Protocol on Transport, Communications and Meteorology, SADC Secretariat.

UNCTAD, 2009. Economic Development in Africa, Strengthening Regional Economic Integration for Africa's Development. UNCTAD, Geneva.

World Bank, 2010. Doing Business Report.