SMART CORRIDORS: APPROACH AND WAY FORWARD

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1.1 Project Background

PIDA has estimated that the African Regional Transport Infrastructure Network corridor inefficiencies cost about US75bn a year.

PIDA PAP Continental project No. 3 is “Model Smart Corridors and Efficiency Monitoring” which entails:

a) Design of model smart corridor system(s) and selection of corridors for implementation (Phase 1) and

b) Design and implementation of corridor efficiency monitoring systems
1.2 The path 1

- Smart Corridor Definition and Characteristics
- Multi-criteria for Selecting a Pilot Smart Corridor
- Corridor Assessment and Ranking for at Least one PSC
- Selection of NSC and DC as PSCs
- Review of Corridor Coordination Models and Proposed Model for SC
1.3 The path

Gap Analysis of what is obtaining in the PSCs versus what should be in the corridors necessary to convert them into a SCs

Identification of activities that must undertaken to close the gap for the conversion to SCs.

Costing of the activities required to convert the PSCs to a SCs i.e. to close the Gap

PSCs Stakeholder Workshop to agree on the activities, options and approach for converting the corridor into PSC.

Preparation of TORs for implementing the PSCs

1.4. PSC Implementation Expected results

- Improved corridor coordination and management providing barrier free transit corridors piloted
- Lessons learnt disseminated for replication as best practices to reduce transport costs in other corridors
- Minimization of corridor transit times and cost
- Provision of a corridor monitoring technology in place.
- Reduction in $75bn cost of corridor efficiencies per year.
2. SMART Corridor Definition and Characteristics

SMART stands for “Safety, Mobility and Automated Real-time Traffic Management”
2.1 SMART Corridor - Summarized Definition

Transport corridor with quality infrastructure to carry intraregional and international cargo; Intelligent Transport Systems (ITS) for real-time information; & implementation of WTO and REC trade and transport facilitation tools, policies etc.

ITS – Intelligent Transport Systems
Software and hardware technology implemented on the corridor to rationalize, simplify, automate processes in order to save time and money.

ITS—Entails:
Technologies that provide access to information through telecommunications which includes the network infrastructure and communication tools used to interface stakeholders’ various operational systems
2.2 SMART Corridor - Objectives

✓ Provide real-time information on corridor traffic movements to stakeholders to enable them to manage the necessary processes effectively;
✓ Enhance corridor efficiency through trade and transport facilitation;
✓ Reduce cargo transportation time and costs;
✓ Increase safety and security of transport services;
✓ Ease the opening-up of landlocked countries trade;
✓ Enhance corridor countries’ competitiveness.
2.3 SMART Corridor - Key Characteristics

1. Intelligent Transport Systems & Network
   - Trade Community Data Hub (EDI)
   - Cargo/Transit Tracking System
   - Regional Transit Security Bond Guarantee
   - Customs Risk Management System
   - Weighbridge interface and X-ray scanner

2. WTO Trade Facilitation (TF) Tools

3. RECs' TF policies, regulations, etc.

4. Quality Transport Infrastructure & Maintenance
2.4 Corridor Processes- From Paper to ITS Paperless Solutions

Usual Import / export paper documents and stamped validations
- Certificate of Origin
- Invoice
- Import declaration
- Manifest
- Bill of Lading
- Transit Customs Declaration
- Invoices (Terminal, Port, etc.)
- Bank payment confirmations
- Customs release Order
- Weight and Scanning report
- Transit Bank Guarantee
- Road Authority Certificate
- Import Customs Declaration
- Other agencies doc, etc...

Usual and known Delays of Import / Export
- Waiting port arrival to start
- Storing goods in terminal
- Queuing stamped validation
- Waiting payment confirmation
- Queuing to Weigh and Scan
- Resubmitting for each country
- Redundant data entry
- Customs inland check points
- Customs escort organization
- Waiting processing at border
- Double border customs inspections. Redundant bank guarantees

### Automated & Paperless
- Redundant processes and delays reduced
- Time and cost savings

### Data interfaces
- Between stakeholders

### Rationalization & simplification of processes

### Between stakeholders

### Data interfaces

### Rationalization & simplification of processes

2.5 SMART Corridors - ITS Key Components

The ITS should have the following functions/modules/outputs-specifications:

1. Cross border **Trade Community Data Hub** (TCDH) & Electronic Data Interchange (EDI);
2. **Customs Management Systems** (CMS) connected through the TCDH / regional network;
3. **Customs Risk Management Systems** for cargo physical examination selection;
4. **Electronic payment** systems between stakeholders banks via the TCDH;
5. **Real time monitoring and Tracking System** for cargo and vehicle movements - GPS/GPRS tracking devices and electronic seals for all types of cargo transport vehicles;
6. **Corridor Management Institution’s statistical corridor performance monitoring & reporting system**;
7. **Customs Regional Transit Security Bond Guarantee** monitoring software at regional level;
8. **X-ray Cargo Scanners remote image analysis** at destination for cargo examination
9. **Weigh-in-motion weighbridges** automated and interconnected to the TCDH;
10. **Electronic toll portal** equipment on highways;
11. Electronic application / delivery of **authorizations /credential** by government agencies;
12. **Route status / alerts - data collection and report delivery** to corridor users
Data hub: The trade community is connected together on a single network. Each stakeholder’s operational software is connected to the main central database, the “hub”. Data content or validations are transferred from one stakeholder to another through the hub.

Confidentiality: User access is restricted by stakeholder. Only relevant data is accessible to a particular user. The system attribute a specific role to each user that grant him a specific and restricted information access.
2.7 Corridor ITS infrastructure – Stakeholders & Network

**COUNTRY A (SEA PORT)**
- Trade Community Data Hub (A) (1)
  - Exporter
  - Advance Cargo Info. (A)
  - Customs (A)
  - Shipping Lines (A)
  - Ministry of trade (A)
  - Banks (A)
  - Local Transp. comp (A)
  - X-ray Scanning (A)
  - Ministries & Agencies (4)
- Terminal Operator (A)
- Port Authority (A)
- Road Authority (A)
- Clearing & Forw. Ag. (A)
- Router
- In motion weighbridge
- Transit Guarantee
- Transit Tracking
- Border post Operator A&B

**COUNTRY B (Landlocked country)**
- Trade Community Data Hub (B)
  - Customs (A)
  - Clearing agent (A&B)
  - Road Auth. (B)
  - Transit Guarantee
  - Transit Tracking
  - In motion weighbridge
- Joint Border Post A/B
  - Joint Border Post A
  - Joint Border Post B
  - Joint Border Post C
- Road Authority (B)
- Customs (B)
- Clearing agent (B&C)
- Road Auth. (C)
- Transit Guarantee
- Transit Tracking
- In motion weighbridge
- Border post Operator B&C

**COUNTRY C (Landlocked country)**
- Trade Community Data Hub (C)
  - Customs (C)
  - Clearing Ag. (C)
- Importer Consignee
- Shipping lines (A)
- Custom Lines (C)
- Ministry of trade (C)
- Bureau of Standarts
- Sanitary agencies (C)
- X-ray Scanning (A)
- In motion weighbridge
- Transmision Tracking
- Border post Operator B&C

**Corridor Management Agency Database - Country A**
- Corridor Management Agency Database - Country B
- Corridor Management Agency Centralised Database (2)

**Corridor Management Agency Database - Country C**

Comments:
1. In some countries the Trade Community Data Hub and the Corridor Management agency Database could be the same. The TCDH is usually dedicated to any type of import/export/transit transaction and not only related to transit.
2. The central database can be located in any country of the corridor, preferably in the country where the Corridor Management Entity is settled.
3. The global appropriate network structure shall be studied on a real corridor configuration.
4. Ministries and agencies are governmental bodies other than the ones involved in the corridor process. These stakeholders are entities that need to have access to raw data to perform studies using corridor statistics in order to issue general policies.
2.8. Smart Corridor - ITS Key Components Processes

- **SEA**
  - Before Arrival of vessel in port

- **COUNTRY A**
  - From SEA PORT
  - In TRASNIT to B
  - Joint BORDER POST A/B

- **COUNTRY B**
  - From SEA PORT
  - In TRASNIT to C
  - Joint BORDER POST B/C

- **COUNTRY C**
  - Final Destination

**Processes**

1. **Pre-clearance Risk Manag.**
2. **Manifest /BL**
3. **Data exchange Hub**
   - Transit Tracking
   - Transit guarantee
   - Weigh-in-motion
   - X-ray Scan
4. **Import Release**
   - Tracking report
   - Guarantee release
   - Scan comparison
2.11 Implementation of WTO TF Tools - National Single Window

A process that enables parties to submit standardized information and documents in a single entry to fulfil all import, export, and transit regulatory requirements.

- **A Single Submission of Documents**
  Simplifies flow of information between government and traders

- **A Single Decision Making Process**
  Standardizes & integrates processes for cargo clearance

- **A Single Process to Release Goods**
  Reduces time and costs for cargo clearance
2.14. **IMPLEMENTATION OF SMART CORRIDORS INFRASTRUCTURE**

Design according to TAHs norms and standards
Toll and Weigh-in-motion Weighbridges
Specific lanes for slow-moving vehicles
NORTH SOUTH CORRIDOR (2016)

US M $

ITS/ICT Activities: 14
Road works: 1259
Weighbridges: 83
Border post infra.: 43
TOTAL: 1399

NB: In-country/ITS/ICT works to be perform (South Africa, Botswana, Zimbabwe, Mozambique, Tanzania, Malawi, Zambia, DRC)

Cost: 123 US M $
Adequate infrastructural capacity (with equipment for short port dwell time)

Port Community System

Efficient loading and unloading container facilities

Efficient inland container depots (ICDs)

DAR CORRIDOR (2016)

US M $

ITS/ICT Activities : 4.5

Road works : 2 601

Weighbridges : 31

Border post infra.: 42

TOTAL : 2 678.5
Way forward

- Implementation of SCs designed (Dar Es and North South)
- Conversion of other corridors into SC
- Disclosure of the concept and corresponding policy dialogue
Obrigado, Merci, Thank you