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*The City of Cape Town's Transport
and Urban Development Authority*

FREIGHT MANAGEMENT STRATEGY

For the City of Cape Town

Approved by Council

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Executive summary

The National Department of Transport, through the National Land Transport Act, 2009, the National Freight Logistics Strategy (2005), and the Road Freight Strategy for South Africa (2011), have made the clear case for the need for local and regional freight strategies, i.e. to enable the City's transport system to deliver the efficient, reliable, safe and secure movement of goods to support economic growth and protect the quality of the environment.

Further, the City of Cape Town's (CCT's) Integrated Transport Plan (ITP) of 2006-2011 identified the need for the development of a safe and efficient freight transport system, and the Comprehensive Integrated Transport Plan (CITP) 2013-2018 provides additional guidance for the development of a comprehensive freight transportation strategy.

A Transport Development Index (TDI) was developed by Transport for Cape Town to evaluate the accessibility and related costs of transport to different income groups and users (the movement of people and goods across the city). The TDI describes the concerns and problems of the freight user group across 10 different freight data zones and in terms of four different users: local deliveries, medium freight, heavy freight and long-distance freight. As such, the TDI has established that:

- the direct transport cost (fuel, salaries, maintenance and repairs, toll fees, etc.) for the freight user group is R1,755 billion per annum
- the cost of congestion for this user group is R121 million per annum
- the cost of safety is R19 million per annum
- the cost of crime is R15 million per annum
- the impact of freight transporters on Cape Town's residents in terms of accidents is R930 million per annum
- the impact of freight transporters on the city's road network (capital expenditure and maintenance) is R713 million per annum

In addition to the above, this Freight Management Strategy is driven by the following requirements and issues.

- The City, as the 'suppliers' of freight facilities, is required to provide a safe, efficient and reliable system.
- Road-based freight has a significant impact on city infrastructure, urban quality and public health. These impacts include congestion, road crashes, air quality, strained road capacity, and a cost of maintenance (~R1bn/p.a. total in Cape Town) that is not equitably borne by freight vehicles in comparison to other private motor vehicles.
- There is a need to preserve the use of the existing infrastructure (roads, rail, waterways and pipelines) and optimise its use.
- At the same time, there is a need to cater for future freight growth, and mitigate the inevitable impacts thereof.
- The local and regional economy is based on global trade, and depends on the fast, reliable delivery of goods. The cost and impact of an inefficient and unreliable freight system on commodity flows are significant.
- Transport is the largest component of logistics cost (>60%).
- Many skilled and unskilled jobs are dependent on the freight industry.
- New infrastructure is costly and implementation has long lead times. It is therefore critical that decisions are made in a systematic, strategic manner, based on (and influencing) changing trade patterns and matching supply with demand.

- There is, further, a need to ensure that future generations do not pay inequitably for the cost of today's unsustainable use of the road infrastructure.

Legal and policy framework

As part of the background research for this Freight Management Strategy, and in order to ensure compliance, the legal and contextual framework at all three levels of government was reviewed (see table below) and, where appropriate, elements have either been taken into account or

National Documentation	Provincial /Regional Documentation	CCT Documentation
<ul style="list-style-type: none"> • National Land Transport Act, 2009 (Act 5 of 2009) • National Road Traffic Act, (1996) • White Paper on National Transport Policy (1996) • White Paper on National Ports Policy (2002) • National Road Traffic Act 1996 (Act No 93 of 1996): Abnormal Loads • Transnet Freight Rail Model • National Freight Logistics Strategy (2005) • Road Freight Strategy for South Africa (2011) • National State of Logistics Surveys • National Land Transport Strategic Framework (2006 -2011) • Draft (National) Road Infrastructure Policy (April 2015) • National Ports Act of 2005 	<ul style="list-style-type: none"> • Provincial Government Western Cape's Strategic Objective 1, 3, 4 and 5 • White Paper on Western Cape Provincial Transport Policy (1997) • Western Cape Provincial Spatial Development Framework (2006) • Western Cape Strategic Infrastructure Plan (2006) • Western Cape Provincial Growth and Development Strategy (2008) • National Transport Master plan: Western Cape Province • Draft Western Cape Provincial Freight Transport and Logistics Plan (2009) • Western Cape Urban Freight Traffic Study (2006) • Cape Winelands Freight Transport Strategy (2013) • Western Cape Provincial Land Transport Framework (PLTF) (2010) • Integrated Freight & Logistics Strategic Framework & Action Plan for eThekweni (2014) 	<ul style="list-style-type: none"> • TCT: Comprehensive Integrated Transport Plan (CITP) 2006-2011 • CCT Freight Strategy (July 2006) (draft) • TCT: Comprehensive Integrated Transport Plan (CITP) 2013-2018 • CCT Air Quality Management Plan (2005) • CCT Air Quality Management By-Law (2010) • TCT's Transport Development Index (TDI)(2015) • TCT Constitution By-Laws (2013) • TCT Road Safety Strategy (2013–2018) • TCT Long Term Strategy

Strategy informants

The main source of information for this strategy was a study commissioned by TCT entitled TCT Status Quo Assessment: Freight (2015). This study, together with the informants in the table below and through due cognisance of needs identified in the City's Comprehensive Integrated Transport Plan (CITP), 2013-2018, provided the key areas where actions are required, and why.

- CCT Investigative Report on the Management of Strategic Routes and Abnormal Load Transportation (2003)
- TCT Transportation of Dangerous Goods (DGs): Status Quo assessment (2014)
- TCT Freight Demand Model: Data analyses for inputs into the Freight Management Strategy (2014)
- TCT: Abnormal Load Route Study (2014)
- TCT Weigh-in-Motion Technology for Load Assessment / Control at selected locations in Cape Town (2015)
- TCT: Status Quo Assessment: Freight (2015)
- TCT: Heavy Vehicle Accident Study (2015)

The TCT Status Quo Assessment: Freight (2015) revealed the following issues around which this strategy was formulated:

- There is significant growth in road-based freight along Cape Town's major road corridors for both bulk and containerised goods, due to the growth in fast moving consumer goods worldwide;
- Since the deregulation of the freight industry and the focus of Transnet Freight Rail on profitable business, rail's share of freight has dramatically declined, which further compounds the problems identified above;
- The Port of Cape Town, which is the major generator of freight in the city, has expansion plans to roughly treble its current container handling services in the next 20 years. This despite the fact that Transnet Freight Rail is its sister company, and that around 95% of the freight arriving at the Port is road-based;
- Overloading of freight vehicles has a significant negative impact on road infrastructure, and results in premature road deterioration and pavement damage;
- The structural condition of roads in the city is deteriorating gradually due to funding constraints. This has a direct cost impact on road freight transportation. Apart from the surfacing quality, road geometry is associated with a significant number of freight crashes;
- The city's roads are capacity constrained for many hours of the day, and freight acts as a 'capacity suppressor'. High local transport costs reduces the competitiveness of local goods and therefore the economy of the region;
- Overloading and many other freight-related transgressions of regulations are not adequately controlled, penalties for transgressions are low, and self-regulation is rarely embraced;
- Noise as well as gaseous and particulate emissions from freight operations are an increasing concern;
- Transportation of dangerous goods (hazardous materials) is insufficiently controlled and regulated;
- Local, regional and national stakeholders all cite inadequate integration and communication as a concern, alongside a lack of compatibility in standards between regions.

The vision for freight updated from that of the CIP 2013-2018 is proposed as follow:

Freight transport within Cape Town and the city's functional area is safe and efficient, serving the needs of the local and regional economy without compromising the access and mobility needs of

fellow road users; freight operators understand and comply with regulations that deal with road safety; emissions; route and road asset preservation; and the user-pays principle.

Approach and strategic framework

The vision, above, will be achieved through this coordinated Freight Management Strategy. Interventions are structured around 11 key Focus Areas including:

- Focus area 1: Dangerous goods
- Focus area 2: Abnormal loads
- Focus area 3: Overloading
- Focus area 4: Road congestion
- Focus area 5: Freight demand
- Focus area 6: Road safety
- Focus area 7: Incident management
- Focus area 8: Freight emissions and air quality
- Focus area 9: Rail freight
- Focus area 10: Technology and innovation
- Focus area 11: Advocacy and Inter-governmental structures

A set of principles and actions for each of these Focus Areas has been developed to guide the strategic direction. An analysis of these principles and actions is also undertaken to identify key motivations for them; constraints that are present which may have an influence on their likely success; the benefits that should result from the actions proposed; and risks that may prevent their successful implementation.

An implementation and action plan is developed in keeping with TCT Long Term Strategy timelines - A (three year timeline), B (five year timeline), C (10 year timeline) & D (15 year timeline). Lead departments in TCT are identified to drive the respective action items relate to the respective focus area.

A proposed set of indicators has been identified for the respective actions related to the focus areas. It is suggested that through the action program, that these indicators form a reference base to be reviewed and expanded on when developing and driving the respective actions, as they relate to the TCT long term strategy.

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Definitions and abbreviations

Abbreviations

ACSA	:	Airports Company South Africa
ARTS	:	Athlone Refuse Transfer Station
CITP	:	Comprehensive Integrated Transport Plan
City	:	City of Cape Town
CSRI	:	The Council for Scientific and Industrial Research
DG	:	Dangerous Goods
DRMP	:	Disaster Risk Management Plan
HGV	:	Heavy Goods Vehicle
IDP	:	Integrated Development Plan
ITS	:	Intelligent Transport System
NDoT	:	National Department of Transport
NEM:WA:	:	National Environmental Management: Waste Act
NLTA	:	National Land Transport Act
RTMC	:	Road Transport Management System
SAPS	:	South African Police Services
TCT	:	Transport for Cape Town
TDI	:	Transport Development Index
TEU	:	Twenty-foot Equivalent Units
TFR	:	Transnet Freight Rail
TMC	:	Traffic Management Centre
TMH11	:	Technical Methods for Highways 11
WCG	:	Western Cape Government
WIM	:	Weigh-In-Motion

Definitions¹

Axle: Device or set of devices, whether continuous across the width of a vehicle or not, about which the wheels of that vehicle rotate and which is so placed that, when the vehicle is travelling straight ahead, the vertical centre-lines of such wheels would be in one vertical plane at right angles to the longitudinal centre-line of such vehicle.

Axle unit: Set of two or more parallel axles of such vehicle that are so interconnected as to form a unit.

Axle mass limit: Permissible maximum mass of an axle or an axle unit.

Consignee: Person who accepts goods that have been transported in a freight vehicle.

Consignor: Person who offers goods for transport in a freight vehicle, and includes the manufacturer or his or her agent, duly appointed as such.

Dangerous goods (DGs): Sometimes referred to as hazardous materials, abbreviated to HAZMAT. DGs however, remains the internationally accepted term since there may be many substances considered to be hazardous, but not necessarily classified as dangerous in the International

¹ Adapted from the Road Freight Strategy for South Africa, 2011

Dangerous Substances Directive (76/464/EEC). Locally, the range of materials classified as DG's can be found in SANS 10228.

Dry port: An inland intermodal terminal connected by road or rail to a seaport and operating as a centre for the trans-shipment of sea cargo to inland destinations. Dry port can also be referred to as inland port.

Freight: For the purposes of this Strategy, freight is defined as goods weighing more than 3.5 tonnes.

Overloading: Exceeding the permissible limits in terms of the freight vehicle length, width, height, gross weight or axle weight by freight vehicles operating on public roads.

Primary road network: Network of tolled and non-tolled highways that links all the major population centres in South Africa. The primary road network corresponds with national roads which are defined as roads and routes declared a national road by the South African National Roads Agency Limited and National Roads Act, Act 7 of 1998, as amended.

Road Transport Management System (RTMS): Industry-led, voluntary self-regulation scheme that encourages consignees, consignors and transport operators engaged in the road logistics value chain to implement a vehicle management system that preserves road infrastructure, improves road safety and increases the productivity of the logistics value chain.

Secondary Road Network: Public roads not proclaimed as national roads or those identified as part of the primary road network, which typically are the roads of regional or provincial importance

Self-regulation: A voluntary system by which an organisation or industry deals with its own compliance and disciplinary problems, and thereby complements the conventional regulatory enforcement.

Tertiary roads: Public roads, other than primary or secondary roads: These roads typically connect the residential roads to higher classes of roads and can vary from wide urban streets to rural roads. Such roads would typically fall under the jurisdiction of the municipalities.

Transport corridor: A major regional transportation route linking several economic centres, countries and ports and along which a significant proportion of regional and international imports and exports are carried by various transport modes. From an economic perspective, the function of a corridor is to promote trade and economic growth by providing more efficient transport and logistic services.

Weigh-in-motion (WIM) devices: Weighing devices that are designed to capture and record heavy vehicle axle weights and gross vehicle weights as they drive over a sensor. Unlike the static weigh stations, such devices do not require the vehicles to stop, making them much more efficient. WIM applications allow the collection of traffic data for all vehicle types, data logging and screening via telemetry and/or video. The data can therefore be used for pavement design and maintenance purposes, and the selection of heavy vehicles for accurate weighing at static weighbridges i.e. overload screening.

1 Introduction

1.1 The need for a Freight Management Strategy

1.1.1 Background and context

The National Department of Transport, through the National Land Transport Act, 2009, the National Freight Logistics Strategy (2005), and the Road Freight Strategy for South Africa (2011), have made the clear case for the need for local and regional freight strategies, to enable the local governments to develop a transport system that delivers the efficient, reliable, safe and secure movement of goods to support economic growth and protect the quality of the environment.

The City of Cape Town's (CCT's) Integrated Transport Plan (ITP) of 2006-2011 identified the need for the development of a safe and efficient freight transport system, and the Comprehensive Integrated Transport Plan (CITP) 2013-2018 provides additional guidance for the development of a comprehensive freight transportation strategy. This Strategy therefore reflects the needs identified in chapters 3, 4 and 5 of the CITP (2013-2018), as well as those of additional stakeholders, and is developed within the context of national, provincial and regional freight needs and strategies.

The Transport for Cape Town (TCT) constitution By-Law, No. 7208 of 2013, provides the base for TCT's long-term strategy, which has been categorised as follows:

Strategy	Timeline	Description
A	3 year	Consolidation of the TCT transport authority model with the focus on performance orientated service delivery
B	5 year	Consolidation of the TCT transport authority financial management strategy and investment logic under the MLTF
C	10 year	Rollout of the integrated road and rail methodology with the focus on one brand and ticket and one integrated timetable
D	15 year	Ensure that costs of key user groups' Access Priorities are halved for the benefit of the citizens of and visitors to Cape Town

The implementation and action plan (Chapter 6 of this Strategy) corresponds to these timelines.

1.1.2 Problem statement

The City's Status Quo Assessment: Freight (2015), highlighted the following:

- There is significant growth in road-based freight along Cape Town's major road corridors for both bulk and containerised goods, due to the growth in fast moving consumer goods worldwide;
- Since the deregulation of the freight industry and the focus of Transnet Freight Rail on profitable business, rail's share of freight has dramatically declined, which further compounds the problems identified above;
- The Port of Cape Town, which is the major generator of freight in the city, has expansion plans to roughly treble its current container handling services in the next 20 years. This

despite the fact that Transnet Freight Rail is its sister company, and that around 95% of the freight arriving at the Port is road-based;

- Overloading of freight vehicles has a significant negative impact on road infrastructure, and results in premature road deterioration and pavement damage;
- The structural condition of roads in the city is deteriorating gradually due to funding constraints. This has a direct cost impact on road freight transportation. Apart from the surfacing quality, road geometry is associated with a significant number of freight crashes;
- The city's roads are capacity constrained for many hours of the day, and freight acts as a 'capacity suppressor'. High local transport costs reduces the competitiveness of local goods and therefore the economy of the region;
- Overloading and many other freight-related transgressions of regulations are not adequately controlled, penalties for transgressions are low, and self-regulation is rarely embraced;
- Noise as well as gaseous and particulate emissions from freight operations are an increasing concern;
- Transportation of dangerous goods (hazardous materials) is uncontrolled and insufficiently regulated;
- Local, regional and national stakeholders all cite inadequate integration and communication as a concern, alongside a lack of compatibility in standards between regions.

1.1.3 Strategic impact

This Freight Management Strategy is driven primarily by the following needs:

- The City of Cape Town, as the 'suppliers' of freight facilities (mainly planning and road infrastructure), is required to provide a safe, efficient and reliable system.
- The economy is based on global trade, and depends on the fast, reliable delivery of goods. The costs and impacts of unreliable, inefficient systems on commodity flows both locally and regionally – are significant, and transport is the biggest component of logistics cost (>60%).
- Many jobs are dependent on the freight industry.
- Road-based freight has a significant impact on city infrastructure, urban quality and public health. These impacts include congestion, road crashes, air quality, strained road capacity, and a cost of maintenance (~R1bn/p.a. total in Cape Town) that is not equitably borne by freight vehicles in comparison to other private motor vehicles.
- There is a need to preserve the existing infrastructure (roads, rail, waterways and pipelines) and optimise its use.
- There is a need to cater for future freight growth, and mitigate these impacts.
- New infrastructure is costly and implementation has long lead times. It is therefore critical that decisions around infrastructure are made in a systematic, strategic manner, based on (and influencing) changing trade patterns and matching supply with demand.

- There is, further, a need to ensure that future generations do not pay inequitably for the cost of today's unsustainable use of the road infrastructure

1.2 Vision

Section 1.1.2, and the (TCT Status Quo Assessment: Freight, 2015) indicates the current importance and challenges of the freight sector in Cape Town and the Functional Area.

The vision for freight updated from that of the CITP 2013-2018 is proposed as follow:

Freight transport within Cape Town and the City's Functional Area is safe and efficient, serving the needs of the local and regional economy without compromising the access and mobility needs of fellow road users; freight operators understand and comply with regulations that deal with road safety; emissions; route and road asset preservation; and the user-pays principle.

The vision will be achieved through the proposed 11 key focus areas and the associated principles and actions. The 11 key focus areas include:

- Focus area 1: Dangerous goods
- Focus area 2: Abnormal loads
- Focus area 3: Overloading
- Focus area 4: Road congestion
- Focus area 5: Freight demand
- Focus area 6: Road safety
- Focus area 7: Incident management
- Focus area 8: Freight emissions and air quality
- Focus area 9: Rail freight
- Focus area 10: Technology and innovation
- Focus area 11: Advocacy and Inter-governmental structures

1.3 Approach and Method

The development of this Freight Management Strategy involved the analysis of relevant freight regulations and legislative framework and primary research, as depicted in Table 1.1 and

Table 1.2 respectively; the formulation of a strategic framework, that include key focus areas and relevant short, medium and long-term actions, the development of an implementation plan and a monitoring, evaluation and review plan.

Table 1.1: Secondary Data Collection: Regulations, legislation, policies and plans

National Documentation	Provincial /Regional Documentation	CCT Documentation
<ul style="list-style-type: none"> • National Land Transport Act, 2009 (Act 5 of 2009) • National Road Traffic Act, (1996) • White Paper on National Transport Policy (1996) 	<ul style="list-style-type: none"> • Provincial Government Western Cape's Strategic Objective 1, 3, 4 and 5 • White Paper on Western Cape Provincial Transport Policy (1997) 	<ul style="list-style-type: none"> • TCT: Comprehensive Integrated Transport Plan (CITP) 2006-2011 • CCT Freight Strategy (July 2006) (draft) • TCT: Comprehensive Integrated Transport Plan (CITP) 2013-2018

National Documentation	Provincial /Regional Documentation	CCT Documentation
<ul style="list-style-type: none"> • White Paper on National Ports Policy (2002) • National Road Traffic Act 1996 (Act No 93 of 1996): Abnormal Loads • Transnet Freight Rail Model • National Freight Logistics Strategy (2005) • Road Freight Strategy for South Africa (2011) • National State of Logistics Surveys • National Land Transport Strategic Framework (2006 -2011) • Draft (National) Road Infrastructure Policy (April 2015) • National Ports Act of 2005 	<ul style="list-style-type: none"> • Western Cape Provincial Spatial Development Framework (2006) • Western Cape Strategic Infrastructure Plan (2006) • Western Cape Provincial Growth and Development Strategy (2008) • National Transport Master plan: Western Cape Province • Draft Western Cape Provincial Freight Transport and Logistics Plan (2009) • Western Cape Urban Freight Traffic Study (2006) • Cape Winelands Freight Transport Strategy (2013) • Western Cape Provincial Land Transport Framework (PLTF) (2010) • Integrated Freight & Logistics Strategic Framework & Action Plan for eThekweni (2014) 	<ul style="list-style-type: none"> • CCT Air Quality Management Plan (2005) • CCT Air Quality Management By-Law (2010) • TCT's Transport Development Index (TDI)(2015) • TCT Constitution By-Laws (2013) • TCT Road Safety Strategy (2013–2018) • TCT Long Term Strategy

Table 1.2: Primary Data Collection

<ul style="list-style-type: none"> • CCT Investigative Report on the Management of Strategic Routes and Abnormal Load Transportation (2003) • TCT Transportation of Dangerous Goods (DGs): Status Quo assessment (2014) • TCT Freight Demand Model: Data analyses for inputs into the Freight Management Strategy (2014) • TCT: Abnormal Load Route Study (2014) • TCT Weigh-in-Motion Technology for Load Assessment / Control at selected locations in Cape Town (2015) • TCT: Status Quo Assessment: Freight (2015) • TCT: Heavy Vehicle Accident Study (2015)
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1.4 Limitations of the Freight Management Strategy

Section 37 of the NLTA (Act 5 of 2009) requires the planning authority to develop a freight transport strategy; however, TCT's mandate is limited to the planning, implementation, coordination and the efficient functioning of road-based freight in and through the City and its functional region. And, while TCT is able to support and encourage cooperation between stakeholders and play an important advocacy role, it has limited jurisdiction regarding matters such as provincial and national freight routes, rail freight, port operations, the development of freight regulations, law enforcement and the extent and imposition of penalties.

Further, this Freight Management Strategy pays limited attention to developing actions and principles around pipeline transportation, air cargo, and the Port of Cape Town; these represent state-owned entities, with their own jurisdictions. Nevertheless, TCT is undertaking extensive liaison with Transnet Freight Rail (TFR) to optimise the use of rail for freight and ACSA in relation to air freight. In addition, TCT is liaising with the Port of Cape Town, the major generator of freight in the city, to review its development plans and to ensure that it minimises the generation of road-based freight.

2 Stakeholder engagement

It is recognised that continued engagement is critical for both public and private sectors on the problems and benefits of freight transportation. This chapter identifies key aspects in relation to its engagement plan for this strategy.

2.1 Functional Region

Freight that moves into and out of Cape Town moves through multiple jurisdictions and has multiple linkages (see Figure 2-1 & Figure 2-2). Through traffic should thus be of equal importance to origin or destination locations. Forecasting, planning for future capacity and the support of efficient movement of freight requires an emphasis on multi-jurisdictional planning and, through this, the avoidance of wasteful investments or a duplication of facilities.

In support of this multi-jurisdictional liaison, section 12(2) and section 19(1) of the NLTA states:

“One or more adjacent municipalities may agree on the joint exercise or performance of their respective powers and functions contemplated in this Act or may establish municipal entities in terms of the Systems Act for this purpose”

“Where there are significant transport movements between two or more adjacent municipalities, they may establish an inter-municipality forum in terms of section 28 of the Intergovernmental Relations Act, 2005 (Act. No. 13 of 2005) to co-ordinate their functions in terms of this Act and to ensure that their integrated transport plans take account of such movements”

As has been agreed in the Western Cape Growth and Development Strategy and Western Cape Land Transport Framework, this strategy covers Cape Town's Functional Area, Coordination through Functional Regional Sub Committee.

TCT is therefore developing a comprehensive strategy to improve information sharing and to expand on stakeholder engagement. To achieve this, TCT has established the Land Transport Advisory Board (LTAB) and an Inter-modal Planning Committee (IPC) which includes representatives from all stakeholders identified in Table 2.1. Detailed terms of reference have been established for these committees to ensure that they are action orientated and address operational, corporate, functional, national and international mandates. Functional Region Sub Committee is mandated with the coordination of freight within the functional region.

The IPC, as mandated by the LTAB has established the following sub-committees, all of which have a bearing on this strategy:

- A Rail Management sub-committee;
- A Functional Region sub-committee
- A Transport Law sub-committee
- A Stakeholder Relations Management and Communication sub-committee
- A Minibus Taxi sub-committee
- A Land Use sub-committee
- A Port Infrastructure sub-committee.



Figure 2-1: Functional Region for Cape Town

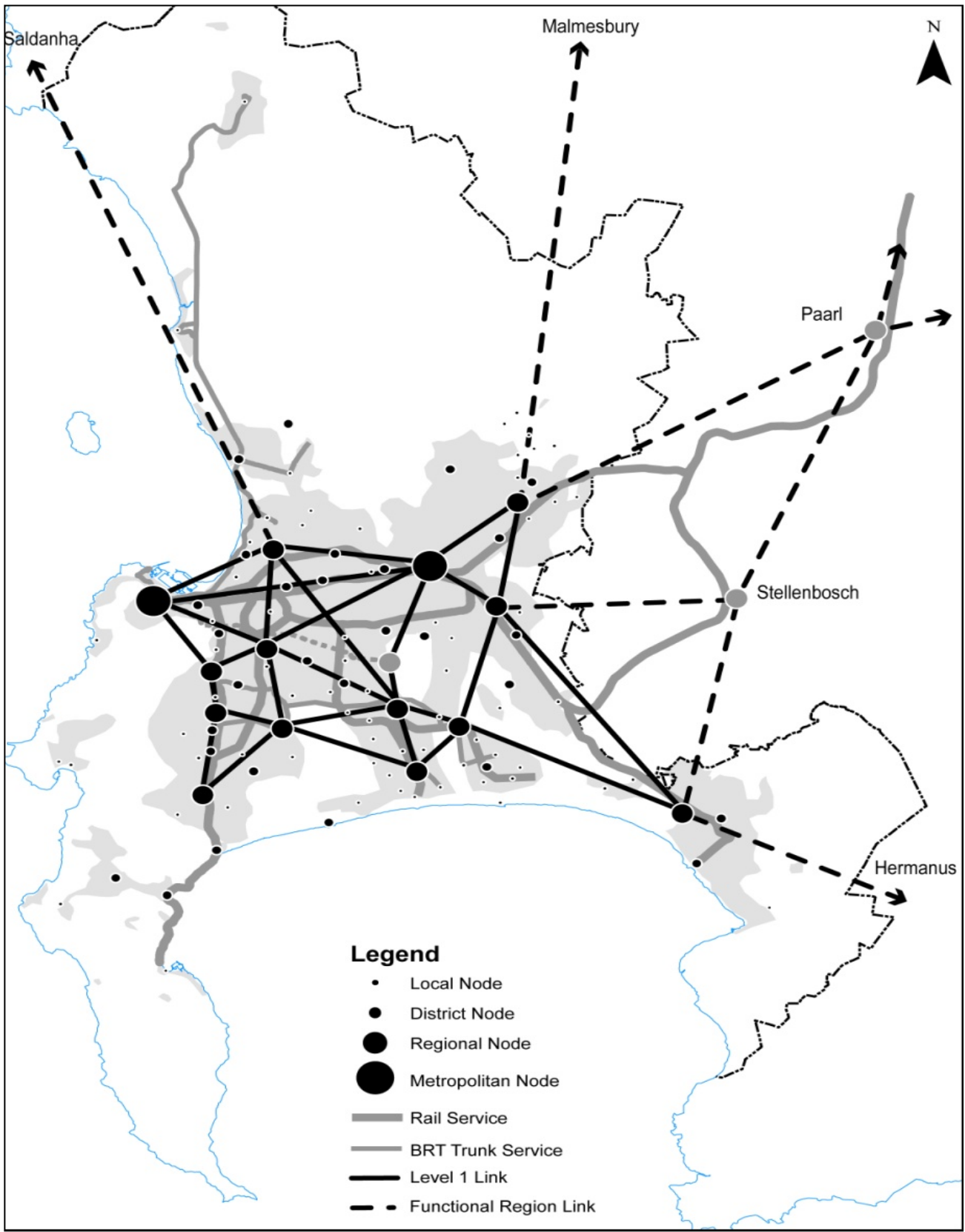


Figure 2-2: Transport desire lines

2.2 Key stakeholders and role-players

The success of freight planning is dependent on the active participation of freight stakeholders. Their assistance and support is critical to ensure that Cape Town's freight needs are correctly defined and that freight projects receive the appropriate level of priority. In the development of this strategy, stakeholders and role-players were represented by sectors that recognise freight transport as a key element within their sector of influence. These sectors include the following as indicated in Table 2.1.

Table 2.1: Key stakeholders and role-players

Stakeholder	Role of this strategy
Community in Cape Town	Local government's focus is on targeted service delivery. This strategy derives its mandate from the five strategic pillars ("the Five Pillars") of the City's Integrated Development Plan ("the IDP") and provides a short, medium and long term plan for the delivery of freight transport management and related services to all identified communities.
National Government	National Department of Transport (NDOT) provides policy, legislation and financial direction. This strategy acknowledges this and elaborates on the City's commitment to implementing objectives within this strategic and legislative context.
Provincial Government	The City is coordinating its freight strategy with the Western Cape Government (WCG) with due regard for the WCG's coordinating role in freight and transport planning for the region as a whole.
State Owned Enterprises (SOEs)	There are numerous transport related SOEs that the City has a relationship with through MOA's and MOU's and the committee structures required by the NLTA. These relationships have assisted in the formulation of this strategy and will continue to do so over its evolution for the benefit of sustainable service delivery. The key SOEs include PRASA, SANRAL, TRANSNET and ACSA.
Transport Stakeholders	Transport Stakeholders include all operators whether statutory or private. TCT will broker and consolidate new relationships with them. This strategy maps out the various processes that will be embarked on by TCT in the next five years and beyond. The aim is to enter into working partnerships with the key stakeholders through the establishment of working MOAs.
Functional Area	As has been agreed in the Western Cape Growth and Development Strategy and Western Cape Land Transport Framework, this strategy covers Cape Town's Functional Area, Coordination through Functional Regional Sub Committee
Educational Institutions	Over the next five years and beyond, TCT aims, through this strategy, to forge relationships with key educational institutions so as to facilitate innovation in service delivery.
Business	TCT has been established with a strong investment perspective. Service delivery will be costed and there will, with the assistance of the business community, be a move towards an approach that aims to reduce the cost of freight logistics via integrated, intermodal and interoperable transport.

Stakeholder	Role of this strategy
Transport Industry	There are many facets to the transport industry from an Intelligent Transport System to non-motorised transport, from construction to public transport systems, and from road to rail. This strategy addresses all these different dimensions.
International Investment Community	Although this strategy is required to relate to the municipality and in the case of Cape Town its adjoining municipalities where transport crosses their borders ("the Functional Area"), TCT is cognisant of the global nature of freight and logistics and the impact of governance decisions in this field on investment opportunities, economic growth and the associated benefits for Cape Town's citizens, businesses and visitors.
Internal to TCT	<p>In terms of TCT's Implementation Plan and in terms of the relationship between policy directives and the priority programmes and projects (described in the CITP), this strategy aims to ensure that all services delivered and budget expenditure not only are in accordance with the City's IDP but also lead towards the City's Transport Vision of 1 and ensure that all the standards and targets are met. Internal refers to the 8 TCT Departments as well as the relationship between TCT and its sister directorates, with specific reference to:</p> <ul style="list-style-type: none"> • Finance • Energy Environment and Spatial Planning • Safety and Security • Human Settlements • Tourism, Events and Economic Development • Utilities

3 Regulatory context

In addition to the policies and documents listed in Table 1.1: Secondary Data Collection, policies and other documentation, the following legislation and regulations will be briefly reflected on, while more detail relating to the documents are available in Annexure 1 of the document.

- Constitution of Transport for Cape Town (TCT) By-Law, 2013
- National Road Freight Strategy for South Africa (2011)
- WCP Freight Transport and Logistics Plan (CSIR 2009)
- Review of the Cape Winelands Freight Transport Strategy (July 2013)
- National Road Traffic Act (1996) Amendment 22

3.1 Constitution of Transport for Cape Town (TCT) By-Law, 2013

The TCT By-Law established Transport for Cape Town (TCT), the governance structure by which all the transport functions shall facilitate integrated transport for the benefit of the citizens of Cape Town.

Of particular relevance to the Freight Management Strategy are the following stipulations:

TCT shall be responsible for implementing section 14 (Planning authorities), section 15 (Intermodal planning committees), section 16 (Land transport advisory boards), sections 31 to 39 (Transport planning) of the NLTA, together with all other sections of the NLTA relevant to the activities of a planning authority.

TCT shall ensure that the optimal use of infrastructure and services within the system and optimal utilisation and prioritisation of funds, including freight transport, is achieved.

3.2 National Road Freight Strategy for South Africa (2011)

The Road Freight Strategy for South Africa aims to focus on sustainable interventions to address the following issues:

- Excess freight on the roads
- Poor road conditions
- Overloading and ineffective law enforcement
- Slow regional integration
- Poor road safety record

The road freight strategy seeks to address the identified issues and to propose solutions for improving integration of road transport with other transport modes. Solutions are structured within four strategic thrusts, and each of the thrusts contains strategic initiatives to address the issues in the short, medium and long term. The strategic thrusts are:

- Integrated transport mechanisms to regulate, plan, prioritise, facilitate and improve integrated transport solutions
- Road infrastructure maintenance and funding solutions to ensure that road network infrastructure management performed in a prioritised and coordinated manner across the country with dedicated funding
- Overload control management system improved through a series of coordinated solutions such as the establishment of a national inspectorate, utilisation of mobile technologies, administrative enforcement approaches, credible deterrents and data intelligence
- Self-regulation and road safety to promote prevention of road damage and improve road safety and operator performance as well as to encourage the adoption of responsible operator behaviour.

3.3 WCP Freight Transport and Logistics Plan (CSIR 2009)

On the basis of a literature review and environmental scan, and in consultation with major stakeholders such as Provincial Government, freight transport forums and major industry, the CSIR compiled the Western Cape Provincial Freight Transport and Logistics Plan. The plan included key recommendations for Provincial and local government to facilitate improved freight transport and logistics in line with the national transport master plan (NATMAP).

Amongst the recommendation were to restrict freight transport to certain routes and times; scheduling operating times and scaling of charges at the port, off site staging of container vehicles; promoting the use of rail to transport containers; the availability of truck stops and overload controls; designated routes for hazardous material; use road pricing as an incentive to move freight from road to rail, encourage self-regulation of the road freight industry; use ITS to assist with overloading control; to transform the Western Cape Freight Forum into an independent industry advisory body and to enable the establishment of intermodal freight facilities and hubs.

3.4 Review of the Cape Winelands Freight Transport Strategy (July 2013)

The objectives of Cape Winelands Freight Transport Strategy update were:

To engage with road haulage industry to obtain their input and comments on the first version of the Freight Transport Strategy;

To investigate the supply chain of the key commodities of the Cape Winelands and To identify areas in which the CWDM can assist towards improvement of the transport links in the supply chain.

Key proposals that stemmed from the CWDM were to establish dialogue with TFR, Province, and the City of Cape Town; to liaise with key institutions on the development of a regional freight plan; identification of ITS opportunities; prioritisation of strategic segments of the road network; identification of sites for truck stops; strategic investment in road infrastructure; safety improvements relating to hazardous material; improvements at weigh bridges; alternative strategies to deal with offenders and improved liaison and communication with drivers and the industry.

3.5 National Road Traffic Act (1996) Amendment 22

The National Department of Transport has published its 22nd Regulation Amendment to the National Road Traffic Regulations. The regulations which are draft stipulate the role and responsibilities consignor or consignee in relation to provisions for the loading and transportation of goods.

4 Summary of strategy informants

This section reflects on statutory plans, strategies, studies and plans that have a bearing on the development of the Freight Management Strategy.

4.1 Comprehensive Integrated Transport Plan (CITP) 2013-2018

Details of current freight operations, within the City are identified in Chapter 3 of the CITP (2013-2018), while the Needs Assessment is reported in Chapter 9 of the CITP (Freight Logistics Strategy). The following goals were identified in the CITP and have been expanded upon in this Freight Management Strategy:

- To control and ensure safe movement of dangerous goods and substances
- To control and ensure safe movement of abnormal loads through the city
- To ensure an integrated approach to freight movement throughout the Cape Town Functional Region
- To reduce the congestion and environmental impacts of freight
- To minimise conflict with other road users
- To regulate freight operations to prescribed times, routes and areas
- To prevent damage to the existing road system
- To manage the planning / location of freight facilities
- To encourage inter-modality in freight operations and ensure seamless coordination between modes, especially a shift towards rail freight
- To shift more waste disposal from road to rail
- To ensure compliance with the City's laws and regulations by freight within and coming from outside the City confines
- To align and coordinate growth aspirations to the CBD and the Port of Cape Town

4.2 Transport Development Index (TDI) (2015)

The Transport Development Index (TDI) was developed by Transport for Cape Town to evaluate the accessibility and related costs of transport to different income groups and users (the movement of people and goods across the city).

Released in June 2015, the TDI describes the concerns and problems of the freight user group across 10 different freight data zones and in terms of four different users: local deliveries, medium freight, heavy freight and long-distance freight. As such, the TDI has established that:

- the direct transport cost (fuel, salaries, maintenance and repairs, toll fees, etc.) for the freight user group is R1,755 billion per annum
- the cost of congestion for this user group is R121 million per annum
- the cost of safety is R19 million per annum
- the cost of crime is R15 million per annum
- the impact of freight transporters on Cape Town's residents in terms of accidents is R930 million per annum
- the impact of freight transporters on the city's road network (capital expenditure and maintenance) is R713 million per annum.

4.3 Status Quo Assessment: Freight (2015)

The main source of information for this strategy was the Status Quo Assessment: Freight operations within the City. This document quantifies the status quo of operations concerning the Port of Cape Town, Rail, Road as well as Inter-modal facilities, and identifies the data available (both supply- and demand-side) and any shortfalls that need to be addressed in future updates or phases for the Freight Management Strategy.

Table 4.1 : Summary of Status Quo Assessment: Freight

Freight element	Key Findings
Rail freight	<ul style="list-style-type: none"> - The general perception of TFR is one of lack of efficiency and of unreliability - Cost of rail freight is high except for bulk commodities - Freight classified as 'rail friendly' is a small proportion of total freight - Transnet's mandate to be profitable means its focus is mainly on business that will yield profits - Lack of motivation/innovation by Transnet Freight Rail to capture greater share of freight - Current low modal share means a greater impact on infrastructure and the environment - Cost of infrastructure, externalities and safety regulations are borne by Transnet - Dilapidated rolling stock - Lack of rail wagon's to meet new demand
Road freight	<ul style="list-style-type: none"> - Movement around city not well understood - Congestion around port, at peaks and on major roads - Lack of regulation of operators re: licensing, roadworthy, timing, routes - Massive growth of operators - Illegal operations - Safety issues - Frequent overloading - Lack of coordination, control and enforcement relating to the movement of dangerous goods - Externalities are not equally apportioned to motorized vehicles - Nuisance and intrusion - Incident management can be problematic when freight vehicles are involved
Port	<ul style="list-style-type: none"> - High user costs - Operations/Operational efficiency causes off-site issues - Lack of truck parking/passing lanes - Coordination with hauliers is problematic - Potential growth plans may result in serious off-site road issues
Air	<ul style="list-style-type: none"> - Lack of dedicated capacity – high costs
Pipelines	<ul style="list-style-type: none"> - In private ownership - Age of pipelines may be problematic in future - Planning carried out Nationally not locally
Infrastructure	<ul style="list-style-type: none"> - Damage from road freight/condition - Lack of dedicated freight facilities (staging areas/stops/ lanes) - Not designed for volumes of trucks or current loading standard
Institutional	<ul style="list-style-type: none"> - Ownership of some roads by other SOE's - Ownership and regulation of freight rail by other SOE – TFR mandated to make a 'profit' - PRASA/TFR ownership and line sharing and upgrading issues

Freight element	Key Findings
	<ul style="list-style-type: none"> - Reporting line to and function of Transnet determined by DPE whereas road transport falls under NDoT which leads to a 'silo' approach in terms of freight - Licensing fees for trucks small and regulated by WCG - Abnormal route approval regulated by WCG - Level of penalties for offences controlled and regulated by other SOE's - Loading compliance determined by WCG - Level of law enforcement determined by SAPS
Land use	<ul style="list-style-type: none"> - Planning zoning typology has allowed haphazard planning of container and distribution centres - Possible encroachment of transport related functions in residential areas
National Transport policy & regulations	<ul style="list-style-type: none"> - Benefits truck transport - Penalties for abuse of regulations relatively small - Lack of structure to engage in policy debate
Funding	<ul style="list-style-type: none"> - Lack of private funding initiatives, capital budgets
Environmental effects	<ul style="list-style-type: none"> - Level of road-based freight leads to substantial air quality, noise and intrusion impacts - Road safety and congestion problems are exacerbated by increasing volumes of trucks on the roads
Legal	<ul style="list-style-type: none"> - Enforcement through different SOE
Land ownership	<ul style="list-style-type: none"> - Back of port land owned by TNPA, potential issue in terms of planning - Ownership of land used for container storage, handling, repair etc. Is private - New land for rationalisation strategy may not be in public realm

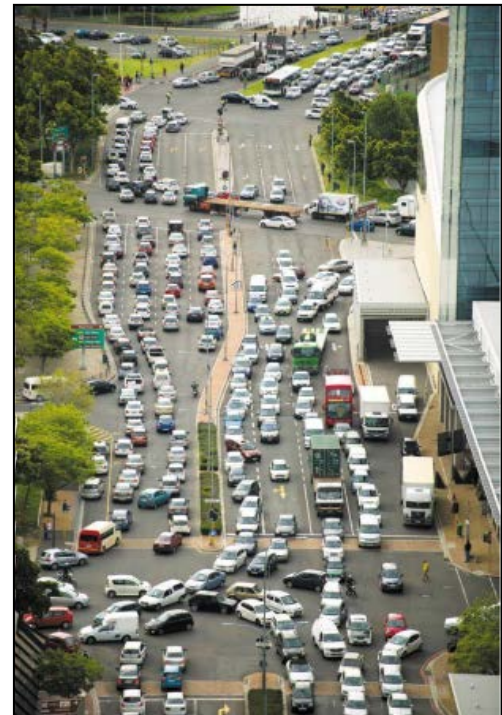


Figure 4-1: Inefficient management of freight incidents can lead to significant congestion and economic disruption

4.4 Report on the Management of Strategic Routes and Abnormal Load Transportation (2003)

The aim of the investigation was to provide clarity on a number of management issues as well as identifying strategic abnormal transportation routes. Recommendations made regarding the management of abnormal load transportation were to be incorporated into a mutual Unified Policy to be drawn up by what was then CCT and the Provincial Administration Western Cape (PAWC).

The key issues raised by the report include:

- liability in terms of the approval of suitable routes
- charging of fees for transporting abnormal loads within the City's boundaries
- lead time required to assess permit applications
- control of illegal transportation of abnormal loads.

The majority of these concerns have to date not been adequately resolved, hence their remaining key relevance to the Freight Management Strategy of 2015.

4.5 Abnormal Load Route Study (2014)

An updated Abnormal Load Route Map was compiled (2015) using data sourced from the 2013 and 2014 Abnormal Load Applications database (Western Cape Province), in addition to the primary freight route network and relevant industrial locations; The Map indicates designated routes that require protection against development.

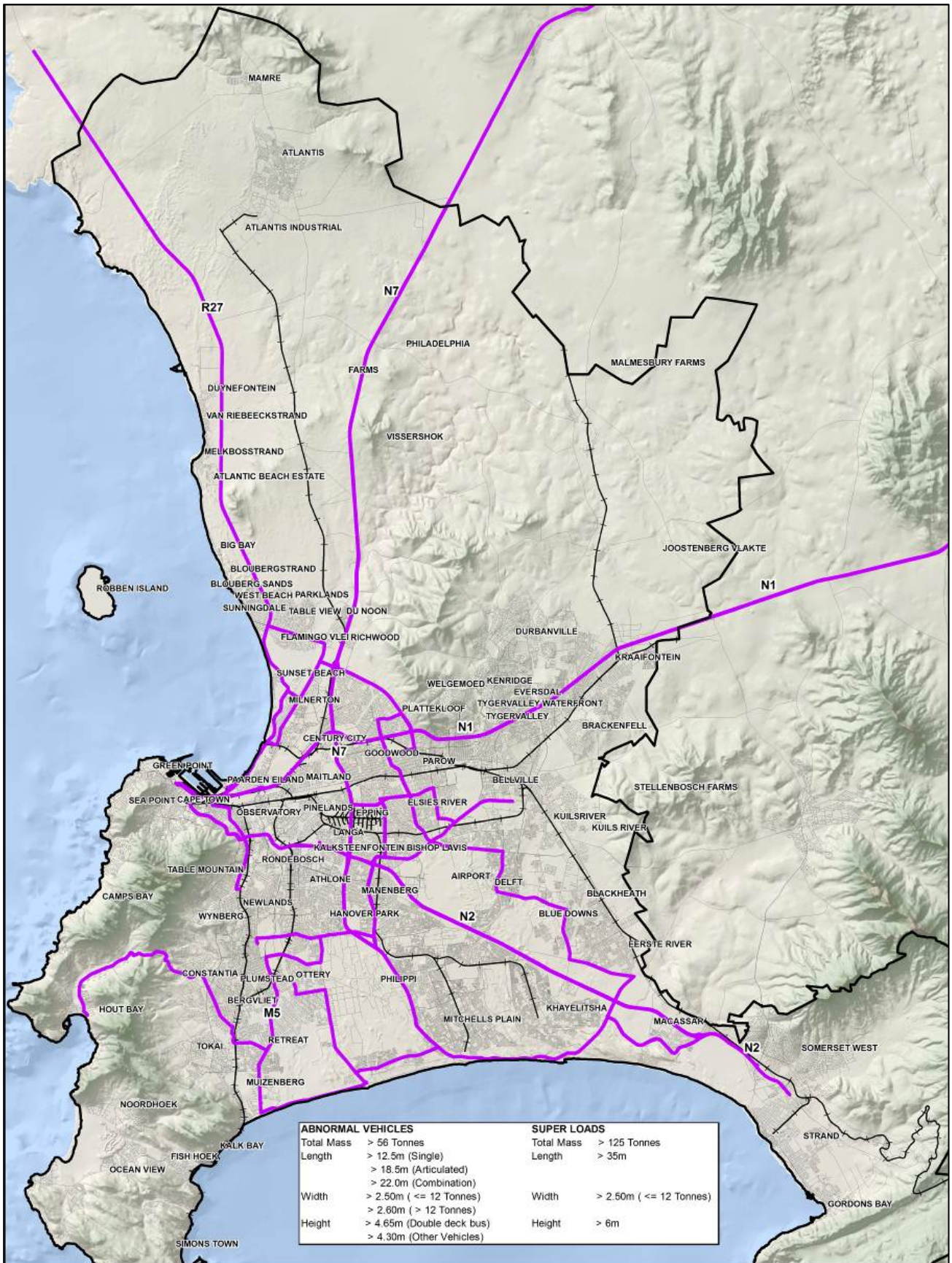


Figure 4-2: Abnormal Load Route Map (2015)

4.6 Transportation of Dangerous Goods (DGs): Status Quo assessment (2014)

This study identified the findings of a review of the regulations and legislation applicable to the transportation of DGs and, through a status quo analysis any shortcomings in the industry. The study was limited to the metropolitan boundary of the City of Cape Town despite the extensive and complex relationships between the City and its functional region.

The review of applicable legislation and standards, and the status quo of operations found a number of issues related to the transportation of DGs that require resolution so that the transportation of DGs in/through Cape Town and its functional region are improved and that it does not have an adverse impact on the public at large.

Issues identified can be grouped into the following four focus areas:

- Areas of concern relating to the regulatory framework
- Lack of coordination and risk management
- Inconsistent levels of enforcement and compliance
- Inadequate training and awareness of dangerous goods

4.7 Freight Demand Model: Data analyses for inputs into the Freight Management Strategy (2014)

The Freight Demand Model provides TCT with a quantitative analysis of the detailed movement of commercial vehicles. The model simulated heavy vehicle movement (using tracking data), revealing the most likely freight routes, as well as likely volumes on these routes as depicted in Figure 4-3.

This Freight Demand Model provides the data required for possible interventions such as the development of a congestion charge model; freight lanes; or for freight regulations in terms of time restrictions. The Model further provides details of the number of freight stops at a particular node (for example an industrial zone), indicating the relative importance of a particular industrial or distribution centre in term of freight movement can be seen in Figure 4-4.

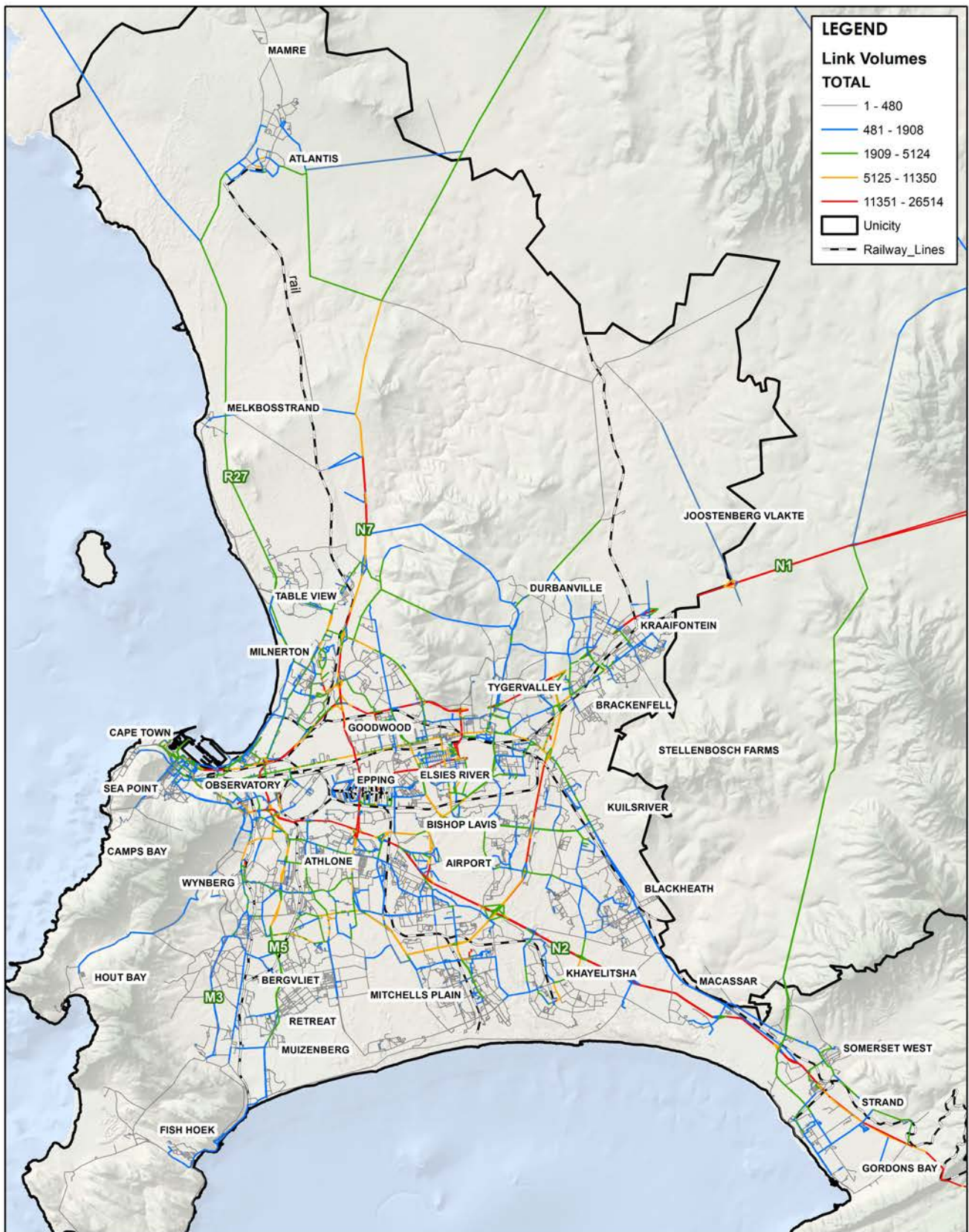


Figure 4-3: Freight volumes on key Cape Town freight routes

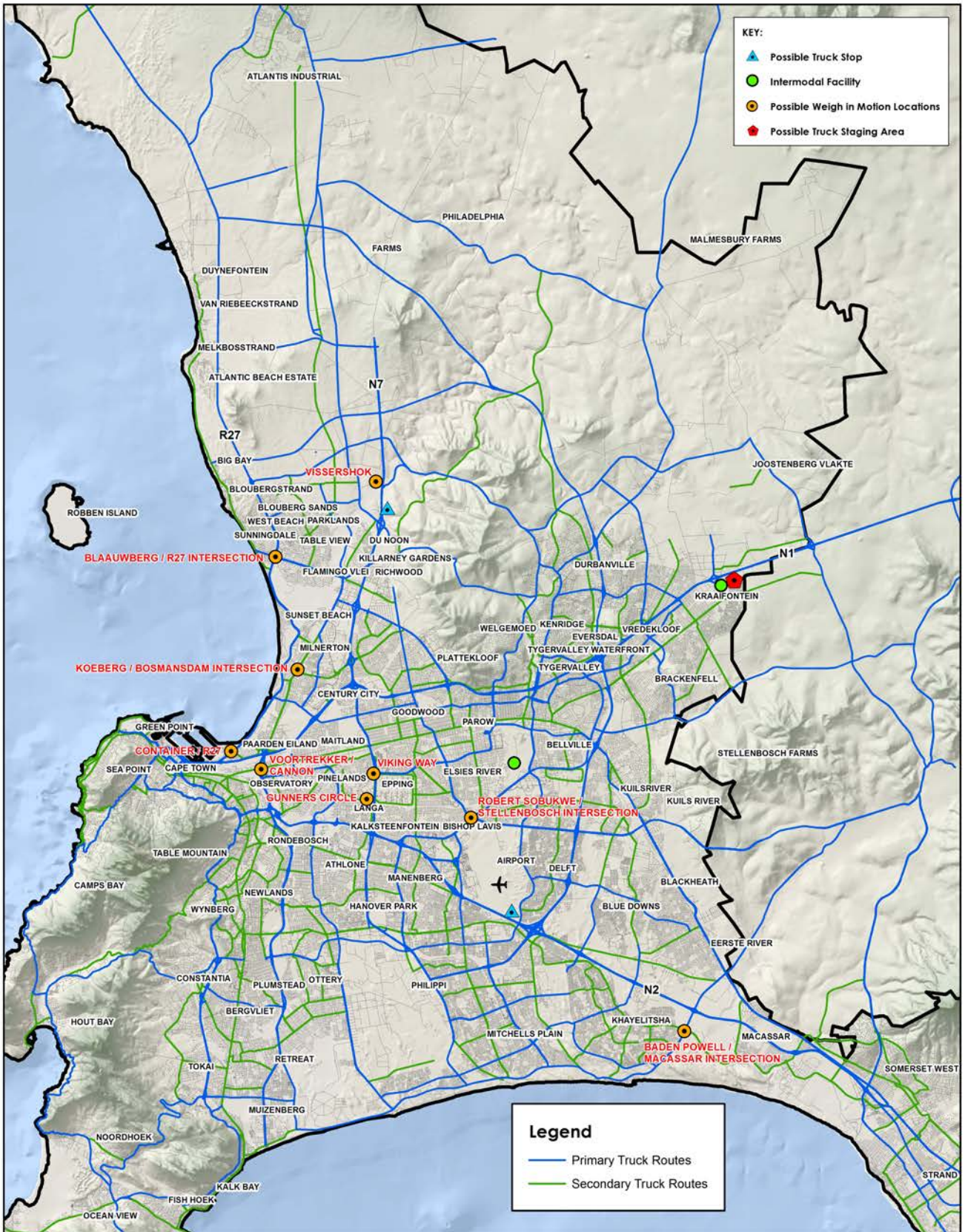


Figure 4-4: Key identified freight routes within Cape Town

4.8 Heavy Vehicle Accident Study (2015)

Using the City of Cape Town's database (SAP-reported), the data was analysed by serious and fatal crash locations, and plotted them on the key freight route map.



Figure 4-5: Heavy Vehicle Accident Locations (2009 to 2013)

4.9 Weigh-in-Motion Technology for Load Assessment / Control at selected locations in Cape Town (2015)

The existing weighbridge network consists mainly of fixed weighbridges which are not effective in controlling overloading. They are easily bypassed by using alternative routes, particularly on the secondary and tertiary road network, where little overload control enforcement is done. Transgressing transport operators are well aware of the limitations of overload control law enforcement and take advantage of the situation.

Given of the limited resources and funding available for overload control enforcement, TCT's goal is to improve the efficiency of law enforcement through utilisation of innovative technologies. To achieve this, TCT is considering the use of Weigh-in-Motion (WIM) technology at key locations in Cape Town, even though current legislation only permits prosecution with fixed scales. WIM's can capture vehicle characteristics whilst the vehicle is traveling along a route and without the need for additional infrastructure. It can therefore be an effective and efficient tool to pre-screen vehicles in motion in comparison to static weighing at weighbridges. Data collected with WIM systems can then be used to schedule enforcement activities.

The WIM Study, above, proposes that TCT consider two possible types of WIM systems: either high-speed WIM (HSWIM) or low speed WIM (LSWIM) systems. Notable differences of the key elements include the system accuracy and the infrastructure and operational requirements. LSWIM offers greater accuracy when compared with HSWIM, however, a dedicated layby will be required for the vehicle weighing process. HSWIM will also allow for 24 hour operations and law enforcement will not always have to be present to control the operations.

4.10 Air Quality Management Plan for the City of Cape Town (2005)

The City of Cape Town's Air Quality Management Plan aims to reduce the health effects of poor air quality on the citizens of Cape Town especially during 'brown haze' episodes.

Of particular relevance to this Freight Management Strategy are the following objectives:

- To specify ambient air quality standards and targets for Cape Town
- To monitor priority pollutants which cause brown haze and affect human health
- To enforce current and future legislation for air quality management
- To compile a comprehensive emissions inventory database for the City of Cape Town
- To control vehicle emissions in the city
- To periodically review the air pollution situation, report on progress and adjust and update strategies and objectives where needed

5 Strategic framework

This section reflects on respective strategic focus areas as a basis upon which the City of Cape Town's vision for freight transport can be achieved. Each focus area comprises a background, principles derived from the background, an analysis of the principle adopted and the proposed actions. The analysis covers the motivation, constraints, impacts, and risks. The risk is analysed broadly as there is currently insufficient data for a detailed risk analysis and scenario planning.

Key focus areas:

- Focus area 1: Dangerous goods
- Focus area 2: Abnormal loads
- Focus area 3: Overloading
- Focus area 4: Road congestion
- Focus area 5: Freight demand
- Focus area 6: Road safety
- Focus area 7: Incident management
- Focus area 8: Freight emissions and air quality
- Focus area 9: Rail freight
- Focus area 10: Technology and innovation
- Focus area 11: Advocacy and Inter-governmental structures

The focus areas are captured in an implementation and action plan and a monitoring and evaluation plan in Chapter 6 and Chapter 7 respectively.

5.1 Focus Area 1: Dangerous Goods

5.1.1 Background

A wide range of dangerous goods (as classified by SANS 10228) are transported on Cape Town's roads, between points of origin, manufacture, ports of entry to consumers and to/from long distance destinations. The main dangerous goods are: fuels, petrol, avgas, diesel, industrial gases, agricultural chemicals, refrigerants, and asphalt. These are transported by road and, to a very limited extent, by freight rail. Materials that are classified as dangerous share the roadway with commuter traffic with very few restrictions regarding specific routes and times of travel. Notifications to authorities regarding travel plans are not required for dangerous goods, except for loads above a certain quantity (i.e. in compliance with SANS 10231). In the latter instances, the City has procedures in place that require the transporters to notify the Fire and Life Safety Department of their intention to transport such goods.

The Status Quo Assessment: Freight (2015) identified a lack of coordination of the transporters of DGs, lack of consistent standards between regulatory authorities and, issues with the regulatory framework and enforcement and compliance issues. There were also concerns about the levels of training of SAPS officers' and a general lack of public awareness of dangerous goods transportation and regulations.

Further, the NLTA (section 37) requires local authorities to 'plan for the movement of dangerous substances contemplated in section 2(1) of the Hazardous Substances Act, 1973 (Act No. 15 of 1973) by road...'

5.1.2 Guiding principle

TCT will control and manage the safe movement of Dangerous Goods through and into the city.

5.1.3 Analysis of guiding principle

Table 5.1: Analysis of guiding principle: Dangerous Goods

Motivationt	Constraints
Required by National Land Transport Act Promote national transport efficiency Gap identified in National, Provincial and local needs analysis Lack of coordination of the transportation of DG Lack of consistent standards between authorities	Mandate is local only Funding to set up coordinating authority Implementation and enforcing skills required Funding for training and awareness campaign
Impacts	Risks
Safer road conditions A skilled enforcing body with the ability for appropriate responses to DG incidents Costs of incidents more appropriately allocated	Lack of compliance

5.1.4 Proposed Actions

This strategy proposes the following actions to ensure the safe movement of Dangerous Goods through and into the city.

- a) The compilation of a non-technical summary of requirements related to the transportation of DGs for use by freighters, SAPS and interested parties.
- b) A detailed review and assessment of the regulatory framework to confirm the issues identified in the study into the transportation of dangerous goods
- c) A marketing and awareness campaign to inform stakeholders about the regulatory framework
- d) A legal investigation into how insurance for the transportation of DG's can be incorporated as a standard requirement into a municipal By-Law or the registration and licensing of the relevant vehicles
- e) A legal investigation into how contingency planning for risks associated with the transportation of DG's can be incorporated as a minimum requirement of the licensing of vehicles allowed to transport DG's
- f) A recommendation to review the NEM:WA to assign the responsibility of dumping of hazardous waste on the consignor
- g) Identify any changes required from a review of policy/regulations and local By-Laws re: control of transportation of DGs and their coordination/consistency
- h) Develop a central database of DG transport information for Cape Town

- i) Establish a new task team to coordinate functions related to the transportation of DG's within the City via a central point
- j) Develop procedure/protocol to conduct regular/appropriate inspections of DG premises, and linked recording, monitoring and evaluation process
- k) Develop a plan to ensure the compliance of DG vehicles to regulations
- l) Enforce compliance of DG vehicles to regulations, especially at weighbridges (via WCG)
- m) Standardise vehicle enforcement criteria throughout the Province
- n) Review resource requirements re: DG enforcement, assist in the establishment of a DG Inspectorate in the Western Cape
- o) Conduct a questionnaire based survey amongst representative TCT DG staff to assess knowledge of new regulations
- p) Prepare and distribute a new training plan from the above for all City DG functions
- q) Review and standardise DG driver training in the city.

5.2 Focus Area 2: Abnormal loads

5.2.1 Background

Abnormal loads refer to vehicles that do not comply with the provisions of the Road Traffic Act and Regulations regarding load and dimensional restrictions. Recommendations regarding the transport of abnormal loads on public roads are given in TRH 11, "Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and other Events on Public Roads", compiled by the Abnormal Loads Technical Committee (ALTC).

These recommendations have been approved and have been applied by the Provincial authorities in the development of the Standard Permit Conditions, in setting policy, fees and standards.

The regulations require that the permission of the passage of abnormal vehicles through the city is carried out and administered by WCG. As part of this permitting process, WCG consults TCT when an application requires permission to use roads in the city. The City ensures that the routes proposed are appropriate and that the application will not interfere with any planned City work or events. It is noted that applications are usually made by professional companies familiar with the requirements of TRH 11 and with detailed knowledge of appropriate routes to transport such loads in the city. The usual condition imposed by TCT is to allow passage of loads during off-peak periods to minimise their impact.

The permission/approval process has the following characteristics: the liaison process between TCT and WCG is via an MOU type agreement as there is no requirement for a formal institutional arrangement to be in place, nor a collaborative database of applications and approvals; fees for the application approval process are retained by WCG; and, an abnormal load route map has not formally been in place to enable its publishing and protection.

5.2.2 Principles

TCT will exercise oversight, and control and manage the movement of abnormal loads in the City through liaison with the permitting authority (WCG)

TCT will attend to the security of institutional knowledge and processes regarding permitting
 TCT will establish formal institutional MOUs and working relationships with the relevant permitting authorities

5.2.3 Analysis of guiding principle

Table 5.2: Analysis of guiding principle: Abnormal loads

Motivation	Constraints
Required by National Land Transport Act Promotes national transport efficiency Gap identified in National, Provincial and local needs analysis Lack of formal procedure between Provincial and local authorities/ coordinated structure/register Preserve a route for the transportation of abnormal loads from development	Regulations and permissions in relation to abnormal loads is a Provincial competence
Impacts	Risks
Route for abnormal loads will be better known and well posted, thus facilitating increased compliance Inter-agency co-ordination re permitting will be improved, leading to reduced non-compliance Improved compliance by operators Road damage will be reduced	Lack of compliance by operators Lack of support/reluctance to cede or share partial control from WCG Lack of awareness of route by utility companies/planning bodies

5.2.4 Actions

This strategy proposes the following actions to ensure the control and management of Abnormal Loads within the city:

- a) Assist in the development of a formal WCG and City application and approval/permitting procedure
- b) Liaise and coordinate with WCG in the development of a shared database of hauliers, applications and approvals
- c) Increase the awareness of municipal traffic officers with regard to control and policing of abnormal load transportation and investigate improvements to the escorting requirements as outlined in TMH11
- d) Circulate an approved abnormal route map for the City more widely (especially to WCG, SANRAL, Telkom and Eskom), publish it in the CIP and ensure its incorporation into WCG abnormal load permitting system
- e) Engage with TCT's PMS/BMS/LMS work stream and outputs to determine, publish and circulate load carrying capacity of bridges and other highway structures
- f) Engage with the TCT's Integrated Information Management Systems processes to make information regarding TCT's road maintenance programme available on an accessible platform to all, especially to hauliers and other road authorities

5.3 Focus Area 3: Overloading

5.3.1 Background

Vehicle overloading is frequently the result of an economic decision made on the basis of weighing up operations and profits versus compliance, the risk of being penalised and the severity of the penalty.

Overloading within and around the City is not adequately controlled because static weighbridges, which are the primary means of load control, are located on major freeways on the outskirts of the city. Further, they are not staffed all day, they can be easily by-passed and checks on loads are conducted sporadically. It is also reported that there is inadequate legal support for enforcement (PLTF, 2011). This situation leads to an abuse of loading limits, which will only be discouraged if both the probability of being caught and the related penalties are high.

Given the location of the major industrial and economic centres around the city (see Figure 5-1), the Port of Cape Town, and the typical flows of freight into and out of the City, it can be assumed that from the damage caused to the City's major roads that overloading is quite prevalent on many of the City's roads. Trucks in the metro are usually 5 axles or less, and although they carry a lower payload, they cause greater damage if they are even partially overloaded. Estimates by CSIR show that overloaded trucks cause up to 60% of all road damage. The City is therefore pursuing a comprehensive load management strategy to establish more accurately the extent of overloading and where it is most prevalent in order to discourage overloading. The method proposed to achieve this is via the installation of a number of Weigh-in-Motion devices.

It should be noted that a recent government proposal to amend the Road Traffic Act (NTRA 1996, Amendment 22) to assign the responsibility of overloading to the consignor, consignee, haulier and drivers may help alleviate this situation - as the new regulations mean that road hauliers, consignors, their brokers and underwriters are now required to have written agreements in place, or face legal penalties. However, there are many concerns that the regulations are poorly drafted and that they will be difficult to enforce. In the meantime whilst such issues are resolved, and because the likelihood of the difficulty of enforcement, the City's forthcoming proposal to undertake a Pavement Management/Load Management Strategy which is aligned to this Focus Area will proceed as planned.

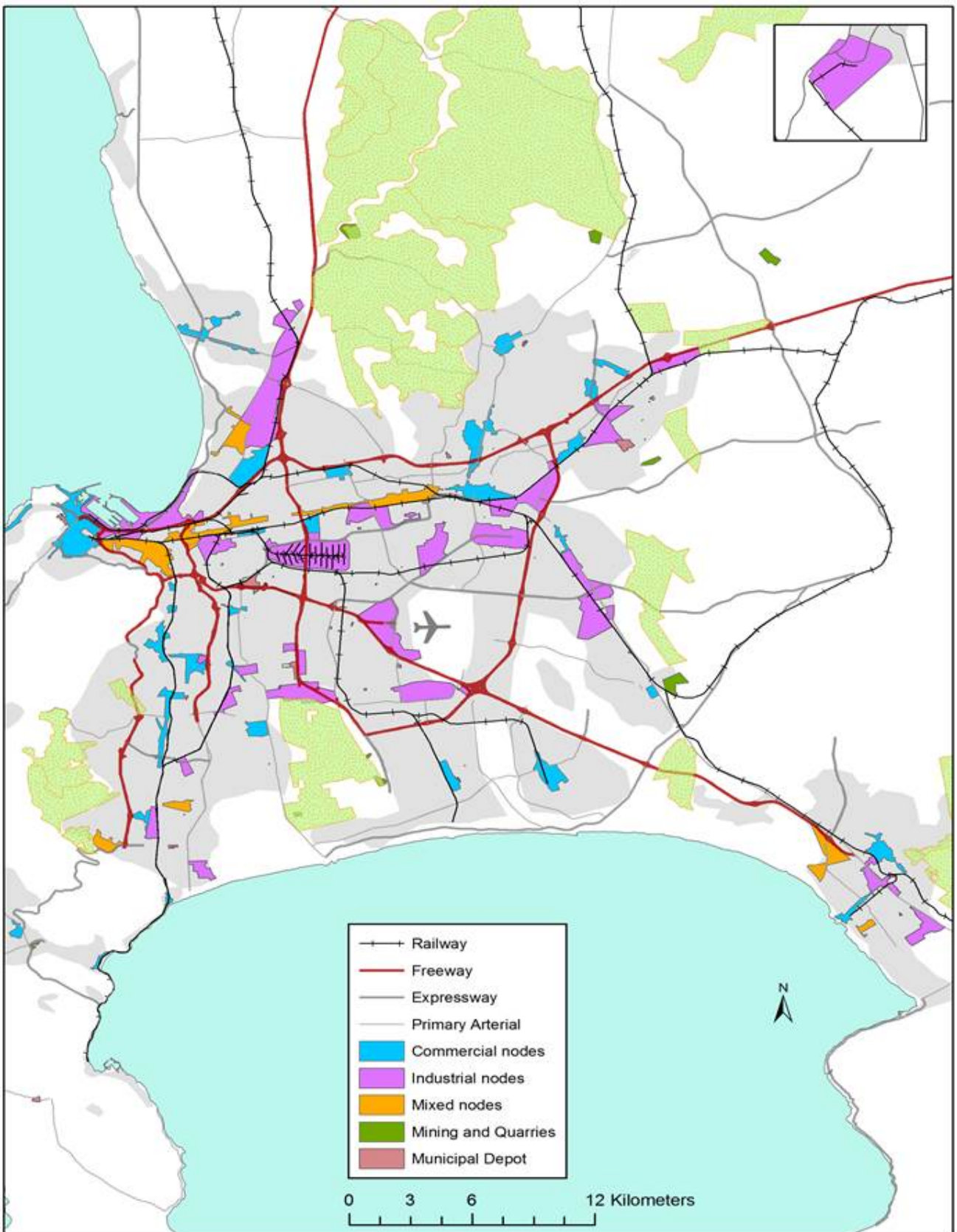


Figure 5-1: Major industrial and commercial areas in the City

5.3.2 Guiding Principle

TCT will respond to and manage the overloading of freight vehicles, through improved planning, detection and enforcement, as well as lobby national and provincial government for adequate intervention and stiffer penalties.

5.3.3 Analysis of guiding principle

Table 5.3: Analysis of guiding principle: Overload Control Mechanisms

Motivation	Constraints
Road damage caused by overloaded vehicles	Enforcement and penalties are national mandates
Limitations of fixed weighbridge network	Lack of funding to implement WIM stations and support infrastructure
Lack of sufficient resources	Lack of clarity regarding legal environment re: use of WIM to prosecute
Impending amendment to NRTA regulations	Skills and training of personnel
International Maritime Organisation laws (mandatory weighing of all containers)	Infrastructure to support new technology
Database of offenders at a single point to facilitate simpler regulation	
Impacts	Risks
Road conditions are improved, and road maintenance costs are reduced	Lack of compliance
Public funding is more effectively used	Lack of support from the industry
One of the externalities of road-based freight is hereby addressed	Failure of communications technology
	Logistical implications of the inadmissibility of the use of WIM technology (i.e. continued use of fixed weighbridges to prosecute)
	Unaffordability of road maintenance/ huge backlog
	Catastrophic infrastructure failure

5.3.4 Actions

This strategy therefore proposes the following actions to control and manage overloading:

- a) Incorporate the findings of this report with the City’s forthcoming Pavement Management/Load Management Strategy (PMS/LMS)
- b) Use the data obtained from the Freight Modelling undertaken for this strategy and through the PMS/LMS to determine 40 strategically located monitoring sites for truck movements
- c) Adopt an appropriate technology for the installation of weigh-in-motion devices, data collection and dissemination in conjunction with the PMS/LMS
- d) Determine suitable locations for the installation of a pilot weigh-in-motion device
- e) Roll-out agreed number and location of weigh-in-motion devices, related technology and appropriate levels of staffing to monitor and control through the PMS/LMS
- f) Ensure greater operator awareness of the consequences of overloading

5.4 Focus Area 4: Road congestion

5.4.1 Background

The general growth in private vehicles, which includes freight vehicles, and the City's decision to focus on public transport, means that the major routes in the city are capacity constrained for many hours of the day. Freight traffic acts as a capacity suppressor, thereby making the situation worse. Much of the freight originating within and coming to Cape Town moves along the three major national corridors, the N1, N2 and N7.

As the economy is increasingly globally linked and reliant on fast and reliable delivery of goods, high local transport and logistics costs reduce the competitiveness of local operations. The City, as the provider of road freight facilities, therefore needs to make decisions on the supply side without adversely affecting the costs of goods. The cost of provision is high, and any new work has long lead times. It is therefore crucial to match supply with demand in the most appropriate manner and in line with the City's overriding vision.

Furthermore, the predicted increase in containerised volumes (US, 2014) is likely to significantly impact the city's major routes as the majority of these are destined for the Cape hinterland or emanate from there. A corresponding growth of freight will clearly result at the Port and at the industrial areas of the City. Although this growth may seem to be beneficial for the city, it could be extremely problematic for the CBD from a transportation perspective. The current modal split of freight vehicles is heavily skewed towards road-based freight – at around a 95% share. Corridor flows along the N1, N2 and N7 are predicted to increase by an estimated 250% by 2042 (US, 2014), and on average, around 20% of the vehicles on the N1 within the city's functional region are heavy trucks. The concern is that should there not be a marked shift in the modal share of freight to rail the level of growth predicted by 2042 will result in more than 3 million trucks per year at the Port (i.e. very close to the CBD) and more than 40% of the volume of vehicles along the N1 will be trucks. The consequences of this are clear – without major interventions, there will be serious capacity issues on the N1 and significant levels of congestion at the Port/CBD boundary.

5.4.2 Guiding Principle

TCT will facilitate efficient freight traffic movement, with due consideration for the needs of both commuter and freight traffic, through mechanisms such as optimising existing road infrastructure, managed lanes and dedicated freight routes.

5.4.3 Analysis

Table 5.4: Analysis of guiding principle: Road congestion

Motivation	Constraints
To reduce overall levels of road congestion in key locations Increase overall efficiency for road users	Long lead time for some elements of congestion management Resistance of industry to off-peak deliveries/labour law issues Lack of accessible logistical information
Impacts	Risks
A road network that is optimal for freight operations is designated. Air quality is improved Carbon emissions are reduced Travel times are reduced	Lack of Industry compliance Lack of law enforcement Funding to implement network changes

5.4.4 Actions

This strategy proposes the following interventions to control and manage road congestion:

- a) A comprehensive review and analysis of current Port planning and a consequential liaison process to influence and determine future Port planning from, inter alia, a freight generation perspective
- b) Publishing/specifying freight route designations
- c) Encouraging/promoting shared deliveries and operations
- d) Verifying and improving if necessary, the provision of, adequacy and use of loading bays and loading areas and, their management
- e) Reviewing and compiling a list of key congestion areas in relation to freight demand
- f) A consideration of congestion management strategies for these key areas
- g) Optimisation of infrastructure network control elements

5.5 Focus Area 5: Freight demand

5.5.1 Background

Depot planning

Apart from the predicted growth in road-based freight, it is clear that the main logistics centres and depots are no longer sited optimally, which leads to sub-optimal coordination planning and reduced ability to minimise trips. There is currently no land-use category for, as an example, container depots, and therefore these are usually located as close to the Port as possible.

Warehousing and distribution centres (particularly those that store many of the same commodities) are also located sub-optimally from a transport planning perspective. Further, as there is a general lack of information-sharing between logistics companies as well as suppliers and supermarkets, part-load trucking is the norm.

Intermodal facilities currently exist at the Port and at the Bellville Container terminal. The latter effectively acts as a 'dry port' but has allocated space for warehousing and distribution functions. Although many producers, manufacturers and distributors make use of this facility to transport goods to and from the Port, it is currently an underutilised piece of infrastructure.

The user-pays principle

Heavy road freight vehicles cause the most wear and tear on a road, yet these costs are not accounted for in license fees. Consequently, road damage is one of the externalities that is effectively carried by the tax payer and not the trucking company. The Status Quo investigations show that road maintenance costs for the city's roads are becoming increasingly unaffordable.

International benchmarking shows that heavy vehicle charges are a central source of funds for road maintenance. Such pricing has built-in environmental and congestion relieving benefits incentivising the use of appropriate and efficient technologies.

The road freight industry needs to pay for the use of the public asset, in line with wear and tear caused to the roads due to intensive use. Paying a fair share of the road maintenance and infrastructure provision costs will enable the proper maintenance of roads; reverse the trends of exponentially deteriorating road infrastructure and could improve the attractiveness of rail as a modal alternative. Road freight operators would also be able to reduce their operational costs in terms of less tyre damage caused by potholes, better fuel efficiency, etc. However, the consequences of imposing additional costs must also be

considered as it is a highly competitive industry and additional or unintended costs of such regulations must not be passed on to the consumer.

5.5.2 Guiding principles

TCT will investigate and optimize freight demand by means of depot planning / distribution centres & warehousing, and reduce the need for freight movement.

TCT will explore the appropriate application of user-pays mechanisms and put forward proposals for operationalizing the principle.

5.5.3 Analysis

Table 5.5: Analysis of guiding principle: Freight demand

Motivation	Constraints
Continued cost of externalities is unsustainable Main logistics centres and depots function inefficiently	Current land-use planning zoning scheme Limited ability to influence re-location
Impacts	Risks
Reduced freight movement More appropriate land use Possible reduction in logistics costs	Acceptance of changes, land costs Cost of user-pays mechanisms could be passed on to consumers

Table 5.6: Analysis of guiding principle: Establish & implement user-pays mechanisms

Motivation	Constraints
Addressing the externality created by heavy vehicles – they do not pay a fair share for road maintenance, infrastructure provision and environmental costs Generation of funds to improve freight infrastructure	Highly unpopular with the industry Ability to ring fence funds for road/rail infrastructure Potential difficult and costly to administer (with the exception of road license)
Impacts	Risks
Road user costs/externalities are more equitably distributed A shift from road to rail freight may be facilitated	Adverse impact on commodity prices Substantial dissatisfaction Lack of compliance/law enforcement

5.5.4 Actions

This strategy proposes the following interventions to manage and streamline freight demand:

- a) Extend the City's freight demand model to investigate and evaluate the potential benefits of consolidated /relocated distribution centres and/or warehousing
- b) Engage with stakeholders to discuss freight optimization

- c) Engage with municipal officers and processes to unpack and agree potential incentives for relocation of distribution centres/warehousing/container depots, truck stops and staging areas.
- d) Engage in a process to analyse and review user-pays mechanisms through a feasibility study to guide and prepare a business plan and a proposed implementation plan

5.6 Focus Area 6: Road safety

5.6.1 Background

Data collected by the City indicates that over the period 2009 to 2013, 177 crashes involved freight vehicles. Serious and fatal crashes involving trucks invariably cause extensive congestion due to their nature, the difficulty of removing the truck and/or the contents of the vehicle and the space they occupy.

A significant volume of road freight involves long travel distances; this implies that trucks coming from outside the provincial boundaries have a need to stop and stage for safety, convenience and comfort reasons as well as to meet their logistics demands.

5.6.2 Guiding principles

TCT will take actions to reduce freight-related road crashes.

TCT will investigate the requirement and location of truck stops and staging areas

5.6.3 Analysis of guiding principle: Road Safety

Table 5.7: Principles Analysis: Reduced freight-related crashes

Motivation	Constraints
Reduction in impact of freight crashes on road lives, damage to/ loss of consignment, road congestion, time delays	Enforcement of road safety Driver behaviour (within context of poor compliance being the norm) Inability to easily modify existing infrastructure
Impacts	Risks
A reduced number of lives lost or injured A reduction in damage to / loss of consignment A reduction in time delays	Will get worse if nothing is done (given the predictions of increased road freight) Continued poor driver behaviour

5.6.4 Actions

This strategy proposes the following interventions to improve freight-related road safety concerns which needs to be addressed in conjunction with the TCT's Road Safety Strategy (2013-2018)

- a) Identify the main causes of freight-related crashes
- b) Agree on network review procedures
- c) Review critical road sections in terms of geometry, begin to outline re-designs
- d) Implement approved remedial infrastructure work subject to available funding

- e) Initiate a study to agree the imposition of additional freight limits on residential streets
- f) Determine the need for, identify and agree locations of truck stops and staging areas
- g) Initiate a process to review roadworthy and licensing mechanisms and related penalties in conjunction with WCG. Identify changes possible in relation to road safety
- h) Communicate these penalties to stakeholders

5.7 Focus Area 7: Incident management

5.7.1 Background

An 'incident' refers to not only a major or minor road crash, but also a shoulder/lane blockage, rail or aviation incident, spilled load, construction area, or special event – in other words, any extra-ordinary condition or event that results in a reduction in road capacity or creates a hazard for road users for a sustained period of time.

Incident Management is defined as the systematic, planned, and coordinated use of human, institutional, mechanical, and technical resources to reduce the duration and impact of incidents, and improve the safety of motorists, crash victims, and incident responders. These resources are used to increase the operating efficiency, safety, and mobility on the roadway by systematically reducing the time to detect and verify an incident occurrence; implementing the appropriate response; safely clearing the incident; and, managing the affected flow until full capacity is restored.

The City of Cape Town is currently facing many issues in relation to providing an effective management of incidents which are identified in some detail in its Incident Management Plan. Pertinent to this Strategy is that its Freeway Management System (FMS) is focused on the highways and arterials and not on all major roads and there is inherent delay in getting the On Road Service (ORS) because other parties (SANRAL and WCG) are also involved. This only applies to a fraction of the roads in Cape Town. The same service is needed on other roads, the M3, M5, M7 are the biggest, but also all other arterials where, in general, it takes a long period of time to attend to crashes or mechanical breakdowns because of the reliance on outside (private) services to move the obstruction out of the road. The number of private contractors with adequate machinery to move laden trucks is limited and the nature of the machinery (heavy duty cranes and the like) means that the use of these assets need to be optimised (i.e. elsewhere).

In addition, the communication of incidents or obstructions and the display and management of alternative routes is not optimal.

5.7.2 Guiding principle

TCT will investigate and optimise incident management systems, procedures, and protocols particularly in relation to freight incidents.

5.7.3 Analysis of guiding principle

Table 5.8: Principles Analysis: Incident Management

Motivation	Constraints
Reduction in impact of freight crashes on road lives, damage to/ loss of consignment, congestion, time delays	SAPS training, constraints/lack of capacity
Impacts	Risks
<p>Reduced risk to response teams: a more appropriately skilled response team will have increased awareness of the potential dangers of spilled loads.</p> <p>Reduced damage to consignment /reduced loss of consignment</p> <p>Fewer and reduced time delays</p>	<p>Continued poor driver behaviour</p> <p>Poor consignment compliance to regulations</p> <p>Poor maintenance of vehicles</p> <p>Ineffective communication</p>

5.7.4 Actions

This strategy proposes the following interventions to improve freight-related incident management:

- a) Review the procedures adopted by the City's Incident Management Plan which forms part of the Disaster Risk Management Plan (DRMP) (2013)
- b) Review current incident monitoring data and formulate strategies to optimize procedures
- c) Engage with the Incident Management team and SAPS to review and agree response procedures, methods, possible diversion routes (and the signing off thereof), communications methods and other related Incident Management measures.
- d) Review effectiveness of any changes adopted and update DRMP

5.8 Focus Area 8: Freight emissions and air quality

5.8.1 Background

Transport is responsible for 63% of the total energy consumption in Cape Town (including private vehicles, passenger transport, international marine and aviation fuel), and accounts for a quarter of GHG emissions. As a result, it contributes substantially to local air pollution (CCT, 2014).

5.8.2 Guiding principle

TCT will investigate setting an emissions standard for freight vehicles and review enforcement opportunities

Table 5.9: Local air pollutants (grams) resulting from the transport sector in Cape Town, 2012 (CCT, 2014)

Transport	Litres	SO ₂	NO _x	VOCs	PM ₁₀	PM _{2.5}
Petrol vehicles	1 433 710 154	2 437 307 262	25 806 782 772	51 613 565 544	860 226 092	716 855 077
Diesel vehicles	788 845 743	7 336 265 410	4 811 959 032	3 944 228 715	5 206 381 904	4 811 959 032

Road-based freight transport vehicles are primarily diesel fuelled. From 2001 to 2009, the largest increase in liquid fuel consumption was diesel, but from 2009 to 2012, petrol consumption increased strongly and diesel consumption remained static.

Apart from annual roadworthy requirements, freight vehicles are not required to comply with any particular emissions standard. Diesel vehicle emissions are a major contributor to Cape Town's brown haze, and since 1999 random road side testing of diesel vehicles has taken place. Testing is carried out with the assistance with traffic police. The focus of the testing emission is particulate matter (i.e. smoking vehicles).

5.8.3 Analysis of guiding principle

Table 5.10: Freight Emissions and Air Quality

Motivation	Constraints
Freight-related emissions are a major cause of brown haze in the city, which contributes to visual and air pollution and respiratory ill health.	Emissions standards are a national competence Funding concerns around monitoring stations/equipment Lack of compliance/self-regulation Lack of enforcement of existing standards Roadworthy is a Provincial competence Corruption
Impacts	Risks
Reduced freight related emissions and improvement in air quality	Will get worse if nothing is done (given the predictions of increased road freight) Lack of buy-in of stakeholders Poor maintenance of vehicles

5.8.4 Actions

This strategy proposes the following interventions to improve freight-related air quality concerns:

- a) Conduct a detailed study on current emissions by freight vehicles, and the impact of the impending carbon tax
- b) Set and agree emissions standards for various categories of freight vehicles for Cape Town
- c) Elevate the emissions standards agreed to a national forum or formulate for national acceptance or formulate a local by-law.
- d) Agree penalties for non-compliance with WCG/SAPS locally and elevate to a national forum for agreement
- e) Agree a testing regime to check and enforce agreed standards
- f) Stakeholder engagement/communication
- g) Initial pilot project to evaluate agreed method of testing and standards
- h) Review of results/adjustment if necessary

5.9 Focus Area 9: Rail freight

5.9.1 Background

In Cape Town, the existing freight network comprises TFR's Core Network and its branch lines, freight handling services at the port and Bellville Container Yard and private sidings. The rail corridor between Cape Town and Johannesburg (CapeCor) operates twice daily. It has a capacity utilisation of less than 60% for most of its length except between De Aar and Kimberley. In Cape Town, the freight rail line (Monte Vista line) is shared with passenger rail services except for its final section into the Port from Paarden Eiland.

The Port Interconnect line between Cape Town and Saldanha Bay is also part of Transnet's Core Network and it currently has a capacity utilisation of less than 60%. The line is shared with passenger rail services up to its branch to Malmesbury/Bitterfontein.

Two branch lines operate within the City's boundaries - the lines to Atlantis and Bredasdorp. Both are low volume feeder lines. The Bredasdorp line is shared with passenger services between Cape Town and Strand. The West coast line, Kraaifontein-Bitterfontein and the Caledon line are extensively used for movement of grain whereas the eastern line through to George and Oudtshoorn carries general cargo and some industrial waste.

The CapeCor system (which includes an interconnecting rail network with the Port of Saldanha) carries traffic which is predominately container freight, general freight, and domestic coal to Saldanha. Some container and automotive traffic also flows on part of this rail route from the Port of Cape Town to Port Elizabeth. The rail system has a 20 ton axle loading. (Ref: Transnet Ports Development Plan 2012 Section 3 and 4). It is estimated that that despite this loading constraint and the available capacity, this system only carries around 5% of the volume of freight moving along this corridor.

Within the Port of Cape Town the rail infrastructure provides services to the terminals that handle fresh produce and general break bulk freight. There is also a non-electrified line to the Container Terminal. The Port is therefore part of an intermodal solution, however, despite being part of the Transnet Group, it does not actively seek to promote the use of rail to move commodities to and from the port. As with the CapeCor line, the current estimated share of rail freight here is around 5% of the total.

The Belcon inland terminal is owned and operated by TFR. It has a capacity to handle around 56,000 TEU's and an additional area to carry out maintenance to reefers. Around 25,000 empty containers are railed from the port to Belcon for the fruit industry and a further 10,000 cargo containers get shipped to the Port.

A number of private sidings are owned and maintained by the City. In total these amount to 53km of sidings/spurs. Many of these are not in use at the moment, mainly due to industry types and the lack of competitive pricing from TFR to attract rail freight.

Athlone Refuse Transfer Station (ARTS)

Solid waste in Cape Town is collected by road vehicles and disposed of at various landfill sites. The facility at ARTS provides the means to transport containerised waste from the municipal collection system by rail to the Vissershok site, located adjacent to the Kensington-Chempet-Atlantis railway line. This is the only example of regular intra-urban freight-by-rail movement in Cape Town. An estimated 222,000 tonnes of waste were handled in this manner at ARTS in 2013.

The new Kraaifontein Refuse Transfer Station also makes provision for a similar rail service in the future. However, the ability to accommodate both passenger and goods trains on this line is hampered by inadequate signalling facilities. It is understood that PRASA and Transnet are working to resolve this issue.

5.9.2 Guiding principle

TCT will facilitate where possible an increase in rail’s modal share of freight

TCT will promote the use of existing and new intermodal solutions

TCT will maximize the use of rail for the disposal of solid waste

5.9.3 Analysis of guiding principle

Table 5.11: Analysis of guiding principle: Increase in rail share of freight

Motivation	Constraints
Reduction in impact of road freight (congestion, road damage, air quality etc.) Disproportionate use of roads for freight in terms of unused infrastructure capacity Current road capacity may be unable to absorb growth in freight volumes Reduce the city’s solid waste disposal costs, road impacts	Inefficient rail system Transnet’s profit motivation/ monopoly pricing Uncertainty over Transnet’s funding, purchase programme Use of existing freight lines by passenger rail
Impacts	Risks
Limit the growth in road-based freight transport Limit and constrain road-based freight externalities Reduced investment in road maintenance will be required Reduced investment required in road congestion management measures	Transnet is not necessarily well placed (in terms of its mandate and its financial model) to respond quickly to the need for competitive rail freight movement

5.9.4 Actions

This strategy proposes the following interventions to facilitate a shift from road to rail freight:

- a) Establish a working group/structure to discuss and agree strategies to effect the transfer of freight from road to rail
- b) Assess the business case and logistics in the promotion of intermodal solutions in conjunction with demand management strategies and new technologies
- c) Assess the potential of City-owned rail sidings to increase their use
- d) Assess the potential to increase waste-by-rail from Athlone or other waste disposal sites
- e) Conduct detailed studies into pricing/logistics and externalities and lobby changes in the way rail or road freight is priced
- f) Conduct joint business case studies for the revitalisation of under-used TFR lines
- g) Assess and review new technologies to assist the business case for the above and for City-owned lines

- h) Arrange to review agreed proposals re: TFR at a national level (Group/DPE and DOT) in conjunction with WCG

5.10 Focus Area 10: Innovation and Technology

5.10.1 Background

Examples of innovation are: facilitating micro-freight movement, load-share schemes, passenger rail (Metrorail), last-mile cargo-bicycle trips, GPS and cloud-based technology as well as investigating barriers to delivery of innovations (By-Laws and technology).

5.10.2 Guiding principle

TCT will review and adopt appropriate smart technology and innovations in the freight industry to enable better decision-making, efficiency in the logistics chain and other freight benefits which will thereby improve the economic performance of the city.

5.10.3 Analysis

Table 5.12: Analysis of guiding principles: Technology and innovation

Motivation	Constraints
Increased freight efficiency Overload control Lack of use of available technology Reduced cost of operations	Funding Buy-in from operators (especially in sharing data) Skills/ capacity to implement Lack of clarity around the regulatory environment
Impacts	Risks
Increased ability to make evidence based decisions Better and timeous freight data to allow better planning Ability to investigate potential road pricing options	Confidentiality of information Technical issues with technology adopted

5.10.4 Actions

This strategy proposes the following technology and innovation interventions:

- a) Investigate and promote the use of technology and innovation in freight
- b) Prepare a detailed study on available options, identify preferred options
- c) Draft and agree positions with relevant stakeholders and interested parties
- d) Prepare strategies for implementation

5.11 Focus Area 11: Advocacy and Inter-governmental Structures

5.11.1 Background

The multi-sectoral and complex nature of the freight transport system means that for a Freight Management Strategy to be successful, it requires partnerships and collaboration between the multiple public and private sector stakeholders.

These partnerships will assist TCT to understand and negotiate the different priorities among multiple stakeholders. For example, while public sector strategies focus on addressing causes of congestion and managing incidents, the private sector largely focuses on operations, logistics and profit maximisation, considering matters such as hours of operation, optimising routes, loads and vehicle types.

At the same time, regional freight flows, freight rail, development aspirations of the Port of Cape Town and issues not under TCT's direct control require a lead agency and engagement/advocacy at the highest level. It would therefore serve the interests of the Province as a whole if joint and agreed WCG/ City resolutions were taken forward. This approach needs:

- WCG to produce an integrated regional freight strategy with chapters dealing with local geographic areas
- WCG & regions to endorse & prepare joint approach to engage with Transnet at a National Level re: Port strategy and freight rail
- Establish a freight forum with industry and other key players to share data, research, encourage best practice, reduce impact of freight and implement safe, efficient and economic freight transport
- TCT & WCG to work together to inter alia: adopt a data 'warehouse', share research, agree on new technology/ real time information, proposed strategies, intermodal solutions etc.

5.11.2 Guiding principles

TCT will create and strengthen inter-governmental decision-making and lobbying structures, particularly with regard to areas over which the City has reduced influence (e.g. Transnet, licencing, regulations)

TCT will establish an ongoing communication and engagement platform such as a Freight Forum, comprising multiple public and private sector actors, in order to better understand and negotiate the different priorities among various stakeholders.

5.11.3 Analysis of guiding principles

Table 5.13: Analysis of guiding principles: Advocacy and Inter-Governmental Structures

Motivation	Constraints
An approach that is likely to get better results and national attention	Capacity of both authorities Funding for technical reviews
Impacts	Risks
An increased likelihood of the Cape Town Freight Management Strategy achieving its vision and goals.	Misalignment of national mandates DPE/DOT Lack of agreement between authorities and role-players Lack of interest of key agencies such as TFR

5.11.4 Actions

This strategy proposes the following interventions to improve inter-agency collaboration:

- a) Establish working groups through the City's Intermodal Planning Committee structure and agree a stakeholder grouping for consultation and meeting purposes (Integrated Freight Transport Forum)
- b) Draft and agree positions and commitments relating to freight issues that require inter-governmental consideration
- c) Prepare requisite documentation/business cases, and supporting evidence
- d) Elevate locally agreed issues to the correct decision making level
- e) Monitor and measure effectiveness of forum and/or agreed positions and platforms of communication

6 Implementation and action plan

The implementation and action plan is developed in keeping with TCT strategy timelines A (3 year timeline), B (5 year timeline), C (10 year timeline) & D (15 year timeline). Table 6.1, Implementation and action plan, below identifies the proposed actions. Lead departments in TCT and strategic partners are identified to drive the respective action items relate to the respective focus area.

Table 6.1: Implementation and action plan

Focus Area	Action/Project	Timeline	TCT lead Department
1. Dangerous Goods (DGs)	<ul style="list-style-type: none"> Initiate a project to develop a summary of key requirements related to the transportation of DGs by freighters SAPS and other stakeholders 	A	Planning
	<ul style="list-style-type: none"> Formulate a process and project to review the regulatory and procedural framework pertaining to and to guide institutional and agency co-ordination, risk management, enforcement and compliance. 	A	Planning
	<ul style="list-style-type: none"> A Development of a training, marketing and awareness strategy and plan toward implementation 	B	Performance and Co-ordination
2. Abnormal Loads	<ul style="list-style-type: none"> Develop a preferred abnormal load route networks and ensure its protection 	A	Planning
	<ul style="list-style-type: none"> Control and manage safe passage of abnormal loads 	A	Network Management
	<ul style="list-style-type: none"> Between WCG and City engage in a process to review the permit procedure and system 	A	Network Management
	<ul style="list-style-type: none"> Between WCG and City develop a shared and centralised database 	A	Network Management
	<ul style="list-style-type: none"> Review of SAPS escort protocol and requirements 	A	Network Management
	<ul style="list-style-type: none"> Engage with the detailed investigation to determine the load carrying capacity of bridges and ensure the dissemination of its findings 	B	Maintenance

Focus Area	Action/Project	Timeline	TCT lead Department
	<ul style="list-style-type: none"> Engage with TCT's Integrated Information management System project outputs to enable dissemination of real time information related to freight 	A	Planning/Network Management
3. Overloading	<ul style="list-style-type: none"> Formulation of a comprehensive load management strategy that includes weighbridge location, functionality, efficiency and use of ITS technology 	A	Infrastructure
	<ul style="list-style-type: none"> Use available data to locate truck monitoring stations 	A	Infrastructure
	<ul style="list-style-type: none"> Initiate and test weigh-in-motion (WIM) device on a suitable segment of the network. Review and guide the roll-out of further WIM devices on the network as per the strategy 	A	Infrastructure
	<ul style="list-style-type: none"> Ensure greater operator awareness of the consequences of overloading 	A	Planning
4. Road Congestion	<ul style="list-style-type: none"> Engage in a transport modelling exercise to evaluate and determine the benefits and guide on congestion relief measures 	A	Infrastructure/Planning
	<ul style="list-style-type: none"> Review and refine a list of congestion areas in relation to freight and formulate congestion management strategies and plans 	A	Infrastructure/Planning
	<ul style="list-style-type: none"> Review, analyse and align Port of Cape Town planning and infrastructure processes and programs to respond to city freight management objectives 	A	Planning
5. Freight Demand	<ul style="list-style-type: none"> Initiate a study to investigate, optimise freight demand and logistics strategies, in relation to depot locations, planning, distribution centres and warehousing with the assistance of transport modelling 	B	Planning

Focus Area	Action/Project	Timeline	TCT lead Department
	<ul style="list-style-type: none"> Engage in a process to analyse and review user-pay options, through a feasibility study to guide the preparation of a business plan and proposed implementation plan 	B	Planning
6. Road Safety	<ul style="list-style-type: none"> Initiate a process to identify the key causes of freight related crashes in order to guide the review of the geometry of critical road sections and systems compliance measures and remedial infrastructure work Initiate a study to agree the imposition of additional freight limits on residential streets Initiate a study to determine the need for and possible locations for truck staging areas and stops Formulate a marketing and communication strategy and plan in connection with the above 	A A A B	Network Management Planning/ Network Management Planning/ Network Management Performance and Co-ordination
7. Incident Management	Review of City Disaster Risk Management plan (2013) from a freight management perspective to improve response procedures, communicate diversions more effectively and other strategies to optimize incident management procedures	A	Network Management/ Safety and security SAPS
8. Freight Emissions and Air Quality	<ul style="list-style-type: none"> Conduct a study with various stakeholders to consolidate a status-quo report, agree, on an approach on emission standards, formulate standards and compliance systems and procedures Explore option of development of a by-law 	A B	Planning/ERM Planning

Focus Area	Action/Project	Timeline	TCT lead Department
9. Increase rail share of freight	<ul style="list-style-type: none"> Establish a work group under the Functional Regional Sub Committee to prepare a multi-stakeholder proposal to explore the increase of rail share of freight 	A	Planning
	<ul style="list-style-type: none"> The proposal should include strategy development, intermodal solutions, pricing, costing and logistics, optimising TFR lines, transport technology and ITS Engage in a feasibility study to increase the transportation of waste by rail & the use of the City's existing rail sidings 	A	Planning
10. Innovation and Technology	<ul style="list-style-type: none"> Initiate a study to explore technology options in freight, to guide the development of a strategy/ and possible phased implementation of adopted options 	A	Innovation/ Planning
11. Advocacy and inter-Governmental Structures	<ul style="list-style-type: none"> Establish a multi-agency working group to consolidate a programme and reference the action plan in the strategy as part of the terms of reference 	A	Performance and Co-ordination
	<ul style="list-style-type: none"> Ensure correct representation from institutions to each forum 	A	Planning

7 Monitoring, evaluation and review

Being a key strategy in the CIP, the Freight Management Strategy should be reviewed every 5 years to align with the CIP. Regular ongoing monitoring and review will be guided by the proposals in the action and implementation plan.

There are two types of performance measures relevant for this Freight Management Strategy - output measures (sometimes referred to as project management measures) and impact measures. The actions proposed in this Strategy are largely 'outputs' in the form of the preparation of strategies, plans, documents, institutional coordination through regular engagement, structurally setting up of working groups or conducting reviews, however, it is anticipated that some of these actions will bring about measurable impacts.

Further, the purpose of these actions is to bring about change in the overall freight environment in order to attain the City's vision for freight. The mechanism of indicators is proposed to strategically direct the actions toward achieving the vision.

Annexure 2 shows a proposed set of indicators for the respective actions related to the focus areas. Through the Action Plan, these indicators will form a reference base to be reviewed and expanded on when developing and driving the respective actions, as they relate to TCT's long term strategy.



Annexure 1

Regulatory and contextual
framework



The City of Cape Town's Transport Authority

Regulatory and contextual framework

In addition to the policies and documents listed in Table 1.1: Secondary Data Collection: Policies and other Documentation, the following legislation and regulations have particular relevance for the Freight Management Strategy.

1.1 National Road Freight Strategy for South Africa (2011)

The Road Freight Strategy for South Africa aims to focus on sustainable interventions to address the following issues:

- Excess freight on the roads
- Poor road conditions
- Overloading and ineffective law enforcement
- Slow regional integration
- Poor road safety record.

The road freight strategy seeks to address these issues and to propose solutions for improving integration of road transport with other transport modes. Solutions are structured within four strategic thrusts, and each of the thrusts contains strategic initiatives to address the issues in the short, medium and long term. The strategic thrusts are:

Integrated transport mechanisms to regulate, plan, prioritise, facilitate and improve integrated transport solutions

Road infrastructure maintenance and funding solutions to ensure that road network infrastructure management performed in a prioritised and coordinated manner across the country with dedicated funding

Overload control management system improved through a series of coordinated solutions such as the establishment of a national inspectorate, utilisation of mobile technologies, administrative enforcement approaches, credible deterrents and data intelligence

Self-regulation and road safety to promote prevention of road damage and improve road safety and operator performance as well as to encourage the adoption of responsible operator behaviour.

Table A1: Summary of 'strategic thrusts' from the NRFS, 2011

Strategic thrusts	Proposed actions and issues
Integrated transport mechanisms	<p>Establish Integrated Transport Commission</p> <p>Promote intermodal solutions</p> <p>Introduce modal targets at ports</p> <p>Ports are operating sub-optimally – congestion, slow turnaround time</p> <p>Transnet's priorities and willingness to cooperate due to the focus on own priorities – lack of alignment to pull in the same direction with regard to the national needs</p> <p>Lack of funds to invest in rail</p> <p>Improve efficiency of border posts</p> <p>Manage traffic congestion</p>
Road infrastructure management and funding	<p>Expand SANRAL's road network, enabling it to manage all main freight routes, including those currently in the secondary and tertiary road categories where there is inadequate provincial or local capacity</p> <p>Give provinces greater capacity to manage roads, mainly by reclassifying to their authority the major roads currently falling under municipalities</p> <p>Municipalities should be managing only the local and urban roads after the process of reclassification and reassignment of resources.</p> <p>Introduce heavy vehicle user-pay principles</p> <p>Collect road freight statistics</p> <p>Develop skills and capacity</p>
Overload control management system	<p>Establish overload control inspectorate</p> <p>Optimise existing weighbridges</p> <p>Introduce credible penalties</p> <p>Introduce infringement system and training</p> <p>Utilise mobile technologies in overload control</p> <p>Establish an overload control database</p>
Self-regulation and road safety	<p>Resolve non-physical barriers</p> <p>Promote adoption of self-regulation</p> <p>Improve road safety</p> <p>Optimise transport of dangerous goods and abnormal goods</p> <p>Recommendations on axle mass limits</p>

1.2 WCP Freight Transport and Logistics Plan (CSIR 2009)

On the basis of a literature review and environmental scan, and in consultation with major stakeholders such as Provincial Government, freight transport forums and major industry, the CSIR compiled the Western Cape Provincial Freight Transport and Logistics Plan. The plan included key recommendations for Provincial and local government to facilitate improved freight transport and logistics in line with the national transport master plan (NATMAP).

The Freight Management Strategy for the City of Cape Town proposes a review and update (status update) of the relevant recommendations.

Potential interventions or recommendations made in the WCP Freight Transport and Logistics plan include the following:

- Restrictions on freight transport such as banning (certain classes of) freight vehicles from certain areas or routes during certain times
- Scheduling the arrival times of container vehicles at the port and/or varying the scale of charges to promote off-peak periods and penalise peak periods.
- Staging container vehicles off-site from the terminal to enable a call-off system.
- Using rail to transport containers to and from the port.
- Addressing the concern about the lack of struck stops and the control of overloaded vehicles.
- Designating certain routes for the transportation of hazardous materials.
- Developing strategies around port- competitiveness.
- Using road pricing (based on the distance driven in kilometres, the number of axles and the emission category of the truck) as an incentive to move freight from road to rail.
- Encouraging self-regulation of the road freight industry to reduce overloading and improve traffic safety through audits, reduced licence fees and fewer inspections at weighbridges.
- Using ITS to assist with overloading control, the collection of origin-destination freight data and road pricing. ("The Province's use of ITS should be integrated with the City of Cape Town's ITS newly developed strategy.")
- Transforming the existing Western Cape Freight Forum into an independent industry advisory body, with membership comprising industry leaders, industry associations, unions and government agencies, which advises the Western Cape Provincial Department of Transport and Public works and the City of Cape Town on the development, planning, regulation and operation of freight and logistics transport, infrastructure and services.
- Transforming existing rail facilities into intermodal facilities/hubs to form a freight rail hub-and-spoke system, linking rural areas with significant freight volumes with the dry port. Intermodal facilities should also be developed at towns outside the Province that are origins or destinations of significant volumes of freight.. This will reduce freight traffic on all the road corridors.

1.3 Review of the Cape Winelands Freight Transport Strategy (July 2013)

The objectives of Cape Winelands Freight Transport Strategy update were:

- To engage with road haulage industry to obtain their input and comments on the first version of the Freight Transport Strategy;
- To investigate the supply chain of the key commodities of the Cape Winelands and

- To identify areas in which the Cape Winelands District Municipality (CWDM) can assist towards improvement of the transport links in the supply chain.

Findings by freight focus area, key concerns, and proposed interventions, are noted in table A2 below, where they have particular relevance as input into the City of Cape Town Freight Management Strategy.

Table A2: Key findings of the Cape Winelands Freight Transport Strategy

Freight focus area	CWDM key concern	CWDM proposed intervention
Rail / Cape Town Port Freight	Limited role of rail in transporting most of agricultural freight in the CWDM; Only wine freight (bulk and finished goods) could be considered	
	Delays (logistical and time delays) incurred at the port in Cape Town	
	Unreliability of rail (time delay, lack of information)	
	High cost of rail freight transport: It only becomes economically feasible when a minimum of around 10 wagons are used at a time	
Institutional Relationships	Lack of integration between various institutional role-players (TFR, Province, City of Cape Town)	Establish dialogue with TFR, Province, City of Cape Town
	Geographic integration of freight management in the region (Cape Town, West Coast District, Cape Winelands District)	Liaise with CoCT and WCG about the development of a regional freight plan
Road Network and Infrastructure	Information about road works, such as location and duration will help reduce delays	Information sharing; Identify ITS opportunities
	Road conditions (potholes and gravel roads): Poor road conditions add to the vehicle operating cost	Liaise with WCG about prioritisation of road maintenance projects
	Lack of overnight facilities for drivers	Identify sites for truck stops
	High volume heavy vehicles in CBDs impacts on pavement conditions and the availability of parking	
	Improvement to road network: By-pass routes are required in towns such as Paarl and Worcester	Discuss by-pass proposals with WCG
	Road safety: Particular locations are problematic	Investigate hazardous locations

Freight focus area	CWDM key concern	CWDM proposed intervention
Law Enforcement	Delays incurred at weighbridges impacts delivery times at customers and at the port. Long delays in high temperatures also impact the quality of the freight (especially perishable produce and livestock)	Review possibility of WIM screening at overloading control centres
	Location of weighbridges: Existing locations are problematic as supporting facilities (security, cold storage and transfer facilities) are not within reach	Identify location for new overloading centre
	Quota system of law-enforcement checks prevents targeting of regular offenders	Institute a 'regular offenders education 'programme'
Industry Liaison	Driver wellness: Healthy well-rested responsible drivers are required. More time should be invested in driver support	Develop and participate in driver wellness programmes
	Lack of information about freight movement in the district	Create discussion forum
	Driver knowledge-sharing programme – Drivers are not always aware of the implications of their actions (in terms of road safety).	Set up information databank

1.4 National Road Traffic Act (1996) Amendment 22

The National Department of Transport has published its 22nd Regulation Amendment to the National Road Traffic Regulations. The Government Gazette No 38142 published on 31 October 2014 has implications for all road freight operators, in particular those presented below.

Regulation 330A to 330D in the Regulations:

“330A. Offering and acceptance of goods on overloaded vehicle prohibited”,

- 1) A consignor or consignee of goods shall not offer goods or accept goods if the vehicle in which it is transported is not loaded in terms of the provisions for the loading and transportation of goods as prescribed in this Act.
- 2) A consignor shall require from the operator of the vehicle in which the goods he or she offers for transport and in which the goods will be transported, a written submission as to the payload of such vehicle and the distribution of such load on a vehicle.
- 3) If a consignor is responsible for the loading of a vehicle of an operator, he or she shall take such steps as are necessary to ensure that the vehicle is loaded as contemplated in sub regulation (1) and (2).

4) A consignor or consignee shall not conclude a contract with the operator to transport goods on a vehicle, if the vehicle is overloaded when such load is transported on such vehicle.

“Consignors” and “Consignees” will be required to become acquainted with the provisions of the regulation concerned with loading and transportation of goods. By interpretation, transport operators will be required to submit the legal payload mass of each vehicle offered to transport goods, the “Consignor” must ensure the goods do not exceed the payload mass of the vehicle type and load the vehicle as recommended by the transport operator – to ensure the vehicle is not overloaded. The “Consignor”; who is responsible for the loading of goods, shall do so to ensure the vehicle is not overloaded and that the loading and transportation is done in terms of the provisions of the Act.

“330B. Consignor to have a method of determining mass”,

1) A consignor shall use a method of establishing the mass of a vehicle and any axle or axle unit of such vehicle that is accurate as to ensure that such vehicle axle or axles are not overloaded in terms of Part IV of Chapter VI.

2) A consignor shall keep a record of the mass of every load transported from his or her premises as contemplated in sub regulation (1).

3) The record as contemplated in sub regulation (2) shall be put at the disposal of any traffic officer or person appointed as contemplated in section 50 or authorised as contemplated in section 82 of the Act.

By interpretation, the “Consignor” who is responsible for the loading should use either a weighbridge or suitable alternate axle weight measuring device (such as a portable axle weigh mat) or other to measure and record each axle or axle units mass; to ensure the axle masses comply to the loading regulations of a specific vehicle. A suitable form of capturing the Gross Vehicle Mass (GVM) and axle masses is necessary, the consignment note could be adapted and used for this purpose; which is then kept on record.

The National Department of Transport has also published a proposed change to Regulation 318A relating to the prohibition of operating goods vehicles over 10 tonnes between 06:00 and 09:00 and 17:00 and 20:00 in Government Gazette 38772.

At the time of publication (June 2015) both of these regulations are still out for public comment. TCT does not support a blanket ban but would consider limited bans in certain areas through detailed investigations under the auspices of this Strategy.



Annexure 2

Proposed indicators identified in respect to the focus areas

Focus Area	Impact/Goal	Data requirement to measure impact	Expected Outcomes
Dangerous Goods	Safer road conditions	To be developed	To be developed
	A skilled enforcing body with the ability to execute appropriate responses to DG incidents	Training level of officers involved in responding to DG incidents/ issues identified	Number of officers trained/Certificate of training
	Appropriately allocated costs of incidents	Current costs incurred by the City in attending to and cleaning up DG incidents	Reduction in costs attributed to the City in the clean-up of DGs
Abnormal Loads	A well documented and well publicised abnormal load route map, facilitating increased compliance	Current non-compliance levels Number of inappropriate developments on previously designated routes Route clearances and weight limits	Reduction in level of non-compliance Number of inappropriate developments on previously designated routes Use of route map and database
	Better permitting process leading to reduced non-compliance	Centralised, visible inter-governmental database Number of requests sent for coordination/ approval	An indication that all applications for loads that pass through the city have been approved by the City. Reduced government administration
	More appropriate permitting fees	Current fee levels Agreement on any new fee structures	Appropriate revenue generation Depending on method adopted, more compliant industry
	More appropriate license fees	Current fee levels Agreement on any new fee structures	As above
	Optimal police escort per permit	Number of police currently escorting applicants Training level of officers	Reduction/optimisation in number escorting Approved training course Number of optimally trained officers
	Reduced road & infrastructure damage	Number of unauthorised abnormal load movements in the city resulting in infrastructural damage	A reduction in the number of unauthorised abnormal movements in the city

Focus Area	Impact/Goal	Data requirement to measure impact	Expected Outcomes
Overloading	Installation of WIM devices at selected locations	Physical number of devices installed Transmission & receipt of monitoring data	Database of monitoring information from devices
	Improved road conditions	Current road condition categorised by class of road	Level of improvement in road condition by class of road via reduction in maintenance required
	Public funding is more effectively used due to reduced road maintenance costs	Current expenditure on road maintenance (based on condition)	Reduction of expenditure on road maintenance
	A reduction in the number of vehicles that are overloaded	Overload database Proportion of vehicles tested that are overloaded	A reduction in the rate of vehicles tested that are overloaded
Road Congestion	A road network that is optimal for freight operations	Annual link volumes (peak hours) Annual capacity indicators at key intersections	An increase in link volumes An increase in the capacity of key intersections
	Improved air quality	Measurement of ambient air quality at key locations	Reduction in freight emissions at key locations
	Reduced travel times	Travel time for key freight routes/ cost of travel	A reduction in travel time on key freight routes/ reduction in the cost of travel
Freight Demand	Reduced freight movement in the city	Existing volumes of freight on major links	Reduction in actual freight volumes on major links
	More appropriate/ efficient land use for logistics operations	Existing land zoning and use by freight/logistics operations	Changes in current land use patterns by freight /logistics operations
	Reduction in logistics costs	Distances travelled/ trip chains	Reduction in distance travelled & trip chain numbers
	User pays mechanism	Current licence fees, externalities costs	Revenue generated Reduced road freight demand/ efficiency gains/possible changes in technology

Focus Area	Impact/Goal	Data requirement to measure impact	Expected Outcomes
Road Safety	A reduction in damage to infrastructure/ loss of consignment	Number of freight vehicles crashes involving damage/loss of consignment	A reduction in the number of crashes attributable to freight vehicles
	A reduction in the number of lives lost or injuries sustained	Number of freight vehicles involved in crashes where lives are lost or there is an injury	A reduction in the number of crashes attributable to freight vehicles
	A reduction in time delays due to incidents	Delays experienced as a result of freight crashes	Reduction in delays experienced as a result of freight crashes
	Better freight vehicle driver conditions	Current locations of lay-byes/ truck stops	Usage of lay-byes & truck stops
Incident Management	Reduced risk to response teams: a more appropriately skilled response team with increased awareness of potential dangers of spilled loads & response methods	Current level of skill of first responder and number of first responders	An improvement in the level of skills of first responders through training
	Reduced damage to consignment /reduced loss of consignment	Sample data from logistics companies that have been involved in crashes	Reduction in losses as a result of this strategy
	Fewer and reduced time delays	Sample of time delays suffered per incident	Reduction in time delays
Freight emissions and air quality	Reduction in freight-related emissions	Emissions measurements at key transport locations Emissions standards for categories of trucks	Reductions in annual emissions from trucks Reduction in the number of polluting trucks

Focus Area	Impact/Goal	Data requirement to measure impact	Expected Outcomes
Rail Freight	Increase in modal share of freight transported by rail	Quantity of freight moved by road and rail	Real reduction in freight moved by road
	Reduce road-based freight externalities	Evaluated elsewhere	To be developed
	Reduced road maintenance costs	As per the overload strategy	To be developed
	Reduced investment in road congestion management & safety measures	As per the road congestion & safety strategy	To be developed
Technology and Innovation	Increased ability to make evidence based decisions	Qualitative evaluation of a pilot project	To be developed
	Better and timeous freight data to allow better planning	Qualitative evaluation of a pilot project	To be developed
	Ability to investigate potential road pricing options	Qualitative evaluation of a pilot project	To be developed
	Reduced cost of operations	Qualitative evaluation of a pilot project	To be developed