



Public Transport Authority Third Party Rail Access Costing Principles

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1 Introduction

1.1 The Railway Services

The Public Transport Authority (PTA) is a statutory authority that oversees the operation of all public transport in Western Australia. The PTA was established under the *Public Transport Authority Act 2003* with the responsibility to direct, manage, maintain and control the Government Railways in Western Australia.

1.2 Background

The purpose of the *Railways (Access) Act 1998* (the Act) and the Railways (Access) Code 2000 (the Code)¹ is to establish a rail access regime that encourages the efficient use of, and investment in, railway facilities by facilitating a contestable market for rail operations. The Act requires nominated parts of the rail network managed by the PTA to be made available for access by third party rail operators.

Schedule 1 of the Code lists the sections of the PTA rail network covered by the Code.

Part 5 of the Code requires relevant Railway Owners to prepare and maintain specified instruments that give effect to the provisions of the Code, which must be approved by the Regulator. Costing Principles are a key instrument for the Regulator to approve or determine.

1.3 Scope of the Costing Principles

These Costing Principles will be used to guide the development of databases and costing models that contain the detail necessary to develop access pricing. That detail is not contained in this document, however the PTA recognises that it must:

- prepare and have the information available for the Regulator at all times and its preparation and maintenance must be consistent with these Costing Principles;
- respond to any request or determination by the Regulator related to these Costing Principles and their application; and
- comply with its obligations under the Code.

These Costing Principles are prepared as required under the Code Part 5, Division 3, section 47H (1) and (2). These Costing Principles are a statement of the principles, rules and practices that are to be applied and followed by the PTA as follows:

- when determining the Depreciated Optimised Replacement Cost of applicable Railway Infrastructure associated with the Route Section for the Initial Regulatory Asset Base under section 47J(1)(a);
- when determining the Updated Regulatory Asset Base of applicable Railway Infrastructure by the date noted in section 47N (1);
- when determining the costs applicable to the floor price test and the ceiling price test described in Schedule 4, clauses 7 and 8; and
- in the keeping and presentation of the PTA's account and financial records, as they relate to the determination of those costs.

¹ As amended on 19 December 2023 in accordance with the Railways (Access) Amendment Code 2023.

The floor and ceiling prices are key elements of negotiations for access between the Railway Owner and an Access Seeker, as they set the minimum (floor) and maximum (ceiling) prices as the boundaries for what could be considered an economically efficient access price, where:

- the floor price reflects the Incremental Cost of providing access, which is defined under Schedule 4, Division 1 of the Code to represent the costs that the Railway Owner would be able to avoid if that access was not provided, including operating costs, capital costs and applicable overheads; and
- the ceiling price reflects the Total Cost of providing access, which is also defined under Schedule 4 Division 1 of the Code and includes Operating Costs, Capital Costs and Overhead Costs.

Under the provisions relating to access price negotiation, where the Regulator has not determined the Incremental and Total Costs related to the floor and ceiling price tests and the PTA must determine the costs, the PTA must determine the costs in accordance with the Costing Principles under Schedule 4, Division 2, clause 10 (2) of the Code.

The Costing Principles:

- specify the Route Sections into which each applicable part of the Railway Network is divided;
- describe the intended method for calculating:
 - accumulated depreciation for the purpose of determining the Depreciated Optimised Replacement Cost of the applicable Railway Infrastructure; and
 - depreciation for the purposes of determining the Updated Regulatory Asset Base of the applicable Railway Infrastructure and the costs applicable to the floor and ceiling price tests;
- specify if the assets will be grouped and, if so, how they will be grouped;
- prohibit any Double Counting of assets by providing that the sum of the return of capital that is attributable to an asset over its Economic Life, via depreciation or otherwise, must not exceed the value of the asset at the time at which it is first included in the regulatory asset base; and
- prohibit the inclusion of the value of Contributed Capital that is wholly or partly funded by an entity other than the PTA (or an associate of the PTA).

The following table lists the relevant sections of the Code that relate to these Costing Principles.

Table 1: Sections of the Code as relevant to these Costing Principles

Relevant Section of the Code	Code Section Concept	Relevant Section of the Costing Principles
47H(1)	Purpose of document	1.3
47H(1)(a)	Depreciated Optimised Replacement Cost (DORC), also known as the Initial Regulatory Asset Base (Initial RAB)	3
47H(1)(b)	Annual Updated Regulatory Asset Base (Updated RAB)	4
47H(1)(c)	Determination of the Total Cost and Incremental Costs	2
47H(1)(d)	Record keeping	5
47H(2)(a)	Route Sections	Appendix 1
47H(2)(b)(i)	Depreciation for Initial RAB	3.6
47H(2)(b)(ii)	Depreciation for annual Updated RAB and determination of Total and Incremental Costs	4.5
47H(2)(c) 47H(4)(a)-(c)	Asset Grouping	Appendix 2
47H(2)(d)	Double Counting	6
47H(2)(e)	Contributed Capital	3.5
47H(10)	Corporations Act consistency	7

Table 2: Acronyms

Acronym	Definition
CPI	Consumer Price Index
DORC	Depreciated Optimised Replacement Cost
Initial RAB	Initial Regulatory Asset Base
RAB	Regulatory Asset Base
Updated RAB	Updated Regulatory Asset Base
WACC	Weighted Average Cost of Capital

2 Costs

The costs in this section refer to the costs that the PTA will provide to an access seeker under Part 2, section 9(1)(b) of the Code, as the costs for each Route Section for which the floor and the ceiling prices have been calculated, including the costs for each year of the period for which access is sought.

Where the costs are not determined by the Regulator under Schedule 4, Division 2, clause 9 of the Code then the costs must be determined by the PTA under Schedule 4, Division 2, clause 10 of the Code. The PTA's determination will be in accordance with these Costing Principles. These costs must be approved or re-determined by the Regulator.

The costs are efficient costs that would be incurred by a prudent Railway Owner acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of providing access.

2.1 Total Costs

The Total Costs are defined in the Code as the sum of the Operating Costs, Capital Costs (depreciation and risk adjusted return amounts) and Overhead Costs attributable to the performance of the Railway Owner's access-related functions. The Total Costs are used in determining the ceiling price test in Schedule 4, Division 2, clause 8(1) of the Code.

Details of the cost components are described in the sections below.

2.1.1 Operating Expenditure

Operating Expenditure is defined in the Code as operating costs and overheads attributable to the performance of the Railway Owner's access-related functions.

Operating Costs

Operating Costs are defined in the Code and the PTA has several categories of Operating Costs in the PTA's Costing Model, as follows:

- Routine and cyclical maintenance costs for track, signals, communications and other Railway Infrastructure;
- Network management costs;
- Emergency management costs; and
- Information reporting costs.

The Operating Costs will comprise the sum of the annual Operating Cost applicable, or forecast to be applicable, for each year for which access is sought under the Proposal for each relevant Route Section.

The costs will be those that would be incurred by a prudent Railway Owner acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of providing access.

The PTA will:

- allocate Operating Costs directly to the Route Section to which those Operating Costs are attributable; or

- where Operating Costs cannot be directly attributed to a Route Section, the PTA will assign Operating Costs to Route Sections in accordance with the cost allocators in Appendix 4.

When forecasting Operating Costs, the PTA may consider factors including, but not limited to, the:

- number of contracted train paths as a proportion of the total number of contracted train paths operated on the Route Section;
- number of train services as a proportion of the total number of train services operated on the Route Section;
- type of rollingstock and product transported;
- network standard required;
- factors relevant to assessing operating versus capital solutions, such as asset condition;
- indexation of costs; and
- future Railway Network requirements.

The PTA will provide the Regulator with supporting material demonstrating the efficiency of the Operating Costs. The supporting material that will be provided by the PTA will be determined at the time of submission.

Overhead Costs

The PTA has two categories of Overhead Costs as follows:

- Network and Infrastructure Division overheads; and
- Corporate overheads.

Overhead Costs include, but are not limited to:

- provision of safety related activities;
- legal fees and other statutory costs;
- training and development costs for management and staff;

communication costs such as telephone, facsimile and data transmission, information technology such as computers, motor vehicle, travel and accommodation;

- office stationery and consumable sundry items;
- inventory holding costs;
- labour on-costs (Superannuation, Payroll tax, Workers Compensation and Long Service Leave);
- Fringe Benefits Tax;
- building lease costs;
- power and water;
- corporate overheads (finance, safety compliance and human resources); and
- safety accreditation fees.

Overhead Costs will comprise the sum of the annual Overhead Costs applicable, or forecast to be applicable, for each year of the Relevant Period and are subject to indexation.

The PTA will, where feasible, allocate Overhead Costs directly to the Route Section to which those Overhead Costs are attributable. Where Overhead Costs cannot be directly attributed to a Route Section, the PTA will allocate Overhead Costs to Route Sections using the cost allocators in Appendix 4. The PTA will not allocate any Overhead Costs to a Route Section that are not directly or indirectly relevant to that Route Section.

2.1.2 Capital Costs

The Capital Costs must be determined as the annual cost of providing the Railway Infrastructure for each year of the Relevant Period under Schedule 4, Division 2, clause 3 of the Code. The Capital Costs are comprised of the depreciation and the risk-adjusted return on the relevant Railway Infrastructure applicable or forecast to be applicable to the Proposal.

Depreciation

The PTA will calculate, for each year of the Relevant Period, the depreciation applicable, or forecast to be applicable, during each year. The applicable depreciation for the year is determined in accordance with the applicable Depreciation Schedule being approved or determined by the Regulator under Schedule 4, Division 1, clause 2(4)(b) of the Code. This is set out in more detail in Section 4 of these Costing Principles.

Risk-adjusted return

The PTA will calculate, for each year of the Relevant Period, the annual risk-adjusted return by:

- multiplying the RAB applicable, or forecast to be applicable by
- the Weighted Average Cost of Capital (WACC) appropriate to the Railway Infrastructure,

as specified under Schedule 4, Division 1, clause 2(4)(a) of the Code.

2.2 Incremental Costs

The Incremental Costs are defined in the Code as (a) the Operating Costs and (b) where applicable, the Capital Costs and Overhead Costs attributed to the performance of the PTA's access-related functions, that the PTA would be able to avoid if it were not to provide access to the Access Holder. The Incremental Costs are used in determining the floor price test in Schedule 4, Division 2, clause 7(1) of the Code.

The calculation of the Incremental Cost is dependent upon a number of specific circumstances of the Access Holder or Access Seeker and the Route Sections to which access is obtained or sought under a Proposal. Each Access Holder can have a different Incremental Cost.

The factors that the PTA will consider to calculate the Incremental Costs include, but are not limited to:

- the percentage that the incremental traffic represents of the total traffic;
- the existing overall level of traffic (that is, high-density or low-density traffic use);
- the requirements of the service (e.g., high speed passenger versus low-speed freight);
- the nature of the Railway Infrastructure (which will influence the Operating Costs) and the specific requirements of the Access Holder;

- the nature of the train operations and its impact on Overhead Costs; and
- indexation of costs.

3 Depreciated Optimised Replacement Cost for Initial RAB Valuation

3.1 Background

Section 47J(1) of the Code states that each Railway Owner must:

Table 3: Section 47J(1)

Section 47J(1)	Description
(a)	<i>determine, for each route section of an applicable part of the railways network, the depreciated optimised replacement cost of applicable railway infrastructure associated with the route section; and</i>
(b)	<i>submit to the Regulator a statement setting out – (i) each of the railway owner’s determinations made under paragraph (a); and (ii) supporting material demonstrating the basis of each determination.</i>

Section 3 of the Code defines Depreciated Optimised Replacement Cost (DORC) in relation to Railway Infrastructure, as:

Table 4: Section 3

Section 3	Description
(a)	<i>the lowest current cost to replace the railway infrastructure with assets that — (i) have the capacity to provide the level of service that meets the actual and reasonably projected demand; and (ii) are modern equivalent assets; LESS</i>
(b)	<i>accumulated depreciation in accordance with the costing principles for the time being approved or determined by the Regulator under section 47H.</i>

To determine the DORC, the PTA will undertake the following steps in this order:

1. Determine the replacement cost of the assets by obtaining the current cost to replace the existing assets with their modern equivalents, or if new railway assets, the current construction cost of the assets;
2. Optimise the mix of modern equivalent assets such that there is capacity necessary to meet the reasonably projected demand;

3. Remove any Contributed Capital from the value of the optimised modern equivalent assets; and
4. Depreciate the optimised replacement cost of the asset to reflect accumulated depreciation.

The DORC methodology is used to determine the value of the Initial Regulatory Asset Base (Initial RAB).

Upon receipt of the statement setting out the PTA's DORC calculations, the Regulator will approve the PTA's determination, or the Regulator will determine the DORC within 120 business days under section 47J(3) of the Code. The DORC of applicable Railway Infrastructure associated with a Route Section approved or determined by the Regulator is the Initial RAB under section 47J(7) of the Code.

The DORC calculation is set out in the diagram shown below:

Figure 1: Calculation of DORC



The PTA will provide the Regulator with supporting material demonstrating the basis of each determination as required under 47J(1) of the Code and necessary for the Regulator to meet its obligations to approve or not approve the statement, under section 47J(3) of the Code, in the evaluation of the PTA's Depreciation Schedule. The supporting material that will be provided by the PTA will be determined at the time of submission.

3.2 Valuation Date

The valuation date is the date that the PTA will determine the value of the initial RAB of the Railway Network, or such other date as agreed with the Regulator.

3.3 Replacement Cost

Under the DORC methodology, the replacement cost of the assets is the current cost of modern equivalent assets. That is, the Initial RAB will be calculated by obtaining the current costs to replace the existing assets with their modern equivalents, or if the railway assets are new and built efficiently, the current construction cost of the assets.

Modern equivalent assets are the relevant assets for determining replacement costs. Existing assets may not be replaceable due to discontinued production and modern assets reflect modern capabilities of assets and current standards. The current costs of modern equivalent assets will be the lowest costs currently available for new railway infrastructure that will meet the level of service of actual and reasonably projected levels of demand and comply with relevant building codes and legislation. The scope of the modern equivalent assets will be defined on the basis that it meets the closest comparable service standard to the existing asset.

The key capital cost drivers of Railway Infrastructure are:

- the train operating standards (axle load, maximum speed, maximum train length);

- supporting infrastructure (bridges, culverts);
- topography of route (gradient and track curvature); and
- forecast demand and improvement to service levels.

The asset replacement cost will include provisions for, but not be limited to:

- amortisation of the costs of acquiring any interest or access to land, as permitted under Schedule 4, Division 1 clause 2(5) of the Code;
- design, development, planning and approval costs as typically expected for an efficient railway owner such as the PTA;
- material and construction costs, as expected for the scale and types of Railway Infrastructure owned by the PTA in the relevant Route Section locations;
- project and construction management costs, commensurate with the modern risks of managing such projects; and
- funding costs.

3.4 Optimisation

Under the DORC methodology, the modern equivalent assets are optimised by determining the optimal mix and configuration that would deliver the service level associated with actual and reasonably projected demand.

The level of service is determined with consideration of the maximum axle loads, maximum train speeds and maximum train lengths.

The PTA will review the available information regarding the assets and may adjust the number and types of assets for the purposes of determining the optimal mix of assets by:

- identifying and removing redundant assets;
- assessing modern equivalent asset capability against existing asset capacity; and
- assessing the demand forecast to identify any required changes in service capacity of assets.

Determining the optimal mix of assets requires professional judgement and the PTA notes that not all factors that impact the optimal mix can be predicted. Using the results of this review, the PTA will adjust the replacement cost of the modern equivalent assets to calculate the DORC.

3.5 Contributed Capital

The PTA will not include in the Initial RAB the value of the proportion of any Railway Infrastructure that has been funded wholly or partially by Contributed Capital as required under section 47G of the Code. This section prohibits the inclusion of the value of Contributed Capital when valuing

Railway Infrastructure under or for the purposes of the Code as outlined in section 47G of the Code, as follows.

Table 5: Section 47G

Section 47G	Description
(a)	<i>if particular contributed capital is funded wholly by an entity other than the railway owner or an associate of the railway owner – the value of that contributed capital,</i>
(b)	<i>if particular contributed capital is funded in part by an entity other than the railway owner or an associate of the railway owner, the value of the portion of the contributed capital that is not funded by the railway owner or an associate of the railway owner.</i>

3.6 Accumulated Depreciation

Section 47H(2)(b) of the Code requires that this Costing Principles includes a description for calculating accumulated depreciation in the DORC, depreciation for the updated RAB and for determining costs as follows:

Table 6: Section 47(H)(2)(b)

Section 47H2(b)	Description
(b)	<i>describe the intended method for calculating –</i>
(i)	<i>accumulated depreciation for the purpose of determining the depreciated optimised replacement cost of applicable railway infrastructure under section 47J(1)(a); and</i>
(ii)	<i>depreciation for the purposes of determining the updated regulatory asset base of applicable railway infrastructure under section 47N(1) and determining the costs referred to in Schedule 4 clauses 7 and 8;</i>

Accumulated depreciation for the Initial RAB will be calculated with reference to the Standard Design Life of the Railway Infrastructure detailed in Appendix 2 and the Economic Life of the assets. In determining the Economic Life of an asset, the PTA will:

- consider the current physical condition of the asset; and
- forecast the rate at which the asset will be consumed.

Following the determination of the Economic Life of the asset, the PTA will compare the Economic Life of the asset to the Standard Design Life to calculate the DORC for the asset.

An example of the approach to be taken by the PTA for calculating accumulated depreciation is set out in Figure 2.

Figure 2: Example of Accumulated Depreciation

An example calculation is represented mathematically as follows:

$$\text{Accumulated Depreciation} = \text{Optimised Replacement Cost Value} - \left(\frac{\text{Economic Life}}{\text{Design Life}} \times \text{Optimised Replacement Cost Value} \right)$$

For example: optimised replacement cost = \$100m, Standard Design Life= 50 years, Economic Life=30 years

$$\begin{aligned} \text{accumulated depreciation} &= \$100\text{M} - [(30/50) \times \$100\text{m}] \\ &= \$100\text{m} - \$60\text{m} \\ &= \$40\text{m} \end{aligned}$$

4 Annual RAB Update

4.1 Background

The PTA will determine the Updated RAB in respect of each Route Section within 60 business days after 30 June of the last financial year as per section 47N(1) of the Code. Determination of the Updated RAB, for the applicable Railway Infrastructure in each applicable Route Section, where the Regulator has approved or determined the DORC, requires the PTA:

- taking the current RAB of the Route Section;
- adding asset indexation for the Relevant Period;
- adding the value of Capital Expenditure incurred by the PTA during the Relevant Period;
- deducting depreciation over the Relevant Period; and
- deducting the value of Railway Infrastructure which was disposed of or has become redundant or stranded during the Relevant Period and that was applicable Railway Infrastructure immediately prior to being disposed of or becoming redundant or stranded.

Figure 3: Annual Update to RAB



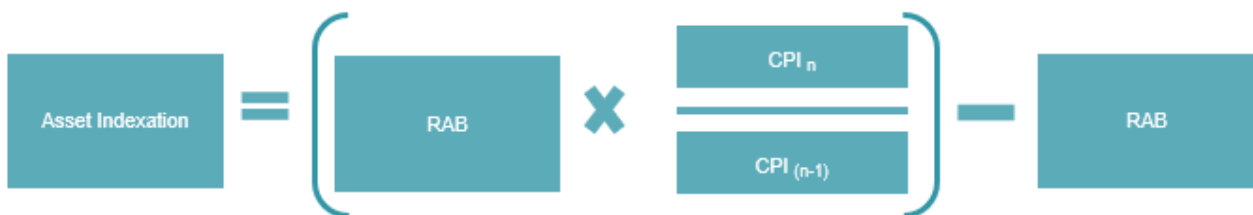
The Relevant Period is the last completed financial year, or if the updated RAB has never been determined, the period beginning on the date that the Initial RAB is submitted to the Regulator and ending on 30 June of the last completed financial year.

The supporting material that will be provided by the PTA will be determined at the time of submission.

4.2 Asset Indexation

The PTA will apply asset indexation to the applicable Railway Infrastructure in each Route Section in accordance with section 47N(3)(b) of the Code by using the following formula:

Figure 4: Asset indexation calculation



Where:

- Asset indexation is the value of asset indexation to be added to the RAB;
- RAB is the current or Initial RAB;
- CPI_n is CPI for the June quarter of the Relevant Period; and
- $CPI_{(n-1)}$ is CPI for the June quarter of the prior Relevant Period.

4.3 Capital Expenditure

The PTA will add the Capital Expenditure made by the PTA during the previous Relevant Period to the Updated RAB for the relevant Route Section, as specified under section 47N(3)(c) of the Code.

The PTA will demonstrate that the capital expenditure is efficient with reference to the factors outlined in section 47V of the Code.

Table 7: Section 47V(3)

Section 47V(3)	Description
(a)	Capital expenditure that: <i>would have been incurred by a prudent railway owner acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of providing access; and</i>
(b)(i)	<i>either - has an overall positive economic value, having regard only to the economic value that has accrued and is likely to accrue to the railway owner and access holders; or</i>
(b)(ii)	<i>is necessary capital expenditure.</i>

When assets are added to the Updated RAB, their assumed Economic Life will be equal the Standard Design Life relevant to their Asset Class that is provided in Appendix 2.

Capital Expenditure investments in new assets, new Routes or new Route Sections will be assumed to occur, on average, mid-year. The WACC will be applied to the Capital Expenditure to compensate for the six-month period before the Capital Expenditure is included in the RAB. The calculation for applying the WACC for six months is shown below:

Figure 5: Calculation of Capital Expenditure for inclusion in the RAB

$$\text{Capital Expenditure} = \text{New Capital Expenditure} \times \left(1 + \text{WACC} \right)^{\frac{1}{2}}$$

4.4 Contributed Capital

The PTA will not include in the Capital Expenditure the proportion of any Railway Infrastructure that has been funded wholly or partially by Contributed Capital as required under section 47H(2)(e) of the Code. This section prohibits the inclusion of the following in relation to Contributed Capital.

Table 8: Section 47H(2)(e)

Section 47H(2)(e)	Description
(i)	<i>if the contributed capital is funded wholly by an entity other than the railway owner or an associate of the railway owner – the value of the contributed capital;</i>
(ii)	<i>if the contributed capital is funded in part by an entity other than the railway owner or an associate of the railway owner, the value of the portion of the contributed capital that is not funded by the railway owner or an associate of the railway owner.</i>

An example of this is where Contributed Capital is received from the Commonwealth Government for the construction of Railway Infrastructure in a Route Section. For the avoidance of doubt, the value of any such Contributed Capital will not be included in the Updated RAB for that Route Section in accordance with the above.

4.5 Depreciation

These Costing Principles are required to describe the intended method for calculating depreciation for determining the Updated RAB under section 47H(2)(b)(ii) of the Code.

Table 9: Section 47H(2)(b)(ii)

Section 47H(2)(b)	Description
	<i>The statement must – describe the intended method for calculating –</i>
(ii)	<i>depreciation for the purposes of determining the updated regulatory asset base of applicable railway infrastructure under section 47N(1) and determining the costs referred to in Schedule 4 clauses 7 and 8</i>

The methodology for determining the Updated RAB includes the following step of deducting depreciation under section 47N(3)(d) of the Code.

Table 10: Section 47N(3)(d)

Section 47N(3)(d)	Description
	<i>A determination under subsection (1) must be made by –</i>
(d)	<i>deducting depreciation over the relevant period of applicable railway infrastructure associated with the route section, in accordance with the applicable depreciation schedule for the time being approved or determined by the Regulator under section 47K(3);</i>

The details of the PTA's depreciation methodology are to be submitted to the Regulator in the statement of applicable Depreciation Schedule under section 47K(1) of the Code.

Table 11: Section 47K(1)

Section 47K(1)	Description
	<i>Each railway owner must prepare and submit to the Regulator a statement of the depreciation schedule (the applicable depreciation schedule) to be applied by the railway owner when determining —</i>
(a)	<i>the updated regulatory asset base of applicable railway infrastructure under section 47N(1); and</i>
(b)	<i>the costs referred to in Schedule 4 clauses 7 and 8.</i>

The PTA will prepare a Depreciation Schedule of applicable assets comprised of Railway Infrastructure. The Depreciation Schedule will set out the depreciation to be applied against particular assets within relevant Asset Groups over their Economic Life.

In determining the Updated RAB under section 47H(2)(c) of the Code, these Costing Principles will specify if assets will be grouped and if so, how assets will be grouped. In approving the Costing Principles under section 47H(4) of the Code, the Regulator must be satisfied that for the assets grouped for determining the DORC:

Table 12: Section 47H(4)

Section 47H(4)	Description
(a)	<i>assets will only be grouped with other assets that are — (i) in the same route section; and (ii) the same, or a similar, category of railway infrastructure; and (iii) of a similar age and condition; and</i>
(b)	<i>assets will not be grouped in a way that will result in access holders paying for assets they do not use; and</i>
(c)	<i>assets will not be grouped in a way that will interfere with the Regulator's ability to monitor compliance by the railway owner with the provisions of this Code.</i>

For the Regulator to approve an applicable Depreciation Schedule, the Depreciation Schedule must satisfy the following requirements:

Table 13: Section 47K(5)

Section 47K(5)	Description
5	<i>The Regulator must not approve the statement submitted by the railway owner unless the Regulator is satisfied that the statement -</i>
(a)	<i>sets out an annual depreciation profile for each asset or group of assets that is applicable railway infrastructure; and</i>
(b)	<i>provides for each asset or group of assets to be depreciated over its economic life (whether the depreciation is distributed uniformly or otherwise); and</i>

Section 47K(5)	Description
(c)	<i>provides for each asset to be depreciated only once, that is, so that the sum of the return of capital that is attributable to an asset over its economic life, via depreciation or otherwise, does not exceed the value of the asset at the time at which it is first included in a regulatory asset base; and</i>
(d)	<i>is designed so that access prices will vary over time in a way that promotes efficient growth in the market for rail access; and</i>
(e)	<i>allows as far as reasonably practicable, for adjustments that reflect changes in the expected economic life of a particular asset or group of assets; and</i>
(f)	<i>allows for legitimate business interests of the railway owner, access seekers and access holders.</i>

The PTA may change the Economic Life of an asset or group of assets to accelerate depreciation where there is a risk of asset stranding or defer depreciation, where the market for access to the asset is relatively immature.

For the Regulator to approve an applicable Depreciation Schedule provided by the PTA that provides for non-uniform depreciation across each year of the Economic Lives of the assets, the Regulator must have regard to whether it is appropriate in the following manner:

Table 14: Section 47K(6)

Section 47K(6)*	Description
6	<i>If the statement submitted by the railway owner provides for depreciation of an asset or group of assets not to be distributed uniformly across each year of the economic life of the asset or group of assets, the Regulator must have regard to the following when performing its functions under subsection (3)—</i>
(a)	<i>if the statement provides for depreciation of the asset or group of assets to be accelerated — whether it is appropriate for depreciation of the asset or group of assets to be accelerated in the manner provided in the statement to avoid asset stranding;</i>
(b)	<i>if the statement provides for depreciation of the asset or group of assets to be deferred — whether it is appropriate for depreciation of the asset or group of assets to be deferred in the manner provided in the statement on the basis that the market for access to the asset or group of assets is relatively immature.</i>

*Similar provisions apply under section 47Q(3) of the Code.

As part of the approval process, the PTA will provide evidence for changes in circumstances that could not have been foreseen at the time the depreciation profile was last assessed.

In reassessing an asset's Economic Life, the PTA may also re-determine the applicable depreciation for that asset with reference to the Depreciation Schedule for the Relevant Period and for the remainder of the asset's reassessed Economic Life or until such time as the Economic Life of that asset is reassessed again.

The PTA will not engage in Double Counting as required under section 47F of the Code by ensuring that the sum of the return of capital attributed to an asset over its Economic Life, via depreciation, does not exceed the value of the asset at the time it is first included in a RAB.

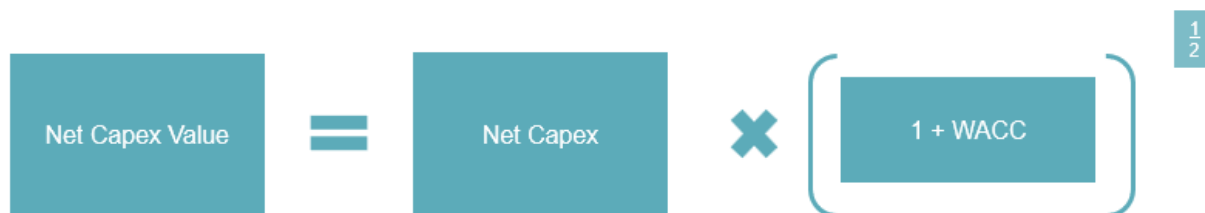
4.6 Disposed, Redundant and Stranded Railway Infrastructure

Where Railway Infrastructure is disposed of, becomes redundant or is stranded during a Relevant Period under section 47N(3)(e)(i)-(ii) of the Code, the PTA will remove the value of the Railway Infrastructure which has been disposed of, made redundant or stranded from the Updated RAB in respect of the relevant Route Section.

Disposal, redundancy and stranding of Railway Infrastructure will be assumed to occur, on average, mid-year. The WACC will be applied to the disposed, redundant or stranded Railway Infrastructure and will be deducted from the RAB to compensate for the six-month period where the relevant Railway Infrastructure was still in use.

In practice, the application of the WACC adjustment will be made in accordance with section 47N of the Code, by updating the RAB by the Net Capex Value using the following method:

Figure 6: Calculation of Net Capex Value


$$\text{Net Capex Value} = \text{Net Capex} \times \left(1 + \text{WACC} \right)^{\frac{1}{2}}$$

Where: Net Capex is investments less any corresponding disposals during the Relevant Period (with appropriate adjustments for any Relevant Period that is not one year in length).

5 Cost Record Keeping

The PTA's accounts and financial records as they relate to the costs discussed in these Costing Principles will be maintained at a level of detail required to support the practices discussed in these Costing Principles. The PTA will keep records of costs as required by 47H(1)(d) of the Code and will provide this to the Regulator as requested to enable the Regulator to monitor the compliance of the PTA with the provisions of the Code.

6 Double Counting

The PTA will record depreciation allowances to prevent Double Counting from occurring as required under section 47F of the Code.

7 Financial Administration

Financial administration of the PTA will be conducted in compliance with the Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) and the *Corporations Act 2001*.

8 Review and Consultation

The Regulator may, under section 47H(7) of the Code, give written notice directing that the Costing Principles be amended or replaced. Access Seekers or operators may request the Regulator to consider amendments to the Costing Principles.

The PTA may amend or replace the Costing Principles with the approval of the Regulator under section 47H(6) of the Code.

Appendix 1 – Routes

Route Number	Route
49(a)	The narrow gauge double tracks between Perth and Clarkson
49(b)	The narrow gauge double tracks between Perth and Fremantle
49(c)	The narrow gauge double tracks between Perth and Armadale
49(d)	The narrow gauge double tracks between Perth and Midland
49(e)	The narrow gauge double tracks between Perth and Mandurah
50A.	The narrow gauge single track between Beckenham Junction and Thornlie.
50.	The dual gauge track between Robb Jetty and Leighton and the spur line between Leighton and North Fremantle.
51.	The narrow gauge mainline track between Armadale and Mundijong Junction.

Appendix 2 – Standard Design Life

Asset Class	Asset Group	Effective Life (years)
Earthworks	Formation	100
	Cuttings	100
	Embankments	100
Tunnels and Bridges	Bridges	100
	Tunnels	100
Under Track Structures	Culverts	50
Associated Track Structures	Level Crossing Surfaces	20
	Access Roads	10
	Fencing	15
	Roads and Shunt Pathways	10
	Track Signage	10
Sleepers	Concrete	50
	Steel	40
	Timber	15
	Fastenings	25
Ballast	Metal	50
	Gravel	50
Rail	Curve < 400m	10
	Curve 400-800m	15
	Curve > 800m & Tangent	70
Turnouts	Concrete Bearers	40
	Timber Bearers	15
Train Control Systems	Train Control	15
Signalling Systems	Signals	20
	Detectors	20
	Interlockings	20
	Flashlights	20
	Boom gates	20
Communications Systems	Communications	15
Financing	Finance Costs for Construction	50
Stations and Platforms	Stations	50
	Platforms	50
	Terminals	50
Buildings and workshops	Buildings	50
	Workshops	50

Asset Class	Asset Group	Effective Life (years)
Plant, machinery and equipment	Tampers	15
	Light Vehicles (e.g., road rail vehicles)	8
	Rail vehicle moving and placing assets	10
	Grinders	20
	Ballast wagons	20
	Cleaners	20
	Regulators	20
	Sleeper Laying Machines	20
	Track Recorders	20
Miscellaneous	Miscellaneous	Refer to most current ATO Depreciation Rate for the equivalent asset
	Other	Refer to most current ATO Depreciation Rate for the equivalent asset

The Standard Design Lives above are generally indicative for the relevant Asset Class and Asset Group. Application of these lives will take various factors including but not limited to, use and asset attributes (including track gauge) into account.

Appendix 3 – Definitions

The terms used in these Costing Principles are defined below. Where a defined term is specified to take the same meaning as that set out in the Code, the definition provided by the Code has been repeated here for ease of reference.

Term	Definition
Access Holder	Has the meaning described in section 3 of the Code, which is as follow: <i>means an entity to which access is provided under an access agreement.</i>
Access Seeker	Has the meaning described in section 3 of the Code, which is as follows: <i>means an entity that has made a proposal.</i>
Asset Class	Means groupings of assets that are of the same or similar category of Railway Infrastructure. Examples of individual Asset Classes include: <ul style="list-style-type: none"> (a) Railway track; (b) Tunnels; and (c) Bridges.
Asset Group	Means a subset of assets within an Asset Class, grouped in accordance with the requirements set out in section 47H(4) of the Code, which is as follows: <ul style="list-style-type: none"> (a) <i>Assets will only be grouped with other assets that are –</i> <ul style="list-style-type: none"> (i) <i>In the same route section; and</i> (ii) <i>The same, or a similar, category of railway infrastructure; and</i> (iii) <i>Of a similar age and condition; and</i> (b) <i>Assets will not be grouped in a way that will result in access holders paying for assets they do not use; and</i> (c) <i>Assets will not be grouped in a way that will interfere with the Regulator’s ability to monitor compliance by the railway owner with the provisions of the Code.</i>
Capital Costs	For processes applicable to Schedule 4, clause 2 of the Code, <ul style="list-style-type: none"> (1) <i>capital costs means the costs comprising both the depreciation and risk-adjusted return on the relevant railway infrastructure.</i> (2) <i>For the purposes of this clause, railway infrastructure includes a cutting or embankment made for any reason after the commencement of this Code</i>

Term	Definition
Capital Expenditure	<p>Includes necessary capital expenditure as described under Section 47O of the Code as: <i>means capital expenditure that, at the time it was incurred was necessary to –</i></p> <ul style="list-style-type: none"> (a) <i>maintain or improve the safety of rail operations; or</i> (b) <i>maintain the integrity of rail operations; or</i> (c) <i>comply with a regulatory obligation or requirement; or</i> (d) <i>maintain capacity to meet existing levels of demand for access;</i> <p>and any capital expenditure the value of which is added to update the regulatory asset base by the Railway Owner under section 47N of the Code, but excluding Operating Costs and Overhead Costs.</p>
Code	<p>Means the <i>Railways (Access) Code 2000</i></p> <ul style="list-style-type: none"> • <i>Railways (Access) Code 2000 - Home Page (legislation.wa.gov.au)</i>
Consumer Price Index	<p>Means Australian Bureau of Statistics Eight Capital Cities All Groups CPI</p>
Contributed Capital	<p>Has the meaning described in section 47B of the Code, as follows;</p> <p><i>Means railway infrastructure that has been funded wholly or in part by an entity other than the railway owner or an associate of the railway owner, including by the entity doing any of the following-</i></p> <ul style="list-style-type: none"> (a) <i>providing cash or in-kind contributions to the railway owner or an associate of the railway owner;</i> (b) <i>undertaking work, or paying for work to be undertaken, for the railway owner or an associate of the railway owner;</i> (c) <i>making payments to the railway owner or an associate of the railway owner that -</i> <ul style="list-style-type: none"> (i) <i>fund the recovery of capital in relation to the railway infrastructure; and</i> (ii) <i>are not payments of prices and charges for access.</i>
Costing Principles	<p>Means this document, comprising the PTA's Costing Principles prepared in accordance with section 47H of the Code.</p>
Depreciated Optimised Replacement Cost	<p>Has the meaning described in section 3 of the Code, which is as follows:</p> <p><i>In relation to railway infrastructure, means –</i></p> <ul style="list-style-type: none"> (a) <i>the lowest current cost to replace the railway infrastructure with assets that –</i> <ul style="list-style-type: none"> (i) <i>have the capacity to provide the level of service that meets that actual and reasonably projected demand; and</i> (ii) <i>are modern equivalent asset; less</i> (b) <i>accumulated depreciation in accordance with the costing principles for the time being approved or determined by the Regulator under section 47H.</i>

Term	Definition
Depreciation Schedule	For the purposes of these Costing Principles, the Depreciation Schedule will describe depreciation in respect of each year of an asset's Economic Life. The applicable depreciation schedule must meet the requirements of 47Q.
Double Counting	Has the meaning described in section 47F(2) of the Code, which is as follows: <i>A railway owner engages in double counting of assets if the sum of the return of capital that is attributable to an asset over its economic life, via depreciation or otherwise, exceeds the value of the asset at the time at which it is first included in a regulatory asset base.</i>
Economic Life	Has the meaning described in section 3 of the Code, which is as follows: <i>In relation to an asset that is railway infrastructure, means the period over which the asset is reasonably expected to remain economically usable by 1 or more entities.</i>
Incremental Costs	Has the meaning described in section 1, Division 1 of Schedule 4 of the Code, as follows: <i>Incremental costs, in relation to an access holder or a group of access holders, means the following that the railway owner or an associate would be able to avoid if it were not to provide access to that access holder or group of access holders –</i> <ul style="list-style-type: none"> (a) <i>the operating costs;</i> (b) <i>where applicable</i> <ul style="list-style-type: none"> (i) <i>the capital costs; and</i> (ii) <i>the overheads attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate.</i>
Initial Regulatory Asset Base (Initial RAB)	Has the meaning given in section 47J (7) of the Code, which is as follows: <i>the depreciated optimised replacement cost of applicable railway infrastructure associated with a route section approved or determined by the Regulator under subsection (3) (including as amended in accordance with a direction given under section 47M(2)) is the initial regulatory asset base of that route section.</i>
Operating Costs	Has the meaning described in section 3 of the Code, which is as follows: <i>Operating costs, in relation to railway infrastructure –</i> <ul style="list-style-type: none"> (a) <i>includes –</i> <ul style="list-style-type: none"> (i) <i>train control costs, signalling and communications costs, train scheduling costs, emergency management costs, and the cost of information reporting; and</i> (ii) <i>the cost of maintenance of railway infrastructure calculated on the basis of cyclical maintenance costs being evenly spread over the maintenance cycle; and</i> (iii) <i>payments made in respect of any lease or license that the railway owner or an associate of the railway owner holds over any land, but only to the extent that the Regulator determines that those payments relate to land used for constructing, maintaining or operating the</i>

Term	Definition
	<p style="text-align: center;"><i>relevant railway and are not capital costs under Schedule 4 clause 2(5); but</i></p> <p>(b) does not include costs that the Regulator has determined under section 47W(3) to be inefficient.</p>
Operating Expenditure	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>In relation to railway infrastructure, means any of the following –</i></p> <p>(a) <i>operating costs;</i></p> <p>(b) <i>overheads attributable to the performance of the railway owner’s access-related functions, whether by the railway owner or an associate.</i></p> <p>For the purpose of these Costing Principles, the overheads referred to in this definition are defined as Overhead Costs in these Costing Principles.</p>
Optimisation Factor	<p>Means the percentage of asset value which is not removed for optimisation.</p>
Overhead Costs	<p>Means costs attributable to the performance of access related functions incurred by the PTA in connection with the Railway Network and includes:</p> <p>(a) Legal and other statutory fees;</p> <p>(b) Training and development costs for management and staff;</p> <p>(c) Communication costs such as telephone facsimile and data transmission;</p> <p>(d) Travel and accommodation;</p> <p>(e) Net costs of office equipment, motor vehicles and information technology such as computers;</p> <p>(f) Financial costs including bank fees and charges (excluding interest);</p> <p>(g) Insurance and risk management costs;</p> <p>(h) Fringe Benefits Tax;</p> <p>(i) Labour on costs;</p> <p>(j) Inventory holding costs;</p> <p>(k) Costs of office stationery, consumables and sundry items;</p> <p>(l) Accounting and finance;</p> <p>(m) Safety compliance and accreditation fees;</p> <p>(n) Payroll and human resources;</p> <p>(o) Building and occupancy costs including accommodation costs and costs of power and water;</p> <p>but excludes Operating Costs and Capital Costs.</p>
Proposal	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>proposal means a proposal under section 8.</i></p> <p>In respect of these Costing Principles, means a Proposal under the Code for access to the PTA’s Railway Network for the purposes of carrying on rail operations.</p>

Term	Definition
PTA	Means Public Transport Authority
Railway Infrastructure	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>means the facilities necessary for the operation of a railway, including:</i></p> <ul style="list-style-type: none"> (a) <i>railway track, associated track structures, over or under track structures, supports (including supports for equipment or items associated with the use of a railway); and</i> (b) <i>tunnels and bridges; and</i> (c) <i>stations and platforms; and</i> (d) <i>train control systems, signalling systems and communication systems; and</i> (e) <i>electric traction infrastructure; and</i> (f) <i>buildings and workshops; and</i> (g) <i>associated plant machinery and equipment,</i> <p><i>but not including —</i></p> <ul style="list-style-type: none"> (h) <i>sidings or spur lines that are excluded by section 3(3) or (4) of the Act from being railway infrastructure; and</i> (i) <i>rolling stock, rolling stock maintenance facilities, office buildings, housing, freight centres, and terminal yards and depots.</i>
Railway Network, Network	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>means —</i></p> <ul style="list-style-type: none"> (a) <i>all the railways that were Government railways when the Act received the Royal Assent; and</i> (b) <i>all the railways that are on land that is corridor land as defined in the Rail Freight System Act 2000; and</i> (c) <i>the railway constructed pursuant to the TPI Railway and Port Agreement; and</i> (d) <i>any railway declared under section 3(2) of the Act to be part of the railways network.</i> <p>In respect of these Costing Principles, means the Railway Network managed by the PTA.</p>
Railway Owner	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>means the person having the management and control of the use of the railway infrastructure concerned.</i></p> <p>In respect of these Costing Principles, Railway Owner means the PTA.</p>
Regulator	<p>Has the meaning described in section 3 of the Code, which is as follows: <i>means the person who holds, or is acting in, the office provided for by Part 3 of the Act.</i></p>

Term	Definition
	In respect of these Costing Principles, means the Economic Regulation Authority Western Australia or any subsequent government body or agency undertaking the same or similar function.
Related Body Corporate	Has the meaning described in section 3 of the Code, which is as follows: <i>has the meaning given in the Corporations Act 2001 (Commonwealth) section 9.</i>
Relevant Period	In relation to update of the regulatory asset base, means, as under section 47N(4): <i>the relevant period in relation to a route section is –</i> <i>(a) if the updated regulatory asset base of applicable railway infrastructure associated with the route section has never been determined under section 47N (1) – the period beginning on the day on which a statement setting out a determination under section 47J(1)(a) for the route section was submitted to the Regulator and ending on 30 June of the last financial year; or</i> <i>(b) otherwise – the last completed financial year.</i>
Route	Has the meaning described in section 3 of the Code, which is as follows: <i>means those parts of the railways network and associated infrastructure to which this Code applies and includes part of a route.</i> In respect of these Costing Principles, means those Routes comprised in the PTA's Railway Network.
Route Section	Has the meaning described in section 3 of the Code, which is as follows: <i>means the sections of the railways network into which the network is divided for management and costing purposes.</i>
Standard Design Life	Means the standard technical design life for certain Asset Classes, as set out in Appendix 2.
Total Costs	Has the meaning described in Schedule 4, clause 1 of the Code, as follows: <i>means the total of all –</i> <i>(a) operating costs;</i> <i>(b) capital costs; and</i> <i>(c) the overheads attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate.</i>
Train Management Guidelines	Means the Train Management Guidelines provided by the PTA in respect of its Railway Network as published by the Regulator, as updated or amended from time to time.

Term	Definition
Updated Regulatory Asset Base, Updated RAB	<p>Has the meaning described in section 47N of the Code, as follows:</p> <p>A Railway Owner must determine the updated regulatory asset base of applicable railway infrastructure associated with each applicable route section by:</p> <ul style="list-style-type: none"> (a) <i>taking the current regulatory asset base of the route section; and</i> (b) <i>adding asset indexation over the relevant period of applicable railway infrastructure associated with the route section; and</i> (c) <i>adding the value of capital expenditure incurred by the railway owner during the relevant period in relation to applicable railway infrastructure associated with the route section; and</i> (d) <i>deducting depreciation over the relevant period of applicable railway infrastructure associated with the route section, in accordance with the applicable depreciation schedule for the time being approved or determined by the Regulator under section 47K (3); and</i> (e) <i>deducting the value of railway infrastructure that –</i> <ul style="list-style-type: none"> (i) <i>was disposed of by the railway owner or became redundant or stranded during the relevant period; and</i> (ii) <i>was applicable railway infrastructure associated with the route section immediately prior to being disposed of or becoming redundant or stranded.</i>
Weighted Average Cost of capital	<p>Means the weighted average cost of capital determined by the Regulator pursuant to Schedule 4, Division 1, clause 3 of the Code.</p>

Appendix 4 – Cost Allocators

Cost Classification	Component	Inclusions	Allocation
Operating Costs	Network management costs	Access management; train control; train scheduling and operations planning; safeworking management; telephone charges; and radio licences.	By Transperth network control area. Cost per railcar per tonne per travel km or cost per train car per km.
	Infrastructure maintenance costs	Maintenance costs	By PTA Network and Infrastructure area. Cost per railcar per tonne per travel km or cost per train car per km.
	Other operating costs	Cost of reporting; emergency management costs and costs of reporting	By PTA corporate support areas. Cost per railcar per tonne per travel km or cost per train car per km.
Overhead Costs	Transperth Train Operations	Utilities	Cost per railcar per tonne per travel km or cost per train car per km.
	Network and Infrastructure	Legal and other statutory fees; training and development costs for management and staff; communication costs such as telephone, facsimile and data transmission; and travel and accommodation costs; net costs of office equipment, motor vehicles and information technology, such as computers; financial costs including bank fees and charges (excluding interest); insurance and risk management costs; Fringe Benefits Tax and labour on-costs; inventory holding costs; and costs of office stationary, consumables and sundry items.	Cost per railcar per tonne per travel km or cost per train car per km.
	Corporate	Accounting and finance; safety compliance and accreditation fees; payroll and human resources; and costs of power and water.	Cost per railcar per tonne per travel km or cost per train car per km.