TRANSNET

INTERIM INFRASTRUCTURE MANAGER

RAIL ACCESS TARIFF METHODOLOGY 2024/2025 DISCUSSION PAPER

(FOR PUBLIC CONSULTATION)

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1 EXECUTIVE SUMMARY

The National Rail Policy, 2022 (NRP) and the Economic Regulation of Transport Bill, 2020 (ERT Bill) provides the foundation and impetus for a fit for purpose rail network access regime and a tariff structure which considers the status of government processes to implement the required legislative frameworks, funding plans and other instruments which usually enable rail reform as seen globally. The complexity to transition to the desired end state, considering all the elements and factors involved to facilitate open access require close collaboration between Transnet Interim Rail Infrastructure Manager (IM), IRERC, various government departments, law enforcement agencies, employee interest, organized labour, private sector and other stakeholders.

To implement the required access regime, Transnet is required to establish an IM that will be responsible for setting network access charges subject to regulation by a future economic regulator, impartial allocation of network capacity, guaranteeing the safety of operations on network assets (including security provision), overseeing traffic management functions and performing network maintenance to approved standards.

The aim of this submission is to present the Interim Rail Economic Regulator (IRERC) with an initial perspective of key considerations in determining access tariffs, fees and access charges that will be applicable when the IM commences with open access offering from 1 April 2024.

This tariff methodology proposal is submitted to IRERC for the purposes of initiating a public consultation process as envisaged by National Treasury's conditions for granting Transnet a government guarantee. The contents of this document is informed by the provisions and principles of the ERT Bill 0 and the NRP and the current state of the TFR and Transnet business. This document constitutes a formal tariff methodology and application for the 2024/25FY. The IM will use the inputs provided through the public consultation process to refine the methodology and assumptions for further consultation and implementation.

Sections 3 provides a summary of the key regulatory and legislative requirements that are relevant for IM tariff determination, highlights the need for funding network rehabilitation, the provision of safe, reliable and available rail infrastructure to operators, and future regulatory requirements. A key provision of the ERT Bill, is that the IM must honour the current contractual obligations of access holders when providing open access is highlighted.

Section 4 provides some key Strategic considerations governing IM service provision and tariffing, including commercial objectives, operational performance objectives, rail capacity creation and allocation requirements, network classification, funding needs for rail network rehabilitation and restoration, and future investment and funding models required. Some key IM set-up requirements and costs are also included. The NRP requirement that adequate rail network security must be provided for is also highlighted in this section.

Section 5 lists the key services offered by the IM, focused on the 1 April 2024, including slot and yard access and ancillary services required and charges for ancillary services.

Section 6 summarises key access tariff principles, considering various IM pricing approaches. The use of the Allowable Revenue approach is also motivated.

Section 7 explains the proposed tariff methodology, detailing how the tariff will be calculated. Some of the building blocks required by tariff calculations are expounded, including the establishment of IM's starting Regulatory Asset Base (RAB), IM's Allowable Revenue, chosen IM asset valuation methodology, which WACC to use and a summary of the IM's operating expenses. The section concludes with the

rationale for an initial standard access tariff, provides a phasing in approach to allow for TOC and end customer affordability, if a subsidy is provided, and a proposed multi-year tariff escalation mechanism.

Section 8 concludes the document, possible third-party party access pricing strategies are mentioned, highlighting the need for further collaborative exploration of pricing differentiation methodologies.

2 INTRODUCTION

Transnet is in support of reforms that can enable and enhance rail performance and migrate transport mode traffic split from road to rail. To this end, through the Department of Public Enterprises, Transnet has submitted commentary for consideration to the Department of Transport to enhance the ERT Bill before it becomes law and also the Freight Road to Rail Migration Plan, 2024 of the DoT. To facilitate compliance and organisational readiness with the proposed legislation Transnet, in its 2023/24 Corporate Plan, outlined the following targets:

(a) introduce and develop the capacity for an Interim Infrastructure Manager, which will transition Transnet Freight Rail from its current state as an operating division of Transnet into separate operating divisions for an Infrastructure Manager and Train Operations, and thereby lay the foundation for the establishment of the Transnet Interim Rail Infrastructure Manager (IM) by October 2023; and

(b) implement a second phase of open access to the Transnet rail infrastructure network by 1 April 2024.

When considering the proposed tariff structure and access fees, IRERC must ensure that the tariff allow the IM to meet its commercial objectives as outlined in section 4.

Where investments are funded by the private sector or lenders, the IM should balance the conflict between meeting its commercial objectives and developing financial models that are viable for private investment.

The Rail Policy states that the government will fund rail infrastructure. It is currently not known when the government will start providing funding and the nature and extent of this funding. The Rail Policy creates the expectation that the network will be fully funded and therefore should be available and reliable from inception of the full implementation of the y open access regime. The reality is that the IM will start operating with a maintenance backlog of R31bn (over the past 7 years, higher if it goes back further) and an estimated apportioned debt of R39bn.

In the absence of immediate funding from the government, IM should base its initial funding requirements on affordability of investment from access fees paid by access users. It is envisaged that, similar to global reforms, there will initially be few external operators and the incumbent Train Operator, being Transnet Freight Rail Operating Company (TFROC) may therefore be the only operator for most of the first year (2024/25) and the dominant user of access services for the foreseeable future based on pre-existing contractual obligation with customers. This situation will imply that the IM will not generate the Allowable Revenues and the forecast should be adjusted closer to the likely scenarios. Further scenarios in this regard could be presented post engagements with the IRERC.

3 LEGAL BASIS AND REGULATORY REQUIREMENTS

The ERT Bill introduces the establishment of a single Transport Economic Regulator for all modes of transport and seeks to aligns to the strategic interventions in the Rail Policy to execute the following purposes:

(a) promote the development of a competitive, efficient and viable South African transport industry contributing to economic growth and development in a sustainable manner;

(b) promote the development of an integrated system of economic regulation of transport of passengers and goods, by air or through airports or ports, and by road or rail;

(c) promote efficiency, reliability, safety and performance in the management and operation of transport facilities and services, in accordance with recognised international standards and local requirements;

(d) establish appropriate institutional arrangements and procedures to support the consistent economic regulation of transport facilities and services;

(e) enhance transparency in the management of transport facilities and services;

(f) promote appropriate investment in transport facilities and services; and

(g) develop complaints and dispute resolution mechanisms.

The ERT Bill further specifically provides that the purposes, as above mentioned, are to be pursued in a manner that promotes:

(a) the development of small and medium enterprises; and

(b) the achievement of equality through measures designed to advance persons or categories of persons historically disadvantaged by unfair discrimination in the operation of and access to transport facilities and services.

Chapter 3, Economic regulation of transport facilities and services, Section 11 and 12, Price Regulation, outlines the requirements for the IM as a to be declared regulated entity to submit a proposal to the Regulator, requesting approval of a price control for the facilities and services offered by that regulated entity.

When considering a proposal submitted in terms of this section, the Regulator must:

(a) consult with interested parties and the public in the prescribed manner;

(b) determine whether the proposal is fair and reasonable, after considering all relevant circumstances, including:

    (i) the regulated entity's operating efficiency and effectiveness;

    (ii) the need for investment and security of supply in the regulated market;

    (iii) the opportunity cost of capital including the average rate of return on other domestic or international facilities or services having similar or comparable risk;

    (iv) the actual or forecast cost of debt;

    (v) any reasonable cost differentials between the different types of facilities or services provided, arising due to geographical location or any other characteristic that the Regulator may deem relevant;

    (vi) the likely effect of the proposed price control on the economy, employment, consumers and small or medium enterprises;

    (vii) any advantage or disadvantage an operator has as a result of state investments, transfers, laws and regulation; and

    (viii) any other specific criteria prescribed by regulation.

The principles underpinning this submission are based on the purposes and processes outlined above and lays the foundation for a fit for purpose access regime and tariff structure which take into consideration the status of government process to implement the required legislative frameworks, funding plans and other instruments which usually enable rail reform as seen globally. Extensive

benchmarking studies and international best practices informed decision making by the IM t to ensure that the rail reform is implemented in such a way that international experiences, practices and learnings are used as a stimulus for enhanced implementation. The complexity to transition to the desired end state, considering all the elements and factors involved to facilitate open access, will require close collaboration between the IM, IRERC, various government departments, employee interest, organized labour, private sector and other stakeholders.

The proposed tariff structure attempts to balance the interest of the market demand (expectations of network access seekers), readiness of market players, current state of the infrastructure, capital investment affordability and funding, the role of the state, existing legal requirements, investor requirements, South Africa's transformation agenda whilst aiming to fully align with the prescripts of the ERT Bill and NRP.

At the time of this submission, the ERT Bill, which aims to economically regulate all modes of transport, and gives effect to the National Rail Policy has been approved by Cabinet but not yet assented to by the President. It is, therefore, critical to note that Transnet makes this submission to IRERC for the purpose of initiating consultation and alignment to formulate an appropriate fit for purpose transitionary tariff structure that will enable the IM to make its initial service offering and operate by applying acceptable methodologies and to ensure transparency of fees and tariffs. The IM and IRERC (the parties), should reach agreement on a tariff that will enable the establishment of an environment to allocate available capacity to train operating companies (TOCs') in the initial stages while establishing the necessary instruments to enable the desired end state as outlined in the NRP.

The NRP and the Draft National Rail Bill, 2023 requires Transnet to separate the accounting of infrastructure management and operations activities. Accordingly, in TFR the accounts of rail infrastructure and rail operations were separated, to determine the regulated asset base which ultimately informs the tariff and access fees being proposed.

The ERT Bill authorises the Regulator to prescribe fees for the processing of access applications, and different fees may be set depending on the type of access requested, and the size and complexity of the access request.

Included in this application, is a schedule of tariffs, charges, fees, and other amounts for consideration by IRERC to exercise the oversight required, which will be levied by IM for the use of, or access to, any network service or facility offered by IM.

The NRP requires the IM to ensure reliability, availability and safety of the rail network offered to all Train Operating Companies (TOCs). This application will detail how the IM will recover the cost of all required ongoing rail network maintenance, required network rehabilitation and the provision of the requisite level of network security as part of its standard rail access tariff charged to all TOCs.

4 STRATEGY CONSIDERATIONS

4.1 COMMERCIAL OBJECTIVES

When considering the proposed tariff structure and access fees, the following principles are observed. IRERC must ensure that the tariff allows the IM to:

(a) recover its investment in owning, managing, controlling and administering rail infrastructure and its investment in rail infrastructure services and facilities;

(b) recover its costs in maintaining, operating, managing, controlling and administering rail infrastructure and providing rail infrastructure services and facilities;

(c) earn a return commensurate with the risk of owning, managing, controlling and administering rail infrastructure and of providing rail infrastructure services and facilities;

(d) In support of the economic objectives of the NRB , the IM's business model should commercially focus on the maximisation of the following key focus areas:

- Network density, calculated as Million ton-km over route km;
- Track utilisation, measured in Tons transported vs Network Ton Capacity available;
- Rail market share measured as a Percentage of Rail Volumes transported vs Rail Addressable Market (RAM) Volumes;
- Revenue generated from access fees vs Revenue Required; and
- Reducing cost of logistics.

4.2 OPERATIONAL PERFORMANCE OBJECTIVES

Other Operational performance focus areas will include setting targets for capacity to be created for access seekers (measured in ton kilometers), network reliability levels, safety, efficiencies (network availability, reliability, punctuality, and network velocity) relative to the level of investment in network maintenance.

A healthy balance between the commercial objectives and expected operational performance must be achieved. The initial financial model which forms the basis for the tariff application demonstrates these tensions.

4.3 RAIL INFRASTRUCTURE CAPACITY CREATION

4.3.1 NETWORK SIZE AND CLASSIFICATION DRIVERS

The initial need to classify the network stems from the hypothesis that the network is (a) too big to be economically sustainable; and (b) a variable treatment model for each class would be required.

The classification thus considered a number of drivers including:

- **Network Densification**: It is widely believed that the legacy rail network is too big to be economically viable and sustainable.
- **Inability to Invest**: The IM is unable to invest adequately or equally in all parts of the network on its owns. Prioritisation is required to generate sufficient funds to reinvest in the maintenance of an economically viable network.
- **Network Dependencies**: The IM's Rail Network is dependent upon other rail networks such as PRASA, Municipalities and cross-border destinations. Classification should make provision for adequate access and preservation of access routes.
- **Parts of the Network are redundant**: Some segments no longer have the potential for rail transport. Demand has shifted geographically, and volumes are too low or cannot offer viable alternatives to road.
- **National Rail Policy and Rail Reform initiatives**: The NRP states the need to invest in the "core" of the network. This requires definition. The Policy also refers to "branch lines" and the "secondary network" without defining exactly what that means. It also implies that a Rail Master Plan would be needed with tiering or classification as a basis.

The end-result of the process was a 4-tiered class system. Each class plays a different role in providing capacity for rail transport:

- Bulk Mineral Corridors (BMC):

Consists of three corridors conveying heavy haul bulk from mining complexes to ports for export.

- Core Rail Network (CRN)

Consists of a network that connects major economic hubs and provide access for freight to the ports and cross-border destinations.

- Feeder Rail System (FRS): FRS1 with volume potential, FRS2 is closed or no volumes.

Lower volumes feeding into CRN and BMC. FRS lines are typically not key to "network" functionality.

A further sub-grouping was introduced to determine the impact and viability of segregation and comparing options for pricing and tariffs. This grouping in effect identified the Economically viable "A" network as well as the Low-Density Lines (LDL) "B" network. Due to significant dependencies between the different network groupings, i.e., volumes on one part of the network typically rely on access to others, the only clear segregation is possible between the A and B network and not within the A network itself.

		Group	Network (km) Distance
"A" NETWORK 12 333	BACKBONE 9 072	Bulk Minerals Corridors (BMC)	2 405
		BMC Dependent (some CFN & Feeder)	3 717
		Core Freight Network (CFN) Remaining	1 960
		Key Redundancy	990
	FEEDER 3 261	Feeder	2 224
		Feeder Strategic	1 037
"B" NETWORK	REDUNDANT 8 899	Ringfence No Freight	5 466
		Ringfence Some Potential	3 433
		Total	21232

Table 1: Classification of the Network

The objectives of grouping were to determine what should be:

- The "backbone network" that would work as a coherent system and reduce dependencies.
- The lower volume "feeder system" that feeds into the backbone; and
- The closed or low-density lines that have no impact on the backbone but may have potential for other uses and should be ring-fenced or protected.

The Regulated Asset Base calculation includes both A and B network, however their asset value can be separated as detailed in section 7.5.2 below, the impact of carving out parts of the network in these groups on the IMs financials can be demonstrated.

The following map represents the grouping of the network.

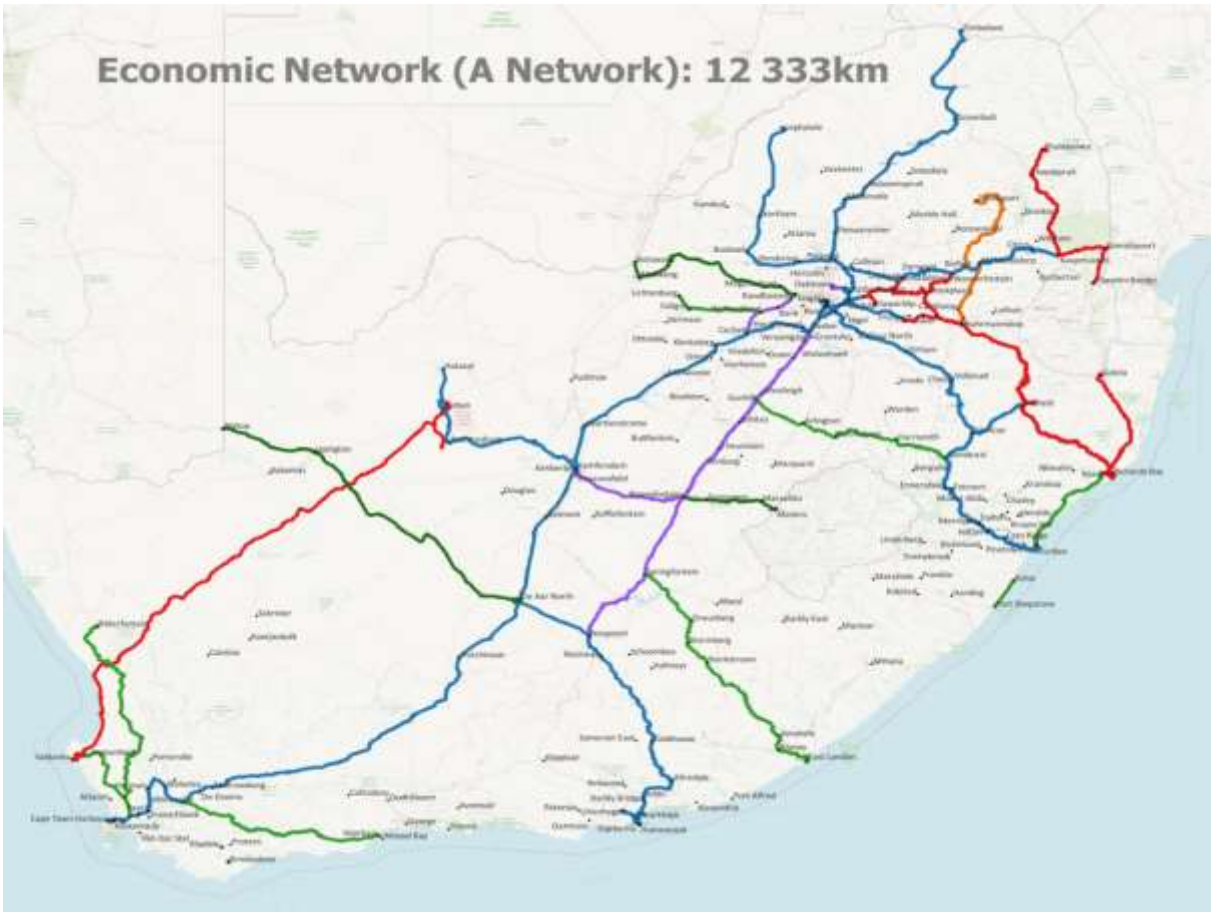
Figure 1:Map of Grouping of Network

4.3.2 TREATMENT MODELS

The Transnet network is currently shared with PRASA, the entities enter into bilateral access and interface management agreements and other contracts relating to numerous services such as property leases and maintenance. Historically this relationship created significant financial and operational interface challenges. As the IM defines the scope of its network, there is an opportunity to identify and design an improved interface relationship with PRASA including exploring the option for combined custodianship of the network. This will require engagement between the IM Transnet, PRASA and other interface parties.

The exercise was conducted to determine the regulated asset base that will form the network parameter under custodianship of the IM. The initial outcomes of the classification were workshopped with consultants from Operation Vulindlela. This process will enable the Infrastructure Manager to develop appropriate treatment models for each network including funding, access regime, cost structure and tariffs.

The network was classified into two parts with sub-categories within each network. The A Network as depicted in Figure 22, is 12 333 km long and is currently economically viable as an integrated system



of interdependent nodes. This network will be priced according to the Allowable Revenue model and recover access fees from the Train Operating Companies.

The B Network as depicted in Figure 3 below, is 8 899 km long and comprises lines that are mostly closed or uplifted. All "Branch Lines" fall within the B Network (6 206 km) and there are sections of the

Figure 2: Economic Network: "A Network" Classification

B Network that are closed or uplifted (3 603 km). Opportunities for supporting agricultural clusters and people mobility exist, but density potential is low and will require significant subsidization (Only 0,7% of total volume potential).

The initial approach is to ring-fence the B Network. IM will continue custodianship in the interim, however funding, cost and income mechanisms must be deliberated. A separate and appropriate access regime is being designed in consultation with IRERC and National Treasury.

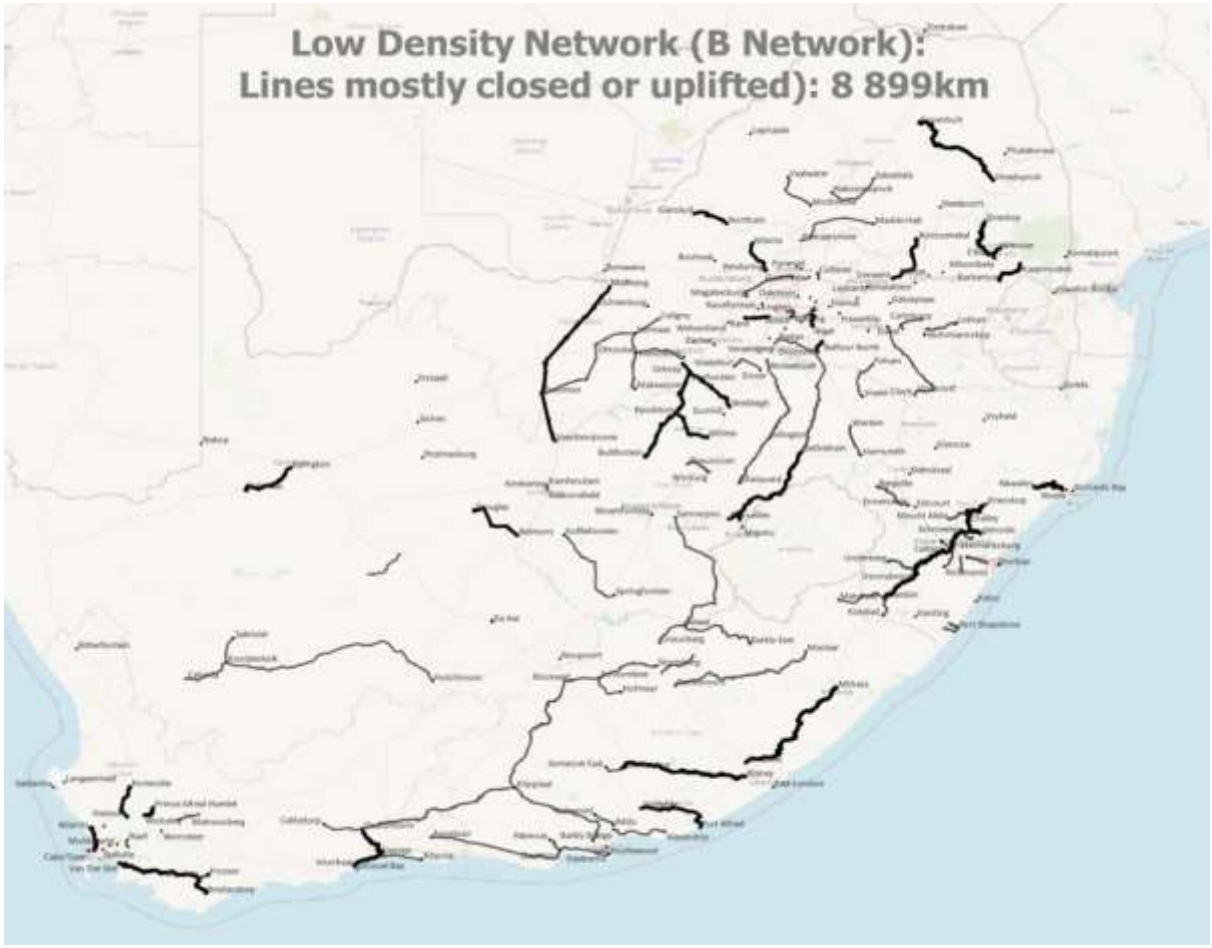


Figure 3: Low Density Network: "B Network" Classification

4.3.3 SECURITY

To provide a safe and reliable rail network to Train Operating Companies (TOCs), adequate security needs to be provided. Over the past decade security incidents escalated by more than 300%, in response, TFR invested in outcomes-based security initiatives and resources to address the national high levels of escalating crime which continues to adversely impact the availability and reliability of all rail network lines. Despite this increased level of security spending, it will not be sufficient to properly secure and safeguard rail network assets and to properly address current escalating crime and infrastructure theft and vandalism incidents. As stated in the NRP, rail network security provision needs to be a national imperative to ensure that TOCs can safely and reliably operate their trains on the IM's rail network. This will require a collaborative approach between the government, law enforcement agencies and IM, which will come at an additional cost. Rail access fees must in future make provision for these additional security costs (over and above what the IM already committed to through security programmes, contracts, resources and technologies).

4.4 AFFORDABILITY AND FUNDING

4.4.1 DEBT

The TFR Long-term borrowings were analysed to identify the specific debt relating to IM and TFROC following accounting separation, with the residual of general debt being allocated in accordance with

the Gross Asset Values of IM and TFROC. It is assumed that the loans would have been spent based on the gross value of the assets, hence Gross value of Assets were used as a basis of allocation for the general debt.

The result of this is that the IM's debt portion is currently R39bn. The starting balance for IM's debt is significant and will result in an onerous finance charge payment estimated at R4.4bn for the 23/24 financial year. Thus, the Allowable Revenue of the IM should also service a significant finance charge and debt repayment from the outset. The debt portion limits the IM's affordability and capacity for future loans.

4.4.2 MAINTENANCE REQUIREMENTS TO ENSURE SUSTAINED CAPACITY NETWORK RELIABILITY AND AVAILABILITY

4.4.2.1 MINIMUM REQUIREMENT FOR SAFE OPERATIONS, REHABILITION AND EXPANSION

The IM requires three levels of funding:

a) The first level must cover the minimum required maintenance for safe operations and is covered by the base tariff charged.

b) The second level must cover the required rehabilitation of the network (to improve the total network capacity from the current practical available capacity level to the target of 225.6mt). The stated Copex and Capex required for rehabilitation must be line-specific and should be informed by line-specific market demand. The required Copex must cover the specific rehabilitation work to be done per line, including safety and reliability improvements. Only TFR assets are maintained. PRASA maintains their own assets and Network. The required sustaining Capex is required to replace assets that are unreliable or those close to the end of useful life. The operational benefits of Copex and Capex spending per line (e.g., less Temporary Speed Restrictions will result in shorter travel times and more slots).

c) The third level covers all further network expansions to increase capacity to beyond 225mt.

4.4.2.2 IM Capitalised maintenance Investment Plan

A railway will not survive for long as a viable operation if it is allowed to deteriorate due to lack of maintenance. Adequate investment is therefore required to improve rail network conditions in order to permit the safe and efficient running of trains. The condition of some sections has deteriorated and require imminent maintenance intervention. In the past years, the maintenance of railway tracks has not been carried out to the required standard mainly due to capital constraints, material delivery delays, delays with the finalisation of national contracts and OPEX constraints. The high levels of vandalism and theft have also exacerbated the problem facing the already ailing railway system resulting in funding that should have been used to improve the reliability and safety of the rail network to be used to fund the repair and replacement of the infrastructure before it can be returned to service. These acts undermine Transnet's effort to improve railway operations and increase the organisation's bottom line.

The COPEX Investment plan for IM averages just above R10bn over the next 5-year period and is depicted in the table below which support the Rail Network capacity of 226mt:

4.4.2.3 IM Copex View per Class (Rm)

Network Class	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	Grand Total
BMC	3 531	3 568	3 405	3 373	3 444	**17 322**
BMC Dependent	3 921	3 782	3 430	3 490	3 463	**18 086**
CFN Remaining	1 201	1 128	1 454	1 171	1 325	**6 279**
Feeder	307	298	350	364	278	**1 597**
Feeder Strategic	173	144	148	138	144	**746**
Key Redundancy	464	430	415	458	407	**2 172**
Ringfence No Freight	304	296	255	259	256	**1 371**
Ringfence Potential	134	252	195	209	258	**1 047**
Total	**10 034**	**9 897**	**9 652**	**9 461**	**9 575**	**48 620**
Rail Material Wagon	498	523	549	576	605	**2 750**
Grand Total TRIM	**10 532**	**10 420**	**10 201**	**10 037**	**10 180**	**51 370**

Table 2: IM COPEX View per Class

4.4.2.4 Programme Benefits

The benefits of executing Copex effectively include the following:

- Enabling the 226mt capacity on the Network;
- Increasing safety and reliability of the infrastructure asset through prevention of failures in service;
- Recovering of train slots lost by reducing maintenance backlog e.g., upliftment of speed restrictions imposed due to formation failures;
- Eliminating bottlenecks through re-instatement of signalling system where the condition has led to manual authorisation resulting in delays and loss of train slots;
- Protecting of the current infrastructure through target hardening; and
- Ensuring continuity of operations through maintenance execution as per the asset life cycle plan/maintenance plan.

4.4.2.5 Process for Determining Infrastructure Requirements

TFR has a long-term maintenance strategy, which guides how condition assessments are performed. There are numerous standards, failure analysis processes, routine Preventative Maintenance inspections and the use of Mechanised Infrastructure Measuring Vehicles employed to determine appropriate maintenance strategies. These tools and processes determine the maintenance work required which is then costed to arrive at the afforded budget. This strategy is imperative to enable the longevity of TFR assets.

4.4.2.6 Categories of TFR Rail Infrastructure Condition

The main line of a railway track is the principal artery of the system from which branch lines, yards and sidings are connected therefore the main line should be within the "A standard limits" while the branch line and the yards can be within "B standard limits." Main line tracks are typically operated at higher speeds than branch lines and are generally built and should be maintained to a higher standard than yards and branch lines. The condition of the rail infrastructure is categorised into three main categories namely:

- A-standard: This is an acceptable standard and when track work is conducted this should be the resultant limits.
- B-standard: Repair work must be considered when the B-standard limits is exceeded. However, on lines where rail movements are at a lower speed with lower volume density compared to

main line - it is acceptable to be in a B-standard. Typically, all branch lines and yard lines are to conform to this standard.

- C-Standard and beyond: When the C-standard is reached and / or exceeded - repair work must be given a high priority. The imposing of speed restrictions might be required to ensure safe movement of trains. This therefore means tolerances have been passed and the network poses a high risk when it is in this condition. It is important to note the extent of the standards when it comes to the safe passage of the train.

If excessive rail wear (especially side wear) results in wide gauge coupled to excessive flange wear on a wagon, the risk of a potential derailment is high. Figure 4, below illustrates the A, B and C standards for track gauge.

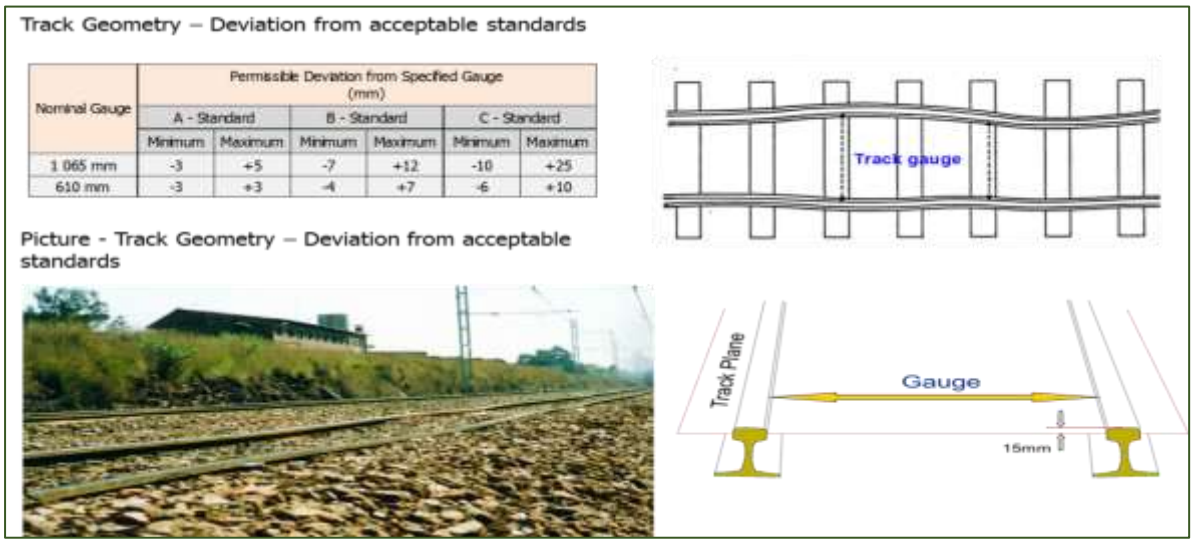


Figure 4: Track Geometry – Deviation from acceptable standards

Copex is required to improve rail network conditions in order to permit the safe and efficient running of trains. The railway infrastructure must be maintained regularly to ensure sustainability and longevity. Refer to Figure 5, depicting the Asset Failure Curve. Inadequate funding will eventually result in the deterioration of the infrastructure, and it will become more costly to replace it later due to cumulative neglect. Furthermore, consistent spending on maintenance is needed to ensure the absence of backlog.

Figure 5: Asset Failure Curve

4.4.2.7 Network Sustaining CAPEX Requirement

Sustaining Capex is the replacement of complete systems which are at the end of their useful and economic life. The benefit of sustaining Capex is newer technology which will give improved reliability in terms of train operations support, as well as more and improved condition monitoring to have early detection of potential failures, and lastly with a new approach to Train Authorisation Systems the intent is to have less trackside equipment and thus associated less theft and vandalism of trackside equipment.

This is the Network funding demand in addition to R51bn restoration requirements. A portion of the Sustaining CAPEX has been deferred by 2 years, with very minimal investment in the first 2 years as depicted in the table below to focus on network restoration and improved reliability:

Engineering Discipline	Budget 2024/25	Budget 2025/26	Budget 2026/27	Budget 2027/28	Budget 2028/29	Total
Perway/Track			158	580	700	**1 438**
Electrical			135	600	700	**1 435**
Train Authorisation Systems			450	1 800	3 330	**5 580**
Condition Assessment Systems			32	100	150	**282**
Mechanical			34	120	180	**334**
Civil Structures			36	150	190	**376**
Telecoms			135	500	600	**1 235**
Total per Engineering Discipline	**250**	**350**	**979**	**3 850**	**5 850**	**11 279**
Capitalised Leases & Capital Program Costs	989	1038	1091	1145	1203	**5 467**
Security	766	743	0	0	0	**1 509**
Technology	423	167	90	84	83	**847**
Real Estate	118	0	0	0	0	**118**
Other Sustaining & Compliance related	**2 296**	**1 948**	**1 181**	**1 229**	**1 287**	**7 941**
TOTAL SUSTAINING	**2 546**	**2 298**	**2 160**	**5 079**	**7 137**	**19 220**

Defer Sustaining CAPEX, minimal in first 2 years

Table 3: Sustaining Capex

It must be noted that TFR has begun the process to do condition assessments of the network and determine the related investment requirements (Both Copex and Capex). The independent results will inform more updated capital requirements for the sustainability of the IM.

Expansionary capital has been excluded. Further funding options for expanding and enhancing the network must be collaboratively explored. The following is a list of expansion projects being explored.

4.4.3 PRIVATE INVESTMENT IN THE INFRASTRUCTURE

The function of developing a funding model is with the Department of Transport (DoT) which is managing the Public Sector Participation (PSP) Framework and its implementation. In future this responsibility may be allocated to the TER. Transnet and DoT should therefore explore models for investment by the private sector.

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 tariffs, longer terms contracts, etc. The new capacity added to the network after investments will belong to IM.

4.5 ADMINISTRATIVE CAPACITY CREATION

4.5.1 ACCOUNTING SEPARATION

The implementation of global rail reforms generally follows a phased process, starting with Accounting Separation, which is the separation of financial reporting to create transparency, followed by a Commercial Separation, which is the separation of entities and existence of contractual relationship

between Infrastructure Management and Operations and repurposing of the operations business. The NRP clearly states the requirement for accounting separation within a vertically integrated organisation.

In 2021, the process to separate TFR into an Infrastructure Manager and Operations within TFR commenced. By October 2021, cost allocation principles were approved by the Transnet EXCO and manual separation of accounts in excel was completed by April 2022. These principles were further refined and approved in September 2023 with financial statements updated accordingly in Excel. Transnet is in the process of reconfiguring its SAP system to reflect this separation.

4.5.2 COMMERCIAL SEPARATION AND ORGANISATIONAL DESIGN

Following global research and preparatory work, Transnet has determined that, to achieve rail reform, the two business entities (Infrastructure referred to as IM, and Operations referred to as TFROC) would not be able to function under one management structure with impartiality and competitive neutrality.

Owing to the long-term nature of organisational design, to give effect to the requirements the ERT Bill, the interim IM will be established by 31 October 2023 and will be effective from 1 November 2023 to prepare for and manage implementation of third-party access on 1 April 2024. This structure will be in place until a permanent structure is implemented post organisational design. To ensure independence and impartiality, there will be "Chinese Walls" between Interim IM and TFROC and governance with full governance autonomy.

The Interim Infrastructure Manager will:

(a) Perform all the responsibilities of the Infrastructure Manager;

(b) Assist the appointed organisational design service provider to develop and set up requisite processes and frameworks for envisaged IM departments in the new OD; and

(c) The interim IM's functional heads will contribute to the development of the IM's end State's functional outputs and associated organisational design.

The interim IM Project functional structure will be dissolved once TFR has completed its organisational Design and implementation process which will start from October 2023. This process will include internal governance approvals up to Ministerial level and Labour consultations and change management and will run for 18 months from design to final implementation.

4.5.3 CONSULTATIONS AND ASSURANCE

In 2022 Transnet enlisted advisory services to conduct global research including the European Union and advise Transnet on best practice methodologies for implementing the reforms. Further research was done in the UK, Australia and India. Reforms in Africa are recent, and each country's approach is unique to its economic conditions.

PWC has been appointed to conduct an independent review of work completed for submission of the Network Statement with revised Access Regime, Tariff Application and Standard Contracts to IRERC for consultation in preparation for Phase 2 of third-party access. PWC will also provide further global insights to enhance the submission.

4.5.4 DIGITALISATION

Transnet's current systems are outdated, and digitalization of core IM capabilities will be required to properly equip IM to provide the required network access services. Future required digitalization

investments include the costs of rehabilitating and enhancing telecommunication, the installation and rehabilitation of weighbridges to measure actual train mass to ensure network safety (to monitor overloading), and digital system support for Order-to-Cash slot sales processes, IM capacity planning, train execution management, signaling and other track technologies.

4.6 TRADE-OFFS AND SET UP COSTS

Initially the entire A network will be provided in its "As-Is state".

The creation of available network capacity will be commensurate with the level of investment. The IM will require capital to set up. There should be initial care and maintenance budget for B network which requires a budget allocation to avoid deterioration and ultimate destruction of the Network. A transition plan and future access model must be articulated.

Private investment on significant parts of the infrastructure in exchange for long term capacity allocation and exclusive access creates monopolies on the infrastructure, restricts access for other entrants and conflicts with the prescripts of the ERT Bill which states the purposes of Transport Economic Regulation of Act are to be pursued in a manner that promotes:

(a) the development of small and medium enterprises; and

(b) the achievement of equality through measures designed to advance persons or categories of persons historically disadvantaged by unfair discrimination in the operation of and access to transport facilities and services.

Preservation of total network integrity and affordability of the B Network is a key principle to ensure sustainability of the core network.

The estimated IM set-up costs are as follows:

No	Anticipated Cost Elements	Cost Estimates
1	**Benchmarking Costs** (Thelo DB Desktop Study & Research and Germany visit)	R13m
2	Accounting Separation Costs (e.g., SAP stand-alone)	±R10m
3	**Slot Sales Costs (**Legal costs – drafting of contracts and negotiations; regulatory dispute process, etc.)	R5m
4	**ICT & Digitalisation Costs** - Weighbridges, Order to Cash System for Slot Sales; Capacity Planning, Execution (Train) Management; Communication, signaling and other track technologies. ***(Costs still require further refinement)***	R780m
5	Economic Regulation Advisory/ Assessments and Annual Licenses/Fees (proportionately allocated to all regulated entities)	±R35m
6	Assurance Costs	±R2.4m
7	**Additional Headcount Costs** (Duplication of governance and support functions)	R40m
8	Re-Organisation and other Consultation Costs	R10m
9	If new Boards are required e.g., for Subsidiaries	R6m
Total		±R902m

5 IM COMMERCIAL SERVICES

5.1 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 services 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.

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

5.2 MANDATORY ANCILLARY SERVICES TO ENABLE CONNECTION OF TRAINS TO THE NETWORK

The services listed in this section will be performed by service providers on behalf of IM for the purpose of ensuring fair access and movement within the marshalling yards and terminals. 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, to this end, the services listed below will be regulated by IM:

- 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' from the shared lines within yards.

	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

5.3 ACCESS TO SERVICE FACILITIES

Access to common use service facilities 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 timetable period, access to service facilities will be included in the standard access fee.

Access to yards and service facilities must be indicated in the TOC's application. IM will assess required access to service facilities including common use yards and sidings 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 Network Statement will apply. Transnet currently does not have a wholesale or retail fuel license to sell fuel therefore, any applicant wishing to use such facilities must reach an agreement with the operator(s) of such facilities (Transnet Engineering) or its own nominated service provider.

The Infrastructure Manager does not offer any rolling stock maintenance and other technical facilities. Any TOC wishing to use such facilities must consult with and establish an agreement with the operator(s) of such facilities appointed at the time.

5.4 SERVICES APPLICABLE DURING INCIDENT OCCURRENCE

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.

Occurrence Management Services Charges	Charging Principles	Service Charge
In addition to the Occurrence Management Services set out in section 6.5.9.1 (NS) the operation of the TOC's 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.

5.5 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 and any due diligence (financial or otherwise).	0,05% of the total capacity applied for multiplied by the Access Charge or R1m, whichever is the highest

5.6 PENALTIES

There are multiple reasons and causes of deviation to services other than those classified as Force Majeure. 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 delayed 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 of 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 .

Further information on Penalties is provided in Section 5 of the Network Statement.

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.	Full Slot Access Fee

Penalty Item	Charging Principles	Charge
	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.	
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	R1 per minute per ton based on the slot design for every minute delay caused by correcting

Penalty Item	Charging Principles	Charge
	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.	skew or wrongly loaded wagons.
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.

6 TARIFFING APPROACH PRINCIPLES

6.1 TARIFF DETERMINATION AND GUIDING PRINCIPLES

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

When considering proposed access tariffs, the IM will use the following principles:

6.1.1 FAIRNESS AND EQUITY

(a) The IM should avoid pricing inefficiencies into its tariffs.
(b) The IM should ensure that its RAB evaluation is based on fair value.
(c) IM's tariffs should include provision for security requirements.

6.1.2 AFFORDABILITY

(a) The declared network levels of availability and reliability will come at a certain cost to all operators.
(b) Commodity customers have an idea of their break-even prices; but commodity prices fluctuate a lot and also have cycles.

6.1.3 COST RECOVERY

The IM will apply the following cost recovery principles:

- 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 rate that was calculated for the first phase of access serves as the standard rate which establishes the floor price (minimum) that each TOC must meet.
- The Revenue formulated is divided by the total gross tonne kilometres across the network (irrespective of who the TOCs' 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.

6.1.4 EFFICIENT USE OF THE RAIL NETWORK

Prices will be structured to encourage optimum use of the Rail Network (e.g., surcharges on additional costs because of excess time on track, consideration of opportunity cost of scarce paths).

6.1.5 PREDICTABILITY

This principle provides a "stable and objective environment" that will enable all those affected, i.e., the customers and the IM itself, to predict, to a reasonable extent, the context for future decisions in order to make long-term investment decisions with appropriate certainty.

6.2 INFRASTRUCTURE PRICING APPROACHES CONSIDERED

6.2.1 COST-BASED APPROACH

The economic approach advocates for marginal cost pricing, and considers the effects on all parties, including benefits and costs to others. Proponents of marginal cost pricing argue that it is appropriate towards efficient rail infrastructure pricing as railways are characterized by substantial fixed and marginal cost are low.

Marginal cost pricing, however, has some problems. First, it is difficult to estimate and distribute the marginal costs. Second, marginal cost pricing is suitable in a perfectly competitive market. However, the rail industry is characterized by monopoly.

6.2.2 RATE OF RETURN APPROACH

The rate of return approach, also referred to as the Allowable Revenue, argues for prices to be set based on accounting costs to achieve a profit. This pricing approach targets achieving sufficient revenues to cover all costs incurred in providing services and facilities, including capital expenditure. Moreover, customers are protected from paying prices that would generate monopoly profits for the organization.

The effectiveness of rate of return tariffs is measured by how well the tariff structure differentiates among various rail users. Distinct tariffs for containers, industrial commodities, chemicals, and

agriculture cargoes can be used to differentiate among cargoes according to their value and price elasticity.

6.2.3 PRICE CAP REGULATION

Price cap regulation places limits on the prices that a regulated firm can charge, but, at least in principle, does not link these limits directly to the firm's realized earnings. Thus, in comparison with other infrastructure pricing approaches, regulatory control is focused more on prices than on earnings under price cap regulation. A typical price cap plan will allow the regulated firm to increase its prices, on average, at the rate of inflation, less an offset, called the X factor. In principle, the X factor should reflect the extent to which the regulated industry is deemed capable of achieving more rapid productivity growth than is the rest of the economy. Price cap regulation has also been employed at various times in recent years in Belgium, Bolivia, France, Germany, Honduras, Hong Kong, Ireland, Italy, Japan, Mexico, Panama, The Netherlands, and Peru.

7 TARIFF METHODOLOGY

7.1 INTRODUCTION

The IM has adopted an approach that is based on the process of price regulation driven by the "Allowable Revenue methodology." This approach is widely used in infrastructure pricing and has been adopted by the Ports Regulator of South Africa for National Ports Authority Revenue determination and by the National Energy Regulator of South Africa (NERSA) for the regulation of several state-owned entities such as Transnet Pipelines, Sasol, and Eskom. In this pricing approach methodology, the cost of service is fully paid for by the users of the goods and services supplied by the utility. In keeping with this "user-pays" methodology, The IM opted to follow a similar established approach in the determination of rail network track access charges for the purpose of train operator participation on the rail network.

7.2 ALLOWABLE REVENUE METHODOLOGY

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:

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

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].

Efficiency Measures have not been added into the AR formula at this point. It is envisaged that these be developed and tested over the next year before incorporating into the next phase/application.

7.3 REGULATORY ASSET BASE

The Regulatory Asset Base (RAB) represents the value of those assets the Infrastructure Manager is allowed to earn a return on. The RAB in this model reflects the capital employed in the business. Under this specification, the appropriate rate of return ® to allow the company to earn on its RAB is the WACC, which is a weighted average of the costs of debt and equity that finances the enterprise. The regulatory asset base should reflect all assets that belong to the infrastructure manager.

7.3.1 ESTABLISHING STARTING REGULATORY ASSET BASE (SRAB)

The regulatory asset base should reflect all assets that belong to the regulated business. The most important are:

- Fixed Assets; and
- Working capital.

7.3.2 IDENTIFICATION OF THE SRAB

The definition/s guiding the identification of Rail Network assets can be found in the following regulatory documents.

7.3.2.1 Provisions of the National Railway Safety Regulator Act, 16 of 1989

"Network" means a system of railway infrastructure elements comprising track, civil infrastructure, train control and signalling systems and where applicable electric traction infrastructure which constitutes running lines, and any part of the following on which those elements are situated:

a) railway yards;
b) marshalling yards;
c) Exchange yards
d) sidings and private sidings;
e) freight terminals;
f) depots;
g) stations; or
h) any other matter that may be prescribed.

[Definition of "network" substituted by s. 1 © of Act No. 69 of 2008.]

7.3.2.2 Provisions of the National Rail Bill, 1 June 2023

"Rail infrastructure" includes facilities, structures, works, equipment and machinery required to operate a railway safely, including:

(a) track;

(b) any right-of-way servitude;

(c) cuts and fills, being construction efforts that may encroach out of a servitude;

(d) bridges, tunnels, drainage, service roads and fencing;

(e) communication systems;

(f) train authorisation systems;

(g) electrical power supply systems;

(h) intermodal facilities, stations, terminals, maintenance depots and yards;

(i) notices and signs, and

(j) any associated buildings, plant or workshops, but excluding rolling stock;

"Rail Network" means a system of rail infrastructure elements, including track, civil infrastructure, train control and signalling systems and electric traction infrastructure, which constitutes running lines and any part of a railway yard, marshalling yard, siding, freight terminal, depot or station on which those elements are situated;

The regulatory asset base should reflect all assets that belong to the regulated business. The most important aspects are discussed below:

7.3.3 RAIL NETWORK ASSET BASE

The Rail Network Asset Base comprise the following:

RAIL NETWORK ASSETS	RAIL OPERATIONS ASSETS (Excluded)
Perway Assets	Rolling stock
Engineering structures: bridges, Culverts, Subways, crossings and tunnels	Freight Terminal –Terminal Handling equipment
Train signalling and communications systems	Auxiliary Equipment (telemeters, train radios, etc)
Power supply in electrified sections – OHTE & Substations	Operations owned vehicles
Terminal infrastructure	Operations related Land and Buildings
Traction electricity infrastructure	
Refuelling facilities	
Marshalling yards – Track & Infrastructure equipment	
Train formation facilities	
Siding infrastructure	
Maintenance and other technical facilities	
Branch line infrastructure	
RN Security related Assets & Drones	
Land and Buildings (Real Estate)	
Rail Network owned vehicles	
Specialised Rail Network Maintenance Equipment	

7.3.4 FIXED ASSETS

At the start of formal regulation, it is necessary to establish the value of assets that the entity has to be regulated. This value should be the best available proxy for fair value. When there is no market in the relevant assets, the best proxy for fair value is generally considered some form of depreciated replacement cost.

7.3.4.1 Capital Asset Maintenance Approaches

The underlying principle of capital maintenance is that income can only be recognized as accounting profit after the full recovery of costs including the cost of capital maintenance. Therefore, the asset valuation of the capital base is critical for capital maintenance. Three capital maintenance approaches and the valuation models that are generally applied to each were explored. The approaches and models are briefly described below:

7.3.4.1.1 Financial Capital Maintenance

Financial Capital Maintenance (FCM) measures the value of assets, and the calculation of depreciation with the aim of ensuring that the financial capital invested in the asset is repaid. This is important in affirming that the asset owner receives their investment back plus a reasonable profit. This can be measured in fixed nominal monetary units (capital is returned on the basis of historic nominal values), or in fixed real terms (capital is returned on the basis of constant values).

There are two valuation models under financial capital maintenance, namely, the Historical Cost (HC)/ Depreciated Original Cost (DOC) and the Trended Original Cost (TOC). With the HC/DOC approach, the gross value of assets is simply recorded at the original cost of creating or purchasing the assets. It is this gross value that is depreciated to determine the depreciated original cost values.

With the TOC, the gross asset value is determined by revaluing assets from their original cost by applying a specified index to inflation in asset price. This approach helps with the setting of proper price signals and that the returns are not eroded by inflation.

7.3.4.1.2 Economic Capital Maintenance

In this approach model, the measurement of asset values and the calculation of depreciation is aimed at repaying the economic value of the physical assets. The regulatory aim is to ensure that the investor receives the economic value (as adjusted from time to time) back, plus a return on this adjusted capital value. Under economic capital maintenance, asset values are calculated on a deprival basis. i.e., the amount a business would lose if an asset were lost or damaged.

The use of the deprival values depends on two economic assessments. The first assessment is based on the value of the asset on the expected future cash flow, while the second assessment considers the maximum DORC value. However, practical implementation of this method has proved to be challenging for regulated entities owing to circularity created by the need to establish Revenue Required.

7.3.4.1.3 Physical Capital Maintenance

Physical Capital Maintenance (PCM) aims to ensure that the asset owner receives the replacement cost value (as adjusted from time to time) back, plus a return on this adjusted capital value. Under rate of return regulation, a method based on physical capital maintenance can thus be expected to generate a revenue stream that differs from financial capital maintenance.

The Depreciated Optimised Replacement Cost (DORC) is the more widely exercised model of physical capital maintenance. In principle, the DORC approach determines the gross asset value as the optimised modern equivalent asset value, which is then depreciated to determine the net DORC value. The DORC

method is a replacement cost-based asset valuation approach that achieves physical capital maintenance. It has the following advantages:

a) **Accurate Reflection of Current Costs:** provides a more accurate reflection of the current costs involved in replacing or maintaining the rail infrastructure. Since the rail network must sustain itself financially, it's crucial to have access charges that align with the actual costs of maintaining and expanding the network with modern technology and materials.

b) **Incentive for Efficiency and Sustainability** provides an incentive for the rail network operator to efficiently manage and maintain infrastructure. It encourages cost-conscious decisions and investments in technologies and practices that improve efficiency and reduce long-term operating costs.

c) **Alignment with Financial Sustainability:** To ensure the long-term financial sustainability of the rail network business, access charges should cover not only historical costs but also the costs required to maintain and expand the network over time. The Replacement Cost methodology better accounts for these ongoing financial needs.

d) **Technological Advancements:** Replacement Cost considers technological advancements, allowing the rail network to incorporate newer, more efficient technologies and materials as they become available. This is crucial for staying competitive and cost-effective in the long term.

e) **Transparent and Defensible:** The Replacement Cost approach, when calculated transparently and based on current market conditions, can be more defensible in regulatory and stakeholder discussions. It provides a clear basis for access charges that reflects the economic reality of maintaining and expanding the rail network.

7.3.4.2 IM Choice

The various approaches to capital maintenance described are reasonable and have been considered/ adopted by various regulatory regimes with possibly the only exception being that of Economic Capital Maintenance (circularity challenge).

FCM Historic Cost valuation methodology is used by many regulatory regimes across the world, however the fact that the IM has significantly been underinvesting in the network, and this methodology doesn't consider the cost of replacing assets with newer, more efficient technologies or materials, would result in an understated starting RAB and an unsustainable IM.

The Trended Original Cost valuation approach is remarkably similar to historic, except that Historic Cost uses Nominal WACC and TOC uses Real WACC, in essence the results are remarkably similar.

The Historic and Trended Original Cost valuation methodologies are likely to result in the IM not being able to fund its required sustaining copex and capex to ensure a sustainable and reliable network.

Therefore, the IM recommends the use of the DORC valuation approach as the benefits associated with this methodology are complementary with the objectives of rail reform and expectations of the South African rail network.

As part of TFR's financial reporting and Accounting Policies, Rail Network assets are subject to revaluation on annual basis with reasonability of such revaluation benchmarked against an independent DORC valuation every 3 years. The most recent independent valuation dates back to May 2022. **Although the regulator may consider doing its own valuation, the independent valuation results of May 2022 has been used as the starting RAB for the IM.**

7.3.5 WORKING CAPITAL

The estimate of working capital included to adjust for the cash requirements, equates to the actual net working capital as per the latest available TFR annual financial statements (not the change in working capital), consisting of accounts receivable plus inventory less accounts payable (i.e., operating cash is excluded.)

7.4 UPDATING OF THE REGULATORY ASSET BASE (RAB)

Having established the SRAB, for the purpose of updating the RAB each year, the value of total assets in the RAB (excluding Working Capital) is indexed with inflation each year - the FCM TOC approach. The main advantage of the FCM TOC approach when updating the RAB each year is its simplicity.

Each year the estimated capital expenditure i.e., Copex & Capex and depreciation are added to the closing balance for the previous year to arrive at an updated closing balance for the current year. Through averaging (opening balance plus closing balancing divided by two) takes into account the progressive spending of capital works i.e., Copex and Capex (CWIP) over the period. The expected working capital balance is then added to arrive at an updated RAB estimate for purpose of determining a return for Allowed Requirement.

The formula for the determination of the value to be allowed in the RAB for the tariff period is as follows:

$$RAB_y = \frac{1}{2}\left[RAB_{c,y} + RAB_{o,y}\right] + w_y$$

$$RAB_{c,y} = RAB_{o,y}(1 + CPI_Y) + CWIP_Y.(1 + CPI_y)/2 - D_y$$

Where:

RAB_y	=	*value of the RAB used to determine the returns for period y*
$RAB_{o,y}$	=	*opening value of RAB for the period y*
$RAB_{c,y}$	=	*closing value of RAB for the period y*
w_y	=	*forecast average net working capital over period y*
$CWIP_Y$	=	*value of expected capital investment over period y*
D_y	=	*depreciation allowance for assets over review period y*
CPI_Y	=	*annual rate of Headline CPI expected over period y*

7.4.1 RAB DEPRECIATION

Depreciation calculated per asset, based on its annually updated remaining useful life, will be more reflective of the pace and manner of capital recovery that is in line with the utilisation thereof. However, as part of the implementation approach of this asset valuation methodology, the depreciation approach may have to be at an asset category level as opposed to individual assets level for practical reasons. Depreciation for Copex and Capex (CWIP) will only be determined upon commissioning of the assets. At present IM has approached Depreciation using the average accounting depreciation rate.

7.4.2 INFLATION TRENDING

The proposed Tariff Methodology prescribes the use of the Consumer Price Index ("CPI") for the tariff period based on recent past inflation for the purposes of trending the RAB and calculation of the Weighted Average Cost of Capital.

7.4.3 CAPEX /COPEX (CWIP)

The formula for determination of the RAB includes Capex and Copex described in formula as CWIP.

7.5 THE TRANSNET RAIL INFRASTRUCTURE MANAGER REGULATORY ASSET BASE (RAB)

7.5.1 ASSUMPTIONS

(a) RAB premised May 2022 Independent DORC Infrastructure Asset Values plus other related IM Audited Asset Values at March 2023

(b) TFR Assets are split between IM and TFROC based on cost centre allocations

(c) 2023/24 Simulated/ Forecast with 2024/25 year Starting RAB at R228.1bn

(d) RAB for Returns R241bn in 24/25

ASSET LIST (Rm)	NBV of Assets, 31 March 2023
DORC VALUE OF INFRA ASSETS (Valuation Date 18 May 2022)	224 722
SECURITY	4
RAIL NETWORK MAINTENANCE WAGONS	905
REAL ESTATE (50% OF TFR REAL ESTATE)	1 385
SUPPORT ASSETS (50% OF TFR SUPPORT)	846
RAIL NETWORK CONSTRUCTION	270
TOTAL	**228 132**

Table 4: Asset List – NBV of Assets 31 March 2023

RAB CALCULATION (Rm)	TRIM RAB SIMULATED 2023/24	TRIM RAB 2024/25
Opening Balance	**228 132**	**233 360**
Trended original cost (Inflation adjusted)	238 694	243 581
Plus COPEX 2023/24	3 518	10 532
Trending of COPEX (Inflation adjusted)	81	231
Plus CAPEX	1 609	2 546
Trending of CAPEX (Inflation adjusted)	37	56
Minus Depreciation	- 10 580	- 10 949
Closing	233 360	245 997
Average		239 678
Current Assets		1 276
RAB for returns		**240 954**

Table 5: RAB Calculation

7.5.2 REGULATORY ASSET BASE (RAB) CLASS – REQUIRED COPEX TREATED AS OPEX FOR 2024/25

RAB is allocated into Classes based on the main asset categories (Perway, Signals, OHTE & Civils structures) of RN as per their locations mapping thereto.

POSITIONING	KM	RAB (R'M)	POSITIONING	KM	RAB (R'M)	CLASS	KM	RAB (R'M)
Economic Network	12 333	77 337	Backbone	9 072	73 662	BMC	2 405	73 468
						BMC Dependant	3 717	92 889
						CFN Remaining	1 960	44 023
						Key Redundancy	990	10 130
			Feeder	3 261	3 676	Feeder	2 224	535
						Feeder Strategic	1 037	10 758
Low Density	8 899	2 371	Low Density	8 899	2 371	Ringfence No Freight	5 466	3 812
						Ringfence Potential	3 433	5 338
						Total RAB		**240 954**
						Total Excluding Low Density		231 803

Table 6: RAB per Asset Class

7.6 RAB OUTSTANDING MATTERS

1) Property / Real Estate asset values that are held at HQ and are not part of the various departments cost centres are allocated between IM and TFROC based on the following Phased approach:
   - Based on Employee location 50% of Real Estate Assets NBV added to RAB, in the interim.
2) A more detailed exercise is in the process to determine which Real Estate assets belong IM and TFROC. RAB to be updated accordingly once completed. Note this value is reflected at Historical Costs, except for Investment Properties (which are reflected at fairly value). The values would need to be fairly valued once clarified and updated accordingly.
3) As Support costs of TFR are allocated to IM and TFROC at this stage, the related assets are allocated on the same proportion. Further work is being undertaken by the Support departments to ensure that it is more appropriately split between IM and TFROC.
4) Copex per the various Classes were based on a matching of line sections from the detailed copex file compared to the details per class. Where the sections could not be matched due to data integrity issues (spelling errors, different description conventions, etc.) these sections were manually overlayed on the Classes and allocated to the specific class or group. Our systems are not set up for Classes. Further work is being done to match the Copex and Capex values more accurately to the various Classes.

7.7 WEIGHTED AVERAGE COST OF CAPITAL

The cost of capital represents the minimum return that the infrastructure manager must make on its investment to continue to attract capital, given the risks investors bear when they commit funds to the business. In the allowed revenues formula, the cost of capital represents the rate of return the infrastructure manager is permitted to earn on its regulatory asset base. The product of the WACC and the RAB represents the total allowed return.

The cost of capital is typically measured using the Weighted Average Cost of Capital (WACC). The WACC considers the main sources of possible funding for a company, debt and equity, and the relative gearing of the company, to determine a (weighted) average cost of capital for the firm.

The WACC assumes open access to the rail network and the imminent economic regulation of TFR. It is based on proven methodologies applicable to regulated entities in Transnet as motivated for in the submission to Parliament during the ERT Bill consultations. The basis for this pricing model is the trended asset base at real WACC.

Conceptually, the simplest way to calculate the revenue required is to use what is known as a vanilla WACC and to make a separate allowance for tax expenses.

The vanilla WACC formula is calculated as follows:

Vanilla WACC = kd (g + ke) (1 - g),

Where:

- kd = pre-tax cost of debt.
- ke = post-tax cost of equity.
- g = gearing in the infrastructure manager's gearing (defined as the ratio of the value of debt to the value of debt plus equity)

This is reflected in the Table Below:

WACC PER TRANSNET POLICY	2023/24	2024/25
Nominal Risk Free Rate	10,04%	10,04%
Real Risk Free Rate	5,17%	5,42%
Market Risk Premium	3,58%	3,58%
Asset Beta	0,54	0,54
Equity Beta	0,86	0,86
Gearing	45%	0,45
Debt/Equity Ratio	81,82%	0,82
NOMINAL Ke	13,26%	13,26%
Nominal WACD	11,88%	11,88%
Tax	27%	27%
Inflation Rate	4,63%	4,38%
REAL POST TAX Kd	5,06%	5,06%
Real cost of equity (Post Tax)	8,25%	8,51%
Real WACD Pre Tax	6,93%	7,19%
Real Wacc Vanilla	**7,65%**	**7,91%**

Table 7: Real Vanilla WACC per Transnet Policy

7.8 OPERATING EXPENSES

The Infra Managers operating expenses encompass the day-to-day costs of running the rail network. This includes labor costs, maintenance, energy, fuel, administrative expenses, and other costs directly associated with the functioning and operating the Rail Network Infrastructure manager business. Rail Network Direct Costs and Rail Network Support Costs are highlighted below:

7.8.1 DIRECT INFRASTRUCTURE MANAGER RELATED COSTS

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

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 refueling 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 the subsequent phase, the variable costs will be excluded from the standard tariff and billed separately based on Electric GTK's executed on the network.

7.9 DEPRECIATION

Depreciation is generally viewed as an annual accounting charge for wear, tear, and obsolescence. In regulation, depreciation is viewed as capital recovery, that is, the spreading of the plant investment over time to be recovered in revenue requirement. An appropriate depreciation rate must be used in computing depreciation charges to reflect the different estimated service lives of the respective assets in each class of plant accounts, or each plant account, or each class of assets within a plant account. At present TFR has approached Depreciation using the average accounting depreciation rate.

7.10 TAXATION EXPENSE

Taxation expense is a direct tax levied on the net income or profit of a corporate entity from their business.

7.11 CLAWBACK

The key purpose of applying claw-back/payback in a regulatory mechanism is to ensure that TRIM does not gain (or lose out) from discrepancies between forecasts made at the time of the revenue application/review and outturn on capital expenditure, allowable return, costs and sales volumes as contained in the company's audited financial statements. The effect of applying clawback/payback (or a correction factor) is that annual deviations from the allowable revenue approved by the regulator that are caused by forecasting errors are corrected through adjustments made to TRIM's allowed revenues

in subsequent years. This correction mechanism therefore ensures that the allowable revenue is upheld and also reduce TRIM's incentive to overstate its forecasts in capital expenditure and operating costs whilst understating its forecast sales volumes at the time of the application and review.

Where there have been significant deviations between forecasts made at the time of the application and review and outturn costs and revenues, clawback/payback can be significant.

TRIM's proposed rules for Clawback/payback

I. Over/under recovery shall be clawed-back/paid back from/to the TRIM or Operating Companies based on TRIM's audited accounts of the previous year.
II. For the purposes of price stability and predictability within the control period, annual clawback/payback that are equal or less that 3% of the original allowable revenue will not trigger any exchange of money but will be netted off at the end of the control period,
III. Similarly, clawback/payback that is greater 3% will trigger the reopening of the price determination in the succeeding year of the audited financial statement to ensure financial stability and neutralise transfer of significant payback/clawback to the next control period.
IV. To ensure price stability and predictability, significant clawbacks/paybacks will be smoothed over a period to avoid price shocks or under recovery.
V. In calculating the clawback/payback the following formula shall be used:

Allowed return on actual RAB (WACC adjustment)

***Plus**: actual reported expenses (prudent)*

***Minus**: non-prudent expenditure (excluding unforeseen expenses)*

***Equals**: revised allowable revenue*

***Less**: actual earned revenue*

Equals: clawback/payback

Adjust using prime rate for purchasing power parity (today's rand value)

Equals: amount to be clawed back/paid back

The onus will be on the regulated entity to demonstrate whether the variation between actual expenditure and the originally allowed expenditure was prudent and/or whether any efficiency gains were made. The benefits of any additional efficiency gains (compared with allowed expenses) will be shared equally between consumers and the regulated entity.

7.12 DETERMINING RAIL NETWORK CAPACITY AND GROSS TON KILOMETERS

7.12.1 OPERATIONAL (PRACTICAL) SLOT CAPACITY COMPUTATION PRINCIPLES AND ASSUMPTIONS

7.12.1.1 Operational Slot Capacity Calculation

The maximum capacity of a train carrying freight is determined based on several factors, including the number of wagons, their weight, and the number of days and weeks they operate. For example, we can calculate the maximum possible capacity as 93.54 million tons per year for a specific train route (e.g., Saldanha – Sishen's (8 slots) *(348 wagons) *(100 ton/wagon) *(7 days) *(48 weeks)).

7.12.1.2 *Actual Capacity*

However, in reality, trains may not always operate at their maximum capacity. Factors like the number of available slots, wagon configurations, and weight limitations can reduce the actual capacity. In this case, the actual capacity is 78.83 million tons per year. (e.g., 6 slots of 348 wagons at 100 tons/wagon + 1 slot of 375 wagons @ 63 tons/wagon + 1 slot of 40 wagons @ 54 tons/wagon reduces the 93,54 mil tons/annum to 78,83 mil tons/annum)

7.12.1.3 *Network Conditions*

Network conditions can also affect capacity. Temporary speed restrictions and manual authorizations can reduce the capacity even further.

7.12.1.4 *Capacity to be Published.*

At the time of publication of the final Network Statement, the IM will update the Network Statement with the latest practical network capacity available.

7.12.1.5 *Gross ton kilometer (GTK) assumptions*

GTK's are calculated based on service design and service code, which includes the specific Loco tare, wagon tare, distance in km's, and tons. This is calculated based on the budgeted traffic file for 2023/24, which would include both freight and passenger services. As the detailed traffic file for the 225.6mt is not yet available, the GTK info for 2023/24 is applied to high level volumes for 24/25. The total GTK's for TFR based on the 225.6mt capacity is approximately 254billion GTK's. When the detailed volume traffic file is available, this will be recalculated and updated accordingly.

7.13 CALCULATING THE RAIL NETWORK ACCESS TARIFF

Rail Network Access tariffs are what the infrastructure manager charges train operating companies to use track and other facilities to which the infrastructure manager provides access. Rail Network Access tariffs are set with two main objectives in mind:

a) To encourage the efficient use of infrastructure capacity.

b) To encourage the effective maintenance and efficient development of the network and allow funds to be raised to finance these activities.

In determining the Rail Network Access Tariff, the formula is as follows:

Rail Network Access Tariff = Revenue Requirement ÷ Gross ton Kilometers Forecast

Where:

Gross ton Kilometers (GTK) forecast = Gross Ton Kilometers (GTKs) are computed by multiplying the weight of the freight and the tare of the rolling stock in tons by the distance traveled in kilometers.

7.14 ALLOWABLE REVENUE AND TARIFF FOR IM FOR 2024/25

Simulated 2024/25	AR Full Network	AR A Network	AR B Network
RAB (Rm)	**240 954**	**231 803**	**9 151**
IM AR (Rm)			
Return on Assets (RABxWACC)	19 071	18 347	724
OPEX	16 841	16 839	2
Depreciation	10 949	10 533	416
Tax expense	3 413	3 283	130
Allowable Required	**50 274**	**49 003**	**1 271**
Tons (million)	225,6	225,6	0,025
GTK (Bn)	254,0	254,0	0,028
Tariff c/GTK	**0,1979**	**0,1930**	**46,04**
Tariff c/NTK	0,3148	0,3069	73,21
Tariff R/ton	222,85	217,23	51 831

Table 8: Allowable Revenue and Access Fee - A and B Network

As depicted in the table above, the Full Network Allowable Revenue is R50bn broken down into the A Network of R49bn and B Network of R1.27Bn. This results in a IM Average standard tariff of 19.79 cents per GTK.

Assumptions with respects to the Allowable Revenue calculation includes the following:

- GTK per budget 2023/24 calculated using PCM. Ton to GTK factors applied to 225.6mt for the forecast period GTK.
- GTK's (254bn) based on 225.6mt Volumes Capacity

The B Network requires a different access regime and funding model, a transitionary care and maintenance of R1.271bn is required from NT for Year 1 to enable the IM to focus on the core network.

7.15 ALLOWABLE REVENUE AND TARIFF PER CLASS

Positioning	Km	RAB (R'm)	Positioning	Km	RAB (R'm)	Classes	Km	RAB (R'm)	Access Cost Principles/Approach							
									Tariff per GTK (R/GTK)				Require Revenue (R'm)			
									Tiered	Backbone / Feeder	Economic	Full Network	Tiered	Backbone / Feeder	Economic	Full Network
Economic Network	12 333	231 803	Backbone	9 072	220 511	BMC	2 405	73 468	0,1165	0,1872	0,1930	0,1979	23 670	47 382	49 003	50 274
						BMC Dependant	3 717	92 889	0,5170				14 785			
						CPN Remaining	1 960	44 023	0,3589				7 493			
						Key Redundancy	990	10 130	3,2976				1 434			
			Feeder	3 261	11 293	Feeder	2 224	535	0,1607	1,9895			126	1 621		
						Feeder Strategic	1 037	10 758	49,9618				1 495			
Low Density	8 899	9 151	Low Density	8 899	9 151	Ringfence No Freight	5 466	3 812	32,8937	46,0400	46,0400		530	1 271	1 271	
						Ringfence Potential	3 433	5 338	64,4448				742			

Table 9: Allowable Revenue and Tariff per Class

7.15.1 MAIN ASSUMPTIONS FOR THE ALLOWABLE REVENUE PER CLASS FOR 2024/25

- As TFR finance systems are not structured per Class, the Copex per Class was based on a detailed mapping of the planned expenditure per line codes or sections. Where the sections could not be matched due to data integrity issues (spelling errors, different description conventions, etc.) these sections were manually overlayed on the Classes and allocated to the specific class.
- Opex is allocated per current GTK
- Required Copex is treated as Opex for AR
- GTK per budget 2023/24 were calculated using the SAP PCM Costing tool. Ton to GTK factors were applied to 225.6mt for the forecast period GTK.
- GTKs (254bn) were based on 225.6mt Volumes Capacity
- GTKs were allocated to Class based on current NTK proportions.

7.16 FACTORS WILL INFLUENCE THE INFRASTRUCTURE MANAGER'S PRICING

The IMs unique operating environment will require the development of an innovative pricing approach. As such, there are several factors that the IM must take into consideration in determining pricing.

Sustainability

Freight Rail services a mixture of both high-margin (profitable) and low-density marginal flows which requires balance between volumes for density and sustainability.

Therefore, price differentiation and/or government subsidies are important for the continued service of low-density (unprofitable) rail.

Self-funding

Transnet's Infrastructure Manager (IM) will be required to finance capital expenditure from its balance sheet owing to the national fiscus being constrained.

This will impact the IM's 'operating philosophy' with a greater focus being placed on supporting and charging commercial flows adequately to support self-sustainability.

Inherent Modal imbalance

Modal imbalances within the South African logistics market which have resulted in the road haul industry receiving indirect subsidies for core infrastructure (reflected in SANRAL guarantees) enabling the sector to be extremely price competitive and agile.

Market position

Relatively weak market positioning for commodities such as containerized traffic and automotive, whereby commercial road freight operators are a dominant mode and are the "price maker," while Transnet is a "price taker."

7.17 INITIAL STANDARD TARIFF AND ENVISAGED DIFFERENTIATED TARIFF

Initially, the IM will charge an average network access tariff (i.e., R0,1979 per GTK) across all network classes. This will guarantee fair and nondiscriminatory access to the rail network and ensure efficient allocation of resources. However, refinement of tariffs will imply that differentiated standard tariffs will be available within the system. Tariffs will be differentiated annually between network class types at reasonable levels to reach the proposed Allowable Revenue and long-term objectives (please refer to the Pricing Strategy in Chapter 8).

7.18 PROPOSED TARIFF AND AFFORDABILITY

As with most policy changes, affected stakeholders will view policy changes differently depending on the implications of the policy on their respective business areas. The establishment of the IM entails a review of tariffs which may impact stakeholders. As such, the IM recognises the importance of engaging with the economic regulator and various stakeholders to discuss the harmonisation of the current tariffs and proposed tariffs to ensure affordability and business continuity. Commodity customers are more knowledgeable about their break-even prices which are affected by volatile commodity prices.

The initial declared standard tariff of 19.79c/GTK has been declared unaffordable by the current Transnet Freight Rail Operator. As a result, the IM may consider phasing in the tariff to get to the DORC rates in 5 years. However, funding will be required to bridge the gap to ensure IM has adequate funds for its short-term requirements.

7.18.1 PHASING TO DORC TARIFF'S OVER 5 YEARS

The phasing-in of the DORC tariff over 5 years will assist by providing the TOC's with a lower more affordable access fee during the first 5 years. However, the IM will require other external funding to bridge the gap.

Rm	2024/25	2025/26	2026/27	2027/28	2027/29
RAB	240 954	253 437	265 839	279 687	296 064
Revenue Required	50 274	53 065	55 468	58 931	62 955
Tariff/GTK	0,1979	0,2089	0,2184	0,2226	0,2295
Tariff/Ton	222,85	235,22	245,87	251,31	259,07
% Increase		5,6%	4,5%	2,2%	3,1%
Option 1 TFR Affordability Yr 1	0,1081	0,1384	0,1688	0,1991	0,2295
R/Ton Yr1/ % Increase	121,74	28,1%	21,9%	18,0%	15,2%
Option 2 IM Funding yr 1	0,1498	0,1697	0,1896	0,2096	0,2295
R/Ton Yr1/ % Increase	168,59	13,3%	11,7%	10,5%	9,5%

Table 10: DORC Phasing over 5 years

a) Option 1 – Incumbent TOC affordability limit

If the incumbent TOC's affordability is below 19.79c/GTK in Year 1 of IM's operations, the IM will not be able to fully fund its required copex and capex, resulting in further backlog and deterioration of the network thus making it more unreliable. This funding shortfall can be addressed by a subsidy to close the Gap.

b) Option 2 – IM Funding

This option indicates a starting tariff in Year 1 of 14.98c/GTK with the tariff increased to the 22.95c by year 5. It ensures the IM has the minimum funds in year 1 to cover at least its copex and sustaining capex.

The resulting funding gap for both options due to the phasing in of the tariffs are depicted below:

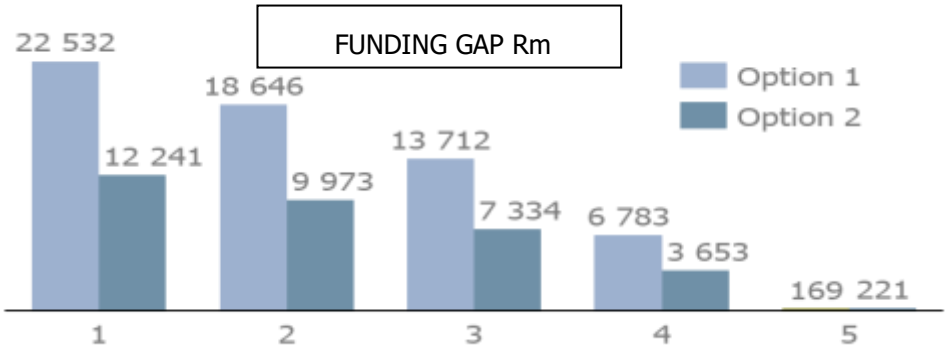


Figure 6: Tariff Funding Gap – DORC vs Options 1 & 2

7.18.2 CAPACITY GAP

It should also be considered that an Allowable Revenue based on lower-than-expected volumes would increase the overall tariff. Alternatively, if Transnet remains the only TOC over the short term, it will result in a gap in revenue for the IM, if the expected volume is less than 225.6mt. Refer to expected volume impact (mt).

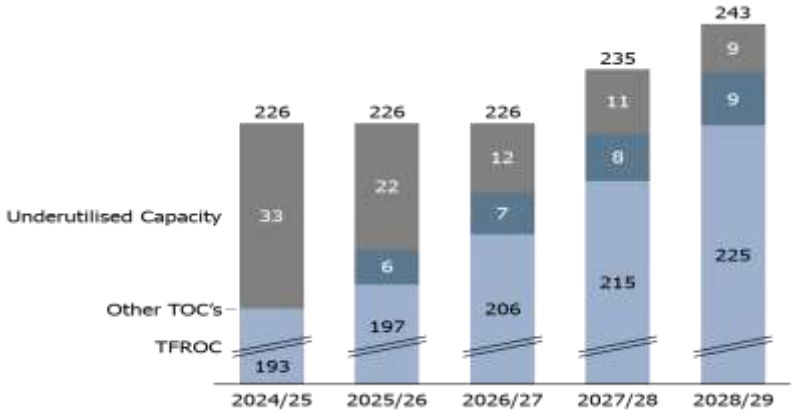


Figure 7: IM Volume Capacity Gap

Based on benchmark analysis, first few years growth of new entrant TOC's is slow, assumed growth per year of 0.35%pa. Container Corridor volumes which were envisioned to be leased out to a third-party TOC to operate is included with the "other TOC's" from year 2025/26. IM Capacity Gap indicates volume gap of 33mt, reducing to 9mt by year 5. This gap only closes by year 6.

If TFR is the only TOC for 2024/25, and is only forecasting a maximum volume performance of 193mt, whilst targeted IM capacity is 225.6mt at the requested investment levels, it will result in a Shortfall of R4bn Revenue to TRIM (if Option 1 is used), R5.5bn with Option 2. **This will require further funding of at least the R5.5bn in year 1 to bridge the gap due to under-utilised capacity.**

7.19 MULTI-YEAR TARIFF ESCALATION

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 a Multi-Year Tariff are:

- Cost recovery/financial viability - regulated entities should recover their (efficient) costs, including a reasonable rate of return on capital.
- The certainty and stability of the pricing encourages an efficient level of investment.
- Incentives for improving performance – It provides incentives to reduce costs, improve the quality of service, and encourage efficient use of the network.
- Allocation of risk – It promotes the efficient allocation of risks.
- Simplicity and cost-effectiveness – It is easy to understand and implement.

An indicative view based on the current requirements together with escalation indices for key expenditure is depicted in the table below, at a 226mt capacity in the first 3 years and 235mt in year 4, with 243mt in year 5.

7.20 POLICY PROPOSALS TO ENABLE EFECTIVE AND EFFICIENT IM

Rm	2024/25	2025/26	2026/27	2027/28	2027/29
RAB	240 954	253 437	265 839	279 687	296 064
Return on assets	19 071	20 007	20 447	21 512	22 771
OPEX	16 841	17 947	19 243	20 881	22 715
Depreciation	10 949	11 529	12 112	12 680	13 384
Tax expense	3 413	3 581	3 667	3 858	4 084
Revenue Required	50 274	53 065	55 468	58 931	62 955
Tariff/GTK	0,1979	0,2089	0,2184	0,2226	0,2295
Tariff/NTK	0,3148	0,3323	0,3473	0,3490	0,3598
Tariff/Ton	222,85	235,22	245,87	251,31	259,07
% Increase		5,6%	4,5%	2,2%	3,1%
Modification					
Option 1 TFR Affordability Yr 1	0,1081	0,1384	0,1688	0,1991	0,2295
R/Ton Yr1/ % Increase	121,74	28,1%	21,9%	18,0%	15,2%
Option 2 IM Funding yr 1	0,1498	0,1697	0,1896	0,2096	0,2295

Table 11: 5- year Indicative DORC Tariff

Policy Choices to be made by the TER:

1. Economic Regulation is a surrogate for competition therefore its asset valuation methodology must be the same as that used by private sector to ensure cost reflectivity. Therefore, there is a need for a pricing policy for the freight infrastructure pricing similar to Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry. This will also formalise IM's proposed asset valuation methodology.

2. Striking and equitable balance between densification, financial viability, sustainability of corridors that are not economically viable due to inability to pay and balancing of the historic pricing disparities between cargo types.

3. Subsidy regime for freight infrastructure to enable affordability of service, especially where the IM is a price taker due to market characteristics.

The IM as an efficient and effective delivery agent for the state, and thus it can be expected that government might place Public Service Obligations (PSOs) on it. Where such PSOs are put in place, the true cost and funding source should be fully understood and agreed on – PSOs should be clearly defined, monitored and separately funded.

8 FUTURE PRICING STRATEGY CONSIDERATIONS

8.1 ECONOMICALLY EFFICIENT PRICING

In industries without significant fixed costs, competition normally leads to prices which approximate marginal or incremental costs. However, in freight rail industry, the prevalence of large fixed and common costs makes it impossible for the supply of rail services to become financially self-supporting with marginal cost pricing. The financial infeasibility of marginal cost pricing rules out any sensible formula-based approach for regulatory determination of rates. In particular, compensatory rates cannot be determined by the regulator on the basis of cost data alone since the financial viability of any price depends also on the quantity of rail services customers are willing to buy at that price.

Allocation of fixed costs in accord with a non-demand-based apportionment rule will almost invariably produce inconsistencies with the patterns of customer demands. Specifically, in a multiproduct industry with uncongested fixes and common costs, the pricing of individual services on the basis of any cost allocation is contrary to the interests of both the IM and the TOCs'. Rational determination of prices must be based on both cost and demand conditions, demand considerations as well as cost data must enter into decision-making, in order to permit adequacy of revenues and achieve efficiency.

8.2 DEMAND-BASED DIFFERENTIAL PRICING

Non-demand-based cost apportionment methods do not necessarily reflect the freight rail's ability to impose the assigned allocations and cover its costs. Thus, the rail's unattributable costs are usually over-assigned or under- assigned to particular services.

8.3 RAMSEY PRICING EFFICIENCY AND EQUITY

Ramsey prices apportion all unattributable fixed and common costs of the rail network among its services on the basis of demand characteristics. Each service is priced a at a markup over marginal costs which is inversely related to the elasticity of demand and for that service. Services whose demand is highly elastic are assigned prices that are remarkably close to their marginal cost, while services whose demands are very inelastic are prices well above those costs. The magnitude of these mark-ups among

all services must be sufficiently high to earn net revenues that cover fixed and common costs, hence, achieve revenue adequacy. Thus, Ramsey pricing will benefit all TOCs' by establishing a set of rates which encourage the purchase of more transportation services by more TOCs'. Therefore, by creating a larger traffic base over which unattributable costs can be apportioned, Ramsey pricing also benefits the captive customers segments. The increase in rail traffic represents an increase in the flow of commodities to their markets at lower transportation costs. As a result, social productivity is enhanced, and more consumers can obtain more of the goods they desire at lower costs of supply.

It is important to note that Ramsey prices are equitable. That is, they are non-discriminatory in the sense that services with similar economic characteristics have similar prices, whatever the commodity transported. Also, two different services with the same marginal costs and demand elasticities will bear identical Ramsey prices.

However, this will be considered in further phases of this process. Further work will be required to adequately determine the various demand elasticities and marginal costs of the numerous services.

8.4 STAND-ALONE COSTS

A critical issue in terms of efficiency is the criterion used to set the ceiling on access charges where rail transport is dominant. Economically rational ceilings are obtainable from the Stand-Alone Cost (SAC) as it serves as a surrogate for competition and leads to a simulated competitive price. The SAC is the cost of serving that shipper or group of shippers alone, as if the shipper or its group were isolated from the railroads' other customers. Access charges calculated using the SAC methodology represent the theoretically maximum rate that the Infrastructure Manager could levy on TOCs' without substantial diversion of rail traffic to a hypothetical competing service. This hypothetical competing service could be a shipper providing service for itself or a third party competing with the incumbent railroad for the traffic. The SAC therefore represents the minimum cost of a possibly hypothetical alternative to the service provided by the Infrastructure Manager.

The hallmark of monopoly power is the elevation of access charges above the costs at which competitors could provide that service. The SAC test rules out the possibility that the Infrastructure Manager is abusing any monopoly power by enforcing a competitive standard upon access charges. Over the long run, no shippers operating in contestable markets would pay more to an Infrastructure Manager for their transportation services than it would cost them to produce these services for themselves, or than it would cost a competitor to supply it to them. Thus, the SAC test affords shippers the same protection as effective competition. The SAC is unnecessary where there is competition as the price set by competitors informs the access charge ceiling.

SAC is a form of incentive regulation that avoids introducing distortionary incentives to the Infrastructure Manager with respect to its operations and cost decisions. Given that the SAC is the cost of service by a hypothetical entrant who offers alternatives to the Infrastructure Manager, it is not determined according to the costs actually incurred by the Infrastructure Manager. Hence, the Infrastructure Manager is not incentivized to pay or otherwise increase its expenditure for the purpose of relaxing a regulatory constraint. Furthermore, as the access charge ceilings apply only to services over which the railroad has monopoly power, they do not interfere with the Infrastructure Manager's incentives to pursue additional traffic and other new business opportunities.

The SAC test ensures that all TOCs' are treated equitably by the Infrastructure Manager. The requirement that all services supplied by the Infrastructure Manager contribute access charges less than the SAC assures each TOC a share in the benefits derived from simultaneity of production (i.e., the total cost for the Infrastructure Manager to supply many services simultaneously is less than the sum of the costs of supplying them each in isolation from one another). Each TOC is therefore guaranteed some

benefit from the access charge revenue collected by the Infrastructure Manager from other TOCs'. In other words, the SAC test offers assurance to each TOC that it is better off with the existing access charges than it would be in the event that it had to fend for itself because the Infrastructure Manager was denied adequate rates and failed.

Cross-subsidies are a public policy concern because they generally lead to a misallocation of resources by encouraging inefficient investment. Furthermore, cross-subsidies concern TOCs' because they are perceived as unfair. Two groups of TOCs' may be taken to be treated inequitably if the access charges paid by one of these groups makes up for shortfalls in access charges paid by the other. However, although TOCs' who pay more for their service may feel they are cross-subsidising other TOCs', mere payment of a relatively higher access charge is not evidence of a cross-subsidy where the Infrastructure Manager must cover its fixed and common costs. Cross-subsidies only occur in an economic sense where a TOC pays more than the total cost of serving it alone (the SAC). Where no TOC pays more than the cost of service alone, differences in access charges across TOCs' do not reflect cross-subsidies but rather differing contributions to the fixed and common costs of the rail system.