National Freight Logistics
Strategy Summary

Transport Portfolio Committee

30 May 2007
Index

- Brief of the National Freight Logistics Strategy Team
- The Problem Statement
- Current Situation
- The Vision
- Implementation Priorities
Brief of the National Freight Logistics Strategy (NFLS) Team

• Develop a NFLS that responds to the current challenges facing freight and ensures that the long term sustainability of the sub-sector is secured and is adaptable to shifts in industry and Government policy
The Problem Statement

The freight system in South Africa is fraught with:

- Inefficiencies at system and firm level
- Structural infrastructure shortfalls and mismatches
- The institutional structure of the freight sector is inappropriate
- A lack of integrated planning
- Information gaps and asymmetries abound
- The skills base is deficient; and,
- The regulatory frameworks are incapable of resolving the problems in the industry.
The Current Situation

- Most modes not responsive to demand side
  - Capacity
  - Price
  - Level of service
  - Quality of service
- Freight logistics system not aligned to National development strategies
- Lack of regulatory framework to shift system in desired directions
- Institutional framework inappropriate
The Current Situation(2)

- Low investment in skills across labour force
  - Management and high level development concentration
  - Lower levels less or no new technology skills development

- Limited space for BEE and SMME’s in high value elements of supply chain either as customer or service provider

- Low concentration on cargo needs of 2nd economy and even 1st economy rural components
### The Current Situation

#### The system perspective

<table>
<thead>
<tr>
<th>System</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ageing infrastructure</td>
<td>Restricted capacity, Unreliable services, High investment requirements</td>
</tr>
<tr>
<td>Inappropriate regulatory framework and institutional structure</td>
<td>No ability to change system, Transfer pricing, No or low competition, Monopoly pricing for “competitive” services</td>
</tr>
<tr>
<td>Low efficiency</td>
<td>High cost, Unreliable services Low service levels</td>
</tr>
<tr>
<td>Low collaboration</td>
<td>Duplication, Under-utilisation High costs</td>
</tr>
<tr>
<td>Lack of integrated planning</td>
<td>Spatial and timing mismatches Wasted effort and resources</td>
</tr>
</tbody>
</table>
# The Current Situation
## The customer perspective

<table>
<thead>
<tr>
<th>Customer Requirements</th>
<th>System response</th>
</tr>
</thead>
<tbody>
<tr>
<td>High service levels</td>
<td>Restricted capacity</td>
</tr>
<tr>
<td></td>
<td>Smaller customers face service provision only in higher priced services</td>
</tr>
<tr>
<td>Integration into transport service provider supply chain</td>
<td>Black box and paper based responses</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Rigid service design</td>
</tr>
<tr>
<td>Reliability to support cross company collaboration</td>
<td>Unreliable services and lack of integration</td>
</tr>
<tr>
<td>Competitive pricing</td>
<td>Monopoly rent extraction or service gap pricing</td>
</tr>
</tbody>
</table>
The Current Situation
The SOE perspective

- Dual mandate sends mixed signals
- Multiple compliance and planning frameworks
- Historical impediments not removed
- Different perspectives from different Government Departments
- Lack of integrated planning across Government
- Unrealistic expectations on management
The Current Situation
The Government perspective

- SOE management incentivisation not aligned to Government objectives
- Regulatory gaps prevent resolution of some issues
- No ability in SOE’s to deliver infrastructure on balance sheet
- Lack of integrated planning within Government and with other parties
- Over-commercialisation of some public functions
- Enforcement of existing regulations problematic
- Financial reporting cycle approach to long-term structural problems
The Current Situation
The Transport Industry perspective

- Government not supporting industry
- Government subsidising SOE’s while margins fall in industry
- SOE’s not willing to integrate with other providers
- Government not supporting collaborative efforts of industry
- Government sending mixed messages
- State monopolies protected at industry expense
The Physical Picture
RSA position relative to markets and trade routes

Source: CSIR

World’s largest markets
Five busiest ports by volume
Projected Growth 2003 to 2020: 38%

- Road: 77%
- Rail: 23%

Dominant Commodities:
- Maize
- Fuel & petroleum products

Projected Growth 2003 to 2020: 40%

- Road: 90%
- Rail: 10%

Dominant Commodities:
- Processed foods
- Chemicals & Fertilizer minerals
- Gold & Uranium

2003 corridor stats:
- Road: 92%
- Rail: 8%

Projected Growth 2003 to 2020: 39%

- Road: 90%
- Rail: 10%

Dominant Commodities:
- Processed foods
- Maize
- Chemicals
- Iron Steel and ferro-alloys
- Railway equipment
- Motor Vehicles

2003 corridor stats:
- Road: 85%
- Rail: 15%

Projected Growth 2003 to 2020: 40%

- Road: 73%
- Rail: 27%

Dominant Commodities:
- Maize
- Processed foods
- Coal

2003 corridor stats:
- Road: 91%
- Rail: 9%

Projected Growth 2003 to 2020: 31%

- Road: 90%
- Rail: 10%

Dominant Commodities:
- Processed Food
- Maize
- Chemicals
- Fruit produce

2003 corridor stats:
- Road: 82%
- Rail: 18%

Projected Growth 2003 to 2020: 38%

- Road: 84%
- Rail: 16%

Dominant Commodities:
- Stone Quarrying
- Limestone
- Processed foods
- Fuel & Petroleum products

* CLM – 15th Annual State of Logistics Report
** CSIR Research

Million tons 2003
(Million tons 2020 MSA forecast)
The structure of the surface freight transport market -
South Africa’s surface freight transport market (million tons)

**Total surface transport**
900mt (310) = 280bn tonkm

**Road**
720 (250) = 180bn tonkm

- **In-house**
  560 (225) = 126bn tonkm
- **For reward**
  160 (340) = 54bn tonkm
  - **Shorter distances, lower volumes,**
    - **Shortage of rail infra**
    100 (90) = 9bn tonkm
  - **Long distance, high volume,**
    - **next to rail**
    60 (750) = 45bn tonkm

**Rail**
180 (550) = 100bn tonkm

- **High value commodities**
  40 (400) = 16bn tonkm
- **Bulk commodities**
  50 (500) = 25bn tonkm
- **Export machines**
  90 (650) = 60bn tonkm

- **Iron ore**
  25 (800)
- **Coal**
  65 (600)

**Rest**
30 (520)

**Gauteng-Durban**
16 (600)

**Gauteng-Cape Town**
14 (1400)

Current rough estimates based on 1999 base case
Note: Figure in bracket denotes average transport distance
Freight Transport 2004

Tonnage
1105mt (270)

Road
920mt (200)

Rail
185mt (600)

Corridor
140mt (680)

Metropolitan
580mt (75)

Rural
200mt (200)

Corridor
45mt (680)

Rural
30mt (475)

Metropolitan
10mt (150)

Rural
200mt (200)

Corridor
45mt (680)

Sishen & Rbay
100mt (670)

Figure in brackets denotes average transport distance

Tonkm
300bn

Road
190bn

Rail
110bn

Corridor
95bn

Metropolitan
45bn

Rural
40bn

Corridor
30bn

Metropolitan
1bn

Rural
30bn

Corridor
30bn

Sishen & Rbay
65bn

Income
R120bn

Road
R105bn

Rail
R15bn

Corridor
R50bn

Metropolitan
R30bn

Rural
R25bn

Corridor
R6bn

Metropolitan
R1bn

Rural
R2bn

Sishen & Rbay
R5bn

CSIR 2005
Rail loss of market share in the last decade
Spatial disparities between Transport Infrastructure and 2nd Economy Environments

- Inaccessible/ deep rural areas with relatively high populations and poverty levels

Rail network

National road network

Deep rural areas
The Vision

- Integrated functional regulators reporting to the Minister (Economic, Safety and Environmental, Security, with independent regulatory oversight mechanism reporting to the Minister)
- Non-commercial Infrastructure Utilities, SOE Infrastructure Entities, and Private Sector own/operate networks
- Operators (public and private) run on network
- Regulators manage across cargo cycle
- Public and private funding of infrastructure
- More direct role for Government
The Vision as a response

<table>
<thead>
<tr>
<th>Issue</th>
<th>Impact of Vision</th>
</tr>
</thead>
</table>
| Infrastructure gaps and investment shortfalls                | • Remove balance sheet constraints  
|                                                              | • Plan and deliver infrastructure to economic development requirements           |
| Mismatch between economic development needs and infrastructure provision | • More direct Government control of infrastructure network  
|                                                              | • Developmental approach to infrastructure provision and planning               |
| Inefficiencies and monopolistic pricing                      | • Introduction of competition in and for operations will force existing operators to deliver better services at competitive pricing to stay in play  
|                                                              | • Economic regulation to direct pricing and increase efficiencies               |
### The Vision as a response(2)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Impact of Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 2&lt;sup&gt;nd&lt;/sup&gt; economy focus in infrastructure and operations</td>
<td>• Non-commercialised infrastructure entities able to provide infrastructure on developmental basis, allowing services to be delivered at higher levels</td>
</tr>
</tbody>
</table>
| Lack of integrated planning and information asymmetries, lack of integration and collaboration | • More direct role for Government in directing planning and implementation as well as fostering integration and collaboration  
• Institutionalised inter-sphere planning and delivery  
• Mandatory information filing and information provision by Government |
| Inappropriate institutional framework                                | • Regulatory framework allows management of change to future state, as well as allowing responses to industry and economic change |
The Vision
(future institutional structure)

Regulatory Oversight

Economic Regulator

Safety and environment Regulator

Security Regulator

Public and Private Operators
(Competition in and for Market)

Critical Infrastructure

Non-commercial Infrastructure Agencies and SOE’s (owner and manager)

Private Infrastructure Concessions (manager)

Non-Critical Infrastructure

Public and Private Operators

Private and Public Infrastructure Agencies (infra owner and manager)
Infrastructure Development

- **Development**
  - Critical*: State, PPP, Regulated Private
  - Non-critical: Private, PPP, State

- **Funding**
  - Clustered Project and individual project driven funding including range of instruments both state and private
  - Funding instrument basket decided by nature of project and risk factors
    - Equity
    - Debt
    - Fiscal Transfers
    - Donor funds(etc)

* Critical infrastructure: eg. Economic significance, market structure implications such as monopolies, regional linkages, etc
Implementation
Governance and Management

• IDTTL Technical Team (DOT and seconded personnel from other Departments) to design and implement freight logistics system masterplan. Blueprints to include transitional processes to end-state.
• Corridor Teams (DOT, Agencies and other Government Spheres) to design and implement corridor strategies that implement national strategies customised to local conditions.
Implementation
Governance and Management

Transport MinMEC
COTO
Economic Cluster
DG’s Economic Cluster Sub-Committee
Corridor Teams
Technical Team
Implementation
Regulatory and Institutional Reform

- IDTTL to develop blueprint for institutional and regulatory framework in each subsector
- Transitional-state blueprint to also be developed to accelerate move to end-state benefits realisation within current regulatory, corporate governance and institutional framework
- Implementation to be managed by IDTTL
Implementation
Transitional Blueprint example
Rail

Current State
• Vertically Integrated
• Commercial network and operations

Transnet 3 Year Strategy
• Vertically Separated
• Commercial network and operations

Nuanced Transitional 3 year Strategy
• Vertically Separated
• Commercial Main network
• Developmental Secondary network (public infrastructure utility)
• Open access secondary network
• Mandatory access on main network

Vision
• Vertically separated
• SOE, Rail Infrastructure Utility (secondary network) and Private Sector Rail Network utilities
• Multiple public and private commercial operators
• Open access on secondary network
• Non-discriminatory access on primary network
Implementation
Integrated Planning, Information Collection and Forecasting

- Integrated Freight System Masterplan to be developed
- Information management and collection architecture and processes to be developed and implemented
  - Database to be established
  - Mandatory information filing to be legislated
  - Logistics systems to be established (planning, forecasting, modelling etc.)
- Freight system performance measurement and tracking to be implemented
# Implementation

## Medium to long term institutional priorities

### Key strategic shifts

<table>
<thead>
<tr>
<th>Policy</th>
<th>Economic Regulation</th>
<th>Safety, Security &amp; Environmental Regulation</th>
<th>Infrastructure</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Institutional structure</td>
<td>• Establish economic regulator</td>
<td>• Coherent regulatory framework</td>
<td>• Split operations from infrastructure</td>
<td>• Introduce competition in operations</td>
</tr>
<tr>
<td>• Transport Masterplan</td>
<td>• Clarify pipeline transport</td>
<td>• Establish the three functional regulators</td>
<td>• Establish infrastructure utilities</td>
<td>• Support the development of BEE and SMME operators</td>
</tr>
<tr>
<td>• 1&lt;sup&gt;st&lt;/sup&gt; and 2&lt;sup&gt;nd&lt;/sup&gt; economy integration</td>
<td>• Develop infrastructure regulations</td>
<td>• Establish regulatory oversight body</td>
<td>• Introduce options for private sector funding and participation</td>
<td>• Drive the expansion of services to 2&lt;sup&gt;nd&lt;/sup&gt; economy</td>
</tr>
<tr>
<td>• Skills strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Information Strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Implementation
Specific Priorities

- Integrating first and second economy production supply chains
- Supporting BEE and SMME’s in the sector
- Skills development
  - National Logistics Centre
- Corridor Interventions and Management
  - Operational and tactical interventions
  - Corridor management structures
  - Base-line analysis
  - Demand side analysis
  - Scenario Modelling
  - Corridor Strategies