DRAFT TRANSNET NETWORK STATEMENT (FOR PUBLIC CONSULTATION)

Volume 2 – March 2024

PREFACE TO THE NETWORK STATEMENT

The Network Statement (NS) is being developed at a time where regulatory reforms are contained in draft legislation which is subject to change and/or promulgation by government in the future. In the absence of legislative certainty, the Infrastructure Manager (IM) considered and incorporated the objectives and principles of the regulatory reforms being introduced and attempted to incorporate the legislative intent as currently understood in terms of its impact, consequences and the contingencies created or brought into existence by such legislative reforms within the IM's business environment.

In order to deal with any material impacts and to manage contingencies brought about by legislative changes in a compliant and practical manner, the IM reserves the right to unreservedly amend, modify, waive, change, alter or restate any term or provision currently contained in the NS with the intent to ensure that the IM's interest is fully encapsulated, and its rights are appropriately identified and protected.

Notice

The IM will provide advance notice of any changes before incorporating such changes to stakeholders in writing.

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CHAPTER 1: GENERAL INFORMATION

1. CHAPTER 1 GENERAL INFORMATION

1.1. GLOSSARY OF TERMS AND ABREVIATIONS

GLOSSARY OF TERMS

Access	means the use of allocated Slot on the Network by a TOC in order to provide Transport Services to customers of that TOC.
Access Fee	means the fee that is payable by the TOC to the IM, for the granting of Access to each Slot and for the provision of Services by the IM in terms of the Rail Access Agreement's Annexure D (Access Fee and Additional Charges). The fee that is payable in respect of the first Contract Year is set out in clause 9 of the Rail Access Agreement
Accident	means any event or circumstance that results in harm or injury to or death of any person and/or any damage to property or the environment, and includes any collision and any derailment
Accounting Separation	means separating the accounting for different businesses or parts of businesses within a company to create separate financial statements with clear visibility of assets, costs, revenues and profits of the different businesses or parts of the businesses within the same organisation
Accredited Training Courses	means training courses which have been accredited by TETA
Allowable Departure Window	means the period when a Train shall be permitted to depart from a point of origin (including any Marshalling Yard, Rail Yard or Loading Site) which shall not be earlier than 180 minutes before its scheduled departure time or later than 30 minutes after its scheduled departure time
Allowable Revenue	means the methodology used as a basis for the IM's revenue determination which is computed by considering the full economic cost plus a reasonable rate of return allowed by the regulator
Ancillary Services	means the services necessary to support the placement, shunting, building, inspecting and departure of a Train within Marshalling Yards, Rail Yards, Exchange Yards and Terminals, which services may be provided by or on behalf of the IM or the operators of all yards and terminals in terms of agreements concluded by the IM with such operators
Annual Shutdown	means in respect of each Contract Year, a period, as notified by the IM to one or more affected TOCs, during which Access to the Network is suspended or substantially reduced for a period of 7-10 consecutive days in order to enable the IM to undertake scheduled maintenance and/or capital works (including sustainable capital expenditure) on the Network and which shall be in addition to any scheduled maintenance conducted during any Planned Occupations

Applicable Laws	means all national and provincial legislation (including provincial ordinances, and national and provincial regulations), municipal by-laws, the common law, and all directives, decisions, declarations, determinations, guidelines, rules, rulings, and other instruments of competent government authorities, including any Environmental Law; in each instance to the extent that each of these has the force of law in South Africa and "**Applicable Law**" shall have a corresponding meaning
Applicable Requirements	means any mandatory requirements in terms of any Applicable Laws or in terms of any licence, consent, permit, authorisation, or directive issued or entered into under any Applicable Laws by any Relevant Authority; in each instance to the extent that same comprise legally enforceable obligations and apply to the performance of Transport Services and/or the Network Services
Applicant	means a TOC who applies for Acesss in accordance with the Application Process
Application Process	means the process for applying for a Slot(s) and all associated requirements, as set out in this Network Statement
Automation	means the creation and application of technologies to perform activities required to produce and deliver goods and services with minimal human intervention
Approved Cargo	means the type(s) of Cargo that is specified in the application by the TOC and that is approved by the IM in accordance with the Application Process, and in respect of which a TOC is permitted to provide Transport Services in relation to the relevant Slot(s) to which it is granted access pursuant to the aforementioned application process, and which Slot(s) is/are recorded and described more fully in Anneure B (*Approved Cargo*) contained in the Rail Access Agreement
Axle	a rod or shaft that connects a pair of wheels to propel them and retain the position of the wheels to one another
Axle Counter	an axle counter is a system used in railway signalling to detect the clear or occupied status of a section of track between two points. The system generally consists of a wheel sensor (one for each end of the section) and an evaluation unit for counting the axles of the train both into and out of the section. If the number of axles counted into the section equals the number of axles counted out of the section, the section is presumed to be clear of any rail vehicles (and therefore unoccupied) and available for another train movement
Back-of-Port Terminal	means a terminal, warehouse or similar facility that is located outside of the boundaries of a national port for purposes of undertaking, inter alia, the off-loading, storage, handling, sorting, loading and other activities in respect of any Cargo
Branch Line	means a portion of the Network comprising a low density railway line that branches off from a Main Line and that connects the Main Line to smaller communities and/or economic activities such as agriculture or mining
Business Day	means any day other than a Saturday, Sunday, or statutory public holiday in South Africa

Calendar Day	means each day which appears on a calendar with each such day beginning at 00:00 (midnight) and includes Saturdays, Sundays and public holidays in South Africa
Cancellation	means the actual or deemed failure to run a train or utilize a slot including, where applicable, a Train that is scheduled to operate during a given Slot, by the IM, yard operator or a TOC. The terms "Cancel" and "Cancelled" shall have corresponding meanings
Cancellation Schedule	means the schedule kept and maintained by the IM in which any Cancellations to slots are recorded
Cargo	means various forms of goods including containerised goods, automotive goods, and General goods
Centralised Traffic Control	means the control from a single office, centre or signal cabin over the running of Trains and shunting movements in a signalled area which, as a rule, includes two or more interlocking areas and the limits of which are indicated by means of suitable sign boards
Change in Law	means the coming into force of any new Applicable Law, or any amendment, variation or repeal of any existing Applicable Law, other than any Applicable Law that on or before the Signature Date, has been published: - in a Bill; or - as an Act but has not yet been brought into effect
Christmas Break	means the period from 18h00 on the 24th of December to 06h00 on the 26th of December
Commodities	means substances or products that can be traded, bought or sold
Community encroachment	means the unlawful andvancement or occupation within the Network including within the Railway Reserve (including the establishment of any unauthorised structures or dwellings)
Competent	means having the appropriate skills, knowledge, training, and experience to perform a task or role successfully
Competition Act	means the Competition Act, 89 of 1998, as amended
Competitive Contracting Process	means the contracting process initiated by the IM to grant TOCs access and the associated conclusion of the agreements referred to in this Network Statement between the IM and TOC
Consents	means all permits, clearances, authorisations, approvals, rulings, exemptions, registrations, filings, decisions, licences, permissions required to be issued by any Relevant Authority to the TOC for purposes of or in connection with the performance of any of the Transport Services and as required in terms of any Applicable Law
Container(s)	means a transport unit that complies with the dimensions and other specifications contained in the Network Statement (Container Specifications)

Containerised Cargo	means Cargo that is Transported on a Route in Containers
Contract Period	means the period referred to in the Rail Acccess Agreement
Contract Year	has the meaning ascribed to that term in the Rail Access Agreement
Corridor	means a unique or dedicated geographic operating portion or unit of the Network that may comprise one or more Routes, MailLines and Branch Lines and associated Rail Infrastructure that are used for the dedicated rail transportation or facilitation of specific Cargo on and within the Network by means of rail interconnections with the rail networks of neighbouring countries to and from the major ports and industrial, mining, agricultural and other centres of production or manufacturing
Corrupt Act	means: - the requesting, soliciting, offering, giving or agreeing to give to a Party or any Person employed or contracted by or on behalf of a Party any gift, reward, benefit, gratuity, inducement or consideration of any kind whatsoever: o for doing or not doing (or for having done or not having done) any act or any omission in relation to the conclusion and/or performance of this Network Statement and/or the Rail Access Agreement; o for showing or not showing favour to a Party and/or any other Person, in relation to: ▪ any aspect of this Network Statement and/or the Rail Access Agreement; ▪ the scheduling or non-scheduling of Transport Services in terms of this Network Statement and/or the Rail Access Agreement; ▪ the provision or non-provision of Transport Services by the TOC in terms of this Network Statement and/or the Rail Access Agreement; and/or ▪ the provision or non-provision of similar services to any other Rail Operators; and/or committing any offence in terms of any Applicable Law in respect of corrupt or fraudulent acts in relation to this Network Statement and/or the Rail Access Agreement
CPI	means the year on year Index calculated by Statistics South Africa over a period of 12 months from January to end December preceding the contract year
Countdown Process	means the checklist of activities that must be performed by a TOC, yard operator and the IM to ensure that each Train that is planned on the ITP and has been scheduled by the IM, is ready for departure

Creditworthiness	means the risk and financial assessment undertaken by a lender to determine whether or not to provide loan funding or other forms of credit to an existing or prospective borrower/debtor
Crossing Loop	means a place where Trains can cross or pass each other
CS90	means a TFR-developed control system that includes interfaces to interlocking systems, remote control, visual display unit, server and drawing tool
Declined Slot	means a Slot that is not taken up by a TOC during or after the weekly order process and after train planning has been completed
Designated Private Siding	means a privately owned rail siding forming part of a Route and used for the loading and offloading of a TOCs customer Cargo
Dangerous Cargo	means any Approved Cargo that constitutes a Hazardous Substance and/or, which has the potential to cause harm to persons, property or the environment or the potential to cause pollution or degradation of the environment as contemplated in NEMA as well as any commodities, substances and/or goods of a similar nature and which are defined or referenced in the IMDG code and include any commodities, substances and goods listed in SANS 10228:2012; "The identification and classification of dangerous goods for transportation by road and rail modes"
Detached Rolling Stock	means a rail vehicle , which is required to be removed from a Train whether before it departs from an inspection point or en-route where it is identified as Overloaded, Underloaded, skewly loaded, damaged or defective, and is therefore unfit to be transported or conveyed on the Network
Disclose	mean the direct or indirect use, dissemination, publication, communication, replication, verbalisation, transference or transmission of Confidential Information, in any manner or form whatsoever, and the terms "Disclose", "Disclosed" and "Disclosure" shall have corresponding meanings
Disruptions	means the disturbance or problems which interrupt rail service activitives, attributable to a TOC or the IM, as applicable, and that are not caused by: - A Force Majeure Event; or - A planned occupation ;or - An Annual Shutdown, as applicable; or - An unplanned occupation due to unforeseen events which may have caused damage to the infrastructure resulting in its unavailability
Depreciation	means the systematic reduction, on a straight line basis, (e.g. a particular asset class may have a lifespan of 40 years), of the value of all assets included in the RAB over their aggregated useful lives as guided by the accounting principles adopted by the IM applicable for each asset as published by South African Revenue Services. For each asset, depreciation is calculated by dividing the value of the asset or asset class by its useful life
Economic Regulation of Transport	means the regulation of markets, entities, facilities or services within the transport sector by determining: - The price control for access to facilities or for services; - Access to facilities or services; and - Service levels and service conditions

Economic Regulation of Transport Bill	means the bill as introduced in the National Assembly (proposed Chapter 76); explanatory summary of Bill and prior notice of its introduction published in Government Gazette (No 42887 of 6 December 2019) to consolidate the economic regulation of transport within a single framework and policy; to establish the Transport Economic Regulator; to establish the Transport Economic Council; to make consequential amendments to various other Acts; and to provide for related incidental matters
EDI CUSCAR messages	specification that provides the definition of the Customs Cargo Report Messages (CUSCAR) to be used in Electronic Data Interchange between trading partners involved in administration, commerce and transport
Environmetal Law	means any applicable requirement which relates to or is for the purpose of protecting the environment (including air, water, land, surface land and sub-surface land) or a part of the environment
Equity	means any stock, shares or other form of security representing an ownership interest by a Shareholder in a TOC from time to time
Exchange Yard	means any Rail Yard situated between customer sidings / terminals and a Main Line, used as a hand-over point between Main Line Train Operator and siding owner / operator
Force Majeure Event	means any event or circumstance, or combination of events or circumstances, occurring during the duration of this Network Statement, the occurrence of which is beyond the reasonable control (directly or indirectly) of a Party hereto, and which could not have been avoided by the Party seeking to rely upon such an event or circumstance, taking steps which might reasonably be expected to have been taken by such Party, acting as a reasonable Person in the position of the relevant Party, save however that nothing herein shall require any Party to settle or adjust any labour dispute or other industrial action on terms to which it does not agree or find appropriate. Without limiting the generality of the foregoing but, in each instance, subject to compliance with the foregoing requirements, such events or circumstances shall include any one or more of the following: - an act of God, act of public enemy, act or threat of terrorism, war, revolution, riot, insurrection, civil commotion, public demonstration, sabotage, act of vandalism, act of theft (including cable theft and any theft, tampering and/or or vandalism of any part of the Network), explosions, lightning, fire, flood, storm, earthquake or extreme weather, *vis maior* or *casus fortuitus*; - major breakdown of, or design flaws in, machinery or equipment, or accidents in relation to or stoppages of the Transport Services, the operation of the Network, the operation of a Terminal or the operation of a Loading Site, including derailments of Trains, in each case which could not have been prevented or substantially mitigated by the prior acts of a Reasonable and Prudent Operator in the position of the relevant Party (being the IM in the case of the Network, the TOC in the case of Transport Services or the operator of a Terminal or Loading Site in the case of the operations performed at the relevant Terminal or Loading Site, as applicable); - a national, provincial or regional shortage of diesel and/or electricity or any delay, interruption or failure in the supply thereof which is not

	attributable to the Party seeking to rely on such shortage, interruption or failure in supply or to the operator of a Terminal or Loading Site, as applicable; - the imposition, expansion, increase, extension or renewal of any trade or other sanctions (including any international trade law remedy or competition law order in the nature of a divestiture) imposed on a Party or on South Africa; - any strike, lockout, work stoppage or other industrial action or disturbance by workers or employees of any Party, provided that the Party seeking to rely upon such an event has taken steps to mitigate the effect of the events listed in this definition; provided that market fluctuations in the operational and other costs of the TOC (including fluctuations in the prices or costs of Approved Cargo (including fluctuations in transport costs and fluctuations in costs associated with vessel and/or container shortages), shall not constitute Force Majeure Events for purposes of this Network Statement;
General Appendix	An addendum to the main set of Train Working Rules which contains specific operational instructions on the required safe working of trains (valid for all trains and yards). Additional circulars that contain customised modification of General Appendix instructions for specific routes or yards are issued from time to time. Local Appendices that contain special instructions governing local conditions specific to each area have been issued from time to time. The General Appendix must be read in conjunction with and not in lieu of the Consolidated Service Conditions as outlined in the Rail Access Agreement and the Network Statement, Train Working Rules, and applicable legislation
General Cargo	means a collection of rail-friendly goods other than Containerised goodsthat is Transported or to be Transported on a Route including automotive goods, manufactured goods, bulk goods, liquid bulk goods, and agricultural cargo as described more fully in Annexure B (goods)
Government	means the government of South Africa
Hazardous Substances	has the meaning ascribed to it in the Hazardous Substances Act
Hand Over Point - Arrival	means the relevant place and time at the Marshalling Yard(s), as designated by the Infrastructure Manager, where and when the TOC shall deliver a Train to the Infrastructure Manager appointed yard operator to render Ancilliary Services
Hand Over Point - Departure	means the place and time at the Marshalling Yard(s), as designated by the Infrastructure Manager, where and when the Infrastructure Manager's-appointed yard operator shall deliver or make available a Train to the TOC for onward Transportation of Cargo in accordance with the terms of this Network Statement
Hazardous Substances Act	means the Hazardous Substances Act, 15 of 1973, and includes all regulations made in terms thereof
Hot Box Detector	means a device that is located on the trackside and detects the presence of an overheated wheel bearing and alerts the Train crew

IMDG	means the International Maritime Dangerous Cargo Code
Incident	A "railway occurrence or event " which may affect the safety of the railway or the normal operations of the railway
Information	means any and all data whether of a historical, current or future nature, irrespective of whether same is stored, recorded or embodied in handwritten, printed, visual, electronic, audible or other format or medium, and belonging to and created by or for the benefit of the Disclosing Party, whether in the possession or under the control of the Disclosing Party, or in the possession or under the control of any other Person, including, without limiting its ordinary meaning, all data, computer data, programming code, codes, letters, telefaxes, telegrams, faxes, documents, agreements, registers, specifications, formulae, maps, plans, drawings, designs, diagrams, images, photographs and any other documentation
IM	means Transnet SOC Ltd, acting through the Interim Transnet Infrastructure Manager , and in its capacity as the owner and operator of the Network
Inland Terminal	means a Cargo terminal (other than a Back-of-Port Terminal) that is not located and operated within a national port and at which Cargo is loaded and/or offloaded, handled and/or stored and includes, without limitation, the City Deep Terminal, the Kaserne Terminal, the PretCon Terminal, the KasCon Terminal, Kaalfontein Terminal , Belcon Terminal, Bloemcon Terminal, , Mascon Terminal and Vaalcon Terminal
Interface Management Agreement	means an agreement concluded between the IM and interface parties
Integrated Train Plan or ITP	means the schedule of trains planned for execution for a defined period of execution which incorporates TOC requirements, which is developed by the IM in respect of the integrated operation of the Network
Interloop	means a place where Trains can cross or pass each other and where there is no train-control officer
Intermodal Trains	means Trains that move Cargo which can be interchangeably transported using various modes of transport, such as containers and automotive cargo
Loading Profile	means the loading related specifications, profiles and procedures set out or to be set out by the IM in a schedule setting out the manner and the parameters within which Cargo must be loaded in a Rail Wagon
Loading Site	means a Terminal, station or Railway Siding where the loading of Cargo takes place
Locomotive	means a powered railway vehicle used for pulling rail cars that complies with the specifications in this Network Statement
Loss	has the meaning ascribed to that term in the Rail Access Agreement
Main Line	means a portion of the Network used for through trains or is the principal artery of the rail system which may traverse one or more stations, rail junctions, and crossing loops
Marshalling	means building and breaking of Trains, inspection of load and shunting of out rail wagons that are not roadworthy

Marshalling Yard	means a depot or Rail Yard where rail cars are shunted and made up into trains
Mass	means the gross mass of Cargo (without any deduction, if applicable, for any moisture content) as determined in Tonnes
National Rail Master Plan	means a plan of action that sets out a sustainable approach to strategic rail network planning and a long-term plan that informs all future developments of rail in the country.
Maximum Carrying Capacity	means the allowable carrying capacity of a Rail Wagon (not exceeding the maximum prescribed axle load limitation of the infrastructure)
Memorandum of Incorporation	means a document that sets out the rights, duties and responsibilities of shareholders, directors and other persons involved in a company
MHSA	means Mine Health and Safety Act No. 29 of 1996
Movement Authority	means the permission to bring into motion rail vehicles to occupy network under specific conditions and where the limit of authority is issued
MTS	means the Master Train Schedule developed by the IM setting out the slots or a combination of slots on the total Network
NEMA	means the National Environmental Management Act, 107 of 1998
Network	means the IM's rail network and includes all Corridors, Routes, Railway lines, sections and segments, existing as at the publication date of this Network Statement, and that connects all Terminals and Loading Sites and that includes the Permanent Way , Exchange Yards, Marshalling Yards and Rail Infrastructure, as located within the Railway reserve and which are owned, used, operated and maintained by or on behalf of the IM for purposes of conducting Rail Operations and performing Network Services
Network Services	means the performance of the following network related services by the IM in relation to each Slot, within the Network handling of applicaion for railway infrastructure capacity; - Grant TOC access to the IM railway infrastructure, including rail yard, terminals, track points and junctions; - Train control including , regulation, dispatching, communication and provision of information on Train movement; - use of electrical supply equipment for traction current, where available.
Network Statement	means this statement as at the publication date hereof and as published from time to time thereafter (including any revisions or amendments hereto as well as any re-statements hereof), and which seeks to provide a detailed overview of the rail infrastructure and equipment comprising the relevant portion of the Network that is associated with each Corridor or Route on which a TOC may perform Transport Services in relation to each Slot that is awarded to it, and includes conditions of Access to the Network, commercial and operating parameters and requirements, the peformance of Network Services by the IM, technical and safety specifications and requirements, the scheduling and departure of Trains and associated Train Movements and Disruptions, the regulating of Cargo, Approved Cargo, Dangerous Cargo and Unlawful Cargo, Force Majeure, and provisions regulating Incidents and Occurences

OCC	means the Operations Command Centre of the IM, which is responsible for the design, planning, monitoring, deviation management and Train control/movement on the rail Network
Occurrence Management Services	means those services required in the event of an Occurrence, to assist in the restoration of the Network to ensure provision of Main LineAccess Services, which shall be procured by the applicable party in terms of the Rail Access Agreement
Occurrence Management Services Charges	has the meaning ascribed to that term in the Rail Access Agreement
Occurrence	means any Accident or Incident
OEM	means an original equipment manufacturer
OHSA	means the Occupational Health and Safety Act, 85 of 1993
Operating Licence	means an authorisation granted by the Railway Safety Regulator to aTOC permitting it to conduct rail services as stated in the operating licence
Operating Period	means the term of the Rail Access Agreement
Operating Costs	means the costs to be recovered through the Allowable Revenue methodology and includes, inter alia, labour costs, maintenance and material costs, head office operating costs, security costs, fuel and energy cost, leasing and/or financing costs, professional fees and miscellaneous operating costs (e.g. environmental management, health and sanitation, legal, risk, compliance and insurance costs)
Overloading Charges	means the surcharges, per Rail Wagon, which are: - payable by a TOC to the IM in the event that the Actual Mass of Cargo loaded by a TOC into or onto a given Rail Wagon exceeds the Maximum Carrying Capacity of such Rail Wagon by 2 (two) or more Tonnes; or - where the gross Mass of a rail car exceeds the maximum axle load of the a portion, section or segment of the Network as specified by the IM
Permanent Way	means the railway track comprising of the earthwork formation, ballast, sleepers, rails, fastenings and other associated assets and equipment , together with the land on which such earthwork formation, ballast, sleepers, rails and fastenings are laid and includes: - any level crossing, bridges, tunnels, culverts, retaining walls or other structures used for the support of, or otherwise in connection with same.
Parties	means the IM, and each TOC; and "**Party**" means any one of them as the context indicates or requires
Person	has the meaning ascribed to that term in the Rail Access Agreement
Personnel	means, depending on the context, any Train Drivers, Train Assistants, Train Control Officers, safety personnel, and other persons employed or contracted to operate Trains and/or to undertake the performance of Transport Services

Pilot	means a Competent Section Manager or Train Driver, with the necessary road knowledge of a particular section of a railway line, accompanying a Train Driver for a TOC on the footplate of a Train that assists the Train Driver with knowledge of the section they are traversing, without having any responsibilities or duties whatsoever in respect of the Train and locomotive
Planned Occupations	eans the planned network possession by the IM of portions, sections or segments of the Network for infrastructure maintenance purposes each of which may endure for a period of up to 12 hours provided that the IM shall give the TOC not less than 7 (seven) days' prior written notice of the date of commencement of each Planned Occupation. Unplanned occupations are dealt with as contained in par 6.4.3.1
Points	means the movable blades of the railway infrastructure which guide the wheels of a Locomotive or Rail Wagon towards either the straight or the diverging or the converging railway track
Port Terminal	means a Cargo terminal that is located and operated within the boundaries of a national port and at which Cargo is loaded and/or offloaded, handled and/or stored
PPI	means, the annual average change in the producer price index, as published by Statistics South Africa in Statistical release P0142.1, table C1 – Final manufactured [goods], calculated: - over a 12 (twelve) month period to the end of December (inclusive); - from figures published by Statistics South Africa or its successor
PRASA	means the Passenger Rail Agency of South Africa established in terms of section 22 of the Legal Succession to the South African Transport Services Act No. 9 of 1989, as amended
Pricing Model	means the methods you can use to determine the price of goods, services or products
Primary communication	means the signalling aspects that a Train Driver will see as operated by a Train Control Officer as authority to proceed, slow down or stop. In a degraded network condition, a fallback operating system such as manual or verbal authorisations, shall be the default train control system.). Verbal communication includes voice logged Trunk radios between the Train Crew and the Train Control Officer.
Prime Rate	has meaning ascribed to this term in the Rail Access Agreement
Private Siding	means a railway line or yard in private use and/or ownership which is connected to a railway line forming part of the Network, and includes any associated privately owned and/or operated premises, shunting yard, marshalling yard, siding extension and includes any section of a railway line which, either directly or indirectly, provides access to the Network
Quarter	means in respect of each Contract Year a period of 3 (three) consecutive months, the first such period commencing on the Commencement Date and each subsequent Quarter commencing on 1 July, 1 October, 1 January and 1 April of each Contract Year; and "Quarterly" shall have a corresponding meaning

Rail Access Agreement	means the agreement that is required to be concluded between a TOC and the IM
Railway	means a guided system designed for the movement of Rolling Stock that has the capability of transporting Cargo on the Permanent Way and includes the Railway Reserve, Rolling Stock, plant, machinery, goods and other immovable or movable property of every description or kind used or set aside for use in connection with or for the purpose of a Railway Operation
Railway Capacity	means the number of Trains that can travel over a given section of line during a given period of time
Rail Infrastructure	means, Rail Yards and depots , stations, Crossing Loops, passing loops, railway crossings, level crossings, Points, Signalling Equipment, power supply infrastructure and equipment, communication infrastructure and equipment, security infrastructure and equipment, and other supporting and related facilities, buildings, walls, fences, gates or other structures and equipment
Railway Operations	means the rail related activities that are performed by a Rail Operator
Rail Operator	means a network operator, train operator or station operator or any combination these and includes a person who is a rail concessionaire or who operates, constructs, maintains or manages a railway siding or other Rail Infrastructure for its own account or on behalf of another person who owns the relevant assets, that concessionaire or that person who so operates, constructs, maintains or manages that railway is for purposes of this definition regarded as being the network operator
Rail Operation and Safety Requirements	means: - Operational and safety requirements of the IM which are set out in its safe working procedures, safety instructions, general operating instructions and the Train Working Rules all as developed, revised and issued by the IM from time to time and in accordance with SANS 3000-2-5 (Technical Requirements for Engineering and Operational Standards: Operational Principles for Safe Movement on Rail); and - The RSR Act, RSR Regulations and RSR Standards; - Safety Permits, permits and licences held or required to be held by a TOC in terms of, inter alia, the RSR Act and the RSR Regulations; and - Rail safety directives
Railway Reserve	means the width of the land on either side of the centre line of the Permanent Way and which extends to the proclaimed railway boundaries, which are usually demarcated by walls, fences, gates or other structures bounding such railway boundaries and which includes the land upon and within which the Permanent Way, stations, level crossings, Points, Crossing Loops, Rail Yards and depots, Marshalling Yards, sidings, and associated Rail Infrastructure such as Signalling Equipment, communications infrastructure, security infrastructure and other related facilities, buildings and structures; are located
Railway Safety Permit	means a permit required in terms of section 22 of the National Railway Safety Regulator Act, 16 of 2002, as amended and issued by the chief executive

	officer of the Railway Safety Regulator in terms of sections 23 and 24 of the Act
Railway Sections	means that portion of a Route or Corridor between - two telegraph stations; - two token stations; - two Crossing Loops; - a telegraph station and a token station; - a telegraph station and a Crossing Loop; or - a token station and an Crossing Loop
Rail Transport	means any transportation of persons or Cargo by rail, and for purposes of the National Rail Master Plan includes any rail related operations and activities that are necessary for the support, facilitation or use of rail transportation
Rail Car	means a rail car that complies with the specifications contained in this Network Statement used for the conveyance of cargo
Rail Worthy	means that any portion, section or segment of the Network, Rolling Stock, is technically sound to ensure safe and efficient Train movements
Rail Yard	Means a series of tracks in the Rail Network for storing, sorting, classification, de-classification, loading and un-loading Rolling Stock, including Marshalling Yards, Exchange Yards, Terminals and Sidings
Reasonable and Prudent Operator	means a Person acting in good faith with the intention to perform its contractual obligations and, in so doing, and in the general conduct of its undertaking, exercising that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected to be exercised by a skilled and experienced operator complying with all Applicable Laws and engaged in the same or similar type of undertaking and under the same or similar circumstances and conditions
Regulated Asset Base (RAB)	means the accumulated value of net invested capital, which includes fixed and some working capital assets, calculated on the basis of regulatory approaches for determining base revenues, which should be recovered through network access charges
Relevant Authority	means any ministry (save where the relevant ministry, in exercising its authority is acting in its capacity as shareholder of the IM), department (save where the relevant department, in exercising its authority is acting in its capacity as shareholder of the IM), agency, authority or body of South Africa or any other public authority, body, entity or Person having jurisdiction in terms of the Applicable Laws over or in respect of any matter arising from or in any way connected with the rail transport, storage, stockpiling, handling, loading, importation and/or exportation of Cargo (including Approved Cargo)
Renewal Period	means a period specified in a given Rail Access Agreement and which shall commence on the 1st (first) day following the last day or the last Contract Year of the Contract Period that is specified in the relevant Rail Access Agreement

Rail Incident Commander (RIC)	means the Rail Incident Commander, namely an IM appointed employee to take charge of clear-up operations at the scene of Occurrences. This excludes the person first on the scene of the Occurrence who must take charge until relieved by the relevant RIC
Rolling Stock	means a Locomotive or a Rail Car approved by the RSR and the IM for operation on the Network
Rolling Stock Maintenance	means all tasks, functions and activities required to be undertakien by a TOC in order to maintain its Rolling Stock in a Train Worthy and safe operating condition and for purposes of enabling it to perform Transport Services and undertaking all related Train Operations and movements
Route	means a portion of the Network that links two or more Terminals and/or Loading Sites by means of the Network and in respect of which the IM will perform Network Services and each relevant TOC will perform Transport Services
Route Arbiter	means an independent person or an entity appointed by the IM and which is appropriately qualified, impartial, and which has not less than 15 (fifteen) years appropriate expertise and experience in South African and/or international rail operations in relation to freight rail services and/or operations including associated loading and offloading processes and operations which are similar to the Network Services and the Transport Services to be undertaken by the relevant Party
Route Logistics Forum or RLF	means the forum comprising authorised representatives of the IM and the TOCs, and which has been established to undertake the functions and address the matters ascribed to it in the terms of reference herein
Route Maintenance	means the railway infrastructure maintenance services performed by the IM on a Route, and that are necessary to support or enable the operation of the Network on such a Route,planned and unplanned
RSR	means the Railway Safety Regulator established in terms of the National Railway Safety Regulator Act, 16 of 2002, as amended
RSR Act	means the National Railway Safety Regulator Act, 16 of 2002, as amended by the Minister of Transport
RSR Regulations	means regulations issued from time to time in terms of the RSR Act, as amended
RSR Standards	means Railway Safety Regulator Standards
Safety Improvement Plan	means the safety improvement plan compiled and produced by a TOC for its railway undertakings, which is incorporated herein by reference
Safety Management System	has the meaning ascribed to it in SANS 3000 which "means a formal framework for integrating safety into day-to-day railway operations and includes safety goals and performance targets, risk assessment, responsibilities and authorities, rules and procedures, monitoring and evaluation processes and any other matter prescribed
Safety Permit	means a permit required in terms of section 22 of the National RSR Act

SANS 3000	means the series of Standards of the South African National Standard for Railway Safety Management as issued by Standards South Africa, a division of the South African Bureau of Standards and as amended from time to time by the Safety Regulator
SANS 10228:2012	means the series of Standards of the South African National Standards for the identification and classification of dangerous goods for transportation by road and rail modes
Secondary Communication	means the radio/cell phone communication between the Train Control officer and driver during fall back procedures. Official voice logged cell phone communication using company phones is used as backup communication
Section Manager	means a manager in charge of one or more Section/s
Service Conditions	means the special instructions available from the IM and/or any relevant Competent Authority requirement as stipulated by applicable legislation upon request relating to loading methods for general, dangerous and/or hazardous goods, and the packaging, acceptance, transport and delivery of those goods when conveyed in freight containers, rail wagons and road vehicles
Service Level Agreement	means a documented agreement between a service provider and a customer that identifies both the services required and the expected level at which the the service must be rendered
Service Provider	means the contractual utiilised by the IM to provide Ancilliary Services or any other services on behalf of the IM
Shareholder	means a holder of Equity in a business entity
Shareholders' Agreement	means the agreement(s) between the Shareholders and a legally registered South African business entity in respect of the Equity (e.g., TOC, Siding operator, etc.)
Shunting	means the push or pull (a train or part of a train) from the Main Line to a siding or from one line to another in a Rail Yard or on the Main Line.
Signal	means a visual display device that conveys instructions or provides warning of instructions regarding the driver's authority to proceed
Signal Equipment	means a device used to send signals
Skew Loading	means cargo loaded in wagons in a manner that is it not spread uniformly over the length and width of the rail wagon as per loading profiles set out in Annexure 22
Slot	means a designated period of time that is reflected in the ITP and the prevailing MTS, during which a Train is permitted by the IM to temporarily occupy and to be operated on, a Route for purposes of providing Transport Services, and in respect of which a TOC has been granted Access pursuant to the application process contained in this Network Statement, each of which is recorded in Annexure A of the Rail Access Agreement
Slot Access Fee	means the fee payable by a TOC to the IM in respect of the access to and use of the Network by a TOC for purposes of providing Transport Services as well as the provision of the Network Services by the IM

Switched on Schedules	means the final schedule of Train slots extracted from the MTS by the IM from seven days to 24 hours before departure time. The schedule of Slots activated for service after the weekly do-ability, daily conferences, Countdown Process and scheduling input processes are concluded is published at specified times electronically for all TOCs to access
Tax Clearance Certificate	means a document issued by SARS confirming that an entity's and Person's tax affairs are in order
Telemeters	means an end of Train device on an air braked train used to measure the Train's brake pressure and send a signal to the Train Driver of the completeness of the train
TEMS	means the Train Execution Management System which is used by the IM to record Train Cancellations;
TFR	means Transnet SOC Ltd, acting through its Transnet Freight Rail Division, in its capacity as a rail operator
Terminal	means a Port Terminal or an Inland Terminal where cargo handling, storage, loading and offloading of rail wagons is performed
Termination Date	means the expiry date or the date on which the Rail Access Agreement shall terminate in accordance with its terms or by agreement between the parties or by imposition of a Government, court or Relevant Authority order in the Republic of South Africa
TETA	means the Transport Education Training Authority
Timetable Period	means the official operating period when the published timetable will be applicable. The period starts on 1 April and ends on 31 March the following year. Whenever this Network Statement refers to 2024/25 Timetable Period, it must be noted that the Timetable Period might start later than 1 April 2024 (still to be confirmed).
TOC Insurances	has the meaning ascribed to this term in the Rail Access Agreement
Tonne	means a metric tonne of 1 000 (one thousand) kilograms and **"Tonnage**" shall have a corresponding meaning
Train	means a series of connected Rail cars moved by a locomotive that is permitted by the IM to be operated, by a TOC on a given Route, and that complies with the relevant specifications, allowable configurations and requirements contained in this Network Statement
Train Assistant	means a licensed employee of a TOC that assists the Train Driver and is responsible for the performance of certain specified duties relating to the safe and efficient movement of a Train
Train Configuration	means the description of the combination or assembly of Rolling Stock comprising a Train, including the identification number and gross Mass of individual items of Rolling Stock and the order in which those Rolling Stock items are marshalled on the Train.

Train Control	means the control and regulation of all rail operations (including Train Movements, movements of Rolling Stock and track maintenance vehicles) to ensure the safe, efficient and proper operation of the Network
Train Control Officer	means a Competent employee authorised by the IM or designated network operator and that is responsible for the authorisation of movement of Trains on the Network
Train Crew	means Train Drivers and Train Assistants on the locomotive
Train Despatcher	means an authorised person who performs Train dispatching duties
Train Driver	means a licensed employee in charge of and responsible for the working of a Locomotive or motor-powered vehicle
Train Length	means the permissible length of a Train from end to end, as specified in this Network Statement
Train Monitoring	means the tracking of the movement of Trains within the Network including along any Route, in order to monitor and provide status updates to the Irelevant stakeholders
Train Movement	means the operation of a Train on the rail track at a time scheduled in the timetable for the predominant purpose of conveying Cargo and includes the empty movement of such a Train
Train Notice/Movement Authority	means any written/verbal notice issued by a Train Control Authority to operations personnel
Train Operating Company (TOC)	means a company duly incorporated in accordance with the laws of the Republic of South Africa and issued a safety operating permit by the RSR to conduct Railway operations
Train Path	means the infrastructure capacity within the Network that is required to operate a Train from origin to destination, over a given period of time.
Train Token	means an authorisation issued to a Train Driver permitting him to proceed over a prescribed section of a single railway line forming part of the Network and under specified conditions
Train Working Rules	means the rules and requirements for operation and observation of fixed signals, working of points and signals, control of yards and stations, duties of locomotive and yard personnel, protection of trains and maintenance of permanent way and works.
Train Worthy	means Rolling Stock that is technically sound, complies with the IM's operating instructions and generally meets the applicable standards of the IM Network including prescribed conditions/restrictions and vehicle loads that conform to loading specifications and Certified as such by appropriately qualified Personnel accredited by the relevant authotity.
Transnet	means Transnet SOC Ltd and any operating division thereof, as may be applicable from time to time
Transport Services	means the performance by a TOC of various rail transportation services in relation to a Slot, including, but not limited to: - The delivery of empty rail wagons that are fit for the conveyance of Cargo, to each Loading Site;

	- The hauling of a Train through the Loading Site during the conducting of loading operations at the relevant Loading Site; - The collection of loaded rail wagons for rail transportation to a Terminal; - The rail transportation of loaded rail wagons from a Loading Site to a Terminal and excluding, for the avoidance of doubt, the offloading of the relevant Cargo at the Terminal; - The delivery of loaded rail wagons to a Terminal; and Following the offloading of the Cargo at the relevant Terminal, the collection of empty rail wagons from the Terminal
Transport, Transported and Transportation	means to move Cargo from one point to another on the Rail Network
Trip Time	means a period of time spent in travelling from one point to another as defined in the Master Train Schedule or Train plan
Underloading Charges	means the charges per rail wagon, which are payable by a TOC to the IM in the event that the actual Mass of Cargo loaded by a TOC into a rail wagon, is 10 (ten) Tonnes or more below the Maximum Carrying Capacity, or minimum axle load of rail wagons
Unlawful Cargo	means any Cargo for which the transportation, storage, handling and/or possession of is unlawful in accordance with the Applicable Laws, including Hazardous Substances in respect of which a TOC and/or its customer(s) have failed to comply with the requirements of the Hazardous Substances Act
Vertically integrated	means that a single entity manages the rail network infrastructure and operate all trains and Rolling Stock under its control
Vertically Separate	means that one entity manages the rail Network infrastructure, whilst one or more separate entities operate all Trains and Rolling Stock on the Network
Value Added Tax	means Value Added Tax in terms of the Value Added Tax Act, 89 of 1991. All amounts and prices are exclusive of such Value Added Tax.
VAT Invoice	means an invoice that complies with the requirements of section 20 of the Value Added Tax Act, 89 of 1991
Weighted Average Cost of Capital	means the cost of capital representing the minimum return that the IM is required to earn on its investments in order to continue to attract capital, given the risks investors bear when they commit funds to its business
Weekly Train Schedule	means a weekly schedule prepared and published by the IM in respect of the Route which sets out the Slot(s) allocated to each TOC
Weigh-in-motion	means designed to capture and record the axle weights and gross vehicle weights as vehicles drive over the stations at normal traffic speed
Working Timetable	means a timetable that shows all the movements on the rail Network including freight Trains, empty Trains and those coming in and out of depots. It also includes unique identification codes for each Train, and intermediate times for journeys, including those stations that a Train is not scheduled to stop at.

Writing	means legible writing and in English and includes any form of electronic communication contemplated in the Electronic Communications and Transactions Act, 25 of 2002
Yard Countdown	means a process to ensure adequate resources are available as planned for the efficient execution of yard activities, enabling adherence to scheduled cut-off times for all switched on Trains entering and leaving yards which is performed ahead of the planned arrival or departure of Trains/Rolling Stock from the yard. (Advanced yard occupancy, velocity and productivity management process)

ABBREVIATIONS

Abbreviation	Meaning
AC	Alternating Current
ASIP	Annual Safety Improvement Plan
ATW	African Track Warrant
AWIMS	Assized Weigh-in-Motion Systems
BCEA	Basic Conditions of Employment Act, 75 of 1997
CAA	Civil Aviation Authority
CAS	Condition Assessment Systems
CS90	Control System 90
CSC	Container Safety Convention
CTC	Centralised Traffic Control
CTSP	Construction Train Safety Permit
DC	Direct Current
DCT	Durban Container Terminal
DED	Dragging Equipment Detector
DoT	Department of Transport
ECSA	Engineering Council of South Africa
EMPr	Environmental Management Programme
ERT	Embedded Rail Technology
FDM	Freight Demand Model
FoR	Faculty of Rail

HBD	Hot Box Detector
ID	Identity Document
IIMS	Integrated Incident Management System
IM	Infrastructure Manager
IMV	Infrastructure Measuring Vehicle
IOOS	Integrated on-board operational system
IRERC	Interim Rail Economic Regulatory Capacity
ISO	International Standards Organisation
ITP	Integrated Train Plan
KM	Kilometre
KV	Kilovolt
LRA	Labour Relations Act, 66 of 1995
MHSA	Mine Health and Safety Act, 29 of 1996
MTS	Master Train Schedule
NEMA	National Environmental Management Act, 107 of 1998
NRMP	National Rail Master Plan
NRP	National Rail Policy
NTG	Not To Go – referring to rail wagons that are marked as not rail worthy and therefore "not to go"
NTK	Net Tonne Kilometre
NWB	Next Week's Business
OBC	Onboard Computer
OCC	Operations Command Centre
OHS	Occupational Health and Safety Act, 85 of 1993
OHTE	Overhead Track Equipment
OMP	Occupational Medical Practitioner
POC3	Proof of Concept 3
POPIA	Protection of Personal Information Act, 4 of 2013
POSMOR	Principles of Safe Movement on Rail
PRASA	Passenger Rail Agency of South Africa
PSIRA	Private Security Industry Regulation Authority
PTO	Port Terminal Operator
QCTO	Quality Council for Trades and Occupations

RAB	Regulated Asset Base
RAM	Rail Addressable Market
RCG	Reporting of Conveyances and Goods
RFP	Requests for Proposal
RIC	Rail Incident Commander
RRR	Required Rate of Return
RSR	Rail Safety Regulation
RTO	Radio Train Order
RWC	Road Worthy Certificate
SABS	South African Bureau of Standards
SACAA	South African Civil Aviation Authority
SANS	South African National Standards
SAPS	South African Police Service
SARS	South African Revenue Service
SATAWU	South African Transport and Allied Workers Union
SDA	Skills Development Act, 97 of 1998
SIP	Strategic Integrated Project
SLA	Service Level Agreement
SMS	Safety Management System
TAS	Train Authorisation Systems
TCSP	Testing and Commissioning Safety Protocols
TE	Transnet Engineering
TETA	Transnet Education Training Authority
TFR	Transnet Freight Rail
TMS	Train Monitoring System
TOC	Train Operating Company
TOMS	Transnet Occurrence Management System
TSP	Temporary Safety Permit
TSR	Temporary Speed Restriction
TVET	Technical Vocational Education and Training
TVP	Tactical Volume Planning
TWR	Train Working Rules

TNPA	Transnet National Ports Authority
UBRD	Ultrasonic Broken Rail Detector
UHF	Ultra-High Frequency
UNTU	United National Transport Union
VAT	Value Added Tax
VDU	Visual Display Unit
VIS	Vehicle Identification System
WACC	Weighted Average Cost of Capital
WILMA	Wayside Intelligent Long stress Management System
WIM-WIM	Wheel Impact Monitor - Weigh-in-Motion System
YCD	Yard Countdown

1.2.INTRODUCTION

The Transnet IM (the "IM") is responsible for the provision, further development, maintenance, and operation of the rail infrastructure Network. The IM is also responsible to establish the basis for safe and reliable Train operations through the process of non-discriminatory granting of Access and allocation of Slot capacity to Applicants, and the provision of Services to Train Operating Companies (TOCs).

1.3.PURPOSE OF THE NETWORK STATEMENT

The IM is responsible for preparation, publication and revision of this Network Statement. The Network Statement contains, *inter alia*, rules, time limits, timelines, procedures, Services, charging principles, and terms and conditions governing usage of the Network by TOCs.

It also contains information regarding the Corridors which make up the Network, the interfaces with other IMs and relevant stakeholders, and the Ancillary Services which will be available to TOCs. Ancillary Services will be provided by the TFROC on the terms and conditions set out in the Ancillary Services Agreement and Service Level Agreements to be entered into.

1.4.SA LEGAL ASPECTS

1.4.1. LEGAL FRAMEWORK

The Network Statement is based on and consistent with the following relevant or applicable legislation which include but is not limited to:

- National Railway Safety Regulator Act, 16 of 2002
- National Land Transport Act, 5 of 2009
- Legal Succession to the South African Transport Services Act, 9 of 1989
- Public Finance Management Act, 1 of 1999
- Constitution of the Republic of South Africa, 108 of 1996

- National Freight Logistics Roadmap, 2023

The regulatory framework for transport, and in particular rail transport, is in a regulatory development process and in preparing the Network Statement the IM has also had regard to the following policy and draft legislation:

- White Paper on the National Rail Policy, published under Government Notice 2077 in Government Gazette 46356 dated 12 May 2022
- Economic Regulation of Transport Bill [B1-2020]
- Railway Safety Bill [B7B-2021], currently under consideration by the National Assembly
- Draft National Rail Bill [2023], currently under development by the National Department of Transport

During the transitional process Annexures in the Network Statement may contain references to Transnet and/or Transnet Freight Rail and will be amended when the IM is fully established.

1.4.2. LEGAL STATUS

The Network Statement regulates the respective rights and duties of the IM and Applicants, with regard to Access and the provision of Services by the IM.

Upon applying for and approval of an Application, an Applicant is required to conclude a Rail Access Agreement with the IM. The Rail Access Agreement incorporates by reference the terms of the Network Statement, which thereby becomes binding on each TOC.

Ancillary Services will be provided to TOCs by Operators appointed by the IM on the terms and conditions set out in Chapter 7 of the Network Statement. TOCs will be required to accept those terms and conditions by the conclusion of an Ancillary Services Agreement with the appointed Operator. The IM and the TOCs rights and obligations will be regulated in the Network Statement and Rail Access Agreement as it relates to Ancillary Services.

The Network Statement does not apply to the rail infrastructure network, or railway infrastructure service facilities owned or controlled by PRASA. TOCs will be required to conclude an Interface Management Agreement with PRASA and all other interfacing parties, where interfaces exist specific to a TOC, which will govern the regulatory aspects of safety interfaces and commercial aspects of interfaces or the provision of related services at such interfaces which may apply on the PRASA network. In the case of PRASA, the physical location of PRASA's railway infrastructure and railway infrastructure service facilities, and the terms and conditions which apply to access and usage of those facilities can be obtained from PRASA.

1.4.3. LIABILITY

The Network Statement contains a description of the key elements of the Network and the conditions for its lawful Access and usage, as at the Publication Date.

In view of the ongoing regulatory development process and possible changes, particularly in terms of information and details about Network infrastructure, it is possible for there to be deviations between the contents of the Network Statement at the Publication Date, and the actual prevailing conditions at the date of Application or approval of a TOC.

The Network Statement may refer to external third-party websites and documents over which the IM has no control. The IM cannot assume any liability for the contents of such websites or documents. Should the IM receive information about legal infringements in such third-party websites or documents, or inconsistencies between those third-party materials and the Network Statement, the IM at its discretion will investigate the information received and take appropriate action where the IM has an enforceable right to do so.

The IM takes no responsibility and assumes no liability for the acts and omissions of third parties over which it has no control, including but not limited to national and provincial governments of the Republic of South Africa, any municipality, the RSR, PRASA, the TFR TOC, TNPA or any other service provider or supplier to those third parties.

1.5. STRUCTURE OF THE NETWORK STATEMENT

The Network Statement is organised into seven chapters, with supplementary appendices providing more detailed information. The Chapters are set out as follows:

- Chapter 1 (General Information) provides general information on the Network Statement and an overview of the functions of the IM, as well as a glossary abbreviations and of defined terms.
- Chapter 2 (Rail Infrastructure Network) describes the main technical and operating features of the Network. It includes a description of each Corridor.
- Chapter 3 (Access Conditions) defines the contractual arrangements to regulate Access and highlights certain key legal, risk and compliance requirements for obtaining Access and providing Transport Services on the Network.
- Chapter 4 (Capacity Allocation) outlines the capacity Application and allocation process and timelines, rail operations time tabling and scheduling, publication and management of the Train plan, and rescheduling procedures.
- Chapter 5 (Commercial Services and Charges) describes the minimum service package and associated charges.
- Chapter 6 (Rail Operations) how pre-production scheduling, day of operation and post-production reconciliation operations will work once slot(s) have been allocated to a TOC, also covering interfaces between TOCs and yards.
- Chapter 7 (Ancillary Services) explains the Ancillary Services which will be available to TOCs and the conditions of service.

1.6. VALIDITY, PUBLICATION AND UPDATING

1.6.1. VALIDITY PERIOD

This Network Statement is valid and applicable from the Publication Date,and will regulate capacity allocation Applications for the provision of, and the provision of Transport Services by TOCs during, the period starting on 1 April 2024 at 00h01 and ending on 31 March 2025 at 23h59.

1.6.2. PUBLICATION, UPDATING AND AMENDMENT OF THE NETWORK STATEMENT

This Network Statement is published in English by the IM, on the Transnet Infrastructure Manager website, where it can be downloaded free of charge.

The Network Statement references and facilitates access to additional information and documentation, by means of links and citations to websites or publications, or the provision of contact details for persons or institutions from which such additional information can be obtained.

The IM will revise and publish subsequent versions of the Network Statement annually on the 1st of April, on the IM website for the period of Access commencing on 1 April of the following calendar year.

Addenda to the Network Statement, replacement appendices, or notices which have the effect of amending the current Network Statement during a financial year, may be published by the IM from time to time on the IM website.

1.7. CONTACTS

All queries regarding this Network Statement, and all communications regarding Applications, must be directed to InfrastructureManager@Transnet.net

CHAPTER 2: RAIL INFRASTRUCTURE NETWORK

2. CHAPTER 2 RAIL INFRASTRUCTURE NETWORK

2.1 INTRODUCTION

The IM is the custodian and operator of the freight rail infrastructure network in South Africa. The IM is responsible for managing and maintaining approximately 21 232 route kilometres. The core purpose of the network operator is to provide a reliable, available, affordable and safe rail network for Train operations.

In figure 1 the total 21 232-kilometre Transnet network is grouped into different classes, determined according to a combination of factors, mainly influenced by:

- Volume density
- Diversity of traffic
- Use, purpose and ownership
- "Nature of business" & operating philosophy
- Transport economic role

A key input to the Freight potential determination is the current TFR traffic file and the rail addressable market (RAM) analysis. RAM is the total rail friendly volume potential, calculated individually for each commodity and each route using all forecasted freight surface flows from the freight demand model (FDM) and adjusted with a variety of sources for the next 30 years. Although the key input was based on the freight trains, all trains including passenger and General Cargo trains are in principle allowed on the network.

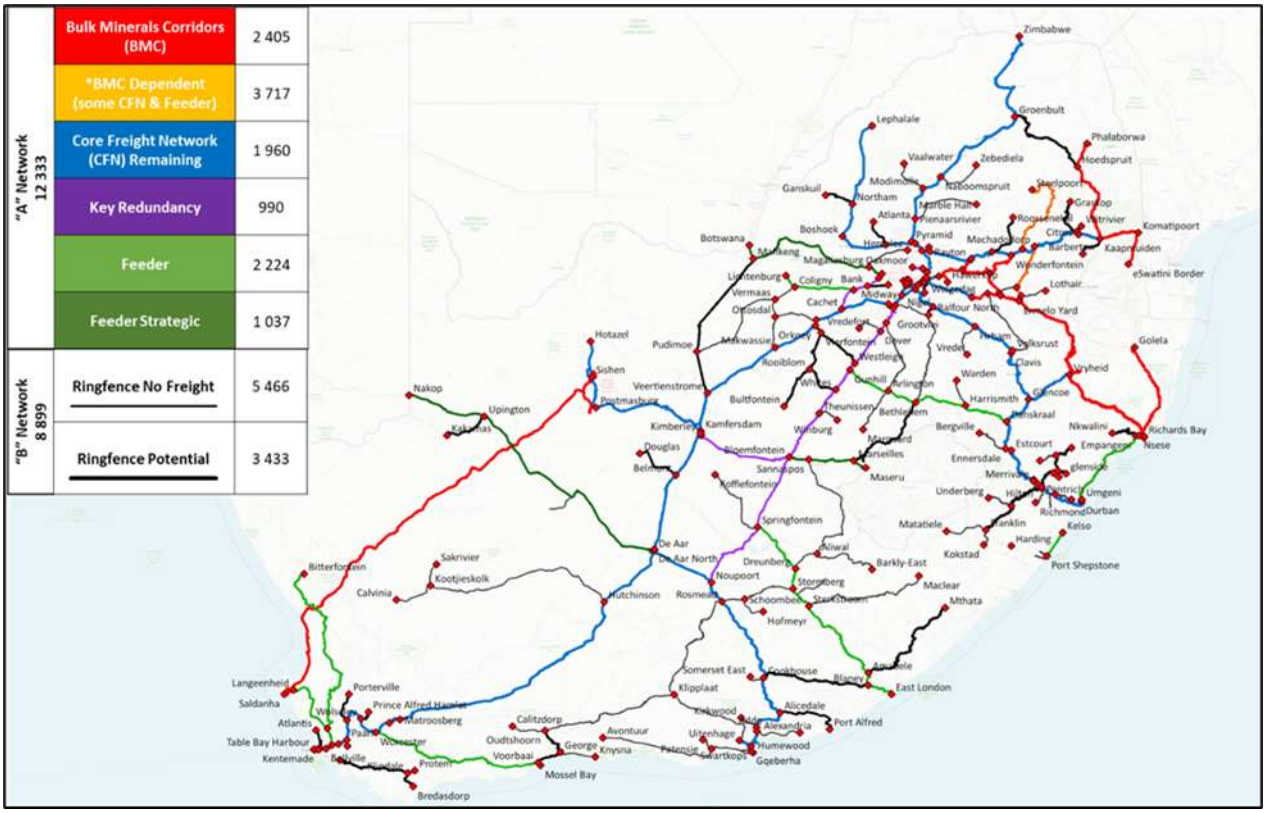


Figure 1: TFR rail infrastructure network
(Source: Transnet)

Of the 21 232 km, approximately 8 899 km of the Network is classified as the B network, comprising mostly of lines which are either closed or with very little freight potential and branch lines. The details of the 8 899 km lines are indicated as "Ringfence No Freight" and "Ringfence Potential" in Figure 1. It is important to note that the purpose of Figure 1, is to provide an illustration of the different classifications of the network, not actual distance and is therefore not drawn to scale.

Rail network infrastructure assets described in the Network Statement comprise the following main engineering disciplines as depicted in Figure 2:

- Permanent way (track)
- Civil structures (bridges, tunnels, level crossings, stations, culverts, drainage systems, cuttings and embankments)
- Condition Assessment Systems [CAS]
- Electrical systems (Overhead Track Equipment [OHTE] and substations)
- Train Authorisation Systems (TAS) (signals, points machines, relay rooms, etc.)
- Telecommunications (wireless systems, optic fibre systems, microwave systems, etc.)

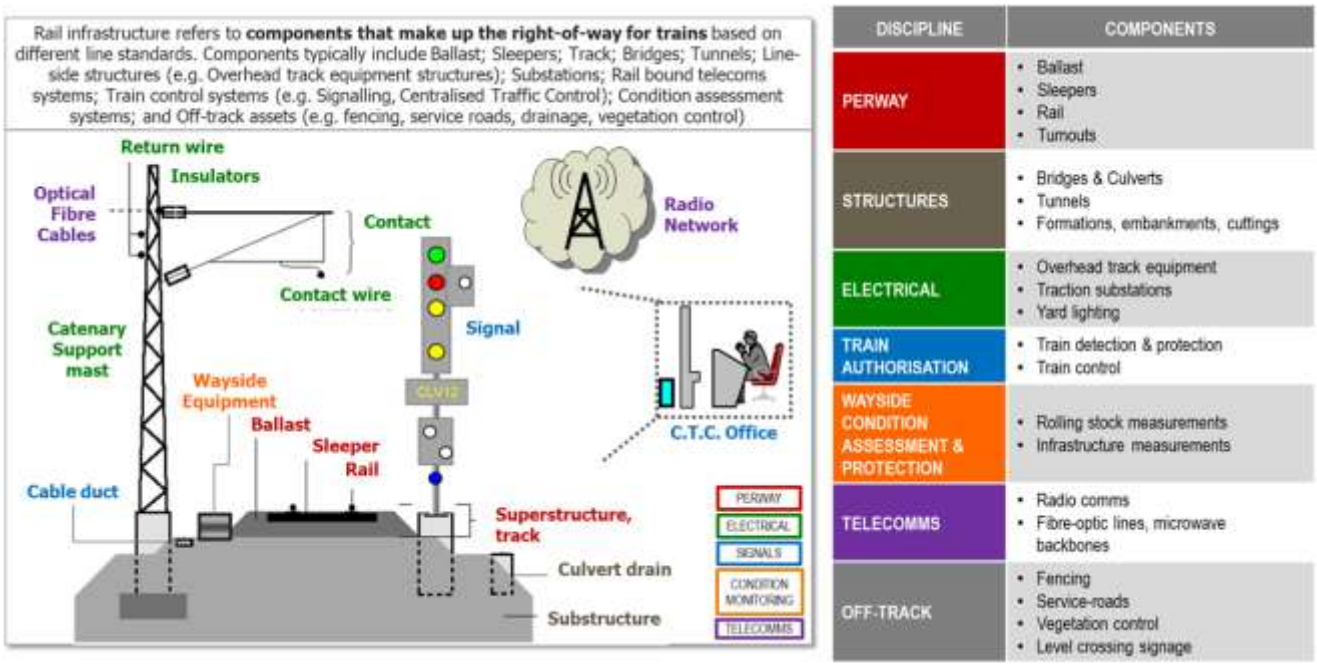


Figure 2: Components of Railroad Infrastructure

Source: Transnet

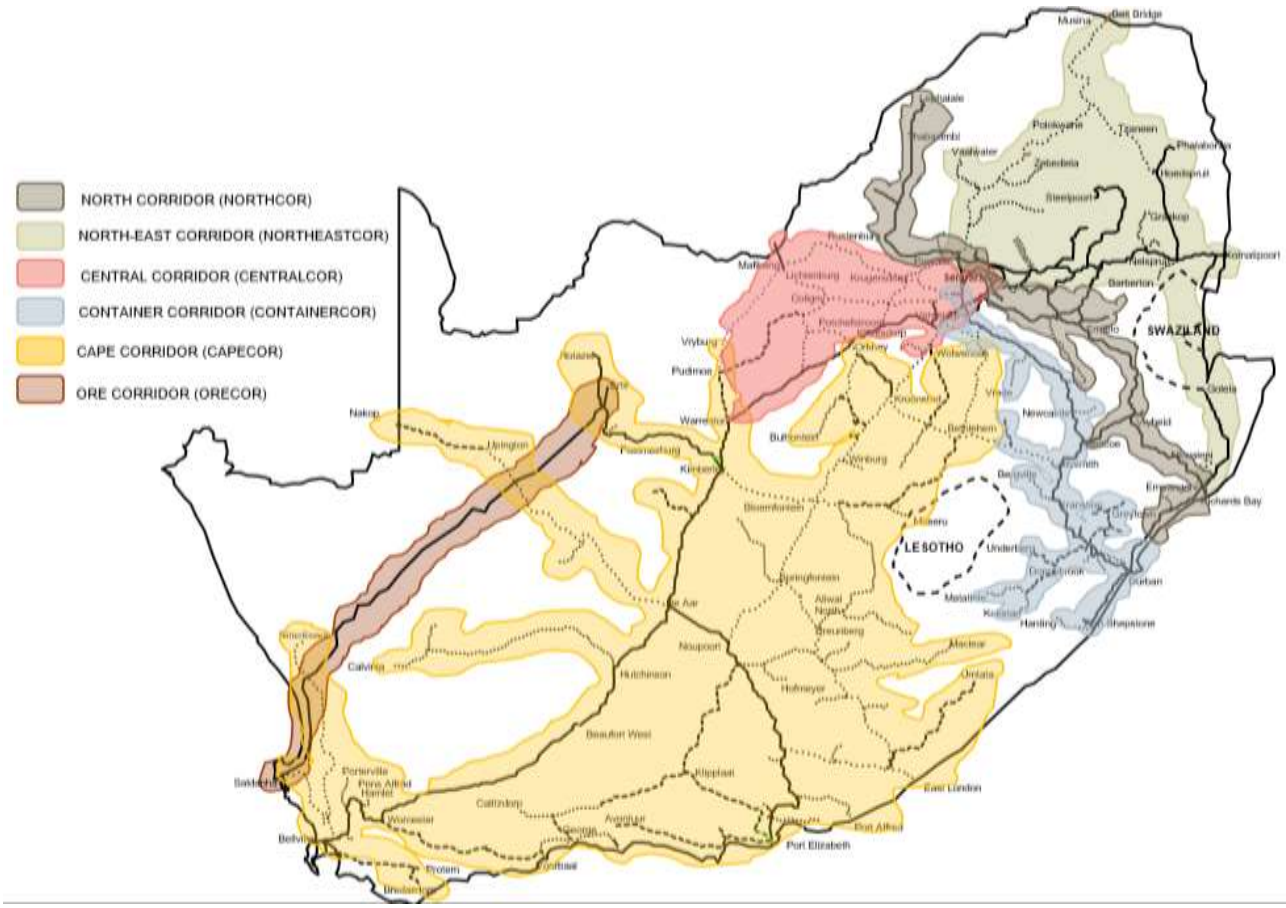


Figure 3: Depicts the Geographical boundaries of the current TFR Corridors

(Source: Transnet)

Network infrastructure details per Corridor will be provided in the following sections.

2.2 SCHEMATICS OF THE RAIL ROUTES

Taking the size of the Transnet network and its interconnectivity into account, there can be more than eleven thousand unique Origin to Destination (OD) pairs. Using the Transnet Transportation Model (TTM), each potential OD pair was allocated to a specific route over the network using flow of "least resistance" modelling. Each of these routes have unique characteristics for most of the railway components as indicated in Figure 2. These characteristics will be important for a TOC in terms of their Train design. All the unique characteristics of each of the OD pairs will not be covered in the Network Statement but can be obtained via the Route Finder on the Transnet Web Page (which is still under development).

In cases where a TOC is interested in a specific OD pair, or network characteristics, that are not available on the Transnet Web Page, a formal request must be sent to the Capacity Management office of the IM to request the investigation into the requested OD pair.

To navigate through the different characteristics of the Network it is advised that the TOCs first identify the different Corridors from the Route finder for the interested OD pair and then use the information in Chapter 2 as well as the annexures to identify the detail characteristics.

2.3 ANNUAL MAINTENANCE SHUTDOWN

The IM starts the annual maintenance shutdown planning between September and February of the previous year and consults with TOCs, customers and other stakeholders to compile the final annual shutdown plan.

The IM shall publish the national annual maintenance shutdown plan in respect of the following Timetable Period at the time of publishing the Network Statement and at the beginning of the Timetable Period. The IM shall be entitled to alter the commencement date and/or duration of the Annual Shutdown provided that the Annual Shutdown shall not endure for more than 10 (ten) consecutive days, and on condition that the IM gives at least 14 (fourteen) days written notice. The IM will publish changes to the shutdown plan should the need arise due to unforeseen circumstances.

The **Provisional Annual Maintenance Shutdown Plan** is contained in **Annexure 1**.

There can be unplanned maintenance activities resulting from incidents on the network. These will be communicated by the IM as soon as they are identified. Chapter 6 of the Network Statement outlines the course of action to be followed by the IM.

2.4 LINE CLASSIFICATION

Figure 4 stipulates the technical line classification for the various routes to ensure that the track maintenance regime (i.e. including condition assessment, routine preventive maintenance and corrective preventive maintenance) is commensurate with the respective operation, business requirements and national importance of the route.

CLASSIFICATION OF RUNNING LINES			TRACK STANDARDS FOR RUNNING LINES				
CLASS OF LINE	MAXIMUM AXLE LOAD (TON)	GROSS TON PER YEAR (MILLION)	RAIL TYPE AND MASS	SLEEPER AND SPACING	BALLAST		
					DEPTH (mm)	QUANTITY (m^3/km)	
						CONCRETE	WOOD/STEEL
S	26 & 30 *	-	60kg/m	FY/PY 650mm	300	1 600	-
N1	20	>15	57kg/m	FY/PY/ #700mm	280	1 500	-
N2	20	5 - 15	48kg/m	P2/F4 STEEL/WOOD /700mm	200	1 200	1 100
N3	-	<5	REQUIRES THE PRIOR APPROVAL OF THE CHIEF ENGINEER, RAIL NETWORK (TECHNICAL OFFICE)				

REMARKS:

1. ANY DEPARTURE FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE CHIEF ENGINEER, RAIL NETWORK (TECHNICAL OFFICE)
2. * 30 TON AXLE LOAD IS USED EXCLUSIVELY ON THE ORE CORRIDOR (I.E. SISHEN TO SALDANHA)

Figure 4: Technical Line Classification
(Source: Transnet)

2.5 NORTH CORRIDOR

2.5.1 NETWORK DESCRIPTION

2.5.1.1 LIMITS

The North Corridor is the most prominent line section of the heavy haul export line, between Ermelo-South and Richards Bay. The system also serves the Waterberg region by linking the Waterberg line, the Gauteng freight ring to the heavy haul export line (Ermelo South to Richards Bay).

This section of the Network Statement covers those portions of the Network that comprise the North Corridor as indicated in Figures 5 and 6.

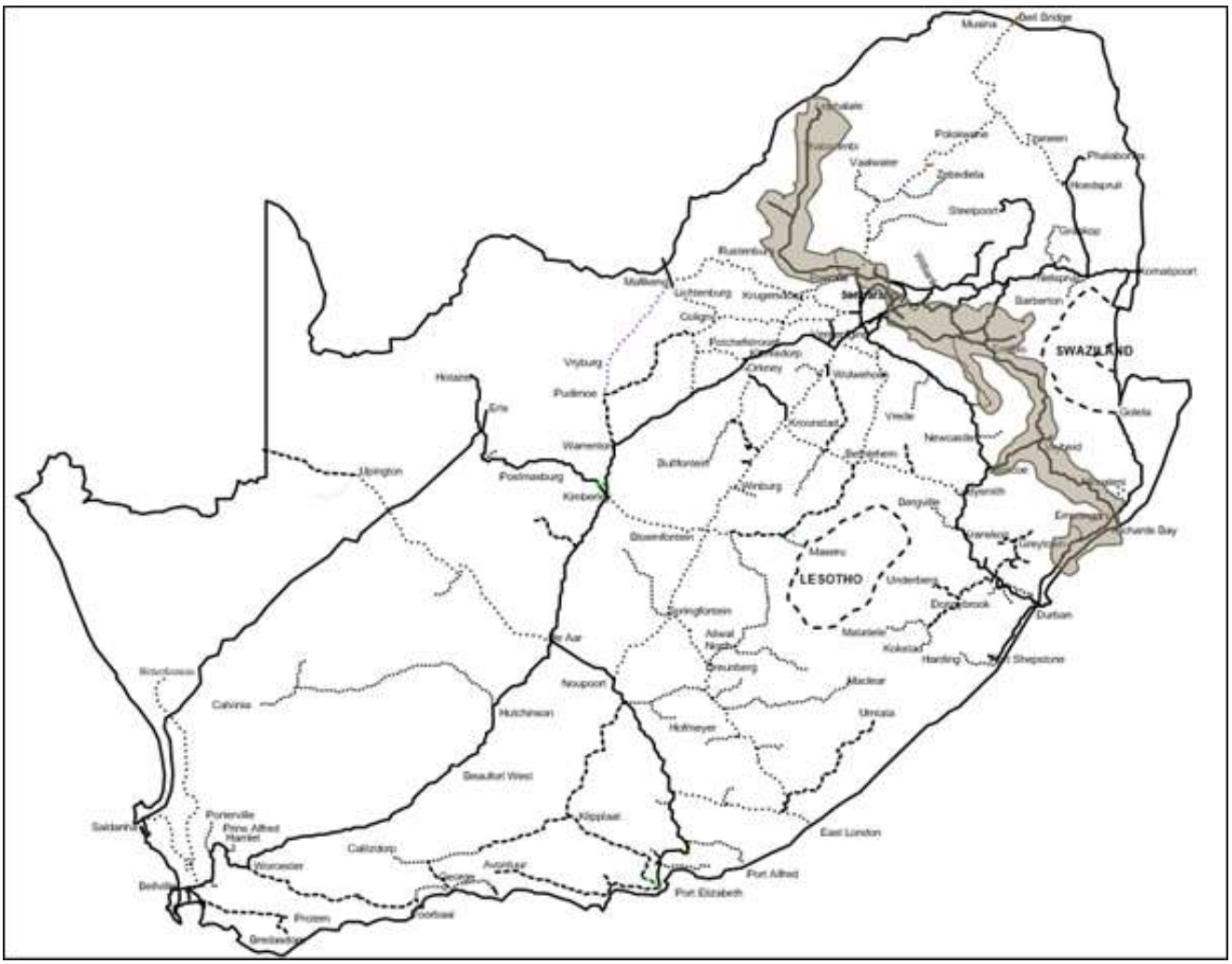


Figure 5: North Corridor demarcation map.
(Source: Transnet)

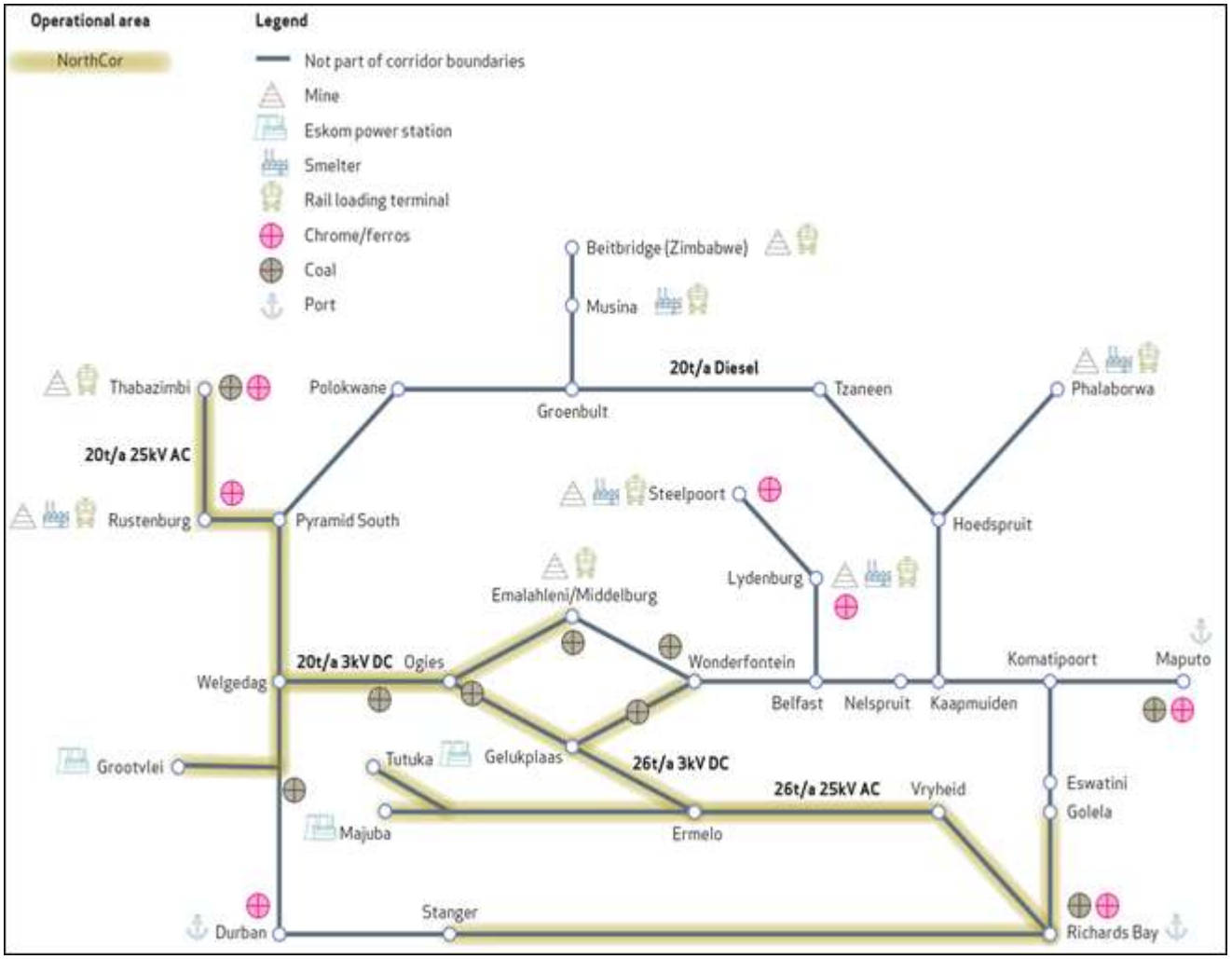


Figure 6: North Corridor key lines.

(Source: Transnet)

2.5.1.2 LINE TYPES

The sections that are covered in this Corridor consist of single line and long loop lines.

- The Lephalale – Zesfontein section comprises both single and double lines.
- The Zesfontein – Ogies section comprises both single and double lines.
- The Ogies – Maviristad section comprises both single and double lines.
- The he Maviristaad – Richards Bay section comprises only of double lines.

These sections are classified as S, N1, N2 or N3 lines:

- Lephalale to Zesfontein are classified as N1, N2, N3 sections.
- Ogies to Maviristaad are classified as S, N1, N2, N3 sections.
- Vryheid east to Richards Bay S, N3 lines.

Refer to paragraph 2.10 for further details on the different line classification types.

2.5.1.3 TRACK GAUGE

The sections covered by the North Corridor operate to one nominal standard track gauge of 1065mm.

2.5.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/rail wagons/coaches) must comply with the clearances depicted in **Annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.5.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loop Lines)** The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The North Corridor's Main Line crossing loops can accommodate Trains that are limited to a maximum of 200 rail wagons.

Further details on slot capacity calculation are provided in Chapter 4.

2.5.1.6 LOAD LIMITS

The sections covered by this Corridor have a maximum permissible axle of 20 tonnes per axle except from Blackhill via Ogies and Ermelo to Richard's Bay as well as Trichardt to Ermelo at 26 tonnes per axle.

2.5.1.7 LINE GRADIENTS

The sections that are covered by this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.5.1.8 LINE SPEEDS

Certain sections of the North Corridor are subject to different speed limits and air brake Trains are limited to 90 km/h whilst vacuum brake Trains are limited to 60 km/h.

2.5.1.9 SECTION LENGTHS

Certain sections of this Corridor have different lengths which are determined by the sections between signals, length of loops and sidings. Details of the relevant section lengths can be seen in **Annexure 6 (Simplified Classification File).**

2.5.1.10 OVERHEAD TRACTION CURRENT

Certain sections of the North Corridor use different traction currents, with some sections that are not electrified. This Corridor thus uses a combination of non-electrified sections which rely on the use of diesel traction (e.g., the Lephalale – Thabazimbi section); as well as the 25 kV AC electrified sections between Ermelo & Richards Bay, and between Thabazimbi & Pyramid South; and lastly the 3 kV DC electrified section that makes up the remaining sections of the corridor. There is a changeover station at Pyramid South where Trains switch from 25 kV AC Locomotives to 3Kv DC Locomotives. There is also a changeover station at Ermelo where Trains switch from 3 kV DC Locomotives to 25 kV AC Locomotives. Below is an indication in terms of sections of the types of locomotives that can traverse:

- Lephalale – Rustenburg (diesel Locomotives only) due to theft and vandalism of substations and OHTE
- Rustenburg – Pyramid South (Both diesel and Electric Locomotives)
- Pyramid South – Ermelo via STQ (Both diesel and Electric Locomotives)
- Ermelo – Richards Bay (Only Electric Locomotives)

2.5.1.11 SIGNALLING SYSTEM

The main railway in this Corridor comprises mostly of Trains from the Gauteng hub, Northwest minerals belt and Mpumalanga coal mines which Trains are all bound for the Richards Bay Harbour in KwaZulu Natal. The main railway line consists of 111 controlled stations which uses CS90 as the Remote-control system, Spoorplan as the Interlocking system, and the VDU Track Warrant System from Lephalale which feeds into the Gauteng Hub. The Track vacancy detection technologies installed is a mixture of ML, Jeumont and Reeds track circuits and Siemens 350 U for axle counting. For Train authorization methods the sections use colour light signalling and a mixture of switchmatic, C1H, VAE-DLD and Westinghouse Martech as points machines.

The branch railway lines in Isando, Ermelo and Vryheid use the Visual Display Unit (VDU) Track Warrant System is a Train authorization system which is a CS90 VDU that is configured to operate as a track warrant Train control system. It comprises the Radio Train Order (RTO) which includes safe operating procedures, paper template forms, Train diagram sheets and the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train Drivers and CS90 VDU workstation.

<u>VDU track warrant</u>

- The VDU track warrant is a CS90 VDU that is configured to operate as a track warrant Train control system.
- It is designed to manage sections between stations, complex station layouts, multiple lines and different levels of points-control (from no points control to remote points-control).
- It is based on the fact that the Radio Train Order (RTO) is still the primary authorisation system with the VDU track warrant as the supported authorisation system.
- It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train driver(s) and CS90 VDU workstation.

<u>Control System 90 (the CS90)</u>

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and trains together to improve safety and efficiency.

Table 1 contains the summary of the centralised traffic control centres on the North Corridor.

CTC location	Control area	Control method
Richards Bay	Coal Terminal – Mzingwenya Mzingwenya – Stanger Nseleni – Golela	CS90 Colour Lights CS90 VDU Track Warrant CS90 VDU Track Warrant
Vryheid	Mkondo- Elubana	CS90 Colour Lights
Ermelo	Piet Retief- Geluksplaas / Wonderfontein Ermelo – Machadodorp/ Lothair	CS90 Colour Lights CS90 VDU Track Warrant
Ogies	Geluksplaas – Eloff	CS90 Colour Lights

Table 1: North Corridor Centralised Traffic Control Centres

2.5.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

- Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems;
- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and
- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train Driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains.

Also trunked radios network which is in metropolitan areas (Witbank), and it is also an alternative/backup to signalling for Train authorisations. Trunked radios are like cellular technology, allows group calls and is more spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.5.3 PARTICULAR OPERATING ASPECTS

2.5.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered by this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.5.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling, and **Annexure 8 (Tunnel Restrictions)** shows the exact location of the tunnel and its length.

2.5.3.3 BRIDGE RESTRICTIONS

The network is limited by designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3.

Annexure 9 (Bridge Class and Maximum Allowable Axle Mass) depicts the maximum axle loading per Rail Wagon, as well as the corresponding bridge class per section.

Bridge Class	**Axle loading**
NR	30 ton/axle
Class 1	20 ton/axle (22 ton/axle single controlling axle)
Class 2	20 ton/axle (21 ton/axle single controlling axle)
1926 Loading	20 ton/axle
1912 Modification	18 ton/axle
Class 3	15.5 ton/axle
Class 4 (Light Branch)	13.5 ton/axle
Narrow gauge	9 ton/axle

Table 2: Bridge classification and axle loadings (Source: Transnet)

2.5.4 CONDITION ASSESSMENT SYSTEMS

This paragraph describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The Corridor has the following Condition Assessment Systems:

- Twenty-seven (27) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- Two (2) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.
- Two hundred and twenty-eight (228) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers

obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.

- Two (2) Skew Bogie Detectors that detect skew bogies by measuring the lateral forces and gauge spreading forces, exerted by the wheels on the track.
- Eight (8) Wheel Impact Monitors- Weighing In-motion System that measure the wheel impact of each wheel on a railway vehicle and reports alarm conditions. The secondary functions of the WIM-WIM are to measure the mass of the vehicle and determine the load distribution of each Rail Wagon (skew/over loading).

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and Description)** tables the descriptive function of each CAS system.

2.5.5 NETWORK CONDITION

The Rail Infrastructure is significantly impacted by theft and vandalism and ageing infrastructure. The IM continues to implement interventions to prevent and address these security threats with a key focus on improvement of infrastructure resilience.

The Corridor's traction and distribution have substations that are offline due to theft and vandalism. The Thabazimbi to Pyramid South, Leeufontein to Ogies and Piet Retief to Mswaneni bypass lines have been facing severe theft of OHTE cables at least over the past five years. The Corridor is currently impacted by theft and vandalism of some relay room and trackside Signalling equipment, mostly on the Pendoring to Ogies and between Ulundi and Richards Bay. Deterioration of track condition in some areas along the corridor has also led to implementation of speed restrictions. The Corridor's slot capacity has been reduced by implemented speed restrictions and a manual authorisation system that is used for Train traffic control while the repair work continues.

The IM assesses network condition periodically. The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include a definition of parts of the network sections that will be subject to speed restrictions, where manual authorisations will be in place, and any temporarily unavailable network sections.

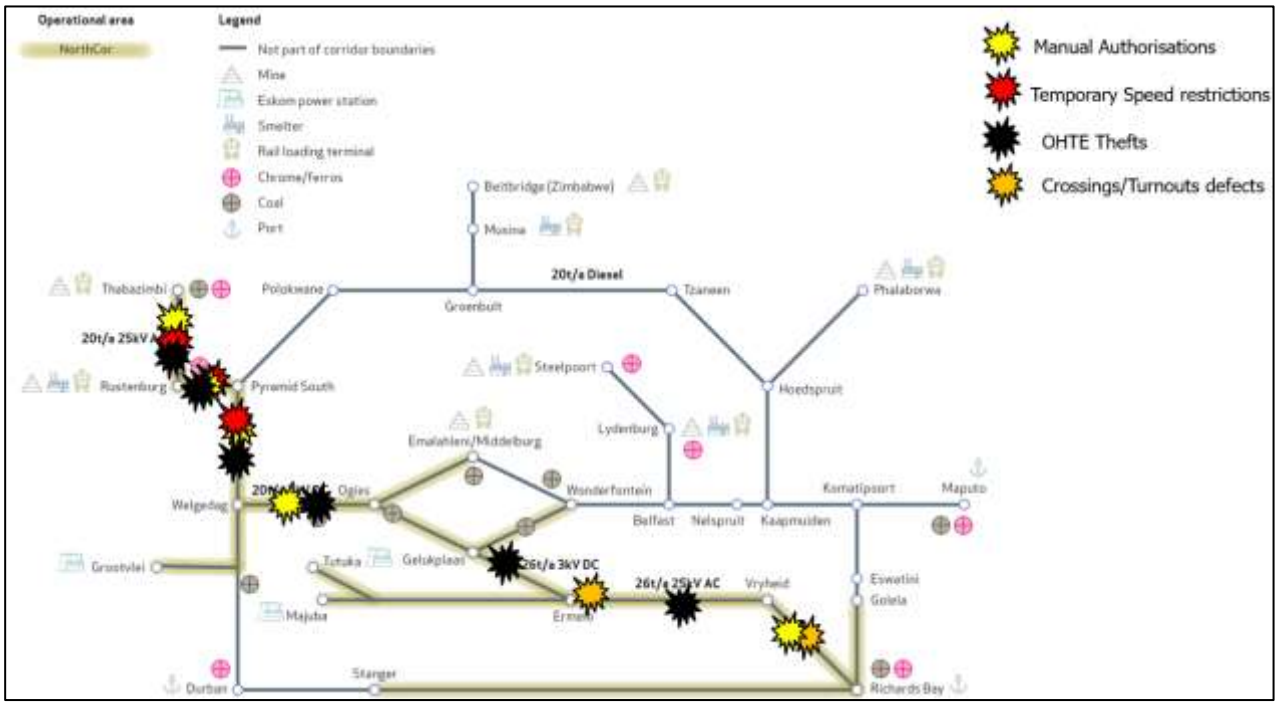


Figure 7: Network Condition for North Corridor
(Source: Transnet)

2.5.6 CURRENT STATE OF SECURITY

Slot capacity utilisation in the North Corridor is reduced due to OHTE and signal cabling theft across the network; in the previous year the number of security incidents (1 162) and were averaging three per day.

2.5.7 SUSTAINING MAINTENANCE PROJECTS

2.5.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities, which include occupations (Planned and unplanned) that the LUD to Richards Bay route takes every first Monday of the month for 12 hours, which affects the movement of Trains and other maintenance occupations.

2.6 ORE CORRIDOR

2.6.1 NETWORK DESCRIPTION

2.6.1.1 LIMITS

The ore line is one of two main heavy haul lines in South Africa. The Ore Corridor stretches 861km from Sishen in the Northern Cape to Saldanha on the Western Cape coast. The ore line provides a world-class platform of heavy haul capabilities (30 Tonnes per axle), technologies and efficiencies. The corridor has become an international player in providing a diverse range of heavy haul logistics solutions for growing local and

international markets and has been accommodating manganese exports since 2014. This section of the Network Statement covers the portion of Network comprising the Ore Corridor as indicated in Figures 8 and 9.

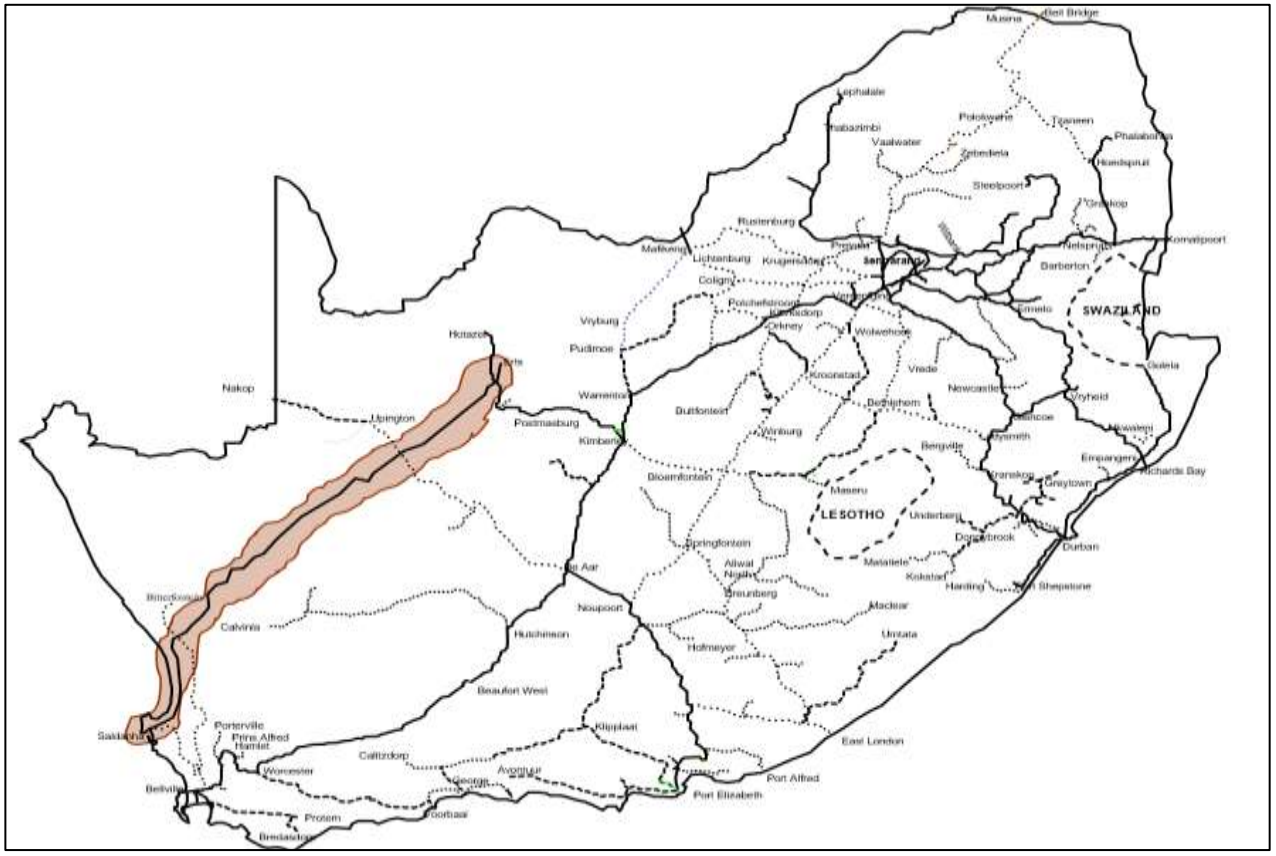


Figure 8: Ore corridor demarcation map (Source: Transnet)

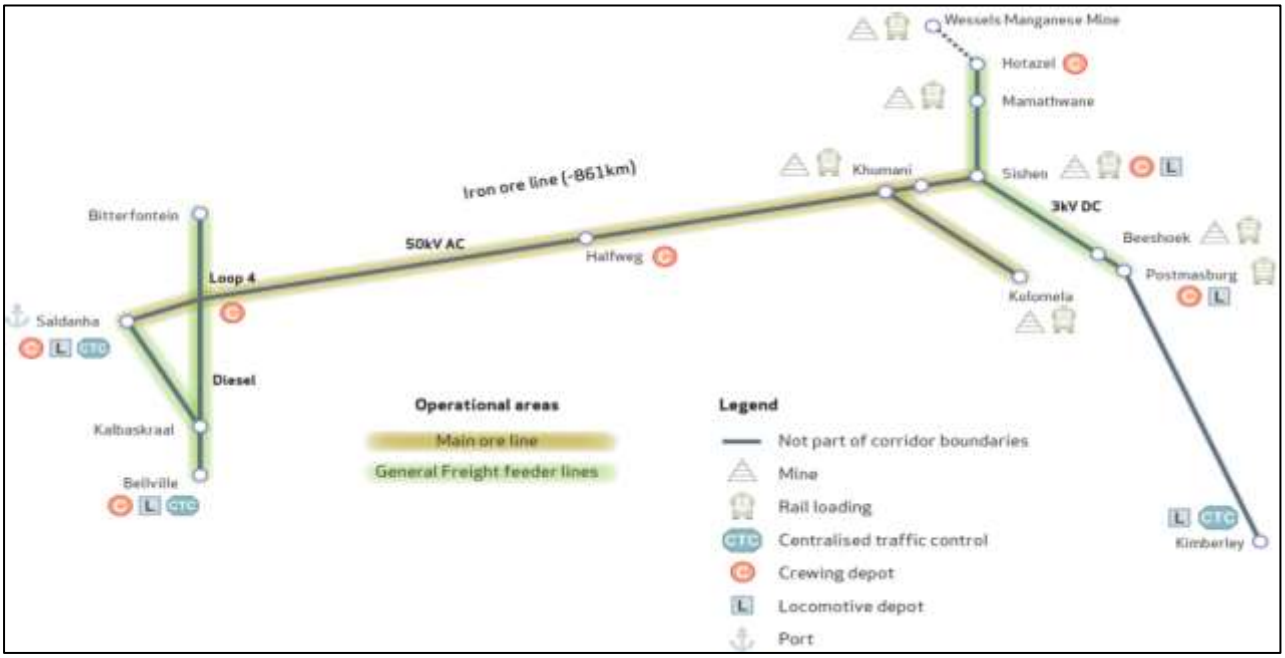


Figure 9: Ore corridor key lines (Source: Transnet)

2.6.1.2 LINE TYPES

The sections that are covered by this Corridor consist of single line and long loop lines. On the Saldanha to Sishen route, the section, Saldanha to Sishen is a single line.

The line sections are classified as N1/N2/N3 lines, with the Saldanha to Sishen section is classified as a S line.

Refer to section for further details on the different line classification types.

2.6.1.3 TRACK GAUGE

The sections covered by this Corridor operate to gauge of 1 065mm.

2.6.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/rail wagons/coaches) must comply with the clearances depicted in **annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.6.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loop lines)**

The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The Ore Corridor's Main Line crossing loops accommodate Trains that are limited to a maximum of 348 rail wagons.

2.6.1.6 LOAD LIMITS

The sections in this Corridor have a maximum permissible weight of 30 Tonnes per axle. The 30 tons per axle is only applicable to trains that are loaded on the defined line between Sishen and Saldanha and any traffic originating from connected networks on other corridors is limited to the axle weight for the sections of line traversed on that corridor.

2.6.1.7 LINE GRADIENTS

The sections that are covered by this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.6.1.8 LINE SPEEDS

The sections are governed by different speed limits, air brake Trains 70km/h and vacuum brake Trains 60km/h.

2.6.1.9 SECTION LENGTHS

The sections have different lengths which are determined by the sections between signals, length of loops and sidings. Details on the section lengths can be seen in **Annexure 6 (Simplified Classification File).**

2.6.1.10 OVERHEAD TRACTION CURRENT

The sections covered by this Corridor use 50 kV AC traction current.

2.6.1.11 SIGNALLING SYSTEM

The Ore Corridor consists of 24 CTC controlled stations using CS90 as the remote-control system and Siemens Trackguard Sims electronic interlocking has a mixture of the soon to be absolute Alstom C1H, Voestalpine 's Drives, Locking, Detection System (VAE DLD Nortrak) and GEC hydra H1 points machines. The signalling equipment are the LED Multi Aspects colour light signalling system. To detect the clear or occupied status of a section of track this section utilises Siemens AXS350U and RTI 300 SAZ axle counter and ML and AC track circuits.

Control System 90 (the CS90)

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and Train worlds together to improve safety and efficiency.

Centralised traffic control centres on the Ore Corridor are summarised in table 3.

CTC location	Control area	Control method
Saldanha	Salkor- Sishen	CS90 Colour Lights

Table 3: Ore Corridor Centralised Traffic Control Centres

2.6.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

- Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems;
- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and
- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains. Also Trunked radio network which is in metropolitan areas (Sishen and Saldanha), and it is also an alternative/backup to signalling for Train authorisations. Trunked radios are like cellular technology, allows group calls and is much more spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.6.3 PARTICULAR OPERATING ASPECTS

2.6.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered by this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.6.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling. **Annexure 8 (Tunnel Restrictions)** shows the exact location of the tunnels and lengths for the Corridor.

2.6.3.3 BRIDGE RESTRICTIONS

The network is limited by the initial designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3.

Annexure 9 (Bridge Class and Maximum Allowable Axle Mass) shows the maximum axle loading per Rail Wagon, as well as the corresponding bridge class per section (see Table 2).

2.6.4 CONDITION ASSESSMENT SYSTEMS

This section describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The selected Corridor has the following Condition Assessment Systems:

- Eight (8) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- Two (2) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.
- Sixty-nine (69) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.
- One (1) Skew Bogie Detectors that detect skew bogies by measuring the lateral forces and gauge spreading forces, exerted by the wheels on the track.
- Two (2) Wheel Impact Monitors Weighing In-motion System that measures the wheel impact of each wheel on a railway vehicle and reports alarm conditions. The secondary functions of the WIM-WIM are to measure the mass of the vehicle and determine the load distribution of each Rail Wagon

(skew/over loading). Furthermore, it measures the lateral forces exerted on the rail caused typically by lateral creep and wheel flange forces by rail wheels.

- Two(2) Bad Load Detectors which consist mainly of a Non-Assized in-motion weighing system with the added functionality of being able to send alarms as well as adding a visual aid (photograph) of the interior of the Rail Wagon with each
- Two(2) Wheel Temperature Monitors to provide an alarm system for when a wheel has exceeded a prescribed maximum temperature limit.
- Seventy-Two (72) Dragging Equipment Detectors detect hanging equipment or material from the Train and raise a severity alarm.
- One(1) Wheel Profile Measurement System is to provide wheel profile data to the Rail Wagon
- One(1) Acoustic Bearing Monitor which provide early warning/predictive failures of the bearing and thereby also reduce the number of hot bearing detectors required per line.

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and description)** tables the descriptive function of each CAS system.

2.6.5 NETWORK CONDITION

Deterioration of track condition due to track geometry, rail fatigue, fatigued turnout components and ballast shortage in some areas along the corridor has led to implementation of speed restrictions. The corridor's slot capacity has been reduced by speed restrictions that is used for Train speed control while repair work continues. The IM assesses network condition periodically.

The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include which part of which network sections will be subject to which speed restrictions, where in each section manual authorisations will be in place, and any temporarily unavailable network sections.

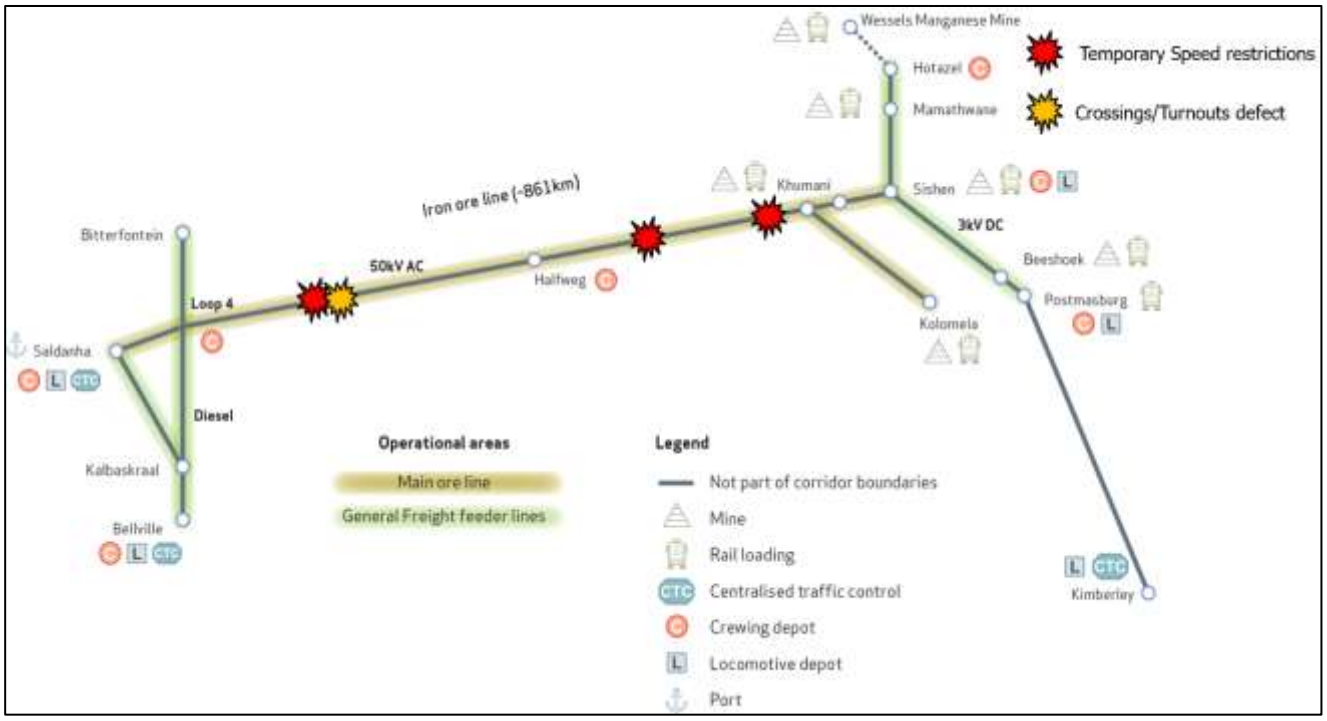


Figure 10: Network Condition Ore Corridor
(Source: Transnet)

2.6.6 CURRENT STATE OF SECURITY

Slot capacity utilisation in the Ore Corridor is not affected by OHTE and signal cabling theft across the network; in the previous year the number of security incidents amounted to 28 only.

Incidents in the Ore Corridor include OHTE cable theft in Sishen, Loop 18 & 19 and Kolomela, theft of Locomotive earth cables and fibre vandalism.

Other security-related matters on the Ore Corridor include:

- Random community unrest in Sishen, Kenhardt, Olifantshoek and Saldanha; and
- Random work stoppages by business forum in Saldanha, Kenhardt and Sishen.

Security service providers will enforce a mix of physical guarding, armed response teams, and interventions to address organised crime groupings behind the illicit copper market.

2.6.7 SUSTAINING MAINTENANCE PROJECTS

2.6.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities which are planned and aligned to Transnet Port Terminals (TPT) maintenance schedule. There can be unplanned maintenance activities resulting from incidents on the network. These will be communicated by the IM as soon as they are identified. Section 4 of the Network Statement outlines the course of action to be followed by the IM.

2.6.7.2 SHUTDOWN SCOPE AND SCHEDULES

This Corridor covers two (2) maintenance depots that are scheduled in the same period, grouped as Ore Corridor shutdown. The sections covered in these depots are Saldanha-Sishen.

2.7 NORTHEAST CORRIDOR

2.7.1 NETWORK DESCRIPTION

2.7.1.1 LIMITS

The Northeast Corridor strategically links the South African rail freight transportation with that of multiple SADC countries mainly through Eswatini, Zimbabwe, Mozambique, Zambia and the Democratic Republic of Congo. Commodities are transported via various border posts or gates of entry such as Komatipoort, Golela, Beitbridge, Livingstone and Sakania. The IM is responsible for the infrastructure from Pyramid – Polokwane – Beitbridge and Goedgeluk – Komatipoort; Komatipoort - Mozambique border; Komatipoort - Swazi Border, access to the line beyond Beitbridge, Mozambique border and Swazi Border must be arranged by the train operating companies.

The corridor has three prominent linear flows:

North East Corridor stretches from the Limpopo River at Beitbridge in the Limpopo province through Komatipoort to Richards Bay on the east coast and from Pyramid/Rayton/Emalahleni to Komatipoort.

This section of the Corridor covers the railway infrastructure on the North-East corridor as indicated in Figures 11 and 12.

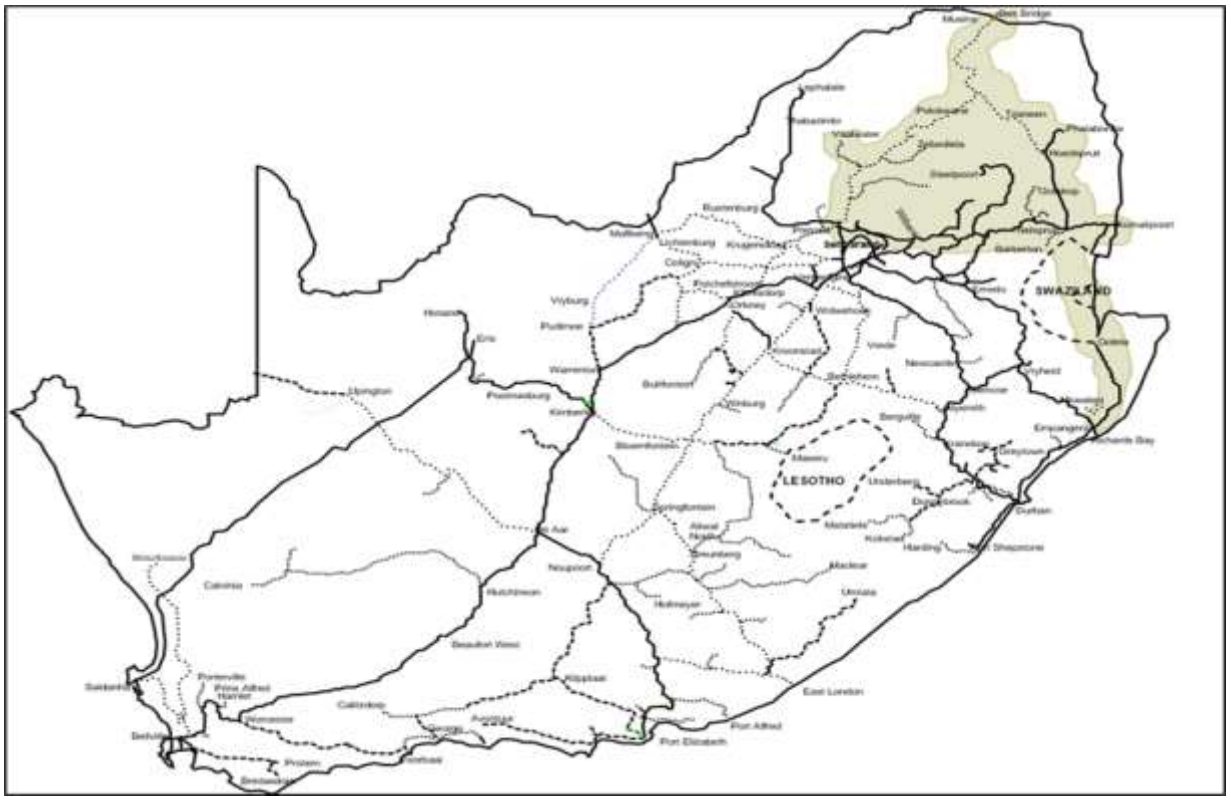


Figure 11: North- East Corridor demarcation map
(Source: Transnet)

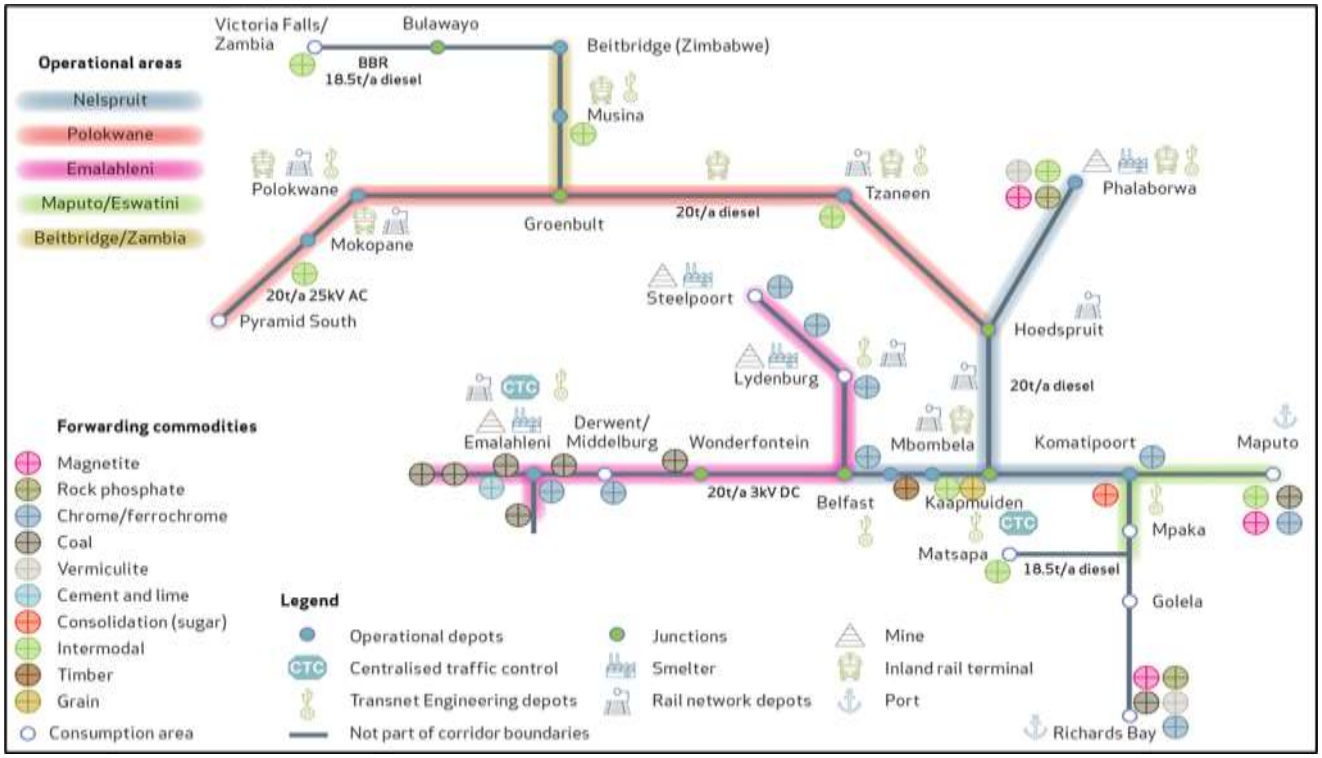


Figure 12: North-East Corridor key lines
(Source: Transnet)

2.7.1.2 LINE TYPES

The sections that are covered by this Corridor consist of single line and long loop lines.

- On the Goedgeluk – Komatipoort - Mozambique border;
- On the Komatipoort - Swazi Border - Golela - Empangeni; Stanger – Empangeni; Empangeni - Nkwalini has single lines.
- On the Phalaborwa - Kaapmuiden, the sections have both single and double lines.
- On the Rayton – Goedgeluk; Belfast - Steelpoort, the section has single lines.
- On the Pyramid – Polokwane – Beitbridge the section has both single and double lines.
- On the Groenbelt - Hoedspruit, the section has single lines.

The sections are classified as either N1/N2/N3 and Branch lines.

- Goedgeluk – Komatipoort; Komatipoort - Mozambique border; Komatipoort - Swazi Border; Phalaborwa - Kaapmuiden are classified as N2/N3 sections.
- Rayton –Goedgeluk; Belfast - Steelpoort are classified as N2/N3 sections.
- Pyramid – Polokwane; Polokwane – Beitbridge; Groenbelt - Hoedspruit N2/N3 sections.
- Golela - Empangeni; Stanger -Empangeni; Empangeni - Nkwalini are classified as N2/N3 sections.

See paragraph 2.10 for further details on the different line classification types.

2.7.1.3 TRACK GAUGE

The sections covered by this Corridor operate to one nominal standard track gauge of 1 065mm.

2.7.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/Rail Wagon /coaches) must comply with the clearances depicted in **Annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.7.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loops)**

The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The North-East Corridor Main Line crossing loops accommodate Trains that are limited to a maximum of 160 wagons (between Phalaborwa and Komatipoort).

2.7.1.6 LOAD LIMITS

The sections covered by this Corridor have a maximum permissible weight of 20 tons per axle except for certain branch lines (as indicated that will be 18.5 tons per axle).

2.7.1.7 LINE GRADIENTS

The sections that are covered by this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.7.1.8 LINE SPEEDS

All trains are limited to a maximum of 90 km/h, and an average of 45 km/h for freight trains.

2.7.1.9 SECTION LENGTHS

The sections have different lengths which are determined by the sections between signals, length of loops and sidings. Details on the section lengths can be seen in **Annexure 6 (Simplified Classification File)**

2.7.1.10 OVERHEAD TRACTION CURRENT

The sections covered by this Corridor use 3 kV DC traction currents, with some sections not electrified. The sections use a combination of diesel and 3 kV DC.

There is a changeover station at Pyramid where Trains will be switching from 25 kV AC Locomotives to diesel Locomotives due to OHTE theft and diesel Locomotives currently in operation (on the Polokwane Area).

2.7.1.11 SIGNALLING SYSTEM

Main lines for Witbank and Nelspruit in Mpumalanga consist of 84 controlled stations which uses CS90 as the Remote-control system, Spoorplan as the Interlocking system. The Track vacancy detection technologies installed is a mixture of ML and Jeumont track circuits and Siemens 350 U for axle counting. For authorization methods, the sections use colour light signalling and a mixture of switchmatic and Westinghouse Martech as points machines.

The Gauteng Hub to Musina bound for the Zimbabwean boarder via Pyramid, this whole section as well as other branch lines in the Witbank and Nelspruit Depots uses the VDU Track Warrant System as a Train authorization

system which is a CS90 VDU that is configured to operate as a track warrant Train control system. It comprises the RTO which includes safe operating procedures, paper template forms, Train diagram sheets and the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train drivers and CS90 VDU workstation.

VDU track warrant

- The VDU track warrant is a CS90 VDU that is configured to operate as a track warrant Train control system.
- It is designed to manage sections between stations, complex station layouts, multiple lines and different levels of points-control (from no points control to remote points-control).
- It is based on the fact that the Radio Train Order (RTO) is still the primary authorisation system with the VDU track warrant as the supported authorisation system.
- It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train driver(s) and CS90 VDU workstation.

Control System 90 (the CS90)

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and Train worlds together to improve safety and efficiency.

Table 4 contains the summary of the centralised traffic control centres on the North- East Corridor.

CTC location	Control area	Control method
Witbank	Forfar-Waterval Boven/ Wonderfontein Belfast-Steelpoort	CS90 Colour Lights CS90 VDU Track Warrant
Kaapmuiden	Waterval Boven- Komatipoort/ Kaapmuiden - Phalaborwa Nelspruit - Barberton	CS90 Colour Lights Hybrid- Colour lights/ CS90 VDU Track Warrant CS90 VDU Track Warrant
Pyramid South	Baviaanspoort - Pienaarsrivier/ Pendoring Pendoring - Rustenburg - Lephalale Pienaarsrivier - Mokopane Schoongesicht - Northam	CS90 Colour Lights CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant
Polokwane	Mokopane - Groenbult Polokwane - Groenbult Makhado - Musina Makhado - Hoedspruit Polokwane – Groenbult/Makhado - Hoedspruit	CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant

Table 4: North-East Corridor Centralised Traffic Control Centres

2.7.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

- Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems;
- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and
- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains. Also Trunked radio network which is in metropolitan areas (Richards Bay), and it is also an alternative/backup to signalling for Train authorisations. Trunked radios are like cellular technology, allows group calls and is much more spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.7.3 PARTICULAR OPERATING ASPECTS

2.7.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered by this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.7.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling, and **Annexure 8 (Tunnel Restrictions)** shows the exact location of the tunnel and its length.

2.7.3.3 BRIDGE RESTRICTIONS

The network is limited by the initial designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3. **Annexure 9 (Bridge Class and Maximum Allowable Axle Mass)** shows the maximum axle loading per Rail Wagon, and the corresponding bridge class per section (see Table 2)

2.7.4 CONDITION ASSESSMENT SYSTEMS

This section describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry

capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The Corridor has the following Condition Assessment Systems:

- Thirty (30) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- Three (3) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.
- One hundred and thirty (130) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.
- One (1) Skew Bogie Detectors that detect skew bogies by measuring the lateral forces and gauge spreading forces, exerted by the wheels on the track.
- One (1) Wheel Impact Monitors- Weighing In-motion System that measures the wheel impact of each wheel on a railway vehicle and reports alarm conditions. The secondary functions of the WIM-WIM are to measure the mass of the vehicle and determine the load distribution of each Rail Wagon (skew/over loading).

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and description)** tables the descriptive function of each CAS system.

2.7.5 NETWORK CONDITION

The corridor's traction and distribution have substations that are offline due to theft and vandalism. The impacted areas are Olifantsriver to Middelburg, Wonderfontein to Belfast. The Pyramid South to Polokwane, Derwent to Wonderfontein, Komatipoort, Hoedspruit to Phalaborwa, lines are facing severe theft of OHTE cables. Theft of rails and OHTE between Rayton to Forfar has led to line being closed and currently not operational.

Rayton station to Bronkhorspruits station line are facing severe theft of OHTE cables and currently the line is not operational.

Some of the signalling systems including the relay rooms and trackside equipment along the corridor Polokwane to Pyramid, Forfar to Goedgeluk Belfast to Goedgeluk and Nelspruit to Kaapmuiden are not operational due to theft and vandalism. The deterioration of track condition in some areas along the corridor has also led to implementation of speed restrictions. The corridor's slot capacity has been reduced by speed restrictions and manual authorisation system that is used for Train traffic control while the repair work continues. The poor drainage in yards causes shunting delays and it is therefore paramount to reinstate it. The corridor's slot capacity between Belfast and Steelpoort has been reduced by the clamping of points due to obsolete network radio equipment resulting in slots being lost.

The corridor's slot capacity has been reduced owing to the implementation of speed restrictions and manual authorisation systems because of theft and vandalism of the Infrastructure.

The IM re-assesses network condition periodically. The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include which part of which network sections will be subject to which speed restrictions, where in each section manual authorisations will be in place, and any temporarily unavailable network sections.

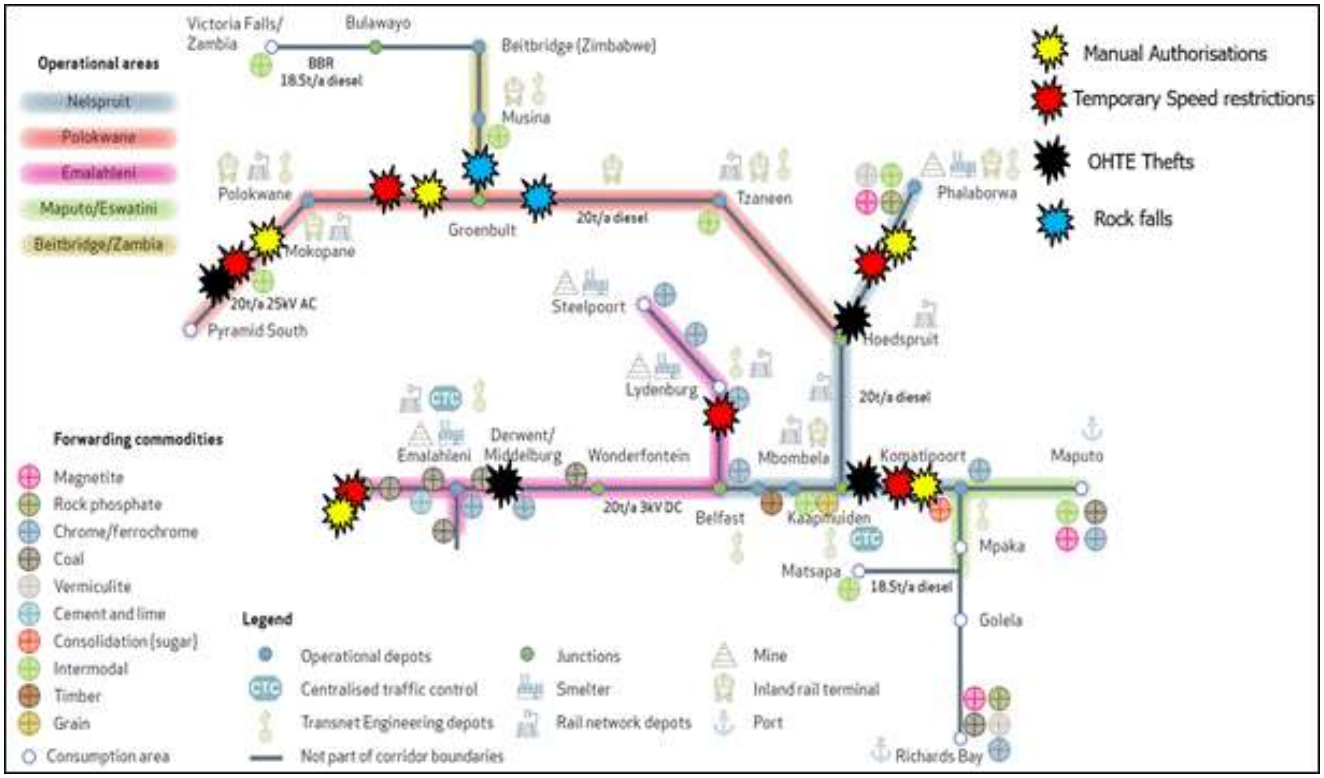


Figure 13: Network Condition North-East Corridor
(Source: Transnet)

2.7.6 CURRENT STATE OF SECURITY

Slot capacity utilisation in the Northeast Corridor is reduced due to OHTE and signal cabling theft across the network. In the previous year the number of security incidents (842) and were averaging two per day.

Major incidents in the Northeast Corridor are OHTE cable theft, electrical cable and signal cable theft.

Other security-related matters on the Northeast include but not limited:

- Random community protests/unrest at Bronkhorstspruit, Witbank, Matsulu, Kaapmuiden & Phalaborwa; and
- Random work stoppages by business forums Bronkhorstspruit, Kaapmuiden, Matsulu & Acornhoek.

Security service providers will enforce a mix of physical guarding, armed response teams, and interventions to address organised crime groupings behind the illicit copper market.

2.7.7 SUSTAINING MAINTENANCE PROJECTS

2.7.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities, which include Planned Occupations on the following routes:

- Lephalale – Thabazimbi –Rustenburg – Pyramid South;
- Pyramid South – Pietersburg – Beit Bridge;
- Groenbult - Tzaneen - Olifantstenk;
- Pyramid South – Katbosfontein;
- Machadodorp - Nelspruit – Kaapmuiden – Komatipoort;
- Kaapmuiden – Hoedspruit - Phalaborwa;
- Witbank – Machadodorp;

Richards Bay – Golela takes occupations every first and third Monday of the month for 12 hours.

2.7.7.2 SHUTDOWN SCOPE AND SCHEDULES

This Corridor covers four (4) maintenance depots that are scheduled in the same period, grouped as North East Corridor shutdown. The maintenance shutdown will be executed by Nelspruit, Witbank, Polokwane and Empangeni depots. The sections covered in these depots are:

- Goedgeluk – Eswatini border;
- Belfast – Steelpoort;
- Rayton – Goedgeluk;
- Hoedspruit – Beitbridge;
- Golela - Richards Bay.

2.8 CAPE CORRIDOR

2.8.1 NETWORK DESCRIPTION

2.8.1.1 LIMITS

The Cape Corridor has the largest area footprint of the Corridors, stretching from Warrenton in the North-East to Cape Town in the South- West, from Hotazel in the North to Gqeberha in the South. From Bloemfontein in the Central to Kroonstad and Bethlehem in the East. The Cape Corridor is the natural hinterland for the ports of Cape Town, Mossel Bay, Port Elizabeth, Ngqura and East London. Corridor lines from the key mining area surrounding Hotazel and Postmasburg in the Northern Cape connect to the ports of Port Elizabeth and Ngqura in the south.

The Cape Corridor also includes various branch lines such as the Bellville to Bitterfontein, Bellville to Saldanha, Worcester to George, De Aar to Upington, Bloemfontein to Kroonstad, East London, Port Elizabeth and cross border traffic from Upington to Namibia and Bloemfontein to Lesotho. The IM is responsible for the infrastructure from Upington to Namibia (Nakop) and Bloemfontein to Lesotho (Maseru), access to the line beyond Nakop and Maseru must be arranged by the other train operating companies.

The Cape Corridor provides a critical interface for rail traffic between the Container Corridor, Central Corridor and Ore Corridor. This section of the Network Statement covers those portions of the Network that comprise the Cape Corridor as indicated in Figures 14 and 15.

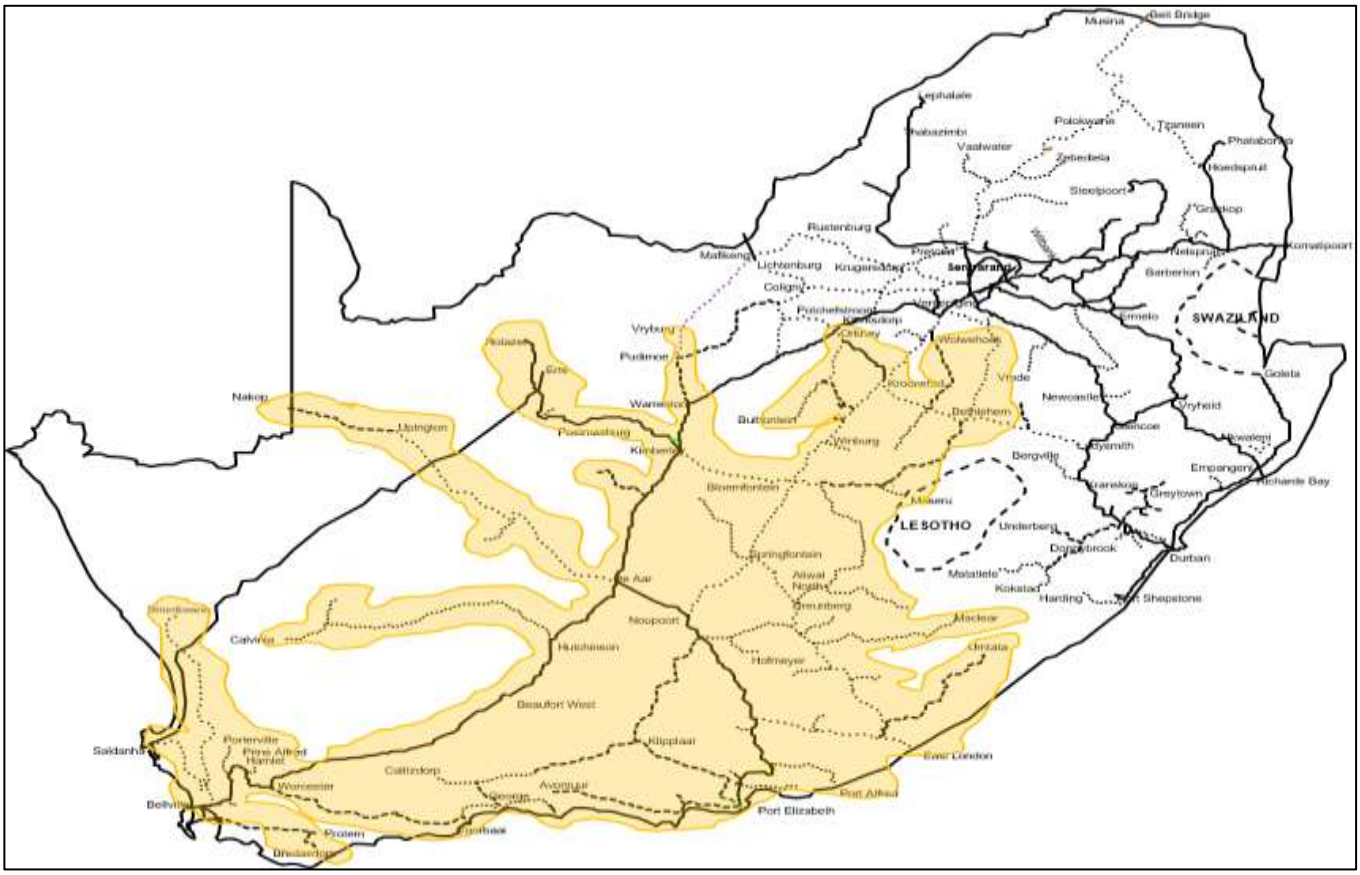


Figure 14: Cape Corridor demarcation map
(Source: Transnet)

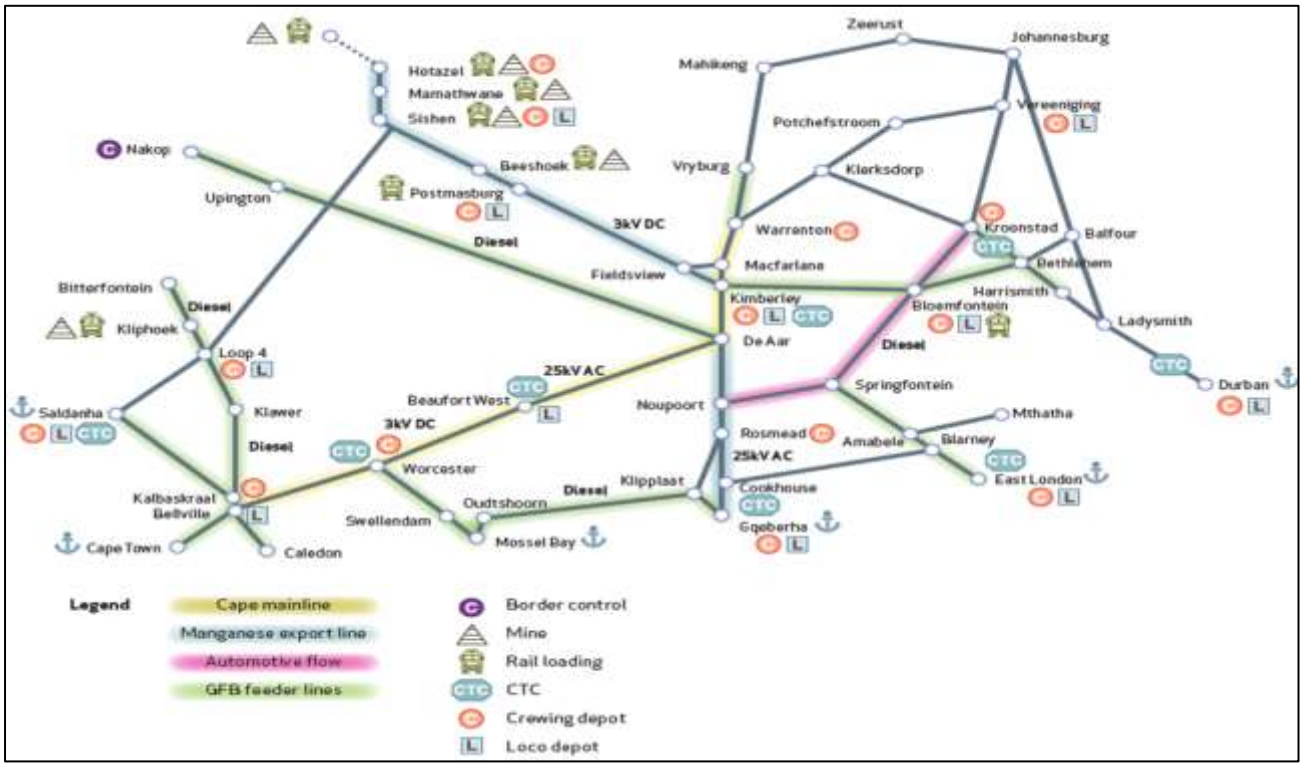


Figure 15: Cape Corridor key lines
(Source: Transnet)

Figure 16: PRASA Cape Corridor (Source: Transnet)

Parts of the Transnet Rail Infrastructure network have interfaces with PRASA. Figure 15 indicates the interface areas with PRASA. Further details on the Transnet and Prasa Network can be found in **Annexure 12 (Depot Boundaries detail diagrams).**

2.8.1.2 LINE TYPES

The sections that are covered in this Corridor consist of single and double-line tracks.

On the Hotazel – Beaconsfield - De-Aar- Noupoort – Port Elizabeth, the section has single and double lines.

- On the Beaconsfield- Hamilton-Bloemfontein- Bethlehem, the section has both single and double line.
- On the Upington-De-Aar-Noupoort-Gqeberha, the section has single line.
- On the Veertienstrome – Beaconsfield – De Aar -Bellville route, the section has both single lines and double lines.
- On the Sasolburg – Bloemfontein – Springfontein – East London, the section the sections have both single and double lines.
- On the Hotazel –Beaconsfield- Bloemfontein– East London route, the section between has both single and double lines.

The sections are classified as N1/N2/N3 lines.

- Hotazel to Port Elizabeth are classified N1/N2/N3 sections.
- Beaconsfield to Bethlehem is classified N1/N2.
- Upington to Port Elizabeth are classified as N1/N2 sections.
- Veertienstrome to Bellville are classified as N1/N2/N3 sections.
- Hotazel to East London are classified as N1/N2/N3 sections.

Refer to paragraph 2.10 for further details on the different line classification types.

2.8.1.3 TRACK GAUGE

The sections covered in this Corridor operate to one nominal standard track gauge of 1 065mm predominantly, with branch lines between Humewood Road (Gqeberha) to Gamtoos to Avontuur and Patensie use narrow track gauge of 610mm.

2.8.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/rail wagons /coaches) must comply with the clearances depicted in **Annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.8.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loop Lines)**

The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The Cape Corridor's Main Line crossing loops between Hotazel and Gqeberha accommodate Trains that are limited to a maximum of 104 Rail Wagon. The Section between Beaufort West and Bellville to 50 wagon trains.

2.8.1.6 LOAD LIMITS

The sections covered by this Corridor have a maximum permissible weight of between 16.5 and 20 Tonnes per axle.

2.8.1.7 LINE GRADIENTS

The sections covered in this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.8.1.8 LINE SPEEDS

The sections are governed by different speed limits, typically a maximum of 70 km/h for light air brake trains, a maximum of 90 km/h for passenger trains and a maximum of 60 km/h for vacuum brake trains Trains.

2.8.1.9 SECTION LENGTHS

The sections have different lengths which are determined by the sections between signals, length of loops and sidings. Details on the section lengths can be seen in **Annexure 6 (Simplified Classification File)**

2.8.1.10 OVERHEAD TRACTION CURRENT

The sections covered in this Corridor use different traction currents, with some sections not electrified. The sections use a combination of diesel, 25 kV AC and 3 kV DC.

The East London route uses diesel Locomotives between Bloemfontein and Springfontein, 25 kV AC between Springfontein and East London but Diesel Locomotives are currently used due to cable theft (the line is earmarked for de-electrification) and 3 kV DC.

There is a changeover station at Springfontein where Trains will be switching from diesel Locomotives to 3kV Locomotives and from 3kV to diesel Locomotives. There is no changeover that is currently taking place due to OHTE theft and diesel Locomotives currently in operation.

There is a changeover station at Kimberley, at the Ronaldsvlei yard, where Trains will be switching from 3 kV DC Locomotives to 25 kV AC Locomotives.

Diesel Locomotives are currently in operation (on the Bellville Area) due to OHTE theft

2.8.1.11 SIGNALLING SYSTEM

Main lines for Bellville, Kimberley North, Kimberley South, Port Elizabeth, East London and Bloemfontein in the Cape and Free State consist of 248 controlled stations which uses CS90 as the Remote-control system, HRS, PEL, Halske, Siemens and Spoorplan as the Interlocking system.

The Track vacancy detection technologies installed is a mixture of ML, Jeumont, DC, Reeds and Aster track circuits and Siemens 350 U for axle counting. For further Train authorization methods, they use colour light signalling and a mixture of switchmatic, E63, Siemens DC, WBS and Westinghouse Martech as points machines.

The Main Line from East London through Bloemfontein and the branch lines in the corridor uses the VDU Track Warrant System as a Train authorization system which is a CS90 VDU that is configured to operate as a track warrant Train control system. It comprises the RTO which includes safe operating procedures, paper template

forms, Train diagram sheets and the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train drivers and CS90 VDU workstation.

VDU track warrant

- The VDU track warrant is a CS90 VDU that is configured to operate as a track warrant Train control system.
- It is designed to manage sections between stations, complex station layouts, multiple lines and different levels of points-control (from no points control to remote points-control).
- It is based on the fact that the Radio Train Order (RTO) is still the primary authorisation system with the VDU track warrant as the supported authorisation system.
- It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train driver(s) and CS90 VDU workstation.

Control System 90 (the CS90)

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and Train worlds together to improve safety and efficiency.

Table 5 contains a summary of the centralised traffic control centres on the Cape Corridor.

CTC location	Control area	Control method
Belville	Windermere - Avondale	CS90 Colour Lights
	Brackenfell	Single Man Cabin (local Station Control)
	Kraaifontein	Single Man Cabin (local Station Control)
	Muldersvlei	Single Man Cabin (local Station Control)
	Klapmuts	Single Man Cabin (local Station Control)
	Paarl	Single Man Cabin (local Station Control)
	Huguenot	Single Man Cabin (local Station Control)
	Dal Josafat	Single Man Cabin (local Station Control)
	Wellington	CS90 Colour Lights
	Kraaifontein – Kalbaskraal	CS90 VDU Track Warrant
	Windermere – Atlantis	CS90 VDU Track Warrant
	Kalbaskraal – Moorreesburg - Saldanha	CS90 VDU Track Warrant
	Moorreesburg - Bitterfontein	CS90 VDU Track Warrant
	Van Der Stel - Protem/Klipdale - Bredasdorp	CS90 VDU Track Warrant
	Hermon - Riebeeck Kasteel	CS90 VDU Track Warrant
	Wolseley- Ceres	CS90 VDU Track Warrant
Worcester	Malan – Matjiesfontein	CS90 Colour Lights
	Worcester Yard – Voorbaai	CS90 VDU Track Warrant
	Voorbaai - Uitenhage	CS90 VDU Track Warrant
Beaufort West	Skeiding - Britsville	CS90 Colour Lights

Kimberley	De Aar – Transcape Beaconsfield - Hotazel	CS90 Colour Lights CS90 Colour Lights
Bloemfontein	Theunissen – Bloemfontein Bloemfontein – Springfontein Springfontein – Bowkerspark Springfontein – Noupoort Bloemfontein – Beaconsfield De Aar- Nakop- Kakamas Belmont- Douglas Bloemfontein- Maseru	CS90 Colour Lights CS90 VDU Track Warrant CS90 VDU Track Warrant Hybrid/CS90 VDU Colour Lights/CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant
Port Elizabeth	Bletterman – Port Elizabeth Port Elizabeth - Uitenhage	CS90 Colour Lights CS90 Colour Lights
East London	East London – Blaney Amabele – Umtata Blaney – Bowkerspark Blaney- Cookhouse	CS90 Colour Lights CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant
Kroonstad	Koppies – Westleigh Kroonstad – Welgelee	Single Man Cabin (local Station Control) CS90 Colour Lights

Table 5: Cape Corridor Centralised Traffic Control Centres

2.8.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

- Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems;
- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and
- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains. Also Trunked radio network which is in metropolitan areas (Cape Town, Port Elizabeth and Kimberly), and it is also an alternative/backup to signalling for Train authorisations. Trunked radios are like cellular technology, allows group calls and is much more spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.8.3 PARTICULAR OPERATING ASPECTS

2.8.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered by this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.8.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling, and **Annexure 8 (Tunnel Restrictions)** shows the exact location of the tunnel and its length.

2.8.3.3 BRIDGE RESTRICTIONS

The network is limited by the initial designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3. **Annexure 9 (Bridge Class and Maximum Allowable Axle Mass)** shows the maximum axle loading per Rail Wagon and the corresponding bridge class per section (see Table 2)

2.8.4 CONDITION ASSESSMENT SYSTEMS

This section describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The selected Corridor has the following Condition Assessment Systems:

- Forty-two (42) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- Four (4) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.
- Two hundred and ninety-five (295) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and description)** tables the descriptive function of each CAS system.

2.8.5 NETWORK CONDITION

The corridor's traction and distribution have substations that are offline due to theft and vandalism. The Bethlehem to Bloemfontein, Bloemfontein to East London and Worcester to Bellville lines have been facing severe theft of OHTE cables.

Some of the signalling systems including the relay rooms and trackside equipment along the Wellington to Paarl, Cookhouse to Rosmead and Kamfersdam to Macfarlane sections are not operational due to theft and vandalism. Deterioration of track condition in some areas along the corridor has led to implementation of speed restrictions. The corridor's slot capacity has been reduced by implemented speed restrictions and a manual authorisation system that is used for Train traffic control while the repair work continues.

The IM re-assesses network condition periodically. The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include which part of which network sections will be subject to which speed restrictions, where in each section manual authorisations will be in place, and any temporarily unavailable network sections.

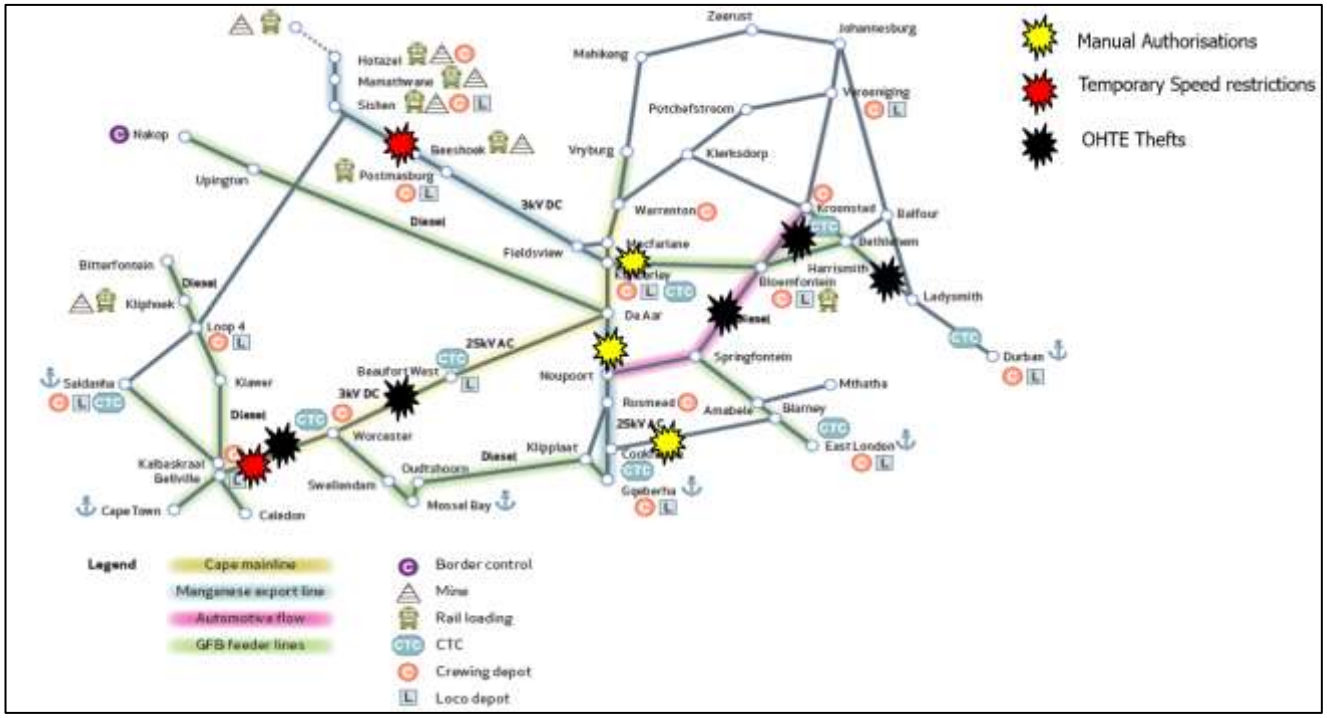


Figure 17: Network Condition Cape Corridor (Source: Transnet)

2.8.6 CURRENT STATE OF SECURITY

Slot capacity utilisation in the Cape Corridor is reduced due to OHTE and signal cabling theft across the network; in the previous year the number of security incidents amounted to 1615 and were averaging four per day.

The Cape Main line is historically plagued with OHTE thefts. The recovery plan deployed is to ensure Train impact gets minimised. The Main line is currently being re-energised between Paarl and Salbar. This project will provide increased detection capabilities and reduced response time of intervention teams to any tampering of infrastructure.

Some Free State sections currently operate on Diesel Locomotives owing to OHTE theft and vandalism.

2.8.7 SUSTAINING MAINTENANCE PROJECTS

2.8.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities which are planned and aligned to Transnet Port Terminals (TPT) maintenance schedule.

2.8.7.2 SHUTDOWN SCOPE AND SCHEDULES

This Corridor covers six (6) maintenance depots that are scheduled in the same period, grouped as Ore corridor shutdown. The shutdown maintenance will be executed by Kimberley, Krugersdorp, Port Elizabeth and Belville depots.

The sections covered in these depots are Hotazel to Beaconsfield; Warrenton to Beaufort west; Beaconsfield to Bloemfontein; Beaconsfield to De Aar; Beaconsfield to Beaufort west; Potchefstroom to Warrenton; De Aar to Port Elizabeth; Beaufort west to Worcester; East London and Bloemfontein. The sections covered in these depots are Springfontein to East London and Springfontein to Noupoort.

2.9 CENTRAL CORRIDOR

2.9.1 NETWORK DESCRIPTION

2.9.1.1 LIMITS

Central Corridor is positioned in the centre of Freight Rail's rail network providing connectivity to five other corridors. Geographically it is spread over three provinces (Gauteng, Free State and the North-West). The corridor is key to the north-south interface through landlocked Botswana, via the Mafikeng to Krugersdorp and Vryburg rail lines, and therefore supports regional integration. It is a feeder to the ports of Maputo, Richards Bay, Durban, Port Elizabeth and Cape Town. The IM is responsible for the infrastructure from Krugersdorp via Mafikeng to Ramatlabama, access to the line beyond Ramatlabama must be arranged by other train operating companies.

This section of the Network Statement covers those portions of the Network that comprise the Central corridor as indicated in Figures 18 and 19.

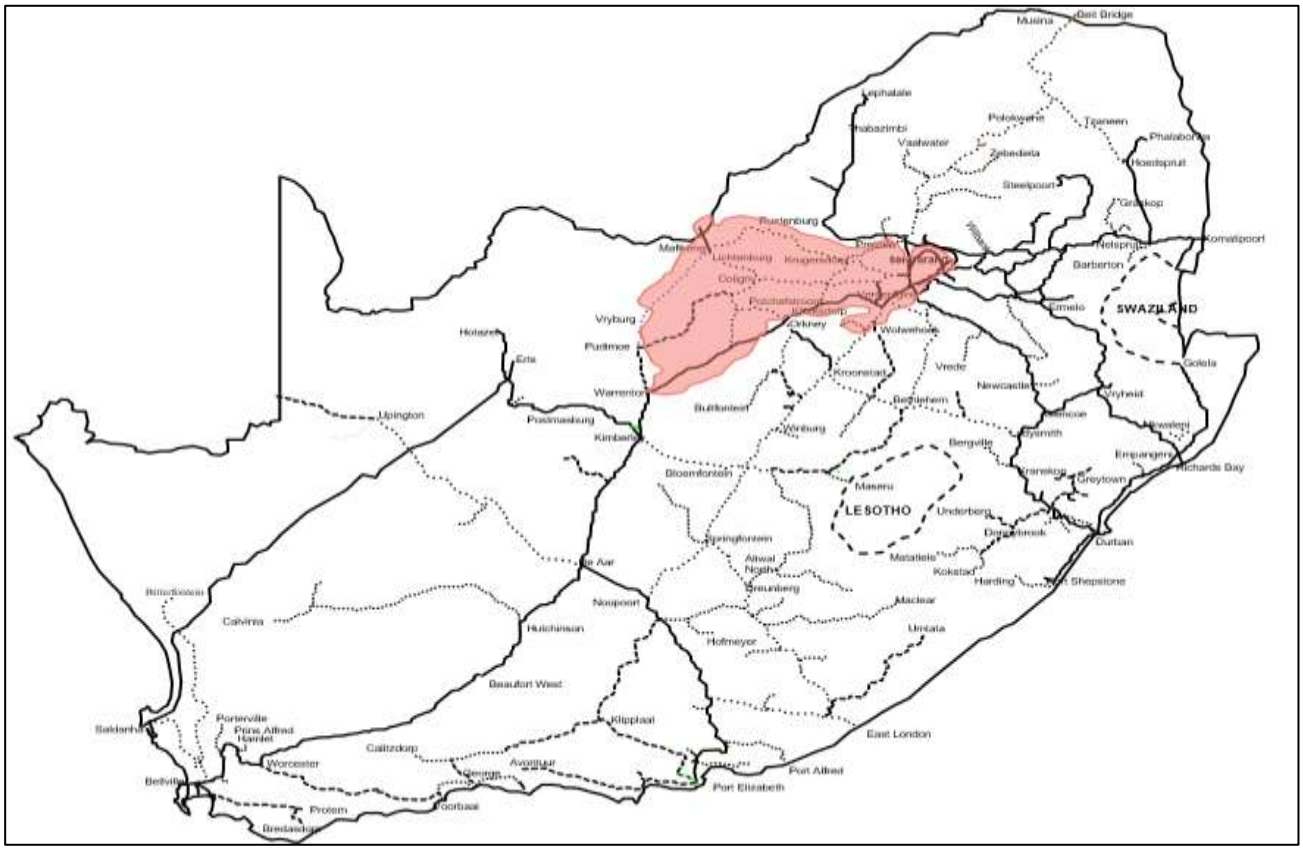


Figure 18: Central Corridor demarcation map
(Source: Transnet)

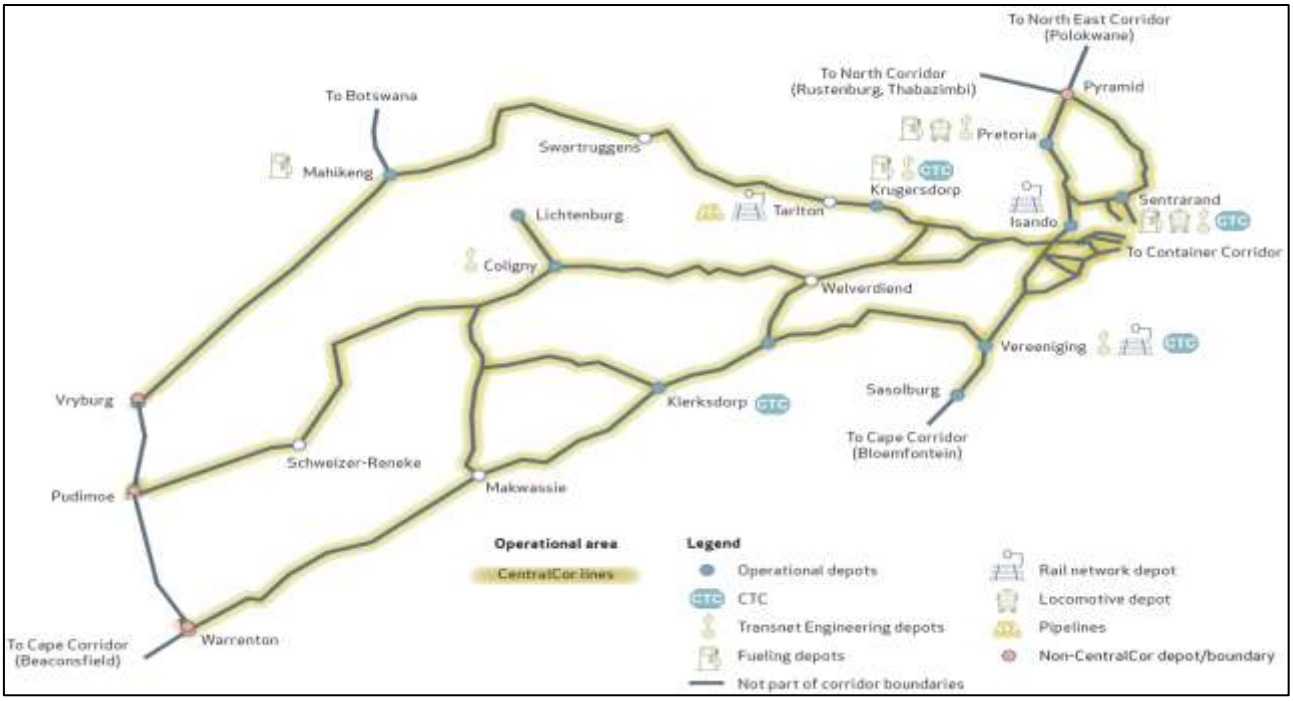


Figure 19: Central Corridor key lines (Source: Transnet)

Figure 20: PRASA Northern Gauteng Region
(Source Transnet)

The Central Corridor supports a key network interface with the Passenger Rail Agency of South Africa (PRASA) along key Transnet Rail Infrastructure Network and PRASA rail lines in Vereeniging, Pretoria and Krugersdorp as depicted in Figures 20 & 21. Further details on the Transnet and Prasa Network can be found in **Annexure 12 (Depot Boundaries detail diagrams).**

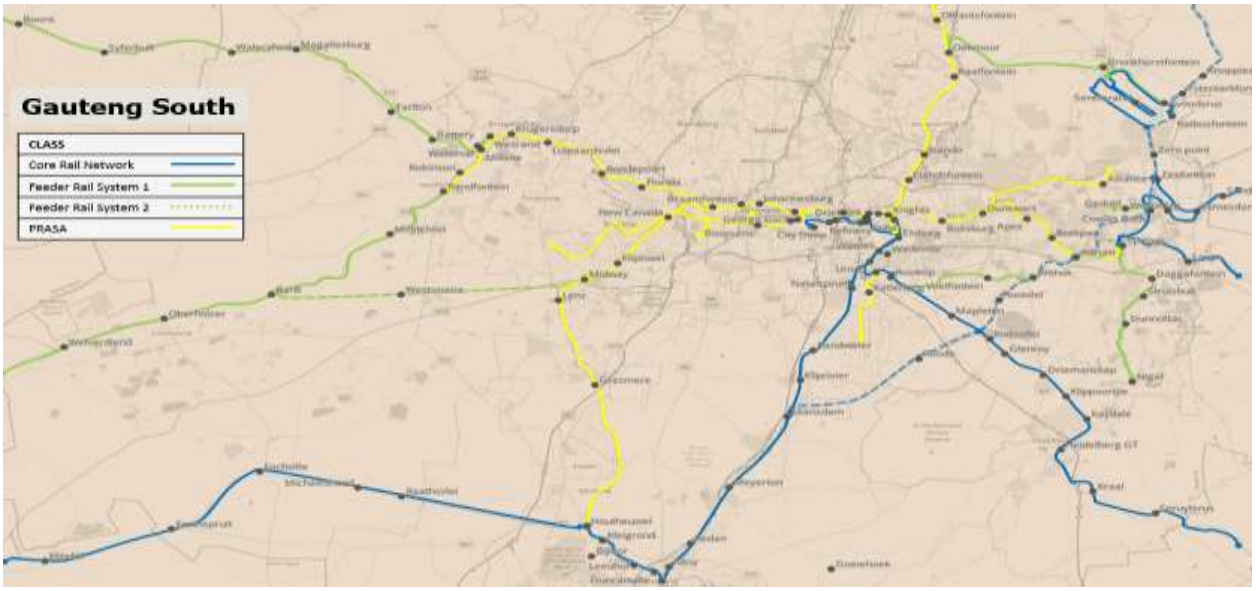


Figure 21: PRASA Southern Gauteng Region

(Source: Transnet)

2.9.1.2 LINE TYPES

The sections that are covered in this Corridor consist of single and double-line tracks.

- On the Leeufontein – Zesfontein- Withok – Rietvallei, the sections have both single and double lines.
- On the Zesfontein – Slimesdam- Welgedag – Ogies, the section has double line.
- On the Sentrarand – Olifantsfontein, the section has a single line.
- On the India- Angus – Vereeniging the sections have both single and double lines.
- On the Vereeniging – Potchefstroom, the section has double line.
- On the Krugersdorp- Welverdiend- Potchefstroom – Makwassie- Warrenton, the sections have both single and double lines.
- On the Krugersdorp- Swartruggens – Mafikeng the section has double line.
- On the Mafikeng – Vryburg – Pudimoe - Warrenton the sections have both single and double lines.
- On the Vereeniging - Wolwehoek, the section has double line.

The sections are classified as N1/N2/N3 lines. section 2.4 for further details on the different line classification types.

2.9.1.3 TRACK GAUGE

The sections covered in this Corridor operate to one nominal standard track gauge of 1 065mm.

2.9.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/rail wagons/coaches) must comply with the clearances depicted in **annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.9.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loops)**

The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The Central Corridor's Main Line crossing loops accommodate Trains that are limited to a maximum of 100 rail wagons.

2.9.1.6 LOAD LIMITS

The sections covered in this Corridor have a maximum permissible weight of 20 Tonnes per axle.

2.9.1.7 CROSSING LOOPS

The sections that are covered in this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.9.1.8 LINE SPEEDS

The sections are governed by different speed limits, typically a maximum of 70 km/h for light air brake trains, a maximum of 90 km/h for passenger trains and a maximum of 60 km/h for vacuum brake trains Trains.

2.9.1.9 SECTION LENGTHS

The sections have different lengths which are determined by the sections between signals, length of loops and sidings. Details on the section lengths can be seen in **Annexure 6 (Simplified Classification File)**

2.9.1.10 OVERHEAD TRACTION CURRENT

The sections covered in this Corridor use 3 kV DC power supply, with some sections not electrified. The sections use a combination of diesel and 3 kV DC, due to OHTE theft and diesel Locomotives currently in operation in some area (Hawerklip line, Voelfontein line and Lichtenburg line).

2.9.1.11 SIGNALLING SYSTEM

This is the Gauteng Hub which consist of 113 controlled stations which use CS90 as the Remote-Control system, has Spoorplan, HR92 and Electronic Interlocking systems. The Track vacancy detection technologies installed is a mixture of ML, Jeumont, Aster, Reeds and AC track circuits, Siemens 350 U, Frauchers ACS200, Thales, Sel Silicon for axle counting.

For Train authorisation methods, these stations use colour lights signalling systems and a mixture of switchmatic, GEC, Siemens BSG 9, Westinghouse Martech and WBS points machines. Germiston Goods still uses mechanical interlocking to control the yard and Jupiter Station uses NFG interlocking which operates using the power frame with a panel of switches as a pushbutton and a diagram with illuminated indication.

The branch lines in the corridor including the lines going to the Botswana boarder use VDU Track Warrant System as a Train authorisation system which is a CS90 VDU that is configured to operate as a track warrant Train control system. It comprises the RTO which includes safe operating procedures, paper template forms, Train diagram sheets and the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train drivers and CS90 VDU workstation.

VDU track warrant

- The VDU track warrant is a CS90 VDU that is configured to operate as a track warrant Train control system.
- It is designed to manage sections between stations, complex station layouts, multiple lines and different levels of points-control (from no points control to remote points-control).
- It is based on the fact that the Radio Train Order (RTO) is still the primary authorisation system with the VDU track warrant as the supported authorisation system.
- It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train driver(s) and CS90 VDU workstation.

Control System 90 (the CS90)

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and Train worlds together to improve safety and efficiency.

Table 6 contains a summary of the centralised traffic control centres on the Central Corridor.

CTC location	Control area	Control method
Sentrarand	LUD – Katbosfontein	CS90 Colour Lights
	Ring Road	CS90 Colour Lights
	Katbosfontein – Slimesdam	CS90 Colour Lights
	Katbosfontein – Cowles dam	CS90 Colour Lights
	Sentrarand/Welgedag/Springs – Sybrand	CS90 Colour Lights
	Sentrarand/Welgedag/Springs – Rietvalley	CS90 Colour Lights
	Sentrarand/Welgedag/Springs– Union	CS90 Colour Lights
	Welgedag – Springs	CS90 Colour Lights
	Daggafontein	**Single Man Cabin (local Station Control)**
	Dunnottar	Single Man Cabin (local Station Control)
	Nigel	Single Man Cabin (local Station Control)
Union	Rietvalley – Rooikop	CS90 Colour Lights
	Withok - Rooikop	CS90 Colour Lights
	Rooikop- Natalspruit	CS90 Colour Lights
	Natalspruit- India/Germiston Goods	CS90 Colour Lights
	India	Single Man Cabin (local Station Control)
	Jupiter	Single Man Cabin (local Station Control)
	Germiston Goods	**Single Man Cabin (local Station Control)**
Waterval	Waterval	CS90 Colour Lights
	Veertien Strome- Mafikeng	CS90 VDU Track Warrant
	Pudimoe-Vermaas/ Ottosdal -Coligny/	CS90 VDU Track Warrant
	Lichtenburg- Coligny/ Makwassie-	CS90 VDU Track Warrant
	Klerksdorp	CS90 VDU Track Warrant
	Bank- Welverdiend Junction	CS90 VDU Track Warrant
	Krugersdorp- Battery	CS90 VDU Track Warrant

Table 6: Central Corridor Centralised Traffic Control Centres

2.9.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems:

- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and

- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains. Also Trunked radio network which is in metropolitan areas (Johannesburg), and it is also an alternative/backup to signalling for Train authorisations. Trunked radios are like cellular technology, allows group calls and is much more spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.9.3 PARTICULAR OPERATING ASPECTS

2.9.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered in this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.9.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling, and **Annexure 8 (Tunnel Restrictions)** shows the exact location of the tunnel and its length.

2.9.3.3 BRIDGE RESTRICTIONS

The network is limited by the initial designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3. **Annexure 9 (Bridge Class and Maximum Allowable Axle Mass)** shows the maximum axle loading per Rail Wagon, as well as the corresponding bridge class per section (see Table 2).

2.9.4 CONDITION ASSESSMENT SYSTEMS

This section describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The selected Corridor has the following Condition Assessment Systems:

- Thirty-one (31) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- One (1) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.

- Two hundred and six (206) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.
- One (1) Skew Bogie Detectors that detect skew bogies by measuring the lateral forces and gauge spreading forces, exerted by the wheels on the track.
- One (1) Wheel Impact Monitors - Weighing In-motion System that measures the wheel impact of each wheel on a railway vehicle and reports alarm conditions. The secondary functions of the WIM-WIM are to measure the mass of the vehicle and determine the load distribution of each Rail Wagon (skew/over loading). Furthermore, it measures the lateral forces exerted on the rail caused typically by lateral creep and wheel flange forces by rail wheels.

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and description)** tables the descriptive function of each CAS system.

2.9.5 NETWORK CONDITION

Some of the corridor traction and distribution substations that are offload due to theft and vandalism. The Vereeniging to Fochville, Klerksdorp to Transcape, Welgedag via Sentrarand to Leeufontein lines have been facing severe theft of OHTE cables. Some of the signalling systems including some relay rooms and trackside equipment along the corridor: Sentrarand to Ogies, Vereeniging to Germiston, Potchefstroom to Transcape are not operational due to theft and vandalism.

The deterioration of track condition in some areas along the corridor has led to implementation of speed restrictions. The corridor's slot capacity has been reduced by implemented speed restrictions and a manual authorisation system that is used for Train traffic control while the repair work continues.

The IM re-assesses network condition periodically. The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network

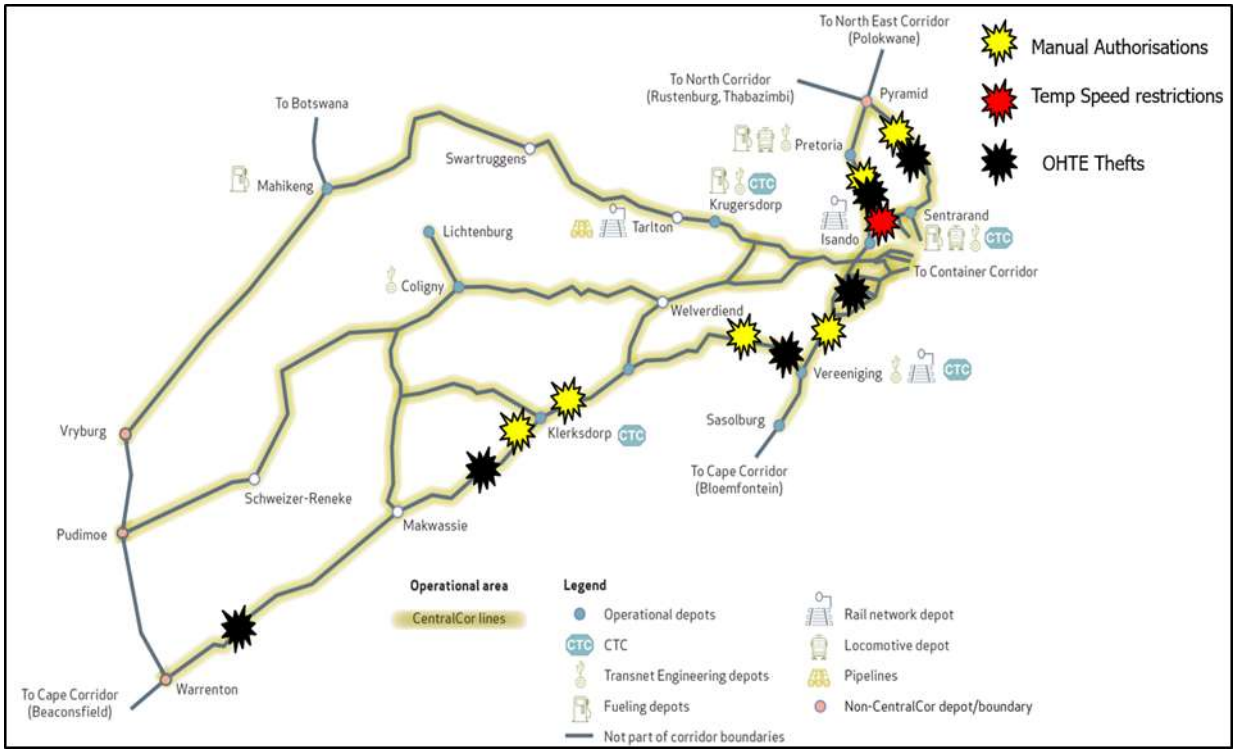


Figure 22: Network Condition Central Corridor
(Source: Transnet)

condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include which part of which network sections will be subject to which speed restrictions, where in each section manual authorisations will be in place, and any temporarily unavailable network sections.

2.9.6 CURRENT STATE OF SECURITY

Slot capacity utilisation in the Central Corridor is reduced due to OHTE and signal cabling theft across the network; in the previous year the number of security incidents amounted to 2 021 and were averaging six per day.

Incidents in the Central Corridor include OHTE and Signal cable theft, robberies, vandalism and theft of Perway components such as fastenings and wooden sleepers. Community unrests and community encroachments are also common in the corridor.

Security service providers will enforce a mix of physical guarding, armed response teams, and interventions to address organised crime groupings behind the illicit copper market.

2.9.7 SUSTAINING MAINTENANCE PROJECTS

2.9.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities, which include occupations (Planned and unplanned) that the City Deep to Durban route (Union to Bayhead) takes every first Monday of the month for 12 hours, which affects the movement of Trains and other maintenance occupations.

2.9.7.2 SHUTDOWN SCOPE AND SCHEDULES

This Corridor covers Five (5) maintenance depots that are scheduled in the same period, grouped as the Container corridor shutdown. The maintenance shutdown will be executed by Isando, Ladysmith, Durban, Heidelberg, and Vereeniging. The sections covered in these depots are:

- Cowlesdam - Withok;
- Glencoe - Rushbrook,
- Kroonstad - Harrismith - Danskraal;
- Vryheid station – Ladysmith;
- Pietermaritzburg - Bayhead Yard;
- Rooikop - Glencoe and
- City deep / Kaserne - Rooikop.

2.10 CONTAINER CORRIDOR

2.10.1 NETWORK DESCRIPTION

The Container Corridor is the backbone of South Africa's general freight rail transportation network, and its efficient and effective functioning is vital in facilitating economic growth for the country. The corridor is the rail artery to the port of Durban, playing a key role in linking the port of Durban to the hinterland in addition to linking inland freight terminals servicing the broader Gauteng area and neighbouring countries. This section of the Network Statement covers those portions of the Network that comprise the Container Corridor as indicated in Figures 23 and 24.

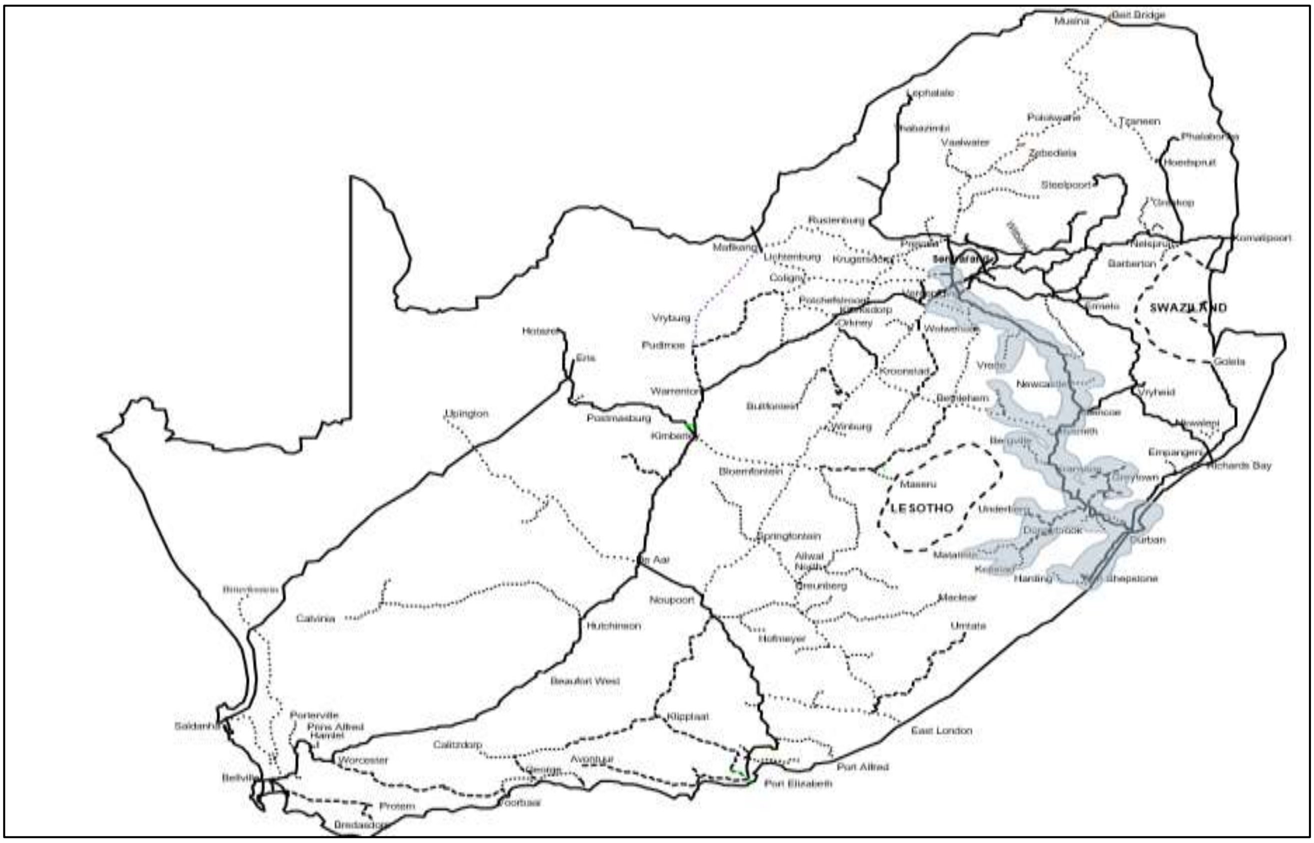


Figure 23: Container Corridor Demarcation Map
(Source: Transnet)

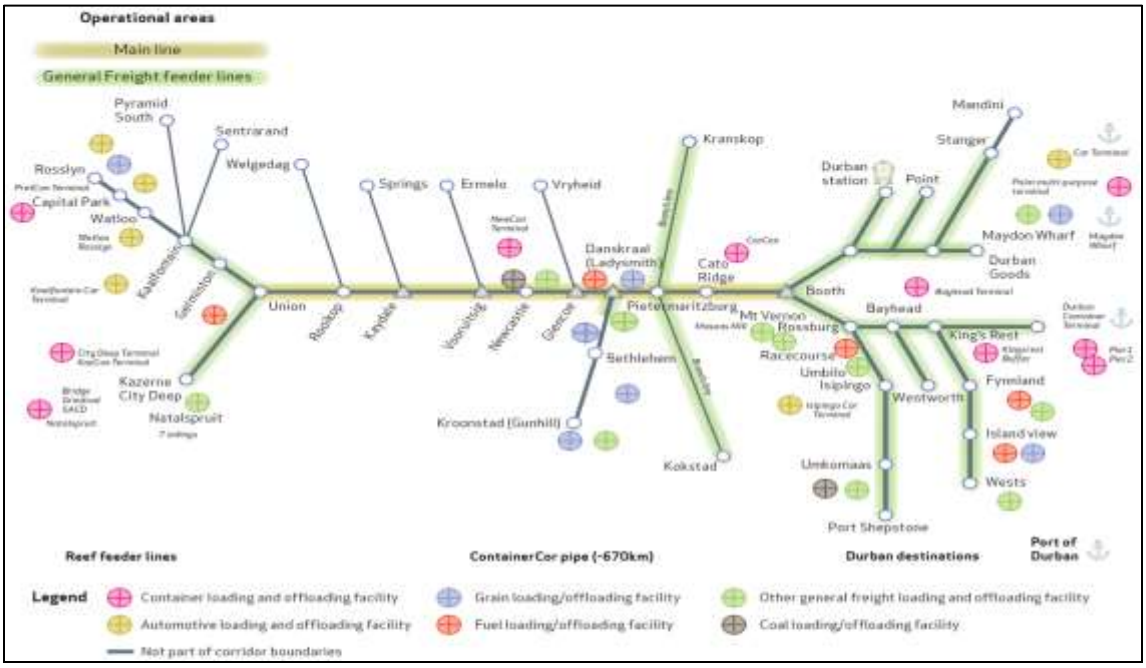


Figure 24: Container Corridor key lines
(Source: Transnet)

2.10.1.1 LIMITS

Parts of the Rail Infrastructure network have interfaces with PRASA. Figures 25 and 26 indicate the interface areas with PRASA on the selected routes. Further details on the IM and PRASA Network can be found in **Annexure 12 (Depot Boundaries detail diagrams).**

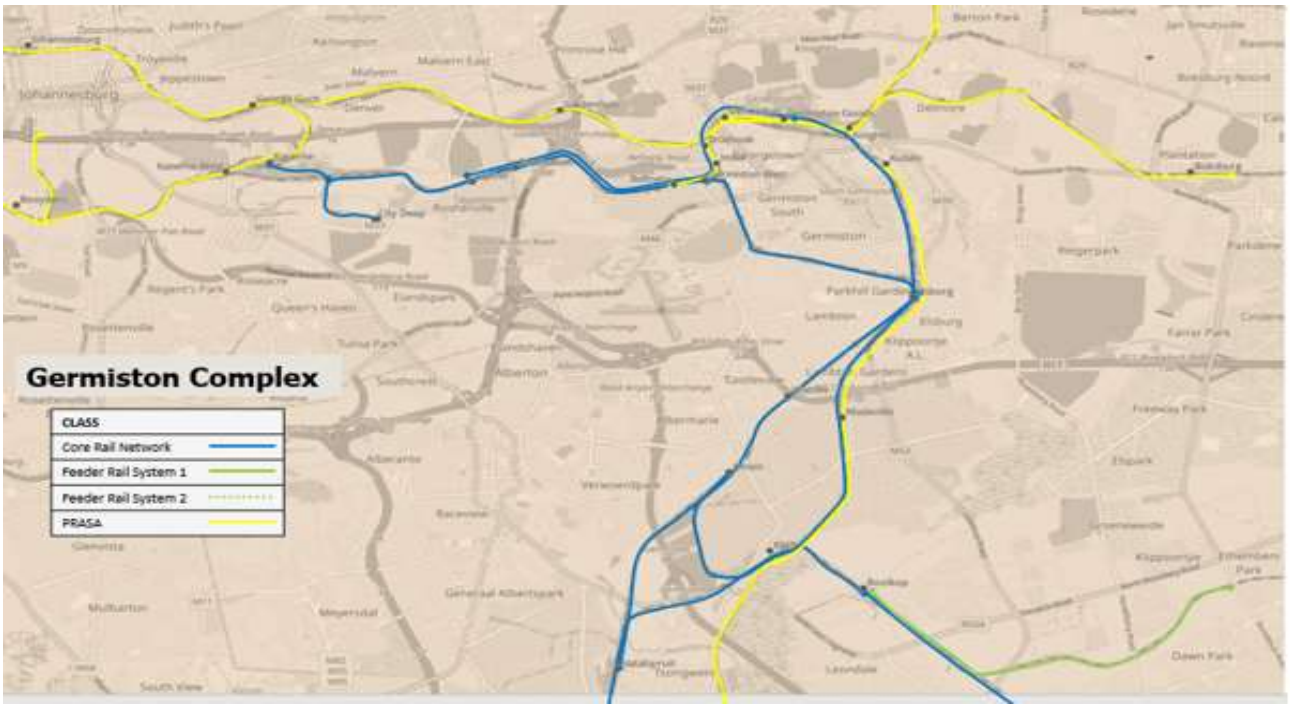


Figure 25: Germiston area with Prasa interface
(S*ource: Transnet)*

Figure 26: eThekwini area with Prasa interface
(Source: Transnet)

2.10.1.2 LINE TYPES

The sections that are covered in this Corridor consist of single and double-line tracks.

On the City Deep to Durban route, the section Rooikop to Rietvallei is a single line and the rest of the sections on the route are double lines. These sections are classified as N1/N2/N3 lines. Union to Bayhead sections are classified as N1 lines. Danskraal to Bethlehem are classified as N2 lines.

See section 2.4 for further details on the different line classification types.

2.10.1.3 TRACK GAUGE

The sections covered by this Corridor operate to one nominal standard track gauge of 1 065mm.

2.10.1.4 MOVING GAUGE STRUCTURE

All traffic on the routes (and associated Locomotives/Rail Wagon) must comply with the clearances depicted in **annexures 2 (Track Structure Clearances)** and **3 (Track Structure Vehicle Gauges).**

2.10.1.5 CROSSING LOOPS

The number of loops on the different sections are indicated in **Annexure 4 (Crossing Loops).**

The crossing loops form a critical input element in determining slot capacity, and operating methodologies. The Container Corridor's Main Line crossing loops accommodate Trains that are limited to a maximum of 100 rail wagons.

2.10.1.6 LOAD LIMITS

The sections covered in this Corridor have a maximum permissible weight of 20 Tonnes per axle.

2.10.1.7 LINE GRADIENTS

The sections that are covered in this Corridor have different line gradients that will have a direct effect on the power to weight ratio necessary to operate a Train effectively and efficiently. Details on the line gradients are provided in **Annexure 5 (Line Gradients per Section)**.

2.10.1.8 LINE SPEEDS

The sections are governed by different speed limits, with passenger Trains being allowed to travel a maximum speed of 90km/h, air brake Trains 80km/h and vacuum brake Trains 60km/h.

2.10.1.9 SECTION LENGTHS

The sections have different lengths which are determined by the sections between signals, length of loops and sidings. Details on the section lengths can be seen in **Annexure 6 (Simplified Classification File).**

2.10.1.10 OVERHEAD TRACTION CURRENT

The sections covered in this Corridor use different traction currents, with some sections not electrified. The City Deep to Durban route uses 3 kV DC from Union to Bayhead and the section between Danskraal and Bethlehem.

The sections use a combination of diesel and 3 kV DC due to OHTE theft and diesel Locomotives currently in operations in some areas (Ladysmith).

2.10.1.11 SIGNALLING SYSTEM

The sections in this Corridor are controlled by one type of Train authorisation system, the control system (the CS90). The City Deep to Durban route uses the CS90 from Union to Booth Including Danskraal to Bethlehem.

VDU track warrant

- The VDU track warrant is a CS90 VDU that is configured to operate as a track warrant Train control system.
- It is designed to manage sections between stations, complex station layouts, multiple lines and different levels of points-control (from no points control to remote points-control).
- It is based on the fact that the Radio Train Order (RTO) is still the primary authorisation system with the VDU track warrant as the supported authorisation system.
- It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train driver(s) and CS90 VDU workstation.

Control System 90 (the CS90)

- The CS90 includes a desk diagram, VDU and remote control.
- The POC3 (OBC for colour light) development system was expanded to include the track warrant systems, original to interface and later to replace the track warrant and OBC viewer (ATW).
- The CS90 VDU is not only applicable to the colour light signalling and track warrant, but also includes automated yard control including hump and automated yard points control.
- IOOS links the Train control and Train worlds together to improve safety and efficiency.

The Main line from City Deep which is in Johannesburg Hub, bound for the Durban Hub KwaZulu Natal, consisting of 119 controlled stations which uses CS90 as the Remote-control system, Spoorplan as the Interlocking system. The Track vacancy detection technologies installed is a mixture of ML, Jeumont track circuits, Siemens 350 U and Frauchers ACS200 for axle counting. For Train authorization methods the section uses colour light signalling and a mixture of switchmatic, GEC and WBS points machines.

The branch lines in the section use VDU Track Warrant System as a Train authorization system which is a CS90 VDU that is configured to operate as a track warrant Train control system. It comprises the RTO which includes safe operating procedures, paper template forms and Train diagram sheets, as well as the UHF open channel Train radio system for communication between the relevant TCO and the relevant Train drivers and CS90 VDU workstation.

Refer to the summary of the centralised traffic control centres on the Central Corridor in Table 7.

CTC location	Control area	Control method
Durban	Mount Vernon- Delville Wood	CS90 Colour Lights
	Nshongweni - Ashburton	CS90 Colour Lights
	Pentrich - Pietermaritzburg	CS90 Colour Lights
	Jacobs - Fynnland	CS90 Colour Lights
	Bayhead Complex	CS90 Colour Lights
	Bayhead Complex – Rossburgh	CS90 Colour Lights
	Tongaat - Phoenix	CS90 Colour Lights
	Fraser- Stanger	CS90 Colour Lights

	Pietermaritzburg-Glenside/ Schroeders - Bruyns Hill Ravensworth - Kranskop/Chailey-Mount Alida Napier-Underberg Donnybrook junction -Kokstad/Franklin - Matatiele Pentrich - Richmond/Cato Ridge-Kloof Kelso- Port Shepstone/Umtentweni- Simuma	CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant CS90 VDU Track Warrant
Danskraal	Boughton - Pepworth Danskraal – Harrismith/ Danskraal – Vryheid	CS90 Colour Lights CS90 VDU Track Warrant
New Castle	Elandslaagte - Vooruitsig	CS90 Colour Lights
Standerton	Sandspruit - Rietvallei	CS90 Colour Lights

Table 7: Container Corridor Centralised Traffic Control Centres

2.10.2 COMMUNICATION SYSTEM

The IM's telecommunication system is divided into radio and transmission.

The telecommunication system has a network that runs on underground copper cables, microwave radio links, UHF radio systems, optical fibre cables, a transmission network, and offers network management systems for the below mission critical services, including:

Remote control signalling, block circuits, axle counters, hot bearing detectors, and trackside measurement systems;

- Fail safe data transmission for Train authorization (also including CS90, DED, WILMA, and UBRD);
- Train radio systems, trunked radio, radio Train order for radio communication activities such as Train authorisations, shunting activities, and maintenance activities;
- Tele-control of electrical substations;
- Transmission network carrying voice and data services; and
- Network management for network monitoring and supervision.

The Corridor has sections that are covered for communications between Train driver and TCO that are using the RTO, which is an open channel network where each section has a 3-frequency plan which requires voice exchange protocol to authorise Trains. Also Trunked radio network which is ai metropolitan areas (Durban, Pietermaritzburg, Ladysmith, New Castle and Heidelburg), and it is also an alternative/backup to signalling for Train authorisation. Trunked radio is similar to cellular technology allowing group calls and is much spectrum efficient.

Annexure 7 (Radio Communication Systems Map) shows Trunking Hi-Sites and Radio Train Order (RTO) Hi-Sites used by TFR for communications.

2.10.3 PARTICULAR OPERATING ASPECTS

2.10.3.1 ENVIRONMENTAL RESTRICTIONS

The operation of Trains on the sections that are covered by this Corridor is subject to the requirements of the applicable laws, particularly environmental laws.

2.10.3.2 TUNNEL RESTRICTIONS

The conditions applicable to Trains passing through certain tunnels are given in the operating documents for the lines concerned or indicated by means of wayside signalling, and **Annexure 8 (Tunnel Restrictions).** shows the exact location of the tunnel and its length.

2.10.3.3 BRIDGE RESTRICTIONS

The network is limited by the initial designs of major civil assets, and as such each route section follows specifications that have reviewed and assessed their limitations. Table 2 describes the bridge classes and their corresponding axle loadings as per BFF 9327 V3. **Annexure 9 (Bridge Class and Maximum Allowable Axle Mass)** shows the maximum axle loading per Rail Wagon, as well as the corresponding bridge class per section (see Table 2)

2.10.4 CONDITION ASSESSMENT SYSTEMS

This section describes the different types of Condition Assessment Systems that the IM uses to monitor the condition of Rolling Stock running on the network as well as the condition of the infrastructure assets. The selection of the technologies deployed is informed by various factors ranging from operational need to industry capabilities and development effort. The benefit of condition monitoring has primarily been the provision of early warning safety information on pending critical failure of Rolling Stock or rail infrastructure.

The selected Corridor has the following Condition Assessment Systems:

- Thirty-eight (38) Hotbox Bearing Evaluator and Detector Systems that provide an alarm system when a bearing has exceeded a prescribed temperature limit before the bearing will fail and might cause a derailment. There are alarm types, namely type 3 (stop Train), type 2 (continue to station) or type 1 (continue to maintenance depot) where the Rail Wagon with the detected bearing fault will be removed from the Train consist.
- Three (3) Assized Weighbridges that measure the total mass of a Rail Wagon, the total mass of each bogie and the total mass of each side (left or right) automatically while a Train is moving over the system. The data from the AWIMS will thus be used for both condition monitoring and commercial purposes.
- One hundred and seventy-two (172) Vehicle Identification Systems that determine vehicle consist information at predefined trackside positions, couple the vehicle consist information to Train numbers obtained from the TMS and make the consist information available to operational systems, maintenance systems and measurement systems.
- Two (2) Skew Bogie Detectors that detect skew bogies by measuring the lateral forces and gauge spreading forces, exerted by the wheels on the track.
- Two (2) Wheel Impact Monitors- Weighing In-motion System that measures the wheel impact of each wheel on a railway vehicle and reports alarm conditions. The secondary functions of the WIM-WIM are to measure the mass of the vehicle and determine the load distribution of each Rail Wagon (skew/over loading). Furthermore, it measures the lateral forces exerted on the rail caused typically by lateral creep and wheel flange forces by rail wheels.
- One (1) Acoustic Bearing monitor which provide early warning/predictive failures of the bearing and thereby also reduce the number of hot bearing detectors required per line.

Annexure 10 (CAS Systems) shows Condition Assessment Systems (CAS) used as track side signalling equipment and **Annexure 11 (CAS System Abbreviation and description)** tables the descriptive function of each CAS system.

2.10.5 NETWORK CONDITION

Repair works following the 2022 floods, impacting the KZN area, continued into the 2023/24 financial year.

The corridor has an TQI 50th percentile around 9,95. Poorer track quality has been measured along N2 section of Kaserne – Rooikop (11) and the mountainous topographic area of Rushbrook – Booth (11.3) plagued with curves as sharp as 250m radius.

The corridor has a traction and distribution availability of 75% and 73% respectively. A portion of the substations (52%) are offline due to theft and vandalism. The Ladysmith depot has been facing severe theft of OHTE cables which have resulted in a single line of around 130km requiring reinstatement from the start of the financial year, which have now been reinstated.

A portion of the relay rooms along the corridor (18%) are not operational due to theft and vandalism with 3% of relays rooms not operational due to damages incurred during the floods.

The IM re-assesses network condition periodically. The latest updated network condition assessment documents will be updated quarterly, monthly and weekly and will be published on the IM website. The latest network condition information per network section can also be made available to applicants on request, or when major service disruptions occur. Published network condition details will include which part of which network sections will be subject to which speed restrictions, where in each section manual authorisations will be in place, and any temporarily unavailable network sections.

The Corridor's slot capacity has been reduced by implemented speed restrictions and a manual authorisation system that is used for Train traffic control while the repair work continues.

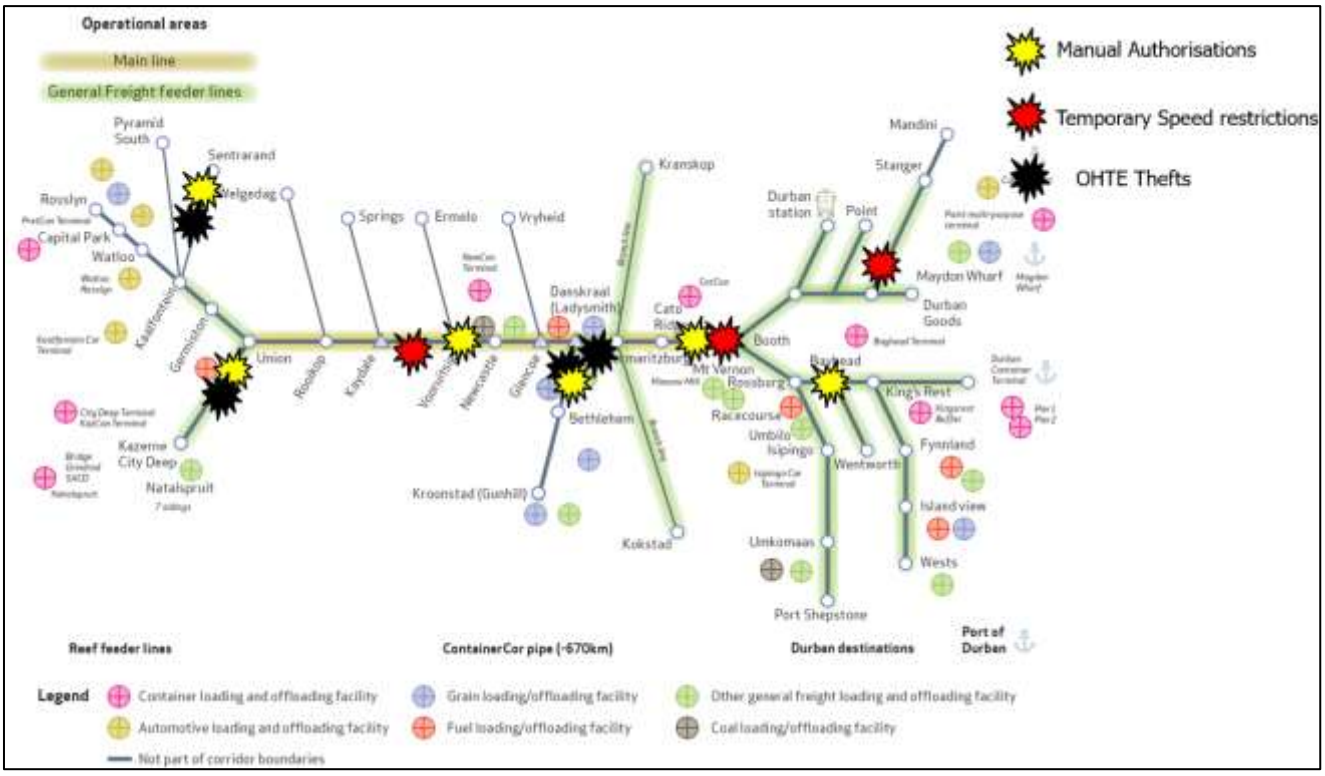


Figure 27: Network Condition Container Corridor
(Source: Transnet)

2.10.6 CURRENT STATE OF SECURITY

Security related incidents include:

- Community encroachment at Rooikop, KwaTandaza – Georgedale, Cliffdale station to Bux farm level-crossing, and Manzine tunnel to Klaarwater.
- Community unrest in Standerton, Estcourt, Frere, Rosetta and Cato Ridge; and
- Work stoppages by business forum in Bayhead, Greylingstad, Balfour North, Heidelberg and the South Coast.

Security service providers will enforce a mix of physical guarding, armed response teams, and interventions to address organised crime groupings behind the illicit copper market.

2.10.7 SUSTAINING MAINTENANCE PROJECTS

2.10.7.1 MAINTENANCE PLANS

The depots have daily maintenance activities, which include Planned Occupations that the City Deep to Durban route (Union to Bayhead) takes every first Monday of the month for 12 hours, which affects the movement of Trains and other maintenance occupations.

2.10.7.2 SHUTDOWN SCOPE AND SCHEDULES

This Corridor covers five (5) maintenance depots that have different schedules to execute their annual maintenance shutdowns. The maintenance shutdown will be executed by Isando, Ladysmith, Heidelberg, Vereeniging, and Durban depots. The sections covered in these depots are:

- Cowlesdam – Withok;
- Glencoe – Rushbrook;
- Kroonstad – Harrismith – Danskraal;
- Vryheid Station – Ladysmith;
- Pietermaritzburg – Bayhead Yard; and
- City Deep / Kaserne - Rooikop.

2.11 ROLLING STOCK SPECIFICATIONS

It is imperative that all Rolling Stock deployed by the TOC is in a rail worthy condition and must pass, as per SANS 3000 2-3 standards, all pre-departure inspections to enable the safe running of Trains on the IM's network.

TOCs will be required to undergo the process of verifying the Rolling Stock as outlined in paragraph 2.11 every time there is a new application of a change in the scope of services required by the TOC including changes of routes, extensions of routes, additions of routes to the service portfolio etc.

The TOC must ensure that all Rolling Stock (Locomotives, freight rail wagons and passenger coaches) conform to the following critical technical specifications:

- Rail gauge for the specific line.
- Not exceed axle load specification for the specific line.
- Electric Locomotives must conform to the overhead traction power supply.

TOCs must refer to the SANS 3000-1 series and RSR issued standards relevant to Rolling Stock available from SABS and the RSR respectively.

The RSR will provide future guidance on the registration of TOC Rolling Stock to the Luxembourg Rail Protocol Register.

2.11.1 LOCOMOTIVES

The electric Locomotives to be deployed/used by the TOCs must conform to Table 8 on technical dimensions.

Dimensions	3kV DC Locomotive	50kV DC Locomotive	Dual Voltage 3kV DC/25 kV AC Locomotive
Maximum vertical distance between top of rail and upper surface of new contact strips for pantograph in housed position	4 140 mm	3885 mm	4 140 mm
Maximum vertical distance between top of rail and upper surface of roof metal structure	3 965 mm	3885 mm	3 965 mm
Maximum vertical distance between top of rail and upper surface of other electrical roof equipment	4 120 mm	4000 mm	4 120 mm
Maximum width of pantograph mechanism measured transversely to either side of vehicle gauge centre line excluding width of pantograph collector head	1 020 mm	1000 mm	1 020 mm
Maximum outdoor earth clearance of high voltage roof equipment	915 mm	900 mm	915 mm
Minimum outdoor earth clearance of high voltage roof equipment	150 mm	250 mm	320 mm

Table 8: Technical dimensions
(Source: Transnet)

2.11.2 FIT TO INFRASTRUCTURE

The Train operator must take note of the specific axle loading limitations per network section, as well as the locations of all bridges and tunnels and their constraints.

All Rolling Stock on the routes must comply with the clearances depicted in **Annexures 2 (Track Structure Clearances) and 3 (Track Structure Vehicle Gauges).**

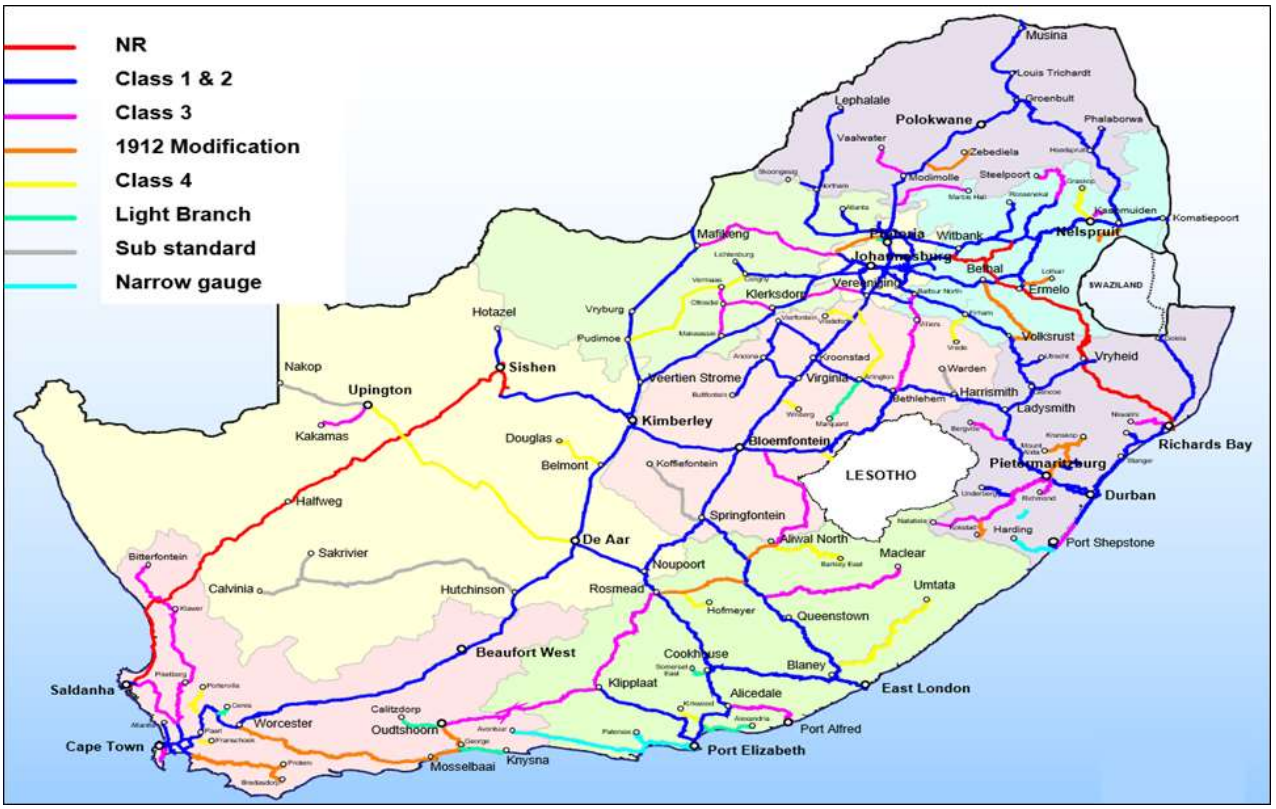


Figure 28: Classification of Railway Lines

2.12 ROLLING STOCK SAFETY-CRITICAL CONSIDERATIONS

It is important for TOCs to take note of these safety critical requirements stipulated in Table 9.

No	Safety critical	Description
a)	Brake systems	Brake systems, including compressor/exhauster to be fully functional with no overdue brake valves and brake frames. Physical Static Brake Test to be performed
b)	Wheel profiles	Wheel profiles as per specification RSE/TE/PRO/00/22 (Wheel and Axle Defect Identification Chart)
c)	Couplers	Coupler condition and operations, including cracks, opening, closing and releasing of couplers or missing components
d)	Bogies	Bogie condition, including cracks, broken springs, worn snubbers and rubber mountings
e)	Sanding operations	Sanding system to be fully functional
f)	Locomotive Dry Sequence Test	Locomotive, control system with contactors and relays to be fully functional
g)	Locomotive start-up	Locomotive to be started and all systems to be fully charged
h)	Locomotive motoring	Locomotive to be moved at least 10 metres
i)	Locomotive vigilance system	Vigilant system to be fully functional
j)	Electric locomotive pantograph	Fully functional with good condition pantograph strips
k)	Wagon body condition	No holes in superstructure, all doors operational, no protrusions exceeding the structure gauge
	Considerations during Inspection	
l)	Locomotive start-up	Locomotive to be started and all systems to be fully charged
m)	Locomotive motoring	Locomotive to be moved at least 10 metres
n)	Wagon safety	The Rail Wagon(s) do not pose an environmental threat, e.g., in case of dangerous goods and leaking wagons

Table 9: Safety Critical Considerations (Source: Transnet)

2.13 OTHER ROLLING STOCK TECHNICAL SPECIFICATIONS

2.13.1 ELECTRIC LOCOMOTIVES INTERFACE WITH OHTE

It is imperative that where a TOC is operating electric Locomotives, the interface in terms of the pantograph must conform to the Transnet specification (BBG1285) as stated in **Annexure 13 (Pantgraph Specification)**. TOCs requiring fuelling facilities should comply with Nozzle specifications stated in **Annexure 14 (Diesel Nozzle Specification)**.

2.14 OTHER ROLLING STOCK QUALITY SYSTEM REQUIREMENTS TO CONSIDER

This section describes the minimum quality compliance requirements that the rail operators shall meet to ensure compliance with the regulatory expectations of the IM.

Network operators are required by the Railway Safety Regulator to ensure that Rolling Stock that is used on their network is compatible with the network configuration and meets minimum safety requirements.

In the event where, during the contract, the TOC's Quality Management System fails and such failure is brought to the IM's attention, the IM reserves the right to suspend all activities and issue a stop certificate to the TOC and any service providers to ensure safe operation on the network.

It is an essential requirement that the TOC supplies the necessary corrective action to the IM in cases when a non-conformance is raised against the TOC for operation of defective Rolling Stock.

Although the IM reserves the right to inspect/audit/survey all Rolling Stock, it is the sole responsibility of the TOC to ensure that all Rolling Stock and equipment fitted to Rolling Stock, whether self-supplied or any sub-contractor, comply with the specified requirements.

It is an essential requirement that the IM reserves the right to reject any non-conforming Rolling Stock or equipment. This shall be done in the form of a written report/notice to the competent person responsible for quality management on behalf of the TOC.

The TOC shall under these circumstances re-inspect/re-test all such rejected Rolling Stock or equipment and shall not put such reinspected/retested Rolling Stock or equipment to any use until such time as the Rolling Stock or equipment concerned has been accepted in writing by the IM.

The IM may also require the TOC to satisfactorily prove the correctness of all material of the type found to be unsuitable by the IM.

It is an essential requirement that, notwithstanding any acceptance certificate and/or receipt that may have been previously issued by the IM, the IM retains the right to reject the Rolling Stock supplied before or after they have been placed in use should they be found not to conform to relevant specifications.

Any TOC wishing to introduce new Rolling Stock onto the network or make a change to the operation or engineering of existing Rolling Stock must consider the effect of this on all other operators and on the IM and make appropriate submissions to the Railway Safety Regulator.

To help the IM in the discharge of this duty, a compatibility consultation process will be undertaken, which provides a structured mechanism for assessing and agreeing any capacity, safety, regulatory and commercial issues that exist between the Infrastructure Manager and the TOCs.

The abovementioned consultation process is required for:

- The introduction of new rail vehicles;
- The extension of route(s) for existing vehicles;
- Substantial alterations to vehicles; and
- The addition of vehicles with route clearance to vehicles permitted under a track access contract.

There are two processes involved:

- A demonstration of compatibility between a vehicle and the routes over which a TOC operator wishes to operate it.
- Vehicle change which deals with the commercial issues associated with the introduction of new vehicles, or new routes for existing vehicles.

In all the cases outlined above, the vehicle change process must be completed. The demonstration of compatibility process is required only where the introduction of a new Train, change to a Train with potential to affect compatibility with infrastructure or other TOCs, or the extension of route(s) for existing types of Trains is planned.

In addition to this, TOCs must arrange for new vehicles to be assessed to prove that they are compliant with all relevant standards and specifications, including technical specifications. The provision of this evidence facilitates an efficient compatibility assessment.

An important consideration for the introduction of new Rolling Stock is its dynamic fit within the loading gauge of the network, i.e., the physical space provided above rail level by structures such as tunnels, bridges and platforms.

However, owing to the complexity of the subject, any party considering introducing new or modified vehicles is advised not to rely solely on written sources to guide their design. It is essential that they make early contact to discuss their plans and seek guidance from the IM.

When new or modified freight Locomotives and rail wagons are being brought onto the network, it is important not to make assumptions regarding the extent to which standard gauges may be relied upon.

The technical interface design compliance requirements for Rolling Stock interfacing with infrastructure and shunting locomotives used by yard operators shall be proven (by means of technical documentation and/or physical tests) during scheduled technical compliance reviews with the IM based on the minimum technical requirements specifications.

The specifications for shunting Rolling Stock currently operated within IM managed yards are outlined in specification documents number BBD 8678, BBG 8440, BBH 0359 and BBH 3865 provided as **Annexure 23 (Shunting Rolling Stock Specifications for Yards)**.

Should standard and/or service-proven designs for the Rolling Stock and/or equipment be proposed, an exemption from submitting detailed design documentation and test reports will be considered based on evidence provided.

Final permission to release the Rolling Stock into active service is subject to having received a 'No Objection' submittal review from the Railway Safety Regulator.

When submitting the specifications of their Rolling Stock, TOCs are to ensure that the vehicle axle patterns for both Locomotives and rail wagons are clearly specified as these details will be required in order to configure the Condition Assessment Systems, therefore enabling any privately owned Rolling Stock to be used on the rail network. The following detail is critical for the configuration of the CAS systems, hence enabling the tracking of the Rolling Stock:

- Vehicle type (locomotive and/or rail wagon)
- Sample of the vehicle numbers
- Schematic diagrams showing the axle spacing in metres.
- Wheel profile
- Vehicle Identification System transponder/tag
- Uncoupling mechanism available at edge of Rolling stock both ends

CHAPTER 3: RAIL NETWORK ACCESS REQUIREMENTS

3. CHAPTER 3 ACCESS REQUIREMENTS

3.1. INTRODUCTION

Chapter 3 sets out some of the key legal and regulatory requirements relating to the granting of Access by the IM to a TOC. Chapter 3 also describes certain key legal requirements applicable to Applicants and TOCs, and the contractual arrangements which are applicable to TOCs including the Rail Access Agreement.

3.2. GENERAL ACCESS REQUIREMENTS

3.2.1. REQUIREMENTS APPLICABLE TO APPLICANTS

For the submission of an offer to conclude a Rail Access Agreement with the IM pursuant to the Network Statement, the Applicant must have submitted a fully completed Application in accordance with the procedural and substantive requirements set out in detail in Chapter 4 of the Network Statement.

3.3. REQUIREMENTS FOR THE GRANTING OF ACCESS TO THE NETWORK

3.3.1. TOC SAFETY PERMIT

It is an offence to act as a Train operator without holding a valid Safety Permit issued in terms of the RSR Act.

In terms of Chapter 4, section 22 of the RSR Act, "A person may not undertake any railway operation or a component of a railway operation without being in possession of an applicable safety permit".

A Safety Permit is a licence issued by the RSR in the form of a document, to eligible Network Operators, Train operators, station operators and other categories of persons designated as requiring a Safety Permit by the Minister of Transport in terms of the RSR Act.

Further details on Safety Permits can be obtained from the RSR website.

TOCs operating on the Network at the Publication Date either have a three-year Safety Permit or a five-year Safety Permit. The Safety Permit for a class A or class B Train operator is valid for three years. The Safety Permit for a class C Train operator is valid for five years. See below for details on allocation of "classes".

Classes are allocated as follows by the Rail Safety Regulator:

- Class A: Train operators which move more than 500 000 (five hundred thousand) Tonnes of general freight or 50 000 (fifty thousand) or more Tonnes of dangerous goods per annum.
- Class B: Train operators which move between 200 000 (two hundred thousand) and 500 000 (five hundred thousand) Tonnes of general freight, or less than 50 000 (fifty thousand) Tonnes of dangerous goods per annum, or which move tourists.
- Class C: Train operators which move less than 200 000 Tonnes of general freight per annum.

In the years following the initial issue of a Safety Permit, a TOC is required to submit its Annual Safety Improvement Plan (ASIP) to the Rail Safety Regulator, to ensure the TOCs commitment to continual safety improvement.

- Existing or currently active Train operators who want to continue to provide Transport Services beyond the term of their current Safety Permit. They need to apply to the Rail Safety Regulator at least 90 (ninety) days prior to the date of expiry of their existing Safety Permit.

- New Train operators, i.e., an Applicant that intends to seek Access in accordance with this Network Statement. The application for a Safety Permit should be submitted to the Rail Safety Regulator [at least 90 (ninety) days or three months prior to the planned commencement date].

The holder of a Safety Permit is required at all times to comply with their obligations in terms of the Safety Permit.

By virtue of applying, the Applicant is understood by the IM to confirm that the Applicant is familiar with and shall comply with the RSR Act and all other Applicable Laws.

3.3.2. OTHER TYPES OF SAFETY PERMITS

The following are other types of Safety Permits:

- Temporary Safety Permit (TSP) is a Safety Permit issued only to currently active TOCs, for Train operations not covered by an existing Safety Permit and as an interim arrangement, pending the application for and issuing of the relevant Safety Permit to be issued in terms of this RSR Act and applicable RSR Regulations. A TSP is valid for 6 (six) months.
- Construction Train Safety Permit (CTSP) is a Safety Permit issued to TOCs who are not in possession of a Safety Permit, but who are accountable and responsible for the operation of construction Trains and the construction of new railway infrastructure. The validity of a CTSP is project-based.
- Testing and commissioning Safety Permit (TCSP) is a Safety Permit issued to a TOC not in possession of a Safety Permit, but who is accountable and responsible for the operation of Trains for purposes of testing and commissioning new or upgraded Rolling Stock and new or upgraded railway infrastructure elements, including the impact thereof on existing Rolling Stock and railway infrastructure elements. The validity of a TCSP is project-based.

3.3.3. ENVIRONMENTAL REQUIREMENTS

A TOC must manage its operational activities and provide Transport Services in accordance with the requirements of section 28 of the National Environmental Management Act, 1998, as amended, and related provisions in other applicable legislation.

Environmental incidents must be reported, and managed, in accordance with section 30 of the National Environmental Management Act, 1998, and related provisions in other applicable legislation, and remediated within the appropriated timeframes.

A TOC will be required to submit an environmental management programme (EMPr) with its application.

3.3.4. COMPLIANCE WITH OTHER LEGISLATION

Specific reference in the Network Statement to any legislation, or any provision of any legislation, is to draw the TOCs attention thereto and shall not derogate from or diminish the TOCs general obligation to comply with all Applicable Laws in force at all times.

3.4. OPERATIONAL RULES

3.4.1. RAILWAY TECHNICAL SPECIFICATION

Railway group standards are technical standards and operating procedures contributing to safe railway system operation and interworking, compliance with which is mandatory. These standards are issued by the Safety Regulator and can be accessed on the RSR website.

In addition, the IM has its own standards that are applicable to TOCs and their suppliers. These IM standards are available on the Transnet website.

3.4.2. NATIONAL SAFETY RULES

The RSR Act and Regulations require the safety management systems of the IM and of TOCs to be "established to ensure that the Main Line railway system is in conformance with relevant national safety rules and relevant safety".

3.4.3. TRAIN LOADS (AND LENGTHS)

The permitted maximum carrying capacity by weight and length of a Train are key parameters for a Network Operator's business. These dimensions vary according to the geography of the Network (i.e., gradients, curvature, signalling, track layout and other features).

The specifications set out by the IM in Chapter 2 of the Network Statement contain allowable Train Configuration specifications for all lines of the Network.

3.5. CONTRACTUAL ARRANGEMENTS

3.5.1. CONTRACTUAL ARRANGEMENTS WITH THE IM

TOCs which are granted Access pursuant to an application made in accordance with Chapter 4 of the Network Statement, must enter into a Rail Access Agreement with the IM, in respect of the Slot capacity allocated to them and the Transport Services to be provided by them.

No TOC will be permitted to provide any Transport Services until it has entered into a Rail Access Agreement with the IM and that Rail Access Agreement has come into full operation in accordance with its terms.

By virtue of entering into a Rail Access Agreement with the IM, the terms and conditions of the Network Statement will be binding on the TOC.

3.5.2. SUMMARY OF KEY PROVISIONS OF THE RAIL ACCESS AGREEMENT

Refer to **Annexure 15 (Rail Access Agreement**)

3.5.3. CONTRACTS WITH OTHER STAKEHOLDERS

The nature of the South African rail infrastructure is such that there is integration between the freight rail and the passenger rail network.

TOCs must apply for access on PRASA network directly with PRASA.

3.6. PROVISIONS GOVERNING THE PERSONNEL EMPLOYED BY TOCS

3.6.1. GENERAL ACCESS REQUIREMENTS (PERSONNEL)

TOCs are required to comply with various legislative requirements. Some of the relevant key pieces of legislation and statutory bodies include:

- Labour Relations Act, 66 of 1995 as amended
- National Railway Safety Regulator Act, 16 of 2002 as amended
- South African National Standards 3000-4 (SANS 3000-4)
- Basic Conditions of Employment Act, 75 of 1997 (BCEA) as amended
- Skills Development Act, 97 of 1998 (SDA) as amended
- Occupational Health and Safety Act, 85 of 1993 (OHSA) as amended
- Transport Education and Training Authority (TETA)
- Quality Council for Trades and Occupations (QCTO)
- Engineering Council of South Africa (ECSA)
- Code of Practice for Medical Surveillance

TOCs shall be responsible for employing, at their own cost, all Personnel required for the purposes of providing the Transport Services and shall be responsible for all wages, salaries, entitlements to pension contributions and other benefits of such Personnel.

TOCs and their agents, representatives, contractors, service providers and subcontractors, if any, shall comply with all Applicable Laws (including all labour related Applicable Laws) and all Applicable Requirements.

The Personnel that are employed by TOCs shall be properly qualified, experienced and competent to perform the work assigned to them and, where appropriate, shall ensure that their Personnel are appropriately Certified.

TOCs shall ensure, at all times, that there is a sufficient number of Personnel staff (including all relevant supervisory grades) engaged in the provision of the Transport Services.

TOCs shall procure that all relevant Personnel undergo and complete the training required for initial qualification and shall procure that all Personnel undertake periodic assessments and re-assessments of the proficiency of all such Personnel.

The IM shall be entitled to require the removal by TOCs of any Personnel, agents, representatives, contractors, service providers and/or subcontractors, or any of their respective Personnel, agents or representatives, from the Network or to prevent such Personnel, agents, representatives, contractors, service providers and/or subcontractors from Accessing or entering the Network. if any such Personnel, agents, representatives or subcontractors engage in any conduct which may threaten public health, or the safety or security of the Network.

3.6.2. EMPLOYMENT LAWS, REGULATIONS AND STANDARDS

The TOCs must comply with all applicable employment laws, regulations and standards of the republic of South Africa.

3.6.3. PERSONNEL COMPETENCE, LICENSING AND MEDICAL FITNESS

TOCs are required to ensure that their staff/employees who perform safety-critical duties that involve the movement of Trains are trained, competent, have valid licences and are medically fit to perform such duties at all times. For Train crews, the licensing and competence requirements include locomotive and route(s) knowledge.

The aforementioned will ensure compliance with the Human Factors Standards as detailed under section 6 of the RSR SANS 3000-4. The following are some of the key aspects of SANS 3000-4 that contribute to the awarding and maintenance of the Rail Operating Licence that is issued by the RSR.

3.6.4. TRAINING, CERTIFICATION AND LICENSING

According to SANS 3000-4, "The operator shall ensure that employees who undertake safety critical and safety-related work are in possession of a:

(a) Valid certificate of competence;
(b) Qualification, where relevant; and
(c) Valid licence, where relevant".

Furthermore, the operator shall not allow employees younger than 21 years of age to undertake Train Driver or Train Control duties. (SANS 3000, par 6.2.6.8).

Prior to the TOC employees being allowed to operate on the network, the aforementioned licensing and certification requirements will have to be satisfied. To ensure compliance, competency confirmation will be conducted in line with the Faculty of Rail (FoR) training and licensing standards on behalf of the IM.

The TOC may approach the FoR to arrange for the training and certification of its employees to close the gaps identified during the competency confirmation process. Such arrangement will be guided and regulated by a Service Level Agreement (SLA) that will be entered into with the FoR.

The TOC may be required to enter into a training SLA with FoR for training of its employees in different disciplines, as may be identified and required. The SLA will cover all the conditions that include legal aspects, training programme duration and the training cost. The training costs are market-related and based on the FoR costing model.

For more information relating to the above, the following documents are attached as Annexures:
- **Annexure 16:** FoR team contact details

3.7. CORRUPT ACTS AND ANTI-CORRUPTION MEASURES

3.7.1. CORRUPT ACTS

The Parties acknowledge and agree that it is necessary to prevent the occurrence of Corrupt Acts in relation to this Network Statement, any Application and the Rail Access Agreement.

As such:

(a) as soon as any TOC becomes aware that any of its shareholders, directors, employees, agents, representatives, contractors, subcontractors, subsidiaries, co-subsidiaries or holding company (or anyone

employed by or acting on behalf of any of them, including an Applicant's or a TOCs subcontractors, subsidiaries, co-subsidiaries or holding company), has committed or intends to commit a Corrupt Act, such Party shall immediately:

- notify the IM of the occurrence of the Corrupt Act or of the intention to commit such Corrupt Act, as applicable;
- take reasonable steps to procure the immediate cessation of the Corrupt Act or to prevent the occurrence of the Corrupt Act in question, as applicable;
- take reasonable steps to initiate and pursue disciplinary action and any steps which may be required in terms of any Applicable Laws, against the relevant employee involved or implicated in the commission of or the intention to commit the Corrupt Act in question and/or cease or terminate any further involvement of the relevant agent, representative, contractor, subcontractor, subsidiary, co-subsidiary or holding company in connection with this Network Statement, any Application and the Rail Access Agreement; and

(b) as soon as any Applicant or TOC becomes aware that any of the shareholders, directors, employees, agents, representatives, contractors, subcontractors, subsidiaries, co-subsidiaries or holding company of another Party has committed or intends to commit a Corrupt Act, such Party shall immediately notify the IM of the occurrence of the Corrupt Act or of the intention to commit such Corrupt Act, as applicable.

Should a Party fail or refuse to comply with its obligations in terms of this paragraph such failure or refusal shall constitute a material breach of this Network Statement.

The remedies of the Parties in terms of this paragraph shall be in addition to any other remedies which the relevant Parties may have in terms of any Applicable Law, this Network Statement and/or, if applicable, the Rail Access Agreement.

3.7.2. REPORTING A CORRUPT ACT

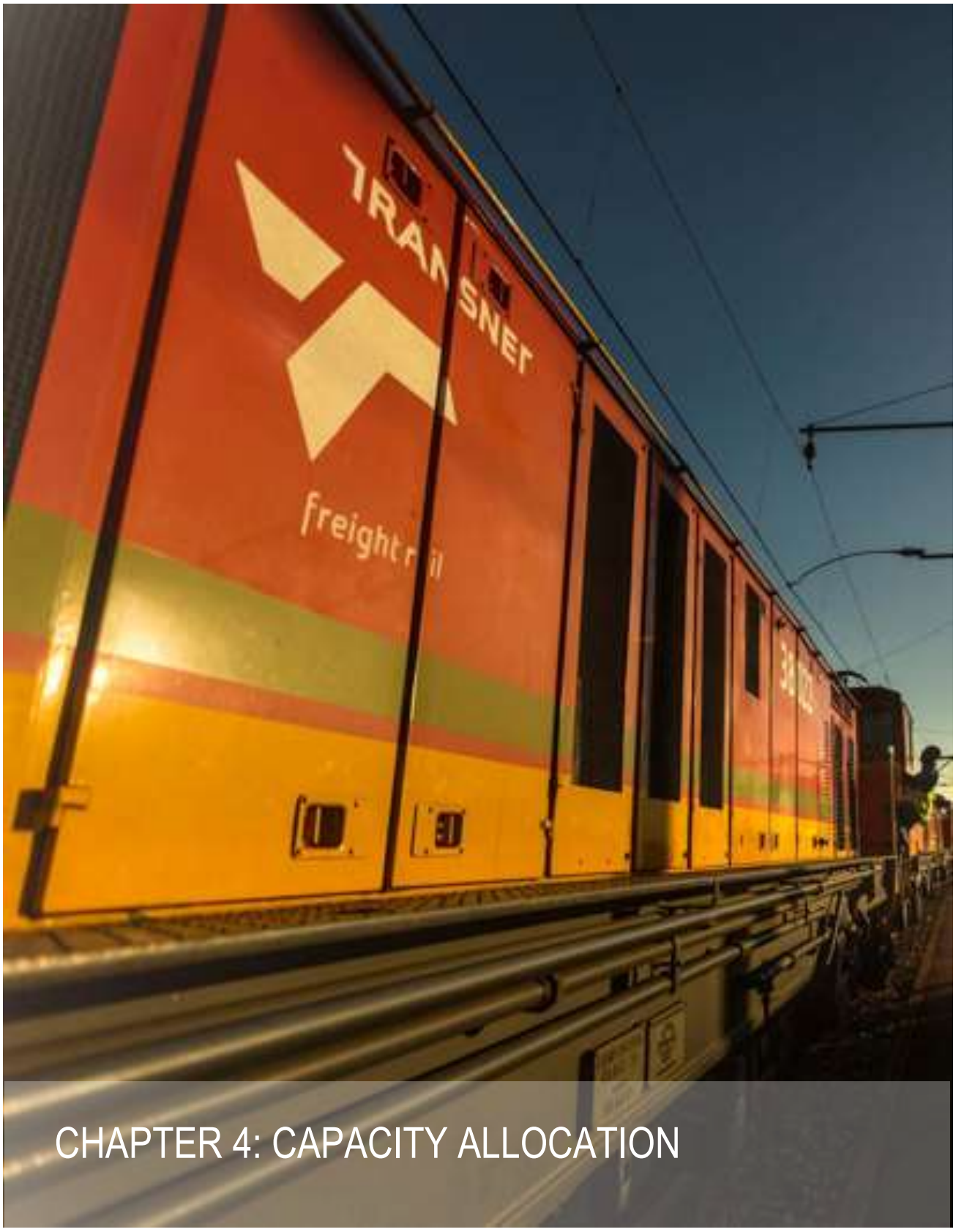
The Parties may report any potential or a Corrupt Act, at any time using one of the following methods *(to be confirmed in the final published version):*

(a) **IM**:

Telephone Number	[▪]
Email Address	[▪]
Physical Address (for registered post and/or courier)	[▪]
Direct Website Link	[▪]

(b) **TOC**:

Telephone Number	[■]
Email Address	[■]
Physical Address (for registered post and/or courier)	[■]
Direct Website Link	[■]



CHAPTER 4: CAPACITY ALLOCATION

4. CHAPTER 4: CAPACITY ALLOCATION

4.1. INTRODUCTION

The IM designs Train Paths by considering the prevailing condition of the rail infrastructure network and in combination with an array of generic Train Configurations to fulfil its mandate of availing capacity to TOCs.

The purpose of this chapter is to outline the process for application of slot capacity and the principles for allocating capacity to TOCs on the IM's rail infrastructure network.

The Train Paths that are made available include both the A and B network as described in Chapter 2. There are different access application processes for the A and B network. Paragraph 4.3 outlines the process for application and allocation of access on the A network and paragraph 4.4 outlines the approach for application and allocation of slots on the B network.

4.2. CAPACITY DEFINITION AND CALCULATION

Capacity refers to the rate at which Trains traverse through a designated uniform section of railway infrastructure per unit of time.

A Slot, which is generally defined as the length of time that is officially allowed for a single event in a planned order of activities or events, is in railway operation terms hereby referred to as a license that allows a TOC to execute the running of a Train on a specific section of track at a specific and predetermined timeframe.

The key factors that impact the determination of capacity (number of slots per section of network infrastructure) include a given Train's Configuration (Train size, length, speed, and number and type of Rolling Stock). Based on this, the definition of capacity for a given designated uniform section of a railway infrastructure network will differ owing to the application of different Train Configurations and the associated topology and configuration (e.g., Train authorization system & signalling, topographical arrangement of the section, and crossing loops, their lengths and positioning) of the said section.

For each relevant section, the minimum headway for that section is calculated. The daily number of Train slots (theoretical capacity) per section is determined by dividing 1 440 minutes with the applicable minimum headway per section. The longest running section (i.e., the section with the highest minimum headway or the section with the smallest number of slots) along a given Train route/path determines the capacity for that Train route/path. For practical reasons, 65% of the theoretical capacity is taken as the operational capacity, where 35% is set aside for maintenance and recovery. The reference to 65% operational capacity is a guideline for planning purposes, however, the percentage may differ per route. As the IM processes mature, the specific operational capacity per rail segment will be updated.

The IM follows a process that reviews capacity on a weekly basis to cater for changes in the network configuration and topology (e.g., where Temporary Speed Restrictions are imposed for safety purposes, or where manual Train authorisations are introduced owing to the long-term failure of Train control infrastructure, etc.). These changes are incorporated to review the operational capacity and take stock of the capacity as at a particular point owing to the associated changes. This reviewed operational capacity is herein referred to as practical capacity. Practical capacity is used as baseline for allocation to TOCs.

The IM will inform TOCs about significant changes in capacity throughout the timetable period, especially where there is a reduction in capacity. The reasons for the reduction in capacity shall be shared with the TOCs, and the IM will indicate the anticipated period by when the reduced capacity will be restored.

4.3. ANNUAL SLOT CAPACITY PLANNING

4.3.1. SLOT DEMAND MANAGEMENT

TOCs shall be granted, under equitable, non-discriminatory and transparent conditions, the right to access railway infrastructure for the purpose of conducting Transport Services. That right shall include access to infrastructure connecting maritime ports, Inland Terminals and other service facilities offered by the IM as outlined in Chapters 5 and 6 or Service Providers on behalf of the IM where required.

The infrastructure network and available capacity will be published online annually. This databased information portal contains relevant information about usable track sections, Rail Yards, line speed information etc.

The published infrastructure register is the basis for all timetable calculations and track occupancy for the annual timetable.

On the basis of designed Train Paths, allocation of capacity is done in a manner that ensures the best possible utilisation of the available infrastructure capacity, according to the regulations impacting on network access.

Applications for capacity must be submitted within the timelines prescribed by the IM in the year preceding the timetable period as specified in Table 10. Once applications are processed and capacity allocated, the TOC's operations will commence from 1 April to 31 March the following year. The Timetable Period is designed to coincide with the IM's financial reporting and planning cycle.

Based on the published data of the infrastructure register, every TOC can apply for the individual and regular timetables slots from 12 to 9 months before the annual timetable is implemented.

Applications for access by TOCs will be responded to within a reasonable time limit set by the IM and the Regulator.

Milestone	Dates
Publish of Network Statement	1 April Year J
Annual slot applications for following year timetable open	1 April – 30 June
Evaluation of Slot Applications and second phase of applications	1 July - 30 September
Notification and Consultation with Applicants	1 October – 30 November
Timetable for the following year published	1 February
Timetable for the following year and Operations commence	1 April Year J+1
Closing dates for capacity allocation revisions for next Quarter a. Quarter 2 timetable review: b. Quarter 3 timetable review: c. Quarter 4 timetable review:	31 June 31 September 31 December

Table 10: Timelines for Slot application

Outcomes and lessons learnt from the Route Logistics Forum will be taken into account when constructing the optimized Train Timetable for the next Timetable Period.

4.3.2. SLOT APPLICATION AND EVALUATION PROCESS

TOCs must follow the annual slot application and allocation process to submit requests for capacity to the IM.

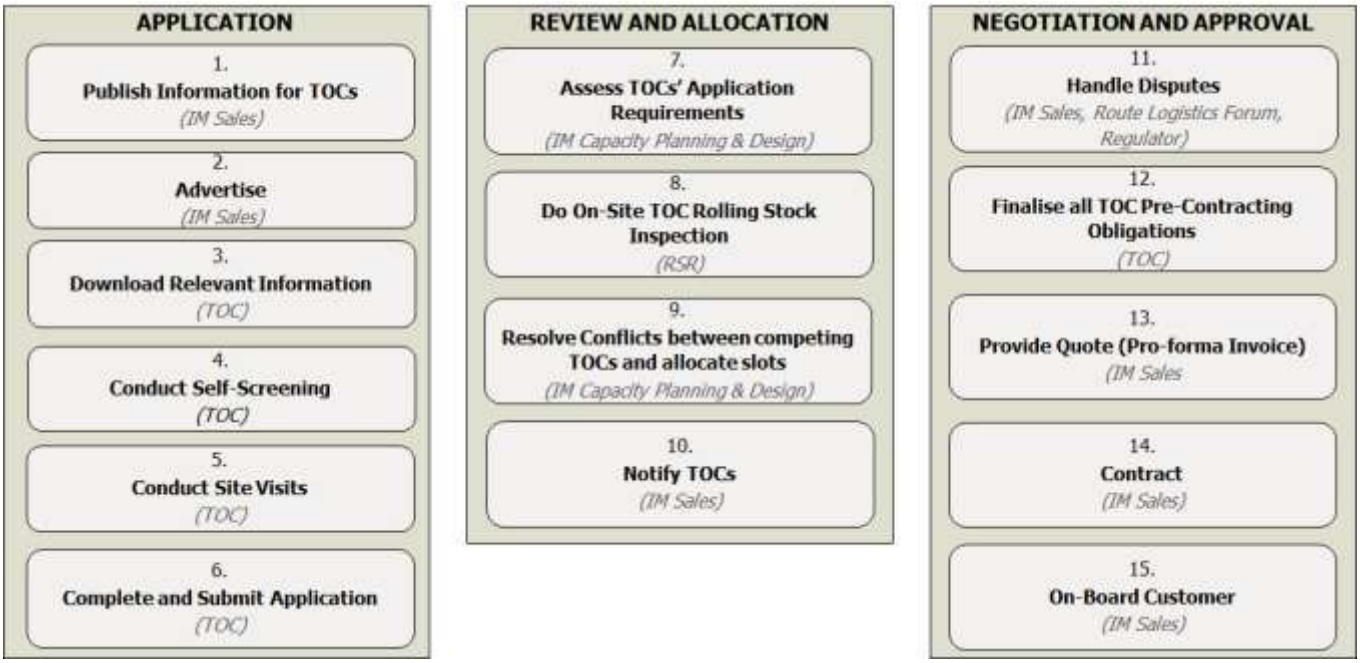


Figure 29: Slot Application and Allocation Process

(Source: Transnet)

Steps 1 to 6 of Figure 29 deal with TOCs' application submissions and will typically take place between April and June of each year (preceding operations that commence in April of the following year).

Steps 7 to 10 of Figure 29 deal with how TOC application(s) will be reviewed, covering an assessment of whether each TOC met all application requirements and applying pre-defined criteria to resolve conflicts between competing TOCs. Allocation of slots to TOCs will typically be done by the end of September of each year (preceding operations that commence in April of the following year).

Steps 11 to 15 of Figure 29 deal with TOCs finalising all pre-contracting obligations, dispute resolution, provision of a TOC quote (a pro-forma invoice), contracting and on-boarding to be ready to commence operations in April.

4.3.2.1. Step 1: Publish Information for TOCs

The IM publishes a detailed map of the network on the IM website, outlining comprehensive descriptions and characteristics of the infrastructure specific to each section annually (as contained in Chapter 2). This publication is designed to encompass guiding principles dictating the allowable Train Configuration specifications for each slot and route, strategically aimed at optimizing the density of the corridors.

A Network Map is published on the IM website, giving an overview of the available routes and slots that TOCs can apply for. The point-to-point running times for all segments of the accessible network are presented with

allowances for buffers, contingencies, and robustness factors, all based on the most up-to-date realistic estimations given the prevailing network conditions.

The comprehensive range of available routes that are open to TOCs will be published via Route Maps on the IM website.

Other information that will be published will include:

- **Annexure 15 (Rail Access Agreement);**
- **Annexure 24 (Interface Management Agreement);**
- **Annexure 25 (Self-Screening Checklist);**
- A definitive set of requirements that every TOC is obligated to fulfil;
- Criteria that the IM intends to employ for the allocation of slot capacity in scenarios where competing TOCs vie for the same route;
- Guidelines for the completion of **Annexure 26 (Environmental Analysis)** and **Annexure 27 (Risk Analysis)**; and
- Links or referrals to pertinent bodies such as Passenger Rail Agency of South Africa (PRASA) and other IMs, the Faculty of Rail (FoR) the Railway Safety Regulator (RSR) and the Interim Rail Economic Regulator Capacity (IRERC) or Transport Economic Regulator (TER).

4.3.2.2. Step 2: Advertise

The IM will also announce the start and end date of the next period during which TOCs can apply for network access, including applications for any specified facility services via its website.

4.3.2.3. Step 3: Download Relevant Information

The TOC must access the interactive website to download pertinent published information and documents. The TOC must utilise the published Network Maps for route selection, assessment of network attributes, and experimentation with potential routes to evaluate their needs.

All guidelines stipulating the essential TOC returnables (documents that are non-negotiable and must be returned to the IM as part of the application, such as a Self-screening Checklist, Access Application, Rail Access Agreement, etc.) are accessible on the website for the TOCs' reference (further details of all the required documentation that must be part of the TOCs application are provided in step 5).

4.3.2.4. Step 4: Self-Screening

Prospective TOCs must complete a Self-screening Checklist. The primary objective of this checklist is to ensure that key required capabilities are verified by the TOCs prior to proceeding with the subsequent phases of the application process. This checklist is to be furnished as the cover page of the application. It allows applicants to ascertain whether the stated capabilities will be established by the commencement of operations.

TOCs are encouraged to pose any clarification questions on published information, available network capacity and services to the IM. The IM is responsible for providing responses to these queries within a reasonable timeframe.

4.3.2.5. Step 5: Conduct Site Visits

The TOC may organise any required site visits with the IM to physically assess the route and all key locations on the routes they wish to apply for. Such visits may be organised in groups. Representatives from the IM will accompany TOCs on site visits and will attempt to answer all clarification questions.

4.3.2.6. Step 6: Prepare and Submit Application

TOCs are required to complete and submit the following information:

- Complete the **Slot Application Request Template (Annexure 29)**. This template covers details about applied routes and slots, TOC Rolling Stock and Train configuration specifics, quantities of Locomotives, rail wagons, and crews, along with commodity details, operational requirements, intermediate stoppage points, rail volume forecasts, and guarantees;
- An indication of the yard and other IM facilities required to fulfil the Train service;
- TOCs are obligated to formally endorse the published standard terms and conditions as set out in the published Rail Access Agreement. Failure to comply with this requirement will result in the IM not processing a TOC's application;
- An appropriate operating model that indicates how the TOC plans to operate its Trains as close as possible to the Master Train Schedule (MTS) design and how it will improve operational efficiency, especially travel time;
- Rolling Stock and Train Configuration particulars, including drawings, specifications, quantities per Rolling Stock type, Locomotive Operating Model details, maintenance and refuelling plans, treatment measures for non-rail worthy Rolling Stock, detailed maintenance plans, and Train Configurations, are to be submitted by the TOC (allowable details are specified in Chapter 2);
- For those TOCs desiring credit terms with the IM, the Credit application Form (Annexure 29) must be completed. This includes presenting Financial Statements to evaluate creditworthiness and providing a bank guarantee based on two months of Access Fees;
- Submission of an undertaking that outlines that TOCs will possess adequate crew quantities with the requisite skills, qualifications, and route knowledge when access commences is mandatory (in accordance SANS (South African National Standard) 3000-4 requirements). This also encompasses crew training prerequisites;
- A crew working methodology;
- Details about Train communication equipment intended to be used;
- An Environmental Management Plan;
- An undertaking that the TOC is willing to participate in the IM's Community and Social Development , Supplier Development and Skills Development plans, The nature and extent of the participation required by a TOC will be agreed upon between the parties in writing; and
- A Security Plan. All security service providers and personnel (including physical guards) associated with the TOC must be registered with PSIRA. The number of guards and vehicles to be provided must be specified. Security technologies necessitate approval from the IM. The use of drones and Crime Fighting Choppers requires registration with the CAA and adherence to aviation regulations. Companies supplying drone services and related technology must comply with SACAA regulations.

4.3.2.7. Step 7: Assess TOCs' Application Requirements

The IM will conduct an assessment to ascertain that all Applicants meet all the following stated Application Requirements:

- The TOCs' Rolling Stock fleet size, technical specifications and conditions must meet all the IM's specifications, safety-critical considerations, and fit-for-infrastructure requirements (Rolling stock not compatible with IM infrastructure will lead to disqualification);
- Submitted TOC Train configurations and Operating model must meet the IM's network and yard operating standards (as published in Chapter 2 of the Network Statement);
- Whether the TOCs' proposed service and operating model optimise the use of the network
- Adequacy of the TOC crew skills, competence and further training and certification requirements, ensuring that the TOC meets all required minimum standards;
- The TOCs security plan(s) and security provision for their own / leased Rolling Stock and cargo, ensuring compliance to all legislative requirements;
- Willingness of each TOC to collaborate with the IM on Community and Social Development initiatives;
- The Financial Health of the TOC, including available funds, bank balances, pledged overdraft provisions and loans, funds, and assets available as security, income statement, balance sheet, taxes, and social security contributions, etc;
- The TOC's Legislative Compliance Track Record, including confirmation that the TOC has no criminal record (legislative non-compliance offenses, or failed to fulfil labour law and customs law obligations);
- The Safety Track Record of the TOC where applicable; and
- Submitted proof of insurance coverage to address potential liabilities, such as incident and derailment costs.

Practical considerations are also scrutinised, encompassing various aspects such as:

- Implications related to slot executability, including factors like the compatibility of diesel Locomotives with tunnels and the positioning of TOC Maintenance depots. Consideration is given to the ease of movement from operator depots to slot route locations, addressing potential issues in case of breakdowns;
- The TOC's ability to meet running times, en route stoppage dwells, and maximum allowable slot deviation windows;
- The potential for network congestion caused by the TOC's traffic and required ancillary services;
- The impact of the TOCs traffic on port capacity, port loading and off-loading capabilities, and port stacking and stockpiling;
- The IM's capability to fulfil all Main Line, Rail Yard and facility requirements of the TOC; and
- An assessment is conducted to determine if the TOC needs to traverse other IMs' network sections that are not yet ready for operation. In such cases the TOC must provide proof that the relevant IMs were consulted, contracted with and that the required route sections are operational.

After the pre-assessment of all TOC application requirements, the IM will notify all relevant TOCs of incomplete or non-compliant submissions and provide them with an opportunity to rectify any limitations in their applications.

4.3.2.8. Step 8: Do On-Site TOC Rolling Stock Inspection

The IM will conduct a physical on-site inspection of a sample of the TOC's Rolling Stock for compliance. The TOC must declare at the time of application, all the types of Rolling Stock intended to be used. The IM will approve the slot application based on the compliance of sampled Rolling Stock.

The IM will formally notify the TOC of the outcome of the Rolling Stock on-site inspection, including all non-compliance issues.

4.3.2.9. Step 9: Resolve Conflicts between competing TOCs and Allocate Slots

When more than one TOC apply for the same slot or Train Path, and the path becomes oversubscribed, where all the applicants meet all the application requirements, the list of mechanisms stated below will be applied by the IM to resolve conflicts between TOCs that compete for the same network capacity:

Existing Contracts Mechanism:

- TOCs that have existing contracts with their customers will be given priority, with a commitment to honour these contracts first (in accordance with the requirements of the ERT Bill, Chapter 2).
- Additionally, when considering access to the core network, priority will be given to existing Branch Lines and other Concessionaires who wish to access the Main Line before new applicants are considered on a specific route.

Cost-Based Mechanism:

- Slot allocation will also consider the contribution by respective TOCs to the overall optimised reduction in operating costs, maximisation of yield and improvement in operational efficiency. Preference will be given to TOCs that maximise revenue, offer innovative solutions that will reduce unit cost per tonne-kilometre and will result in improved operating efficiency.
- The IM may consider proposals from TOCs that are willing to contribute to funding parts of the network. While evaluating the financial model the IM together with the TOC will analyse the options available to recover the investments, including discounted tariff, longer terms contracts, preassigned capacity, etc.

Congested Network Conflict Resolution Mechanism:

- TOCs seeking to use the full route are given precedence over those interested in only using a portion of that route.
- Environmental responsibility is another factor, with a preference for TOCs with lower environmental risks. This evaluation includes assessing dangerous goods and the potential impact of the TOCs cargo on the environment.
- Preference is given to TOCs that consolidate multiple smaller loads into larger loads (block Trains) to maximise pre-published targeted Train lengths. This approach encourages new TOCs with various cargo owners to consolidate traffic for a specific slot, and to run Trains that align closest to the optimum published Train configuration for that route.

Market-Based Mechanism:

- The rail network forms an integral part of the overall logistics and transportation infrastructure of South Africa which includes ports, airports, road haulage and a wide array of terminals and other Cargo storage and handling facilities, all of which are required to function and expand in accordance with our Country's macro-economic and development policies as well as applicable national and other transport plans, (including the envisaged National Rail Master Plan). It is necessary to prioritise applications that optimise the long-term rail master plans and investments of the country. Such prioritisation is not only necessary to preserve and protect existing logistics supply chains and existing investments made by the South African Government and the private sector but is also necessary to ensure and protect rail efficiency within the Network and the loss of rail capacity which occur when rail networks are operated and maintained in a sporadic, opportunistic, cannibalistic, non-standardised an/or unstructured manner. In this regard strength of rail transportation lies in its rigidity which in turn ensures predictability and on-time performance by TOCs.
- The specialised nature of some value chains, means that the efficiency of rail operations could be severely constrained by adding a diverse mix of traffic. It is recognized that some corridors would have to carry a mix of traffic, but the efficiency sacrificed to accommodate low volume traffic types, even if capacity is theoretically available, should be weighed up against the benefits of carrying low volumes with minimal economic, income generation and growth opportunities.

- It should also be considered that a certain amount of spare capacity should exist in a system to provide opportunities for expanding operations. If all available capacity is absorbed, especially by low volume traffic which is not aligned to the optimal operations of the network, the growth opportunity of products and commodities that contribute most to the country's economy, and that has the best long term commercial gain, could be severely curtailed by a lack of spare capacity if it is absorbed by transporting low volume 'filler' products.
- Preference will be given to strategically important traffic that promotes and supports socio-economic improvement objectives in alignment with network classification and National Rail Master Plan principles which guide which traffic is preferred on which parts of the network.
- Preference will be given to applications for non-seasonal, standard, repetitive traffic in comparison those applicants that only want to convey seasonal traffic or traffic that shows high variance from month to month.

Competing TOC applications for specific routes will be evaluated using all of the mechanisms listed above.

- In cases where multiple TOCs meet all the stated mechanisms' criteria equally, available slots will be proportionally allocated using fair equity allocation principles.
- Negotiations will be conducted with conflicting parties to explore the possibility of offering and allocating alternative viable slot(s) to address conflicts.

A governance review will be conducted to assess the fairness of slot allocations. All slot allocation will be approved by the IM.

4.3.2.10. Step 10: Notify TOCs

Successful TOCs will be formally notified of their allocated slots during the month of October in the year preceding the commencement of the following year's timetable period. This notification will confirm their successful slot allocation and provide them with the necessary details and instructions for the upcoming operations.

Unsuccessful TOCs will also be notified during the same period of the outcome of their application evaluations, including the reasons for their application not being selected for slot allocation.

The notification process is aimed at ensuring transparency and efficiency in the allocation of slots to TOCs, allowing both successful and unsuccessful applicants to plan accordingly for the upcoming operational period.

4.3.2.11. Step 11: Handle Disputes

Unsuccessful TOCs have the option to log disputes with the IM, which are then officially documented. The IM is obligated to respond formally to each logged dispute, providing the TOC with information on the criteria used for assessment and resolution.

The IM may also suggest alternative solutions to resolve disputes arising from TOC application rejections. These suggestions aim to find a mutually agreeable solution for both parties involved. If the suggested alternatives do not align with the TOCs preferences, the IM will engage with other applicants to seek a compromise that accommodates all relevant parties.

In cases where suggested solutions are unsuitable or there is a significant capacity constraint, the issue can be escalated to the Regulator, who has the final decision-making authority in such cases in line with prescribed legislative processes.

TOCs can log disputes at various stages of the process, including steps 7, 8, 9, 12, 13 and 14. Each dispute is logged and treated with due consideration. Efforts are made to negotiate solutions that satisfy both parties, and

lessons learned from these negotiations may be incorporated into the Rail Access Agreement to improve the overall dispute resolution procedures and processes.

Unresolvable disputes are referred to the Regulator. The Regulator's decisions can require the IM to revise its slot allocation, and influence updates to the Master train Schedule and available slots. When applications for Train slot capacity match the available capacity as per the published Master Train Schedule (MTS) slots, and there are no competing applications, applicants receive Train slot capacity outright if they meet the specified requirements.

The IM may outright decline applications that do not promote the stability, reliability, and robustness of the MTS or those that fail to comply with minimum technical and regulatory requirements.

In cases of network congestion, where available Train slot capacity is insufficient for the number of applications, the IM may propose Train path or route diversions. Decisions are made based on capacity allocation principles and prioritization rules (paragraph 4.3.2.9).

If the IM cannot accommodate any of the capacity applications for practical reasons, alternative proposals are presented to the affected TOCs. These proposals aim to maximize capacity usage and promote robust and conflict-free scheduling.

It is anticipated that proposals by the IM (e.g., for alternative Train paths/routes in a congested network) may result in affected TOCs not agreeing with the proposal. In such cases, they can raise complaints with the IM and specify the nature of their complaints. The IM shall endeavour to resolve the complaints raised.

Should the affected TOCs remain dissatisfied with the outcome of the IM's resolution of their complaints, they may lodge disputes with the regulator, whose decision is final and binding on all parties, unless the IM can compellingly argue that its proposed solution(s) are overall more optimal for maximizing capacity utilization. This structured process ensures transparency and fairness in resolving disputes and allocating Train slot capacity within the IM's business framework.

4.3.2.12. Step 12: Finalise all TOC pre-contracting obligations.

The IM must obtain assurance from the Faculty of Rail or a TETA-accredited trainer that TOCs have adequate crew with all the necessary qualifications and skills. TOCs are required to obtain certification from the Faculty of Rail or a TETA-accredited trainer to verify all the TOCs' required crew qualifications. If any skill or qualification gaps are identified, the TOC must undergo the required Train crew training, assessment, and certification.

The TOC crew are also required to undergo a Route Knowledge Assessment. The TOC must obtain the required route knowledge certificate and submit it to the IM. The FoR can be contacted by TOCs to complete this process.

TOCs must undergo training provided by the Faculty of Rail (FoR) in local Train working rules for the areas they are allocated a slot before commencing operations. This training includes brake systems, Operating Systems (SC90 and VDU warrant), Telemeters and Radios, Train Working Rules and High Voltage safety. This can be done in parallel with the RSR Permit Application at the TOCs' own risk.

TOCs can apply to the IM for pre-running test Trains on allocated slots. The same operational and technical criteria specified for the slot will apply to the TOC's test Train, and the TOC will assume full responsibility and liability for the performance and safety of the test Train.

Successful TOCs are required to submit a Risk Analysis of their intended operations and complete and sign the TOC-IM Interface Agreement. Risk Analysis Guidelines are provided as part of the published information pack in step 1.

The TOC must apply for a Railway Safety Regulator (RSR) Rail Safety Permit and a License to Operate before they can be allowed access to the network.

The TOC must also complete and sign the required TOC-IM **Annexure 24 (Interface Agreement)**.

In cases where a TOCs route traverses other IMs' network sections, such as PRASA, Municipalities, TNPA (Transnet National Ports Authority), etc., the TOC must engage these IMs separately and enter into a Interface Management Agreement for their specific routes as required by the RSR. The information for identifying sections managed by other IM's will be available in **Annexure 6 (Simplified Classification)**.

Where a TOCs required route includes line sections belonging to cross-border railways, the TOC must apply for the necessary slot access to the relevant cross-border IMs.

TOCs must ensure that they meet all the requirements, terms, and conditions as set out in Chapters 2 to 7 of the published IM Network Statement and the published Rail Access Agreement.

4.3.2.13. Step 13: Provide Quote (Pro-forma Invoice)

Before finalising the IM-TOC Contract, the IM will provide a quote to the TOC in the form of a pro-forma invoice, listing the access fee and all other charges for requested IM services.

4.3.2.14. Step 14: Contract

In the final stages of the process, the IM and the TOC must engage in contract consultation and finalisation. This phase involves discussions to provide clarity on the services designed and the service levels to be tracked and managed from both IM and TOC during the timetable period.

In accordance with clause 6 of the Rail Access Agreement, the TOC shall only undertake Transport Services in respect of Approved Cargo. The TOC may apply, in writing, to the IM to alter the Approved Cargo.

As part of the contractual process, the TOC may also sign indemnities to Transnet, which cover situations involving Loss, injury, disablement, or a fatality whilst executing Transportation Services. These indemnities specify the responsibilities and liabilities of the parties in such cases.

Once the Rail Access Agreement is signed, the IM files all contracts and SLAs for record-keeping, compliance and management purposes.

4.3.2.15. Step 15: On-Board TOCs

Induction documents are finalised with successful TOCs at the time of contracting to ensure that the TOC is well-informed and prepared for their operations within the network.

The IM proceeds with on-boarding the TOCs on all the processes relating to the daily interaction of the IM with the TOCs. This on-boarding process ensures that the TOCs are well-prepared and knowledgeable about the specific procedures and operations they will be undertaking.

The TOCs security personnel are also required to undergo induction by IM Security regarding the operations of the rail line to ensure the safety and security of operations along the line.

4.3.3. SLOT APPLICATIONS OUTSIDE OF THE ANNUAL SLOT APPLICATION PROCESS

New and existing TOC applicants can submit requests for changes to the published route running times, frequencies, and stoppage places to the IM, who will evaluate such change requests Quarterly and provide

feedback to operators. Depending on the complexity of requested changes, they can be considered during subsequent IM planning cycles.

Applications for once-off traffic (ad-hoc services) will be allocated capacity on an as-and-when-available basis. Updated information on available spare capacity will be published on the IM portal to facilitate the TOCs to pre-analyse the feasibility of such requests. Request for ad-hoc services shall be presented at least 21 days prior to the date of service, and the IM will provide positive or negative answer within 7 days, except for new TOCs that must follow the application process as set out in paragraph 4.3.2.

If the TOC wishes to move any Rolling Stock within or across any portion of the Network (other than within a route in respect of which it has been granted Access to one or more Slots) for purposes of or in connection with the performance of the Transport Services, it may request the IM to provide the necessary services, at the TOC's cost, in accordance with the relevant ad-hoc process and the relevant provisions of the Network Statement. It is specifically recorded that the TOC shall not be permitted to convey any cargo (including any Approved Cargo), whatsoever, in any Rolling Stock whilst undertaking any movement of Rolling Stock as envisaged above.

The IM will priorities full cargo trains over Rolling Stock movement trains to maximise revenue yield. Movements for ad-hoc light trains will be effected where opportunity exists.

The TOC should inform the IM in writing and obtain permission should it wish to change the type of cargo conveyed on the slot it has purchased.

4.4. BRANCH LINES AND FEEDER LINES

In terms of paragraph 6.1.4, the National Rail Policy directs the following policy statement regarding branch lines:

- The central Planning Component shall Include branch lines in the National Rail Master Plan.
- Branch lines will be categorised as Strategic and, by default, non-strategic. The criteria that qualify a branch line as Strategic will be determined by the DoT's central Planning Component in line with the DoT's Rail Branch Line Strategy.
- Private Sector investment in branch lines will be included in the Private Sector Participation Programme policy statement contained in this document. Specifically, where branch lines are strategic and Government cannot afford to invest, they must be put out for concessioning.
- Branch line operators shall have access to the core network, non-core network, as well as other branch lines. Any Government entity, or other stakeholder that wishes to introduce a freight and or passenger service on a state-owned Strategic branch line, shall fund the actual costs of carrying and maintaining the branch line by the Infrastructure Manager, as well as the actual costs of operating Trains.
- Where a branch line is inactive and requires rehabilitation to restore it to minimum safe standards, the Government entity or stakeholder shall also fund that investment.
- All such rehabilitation and operation shall be subject to the oversight of the Railway Safety Regulator (RSR), and ruling access arrangements, which access arrangements would eventually be superseded by the Regulator.
- Municipalities or any Government entity is responsible to maintain and upgrade municipal sidings and associated rail infrastructure under their control.

4.4.1. APPLYING FOR ACCESS TO BRANCH LINES AND FEEDER LINES

The IM will publish a separate access regime for branch and feeder lines on the B network.

TOCs can apply to the IM for access to sections on the branch line and feeder network. Each application will be processed on merit.

4.5. CAPACITY ALLOCATION PRINCIPLES, PRIORITISATION RULES AND DISPUTE RESOLUTION

Railway capacity allocation is a process whereby Train path requests are granted by the IM to TOCs following the evaluation of applications for Train paths once all application criteria has been met.

4.5.1. CAPACITY ALLOCATION PRINCIPLES

The generic overarching capacity allocation principles entail that:

- the IM is obliged to allocate capacity in a fair, transparent and equitable manner.
- The allocation of capacity should also fulfil the objectives of the IM, which are to:
    - Maximise utilisation of the Transnet Rail Network;
    - Enable growth objectives of critical strategic economic sectors;
    - Migration of traffic from road to rail;
    - Full cost recovery; and
    - Inject infrastructure investment through access tariffs.

- the IM shall ensure that the allocation synchronises Main Line and yard operations requirements, and thereby ensure the enablement for TOCs' needs for marshalling and shunting services as required.
- capacity allocation is based on specific conditions & rules (i.e., minimum technical and safety requirements, etc.) which TOCs need to comply with when applying for capacity.
- the conditions and rules upon which capacity allocation is based aid in deciding how to allocate capacity, especially in a congested Network

To ensure fair and equitable allocation of capacity, and to select the appropriate TOC to allocate capacity to in cases where a choice needs to be made by the IM, the specific mechanisms that the IM applies include a combination of the Market-Based Mechanism, the Existing Contracts Mechanism, the Cost-Base Mechanism and the Congested Network Conflict Resolution Mechanism (as detailed in section 4.3.2.9).

4.5.2. CAPACITY PRIORITISATION RULES

- The Market-Based Mechanism of allocating capacity introduced in section 4.3.2.9 guides the allocation of capacity on the network.
- Applications for capacity that satisfy the railing of strategic export commodities and commodities that are important for economic growth will be given a higher preference. The following types of traffic will receive preference as guided by the National Rail Master Plan or any government instruction:
    - Traffic that maximises revenue yield for the IM.
    - Rail friendly traffic (traffic best or only served by rail) that will encourage Road-to-Rail migration; alleviate road and port congestion, and enable the National Economic Development Plan;
    - Traffic that preserves and protects existing logistics supply chains and existing investments made by the South African Government and the private sector but is also necessary to ensure and protect rail efficiency within the Network;
    - Traffic that will optimise network utilisation and corridor operations;
    - Dangerous goods; and

- Applications with Train configurations and operating models that do not require significant changes to the MTS.
- Train size will be a further consideration, in line with the above criteria, when deciding on capacity allocation (e.g., where the application for railing RBCT coal is based on a 50-Rail Wagon Train (vs the maximum permissible length of 200 rail wagons for the RBCT coal schedule) versus an application for railing chrome with a 75-Rail Wagon Train to Richards Bay, preference will be given to the application for capacity for the railing of Chrome).
- Should the market-based mechanism criteria be satisfied by the received applications and there remains capacity available for sale, applications for the conveyance of any other commodity/cargo will be considered by the IM.
- Prioritisation shall be afforded applications that seek to use capacity for non-seasonal traffic.
- Allocation of capacity for ad hoc applications will be allocated on a "as and when available" basis, as a last resort when there is still capacity left after allocating to applications for the long-term use of the capacity.

4.5.3. CONGESTED NETWORK

The section of network infrastructure that is deemed congested is one where the available capacity is less compared to the demand or applications for capacity in that network infrastructure by the TOCs.

In a scenario where the network is declared congested, the IM may propose diversions of some of the traffic based on priority rules. Where diversions are proposed, the IM shall inform the affected TOCs to alert them accordingly and to obtain their input and/or counter proposals for further consideration by the IM.

4.5.4. DISPUTE RESOLUTION

The IM shall, prior to concluding the allocation of capacity to applicants, consider all inputs from the TOCs. Given that it may not be possible to satisfy all applicants' inputs and counter proposals (as contemplated in section 4.4.3), the process of allocating capacity to TOCs may result in TOCs feeling hard done owed to the allocation decisions of the IM. For this reason, the affected TOCs may lodge disputes with the regulator for resolution.

The IM shall present its case to the regulator to demonstrate the impact of implementing the input and counterproposals by the TOCs. It is the aim of the IM to allocate capacity in a manner that maximises the full use of the capacity in the most optimal manner.

4.6. DEVIATION MANAGEMENT PRINCIPLES

The IM may temporarily withdraw the infrastructure capacity or part of it on Train paths that are out of use due to technical malfunctions, an accident or damage affecting the infrastructure. In such situations, the IM will offer TOCs alternative Train paths whenever possible. The IM is, however, obliged to compensate the TOC for any damage arising from such disruptions unless otherwise agreed in the Rail Access Agreement.

The aim in the management of disruptions by the IM is to (a) restore normal operations without delay, (b) minimise harmful impacts, (c) apply transparent operating models and communication procedures, and (d) ensure impartiality, fairness and equality.

If the operations experience major disruptions that may warrant line closure and ultimately traffic diversion onto alternative routes, the IM is obligated to ensure restoration of network capacity, availability and service recovery.

The IM has the final say insofar as deviation management decision-making (whether to cancel, delay, hold back or reroute, which slots to use during service restoration periods, etc.) is concerned.

For further information on the Train Deviation Management process refer to section 6.5.4

4.7. SLOT UTILISATION AND REALLOCATION

To discourage non-competitive measures, capacity that is not utilised at 75% level over a pre-defined period of 3 months, the ”underperforming” TOC’s capacity will be taken away by the IM and allocated to the next ranked TOC based on the outcome of the evaluation of applications for capacity.

It is possible that TOCs may use the allocated capacity “minimally” over the pre-defined period just to avoid falling into the category of non-utilisation as described above.

Before any capacity is revoked and re-allocated, the affected TOCs shall have fifteen (15) calendar days to bring to the attention of the IM the reasons why the capacity was under-utilised.

The IM shall take into consideration the reasons advanced by the TOCs in arriving at the final decision.

CHAPTER 5: COMMERCIAL SERVICES AND CHARGES

5. CHAPTER 5: COMMERCIAL SERVICES AND CHARGES

5.1. SERVICES

5.1.1. MINIMUM ACCESS

The IM shall supply to all TOCs, in a non-discriminatory manner, the minimum access package:

a) handling of requests for railway infrastructure capacity;
b) the right to utilise railway infrastructure capacity which is granted based on a published timetable;
c) use of the railway infrastructure, including track points and junctions;
d) Train control including signalling, regulation, dispatching and the communication and provision of information on Train movement;
e) use of electrical supply equipment for traction current, where applicable
f) all other information that should be provided by the IM and is required to implement or operate the service for which rail capacity has been granted;
g) Access, including track access, shall be given to the following service facilities where they exist:
   - freight terminals;
   - marshalling yards and Train formation facilities, including shunting facilities;
   - storage sidings; and
   - stations.
h) Track access shall be given to the following service facilities, where they exist (without provision of the services supplied in these facilities, since they are operated by other entities):
   - Rolling Stock maintenance facilities, with the exception of heavy maintenance facilities dedicated to types of Rolling Stock requiring specific facilities;
   - other technical facilities, including cleaning and washing facilities; and
   - relief facilities

5.1.2. MANDATORY ANCILLARY SERVICES TO ENABLE CONNECTION OF TRAINS TO THE NETWORK

The IM will provide a Standard Usage Time of the lines within the service facilities listed in section 5.1.1 for the purpose of preparing Trains for departure as stipulated in the final service designs of the prevailing timetabling period (Design Dwell Time).

The IM shall appoint service providers to manage the services listed below for the purpose of ensuring access to the rail lines.

- Marshalling of Trains into and out of the yards. This entails the process of ensuring that each TOC adheres to the allocated slots and times to build and depart Trains and the removal of TOC NTG r
- rail wagons from the common use lines within yards

Should a TOC exceed the allowable use time stipulated in the service design, penalties outlined in section 5.2.9. will apply.

5.1.3. SERVICES NOT PROVIDED BY THE INFRASTRUCTURE MANAGER

Transnet is in the process of applying for a wholesale retail licence to sell fuel. Any applicant wishing to use such facilities must reach an agreement with the operator(s) of the facilities or their nominated service provider(s).

Any TOC wishing to use Rolling Stock maintenance and other technical facilities must consult with the operator(s) of such facilities and contract separately with them.

5.1.4. OCCURRENCE MANAGEMENT SERVICES

Occurrence Management Services shall be performed and/or procured by the IM in accordance with the provisions of this Network Statement read in conjunction with the Rail Access Agreement. As provided in this Network Statement the IM shall be entitled to recover the costs of such incidents including the Occurrence Management Services from the relevant TOC if and to the extent that the Parties agree or it is subsequently determined following an investigation, that such Occurrence was caused or contributed to by any act or omission on the part of the TOC, including as a result of any failure to comply with the Rail Operation and Safety Requirements in accordance with this Network Statement and/or legislative requirements and/or the standard of a Reasonable and Prudent Operator.

Typical responsibilities for **Occurrence Management** are outlined in **Annexure 18**.

5.2. CHARGES

5.2.1. CHARGING PRINCIPLES

The IM will use the Allowable Revenue approach to calculate access tariffs outlined in section 5.2.4, ensuring that all costs incurred in the provision of services are recovered, using the declared Regulated Asset Base (RAB) as the basis.

5.2.2. PRICING PRINCIPLES

The fundamental basis for pricing principles is explained as follows:

- The revenue calculation is premised on the RAB determined through the phased Depreciated Optimised Replacement Cost (DORC) of infrastructure investments.
- Investments arising from new capital are added onto the RAB as expenditure is incurred.
- Price stability and predictability – avoid price shocks.
- The operating, security and overhead costs are added to the depreciation and return of the RAB.
- Public Service Obligations (PSO) offerings to be clearly defined, monitored and funded separately by Government.
- The Revenue formulated is divided by the total gross tonne kilometres across the network (irrespective of who the customers are) to arrive at a rate per gross tonne kilometres.
- The rate that was calculated for the initial phase of access serves as the standard rate which establishes the going-in access fee that each TOC must meet.

The services listed in 7.3.2 will be performed by service providers on behalf of the IM for the purpose of ensuring fair access and movement within the Marshalling Yards and terminals. The costs for these services are unique per yard and will be provided to the TOC according to the access applied for.

5.2.3. COST ALLOCATION FRAMEWORK

The direct operating costs, maintenance costs, and depreciation for the following items have been included in rail network costs:

- Track: Perway
- Engineering structures: bridges and tunnels
- Signalling and communications systems
- Power supply in electrified sections – OHTE & Substations
- Traction electricity (fixed i.e., excluding consumption costs)
- Terminal infrastructure
- Refuelling facilities
- Freight terminals: Track & Infrastructure equipment
- Marshalling yards and facilities: Track & Infrastructure equipment
- Siding Infrastructure
- Branch Line Infrastructure
- Vehicles used for the maintenance and management of the network
- Maintenance and other technical facilities
- Corporate Overheads, common and joint costs on a fair allocation method
- Station and facilities

5.2.4. THE INFRASTRUCTURE MANAGER ALLOWABLE REVENUE

The Allowable Revenue by the Infrastructure Manager to recover the costs incurred in providing services shall be determined in accordance with the following pricing formula:

$$\textit{Allowable Revenue}\ (\mathrm{AR}) = (\textit{RAB x WACC}) + E + D + T + \textit{Claw back}$$

Where:

- RAB = Regulatory Asset Base
- WACC = Weighted average cost of capital
- E = Expenses: maintenance and operating expenses for the tariff period under review
- D = Depreciation: the charge for the tariff period under review
- T = Tax: estimated tax expense for the tariff period under review
- Claw back = Adjustment to the AR formular to correct for differences between actuals and forecasts in formula elements from a preceding tariff period in relation to the actuals for that tariff period.

The objectives of the suggested approach may be described in brief as follows:

- Cover "maintenance and operation expenses": represented by [E];
- Allow recovery of assets: [D];
- Bring expected return on assets: [RAB x WACC];
- Cover corporate tax: [T];
- Transfer risks: [Claw back].

5.2.5. MINIMUM ACCESS SERVICE FEE

	Charging Principles	Charge
Rail Access	The Access fee includes the of yards for the purpose of Train preparation access the Main Line. Tariffs are subject to approval by the Transport Economic Regulator	19.79 cents/GTK (ZAR)

Table 11: Rail Access Fee

5.2.6. CHARGES FOR MANDATORY ANCILLARY SERVICES TO ENABLE CONNECTION OF TRAINS TO THE NETWORK

	Charging Principles	Charge
Marshalling	The length of the train and the yard configuration determines the number of personnel, duration, energy/fuel, locomotive types required to efficiently perform the marshalling. The IM will categorise the network into the following sub-categories for the purpose of determining the marshalling charges. a) General Freight Business (GFB) <= 50 wagons b) Mini-heavy haul - > 50 wagons to <=106 wagons c) Heavy haul - >106 wagon	The indicative rates for marshalling charge is a flat rate per train marshalled as per the ITP (Integrated Train Plan) for each sub-category General Freight Business (GFB) = R7150 Mini-heavy haul = R17,600 Heavy haul = R26 400 subject to the type of locomotive used

Table 12: Marshalling Charges

5.2.7. OCCURRENCE MANAGEMENT SERVICE CHARGES

Subject to the provisions of Insurance, in the event of an Occurrence that is caused by or is attributable to any actions or omissions of the TOC or its personnel, contractors, subcontractors and/or service providers, as determined in terms of the Network Statement, the Rail Access Agreement and/or any Interface Management Agreement, the TOC shall be liable for the Occurrence Management Services Charges incurred by the IM in the provision of Occurrence Management Services, and such Occurrence Management Services Charges shall be recoverable from and payable by the TOC and shall be included in the relevant monthly invoice issued to the TOC.

All Occurrences are not the same and therefore the Occurrence Management Services Charges shall be determined after each Occurrence (at the conclusion of the investigation) with regard to the costs incurred by the IM in providing and/or procuring the Occurrence Management Services required to restore the operation of the Network and shall be apportioned to the responsible Party at the relevant time. Where charges are incurred by a TOC, they will be apportioned to relevant party after incident investigation.

Occurrence Management Services Charges	Charging Principles	Service Charge
In addition to the Occurrence Management Services set out in section 6.5.6, the operation of the TOCs' Locomotives by a Pilot, and any other action required to be taken by or on behalf of the IM in order to resolve an Occurrence and restore the operation of the Network.	The IM shall procure these services and the costs shall be recovered from the relevant TOC.	These shall be determined from time to time and the IM reserves the right to add to the list of chargeable costs as these are identified.

Table 13: Occurrence Management Services Charges

5.2.8. ADDITIONAL CHARGES

	Charging Principles	Charge
Variable electricity usage charge and fixed electricity usage charge	• The fixed component of power supply in electrified sections (OHTE & Substations) form the base of the direct costs. • The IM currently incurs fixed and variable costs on usage. • The variable costs will be calculated based on the actual kWh used by all TOCs over the route distance and the total net tonnages moved on the route over the period at the prevailing Eskom charge rate at the point in time. • TOCs that use diesel Locomotives on electrified lines will contribute to fixed electricity costs but not the variable usage costs (kWh) • It is to be determined in future if all OHTE related infrastructure should be reallocated into a different grouping where costs associated with the running of electric trains are allocated to these trains only. The same applies to the refuelling facilities for diesel. During this phase, these costs are all inclusive with the standard tariff. The variable costs for traction electricity is part of the standard tariff during the first phase. In subsequent phases, the variable costs will be excluded from the standard tariff and billed separately based on Electric GTKs executed on the network.	Variable Electricity Usage Charge = kWh per gross ton km x Eskom charge rate at the point in time
Application Admin Fee	Administrative costs of activities associated with processing the application, such as travel to operations sites to conduct line inspections, Rolling Stock inspections, route and other site inspections.	0,05% of the total capacity applied for multiplied by the Access Charge or R1m, whichever is the highest.

Table 19: Additional Charges

5.2.9. PENALTIES

There are multiple reasons and causes of deviation to services other than those classified as Force Majeure Events. The list in this section is not exhaustive. The IM will continuously assess instances of deviation and establish applicable penalties based on costs incurred.

The Penalties shall be incurred by the TOC upon occurrence of the following actions or events:

1. Yard usage time exceeded;
2. Rail wagons standing (loaded or empty) in a Rail Yard exceeding yard usage time;
3. Locomotives staged between Trains in a Rail Yard;
4. Delayed arrival or departure of a Train at or from a Rail Yard, passing loop or Loading or Off-loading Site;
5. Cancellation of slot; and
6. Overloading or Underloading and skew loading of Trains.

Penalties shall be incurred by TOCs, for each instance in which an event delays, hinders or otherwise negatively impacts operations within any Rail Yard, or which negatively impacts, hinders or prevents adherence by the IM to the ITP and/or the MTS or which negatively impacts the rail operations of other TOCs, whether or not such actions or events result in any Cancellations of Slot(s) by the IM.

If and to the extent that the occurrence of any of the actions or events described in this section are caused by a Force Majeure Event and/or the actions or omissions of the IM, the TOC shall not be liable for the associated Penalties that have been incurred.

Equally penalties shall be incurred by the IM, as calculated according to the formulae provided upon occurrence of the following action or event:

- delayed or suspended arrival or departure of a Train at or from a Rail Yard, whether or not such actions or events result in any Cancellations of Slot(s) by the IM, which delays, hinders or other negatively impacts the rail operations of the TOC including the performance of Transport Services.

The IM's liability for Penalties that may be incurred, shall be assessed and calculated within a period of 20 (twenty) Business Days of the completion of each Contract Year. If such liability is established or determined, the TOC shall be entitled to invoice the IM for such Penalties (together with any VAT thereon if applicable).

If and to the extent that the occurrence of any of the actions or events described in this section are caused by a Force Majeure Event and/or the actions or omissions of the TOC, the IM shall not be liable for the associated Penalties that have been incurred.

In the event that any Penalties are determined to be penalties in terms of the Conventional Penalties Act 1962, the relevant Party shall be entitled to claim damages in lieu of, and in an amount equivalent to, the relevant Penalties from the Party that has incurred such Penalties.

Penalty Item	Charging Principles	Charge
Yard Usage Time in Yard Exceeded (Applies to all Rolling Stock)	Where a TOC exceeds the standard Yard Usage Time allocation as per service design for any unplanned reason other than force majeure, such as NTG wagons, port delays, breakdowns etc., the TOC will incur penalties for every minute exceeded in the yard. Applicable penalty charges per yard will be calculated at the time of contracting and will form part of the final Service Level Agreement (SLA) between the IM and the TOC as an annexure to be attached to the Rail Access Agreement. The TOC will not be permitted to exceed the Yard Usage Time. Should the TOC exceed the Yard Usage Time by more than 30 (sixty) minutes the train shall be deemed to have been Cancelled by the TOC at the IM's reasonable discretion. The train shall thereafter depart on the next available slot, as determined by IM in its sole and absolute discretion. The TOC shall be liable for the lost revenue associated with the cancelled slot. A penalty will be charged for every minute that the Yard Usage Time in the Yard is exceeded. **Penalties** for Yard Usage Time in Rail Yards will be calculated as follows: **Yard Usage time Exceeded charge** = (Total Dwell time – Designed Dwell time in yard) * R1 per minute per ton (based on the train consist) Greater than 30 minutes, the customer will pay penalties as determined above plus the opportunity costs of the next slot based on the next Train scheduled on the ITP. This principle will also cover any departure delays (loaded and empty wagons)	R1 per minute per ton based on the slot design for every minute exceeding the Yard Usage After 30 minutes the slot will be deemed to be cancelled by the TOC.
Cancellations	Cancellations must be managed according to Section 6.5.7. Determination of Penalties: • Cancellations before the weekly Do-ability, the IM will pass credit for slots paid in advance if the IM is able to reallocate the slot to another TOC. • Full Cancellations 72 hours before departure, the IM will pass credit for slots in advance if the slot is reallocated. Full Cancellation within 72 hours up to scheduled departure time, where the cancellation is not due to a Force Majeure Event, the TOC will forfeit the access fees paid in advance.	Full Slot Access Fee

Penalty Item	Charging Principles	Charge
Overloading of a Rail Wagon in excess of its Maximum Carrying Capacity	Should overloading of a Rail Wagon in excess of its Maximum Carrying Capacity be detected during or after cargo delivery, the charges calculated on the actual Mass conveyed in the Rail Wagon as determined, shall furthermore be subject to an Overloading Charge as stated below. The Overloading Charge shall be calculated using the TOC Declared Mass on execution or net Mass if overloading is detected in-transit. The overloading penalty charge will be calculated as follows: • The TOC's access fee will be used as basis for computing overloading charges. On top of the normal rate (based on actual mass), additional overloading charges will be levied. • Overloaded wagons will be charged at different rates for different levels of overloading (higher charge rates will apply for larger levels of overloading) • Wagons that are overloaded by more than 3 tons shall not be allowed to proceed to its destination due to safety considerations. • Any rail wagon or train that is not accepted by the IM due to incorrect loading (skew loading or not in accordance with the loading profile) must be removed and, unless replaced by the TOC before the scheduled departure time, all costs associated with such delay shall be for the account of TOC.	The Penalty will be calculated per overloaded rail Wagon based on the actual wagon Mass plus the applicable Overloading surcharge as follows: < 2 (two) Tons - normal Full Access Tariff will be charged as a penalty for all tons in the overloaded wagon. Between 2 (two) Tons and 3 (three) Tons - 150% of the Access fee will be charged as a penalty for all tons in the overloaded wagon.> 3 (three) Tons - 200% of the Access will be charged as a penalty for all tons in the overloaded wagon.
Underloading of rail wagons	Underloading can be a safety hazard depending on the load profile. It can cause derailments on the line. Rail wagons that are underloaded by 10tons and more should be carded off. The IM's objective is to maximise rail usage and migrate traffic from road to rail (measured in tonne kilometre). TOCs who underload their trains will pay the full slot fee, but the IM reserves the right to reallocate the slot to other TOCs who will fully utilise the slot capacity after identifying a trend of under-loading during its quarterly reviews.	A deterrent penalty of 150% of the Access Fee per wagon.
Skew Loading	Cargo loaded in wagons in a manner that is it not spread uniformly over the length and width of the rail wagon as per loading profiles in **Annexure 22** will be liable to penalties. It is the responsibility of the TOC to ensure that skew-loaded wagons are corrected before the train proceeds with its journey. Delays caused by the process of correcting skew loading will be treated the same as stated in the Yard Usage time exceeded principles.	R1 per minute per ton based on the slot design for every minute delay caused by correcting skew or wrongly loaded wagons.

Penalty Item	Charging Principles	Charge
Incident Recording- Train Cancellation	This refers to trains that failed to run as per the planned slot on the Integrated Train Plan (ITP). The service offering is to establish preliminary root causes and capture all the relevant information that relates to train cancellations taking place at origin yards.	An indicative rate of R350 will be charged for each Incident- Train Cancellation Recording.
Incident Recording- Free Time Exceeding	This refers to the time that the rolling stock had spent in a yard that exceeded the free time as prescribed per the service design. The services offering is to establish preliminary root causes and capture all relevant information that relates to excessive free time in the yards.	An indicative rate of R350 will be charged for each Incident -Free Time exceeding Recording.

Table 14: Penalties

5.2.10. ESCALATION OF MINIMUM ACCESS

The IM will issue multi-year tariffs (MYT) to determine the tariff structure and pricing for a specified period of multiple years, typically three to five years, with limited minor reviews each year in the light of changes in a limited number of parameters (such as inflation, interest rates, and energy prices) and major reviews every 5 years, when all of the inputs are reviewed with stakeholders. The MYT framework provides a predictable and transparent tariff mechanism that promotes efficiency, encourages investments, and ensures cost recovery for the IM and TOCs. Also, it provides stability and predictability to both the IM and TOCs by setting tariff revisions in advance of the defined period and enables long-term planning, investment decisions, and operational efficiency improvements in the freight rail sector.

The objectives of the MYT structure are to:

- Enable cost recovery and financial viability – regulated entities should recover their (efficient) costs, including a reasonable rate of return on capital.
- Provide certainty and stability of the pricing framework encourages an efficient level of investment.
- Provide incentives to reduce costs, improve the quality of service, and encourage efficient use of the network.
- Promote the efficient allocation of risks.
- Provide implicity and cost-effectiveness – It is easy to understand and implement.

5.2.11. ESCALATION OF ADDITIONAL CHARGES

Additional Charges (including the Occurrence Management Services Charges) shall be escalated annually by a percentage equal to PPI. Such escalation shall take place on and with effect from the first day of the second Contract Year and of each subsequent Contract Year.

5.2.12. NON-UTILISATION DURING PRODUCTION PERIOD

Should a TOC fail to use the allocated slots on the 24-hour ITP due to reasons other than Force Majeure Events, the slots will be deemed as cancelled by the IM and any access fees paid for use of the slots will be retained by the IM. Should the IM fail to provide TOC-contracted slots due to reasons other than Force Majeure Events and

Planned Occupations, this will be deemed as a cancellation by the IM. The IM will pass a full credit for the slot that has been paid for upfront but could not be made available.

CHAPTER 6: RAIL OPERATIONS

6. CHAPTER 6: RAIL OPERATIONS

6.1. INTRODUCTION

This chapter provides an overview of the pre-production scheduling, day of operation and post-production reconciliation processes, providing the key governing operational traffic management process principles and the key responsibilities of the IM and TOCs in every process.

A summary of the processes covered in Chapter 6 is provided in Figure 30 below:

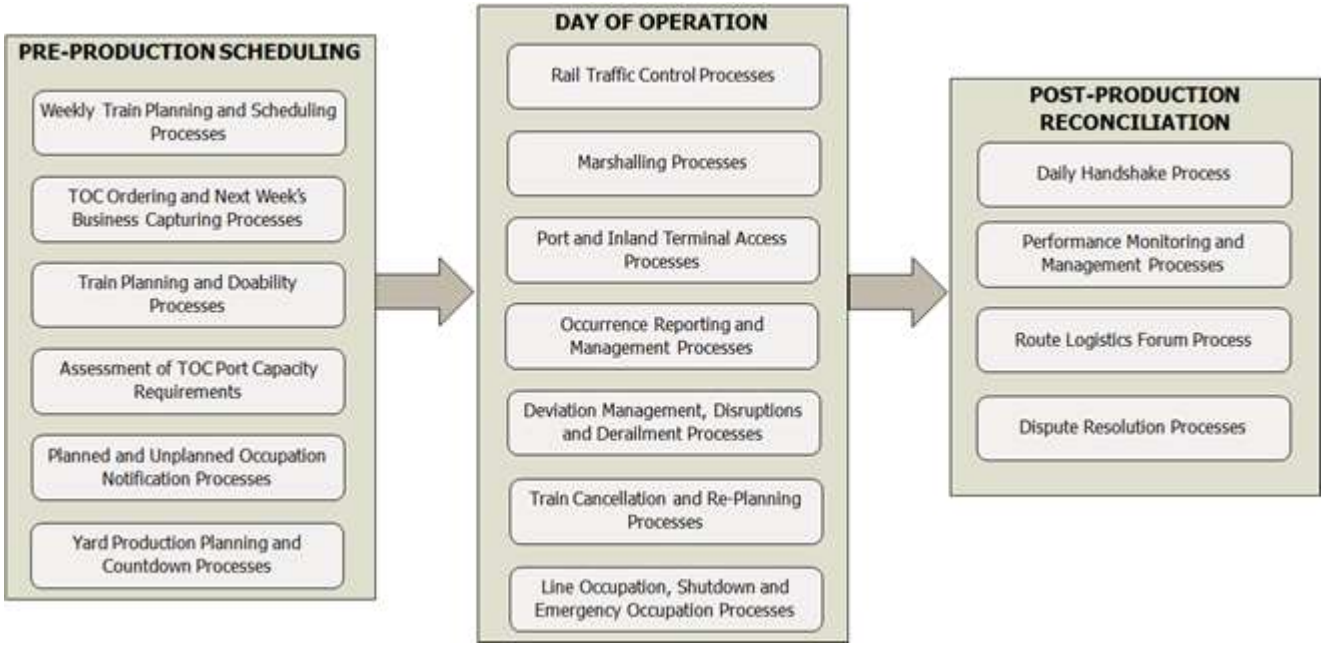


Figure 30: Operational Processes covered in Chapter 6

6.2. REGULATORY ASPECTS

6.2.1. SAFE OPERATION AND COMPLIANCE WITH SAFETY REQUIREMENTS

The TOC shall operate all Trains in accordance with the schedules published weekly by the IM.

The IM shall be entitled to halt, suspend or to prohibit the movement or operation of any Train if it believes that the safety of the Train may be at risk.

The TOC shall at all times, be in possession of and comply with the Rail Operation and Safety Requirements as well as any operating instructions, notices, rules and/or regulations that may be issued by the IM from time to time pertaining to the Network and the Route and/or the performance of Transport Services.

If requested by the IM in writing at any time, the TOC shall provide the IM with a valid Safety Permit and comply with all conditions imposed by the Rail Safety Regulator in terms thereof (if applicable).

TOC Trains shall be operated in strict accordance with all Train Notices issued by the IM which shall be issued not less than 72 (seventy-two) hours before each Train's scheduled departure time. In the event that it is not possible for the IM to comply with the aforementioned notice period due to an Occurrence or any other unforeseen circumstance, the IM shall issue the Train Notice to the TOC as and when the IM becomes aware of the need to issue specific Train Notices.

The TOC shall ensure that all loaded rail wagons have a valid declaration of cargo weight for each rail wagon, as a requirement for entry onto and operation within the Network.

If it becomes necessary for a Train to be diverted from a Route to an alternate Route as a result of an Occurrence, and if the IM so determines, it may require that a qualified Pilot be deployed, with the necessary road knowledge, to accompany such Train on the whole or any portion of such alternate route where the TOC's Personnel has no or limited knowledge of such an alternative route.

No more than 4 (four) persons, including any Pilot, shall be allowed on the footplate for the duration of the journey. If a Pilot is not required, only the Train driver who is Certified for the road on the particular line and his/her Train Assistant shall be allowed on the footplate. A third person may only be allowed on the footplate of a Locomotive if in possession of a valid footplate permit. All other persons on the footplate must be in possession of a valid footplate permit. It is specifically recorded that the Pilot shall not be regarded for the aforesaid purposes as an employee or agent of the IM and shall be under the control and supervision of the TOC's Personnel and the TOC's Train Driver shall take full responsibility for the Pilot and the IM shall not be liable for any acts or omissions of the Pilot and the TOC and its Personnel shall have no claim against the IM in this regard.

Locomotives that enter, and/or are stationary, and/or are operated within any Rail Yard, shall at all times be operated by the TOC's Personnel under the control, direction and supervision of the IM's Personnel or authorised Service Provider. It is specifically recorded that the IM's Personnel shall not be regarded, for the aforesaid purposes, as employees or agents of the TOC and the TOC's Personnel shall take full responsibility for the operation of any Locomotive and the IM shall not be liable for any acts or omissions of its Personnel and the TOC and its Personnel shall have no claim against the IM.

6.2.2. PRINCIPLES OF NETWORK OPERATIONS

The TOC:

- represents to the IM that it is familiar with the provisions of the RSR Act;
- undertakes not to act or omit to act in any manner that shall result in the IM, by virtue of such act or omission itself, to potentially become non-compliant to the provisions of the RSR Act;
- indemnifies and holds the IM harmless against any claim against the IM;
- undertakes using reasonable endeavours to assist the IM, at the TOC's cost, to comply with the provisions of the RSR Act, the Occupational Health and Safety Act, the Hazardous Substances Act, the National Environmental Management Act, the National Water Act and any requirement of any other Applicable Law or Relevant Authority regarding the performance of the Transport Services by the TOC.
- The TOC acknowledges and agrees that the Network is availed by the IM to the TOC and taken by the TOC on an "as is" basis.
- Save for Planned Occupations, the Annual Shutdown, Force Majeure Events and/or periods in which Port Terminals are not operating, the Services shall be provided by the IM on a 24 (twenty-four) hour, 7 (seven) day a week basis.

6.2.3. TRAIN RELATED PERSONNEL

The TOC accepts full responsibility for the safe operation of its Trains, equipment, employees, agents, representatives and contractors that are involved directly or indirectly in the performance of Transport Services and shall ensure that the following requirements are complied with:

- each Train Driver shall be trained, qualified and Certified by an accredited training body such as Transnet's Faculty of Rail as Competent to operate the specific class of Locomotive on the Route and for the relevant type of Train operated by such Train Driver;
- each Train Assistant shall be trained, qualified and Certified by an accredited training body such as Transnet's Faculty of Rail as Competent to undertake the relevant duties; and
- where applicable, each Train safety officer shall be trained, qualified and Certified by an accredited training body such as Transnet's Faculty of Rail as Competent to undertake the relevant duties.
- The TOC shall, at own cost and expense, ensure that each Train and the Train crew of each Train, are provided with effective, suitable, compatible and reliable means of communication with the appropriate emergency backup communication equipment and local Train Control Officers of the IM.

6.3. PRINCIPLES OF NETWORK OPERATIONS

The Network Operations comprises three consecutive phases:

1) Pre-Production Scheduling, which comprises all the planning processes in the week before Train movement.
2) Day Of Operation, which comprises all the week of execution Train movement processes.
3) Post-Production Reconciliation, which comprises all the performance review and feedback processes.

6.4. PRE-PRODUCTION SCHEDULING

6.4.1. WEEKLY TRAIN PLANNING/SCHEDULING PROCESS

6.4.1.1. INPUT INFORMATION FROM TOCS

The IM is accountable for ensuring the creation and publishing of the weekly production plan. To enable this activity, the TOCs are expected to furnish the IM with their respective orders for Trains they wish to run in their allocated slots. This information is to reach the IM by 11:00 AM weekly, on Tuesdays, to enable the firming up the following week's Train schedule that integrates and incorporates all TOCs' Trains. Important to note is that the integration of the various elements of TOC Trains will focus on avoiding any duplication of services or Trains. Furthermore, the IM shall consolidate the information from each TOC and create an Integrated Train plan which incorporates network possession events for maintenance purposes.

6.4.2. ORDERING AND NWB CAPTURE PROCESS

The IM is accountable for ensuring the creation and publishing of the weekly production plan. To enable this activity, the TOCs are expected to furnish the IM with their respective orders for Trains as outlined in section 6.4.1. Important to note is that the IM will be responsible for the integration of all TOC Trains to avoid any duplication of services or Trains.

6.4.3. TRAIN PLANNING AND DOABILITY PROCESSES

Every Thursday at 11:00, an integrated "do-ability forum" shall be coordinated by the IM, the aim of which will be to signoff, along with TOCs, the final Integrated Train plan for the following week. In this forum, the IM will indicate to all TOCs all the upcoming network possession interventions, and therefore any impact these network maintenance interventions shall have on the intent by the TOCs to run Trains. In addition, the IM shall indicate the rescheduling interventions of TOCs Trains with the aim of avoiding the removal of Trains from the plan owing to the anticipated network possession events.

6.4.3.1. UNPLANNED OCCUPATIONS

Should the IM wish to effect any maintenance, repairs or improvements to the Network or related infrastructure, in circumstances where this shall impact on the availability of the Network and/or the performance of the Transport Services, the Main Line Access Services and/or the Ancillary Services and where such maintenance, repairs or improvements do not constitute "emergencies" and are not proposed to be undertaken pursuant to a Planned Occupation or an Annual Shutdown, the IM shall provide the TOC with the following advance written notice prior to the date on which it plans to commence such repairs, maintenance or improvements:

- where the repairs, maintenance or improvements shall result in Transport Services and/or the Main Line Access Services and/or the Ancillary Services not being available for a period of less than 72 (seventy-two) hours, the IM shall provide the TOC with no less than 7 (seven) days' written notice prior to the commencement of such maintenance, repairs or improvements; and
- where the maintenance, repairs or improvements shall result in the unavailability of the Network and/or the performance of the Transport Services, the Main Line Access Services and/or the Ancillary Services for a period of 72 (seventy-two) hours or more, the IM shall provide the TOC with no less than 7 (seven) days' written notice prior to the commencement of such maintenance, repairs or improvements.

6.4.3.2. PLANNED OCCUPATIONS

The Parties acknowledge and agree that the IM is required to undertake monthly planned occupations of the Network each of which may last for a period of up to 12 hours. The IM shall give the TOC not less than 7 (seven) days' prior written notice of the date of commencement of each Planned Occupation.

6.4.3.3. OTHER PLANNED OCCUPATIONS

The IM shall give the TOC 90 (ninety) days' prior written notice of any Planned Occupation, which notice shall specify the date, anticipated commencement and duration of such Planned Occupation it being agreed that such Planned Occupations shall each not last for more than 13 (thirteen) hours.

The IM shall give the TOC not less than 7 (seven) days' prior written notice of any change to the commencement and/or the duration of a Planned Occupation and the extent to which such change shall affect access to the Network and/or the performance of the Transport Services, the Main Line Access Services and/or the Ancillary Services.

In notifying the TOC of changes to any Planned Occupation, the IM shall have regard of the:

- urgency and scale of the work and activities required to be undertaken; and
- TOC's transportation programme vis-à-vis its customers (to the extent known by the IM).

The Parties shall use reasonable endeavours to co-ordinate their maintenance and repair activities in order to minimise any negative impact on the performance of the Transport Services, Main Line Access Services and/or the Ancillary Services.

Each Party agrees and acknowledges that nothing in paragraph 6.5.8 shall be construed as relieving such Party from its obligations to perform the Transport Services, the Main Line Access Services and/or the Ancillary Services, as applicable, in terms of this Network Statement.

6.4.4. YARD PRODUCTION PLAN AND COUNTDOWN

All TOCs must take note of the Yard Countdown Process (YCD), adherence to which is required to ensure that adequate resources are available as planned for the efficient execution of yard activities, enabling adherence to scheduled cut-off times for all scheduled Trains entering and leaving yards which is performed ahead of the planned arrival or departure of Trains from any Rail Yard.

6.5. DAY OF OPERATION

6.5.1. PLANNING PRINCIPLES

- All Train movements to be undertaken must be reflected on the ITP before the movements occur.
- There must be no duplication or conflict of Train numbers.

6.5.2. PRE-DEPARTURE PRINCIPLES

- All Train movements must be activated in the yard countdown process (YCD).
- A Train must be in possession of a valid Train Worthy certificate.
- A Train must be equipped with primary and secondary voice communication.

6.5.3. RAIL TRAFFIC CONTROL

Rail traffic control is the environment within the IM's responsibility, where Train movements are authorised and managed by a Train Control Officer that involves the actions and procedures to be followed to ensure safe Train movements over a running line by the use of electrically operated signals/Train tokens and points/hand points or special orders according to the specific Train-control system.

The safe movement of Trains is regulated through the Principles of Safe Movement on Rail (POSMOR) **(Annexure 19a)** and is subject to the Train Working Rules Part 1 – 7 (TWR) **(Annexure 19b)** and General Appendix no. 6 **(Annexure 19c)** which govern Train movement authorisation applicable to all TOCs.

- The current overview for Rail Traffic Control consists of 26 Centralised Traffic Control Centres (CTCs) and 19 Single Manned Cabins (SMCs), commonly referred to as outside stations.
- Further details on the Centralised Traffic Control Centres can be seen in Chapter 2.
- The applicable Train Control methods over the selected routes are limited to colour light and VDU Track Warrant with its applicable "fallback procedures".

6.5.3.1. RAIL TRAFFIC CONTROL AND COMPLIANCE

- Only scheduled ITP trains are allowed to access the Main Line.

- Only Trains within the tolerance of no later than 30 minutes or earlier than 180 minutes from origin are allowed to depart.
- Trains will be prioritised as per current Train Working Rules.

6.5.4. SPECIAL MEASURES IN THE EVENT OF DISRUPTIONS

In the event of Train service disruptions, the IM will prioritize the restoration of Train services in alignment with the published ITP. This prioritisation takes into account several factors:

1) Consideration of Stakeholders: This includes the needs of all stakeholders, encompassing TOCs, the IM itself, passengers, freight/cargo owners and customers.
2) Emphasis on Safety and Security: The restoration efforts are guided by a commitment to safety and security to ensure the well-being of all involved.
3) Efficiency and Economy: The IM aims to efficiently and economically operate the network infrastructure to enable efficient Train operations on the Network.

Train service disruptions, also known as deviations, are defined as events that disrupt the regular operation of Train services, causing them to deviate from the published ITP. The undesirable outcomes of disruptions include delays or cancellations of scheduled Train services. These disruptions can result from various events, including but not limited to:

- Derailments
- Rolling Stock failures
- Emergency occupations (temporary track possession for emergency maintenance)
- Electric power supply equipment failures
- Theft and vandalism of railway infrastructure and components
- External factors such as natural disasters (e.g., track washouts due to heavy rain), community unrest (protests), or industrial actions
- Incidents like foreign objects (e.g., rocks, road vehicles, and trees) obstructing railway infrastructure, leading to blocked Train paths
- Failures or breakdowns of loading and offloading equipment, involving customers or ports

In most cases, Train service deviations resulting from disruptions can be anticipated. For instance, when there is intelligence indicating planned mass industrial strike action that may negatively impact certain aspects of Train services, the IM can take proactive measures to manage potential deviations and ensure the smooth execution of the published ITP.

The following process and guiding framework shall apply when dealing with Train service disruptions on the day of operation, particularly when deviation management decisions affect allocated capacity.

6.5.4.1. DEVIATION MANAGEMENT PROCESS

The IM oversees the development and maintenance of contingency plans, dispatching guidelines, and codes of practice in collaboration with all TOCs. These measures are designed for implementation in cases of disruptions with the aim of restoring Train operations efficiently. The dispatching objective is ensured by adhering to the following dispatching rules:

1) Priority for Trains with commuter passengers on board
2) Priority for urgent service Trains
3) Priority for long-distance Passenger Trains with Passengers on board

4) Priority for tourist Trains with Passengers on board
5) Priority for freight Trains carrying urgently needed cargo for critical industrial operations (e.g., jet fuel supply to the airport)
6) Priority for high-priority Freight Trains over other freight Trains (except those with very high priority)
7) Equal priority for all other Trains
8) In cases of equal priority, fast Trains take precedence over slower ones.
9) When prioritizing a Train of lower priority, if it enhances operational efficiency, the IM may decide to clear that Train ahead of others to optimize network fluidity.

While the IM is responsible for directing service restoration efforts, it may engage a network of Service Providers, comprising various cross-functional parties, to clear affected rail infrastructure. These Service Providers will operate under the IM's management, unless otherwise mandated by law. This network of Service Providers may include contracting TOCs equipped with necessary breakdown equipment meeting applicable standards for clearing rail infrastructure affected by disruptions.

TOCs should be aware that under certain scenarios and conditions beyond the IM's control, their allocated capacity may be utilized by the IM to reschedule Trains of competing TOCs in an effort to restore normal operations.

In cases where a disruption is expected to affect normal Train service operations for an extended period (typically exceeding 12 hours), the IM will collaborate with relevant TOCs to revise integrated Train schedules for amendment and implementation. The duration threshold for such revisions will be determined jointly between the IM and TOCs to ensure fairness and to prevent potential discriminatory actions by the IM.

Depending on the nature of the disruption, some Trains may need to be rerouted onto alternative routes, potentially requiring pilot working. In such situations, it is expected that the TOC operating the alternative route should provide pilot services for Trains rerouted onto it if the affected Trains' crew lack route knowledge of the alternative route. In other cases, it may be more suitable to temporarily halt affected Trains at intermediate Rail Yards, with the intention of resuming operations in later time slots. When making decisions about staging or halting Trains, the IM will work in conjunction with affected parties to arrange security measures for safeguarding the affected Trains, with every effort made to re-plan the movement of these temporarily staged/halted Trains as soon as it becomes practicable and safe to do so.

TOCs are required to designate authorized parties for 24/7 collaboration with the IM in resolving operational disruptions. This operational group, operating under the IM's OCC, is responsible for coordinating measures and making anticipatory decisions regarding Train services during disruptions.

6.5.4.2. DEVIATION MANAGEMENT GUIDING FRAMEWORK

When a disruptive event occurs, the IM is obliged to determine the appropriate actions to restore the ITP as soon as is reasonably practical, safe, and as quickly as possible, whilst considering the needs of all stakeholders (TOCs, passengers, cargo owners), the interests of safety and security, and the efficient and economical operation of Trains and the network, in an open, fair, and transparent manner.

The IM shall be entitled to revise and update the ITP for the following day (an "Amended Train Schedule") and any subsequent Amended Train Schedule, on a daily basis, to take account of any deviations due to any delays, Cancellations, Force Majeure Events, Occurrences, the IM's resource constraints and associated Cancellations.

To achieve the above, the IM may request assistance from the TOCs in the form of, for example, the provision of resources (Train Crew, Rolling Stock, etc.). It is expected of TOCs to cooperate regarding such actions, which

may include TOCs providing the critical services and/or resources to enable the IM's coordinated efforts aimed at restoring operations as quickly as possible, safe, and practical.

TOCs have the right to request reasonable compensation for the use of their resources. The IM is not, however, obliged to compensate TOCs for any loss arising from such disruptions unless otherwise agreed in the applicable agreement (i.e., Rail Access Agreement).

If an event with the potential to disrupt the Train service materialises or where one is anticipated, the following generic interventions may be taken to manage the severity of the disruption's impact (in no order of importance) after identifying the Trains that may likely be impacted:

1) Cancel – with the aim of rescheduling the cancelled Trains to later timeslots,
2) Delay – by holding back (staging) the impacted Trains, and safely securing them off the Main Line(where applicable) and running them in a later timeslot,
3) Re-route – by identifying alternative routes that technically can accommodate the rerouting of the affected Trains.
4) Re-schedule (within 24 hours) or Re-plan (more than 24 hours) - the IM will assess the ITP for the remainder of the week to identify opportunities to allocate the TOC an alternative slot.

To enable effective rerouting of affected Trains, the IM shall ensure compatibility between the affected Trains' characteristics (weight, length, Train type (passengers, freight, etc.)) versus the configuration of the anticipated alternative route (e.g., crossing loops and lengths, track axle mass limitations, electrification vs non-electrification, etc.). For effective decisions on rerouting, the IM team shall set up a tribunal with all the critical and applicable stakeholders (TOCs and other affected independent IM's (such as PRASA)). Together they will determine the type of traffic that may be subjected to a change of route based on the following criteria:

1) Capacity availability on the alternative diversion route.
2) Train Configuration and suitability i.e., type of rail wagons, Locomotives, Train length, etc.
3) Train Crew availability and their applicable qualifications.
4) Total turnaround time if the identified diversion route takes longer than the estimated time of repairs on the primary route.
5) Diversion cost versus Revenue generation (cost benefit analysis).
6) Diversion should also be considered for efficiency improvements i.e., shorter route options in line with volume generation.

It should be noted that alternative routes may be prone to Train delays and disruptions because of congestion, and this requires some level of preparedness by the TOCs. Each TOC will be expected to create capacity for such events to minimise Train delays as far as is practically possible: this could be technical staff for support or Train Crew and Rolling Stock for deviation management purposes, as well as making allowance for these disruptions in their proposed operating methodologies and resourcing plans.

6.5.5. TERMINALS

6.5.5.1. PORT TERMINALS

The Port Terminal Operator (PTO) performs vessel working, stacking and loading/offloading activities. The PTO and IM planning functions align through daily and weekly planning of Train movements as per the container stack dates, vessels and port-rail handling and stack capacity.

Trains could be redirected to back of Port facilities by the PTO for discharge and loading. The PTO will request the TOC to place or clear rail wagons by following the existing order-to-execution process.

6.5.5.2. INLAND TERMINALS

The Inland Terminal Operator (Private /TFR TOC Owned) will perform all the terminal functions of stacking, loading/offloading of rail wagons, for the terminals they own and which they are responsible for. TOCs are responsible to engage terminal operators and make arrangements for Rail Wagon loading/offloading as per Train plan and vessel stack dates.

The IM will provide network security services for the safe keeping of the Rail Infrastructure. Train security services will be provided by the TOC.

6.5.6. OCCURRENCE REPORTING AND OCCURRENCE MANAGEMENT

Any Occurrence involving a Train that is being operated on the Network (whether it is in motion or stationary) shall immediately be notified by the TOC to the IM's Train Control Officer. The Train Control Officer shall report the Occurrence to the Duty Manager: Occupations and Incident Management of the IM who, in turn, shall notify the Safety Regulator.

In the event of any such Occurrence, such Occurrence shall be managed by or on behalf of the IM and the IM shall provide any required Occurrence Management Services, and the TOC shall be responsible to arrange any medical assistance that may be required for any injured persons, or to provide alternative transportation arrangements for affected passengers. The TOC shall, at all times comply with the IM's Occurrence reporting procedures, as required by the OHS Act and the RSR Act. In addition, the TOC shall render all assistance and support as may reasonably be required by or on behalf of the IM in clearing and restoring the Network and the TOC shall use endeavours to ensure that a duly authorised representative of the TOC is present to authorise the movement of any Trains.

It is specifically recorded that in performing the Occurrence Management Services, the IM's Personnel shall not be regarded as employees or agents of the TOC and the IM shall not be liable for any acts or omissions of its Personnel and the TOC and its Personnel shall have no claim against the IM in this regard.

The IM shall give the TOC notice of any events or circumstances of which it becomes aware and which may prevent adherence to the published ITP, including any Disruptions or Occurrences.

In the event that the Parties are unable to agree on the cause of an Occurrence and whether same is wholly or partially attributable to any action or omission by the IM or the TOC within a period of 60 days of the date of the Occurrence, then either Party shall be entitled to refer the matter to an independent expert in terms of the dispute resolution provisions of the Rail Access Agreement with a view to determining the primary cause of the relevant Occurrence.

6.5.6.1. Occurrence Management Services

When an Occurrence occurs, he IM must see to it that the following Occurrence Management Services are performed (where necessary to clear tracks and restore operations):

a) engaging local authorities and emergency rescue services in accordance with the contingency / emergency plan;
b) security services procured by the IM to secure the Occurrence site / scene;
c) site clearance services including, if necessary, removing any Rolling Stock;
d) track repair and reinstatement services;
e) the Occurrence investigation services; and
f) any other ancillary actions.

6.5.6.2. Limitations on provision of Access

The IM shall not be obliged to provide any access to the TOC on a Route where an Occurrence takes place or where the relevant event or circumstances render it unsafe or impractical to do so.

6.5.7. CANCELLATIONS INCLUDING FORCE MAJEURE CANCELLATIONS AND CANCELLATIONS ARISING FROM DISRUPTIONS

Where the TOC notifies the IM, in writing, that it wishes to cancel a Train after the weekly or daily ITP has been published;

- as a result of any, Occurrence delay or any other reason (provided that such Occurrences, delays or other reasons are not attributable to an act or omission by the IM), which renders the TOC unable to perform one or more of the Transport Services;

then the TOC shall be deemed to have cancelled the relevant Train(s) and such Cancellation shall be allocated by the IM to the TOC and recorded in the TEMS and/or the TOMS (as applicable), provided that any such Cancellation which is due to a Force Majeure Event shall be recorded in the TEMS as a "Force Majeure Cancellation".

Where the IM notifies the TOC, in writing, that it wishes to cancel a Train after it has published the weekly or daily ITP; as a result of any shutdown, Occupation, occurrence, delay or any other reason (provided that these reasons are not attributable to an act or omission by the TOC)which renders the IM unable to perform one or more of the Access Services or the Ancillary Services or is required to reduce or suspend any or all such services);

then the IM shall be deemed to have cancelled the relevant Train and such Cancellation shall be allocated to the IM and recorded as such in the TEMS and/or the TOMS (as applicable), provided that any such Cancellation which is due to a Force Majeure Event shall be recorded in the TEMS as a "Force Majeure Cancellation".

Notification of Cancellations

- Only the authorised Personnel of the TOC and of the IM, as applicable, shall be allowed to cancel Trains, communicate details of Trains deemed to be cancelled, and officially receive Train Cancellation notifications.
- Each Party shall notify the other Party, in writing, of any changes to the authorised Personnel.
- The process for authorising and communicating Train Cancellations shall be in accordance with **Annexure 20a** (**Cancel Train Process**).
- Every Cancellation notification shall have a unique, auditable reference number, for the purpose of recording applicable reasons.
- The process of managing and allocating Cancellations and resolving Cancellation Disputes during each week is set out in **Annexure 21** (**Clearinghouse Process Narrative**) and in the Daily Handshake process

Should a TOC fail to notify the IM prior to the time of departure of Train and thus fail to utilise the allocated Slot on the day of the operation due to a Force Majeure Event, the TOC must submit in writing, within 48 hours, the reasons for non-utilisation of the slot for consideration of a waiver of slot fees as outlined in Chapter 5. The IM will only consider waivers in situations that are out of both the IM and the TOCs' control and constitute Force Majeure Events.

6.5.8. NOTIFICATIONS OF IMPACT OF SHUTDOWNS AND OCCUPATIONS (PLANNED OR EMERGENCY) ON TOCS

6.5.8.1. OCCUPATIONS FOR ANNUAL SHUTDOWNS

The IM will operate the Network on a 24 (twenty-four) hour, 7 (seven) days a week basis throughout the term of this Network Statement; subject to any collective agreement and/or any Applicable Law which is binding on one or more of the Parties and which prevents such operation.

In addition to the Annual Shutdown, the IM shall be entitled to undertake regular planned maintenance, comprising any Planned Occupations and it shall use all reasonable endeavours to undertake planned maintenance, repair work and capital works in relation to the Network, during the periods notified by it for the undertaking of Planned Occupations and the Annual Shutdown.

6.5.8.2. EMERGENCY MAINTENANCE AND REPAIRS

Nothing in the preceding paragraph shall be construed as precluding the IM from undertaking any emergency repairs or emergency maintenance which are in addition to and which cannot be undertaken as part of scheduled maintenance including, the Annual Shutdown and any Planned Occupations, provided that the IM shall notify the TOC of the extent of the relevant emergency maintenance and/or repair work and the estimated period required to undertake such emergency maintenance or emergency repairs as expediently as may be possible.

For purposes of this paragraph, an event shall only constitute an "emergency" if there is a reasonable risk of immediate loss or damage to the Network and/or the reasonable risk of injury, harm or death. Only such repairs or maintenance as are required to avoid such immediate consequences shall constitute an "emergency".

Following a notification by the IM in terms of this paragraph, the IM shall provide the TOC with details of the emergency maintenance and/or repairs that are required, the anticipated impact that this shall have on the ability of the TOC to perform its obligations as well as all steps which it proposes to take in an effort to mitigate any prejudice that the TOC may suffer as a consequence.

The IM shall use all reasonable measures to ensure that the TOCs are provided with reasonably adequate and detailed information of any such emergency repairs and maintenance.

6.6. POST-PRODUCTION RECONCILLIATION

6.6.1. DAILY HANDSHAKE PROCESS

It is important that daily reconciliations must be performed between the IM and each TOC regarding all deviations that occurred during the past 24 hours. Whenever either the IM or any TOC deviates from planned schedules or when deviations impact available slots, the reasons and responsible parties for such deviations and their impact should be determined as close as possible to real time. This is necessary to ensure that all supporting documentation and information to substantiate what happened, what caused it and who is responsible can be gathered and filed, to ensure proper audit trails of what exactly happened to each TOC order. This will also limit any later disputes as to who should be held accountable for the total impact of each incident.

This process can be summarised by the following 14 steps and should be followed daily between IM and all TOCs.

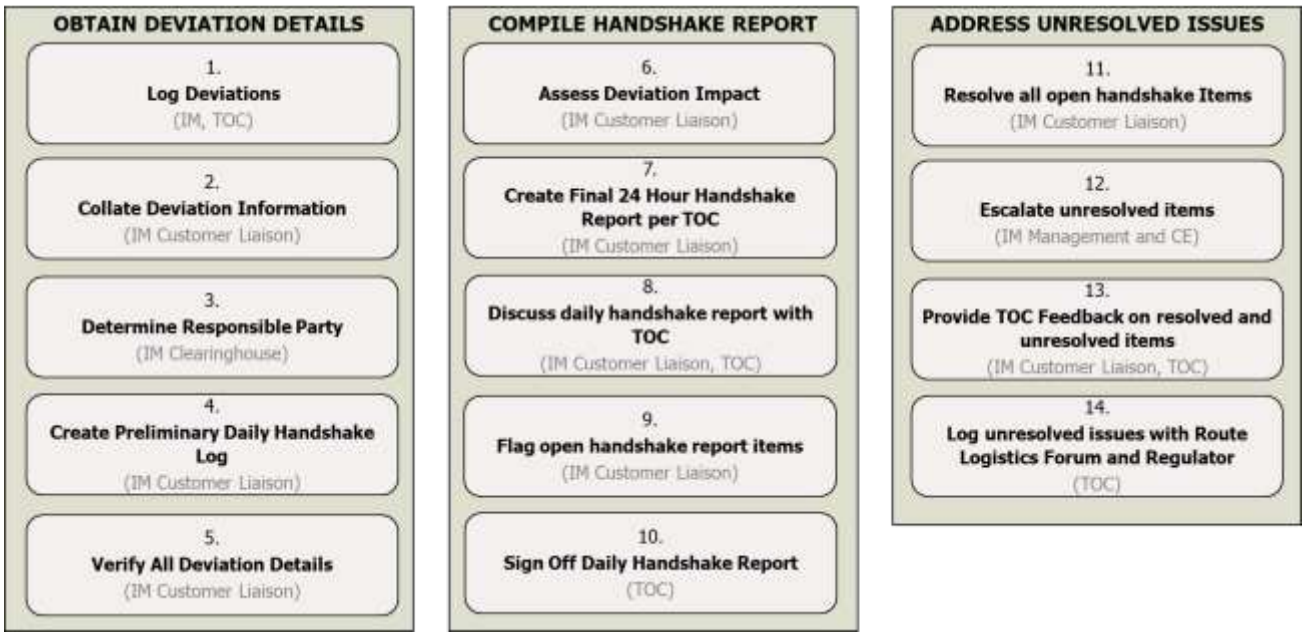


Figure 31: The Daily Handshake Process

6.6.1.1. Step 1: Log Deviations

The IM must log all deviations from the contracted slot schedule for the past 24 hours on TOMS. Every logged deviation must be linked to the relevant Train. This must be done for all deviations caused by the IM.

Similarly, each TOC must also log all deviations from the contracted slot schedule for the past 24 hours on TOMS (or any other TOC Incident Management System that interfaces with TOMS), and every logged deviation must be linked to the relevant Train. This must be done for all deviations caused by the TOC.

Against each deviation the following detail should be captured:

- Date and time
- Location
- Deviation type
- Deviation description
- Size and impact of deviation (impact on slots quantified)
- Other Slots impacted or delayed.
- SLA KPIs impacted
- Party causing deviation
- Primary deviation reason or Cause
- Delay minutes

When updated information per deviation incident becomes available during the day, updates should immediately be recorded per incident on TOMS by either the IM or the relevant TOCs.

6.6.1.2. Step 2: Collate Deviation Information

The IM will daily assess and follow up all TOMS-logged TOC Train-related deviations. The IM will also investigate all deviations that impacted slots for which it considers itself to be responsible.

The IM will track and collate all deviation documentation and information pertaining to each relevant impacted Train; and log and file all supporting documentation per deviation.

6.6.1.3. Step 3: Determine Responsible Party

The IM will conduct a daily Clearinghouse process in conjunction with the TOCs as outlined in **Annexure 21**. The IM will assess official Clearinghouse reports of all logged incidents that impacted TOC slots, to determine which party is responsible for each deviation, as well as the cause of each deviation. The responsible party that will be allocated to each deviation will be one or more of the following:

- The IM
- A specific TOC
- Another IM
- External Stakeholders (external to Transnet)
- Force Majeure Events

6.6.1.4. Step 4: Create Preliminary Daily Handshake Log

The IM will create a preliminary log of all TOC slot-related incidents and deviations that occurred in the past 24 hours with allocated reasons and responsible parties.

The IM will reference a standard catalogue listing all possible slot cancellation or deviation reasons, with the most likely causes and remedies for each of them.

6.6.1.5. Step 5: Verify all Deviation Details

For every incident that impacted or delayed contracted and allocated TOC slots, the IM will verify the deviation time, location, impacted Trains, deviation category and reason, root cause and allocated responsible party, which include:

- Incidents for which TOCs are responsible, including all deviations caused by TOCs, e.g. Load not ready, Countdown events late, late sign-on of TOC crew, TOC NTG rail wagons detected that had to shunted out, TOC derailments that occurred, etc.
- Incidents for which the IM is responsible, including all deviations caused by the IM which caused a contracted slot not be available, or that impacted the quality of the slot, e.g., when a Temporary Speed Restriction or manual Train authorisations had to be instituted, when emergency occupations had to be implemented, when a rail break or overhead catenary cable theft caused a contracted slot not to be available, etc.
- Incidents for which another IM is responsible, including all delays caused by another IM (e.g., when a contracted PRASA network slot was not available). If PRASA or another IM caused the deviation, or if the deviation happened in a PRASA or other IM section, the IM will not be liable.
- When Incidents are caused by an external party, the IM will assess which external party caused each delay, and the IM will engage each relevant party, e.g., Eskom when power failures cause contracted slots to be unavailable.
- If the deviation was caused by factors outside of the control of TOCs and the IM, Force Majeure Events must be allocated as the responsible party, and liability must in such cases be split between the IM and impacted TOCs (e.g., floods, washaways, community unrest, etc.).
- Further details on the Main Train Cancellation reasons and responsible party are provided in **Annexure 20b (Cancellation Reasons)**

6.6.1.6. Step 6: Assess Deviation Impact

The IM will assess all TOC Train(s) impacted by a deviation over the past 24 hours and determine the size and scope of the impact:

- Which TOC Train(s) were not taken up or used?
- Which TOC Train(s) had to be cancelled?
- Which TOC Train(s) had to be re-scheduled?
- Which TOC Train(s) had to be re-routed?
- Which TOC Train(s) had to be halted or staged?
- Which TOC slot(s) were delayed and what were the total delay minutes per slot?

6.6.1.7. Step 7: Create Final Daily Handshake Report per TOC

Every morning at 08:00 the IM will create and update a final Daily Handshake Report for every TOC. The Handshake Report will list all daily deviations per TOC Train number with all deviation details, linked to all supporting documentation.

Each report should cover all TOC Train related events (linked back to the relevant TOC order number) for the past 24 hours, including all incidents that caused slot cancellations and deviations, with reasons, allocated root causes and responsible parties, as well as each deviation' impact assessment.

6.6.1.8. Step 8: Discuss daily handshake report with TOC

The IM will publish each TOC-specific daily handshake report on the applicable platform to afford every TOC the opportunity to review each report.

The IM's customer liaison personnel will discuss each daily handshake report with every TOC. The goal is to reach agreement on every item in the report (incident description, deviation, reason, cause, responsible party, deviation impact) to eliminate avoidable disputes later.

6.6.1.9. Step 9: Flag Open Handshake Report Items

TOCs will review daily handshake reports and will discuss these reports with the IM. Each TOC should raise any item or detail it does not agree with on the report, citing reasons and providing supporting documentation evidence.

All items that the TOC does not agree with should be flagged as open handshake report items.

6.6.1.10. Step 10: Sign Off Daily Handshake Report

Each TOC must sign off every daily handshake report (including the flagged open items).

Every signed-off handshake report will be filed by the IM, together with all supporting information per TOC deviation.

6.6.1.11. Step 11: Resolve all open handshake items

The IM will track open daily handshake items and create a daily report listing open deviation reconciliation items. The IM's customer liaison staff will attempt to resolve all open handshake items per TOC (from the previous 24 Hours' Handshake Report) within the next 24 hours.

This will be done by following up every open item with the relevant party (parties), including provision of information and reasons provided by the TOC for each disputed item.

6.6.1.12. Step 12: Escalate unresolved items

Open items not resolved within 24 hours will be escalated to the relevant IM Customer Liaison Manager.

Open items not resolved within 48 hours will be escalated to the IM Head of Customer Service who will liaise with all other Heads of Departments to attempt to resolve each open item.

Open items not resolved within 72 hours will be escalated to the IM Head of Network Operations who should resolve the matters within 96 hours.

6.6.1.13. Step 13: Provide TOC Feedback on resolved and unresolved items

The IM will provide daily feedback to all impacted TOCs on resolution of all open handshake report items, including items that could not be resolved, with reasons.

Final TOC feedback will be provided on open items that could not be resolved by the IM within 96 hours after the first handshake report was issued.

All Daily Handshake Open Items that could not be resolved within 96 hours will be referred for discussion at the next Route Logistics Forum.

6.6.1.14. Step 14: Log unresolved issues with the Route Logistics Forum and Regulator

Deviation disputes that could not be resolved by the Route Logistics Forum or the IM can be escalated to the Regulator.

For cases referred to the Regulator, the Regulator will make the final resolution decision and issue the outcome of the dispute resolution, which will be binding on all parties. For further details on the proposed dispute resolution process, refer to paragraphs 4.5.4, 6.8.1 and 6.8.2.

6.7. PERFORMANCE MANAGEMENT

The purpose of Performance Management is to continuously measure, analyse and improve the availability of the Network as well as the utilization of the network by the TOCs.

The reconciled data from the Daily Handshake Process discussed under paragraph 6.6.1 will be used for the purposes of the Performance Management.

The data will be analysed and presented by the IM at the Route Logistics Forum discussed under paragraph 6.7.2.

6.7.1. SLA KPI PERFORMANCE MEASUREMENT

- The Key Performance Indicators (KPIs) in Table 15 will be used for the purposes of Network Performance Management of the IM:

Network Performance	1. Slot availability 2. Network GTK forecast adherence
Train Performance	1. IM Slot cancellations 2. On time departure (Train ready to depart) 3. En-route delays (per category)
Safety Performance	1. Number of Safety incidents (per category) 2. Number of Train Safety incidents per Train-kilometre 3. Number of Injuries per Train-kilometre 4. Minutes delays due to safety incidents

Table 15: Key Performance Indicators for IM

- The Key Performance Indicators for TOCs that will be measured by the IM are depicted in Table 16:

Slot Utilisation	1. TOC slot utilisation 2. TOC GTK forecast adherence
Adherence to Schedule	1. TOC Slot cancellations 2. On time departure (Train ready to depart) 3. En-route delays (per category)
Safety Performance	1. Load adherence: Nr of overload/skew incidents 2. Number of Train Safety incidents per Train-kilometre 3. Number of Safety incidents (per category) 4. Minutes delays due to safety incidents

Table 16: Key Performance Indicators for TOCs

- Some of these KPIs will attract penalties as outlined in Chapter 5.

6.7.2. ROUTE LOGISTICS FORUM

The Route Logistics Forum will provide a platform for joint planning between the IM, TOCs and Service Providers, where the IM all TOCs' performance are reviewed and where capacity issues are highlighted. The purpose and outputs of this forum can be summarised as follows:

- Identify challenges and recurring issues experienced by the IM and TOCs on the Network, including contractual and operational issues
- Assess IM TOC and Service Provider performance improvement opportunities, maximising railway efficiency and service quality on the Network.
- Assess how coordination of all IM, TOC and Service Provider activities along the network can be improved, seeking ways to obtain an optimal balance of Trains.
- Discuss general performance standards in relation to overall Network performance and throughput.
- Discuss IM, TOC and Service Provider SLA KPIs and KPI performance issues.
- Discuss unresolvable deviation-related disputes raised by any of the parties.
- Discuss future Rail Network improvements and investments that are required, including immediate rehabilitation work required, acknowledging funding and other business constraints.
- Recommend deliverables and actions for the IM, TOCs and Service Providers.

- Monitor the delivery of agreed forum ctions (covering IM, TOC and Service Provider responsibilities).
- Review and advise on risks and issues raised by the forum, and management thereof as they arise including the escalation of risks and issues outside the Forum boundaries to the appropriate governance structures and individuals.
- Discuss issues pertaining to integration with other IMs and other Transnet ODs.
- Issues that cannot be resolved by the Route Logistics Forum should be escalated to the Regulator (for further resolution).

6.8. DISPUTE RESOLUTION

6.8.1. TYPES OF DISPUTES AND RESOLUTION MECHANISMS

- Capacity Allocation disputes can be lodged with the IM during the consultation window of the applications process for resolution.
- Contractual disputes are to be addressed through the standard contract with all TOCs.
- Daily post-production disputes are to be addressed through the Clearinghouse and Daily Handshake process conducted by the IM and appointed representatives of the TOCs.
- Matters that cannot be dealt with through the above processes must referred to the Regulator as outlined in the ERT Bill. The Regulator should provide the mechanism for resolving these disputes.

6.8.2. OPERATIONAL DISPUTE MANAGEMENT PROCESS

Matters and/or circumstances beyond the IM's control may force the IM to make deviation management intervention decisions (e.g., cancellations, staging, replanning, rescheduling or rerouting of Trains) without inputs from all stakeholders. Reasons for and impact of all devation management interventions must be recorded by the IM, and shared, discussed and signed off by all stakeholders at the daily handshake meetings.

It is understood that some stakeholders may feel disadvantaged and unsatisfied by the IM's decisions referred to in the foregoing paragraph, in which case the aggrieved stakeholder may submit their written concerns to the IM for resolution. The IM shall, upon receipt of the lodged dispute, respond to the aggrieved stakeholder(s), indicating (a) why the decision was taken in the manner it was, and (b) what the bigger impact would have been had the IM delayed and waited for input from the stakeholders before acting.

Should the aggrieved stakeholders not be satisfied with the IM's response, they can exercise their right to lodge a dispute with the Regulator for a non-biased resolution. However, the IM can appeal the Regulator's resolution should it be found that the resolution will detrimental to the overall operation, rendering the ITP unstable and laden with unresolvable conflicts.

CHAPTER 7: ANCILLARY SERVICES

7. CHAPTER 7: ANCILLARY SERVICES

7.1. INTRODUCTION

This Section stipulates specific rights and duties between the TOC and the IM in terms of

- use of capacity of the service facilities; and
- where these services are not offered in the minimum access package, the IM "shall use all reasonable endeavours to facilitate the provision of these services".

7.2. REGULATORY ASPECTS

Access to common use service facilities listed in section 5.1.1 is managed by third party Operators on behalf of the IM using rules outlined in this section which will be regulated to ensure fairness and neutrality.

For the 2024/25 and 2025/26 timetable period, access to service facilities as described in section 7.3. will be included in the standard access fee.

Access to Rail Yards and service facilities must be indicated in the TOCs' application. The IM will assess required access to service facilities, including common use Rail Yards, and apply fairness to grant access for the purpose of Train preparation.

TOCs are entitled to use the service facilities in the yard for the duration stipulated in the service designs of the prevailing timetabling period. Overstay penalties as described in section 5.2.9.

7.3. DEFINITION OF ANCILLARY SERVICES

The IM will grant access to lines in facilities listed in section 7.3.1. This access will not include any Train handling activities listed in section 7.3.2.

7.3.1. REGULATED FACILITY SERVICES OFFERED ON BEHALF OF THE IM FOR THE PURPOSE OF PROVIDING ACCESS ON THE MAIN LINENETWORK

- Freight terminals;
- Marshalling yards;
- Rail Yard facilities (electricity charging, water, access to maintenance depot next to yard, etc.);
- Storage sidings (offering parking areas for Trains, rail wagons and Locomotives);

7.3.2. ANCILLARY SERVICES OFFERED ON BEHALF OF THE IM FOR THE PURPOSE OF PROVIDING ACCESS ON THE NETWORK

The services listed in this section will be performed by service providers on behalf of the IM for the purpose of ensuring fair access and movement within the marshalling yards and terminals. The IM has an obligation to ensure that the rail network operates at the optimal efficiency standards. This requires the implementation of Service Level Agreements with yard operators and fair regulation of appropriate activities in the yards. The services listed in this section will be regulated by the IM in accordance with the rules of fairness, transparency, and competitive neutrality as outlined in the Ancillary Services agreement with required service levels by and between the IM and a Service Provider and the Service Provider and each TOC respectively:

- Shunting of Trains into and out of Rail Yards;
- Removal of TOC NTGs from the shared lines within Rail Yards;
- Clearing of Main Lineand clearing of any facilities in cases of incidents to restore rail services on the network;
- Accept and dispatch Trains into and out of Rail Yards;
- Manage and regulate the marshalling activities;
- Shunting out of NTG rail wagons;
- Staging of NTG rail wagons in a demarcated part of yard;
    - It is the responsibility of the TOCs to remove NTGs and move them to their nominated repair location(s).
- Admit TOC Locomotives to a Rail Yard; and
- Prepare Trains for departure from the Rail Yard onto the Main Line

7.3.3. INDEPENDENT ANCILLARY SERVICES TO POTENTIALLY BE OFFERED BY SERVICE PROVIDERS

TOCs must source and procure this non-exhaustive list of ancillary services to enable the building and breaking of Trains, and clearance and placement of Rail wagons from siding to yard, from independent service providers.

- Load Inspection services;
- Removal of TOC NTGs and doing of running repairs;
- Day-to-day Rolling Stock pre-departure inspections;
- Terminal operational services (including terminal handling, storage and siding loading / offloading services);
- Wagon and locomotive maintenance services;
- Wagon leasing services; and
- Crew training and competency certification services.

7.4. PRINCIPLES OF SUPPLYING ANCILLARY SERVICES

To ensure efficient allocation and utilisation of Rail Yard capacity, the IM will conduct a pre-assessment and define available capacity for each Rail Yard. Additionally, the yard capacity requirements of each applying Train Operating Company (TOC) will be assessed. Yard designs will be used to assign specific time windows to each TOC. These allocations will be formalized in a yard Service Level Agreement (SLA) between the IM's Service Provider and each respective TOC.

Furthermore, the IM will establish an SLA with Freight Rail Operators to monitor the usage of Rail Yard capacity and the movement of loads within common use Rail Yards The SLA will outline the services provided by the Service Provider, along with terms and conditions, including Yard Usage Time allowances and applicable penalties.

For each Contract Year, each TOC's application will be used to determine the TOC's Yard Usage Time required for each Rail Yard. Penalties, commensurate with the operating costs of each yard, will be stipulated in the contractual agreements.

7.5. APPLICATION PROCESS FOR SERVICE FACILITIES FOR THE TIMETABLE PERIOD 2024/25

For the 2024/25 Timetable Period (from 1 April 2024 to 31 March 2025), the IM will not provide any Ancillary Services, as defined in the preceding section. Instead, the standard rate quoted by the IM, which has been approved by the IRERC, will encompass the use of IM facilities as outlined in the earlier section.

Train Operating Companies (TOCs) must specify the services they require to support the fulfilment and utilization of slots applied for on the Main Line during the application process. These applications for the use of facilities will be evaluated when service designs and Master Train Schedules are being developed. Charges for these services will be determined and applied on an ad hoc basis for the financial year 2024/25.

During the timetable year 2024/25, the IM will, for subsequent Timetable Periods, refine its offering for service facilities and pricing to distinguish between Main Line services and ancillary facility services. Agreements between the IM and TOCs will be formulated for Ancillary Services that the TOCs will perform on behalf of the IM.

In cases where the defined Yard Usage Time is exceeded by a TOC, as reported by the appointed Yard Operator and daily Handshake reports, appropriate penalties will be charged. The IM will specify these standard times per facility for each yard type. The Service Provider, designated by the IM to oversee Train marshalling activities in the yard, must record the arrival and departure times of each TOCs Train into / out of each Rail Yard.

The IM is actively exploring technology solutions to automate the recording of arrival and departure times for TOC Trains in Rail Yards. In the future, technological advancements will be leveraged to collect departure and arrival information for all Trains entering and exiting Rail Yards efficiently.

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