

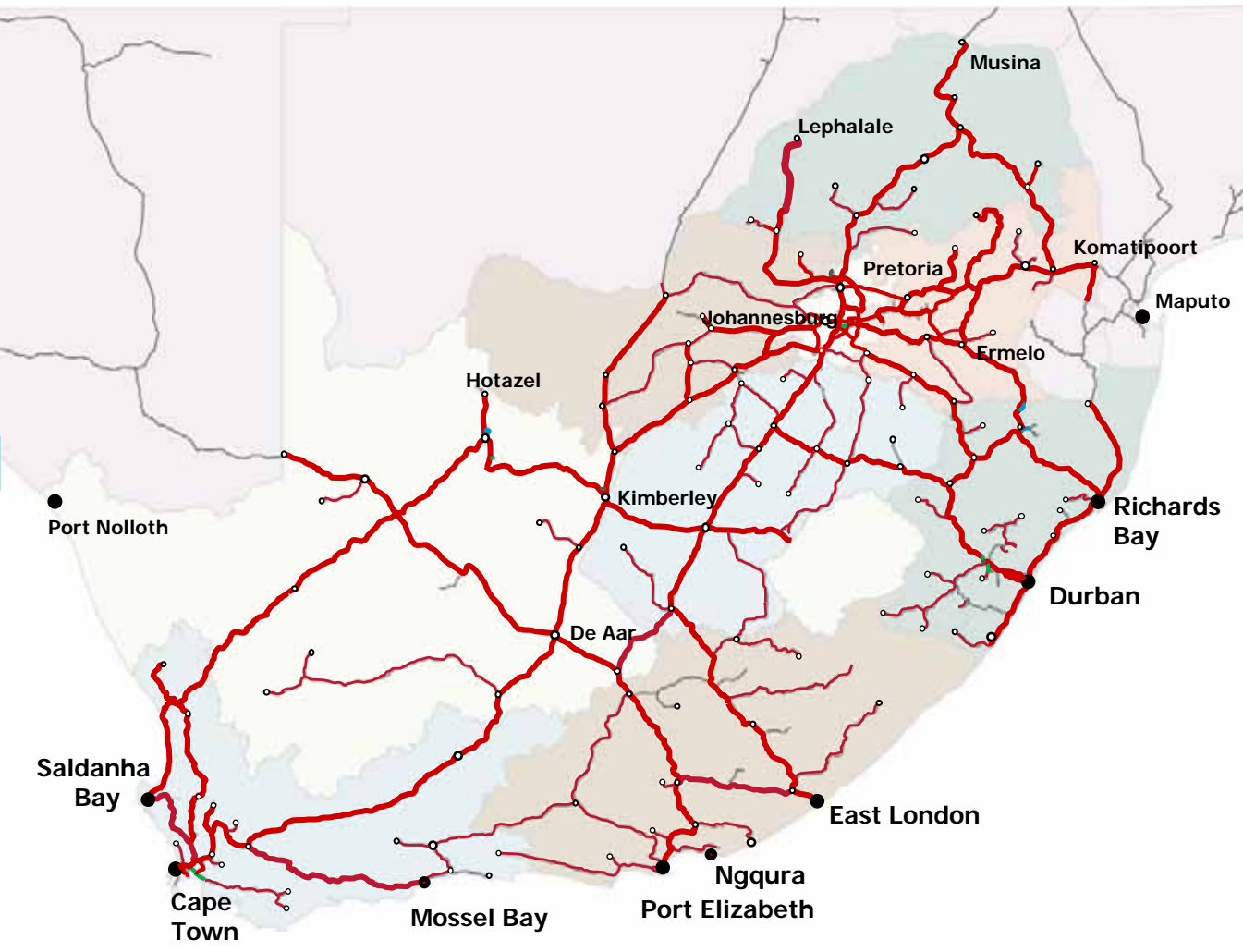
# 3. Infrastructure Plan Overview

## Port Infrastructure

- 9 Commercial Ports
- Complementary grouping into west, central and eastern region
- Older ports reaching capacity
- Potential for growth at newer ports
  - 19 container berths
  - 3 automotive terminals
  - 26 dry bulk berths
  - 39 break bulk berths
  - 13 liquid bulk berths

## Rail Infrastructure

- 30 400 km of track
- 20 953 route km
- Core network: 12 801 route km
- Network Electrification:
  - 50kV AC (861km),
  - 25 kV AC (2309km)
  - 3kV DC (4935km)
  - Diesel (11974km)
- Axle loading:
  - Main lines at 22t / axle
  - Coal & ore lines 30t /axle (coal line operated at 26 ton)



# 3. Infrastructure Plan Overview

## Pipeline Infrastructure

### Crude Oil line: 580 km

- Design cap = 6,8 bnl/a
- Current cap = 5,2 bnl/a

### Refined Fuels line: 725 km +

±1000km network

- Design cap = 3,5 bnl/a
- Current cap = 4,3 bnl/a

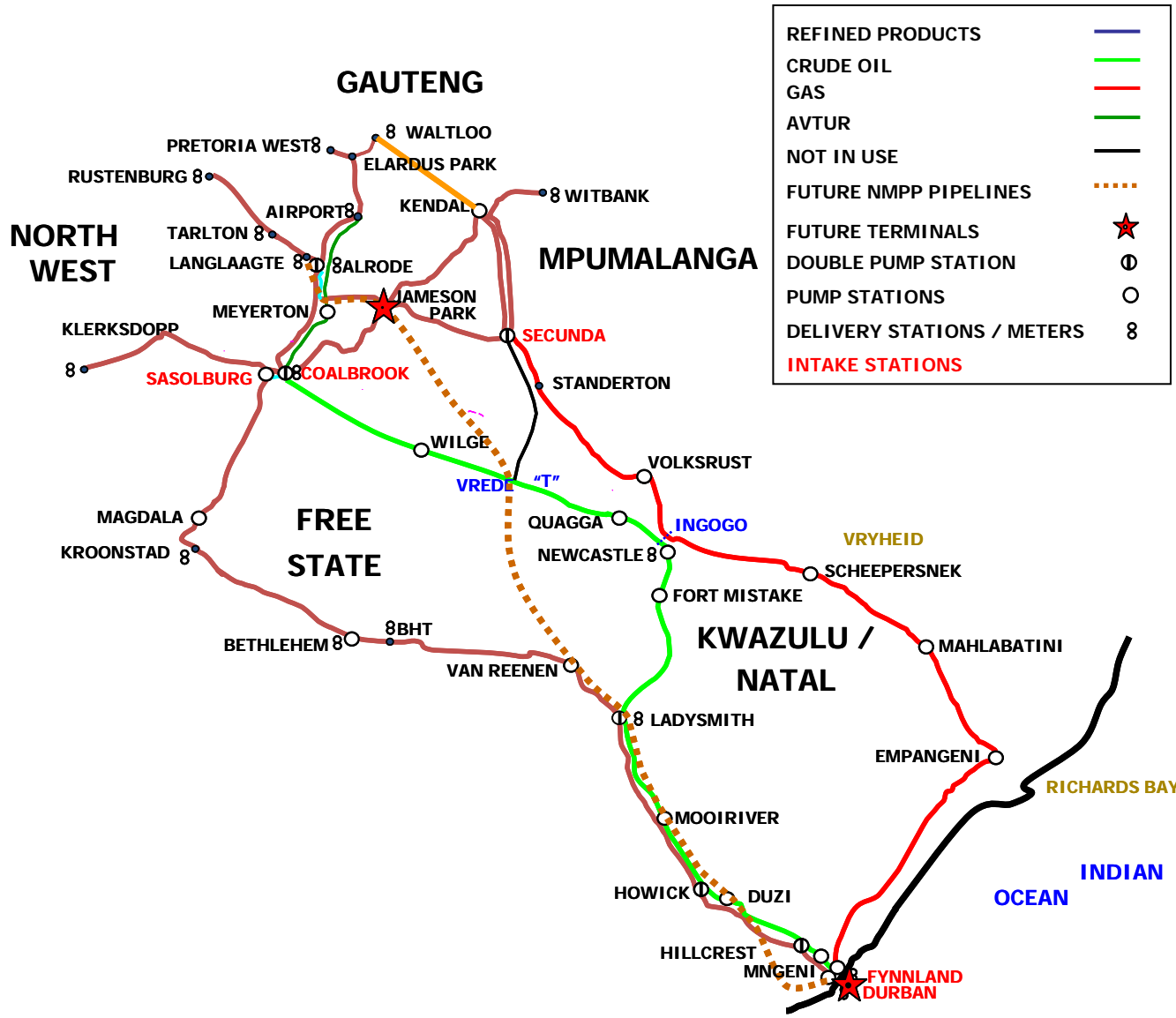
### Aviation Turbine Fuel line: 94

km.

- Design cap = 1,2 bnl/a
- Current cap = 1,1 bnl/a

### Methane-rich Gas Line: ±570km

- Design cap = 23m GJ pa
- Current cap = 17m GJ pa



- Provide capacity ahead of demand
- Ensure sustainability of development plans
- Integrate port, rail and pipeline planning
- Align with national road and electricity supply planning
- Align with plans of other authorities
- Provide capacity through operational efficiencies before infrastructure provision

- NEMA's definition of sustainability

*... the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations”*

- Principles informing Transnet's Sustainability Framework

- Ensure sound accountability and governance.
- Achieve economic returns greater than the cost of capital.
- Develop world-class infrastructure.
- Create a workplace where our people can excel.
- Care for the communities in which we operate.
- Manage the environment responsibly.

**Transnet's strategy for Sustainable Development and Environmental Management is currently under development**

### 3. Infrastructure Plan Overview

Project	Progress to date	Objective
1. Iron Ore Line Phase 1B	83%	<ul style="list-style-type: none"><li>• To increase the iron ore export channel (Sishen/Saldanha) capacity 47mtpa (Phase 1B);</li><li>• The increased demand in basic commodities world-wide has led to the mines (Kumba and Assmang) increasing their production requirements to meet international demand;</li><li>• The project consists of the acquisition of rolling</li></ul>
3. Iron Ore Line Phase 1C	25%	<ul style="list-style-type: none"><li>• To increase the iron ore export channel to 60mtpa to meet the increase in production at the mines over the medium term</li><li>• The bulk terminal services will also require debottlenecking through the upgrading of conveyor systems to achieve the average</li></ul>
4. Cape Town Container Expansion (0.9m TEUs)	54%	<ul style="list-style-type: none"><li>• To increase capacity of the existing facility from 600 000 TEUs/annum to 900 000 TEUs/annum to meet the increase in demand arising mainly from the Western Cape region.</li><li>• The project entails increasing</li><li>• stacking area;</li></ul>
		<ul style="list-style-type: none"><li>• replacement and acquisition of additional port handling equipment; and</li><li>• deepening of container berths</li></ul>

### 3. Infrastructure Plan Overview

Project	Progress to date	Objective
5. Ngqura Container Terminal	84%	<ul style="list-style-type: none"><li>• Provision of a full service container terminal with 2 berths in the first phase which will provide 750 000 TEUs/a capacity.</li><li>• The terminal commenced operations in October 2009</li></ul>
6. Durban Harbour Entrance Channel Widening and	87%	<ul style="list-style-type: none"><li>• To widen and deepen the entrance channel of the Port of Durban to enable safe navigation and to accommodate the trend of increasing vessel sizes.</li></ul>
7. DCT Reengineering	52%	<ul style="list-style-type: none"><li>• To increase the capacity of the Durban Container Terminal from 1.98 million TEUs/annum to 2.3 million TEUs/annum and ultimately to 2.9 million TEUs/annum.</li><li>• The project will also replace equipment that has deteriorated over a working life of more than 20 years to</li></ul>
8. New Multi-product Pipeline	23%	<ul style="list-style-type: none"><li>• To build a 550 kilometre long new 24 inch trunkline from Durban to Jameson Park (Gauteng) to address the increased demand for fuel in Gauteng and surrounding areas.</li><li>• The trunk line will connect an inland and coastal terminal with significant storage capacity.</li><li>• Construction of the trunkline commenced in February 2008 and is considered a strategic project of national importance.</li></ul>



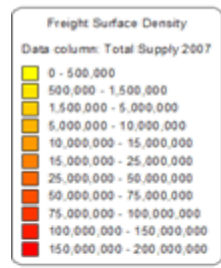
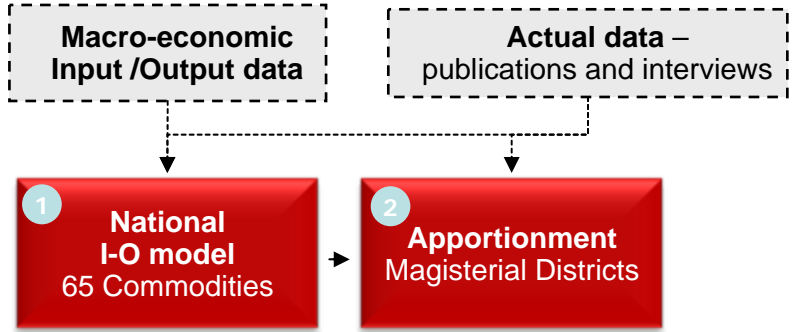
PROGRAMME			
1	Introduction	<b>Chris Wells:</b> Acting Group Chief Executive	09:00 –
2	Policy & Regulation context	<b>Vuyo Kahla:</b> Group Executive: Office of the Group Chief Executive	09:15 – 09:30
3	Infrastructure Plan	<b>Moira Moses:</b> Group Executive: Transnet	09:30 –
4	Demand Forecast and Rail Planning	<b>Francois Meyer:</b> Planning Director, Rail: Group Planning	09:45 – 11:00
BREAK			
5	Pipeline Planning	<b>Lennie Moodley:</b> Chief Operating Officer:	11:30 –
6	Port Planning	Transnet Pipelines <b>Moira Moses:</b> Group Executive: Transnet	11:45 11:45 –
7	Five-year Capital Investment Plan and	Capital Projects <b>Phumelele Motsoahae:</b> Planning Specialist:	12:15 12:15 –
8	Questions and Concluding remarks discussion	<b>Chris Wells:</b> Acting Group Chief Executive Group Planning	12:30 12:30 – 13:30

- Creating capacity ahead of demand is one of the primary objectives of Transnet
- Freight Forecasting is an important planning tool to understand how demand for transportation capacity will change in future
- The lead times to infrastructure provision are often 5-7 years
  - the Freight Demand Model need to take a 30 year view to enable Transnet to build a capital requirement picture for the longer term

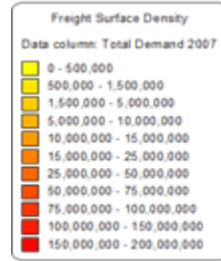
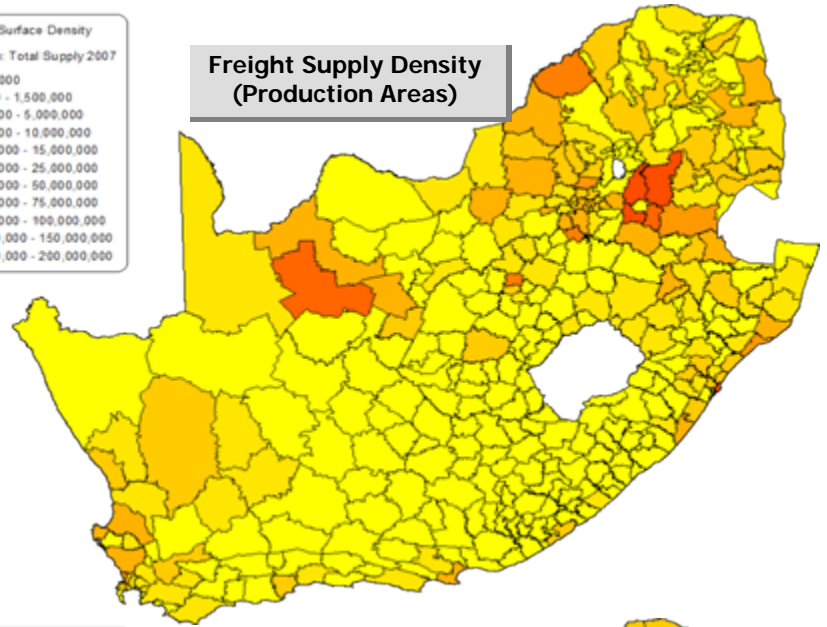
# 4. Integrated Demand Forecast

**Step 1:**  
Determine commodities (65 classes) produced and consumed in South Africa in 2007/8

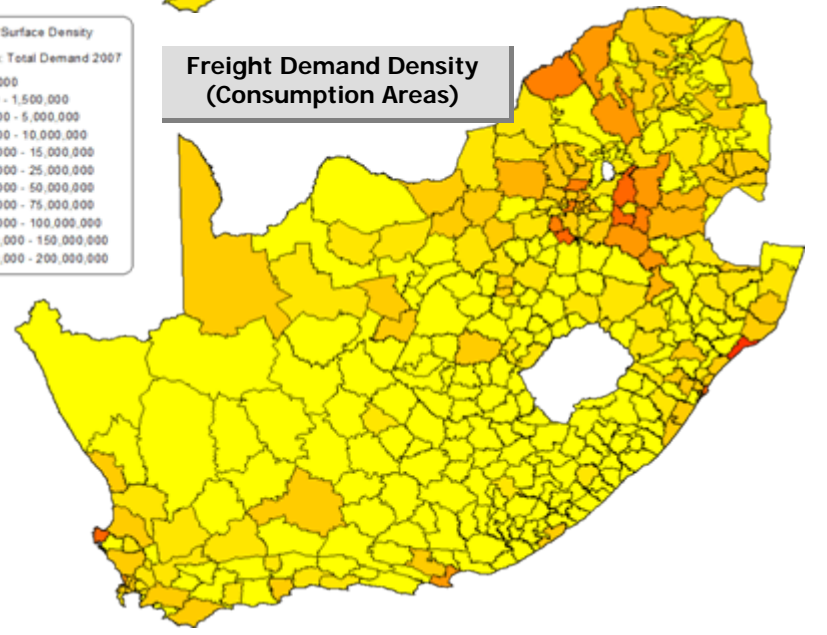
**Step 2:**  
Allocate freight production and consumption to 352 magisterial districts (MD)



**Freight Supply Density (Production Areas)**



**Freight Demand Density (Consumption Areas)**



# 4. Integrated Demand Forecast

Step 1: Determine commodities (65 classes) produced and consumed in South Africa in 2007/8

Step 2: Allocate freight production and consumption to 352 magisterial districts (MD)

Step 3: Forecast surface growth for 30 years (regional for each of 65 commodities)

