



# Performance, problems and opportunities across the North-South Corridor

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# 1. Introduction

- The North-South Corridor is one of Southern Africa's foremost arteries for development, and one of the region's most intractable problems
- At least two decades of work has resulted in some progress, but progress is frequently rolled back by new blockages and short-term interventions
- While many of the bottlenecks remain the same – such as Beitbridge or Kasumbalesa – the specific challenges and blockages vary considerably
- The core challenge for the corridor is its dependence on dozens of interlocking border agencies, many of which have deep institutional challenges, and any one of which can create a substantial blockage
- Interventions must actively account for this underlying institutional challenge, or they will not work
- The study considers the state of the corridor, key strategic interests on the corridor, and various key nodes in order to develop a range of recommended areas for intervention

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## 2. Limitations

- The study is subject to a number of limitations, and further work will be needed once specific interventions have been identified
- Primary research work was largely desktop-based, and undertaken over a three-week period in June 2022. While a substantial base of research exists on the corridor, much of it is out of date or not publicly available, and the changeable nature of the corridor means it may require updating with fieldwork
- While about a dozen consultations took place with regional operators, officials and experts, additional consultations will be needed, particularly with the private sector
- Data on the corridor tends to differ substantially among sources, even when each independently appear credible or official. For the study, performance data from the Cross-Border Road Transport Authority (CBRTA) is used, due to its ready availability and official standing – however it should be noted that some private sector sources dispute some of this data

### 3. Key Recommendations

1. **NSC Project Management Office:** The creation of a technical PMO for the corridor, to coordinate donor efforts and host regional technical capacity
2. **Support to AEO Initiatives:** Partnerships to develop or expand AEO initiatives in RSA, Zimbabwe and Botswana; and private sector readiness training
3. **Infrastructure Resilience:** Investments in enabling infrastructure that reduces the frequency of systems failures, such as backup power and ICT solutions
4. **Monitoring and Rapid Response:** Support to regional corridor monitoring initiatives, and active response systems for emerging bottlenecks
5. **Support to border service providers:** Wide-ranging support to private sector border service providers, like clearing agents, that help firms navigate difficult border crossings
6. **Border system standards development:** Support to the development of regional standards for low-level border processes



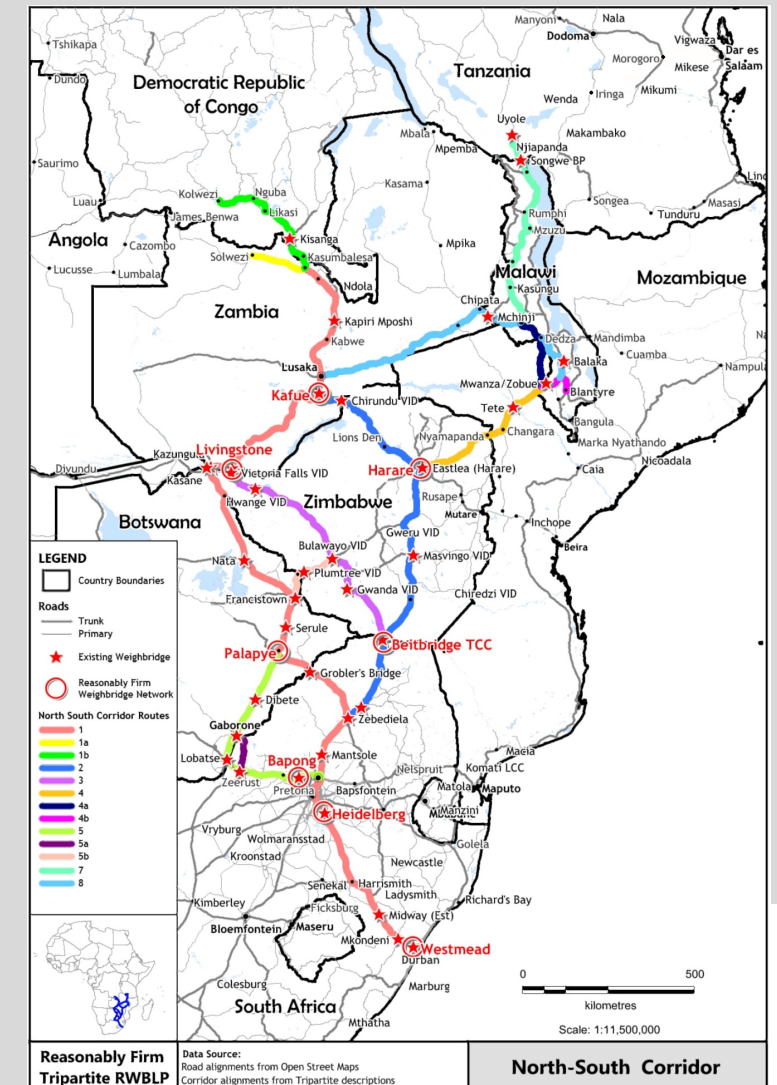
# CORRIDOR STRUCTURE AND PERFORMANCE

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## 4. Structure and trends

- 86% of exports to and 92% of imports from Zimbabwe, Zambia and the DRC that are landed in South Africa transit via the North-South Corridor
- The primary route on the NSC links Durban to Katanga via Beitbridge, Chirundu and Kasumbalesa; with most goods transported via road
- But there has been significant fragmentation of routes, as operators increasingly use alternative crossings like Maputo (rather than Durban) and Groblersbrug (rather than Beitbridge)
- Rail remains underdeveloped, and is primarily used to transport a few key bulk commodities
- In the case of South Africa, trade with corridor markets via road was more than 100 times larger than via rail



## 5. Performance and Bottlenecks

- The average truck travelling from Durban to Northern Zambia along the corridor experiences annual operating costs of R6,2 million, versus typical long-haul annual operating costs in South Africa of approximately R3,9 million
- Operators pay a particularly steep premium on insurance and licensing costs, but other costs are common with long-haul cross border freight
- High underlying costs are difficult to manage, because of a lack of suitable backhaul opportunities – driven largely by economic imbalances, with RSA exporting more than four times more to SADC than it imports
- However only 7% of logistics operators report that direct costs are their major concern – with 30% citing backhaul opportunities and 60% citing long standing time

Cost item	Costs per annum	Cost per Km
Fuel	R1 843 673,83	R12,25
Truck-tractor and trailer repayment	R794 517,00	R5,28
Maintenance and Repair, Spares, and Lubrication	R667 379,17	R4,44
Insurance, licenses, and permits	R572 181,17	R3,92
Driver income, bonuses, and benefits	R590 424,00	R3,80
Administrative Expenses	R481 294,83	R3,20
Miscellaneous Expenses	R322 543,83	R2,14
Cross-border fees and Tolls	R295 509,00	R1,96
Tyres	R282 117,00	R1,89
Lodging/Rent and Meals	R104 548,33	R0,69
Vehicle wash	R94 165,50	R0,63
Loading/Unloading fees	R87 498,33	R0,58
Traffic fines	R46 622,50	R0,31

## 5. Performance and Bottlenecks

- The single greatest concern remains very long standing times at key border crossings
- According to CBRTA, standing times for a roundtrip between Durban and Kasumbalesa average 10 days
- Beitbridge and Kasumbalesa remain the worst bottlenecks
- Bottlenecks lead to high variability in waiting times, which makes planning for standing times difficult
- In a sample of 31 weeks in 2020 and 2021, drivers frequently experience repeated weeks of 100-hour border crossing times, a number of weeks saw times around 175 hours, and some weeks took longer than 300 hours to transit the borders

Cost item	Standing time (minutes)		Standing costs (per annum)	
	Northbound	Southbound	Northbound	Southbound
RSA Traffic control centres	60	40	R3 652,43	R2 434,95
Roadblocks in South Africa	25	17	R1 521,84	R1 034,85
Beitbridge South Africa - Immigration	45	38	R2 739,32	R2 313,20
Beitbridge South Africa - Customs	1920	1680	R116 877,68	R102 267,97
Beitbridge Zimbabwe - Immigration	30	24	R1 826,21	R1 460,97
Beitbridge Zimbabwe - Customs	3900	2880	R237 407,78	R175 316,52
Zimbabwe Weighbridges	40	30	R2 434,95	R1 826,21
Roadblocks in Zimbabwe	65	52	R3 956,80	R3 165,44
Chirundu border - Immigration	26	22	R1 582,72	R1 339,22
Chirundu border - Customs	2340	960	R142 444,67	R58 438,84
Zambia Weighbridges	15	12	R913,11	R730,49
Roadblocks in Zambia	40	30	R2 434,95	R1 826,21
<b>Totals</b>	<b>8506</b>	<b>5785</b>	<b>R517 792,47</b>	<b>R352 154,88</b>



## 6. Global strategic Interests

- The North-South Corridor is a crucial route for the region to reach global markets, and will become increasingly important as a corridor for global market to reach the corridor's rapidly growing and urbanizing population
- Outside of copper, global import dependence on the corridor is low, but the rise in demand for green minerals will make it increasingly important
- Corridor markets have deposits of 10 of the 30 Critical Raw Materials identified by the EUC in the most recent assessment in 2020, and major deposits of cobalt in particular
- Key secondary interests include significant potential to decarbonize imports by improving corridor efficiency, with the corridor expected to emit emissions roughly equivalent to shipping 1,7 billion containers between Durban and Rotterdam

Critical Mineral	Corridor location	Global rank, Size of Reserves
Cobalt	DRC	1
Fluorspar	South Africa	4
Hafnium	South Africa	2
Lithium	Zimbabwe	6
Natural Graphite	Tanzania	6
PGMs	South Africa	1
PGMs	Zimbabwe	3
Phosphate rock	South Africa	5
Rare Earths	South Africa	11
Tantalum	Congo	1
Vanadium	South Africa	4

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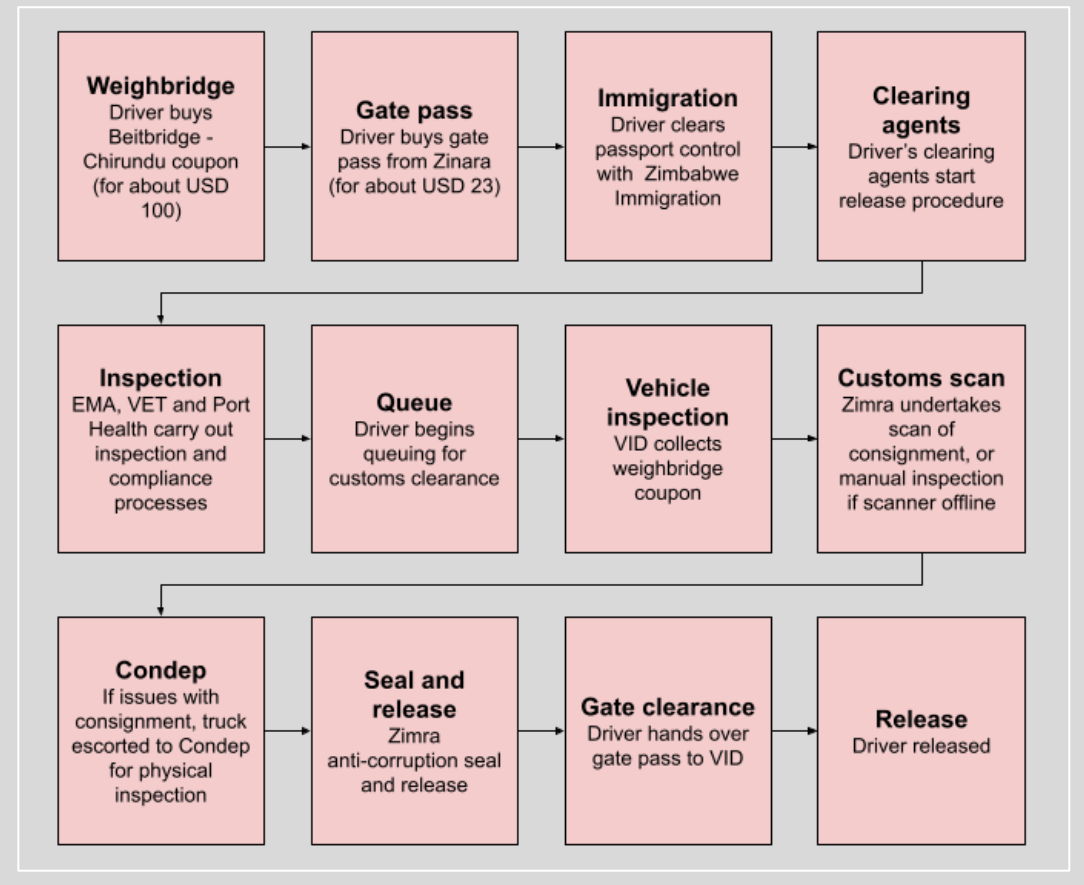
# KEY NODES

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## 7. Nodes – Beitbridge border post

- Beitbridge has typically been the busiest border crossing in the region, and one of the least efficient
- While the specific causes of slow crossing times vary, the underlying challenge is serious institutional weaknesses on both sides of the border and the web of overlapping agencies operating at the border
- At least 15 agencies are typically involved in clearance procedures, and any one can substantially delay crossings
- Private concessions are being rolled out on both sides of border, resulting in fees of USD 200 per good vehicles per crossing on Zimbabwe alone – despite these not addressing underlying weakness



## 8. Nodes – Chirundu border post

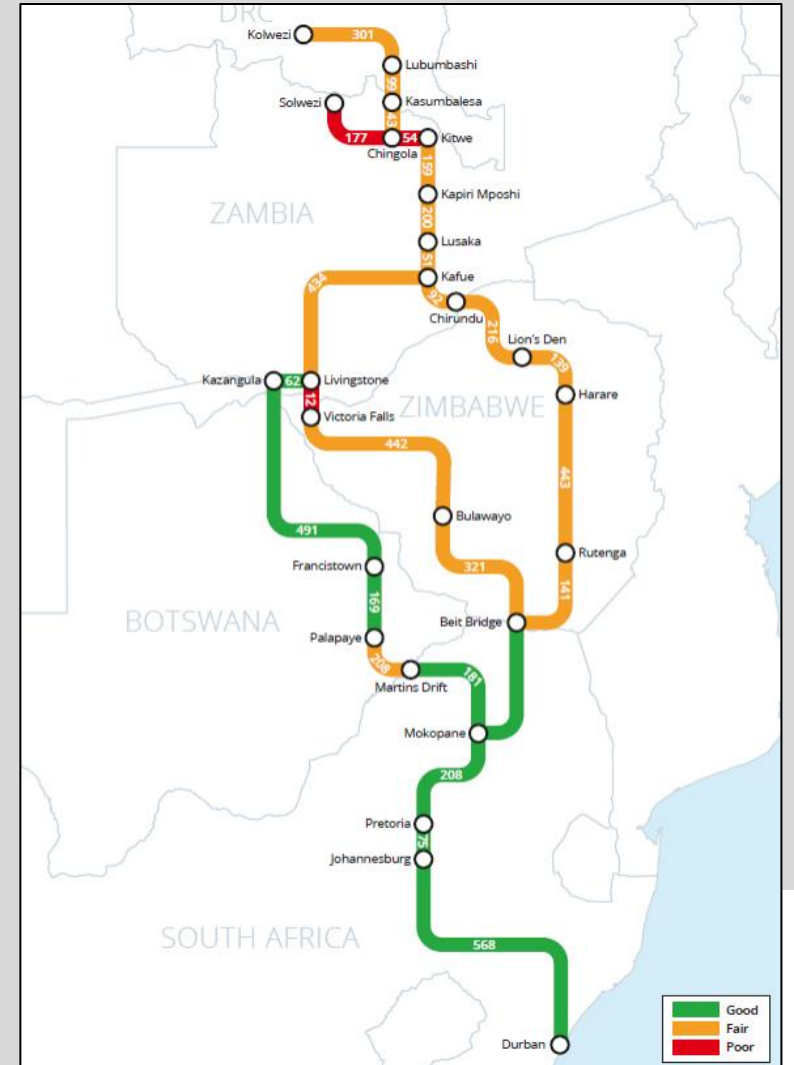
- Chirundu is widely regarded as a relative success story, as the most efficient of the three border posts on the corridor
- Much of this results from the early implementation of a OSBP - wait times at the border was estimated at three days when implemented, but has since reduced to 16 hours on the Southbound leg and 39 hours on the Northbound leg
- The 2017 Time Release study found an empty or otherwise not inspected truck could clear the border in 26 minutes, versus 15 hours for a truck that requires inspection
- Despite this, queues and bottlenecks remain common. These result from some of the same coordination and systems issues as at Beitbridge, and specific challenges with operating hours and the reliability of equipment
- Operators tend to report that the systems at Chirundu are good when they work. Digital systems, such as ASYCUDA and electronic scanners, help streamline clearance – but they are held back by frequent failures in underlying electricity and ICT infrastructure, and by issues with the systems themselves.
- The fragility of these systems entrenches paper-based alternatives and other back-up systems

## 9. Nodes – Kasumbalesa border post

- Up-to-date information on Kasumbalesa is more limited than for Beitbridge or Chirundu, but the crossing is widely regarded as the most difficult
- Serious queues are common at Kasumbalesa, with a report in March 2022 reporting queues of 34kms long, and a later report in April 2022 suggest queues had extended to 50kms long
- Most of the backlogs at Kasumbalesa result from serious governance and capacity challenges on the DRC-side of the border, and the political-economic considerations that entrench these dynamics
- Systems remain a mix of physical and digital – with customs forms manually collected, for example – and poor infrastructure means relatively simple disruptions like rain can disrupt inspections.
- Informal networks of carries are common at the border, with porters breaking bulk shipments into small consignments to carry over the border to Congolese trucks

## 10. Nodes – Road connections

- In general, while roads are not in the best condition, they are not a major barrier to trade, and most operators consider road linkages to be a low priority
- The only major road issues are in the far North of Zambia, particularly on some of the secondary roads linking mines on the Zambian side of the border – but there does appear to be substantial work already ongoing on these roads
- There are concerns that weakening capacity in Zimbabwe in particular could result in worsening conditions in the coming decade
- Enabling infrastructure – such as truck maintenance, truck stops, and weighbridges – tend to be mostly self-sustaining, but could be supported to improve resilience
- Regulations and violent protests targeting foreign drivers could post a long-term challenge to the viability of the corridor



# 11. Nodes – Rail

- Rail remains a secondary mode of transit on the corridor, largely focused on bulk commodities such as wheat, coal, petroleum oils, and a range of chemicals
- While some rail infrastructure remains relatively sound, networks in Zambia and the DRC are under significant strain, and most operators and networks in the region require additional capitalization to improve operational efficiencies and restructure rail networks to support goods trade
- Substantial work has already been done on improving rail performance, particularly through long-term work by the NEPAD Business Foundation on developing regional agreements on rail cooperation
- This work creates a strong base for future support – however in general rail is a very high-risk prospect for support. Most domestic rail networks are dysfunctional, with aging infrastructure and weak governing institutions. It seems unlikely that a functional regional rail network could be sustainably developed in the absence of strong domestic rail systems.



# RECOMMENDATIONS

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## 12. Recommendations – NSC-PMO

- Despite multiple attempts – including formal agreements at SADC dating back to at least 2007 – there is no corridor management body overseeing the NSC
- While a corridor management body cannot solve the underlying challenges in domestic institutional capacity, it can create a mechanism to (1) coordinate interventions, (2) provide a central point for alignment and monitoring, and (3) host interventions that only work with ongoing implementation
- The corridor body also has the best chance to manage barriers along the corridor that are constantly evolving and changing
- Existing mechanisms to achieve this coordination - such as RECs, bilateral cooperation agreements and Corridor Management Committees – are not up to the task
- Supporting a corridor body of some type would significantly increase the capacity for meaningful interventions, by providing an anchor partner that can sustain interventions in the long-term

## 12. Recommendations – NSC-PMO

- Two existing routes to support a NSC body would be via SADC's existing efforts to establish border management, or via the NBF's proposed private sector-led North-South Corridor Management Institution
- However, in general, aiming to establishing a Management Institution of any kind would be extremely complex and unpredictable – and would require an alignment of multiple domestic interests in a way that has not happened to date
- It is therefore proposed that support focus on a North-South Corridor Project Management Office (NSC-PMO), as a technical body that would still undertake much of the work of a management body, but without the official authority that complicates its foundation
- The model would be more Trademark East Africa than a traditional corridor management organisation – but the body could form the base of a future CMO
- Official recognition and partnerships should be sought but the body should not depend on them



## 13. Recommendations – AEO Initiatives

- In general, there is no obvious ‘big bang’ initiative that would work on the NSC, and change will come by incrementally building systems and institutions
- However, one avenue to could have significant direct impact would be to properly implement existing AEO programmes in South Africa, Zimbabwe, and Zambia; and to expand Botswana’s TKC programme to the NSC
- AEO programmes differ from most interventions because their core benefit is reducing dependence on the type of systems that change slowly, through benefits like accelerated clearance and reduced inspections; while also lifting pressure off border agencies and creating space for change
- All countries on the corridor have a AEO programme, but except for Zambia they remain in the early stages of development or have largely failed
- Support could be determined in consultation with regional customs agencies (who tend to lead AEO initiatives), but there is also substantial scope for private sector partnership's through AEO accreditation readiness programmes

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# 14. Recommendations – Infrastructure Resilience

- Evidence on the state of infrastructure is often out of date or not available, which makes it difficult to make concrete recommendations.
- However, one clear area for intervention is in improving Infrastructure Resilience – meaning investing in supporting infrastructure that makes important systems less likely to fail or be disrupted.
- Improvements in underlying systems are often undermined by weak fundamentals, such as unreliable power or internet coverage. For example, a 12-hour power outage at Beitbridge can result in a 16 to 20 kilometre queue of trucks which takes seven to eight days to clear
- Interventions like solar and battery backups or building local network redundancies can improve underlying resilience and performance, without requiring large structural changes to how borders operate
- Specific projects could target identified vulnerabilities and points of failure, or by systematically working through previous donor initiatives to identify those which have become dormant or underutilized because of a lack of reliable supporting infrastructure.

## 15. Recommendations – Monitoring and Rapid response

- A ‘quick win’ for a potential NSC-PMO would be invest in monitoring infrastructure on the corridor.
- Two strong existing initiatives can be supported, including the Corridor Trip Monitoring System (CTMS) and a range of private sector monitoring systems that make use of GPS data from trucks operating on the corridor (such as the work of Crickmay in South Africa)
- The CTMS is clearly more ambitious and has larger potential to have a positive impact – but for a quick win the GPS monitoring data could be implemented more easily and without the resistance typically associated with implementing self-reported performance monitoring systems in the public sector
- Monitoring work could be triangulated with data already gathered by CBTRA, Fesarta, and the WCO
- In the medium-term, near-live monitoring would allow for the identification and response to bottlenecks before they become a crisis



## 16. Recommendations – Border services

- Outside of supporting border agencies, there is substantial opportunities to support the network of private sector operators that make movement across difficult borders work
- This includes customs agents and other brokers that help companies navigate border paperwork and processes, support for managing loading, unloading and bulk break of freight cargo, truck servicing infrastructure, and trucks stops and other facilities to support drivers.
- Assuming change happens slowly on the NSC, performance on the corridor will be closely linked to the capacity of the Border Services to manage barriers as they emerge
- Proactively supporting firms at the border also helps bring these companies into processes of change, and avoids them acting as vested interests who's livelihood is dependent on inefficient borders
- Key interventions could include developing and rolling out regional accreditations for clearance agents, supporting existing cross border business bodies, and supporting the development of a regional truckers union or representative

## 16. Recommendations – Systems standards

- In cases in which work to develop regional systems or to connect existing formal systems (like digital customs processes) are met with resistance, an alternative route would be support work on developing regional best practices and standards for border agencies
- This type of best practice work is a second-best alternative but is often much easier to implement, and can still make a difference by creating some soft alignment of approaches and a neutral reference point for best practices, both of which can smooth efforts to create integrated approaches like OSBPs.
- Multiple existing standards exist at the WCO and SADC, but this initiative would aim to develop very practical low-level practices, defining standards for things like how to layout customs forms or how to manage outages in core systems. Targeting these low-level processes avoids some of the more intractable resistance of very high-level approaches like OSBPs or single-windows
- Efforts could build off AUDA's Traffic Light System, which is effectively a checklist of best practices against which borders are inspected and scored



# 17 – Implementation considerations

- All interventions should closely consider the political economy of the NSC, in which decades of blockages have built economies and ecosystems around inefficient borders. Border agencies and private operators at border posts will likely resist some changes
- Domestic coordination around borders and the NSC is often weak, which creates competing and overlapping state partners. South Africa, perhaps the natural partner on the NSC, is particularly limited in this regard at the moment, because of the institutional paralysis resulting from the BMA process
- Regional partnerships are always the best outcome, but efforts should be designed to be disconnected from an overt dependency on unanimous support from corridor governments or regional bodies like SADC. Outreach should always take place, but efforts like the NSC-PMO should not depend on regional support
- Interventions will be most meaningful if they have a regional body – like the PMO – that can continue championing them beyond their lifespan

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**Thank you**  
**Any questions?**

**Christopher Wood**  
**078 290 8314**  
**[chris@policylab.co.za](mailto:chris@policylab.co.za)**

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