Queensland Rail's Draft Access Undertaking 2 (DAU2) Explanatory Document

14 August 2018

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1. Background

1.1 Queensland Rail's network

Queensland Rail is a statutory authority established by the Queensland Government under the Queensland Rail Transit Authority Act 2013 (Qld).

Figure 1: Queensland Rail's Systems

Queensland Rail's purpose is to provide a safe, reliable, on-time, value for money and customer focussed rail service that benefits the community, supports industry and is integrated with the public transport system.

Queensland Rail's network extends more than 6,600 kilometres across the state and consists of the regional network and the Metropolitan System. The regional network spans more than 5,700 kilometres of track and comprises seven rail systems that convey passenger and freight services across Queensland to support the state's economy in the tourism, mining, agriculture, construction, wholesale and retail sectors.

The most significant volumes of freight are carried on the West Moreton System (thermal coal), the Mount Isa Line System (metals, minerals concentrate and chemicals) and the North Coast Line System (intermodal freight and sugar). These three systems carried approximately 97 per cent of the freight tonnage transported on Queensland Rail's network in 2016-17.

The regional systems connect to the Metropolitan System, which provides metropolitan passenger train services in Brisbane. Queensland Rail's Citytrain primarily services the commuter passenger market in South East Queensland, with more than 53 million passenger trips undertaken in the 2016-17 financial year.

The operators currently providing freight transportation services on Queensland Rail's systems are:

- Aurizon Operations, which provides transportation of all types of freight on each of Queensland Rail's systems except the Tablelands System; and
- Pacific National, which provides transportation of general freight on the North Coast Line and Metropolitan Systems and minerals and general freight on the Mount Isa Line System.

Queensland Rail does not provide any above rail freight services or compete with third party above rail passenger services. The key passenger operations on Queensland Rail's systems are:

- Citytrain service on the Metropolitan System; and
- long distance passenger services on the North Coast Line System.

Regular passenger and tourist services operate on the Mount Isa Line System, West Moreton System, Western System, Central Western System and the Tablelands System, and a small number of heritage tourist services operate on various short segments of the network.

Each of Queensland Rail's systems, with the exception only of the Mount Isa Line System, are supported by Queensland Government transport service payments in respect of its below rail infrastructure services.

The characteristics of Queensland Rail's systems are diverse and vary greatly due to differing supply chain dynamics, geography, rail corridor characteristics, interactions with other rail traffics and the substitutability of rail freight for road freight. Queensland Rail maintains fit for purpose capital and maintenance programs for each of its systems that are designed around that system's particular characteristics.

The use of Queensland Rail's below rail network is currently a 'declared service' under the Queensland Competition Authority Act 1997 (**QCA Act**). Third party access to this network is subject to '*Queensland Rail's Access Undertaking 1*' (**AU1**), which was approved by the Queensland Competition Authority (**QCA**) on 11 October 2016.

1.2 Approach to DAU2

1.2.1 Initial meetings

Queensland Rail held initial consultation with key industry stakeholders in 2017 after receiving the Initial Undertaking Notice from the QCA on 14 September 2017. Queensland Rail proposed that it would:

- ***actively engage*** industry in ongoing consultation both prior to lodgment and throughout the QCA approval process.
- adopt a ***targeted*** approach to '*Queensland Rail's Draft Access Undertaking 2*' (**DAU2**). With AU1 being in effect for only a short time after a lengthy regulatory process, it is not considered necessary to embark upon a complete rewrite for DAU2, but rather to use AU1 as the foundation. Queensland Rail is working with stakeholders to identify the existing provisions of AU1 which all agree do not require amendment.

Industry indicated support for a consultation process aimed at achieving agreed outcomes, and for changes from AU1 to be targeted to key issues rather than a complete rewrite for DAU2.

1.2.2 Detailed consultation

In developing DAU2, Queensland Rail has consulted with key industry stakeholders including New Hope, Yancoal, Aurizon Operations, Glencore, Pacific National, and the Queensland Resources Council. Industry has made valuable contributions to DAU2 positions. Where differences have remained Queensland Rail has sought that all parties have a full understanding of the rationale behind the different views.

Queensland Rail sought and accepted coal tonnage forecasts from New Hope and Yancoal. Queensland Rail also issued two consultation papers outlining Queensland Rail's proposed positions, seeking feedback on these positons.

The first consultation paper outlined proposed changes to the quarterly and annual reporting requirements, and changes to reflect changes in safety legislation.

The second paper advised all of the proposed changes for DAU2, the reasoning for the changes, as well as identifying all of the provisions that are not proposed to vary from AU1. With Queensland Rail's targeted approach Queensland Rail has proposed that the majority of AU1 does not change. Queensland Rail also provided with this paper a marked-up copy of the proposed Standard Access Agreement (**SAA**).

As well as seeking written feedback on these papers, Queensland Rail also met with industry. Working with stakeholders has decreased the number of differences, and a targeted approach has meant that resources can be focused on the key matters identified by industry and Queensland Rail. Queensland Rail has amended drafting and positions based upon industry feedback.

Queensland Rail's active stakeholder engagement will continue post lodgement. A key focus will be on the coal reference tariffs and:

- the uncertainty around tonnage levels;
- a potential loss capitalisation model; and
- the methodology for adjusting reference tariffs for coal tonnages between [redacted] per annum (**mtpa**) and [redacted]

Queensland Rail is committed to continue to work with stakeholders on all aspects of DAU2.

1.3 The legacy of vertical integration

Queensland Rail is not vertically integrated in a way that would give it an ability and incentive to leverage any market power into a dependent market.

Queensland Rail provides below rail services on its systems but does not operate freight trains. As a result, Queensland Rail is not vertically integrated in a relevant way and has no incentive to leverage any market power in the provision of below rail services to advantage a related entity providing above rail freight transport services.

While Queensland Rail operates passenger services on each of its systems except the South Western System, it does not compete with other above rail operators providing passenger services. This was acknowledged by the QCA in relation to AU1, with the QCA noting that:

> *"Queensland Rail's existing operational structure means ring-fencing issues are unlikely to affect competition, as Queensland Rail's passenger operations do not compete with other above-rail operators' and that the QCA did not consider that this was likely to change during the term of 2016 Access Undertaking."*[1]

There is similarly no expectation that such interests are likely to arise during the term of DAU2.

Having initially inherited '*QR Network's Access Undertaking (2008) June 2010*' (**2008AU**) prior to the development of AU1, an undertaking that was developed for an integrated organisation competing in the above rail market, AU1 retains various restrictive provisions not suitable to Queensland Rail's business today.

Rather than considering Queensland Rail's current business model, AU1 maintains an unnecessary level of prescription that is in contrast to other similar access regimes covering vertically separate networks, such as the ARTC interstate access undertaking and the Western Australian Access Regime. These provisions are more appropriate to historical rail access undertakings in Queensland, which regulated the provision of access to the Central Queensland Coal Network by a vertically integrated operator.

However, in the interests of certainty and maintaining a targeted approach to DAU2, as well reaching an efficient, expeditious conclusion of the approval of DAU2, Queensland Rail has not sought to remove every element of unnecessary prescription from DAU2, or re-open issues that were the subject of extensive submissions in AU1. This is not an acknowledgement that the requirements for AU1, as now reflected in DAU2, are necessary or appropriate having regard to relevant provisions of the QCA Act. Rather, Queensland Rail has taken a pragmatic approach to DAU2.

1.4 The QCA's Declaration review

The QCA's Initial Undertaking Notice requires Queensland Rail to submit an access undertaking for the service, notwithstanding that declaration under section 250 of the QCA Act expires in September 2020, and that the QCA is currently undertaking a review of the declaration, with a view to making a recommendation to the Queensland Treasurer as to whether the service should be declared after that date.

[1] QCA, Decision - Queensland Rail's Draft Access Undertaking (June 2016), page 8.

The QCA Declaration review and the DAU2 approval process are inextricably linked and if any or all of access to Queensland Rail's network becomes undeclared, then DAU2 will fall away for these systems. This gives rise to considerable uncertainty, as it is not clear whether all or part of the service will be declared in 2020. It may be that an undertaking requires significant change if, for example, only part of the service is declared after September 2020.

DAU2 is drafted as if the currently declared service will be declared in 2020.

1.5 DAU2 uncertainty

DAU2 is being developed in a unique environment of uncertainty, where there is a concurrent declaration review (discussed above) and potential West Moreton coal volumes varying between [redacted] and [redacted] around an 80 per cent spread. Queensland Rail has been working with stakeholders to develop effective ways to mitigate the uncertainty, and in particular, in relation to the West Moreton coal reference tariff.

1.6 Structure of submission

This document supports Queensland Rail's DAU2, which has been submitted to the QCA for approval. This explanatory document sets out the rationale for proposed changes Queensland Rail has put forward in DAU2. It is structured as follows:

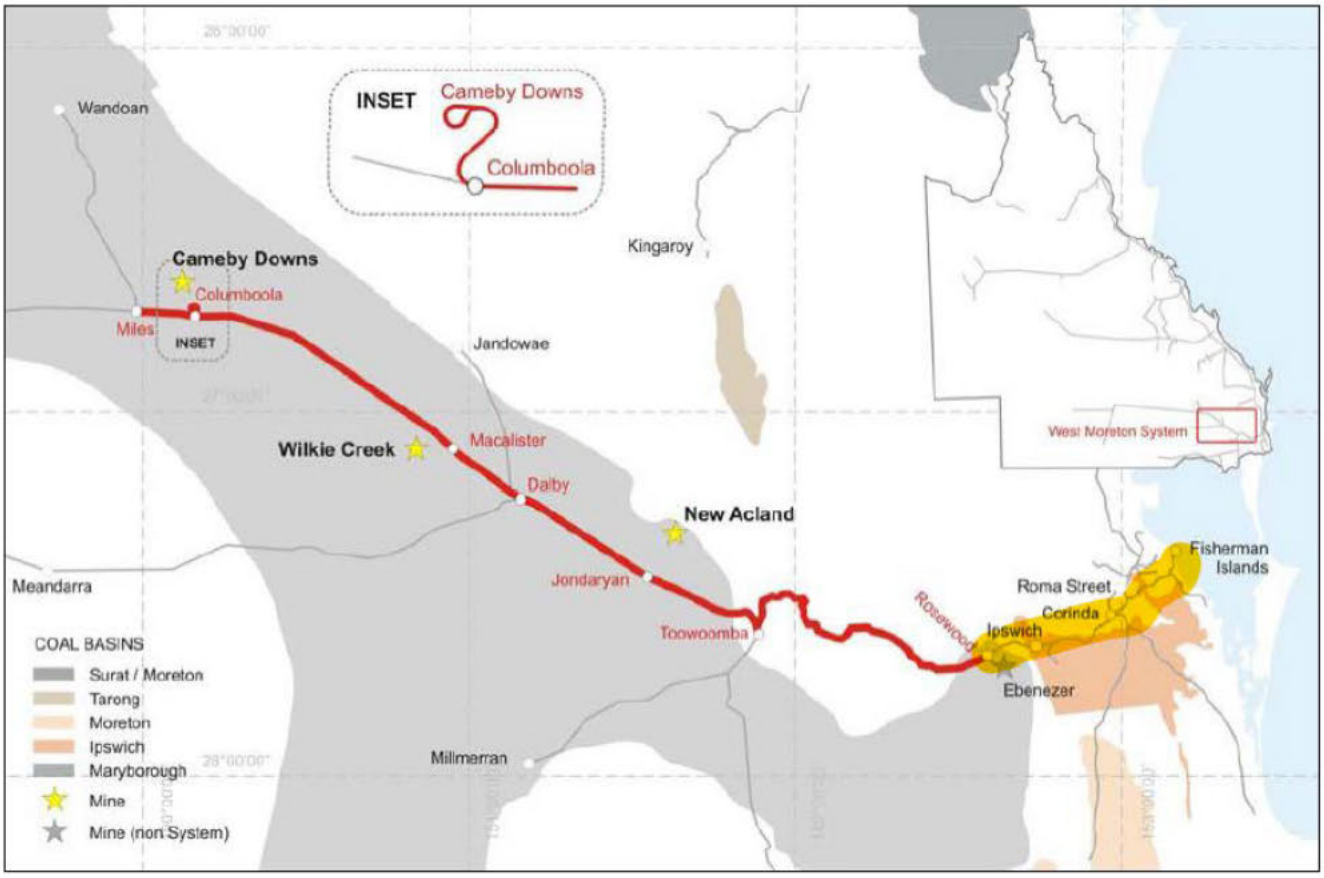
- Section 2 discusses the proposed reference tariffs for coal services on the West Moreton System, including the methodology Queensland Rail has used to develop these tariffs.
- Section 3 discusses the proposed reference tariffs for coal services on the Metropolitan System, including the methodology Queensland Rail has used to develop these tariffs.
- Section 4 sets out the proposed changes to the SAA.
- Section 5 sets out proposed changes to pricing rules, including prices for renewed contracts.
- Section 6 discusses proposed other (non-pricing) changes.
- Attachment 1: West Moreton Tonnage Forecasts from the mines.
- Attachment 2: Frontier Economics' Independent Expert Report on Asset Beta.
- Attachment 3: West Moreton System DAU2 Capital Expenditure 2020-21 to 2024-25.
- Attachment 4: GHD Peer Review of West Moreton System DAU2 Maintenance Costs 2020-21 to 2024-25.
- Attachment 5: West Moreton System DAU2 Maintenance Costs 2020-21 to 2024-25.
- Attachment 6: GHD Peer review of West Moreton System DAU2 Maintenance Costs 2020-21 to 2024-25.
- Attachment 7: HoustonKemp's Independent Expert Report on Price Differentiation.
- Attachment 8: HoustonKemp's Independent Expert Report on Contract Renewal Rights.

2. West Moreton System Reference Tariffs

2.1 Introduction

Coal carrying train services traverse Queensland Rail's West Moreton System, which spans approximately 321 route kilometres from Rosewood to Miles, and through the Metropolitan System[2] along approximately 80 route kilometres from Rosewood to the Port of Brisbane (Fisherman Islands). Both the West Moreton System and the Metropolitan System have QCA approved reference tariffs for coal carrying train services.

Figure 2: Map of Miles to the Port of Brisbane



2.1.1 System history and characteristics

Historically the West Moreton System catered for passenger, livestock, freight and agricultural products (e.g. grain and cotton) with the first section of railway line in Queensland, between Ipswich and Grandchester, opening in 1865 the railway reaching Toowoomba in 1867 and Roma in 1880.

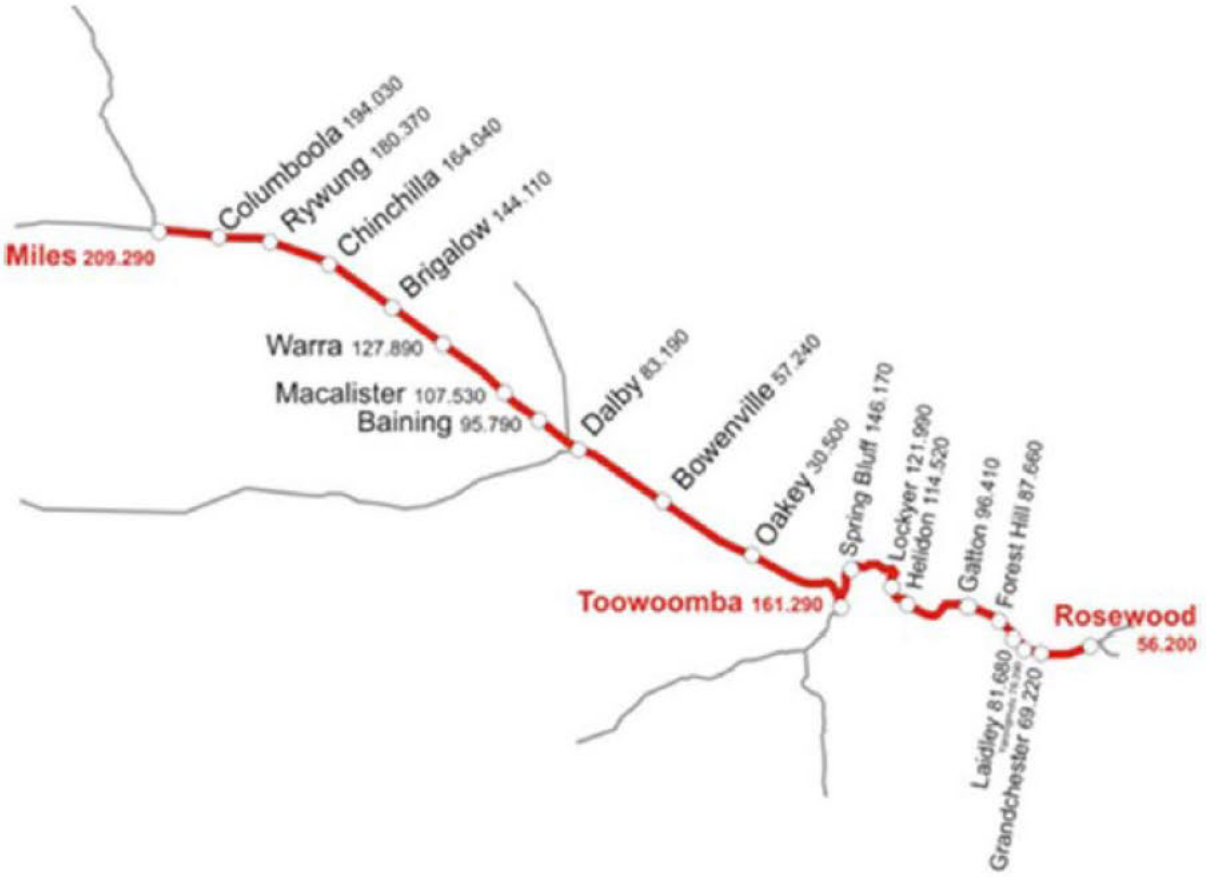
[2] The Metropolitan System means that part of the Network bounded to the north by (and including) Nambour station and to the west by (and including) Rosewood and including all branch lines comprised in that part of the Network. Coal trains travel on the System between Rosewood and the Port of Brisbane.

While coal carrying train services commenced in 1982 from mines located just west of Ipswich (in the Metropolitan System), heavy haul coal railings began on the West Moreton System from the Wilkie Creek mine in 1994, with Macalister as the loading point. Following the development of the New Acland mine, railings from Jondaryan commenced in 2002. The final Surat Basin mine utilising the West Moreton System, Cameby Downs, began operations in late 2010 transporting coal from Columboola. The Wilkie Creek mine ceased railing in early 2013 during a time of low international thermal coal prices.

The West Moreton System is unique as a coal system, with the Toowoomba Range section, originally constructed in the 1880s, problematically having a grade of 2 per cent and some 40 sharp curves. In addition, the majority of the railway from Rosewood to Columboola is founded on expansive black clays.

As the West Moreton System was initially designed to cater for non-coal traffics, this environment has meant that investment in infrastructure improvements, by both Queensland Rail and West Moreton System end-users, has been necessary to accommodate coal carrying train services. It also requires a substantial maintenance effort. Queensland Rail maintains fit for purpose maintenance and capital programs that take account of the West Moreton Systems unique characteristics, ensuring a safe and reliable network.

Figure 3: Map of the West Moreton System



2.1.2 West Moreton System rail capacity

Current traffics on the West Moreton System include train services carrying thermal coal from the two mines (New Acland and Cameby Downs), freight trains carrying grain and sometimes livestock and the Westlander long distance passenger services.

The Toowoomba Range is the capacity constraint on the West Moreton System, with a maximum capacity of 113 return train paths per week. Of these, 14 return train paths per week are preserved for non-coal freight[3] and two return train paths per week are preserved for the Westlander[4]. The coal mines and rail operators can contract up to 97 return train paths per week across the range (as these are not preserved), and can also run ad hoc train services for the remaining 16 return preserved paths (if they are not being used by freight and passenger train services). The Metropolitan System is not capacity constrained and can accommodate the 113 trains services as well as any coal or freight services that originate in the Metropolitan System and travel between Rosewood and the Port of Brisbane.

2.2 QCA Building Blocks approach

2.2.1 Building Blocks approach

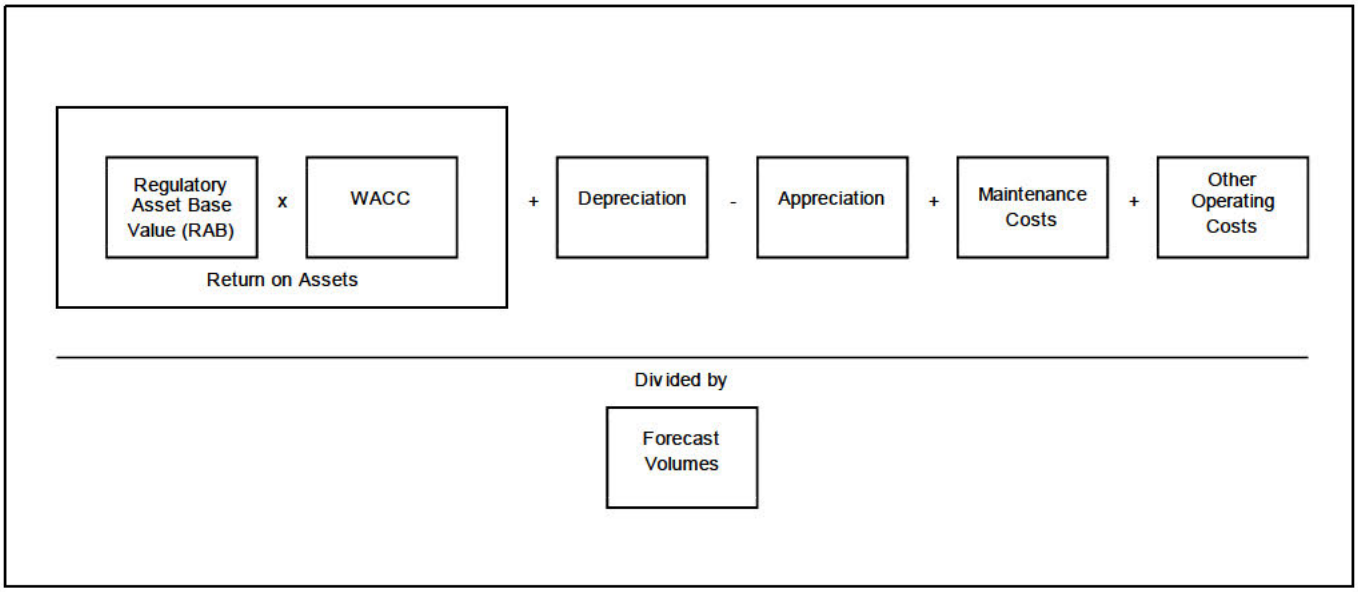
Reference tariffs are approved by the QCA for coal carrying services on both Queensland Rail's West Moreton System and the Metropolitan Systems, and for Aurizon Network's systems. Except for Queensland Rail's Metropolitan System coal reference tariff, these reference tariffs are directly calculated by the QCA through a 'building block' methodology where the QCA makes an assessment of the:

- Opening Asset Value for the System;
- Capital Expenditure over the period of the undertaking;
- Weighted Average Cost of Capital (**WACC**) (e.g. return on asset);
- Asset Depreciation;
- Asset Indexation;
- Maintenance Costs;
- Other Operating Costs;
- Gamma Adjusted Tax Payable; and
- Coal tonnages during the access undertaking period (i.e. volumes).

The approved reference tariff is then derived as a function of the forecast or contract volumes for the regulatory period. The following diagram provides a high level summary outlining the calculation of a reference tariff:

[3] These train paths are preserved under section 266A of the *Transport Infrastructure Act 1994*.
[4] These train paths are preserved under section 266A of the *Transport Infrastructure Act 1994*.

Figure 4: Reference Tariff Build Up



2.2.2 History of coal reference tariff development – A 'Building Block' approach

Coal reference tariffs in Queensland were first developed in 2001 for the central Queensland Coal region (**CQCR**) as part of the QR Limited access undertaking (**UT1**) based upon the 'building block' methodology.

Coal reference tariffs for the "Western System" (part of which is the West Moreton System) were first developed as part of QR Limited's second access undertaking (**UT2**), which was approved in 2006. The reference tariffs were agreed with industry though the QCA approval process.

On 30 June 2010 the QCA approved coal reference tariffs in the 2008AU based upon the building block methodology.

On 11 October 2016 the QCA approved the current AU1 West Moreton System reference tariffs, again based upon its building block methodology.

Queensland Rail's current coal reference tariffs are summarised in **Table 1**.

Table 1: Queensland Rail coal reference tariffs as at 1 July 2018 ($2018-19)

West Moreton System	Metropolitan System
$17.23/'000 gtk	$17.26/'000 gtk

2.3 Derivation of the DAU2 West Moreton System coal reference tariff

The following sections of Part 2 of this explanatory document set out the derivation of the DAU2 West Moreton System coal reference tariff including:

- Coal Volumes - Challenges around uncertainty [Part 2.4];
- Opening asset value [Part 2.5];
- WACC [Part 2.6];
- Capital expenditure [Part 2.7]:
- Depreciation [Part 2.8]
- Maintenance Expenditure [Part 2.9];
- Operational Expenditure [Part 2.10]; and
- The West Moreton System reference tariff [Part 2.11].

2.4 Coal volumes

2.4.1 West Moreton System coal volume uncertainty

Queensland Rail and industry face unique challenges around the development of the DAU2 reference tariffs, compared to previous rail access undertakings in Australia, particularly in relation to volume forecasts.

Access revenue from coal train services, which is collected through the reference tariff, funds the majority of the costs on the system. AU1's West Moreton System reference tariffs are based on a combination of contract and forecast ad hoc paths, which in total equates to approximately [redacted] net tonnes of thermal coal per year being transported on the system. New Hope's New Acland Stage 2 mine (**New Acland Stage 2**) has nominal production of around [redacted]mtpa and Yancoal's Cameby Downs mine with production of around [redacted] A third mine, Peabody's Wilkie Creek mine, ceased operations in early 2013 at a time when international thermal coal prices were low, and remains closed.

While New Hope delivers around [redacted] per cent of the coal on the West Moreton System through New Acland Stage 2, this mine is forecast to cease producing coal by mid-2020[5]:

> *"New Hope Corporation Limited ("New Hope") operates New Acland Mine ("the Mine"), located near Oakey in South-East Queensland. The coal reserves known to be economically viable within the current mining lease will be exhausted by mid-2020. The long-term future of the Mine is dependent on securing approval from the Queensland Government for a mine expansion, called New Acland Coal Mine Stage 3 Project ("NAC3")."*

[redacted]

[5] New Acland Coal Mine Stage 3 Project Financial Impact Study New Hope Group 27 September 2017 by Ernst & Young, pp. 1 & 9.

2.4.2 New Acland Stage 3

In May 2017, the Land Court of Queensland (**Land Court**) recommended that the Minister for Natural Resources and Mines refuse to approve the New Acland Stage 3 development.

In May 2018, the Supreme Court of Queensland delivered its judgement in New Hope's judicial review proceeding, setting aside the Land Court's orders and remitting the matter back to the Land Court for further consideration.

This does not result in a recommendation for approval of the expansion, and given the Land Court will have to reconsider the objections in light of the Supreme Court decision, the need to obtain additional licences under the *Water Act 2000 (Qld)* and requirements for additional rail and mine infrastructure, it is unlikely the mine will be operational before commencement of DAU2 on 1 July 2020, if approvals are ultimately granted.

2.4.3 Volume Forecasts — [redacted] and [redacted]

As part of its customer engagement, Queensland Rail wrote to New Hope and Yancoal in September 2017 requesting tonnage forecasts for the period from 1 July 2020 to 30 June 2025. Based upon these forecasts (refer **attachment 1**), and Queensland Rail's discussions around current access applications including a current New Hope access application for [redacted] mtpa, Queensland Rail forecasts that:

- **Higher case scenario:** If New Acland Stage 3 proceeds, forecast tonnages would be around [redacted] (New Hope [redacted] and Yancoal [redacted] — Yancoal's current contracted tonnages with the contract expiring in [redacted]); and
- **Lower tonnage scenario:** If New Acland Stage 3 does not proceed or is not operating when DAU2 takes effect on 1 July 2020, forecasts will be approximately [redacted] during the period without New Acland Stage 3.

Queensland Rail is developing the West Moreton coal reference tariff under circumstances with potential tonnage scenarios varying by an unprecedented [redacted] per cent at the date of this submission. Very different capital, maintenance and operational expenditure profiles will be required under these differing scenarios.

As part of its consultation Queensland Rail committed to the miners to develop a building block approach for both scenarios. In doing this, Queensland Rail seeks to provide transparency and certainty for industry.

Having a QCA approved reference tariff at [redacted] will provide New Hope with certainty in its investment decisions in relation to its New Acland Stage 3 development.

Queensland Rail does not intend to apply a reference tariff for Yancoal at [redacted] at the building block ceiling tariff. Post submission of DAU2 to the QCA, Queensland Rail will work with stakeholders to develop a reference tariff for the [redacted] scenario, which is below the [redacted] ceiling tariff, for submission to the QCA for approval. Queensland will also consult with industry on the following options:

- A potential loss capitalisation (catch-up) model to recoup losses when tonnages on the system exceed a threshold; and
- The possibility of developing methodology for QCA approved reference tariffs at each mtpa point between [redacted] and [redacted]

The following sections of this explanatory document work through each of the key elements of the reference tariff build up, with [Part 2.11] providing the resultant reference tariffs that Queensland Rail is seeking that the QCA approve.

2.5 Asset roll forward — DAU2 opening asset base

2.5.1 West Moreton System Common Network and Allocated Regulated Asset Base

As part of its 2016 Final Decision on AU1, the QCA approved an opening asset value of $254.5 million[6] for the West Moreton common network between Columboola and Rosewood, as at 1 July 2013.

The Regulatory Asset Base (**RAB**) for the West Moreton System is the only RAB approved for Queensland Rail.

In determining a common network RAB value for DAU2, Queensland Rail has adopted the following approach:

- roll forward the AU1 RAB, adjusting for depreciation and forecast inflation;
- assume the capital allowance and forecast for 2013-14 to 2019-20 based on forecast expenditure; and
- incorporate forecast capital expenditure over the DAU2 regulatory period (via the Capital Indicator).

In determining a coal allocated network value for DAU2, Queensland Rail has applied a revised train path allocation to the asset and capital expenditure groups.

2.5.2 Capital investment in West Moreton System

Queensland Rail's RAB is made up of assets required for the efficient provision of access to the declared service.

Originally based on a 2013 asset valuation, the RAB value is rolled forward each year at CPI escalation, depreciated, and the value of prudent capital investments, approved by the QCA as part of its ex-post annual capital approvals process.

The key strategies supporting Queensland Rail's capital expenditure plan in West Moreton System are:

- Preventative not reactive maintenance — to be achieved through better collection and analysis of asset condition data so that assets can be replaced or repaired at the optimum time
- Undertaking asset renewals that introduce modern, reliable, low maintenance, less disparate and (where possible) future-proof infrastructure assets
- More effective planning of works delivery with the aim of minimising the impacts of capital works and major maintenance on network availability and delivering improved productivity outcomes from closures
- Focus on improved cost-effectiveness by reviewing internal works processes and cost contributors and more effective utilisation of industry through appropriate packaging and tendering of works and management of delivery.

[6] QCA Final Decision, Queensland Rail's Draft Access Undertaking (June 2016), p 215

The West Moreton System was initially constructed in the 1870's. This provides challenges now stemming from the historical use of non-engineered formations built on black soil plains, unstable ash deposits from the original steam trains and the Toowoomba range is geotechnically unstable which presents its own challenges. These challenges are required to be managed carefully with a balance of capital investment and operational maintenance.

2.5.3 Capital Indicator reconciliation and RAB forecast

AU1 included an estimate of the capital expenditure likely to be spent over the period 1 July 2013 to 30 June 2020 as approved by the QCA.

Clause 1.3, Schedule E of AU1 requires Queensland Rail to submit an annual report to the QCA regarding the capital expenditure Queensland Rail considers should be included in the RAB (the RAB rollover). Submission of annual Capital Expenditure Reports during the term and the subsequent approval process by the QCA is the process used to convert estimated expenditure to actual expenditure to be added. If Queensland Rail has spent more on capital, then it will recover this in subsequent undertakings, or if it has underspent, it will be required to refund the relevant portion of access charges as approved for the next term.

The 2016-17 Capital Expenditure Report is the first to be assessed by the QCA under AU1. Because the RAB was approved as at 1 July 2013 and no subsequent assessment has been made, the 2016-17 Capital Expenditure Report includes all capital expenditure on the West Moreton System from 1 July 2013 to 30 June 2017.[7] The 2016-17 Capital Expenditure Report was submitted to the QCA on 20 December 2017. As of the time of writing, the QCA is yet to release its final decision on the Capital Expenditure Report.

As considerable time remains until AU1 expires on 30 June 2020, Queensland Rail has assumed for the purposes of the opening RAB value for AU2 that it will meet its capital expenditure estimates during the term.

2.5.4 Opening common network RAB value AU2

In determining the opening asset value, Queensland Rail has not revisited debates related to the approval of AU1, and has accepted the QCA 2016 Final Decision on the West Moreton RAB.

The AU2 RAB has been rolled forward in accordance with clause 1.1 of Schedule E of AU1. It includes:

- the opening asset value of $254.5 million, for the system from Rosewood to Columboola, as at 1 July 2013;
- addition of $16 million coal only sidings and balloon loop;
- for the three years preceding the commencement of AU1 (2013-14 to 2015-16), capital expenditure as submitted/forecast to the QCA; and
- assume the capital allowance and forecast for 2016-17 to 2019-20.

The resulting RAB opening asset value for the West Moreton common network for the AU2 regulatory period is $419.8 million as at 1 July 2020. See Figure 5 below.

[7] The QCA included an estimate of the capital expenditure likely to be spent over the period 1 July 2013 to 30 June 2020, with the Capital Expenditure Reports the process used to convert estimated expenditure to actual expenditure.

Figure 5: Waterfall of West Moreton RAB from AU1 to DAU2

The parameters for the calculation are summarised in **Table 2** below.

Table 2: RAB Parameters

Parameter Method	
CPI Indexation	The AU1 RAB is rolled-forward each year and escalated in line with actual inflation: 2013-14—3.22% 2014-15—1.51% 2015-16—1.49% 2016-17—1.83% 2017-18—1.71% For 2018-19 onwards, the RAB has been rolled forward using a forecast inflation of 2.5%, which is the midpoint of the Reserve Bank's target range for inflation and Queensland Rail's inflation forecast for AU1 and AU2.
Depreciation	Consistent with the approach applied in the QCA's AU1 Final Decision, straight line depreciation based on QCA Asset Class endorsed lives and 35 year rolling life for identified capex streams.
Capital Expenditure Actual	Capital expenditure is included as forecast in AU1. Ongoing capex claims are subject to prudency assessments as part of the capital claim process

Table 3: Asset Roll Forward—Rosewood to Columboola

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Opening asset value	270,552[8]	284,073	304,333	325,227	349,398	373,818	398,230
Capex	12,926	24,771	26,033	28,783	30,066	27,708	25,278
Inflationary gain	8,917	4,483	4,727	6,230	6,237	9,690	10,270
Less Depreciation	(8,322)	(8,994)	(9,865)	(10,842)	(11,883)	(12,985)	(13,993)
Closing asset value	284,073	304,333	325,227	349,398	373,818	398,230	419,784

[8] Includes addition of $16 million coal only assets 2013-14

2.5.5 Opening allocated coal network RAB value AU2

The Opening Asset Value used to determine West Moreton System reference tariffs is an allocation of the common network value held in the RAB.

For AU1, the QCA determined the allocations for coal traffics on the system as presented in **Table 4**.

Table 4: Assets/Capex Allocators by Year

	2013-14—2014-15	2015-16	2016-17 to 2019-20
Pre-1995	56.2%	57.3%	58.4%
1995-2007	68.1%	69.5%	70.8%
2007-2013	68.1%	69.5%	70.8%
2013-14—2014-15	68.1%	69.5%	70.8%
2015-16—2019-20	68.1%	69.5%	70.8%
Coal-only	100.0%	100.0%	100.0%

Applying the AU1 allocations to the common network RAB produces an effective coal Opening Asset Value of $288.6 million as at 1 July 2020.

2.5.6 Changes to the train path allocation in DAU2

In DAU2, for the purposes of the allocator groups, Queensland Rail has not applied the QCA's 87 weekly return train path restriction on coal services through the Metropolitan System. **Table 5** below shows the weekly train paths available assumed in AU2. Queensland Rail has not applied an 87 train path restriction right through the AU1 and will not apply it during DAU2.

Under the QCA Act Queensland Rail is required to negotiate in good faith for available capacity and has done so throughout AU1, and will continue to do so during DAU2. Queensland Rail currently has combined contracted plus access path requests exceeding the current 97 weekly return coal path constraint on the Toowoomba Range and depending on the outcome of the New Acland Stage 3 mine development may need to consider West Moreton System infrastructure expansions to cater for all the planned coal tonnage.

Advice received from the Department of Transport and Main Roads (**TMR**) prior to the QCA's 2016 AU1 final decision was that the restriction did not apply. Additionally, Queensland Rail had not been applying the restriction. Queensland Rail has been ready, willing and able to contract up to 97 return coal train paths per week on the West Moreton System to the Port of Brisbane in addition to trains originating from Ebenezer. Queensland Rail has requested written confirmation from TMR that there is no 87 return coal train path restriction in the Metropolitan System for Queensland Rail to provide to the QCA to give the QCA comfort that no such restriction exists, or existed during AU1's term.

Queensland Rail will also lodge a draft amending access undertaking for AU1 to clarify that there is no 87 weekly return path restriction on coal services through the Metropolitan System in AU1 or AU2. In its Final Decision, the QCA assessed there was an actual effective West Moreton System capacity of 113 return paths[9].

[9] QCA Final Decision, Queensland Rail's Draft Access Undertaking (June 2016), p 154

Pre-1995 Asset/Capital Expenditure is assessed based on the determined available coal capacity in the system over the potential system capacity while newer assets are assessed against the effective system capacity.

Table 5: Weekly Return Train Paths Available

Train type	QCA Allocations in 2016 Final Decision (2016 onwards) [10]	AU2 (2020 onwards)
Coal – West Moreton to Port	80	97
Coal – Metro to Port (contracted)	7	0
Other	14	14
Passenger	2	2
Unallocated	10	
Total	113	113

The revised allocators against the common network costs for coal traffics on the system are presented in **Table 6**.

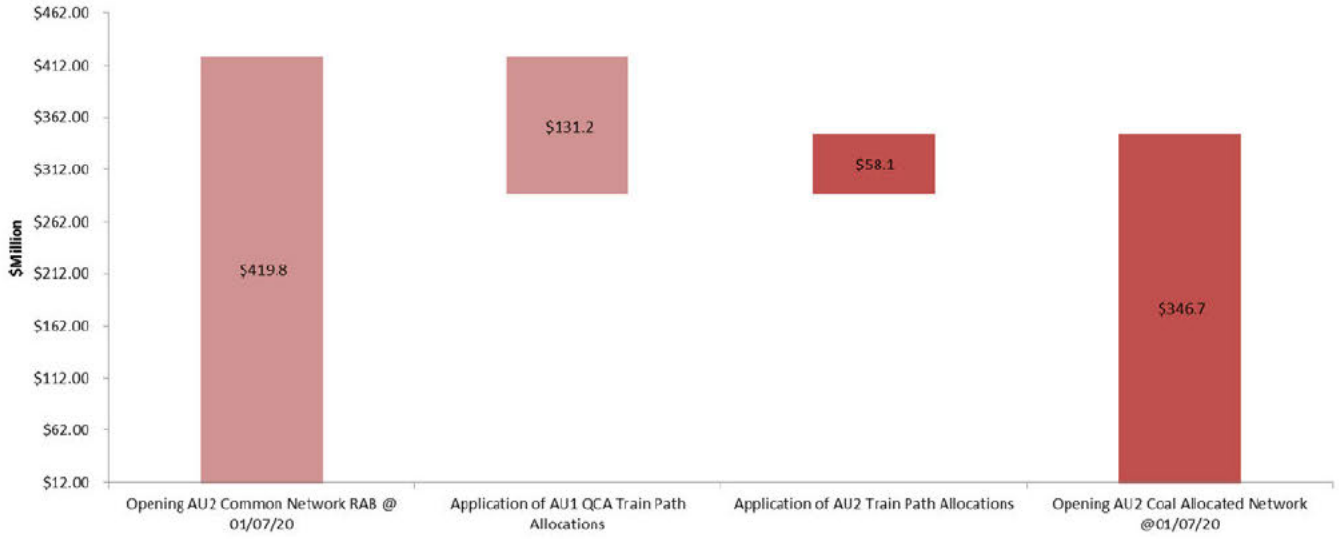
Table 6: Revised Allocators by Year

Allocators by year groups—Assets/Capex	2020-21 to 2024-25
Pre-1995	70.8%
1995—2007	85.8%
2007—2013	85.8%
2013-14—2014-15	85.8%
2015-16—2019-20	85.8%
Coal-only	100.0%

Applying the revised allocations to the common network RAB produces a new effective Opening Asset Value of $346.7 million as at 1 July 2020. The changes from the Opening AU2 RAB value to the Opening AU2 Coal Allocated Network value as a result of changes to the allocators is shown in **Figure 6**.

[10] This incorrectly includes an 87 return train path restriction through the Metropolitan System which Queensland Rail will seek to address through a draft amending access undertaking during AU1's term.

Figure 6: Changed Allocators—Allocated Regulatory Asset Base—Rosewood to Columboola



2.6 Weighted Average Cost of Capital (WACC)

2.6.1 WACC consistency with QCA UT5 Draft Decision

A key issue in relation to the development of DAU2 is to determine what is an appropriate WACC[11] rate for Queensland Rail's network. Notably, the QCA has recently released (December 2017) its Draft Decision (**UT5 Draft Decision**) on Aurizon Network's draft access undertaking (**UT5**).

The QCA's approach to WACC (including the core WACC formula and basis on which individual parameter estimates are derived) has been consistent for some time and has not changed despite significant expert opinion and argument submitted by Aurizon Network.

Queensland Rail has sought to minimise debate with respect to allowed returns by accepting the QCA's UT5 Draft Decision WACC methodology, save to update the Asset Beta and associated Equity Beta and Debt/Equity ratio (discussed below). However, if the QCA determines that a change in methodology is now appropriate, Queensland Rail may seek to make further submissions to the effect that any changes also apply to DAU2.

Additionally, Queensland Rail has chosen not to reset the time variant inputs from the UT5 Draft Decision numbers, as these numbers will vary between now and when they are set at the DAU2 approval time, likely to be in early 2020.

[11] Weighted Average Cost of Capital (WACC) is the minimum return on existing assets required to satisfy creditors, owners, and providers of capital. Combined with the regulatory asset value, the WACC determines the allowable return on assets, which forms part of the efficient cost of providing regulated services.

2.6.2 Asset Beta: Queensland Rail and Aurizon Network risk profiles

Section 168A of the QCA Act allows for access prices to generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved.

In using the UT5 Draft Decision WACC parameters, Queensland Rail has made one key exception, which relates to the systematic risk faced by Queensland Rail (i.e. the Asset Beta). While we use the same methodological approach as the QCA to estimate the cost of equity, through the Sharpe-Lintner CAPM formulation, Queensland Rail considers its systematic risks are very different to those faced by Aurizon Network. Queensland Rail has a very different business profile to Aurizon. The QCA recognised such differences in its 2014 draft decision on DAU1:

> *"However, the QCA notes there are also significant differences between the entities that suggest that Queensland Rail's risks are unlikely to be less than those faced by Aurizon Network. In particular, Queensland Rail:*
>
> *(a) is more exposed to movements in the economy as it is subject to a price cap. In contrast, Aurizon Network has revenue certainty through its revenue cap*
>
> *(b) obtains revenues from only two coal mines (Cameby Downs and New Acland) on the western system. In contrast, Aurizon Network's revenue is from around 50 mines and over 15 companies across the CQCR*
>
> *(c) provides for the transport of relatively low-margin thermal coal, where one mine has recently closed (Wilkie Creek). In contrast, Aurizon Network transports a large proportion of higher-margin coking coal and its coal traffic has not traditionally been related to Australian (or Queensland) economic and stock market cycles."*[12]

In AU1 Queensland Rail did not seek a separate review of its Asset Beta, but rather assumed the same Asset Beta as Aurizon. For DAU2 to estimate a suitable return that is commensurate with Queensland Rail's regulatory and commercial risks, Queensland Rail sought expert advice from Frontier Economics (refer **Attachment 2** for this advice).

Frontier followed a standard process for asset beta estimation, consistent with the approach that the QCA adopts for the services it regulates. Namely, an asset beta is estimated by combining estimates from a set of benchmark comparators for Queensland Rail's business. In performing these calculations, Frontier adopts the Conine approach to re-levering, using gamma, tax, and debt beta estimates commensurate with the QCA's most recent decisions. Since Queensland Rail's business is fundamentally different from the operation of the Central Queensland Coal Network in a number of respects relevant to systematic risk, Frontier has adopted a set of comparator businesses that differs from that used by the QCA for Aurizon Network.

As the QCA is aware, there are few very close comparators to Queensland Rail's business in Australia, or indeed in other jurisdictions. A set of comparators is therefore chosen based on matching one or all of the following key characteristics:

- Be a transport infrastructure operator;
- Be used to transport a mix of bulk freight and other kinds of freight;

[12] *QCA Draft Decision on Queensland Rail's 2013 Draft Access Undertaking October 2014, p. 143*

- Have a reasonably small number of larger customers;
- Be exposed to competition in some or all components of the business; and
- Be exposed to changes in demand from changes in global commodity prices.

Further explanation on the significance of these factors is provided in Frontier's report. Frontier's key conclusions in relation to the choice of comparators is that:

- other railroads, and ports are likely to be the closest comparators to Queensland Rail;
- airports are next closest;
- the pipeline and toll road sectors are somewhat less comparable; and
- the regulated electricity and water sector are least comparable, sharing no key risk-based features with Queensland Rail.

Frontier notes that while each of railroads, ports, airports, pipelines and toll roads potentially add relevant information to a beta estimation, it would not be wise to rely solely on any one set of comparators. Rather, each can contribute some relevant information to the task of estimating systematic risk for Queensland Rail, which will vary according to how many of Queensland Rail's key characteristics are shared with the comparator set. Weightings are developed to weight the contribution of the particular comparators, and while there is clearly a degree of judgement exercised, there is clear evidence that the asset beta should be set well above the figure adopted for the Central Queensland Coal Network.

Frontier concludes that the appropriate asset beta, based on comparators in the ports, railroads, airports and toll roads industries, is determined to be 0.77 when applying a methodology consistent with that accepted by the QCA. That is, Frontier obtained, for each potential comparator, the equity betas for the period May 2008 through to April 2018, and for the period May 2013 through to April 2018; this allows estimation of asset betas over a 5-year and 10-year window. These are de-levered according to the QCA's Conine approach.

Frontier then estimates the equity by re-levering the asset beta estimate of 0.77, again consistent with the QCA's Conine approach. Applying a benchmark gearing of 28 per cent, obtained in a manner consistent with the asset beta estimate, yields an equity beta of 0.98 under standard QCA assumptions regarding debt beta and gamma. The lower gearing used somewhat offsets the higher asset beta so that the equity beta of 0.98 is proportionally closer to the 0.8 previously used than is the prior asset beta. Please refer to **Attachment 2** for more details on the methodology and results of the Frontier Economics analysis.

Queensland Rail recognises that its proposed equity beta is higher than in its previous undertaking. However, Queensland Rail considers that the beta proposed is a more genuine reflection of its higher systematic risks – which have been borne out in recent times through highly variable flows on its network.

Table 7: DAU2 WACC Parameters

WACC Parameters	DAU2[13]	Comment
Capital Structure (% Debt)	28%	As per Frontier Economics Independent Expert advice
Debt Beta	0.12	As per QCA precedent on Aurizon UT5
Debt Rating	BBB+	As per QCA precedent on Aurizon UT5
Debt Margin incl. Refinancing	2.23%	As per QCA precedent on Aurizon UT5
Risk Free Rate	1.90%	As per QCA precedent on Aurizon UT5
Market Risk Premium	7.00%	As per QCA precedent on Aurizon UT5
Gamma	0.46	As per QCA precedent on Aurizon UT5
Corporate Tax Rate	30%	As per QCA precedent on Aurizon UT5
Inflation Rate	2.50%	As per QCA precedent on Aurizon UT5
Asset Beta	0.77	As per Frontier Economics Independent Expert advice
Equity Beta	0.98	As per Frontier Economics Independent Expert advice
Cost of Equity	8.76%	
Cost of Debt	4.13%	
WACC (Vanilla Post—Tax)	7.47%	

2.7 Capital Expenditure

2.7.1 Context

The West Moreton System's historical origins present continuing challenges for its operation. The West Moreton System was initially constructed on black soil plains with no engineered formation; resulting in regular failures requiring reconstruction to ensure suitable track geometry is maintained.

Early track standards have resulted in an alignment that is lower than contemporary standards for stand-alone heavy haul railway built specifically for coal carrying services. As a consequence of the System's age and track standard, the section between Rosewood and Miles in particular requires a higher level of intervention than would be required for a more modern, stand-alone heavy haul railway in order to safely and reliably deliver contracted tonnages.

The age and history of the West Moreton System, particularly the relationship between capital expenditure, maintenance and the value of assets was considered expensively as part of the QCA's approval of AU1—including approval of the RAB. While Queensland Rail has been slowly upgrading the quality of the track through the capital program, the same capital expenditure and maintenance issues associated with the history of the system still drive the capital and maintenance requirements for DAU2.

For the DAU2 period, Queensland Rail has proposed what it considers to be efficient maintenance costs for the West Moreton Network having regard to the age and condition of the system, and the volumes proposed to be hauled over a system that was not originally designed for this purpose.

[13] Time variant measures have not been updated post the UT5 QCA Draft Decision.

2.7.2 Proposed capital expenditure [redacted] and [redacted]

Queensland Rail has proposed 25 capital expenditure projects for the West Moreton System over the DAU2 period. Given the volume uncertainty, two capital expenditure estimates are provided reflecting the expected difference in costs for project that are tonnage dependent.

The two proposed capital expenditure forecast for the DAU2 period, both excluding interest during construction (IDC) are:

- $144.495 million ($2020-21) to support the movement of [redacted]
- $159.384 million ($2020-21) to support the movement of [redacted]

Attachment 3 —*West Moreton System DAU2 Capital Expenditure 2020-21 to 2024-25* provides the full detail for Queensland Rail's capital expenditure proposal.

Table 8 and **Table 9** show the proposed capital expenditure summary by corridor and year for the movement of [redacted] per annum of coal and [redacted] of coal. These are the total forecast capital expenditure for all common network assets to be used by coal train services, before allocation between coal and non-coal services.[14]

Table 8—Proposed capital expenditure [redacted] by year and corridor ($2020-21 million), excluding IDC

Corridor	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Rosewood—Jondaryan	$20.878	$20.747	$12.460	$12.265	$7.158	$73.508
Jondaryan—Columboola	$15.163	$9.835	$14.454	$13.670	$17.864	$70.986
Total	**$36.041**	**$30.582**	**$26.914**	**$25.936**	**$25.022**	**$144.495**

Table 9—Proposed capital expenditure [redacted] by year and corridor ($2020-21 million), excluding IDC

Corridor	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Rosewood—Jondaryan	$22.808	$23.067	$16.621	$17.440	$8.461	$88.397
Jondaryan—Columboola	$15.163	$9.835	$14.454	$11.058	$20.476	$70.986
Total	$37.971	$32.902	$31.075	$28.498	$28.937	**$159.384**

Queensland Rail has proposed that the capital expenditure projects identified in this submission be included in the capital indicator for DAU2 noting that, consistent with the drafting of DAU2, the efficient actual capital expenditure will be included in the RAB after the QCA has reviewed the commissioned projects for prudency of scope, scale and cost.

[14] It should be noted that the Queensland Government's investment to increase the height of tunnels on the Toowoomba range has not been included in this submission, as the beneficiaries of this project will be agricultural transport, not coal transport.

Queensland Rail has also assumed that individual projects (including individual projects that are part of a larger program of works) will be completed within a single year, and as a result forecast expenditure is capitalised in the year it is spent.

2.7.3 Assumptions

The proposed capital expenditure for the DAU2 period has been developed in the context of the *2018-19 West Moreton System Asset Management Plan* (AMP) which provides the strategic framework for planning capital and maintenance activities.[15]

While Queensland Rail has applied its asset management planning framework to assess the likely capital expenditure requirements for the DAU2 period, it is not possible to forecast the precise nature, amount and timing of renewals expenditure across the five year DAU2 period, particularly given the inherent uncertainty associated with the potential volume changes on the system.

Ultimately a level of asset manager judgement will be required to prioritise and plan the final asset renewal activities for DAU2, with projects to be affected by changes in tonne, asset condition and significant weather events. Queensland Rail may also need to change the indicative timing of capital works to support the efficient delivery of the capital program.

All Queensland Rail's capital expenditure projects, including for asset renewals, require the completion of a business case and these will be available for the QCA's review as part of the annual capital expenditure assessment process, when assets are commissioned. However, as some capital expenditure is not due to commence for some years, many projects have yet to have business cases developed and approved.

Options analysis has been considered at a high-level for projects, where it is technically feasible to do so. **Attachment 3** provides more detail for individual capital expenditure projects.

2.7.4 Capital expenditure, by project— [redacted] and [redacted]

Table 10 sets out the individual capital expenditure projects proposed for the DAU2 period for the [redacted] and [redacted] scenarios. Only three of the 25 capital expenditure projects proposed are considered to be tonnage dependent—these projects are for formation repair, track reconditioning and re-railing.

Table 10—Proposed DAU2 capital expenditure by project— [redacted] and [redacted] ($2020-21 million), excluding IDC

Project Name	Tonnage dependent	Regulatory driver	[redacted]	[redacted]
Civil projects				
Timber Bridge Replacement	No	Asset Renewal	[redacted]	[redacted]
Formation Repairs	Yes	Asset Renewal	[redacted]	[redacted]
Culvert Replacement	No	Asset Renewal	[redacted]	[redacted]
Sub-total			***$63.570***	***$66.536***

[15] The current West Moreton Network Asset Management Plan is based on a continuation of the current tonnes, given the existing uncertainty about future volumes. Future plans will be amended as future coal tonnes on the West Moreton Network become more certain.

Track projects				
Track Reconditioning	Yes	Asset Renewal	[redacted]	[redacted]
Re-sleepering	No	Asset Renewal	[redacted]	[redacted]
Re-railing	Yes	Asset Renewal	[redacted]	[redacted]
Level Crossing Reconditioning	No	Asset Renewal	[redacted]	[redacted]
Concrete Sleepers With Gauge Issues On Tight Radius Curves	No	Asset Renewal	[redacted]	[redacted]
Level Crossing Transitions	No	Asset Renewal	[redacted]	[redacted]
Greasers Replacement / Upgrades	No	Asset Renewal	[redacted]	[redacted]
Sub-total			*$43.908*	*$55.832*
Signalling projects				
Trailable Facing Points Detection (Monitoring)	No	Service improvement	[redacted]	[redacted]
West Moreton Minor Signalling Renewals	No	Asset Renewal / Compliance	[redacted]	[redacted]
Signalling Pole Route Yarongmulu — Laidley	No	Asset Renewal	[redacted]	[redacted]
Level Crossing Signalling Upgrade	No	Asset Renewal / Compliance	[redacted]	[redacted]
Location Case Renewal	No	Asset Renewal / Compliance	[redacted]	[redacted]
Rangeview SER/PER Upgrade	No	Asset Renewal	[redacted]	[redacted]
Signalling LED Upgrade	No	Asset Renewal	[redacted]	[redacted]
Gatton Interlocking Renewal	No	Asset Renewal	[redacted]	[redacted]
Relay Interlocking Refurbishments	No	Asset Renewal	[redacted]	[redacted]
Sub-total			***$28.943***	***$28.943***
Telecommunications projects				
Replacement of Weather Stations	No	Asset Renewal	[redacted]	[redacted]
RMS Rollout	No	Asset Renewal / Compliance	[redacted]	[redacted]
Telecoms Rectifiers Regional	No	Asset Renewal / Compliance	[redacted]	[redacted]
Digital Telemetry Rollout	No	Asset Renewal / Compliance	[redacted]	[redacted]
Rangeview Cable Route Upgrade Copper to Fibre	No	Asset Renewal	[redacted]	[redacted]
Nera Microwave Refresh	No	Asset Renewal	[redacted]	[redacted]
Sub-total			***$8.073***	***$8.073***
Grand total			**$144.495**	**$159.384**

The projects proposed are primarily asset renewal projects. No growth projects are proposed for the DAU2 period based on either of the two scenarios.

Both the [redacted] and [redacted] scenarios included [redacted] for re-sleepering. Previously re-sleepering costs were treated as maintenance, however, Queensland Rail considers that re-sleepering activities which involve the periodic replacement of sleepers for track sections longer than 0.5 km is better defined as capital expenditure.

However, Queensland Rail has not included the costs of track lowering (ballast undercutting) in the proposed capital expenditure allowance. For the reasons outlined in the separate West Moreton Network DAU2 Maintenance Submission Queensland Rail does not consider that these costs meet the definition of an asset for the purpose of capital recognition.

Table 11—Proposed capital expenditure by year and project—[redacted] ($20–21 million)

Project	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Civil						
Timber Bridge Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Formation Repairs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Culvert Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$12.435***	***$12.317***	***$12.781***	***$12.377***	***$13.660***	***$63.570***
Track						
Track Reconditioning	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Re-sleepering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Re-railing	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Reconditioning	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Concrete Sleepers with gauge issues on tight radius curves	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Transitions	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Greasers replacement / upgrades	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$16.505***	***$7.179***	***$5.348***	***$6.479***	***$8.397***	***$43.908***
Signalling						
Trailable Facing Points Detection (Monitoring)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
West Moreton Minor Signalling Renewals	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Signalling Pole Route Yarongmulu—Laidley	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Signalling Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Location Case Renewal	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rangeview SER/PER Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Signalling LED Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gatton Interlocking Renewal	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Relay Interlocking Refurbishments	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$3.799***	***$7.010***	***$8.250***	***$6.919***	***$2.965***	***$28.943***
Telecommunications						
Replacement of Weather Stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Remote monitoring system rollout	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Telecoms Rectifiers Regional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Digital Telemetry Rollout	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rangeview Cable Route Upgrade Copper to Fibre	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nera microwave refresh	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$3.302***	***$4.077***	***$0.534***	***$0.160***	-	***$8.073***
Total	**$36.041**	**$30.582**	**$26.914**	**$25.936**	**$25.022**	**$144.495**

Table 12—Proposed capital expenditure by year and project—[redacted] ($2020–21 million)

Project	2020–21	2021–22	2022–23	2023–24	2024–25	Total
Civil						
Timber Bridge Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Formation Repairs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Culvert Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$13.028***	***$12.910***	***$13.374***	***$12.971***	***$14.253***	***$66.536***
Track						
Track Reconditioning	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Resleepering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rerailing	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Reconditioning	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Replace concrete sleepers on tight radius curves	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Transitions	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Greasers replacement / upgrades	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$17.842***	***$8.906***	***$8.916***	***$11.061***	***$9.107***	***$55.832***
Signalling						
Trailable Facing Points Detection (Monitoring)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
West Moreton Minor Signalling Renewals	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Signalling Pole Route Yarongmulu—Laidley	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level Crossing Signalling Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Location Case Renewal	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rangeview SER/PER Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Signalling LED Upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gatton Interlocking Renewal	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Relay Interlocking Refurbishments	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$3.799***	***$7.010***	***$8.250***	***$6.919***	***$2.965***	***$28.943***
Telecommunications						
Replacement of Weather Stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Remote monitoring system rollout	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Telecoms Rectifiers Regional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Digital Telemetry Rollout	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rangeview Cable Route Upgrade Copper to Fibre	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nera microwave refresh	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-total	***$3.302***	***$4.077***	***$0.534***	***$0.160***	-	***$8.073***
Total	**$37.971**	**$32.902**	**$31.075**	**$28.498**	**$28.937**	**$159.384**

Timber bridge replacement

Continuation of the timber bridge replacement project is the largest single capital expenditure project proposed for the DAU2 period.

The majority of existing bridges in the West Moreton System are rated to 15.75 tonne axle load (**tal**). These bridges were originally designed for 12 tal (Imperial) or B16 steam locomotives. The bridges from Rosewood to Miles have been assessed with respect to their suitability to the axle configuration of existing traffic and loading of consists. The desktop assessment has shown that, under the existing loadings, these bridges are operating at the limit of their capability. With the current gross tonnages on the West Moreton System, timber bridges are incurring high maintenance costs, increased closure requirements and carry an elevated risk of derailment compared to concrete and steel alternatives.

The timber bridge replacement project is part of an ongoing program to replace timber bridges across West Moreton System. Queensland Rail is proposing to replace timber bridges predominantly with prestressed concrete or steel. This is being undertaken to replace close-to-life-expired bridges with more durable infrastructure, to extend the life of the asset.

Timber bridges are prioritised for replacement based on a risk ranking. The ranking takes into consideration the defects in the bridge, tonnage over the bridge, temporary speed restrictions and priorities of the structures inspectors.

Timber bridge replacement on the West Moreton System is at a 200A standard (20tal), consistent with the West Moreton System Asset Management Plan. This is a key difference in the capital project over the DAU2 period, relative to AU1, where prior to the Australian Government's announcement to proceed with the Inland Rail project in May 2017, bridges were designed to a 300A (30tal) standard.

Maintenance cost savings from the timber bridge replacement program are being reflected in the proposed structures maintenance budget for DAU2, with proposed expenditure on this asset class to be more than 50 per cent lower in real terms from 2015–16 to 2024–25.

Formation repairs and track reconditioning

Queensland Rail is proposing [redacted] ($2020–21) for the [redacted] scenario and [redacted] ($2020–21) for the [redacted] scenario (around [redacted] of proposed capital expenditure proposal) to undertake formation repairs and track reconditioning. These two projects are ongoing and are a function of the original railway construction between 1865 and 1880, which was not designed to be a heavy haul railway.

Treatment of re-sleepering/track lowering (ballast undercutting)

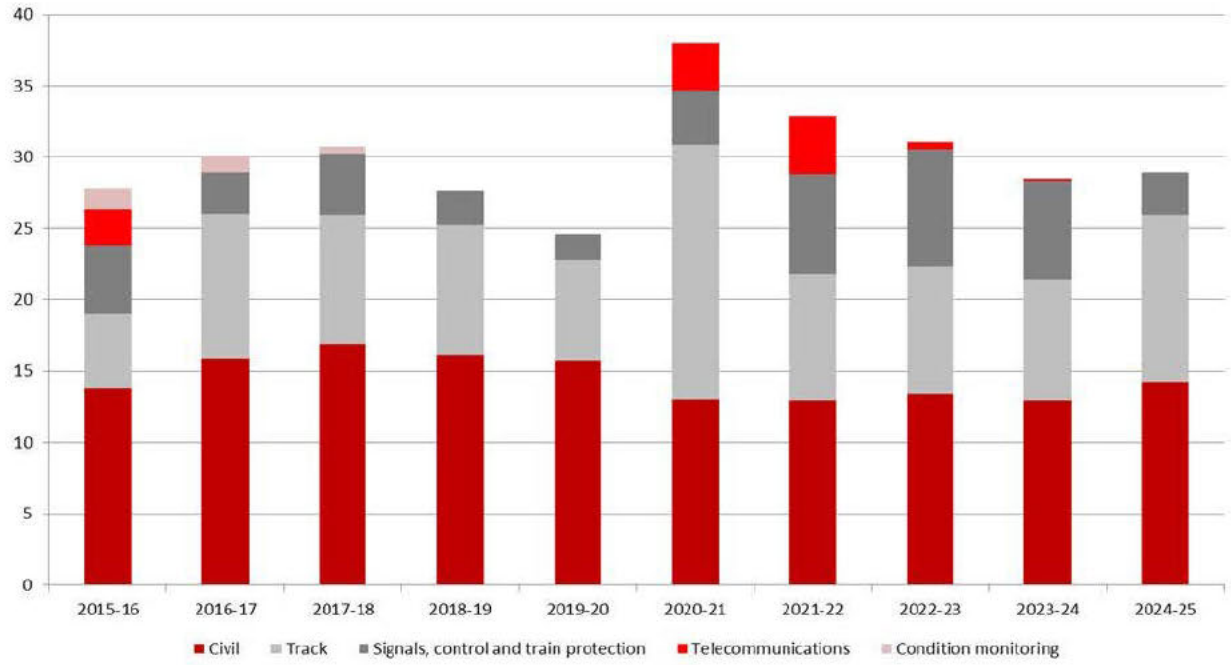
Capital expenditure proposed for both the [redacted] and [redacted] scenarios include [redacted] ($2020-21) for resleepering, noting that this expenditure was treated as maintenance in the consideration of AU1 costs. Re-sleepering is proposed for inclusion as capital expenditure for the DAU2 period, consistent with the asset definition set out in Queensland Rail's *Specification—Capitalisation of Expenditure—MD12-376*.

2.7.5 Comparison to capital expenditure in AU1

Proposed capital expenditure of $144.495 million ($2020-21) for the [redacted] scenario for DAU2 is 3 per cent higher than the capital expenditure allowance for 2015-16 to 2019-20 $140.876 million ($2020-21), noting that this includes $12.248 million for resleepering. Compared to AU1, capital expenditure on structures is proposed to be $14.8 million ($2020-21) lower. Capital expenditure for signals, control and train protection equipment for the DAU2 period is $9.6 million ($2020-21) higher (50 per cent) than for 2015-16 to 2019-20, largely to replace life expired assets.

Proposed capital expenditure of $159.384 million ($2020-21) for the [redacted] scenario for DAU2 is 13 per cent higher than the capital expenditure allowance included for AU1 of $140.876 million ($2020-21). The comparison of capital expenditure 2015-16 to 2019-20 to the proposed DAU2 capital expenditure is shown in **Figure 7**.

Figure 7:—Proposed capital expenditure AU1 and DAU2, by year and function—[redacted] ($2020-21, million)



2.7.6 Independent peer review

The projects presented in this document have been subject to an internal peer review process.

Queensland Rail also engaged GHD to undertake a review of its proposed capital expenditure for the DAU2 period (refer **Attachment 4**). GHD selected six capital projects for review—timber bridge replacement, track reconditioning, re-sleepering, re-railing and West Moreton Minor Signalling Renewals. These projects represent at least 62 per cent of proposed capital costs over the DAU2 period and a 50:50 mix of throughput-driven and throughput-independent projects.

In respect to scope, GHD concluded that:

> *"Based on the documentation and our site visit, we consider the scopes that Queensland Rail has proposed for the five civil-related projects to be prudent.*
>
> *We consider that there may be justification for more work to be undertaken during the DAU2 period that Queensland Rail proposes to bring the network up to a satisfactory condition; this is particularly the case in relation to work for Track Reconditioning, Formation Repairs and Re-sleepering. Our position has been informed in a substantive way by our site visit, where we observed, among other things, deteriorated formation in certain locations, excessive track vertical movement, mud holes and vegetation in track beds. The section of infrastructure requiring most attention in relation to these issues is the eastern part of the Toowoomba Range (within Rosewood to Jondaryan).*

Considering the above, we have not recommended amending the scope of works proposed for the six capital projects. In our view, there is unlikely to be a case to reduce the work scopes." [16]

In respect to the unit rate of the sampled projects, GHD concluded that:

"The assessment of the composition and quantum of the unit rates underlying the five projects is central to our analysis of the efficiency of Queensland Rail's capital expenditure proposal. Our underlying assumption has been that the unit rates that Queensland Rail has achieved over the last three years (where available) result in efficient costs. We consider this an appropriate assumption because our analysis revealed that the costs of consumables (e.g. rail, sleepers and ballast) reflect very competitive prices, based on our internal and external benchmarking, and that labour costs are in keeping with Queensland Rail's relevant wage-related agreements with staff members." [17]

GHD also noted that:

"…Queensland Rail has demonstrated that it has strong buying power in relation to the purchase of rail, sleepers and ballast. When we undertook our benchmarking of unit rates achieved for these three items, we observed that Queensland Rail would often achieve unit rates that were at least 10% lower than indicated by our in-house database and our experience with industry. In this context, we consider it appropriate to acknowledge that Queensland Rail has used its dominant position of a provider of below-rail services in Queensland to seek economies of scale in its purchasing decisions of materials." [18]

2.8 Depreciation

Queensland Rail has proposed retaining the asset lives approved by the QCA for AU1 and will apply straight line depreciation based on its assumed asset lives as shown in **Table 13**.

Table 13: West Moreton System asset lives

Asset Lives	Years
Track (inc Turnouts)	35
Roads	38
Fences	20
Signals	20
Bridges	100
Tunnels	100
Culverts	100
Earthworks	100
Other	20
Land acquisition costs	50
Telecommunications	20
Land	0

[16] GHD, Peer review of Queensland Rail's proposed capital expenditure for DAU2 (July 2018), pp 1-2
[17] GHD, Peer review of Queensland Rail's proposed capital expenditure for DAU2 (July 2018), p 2
[18] GHD, Peer review of Queensland Rail's proposed capital expenditure for DAU2 (July 2018), p 2

Consistent with Queensland Rail's previous approach, land is not depreciated.

2.9 Maintenance expenditure

2.9.1 Proposed maintenance expenditure [redacted] and [redacted]

Queensland Rail is proposing two potential maintenance cost forecasts for the DAU2 period:

- $101.825 million ($2020–21) to support the movement of [redacted] see **Table 14**.
- $140.921 million ($2020–21) to support the movement of [redacted] see **Table 15**.

Table 14: West Moreton coal maintenance costs—DAU2 ($2020–21 million)—[redacted]

	2020-21	2021-22	2022-23	2023-24	2024-25	Total DAU2
Track	$16.426	$16.461	$16.498	$16.536	$16.576	$82.497
Structures	$2.719	$2.517	$2.322	$2.112	$1.884	$11.553
Trackside systems	$1.467	$1.467	$1.467	$1.467	$1.467	$7.337
Facilities/other	$0.088	$0.088	$0.088	$0.088	$0.088	$0.438
Total	**$20.700**	**$20.533**	**$20.374**	**$20.202**	**$20.015**	**$101.825**

Table 15: West Moreton coal maintenance costs—DAU2 ($2020–21 million)—[redacted]

	2020-21	2021-22	2022-23	2023-24	2024-25	Total DAU2
Track	$23.975	$24.049	$24.126	$24.207	$24.293	$120.649
Structures	$2.953	$2.717	$2.496	$2.286	$2.044	$12.497
Trackside systems	$1.467	$1.467	$1.467	$1.467	$1.467	$7.337
Facilities/other	$0.088	$0.088	$0.088	$0.088	$0.088	$0.438
Total	**$28.483**	**$28.321**	**$28.177**	**$28.048**	**$27.891**	**$140.921**

Attachment 5—*West Moreton System DAU2 Maintenance Costs 2020-21 to 2024-25* provides the full detail for Queensland Rail's maintenance expenditure proposal.

2.9.2 2018-19 West Moreton System maintenance budget—[redacted]

The DAU2 maintenance cost estimates for the [redacted] and [redacted] scenarios are based on Queensland Rail's 2018-19 coal maintenance budget for the West Moreton System. Section 2.9.2 discusses how the 2018-19 maintenance budget has been amended to estimate the [redacted] and [redacted] maintenance cost forecasts.

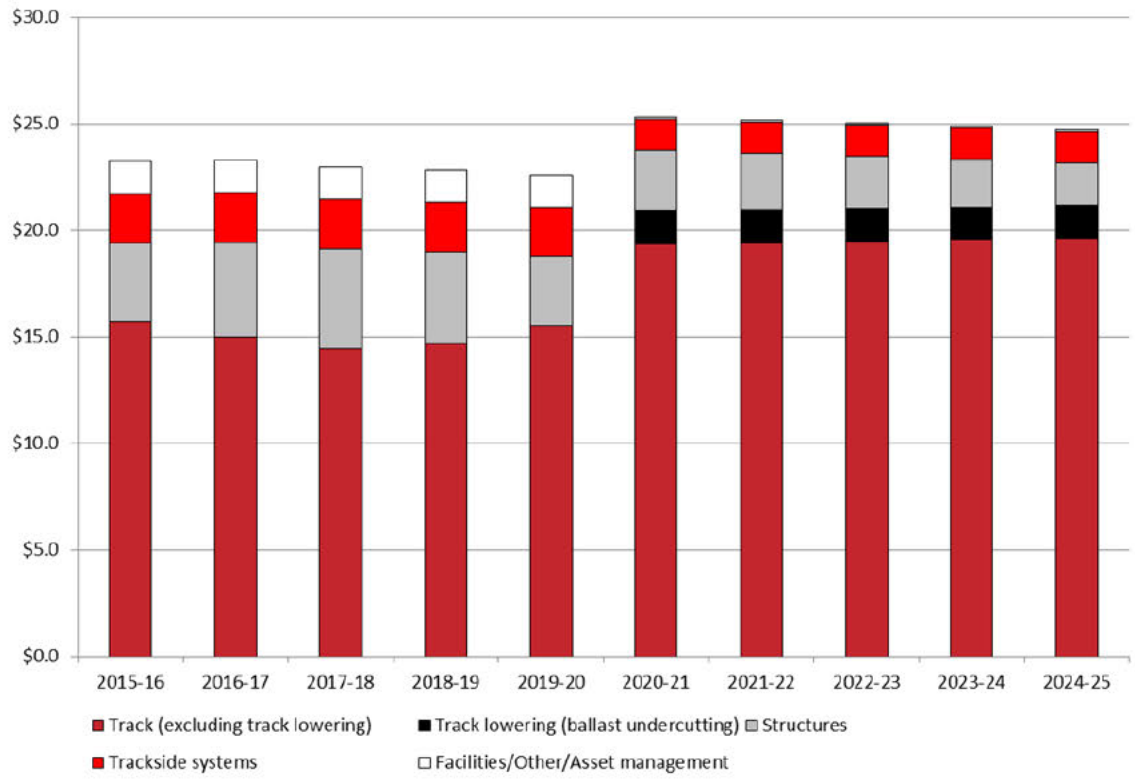
Queensland Rail is proposing to apply the 2018–19 West Moreton System maintenance budget as the representative 'base year' to estimate the efficient costs to support [redacted] of coal haulage.[19] It is assumed that the coal tonnes to be moved in 2018-19 are [redacted] on the Rosewood-Jondaryan corridor and [redacted] on the Jondaryan-Columboola corridor (the [redacted] scenario).

[19] The 2018-19 maintenance estimate also includes maintenance for non-coal traffic (e.g. grain and livestock), plus two return Westlander services per week, which is assumed to remain constant regardless of changes in coal tonnages moved on the West Moreton Network.

The 2018-19 maintenance budget has been amended to reflect the maintenance forecast to continue to provide [redacted] for the period 2020-21 to 2024-25. As shown in **Figure 8**, if the West Moreton System was to continue to haul [redacted] for the DAU2 period, maintenance costs are estimated to be, on average 8.7 per cent higher per annum in real terms than the AU1 maintenance allowance approved by the QCA.[20]

However, if the effect of re-including $1.5 million per annum ($2020-21) in ballast undercutting costs in the DAU2 maintenance allowance is excluded, DAU2 maintenance costs for a [redacted] are forecast to be an average 2 per cent per annum higher over the DAU2 period.

Figure 8: Comparison of West Moreton coal maintenance costs—DAU2 ($2020-21 million)—assuming constant tonnes ([redacted])



There is also a difference in the allocation of costs between the Rosewood—Jondaryan corridor and Jondaryan—Columboola corridor between AU1 and DAU2 for the [redacted] scenario.

For AU1, total maintenance costs for the West Moreton System were split by each corridor's forecast percentage of gtks operated on the system. For DAU2, with the use of the Enterprise Asset Management System (**EAMS**) and the capacity to more definitely identify maintenance by corridor, the allocation of maintenance costs is proposed to be amended to reflect the location of forecast costs by corridor.

[20] The AU1 maintenance estimates excluding mechanised resleepering in 2015-16 and which have been proposed as capital expenditure for the DAU2 period.

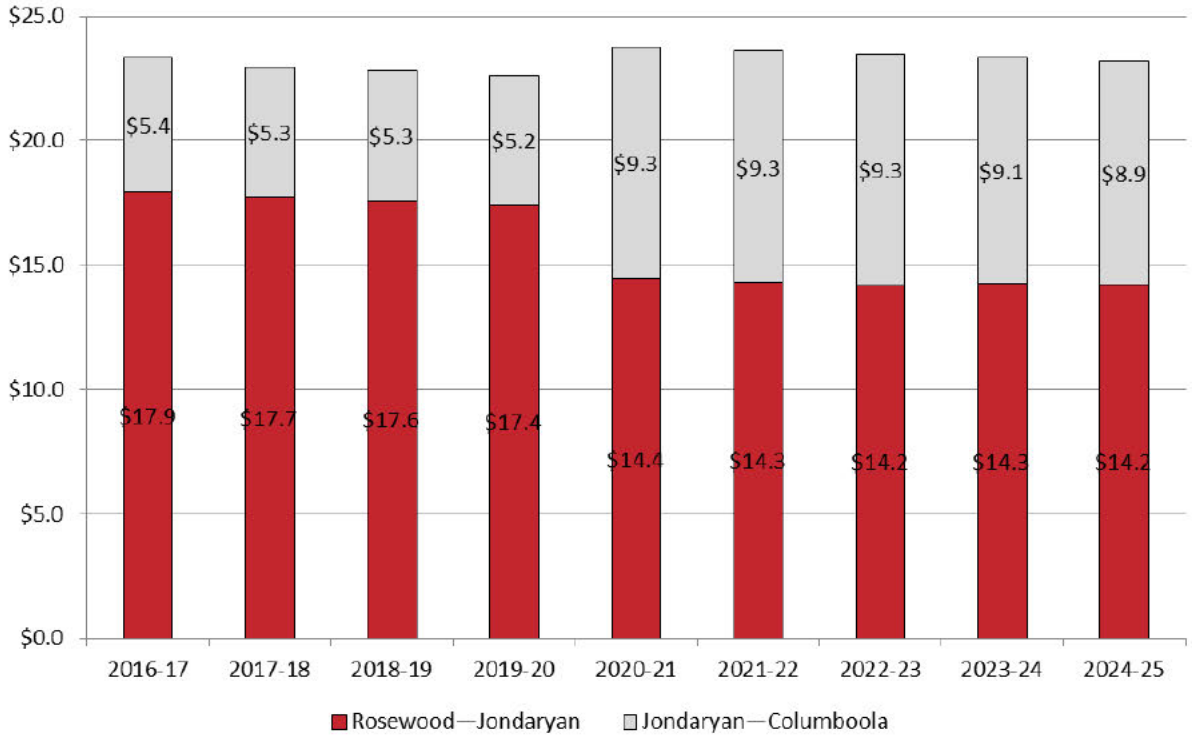
The percentage allocation of costs by corridor for AU1 and DAU2 is shown in **Table 16**, while **Figure 9** shows total maintenance costs split between the two corridors. The difference in cost allocation between the two corridors impacts the maintenance forecast for DAU2, as only the Rosewood—Jondaryan corridor changes with tonnes.

Table 16: West Moreton total coal maintenance, allocation by corridor, AU1 and DAU2 [redacted]

Corridor	AU1—% of gtks	DAU2—Forecast corridor maintenance
Rosewood—Jondaryan	76—79%	61%
Jondaryan—Columboola	21—24%	39%

Note: The variable costs for AU1 maintenance costs are changed for Endorsed Variation Events and Review Events

Figure 9: West Moreton maintenance costs by corridor—AU1 maintenance allowances and proposed DAU2 maintenance allowances ($2020–21 million) [redacted]



Source: Queensland Rail

Figure 9: West Moreton maintenance costs by corridor—AU1 maintenance allowances and proposed DAU2 maintenance allowance ($2020–21 million) [redacted]

2.9.3 Tonnage forecast impacts

One of the key issues for estimating maintenance costs for the DAU2 period has been developing a methodology to estimate the impact of two quite different tonnage scenarios operating over the system (i.e. [redacted] and [redacted]

While Queensland Rail has had some history with the movement of between [redacted] mtpa in 2011-12 and 2012-13 (which is closer to the [redacted] scenario), there is no comparable history for a [redacted] scenario.

However, extensive consideration was given to the fixed and variable proportion of maintenance costs on the West Moreton System for the AU1 process.

The QCA estimated the fixed and variable proportions of Queensland Rail's maintenance activities based on its consultant's assessment of tonnage dependent maintenance activities. Queensland Rail has also reviewed the extent to which each of its activities are tonnage or non-tonnage dependent and applied the QCA estimates to forecast the extent to which maintenance activities would need to increase or decrease based on the changed tonnes.

The QCA's fixed costs percentages were applied to the Rosewood—Jondaryan section, using the [redacted] scenario as the base. No change was made to the Jondaryan—Columboola section, which is assumed to carry [redacted] under both scenarios.

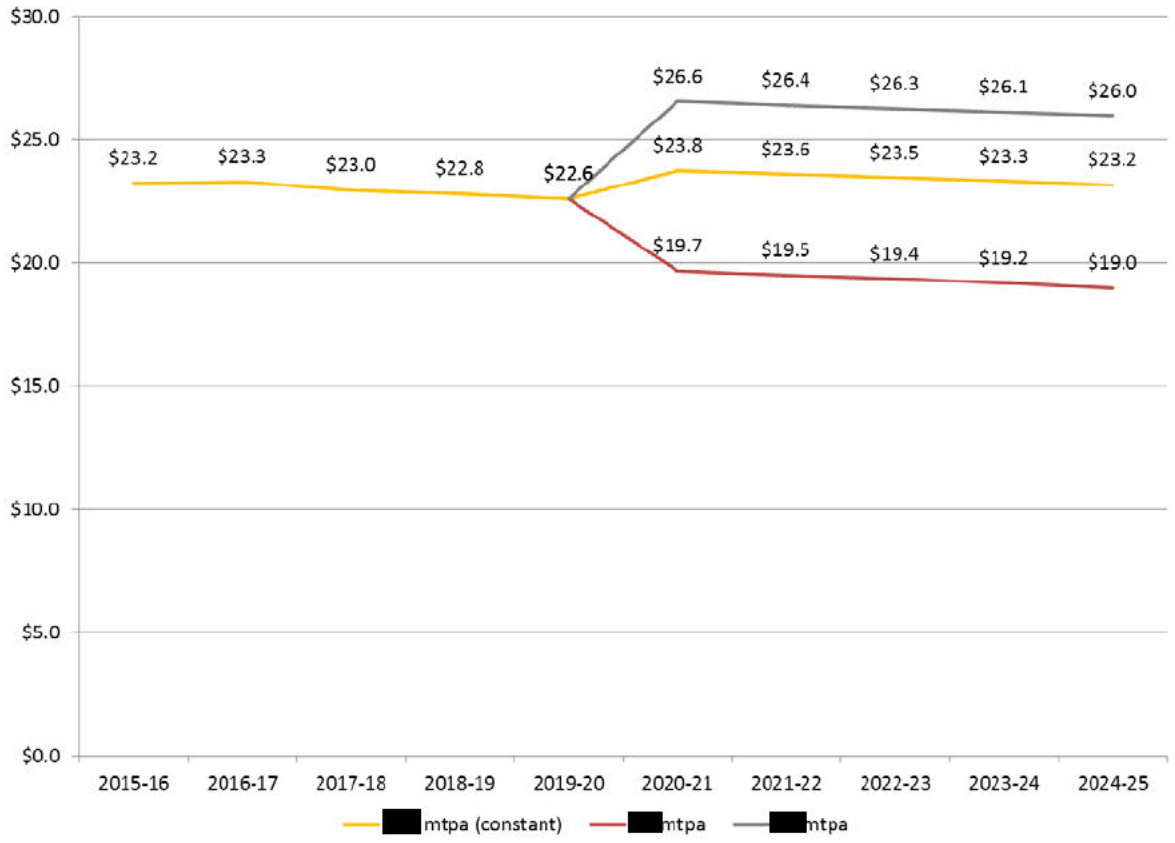
Applying the QCA's fixed cost estimates provides a weighted average fixed to variable split of 54.4 per cent fixed and 45.6 per cent variable for the DAU2 period. The fixed proportion estimated for DAU2 is lower than the QCA's estimate for AU1, with the ratio of 57.3 per cent fixed and 42.7 per cent variable.

Queensland Rail engaged GHD to review the reasonableness of the QCA's fixed and variable splits for individual maintenance activities on the West Moreton System. GHD's 'bottom up' assessment of Queensland Rail's maintenance costs, by activity, generates a 62 per cent fixed/38 per cent variable split.

In the interests of reaching agreement on the methodology for adjusting the [redacted] scenario to derive the [redacted] and [redacted] scenarios, Queensland Rail has adopted the QCA estimates for the tonnage dependent maintenance activities. Given the conclusions of the GHD report, Queensland Rail considers that using the QCA's approach is reasonable for the circumstances.

Figure 10 shows the effect of applying the QCA's fixed allocations to the [redacted] constant tonnes scenario, and makes a comparison to the AU1 QCA allowances.

Figure 10: AU1 maintenance allowance and proposed DAU2 maintenance allowance (excl. ballast undercutting), by tonne scenario ($2020-21 million)



The forecast decline in real costs over the DAU2 period for all scenarios is driven by maintenance cost reductions for timber bridges as bridges are progressively replaced through the capital program.

The [redacted] scenario is 17 per cent lower over five years than the [redacted] tonnes scenario, while the [redacted] scenario shows a 12 per cent increase. To provide a 'like for like' comparison, to AU1, the effect of re-including track lowering (ballast undercutting) in the maintenance allowance has been excluded.

2.9.4 Independent peer review

Queensland Rail engaged GHD to undertake a review of its current expenditure for the West Moreton System (refer **Attachment 6**), which is used as the base for forecasting maintenance for the DAU2 period. GHD reviewed eight of Queensland Rail's major maintenance activities—mechanised resurfacing; top and line spot resurfacing; ballast undercutting (track lowering); rail renewal; rail joint management; sleeper management; maintenance ballasting; and rail stress adjustment. GHD estimated that in 2018-19, these eight activities account for more than 40 per cent of Queensland Rail's total costs on the West Moreton System.

GHD's review of Queensland Rail's maintenance costs concluded that:

> *"Our findings are that, overall, Queensland Rail's maintenance activities and practices reflect prudent and efficient outcomes. Key observations from our site visit are that parts of the network that Queensland Rail had earmarked for maintenance in the near future do indeed require the maintenance work that Queensland Rail plans to undertake for them, hence fulfilling the prudency requirement. Our assessment of, where the data were available, machinery performance, use of shifts and unit rates for raw materials support the position that Queensland Rail is achieving efficient maintenance outcomes for its West Moreton network.*
>
> *In conclusion, we find that Queensland Rail's existing practices for maintaining its railway reflect prudent and efficient outcomes, and that this translates to its cost proposals for the [redacted] and [redacted] scenarios over the DAU2 period reflecting prudent and efficient outcomes."*[21]

2.10 Operational expenditure

Queensland Rail has proposed operating expenditure of $48.717 million ($2020-21) for the DAU2 period for both the [redacted] and [redacted] scenarios (see **Table 17)**. Of this, 39 per cent of the total operating expenditure proposed is for train control.

Table 17: West Moreton proposed DAU2 operating costs—DAU2 ($2020–21 million) [redacted] and [redacted]

	2020–21	2021–22	2022–23	2023–24	2024–25	Total DAU2
Train Control	3.832	3.832	3.832	3.832	3.832	19.158
Corporate Overhead	1.451	1.451	1.451	1.451	1.451	7.257
Other	4.460	4.460	4.460	4.460	4.460	22.302
Total	**9.743**	**9.743**	**9.743**	**9.743**	**9.743**	**48.717**

2.10.1 Methodology for development of DAU2 operating expenditure

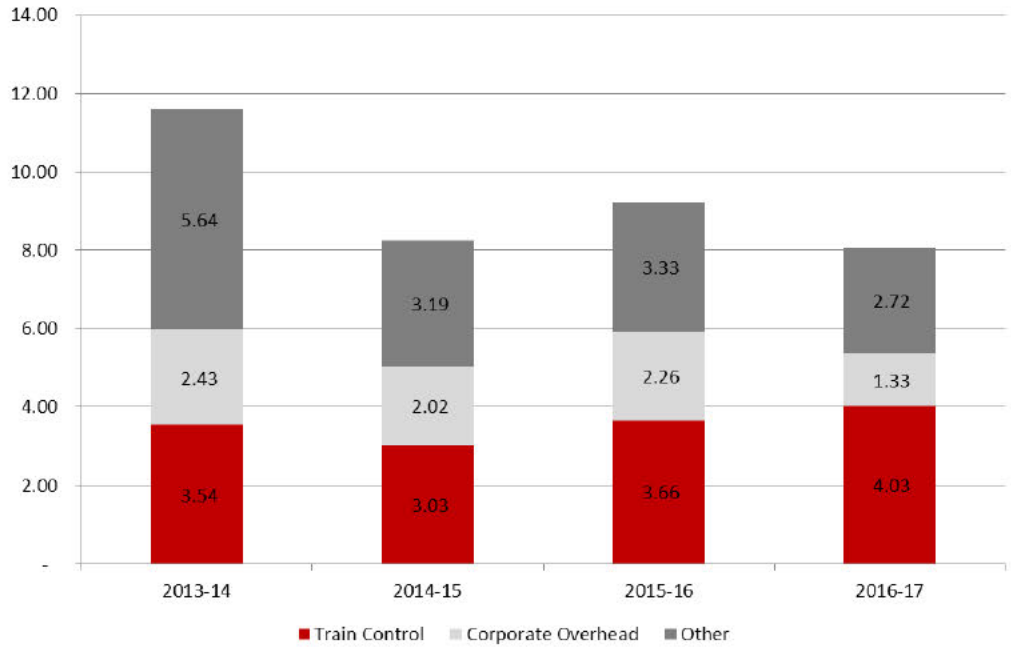
Queensland Rail has proposed the use of its actual operating expenditure allocated to the West Moreton System in the 2016-17 Below Rail Financial Statements as the base for estimated operating costs for the DAU2 period. The exception is for train control costs, which have been estimated by applying a 'bottom up' costing methodology (see discussion below).

The 2016-17 Below Rail Financial Statements were prepared consistent with the QCA approved Queensland Rail Costing Manual 2017.

Queensland Rail considers that 2016-17 represents an efficient base year for the development of operating cost allowances, with operating expenses showing a decrease in costs, with corporate efficiency measures implemented during 2012-13 and 2013-14. **Figure 11** shows Queensland Rail's operating expenses from 2013-14 to 2016-17.

[21] GHD, Peer review of Queensland Rail's proposed maintenance expenditure for DAU2 (July 2018), p.1

Figure 11: Queensland Rail operating expenses 2013–14 to 2016–17 ($ million, nominal)



Source: Queensland Rail Below Rail Financial Statements, 2013–14 to 2016–17
Note: Reported train control costs include operations administration costs (formerly referred to as Corridor Management and Planning & Systems in the 2015 DAU process).

Table 18 shows the cost build up for the proposed DAU2 operating expenditure, including the adjustments made from the 2016-17 Below Rail Financial Statements. The adjustments proposed to the 2016-17 actual operating expenditure are:

- Actual 2016-17 train control costs have not been used as the base for proposing the train control costs for DAU2. The proposed train control costs for DAU2 have been developed using a 'bottom-up' methodology, as set out below.
- Train operations management—operations administration has been included in 'Other expenses' for the presentation of the proposed DAU2 operating expenditure.
- The allocated QCA fee of $7,625 is excluded from other regional costs in 2016-17, as these costs are recovered separately through the QCA levy. (For the Below Rail Financial Statements, QCA fees are allocated based on total gtks across the Queensland Rail network. This is different to the methodology approved by the QCA for the recovery of the QCA Levy from train services based on a 'beneficiary pays' principles).
- $387,625 (75%) is excluded from the telecommunications backbone costs to reflect the notional allocation of telecommunications costs between above and below rail services.

Table 18: Comparison of DAU2 proposed operating expenditure, $2016-17 to Total West Moreton operating expenses 2016-17 Below Rail Financial Statements

	Proposed operating expenditure 2016-17	Costs excluded	Total West Moreton Operating Expenses 2016-17 BRFS
Train Operations Management			
Train Control	3,498,200	75,234	3,573,434
Operations administration	456,225	-	456,225
Sub-total	***3,954,175***	***75,234***	***4,029,409***
Other Expenses			
Business management	601,829	-	601,829
Infrastructure administration	744,705	-	744,705
Other regional (allocated)	687,175	7,629	694,804
Other (unallocated)	165,577	-	165,577
Telecommunications backbone	129,208	387,625	516,833
Sub-total	***2,328,495***	-	***2,723,749***
Corporate Overhead	**1,325,047**	-	**1,325,047**
Total Operating Expenses	**7,607,966**	**470,487**	**8,078,204**
Return on Buildings, Plant, Software & Inventory			
Buildings (excluding land and stations)	3,371,058		
Plant	9,947,843		
Software	688,610		
Current Inventory	2,779,066		
Non-Current Inventory	448,823		
	17,235,399	Asset value as at 30 June 2017	
WACC Estimate	7.47%		
Total Return on Buildings, Plant, Software & Inventory	**1,287,484**		
Grand Total	**8,895,451**		

The 2016-17 operating expenditure has been indexed by actual inflation for 2016-17 and 2017-18 and forecast inflation of 2.5 per cent per annum to derive the $2020-21 proposed DAU2 operating expenditure.

Train control

The proposed DAU2 train control costs are 58 per cent higher than those approved by the QCA for inclusion in reference tariffs for the AU1 period.

Queensland Rail's train control function for the southern part of regional Queensland (Supply Chain South Train Control, located in the Brisbane CBD) is located separately to the train control of the suburban passenger network for SEQ (the Rail Management Centre), which is located at Bowen Hills. The clear separation of the two control centres is longstanding and pre-dated the separation of QR Ltd into Queensland Rail and Aurizon.

Supply Chain South Train Control is responsible for train control for the West Moreton System (west of Rosewood), South West System, Western System, and North Coast Line (South). Train control responsibilities included for the West Moreton System are:

- Train control (two control boards cover the West Moreton System and are operated 24/7, 365 days per year).
- Operational planning, including Daily Train Plans/Master Train Plan and possession planning.
- Network performance monitoring and miscellaneous network safety issues.

QCA's assessment of train control costs for AU1

For AU1, the QCA decided that Queensland Rail's proposed train control costs for the West Moreton System were too high.

However, in forming this view, it appears that the QCA only took into consideration the costs of operating two train control boards for the West Moreton System—with it unclear whether other costs, such as supervision of train controllers or related planning functions were included. Specifically, for AU1 the QCA's consultants B&H Strategic Services Pty Ltd (B&H) appears to have only taken into consideration actual controllers only as the base for making a comparison of Queensland Rail's costs:

> *QCA reported benchmark of 1 train controller per 200,000 train kilometres. Parameter suggests 11 to 12 train controllers (2,309,602/200,000). If each train controller costs $150,000 with on costs, train control should be approximately $1.6 million to $1.8 million*
>
> *Bottom up derivation requires 24/7/365 operation with 2 controllers for each shift requiring 11 controllers (200 shifts per year) plus training, say 14 controllers, costs approx. $2.1 million.*[22]

Queensland Rail notes that while B&H cited other train control benchmarks including ARTC and Westnet there is insufficient information to suggest B&H considered costs beyond the direct costs of operating train control boards.

B&H also questioned the use of Queensland Rail's reported costs as a practical method of establishing a broad budget, and that above rail costs may have been included in the estimate.

> *"The weakness of the approach lies in the accuracy of the recorded costs and we suggest in some instances above rail 'train control' has been included in the recorded and reported costs".*[23]

[22] B&H, Review of the Queensland Rail (QR) West Moreton System Maintenance Costs Capital Costs (Capex), Operations Costs, Depreciated Optimised Replacement Cost (DORC) for the Queensland Competition Authority (May 2014), p 50
[23] B&H, (May 2014), p 53

Queensland Rail notes that the separation of the train control centres and the strict cost allocation for the Below Rail Financial Statements make it extremely unlikely that any above rail train control costs would have been included in Queensland Rail's costs.

B&H recommended reducing Queensland Rail's proposed allowance from $2.8 million ($2012-13) to $2.0 million ($2012-13). However, B&H suggested that Queensland Rail could present a bottom up budget for train control costs, expressed in terms of workload and resources required.[24]

Queensland Rail submitted revised train control costs of $2 million ($2012-13), which reflected the B&H recommendation to the QCA.

Build-up of DAU2 train control costs

For DAU2, Queensland Rail has undertaken a 'bottom-up' assessment of its train control costs, with proposed costs of $3.861 million ($2020-21). The estimated train control resources attributed to the West Moreton System are set out in **Table 19** in $2016-17. These costs have been escalated to $2020-21 at 2.5 per cent per annum.

Table 19: West Moreton proposed DAU2 operating costs—DAU2 ($2016-17 million) [redacted] and [redacted]

Function	No.	Cost	On-costs	Total West Moreton
Far West Network Control Officer (NCO)	[redacted]	[redacted]	[redacted]	[redacted]
West Network Control Officer (NCO)	[redacted]	[redacted]	[redacted]	[redacted]
Train Control Supervisor	[redacted]	[redacted]	[redacted]	[redacted]
Network Planning and Performance	[redacted]	[redacted]	[redacted]	[redacted]
Consumables	[redacted]	[redacted]	[redacted]	[redacted]
Total				**3,498,200**

Notes:

1. West NCO covers Rosewood to Toowoomba (Willowburn), Far West NCO covers Toowoomba (Willowburn) to Quilpie.
2. Six full time equivalent (FTE) NCOs are required for each control board to run a full shift rotation. This takes into account the operation of the boards 24/7 plus allowing for training and other non-control time.
3. Train Control Supervisors in the Supply Chain South Train Control Centre oversee [redacted] NCOs per shift, including the Far West and West train control board. The equivalent of [redacted] FTE supervisors has been allocated for the West Moreton System.
4. [redacted] FTEs work in Supply Chain South Train Control responsible for Network planning, possession and operational planning (including development of the DTP/MTP), allocation of maintenance locomotives and network performance. One safety co-ordinator is also in this establishment. 40 per cent of the costs of these FTEs are allocated for the West Moreton System.

The 'bottom-up' assessment estimates train control costs of $3.498 million in 2016-17, with this number proposed for DAU2 rather than the $3.573 million for train control reported in the 2016-17 Below Rail Financial Statements.

[24] B&H, (May 2014), p 53

2.10.2 Estimated tonnage impact on operating costs for DAU2

Queensland Rail has proposed the same operating costs for DAU2 under both the [redacted] and [redacted] scenarios. Queensland Rail does not consider that the difference between having one mine or two mines hauling coal in the West Moreton System will materially change the operating costs of providing infrastructure services for the West Moreton System.

While Queensland Rail has applied the methodology used by the QCA for AU1 to allocate operating costs for the West Moreton System on an 82 per cent fixed and 18 per cent variable costs between coal and non-coal traffic, it has not used the variable factor to adjust costs for different tonnage levels. Queensland Rail does not consider that there will be a material change to operating costs at the different tonnes.

However, Queensland Rail considers that there are errors in the B&H approach to estimating the fixed and variable components for AU1. As an example, B&H estimated that 10 per cent of train control costs were fixed. To support this recommendation, B&H noted that:

> *"In Train Control for example, the "boards" used to manage a network can be split or amalgamated depending on the amount of traffic. Since Queensland Rail uses a centralised facility in Brisbane, it should be able to adjust resources as the traffic varies. For example, while the coal operations will remain at constant or increased levels during the middle of the night, the suburban operations will slow down and one could expect that the opportunity for flexible "board" operation would become apparent."*[25]

Queensland Rail considers that it will require two train control boards to be operated, regardless of whether [redacted] or [redacted] of coal are transported over the West Moreton System. A key factor in this consideration is the complexity of train control for train services traversing the Toowoomba and Little Liverpool Ranges, as well as managing the interface into the SEQ network at Rosewood, which does not provide the scope to remove a train control board, even in a lower tonne scenario. This is essential for both the efficient running of the network, as well as the safety of the network.

Further, contrary to the view expressed by B&H, Queensland Rail does not have a centralised train control facility that covers the regional and suburban networks. Further, train controllers must be trained to be 'route-specific', so it is not a case of simply handing over train control management to the suburban controllers when the passenger network has less traffic.

Queensland Rail also considers that the fixed percentages allocated to a range of functions were too low and underestimate the costs of providing the service, noting that for many functions there is limited scope to reduce costs due to a reduction in tonnage.

For example, B&H estimated that Queensland Rail's corporate overheads were 80 per cent fixed. Queensland Rail's corporate overheads include the costs of the CEO and Board, Finance and Human Resources. Queensland Rail does not expect that these costs would either increase or decrease from the current costs, due to a change in tonnes on the West Moreton System.

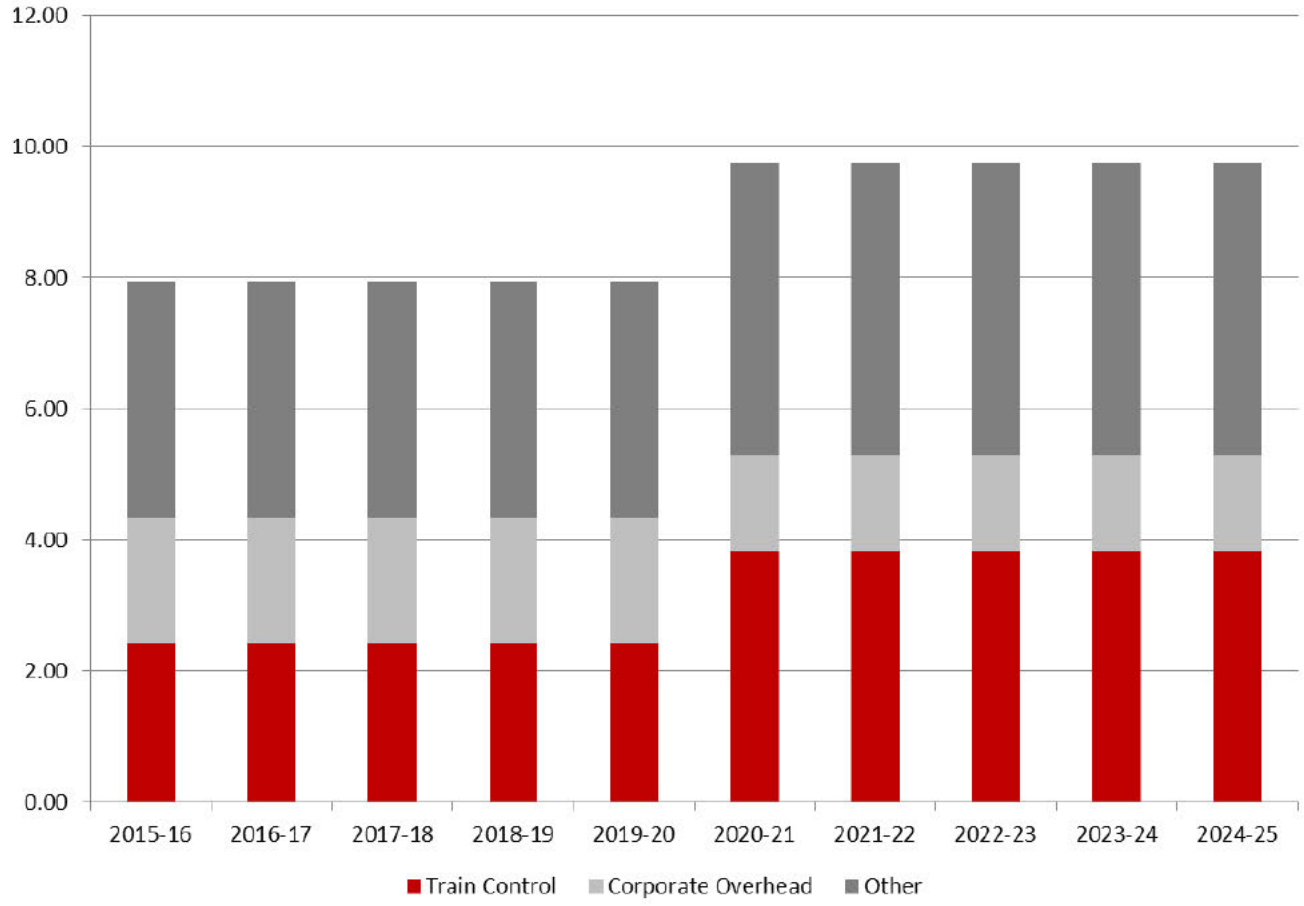
Similarly, business management costs which include budget development and business reporting, billing, development of the Queensland Rail access undertaking and contracting would not change materially for the volume of tonnes operating on the West Moreton System. B&H estimated that only 50 per cent of these costs were fixed. Queensland Rail considers there would be no material increase or decrease in these costs that would arise from an increase or decrease in tonnes.

[25] B&H, Review of Queensland Rail's DAU 2015 (Sept 2015), p 31

2.10.3 Comparison to AU1 operating expenditure allowance

The operating expenditure proposed for DAU2 is 23 per cent higher per annum in real terms than the annual operating expenditure allowance included in AU1 (see **Figure 12**).

Figure 12: West Moreton operating expenditure—AU1 operating expenditure allowance and proposed DAU2 operating expenditure allowance ($2020–21)



Working capital allowance

Queensland Rail has proposed no change to the methodology for the working capital allowance applied for AU1, forecast at 0.3 per cent of the proposed total revenue for the DAU2 period.

2.11 The DAU2 West Moreton coal reference tariff

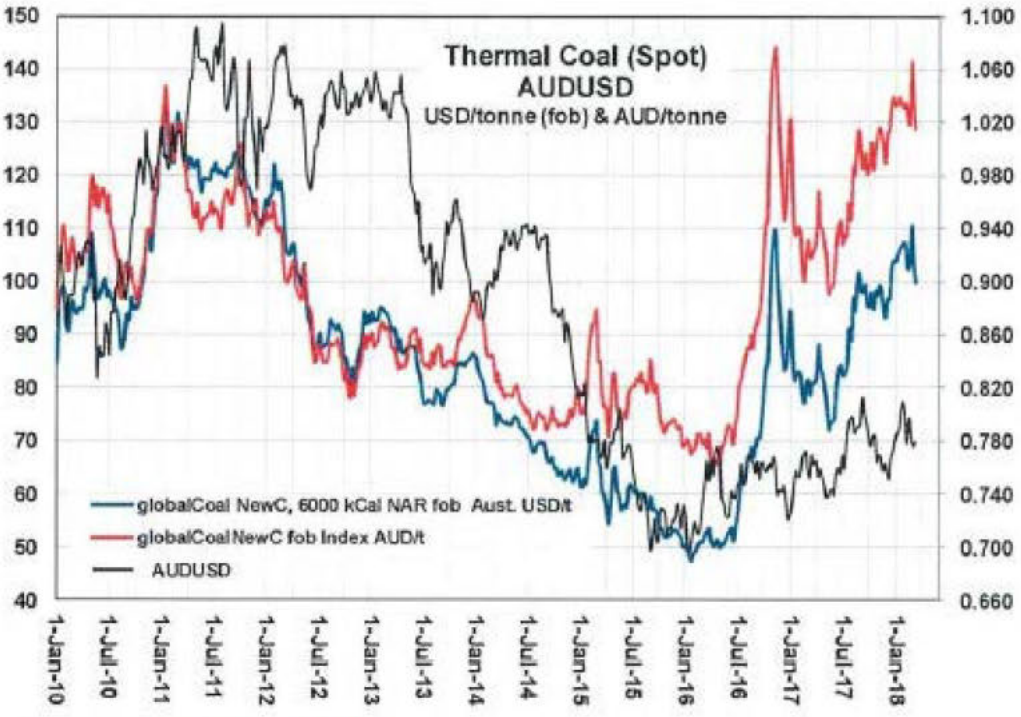
2.11.1 Introduction

Queensland Rail is developing the DAU2 reference tariffs during a time of considerable volume uncertainty (refer to section 2.4 of this explanatory document).

In contrast it is also an environment of high thermal coal spot prices, which encourages coal production. As shown in **Figure 13**, thermal coal spot prices have increased by approximately $70 (AUD) per tonne since the AU1 final decision in 2016. It is expected that the coal price will remain strong over the medium term driven by demand in Asian markets and a shift towards increased use of premium coals including Australian export thermal coals. AU1's West Moreton System reference tariffs were set at the bottom of the international coal pricing market.

[redacted]

Figure 13: Thermal Coal Spot Prices



Source: IHS, XE, Matau Advisory

2.11.2 Development of the reference tariffs

While there is currently considerable volume uncertainty, Queensland Rail believes that uncertainty is likely to decrease as the QCA Final Decision approaches.

Queensland has consulted with West Moreton stakeholders on its approach to the West Moreton coal reference tariffs. During this consultation, Queensland Rail committed to develop a reference tariff at [redacted] its higher tonnage forecast, and a ceiling tariff at [redacted] its lower tonnage forecast, for submission to the QCA for approval. This has involved preparing detailed capital, maintenance and operational programs at both forecast levels and seeking external peer review on the capital and maintenance programs from GHD.

Queensland Rail has adopted the QCA's precedent building blocks approach for the development of the reference tariffs, providing regulatory certainty and continuity for industry (see further details below).

The QCA approval of a reference tariff at [redacted] will ensure New Hope and its Board have a clear pricing point at the higher tonnage level expected when New Acland Stage 3 is fully operational.

Queensland Rail does not intend to impose the ceiling tariff calculated for [redacted] However, the QCA approval of that tariff is important as it will identify the efficient cost of providing the below rail service at this tonnage level.

2.11.3 QCA Approval - [redacted] reference tariffs

Queensland Rail seeks QCA approval for the following:

- West Moreton System coal reference tariff of: **$22.39/'000 gtk** ($2020-21) at [redacted] and
- Metropolitan System reference tariff of: **$18.13/'000 gtk** ($2020-21) at [redacted]

Queensland Rail notes that the draft ceiling tariff at [redacted] is:

- West Moreton System coal reference tariff of: **$52.58/'000 gtk** ($2020-21); and
- Metropolitan System reference tariff of: **$18.13/'000 gtk** ($2020-21).

In developing the above reference tariffs and draft ceiling tariffs, Queensland Rail has used the established QCA model and, except for the review of the Asset Beta, simply updated those inputs.

The key areas of growth in the reference tariffs compared to AU1 are in the following:

- general escalation from the AU1 starting period of $2016-17 to the DAU2 starting period of $2020-21;
- roll forward of the West Moreton System asset value from its opening value in AU1 of approximately $221 million to an opening value of $289 million in AU2 ($2020-21) (i.e. capital expenditure net of depreciation plus appreciation has increased the RAB by $68 million);
- uplift in the proposed WACC; and
- removal of the 87 weekly return train path restriction on coal services through the Metropolitan System.

2.11.4 [redacted] – Post lodgement consultation

As part of its consultation, Queensland Rail has agreed with Yancoal to postpone elements of Queensland Rail's DAU2 until post lodgement with the QCA to ensure full consultation with West Moreton stakeholders on these important matters. Matters for consultation include:

- seeking to negotiate a reference tariff for QCA approval with Yancoal for a [redacted] scenario,
- a possible loss capitalisation model at the [redacted] scenario; and
- the possibility of providing reference tariffs for QCA at pricing points between [redacted] and [redacted]

On this basis, Queensland Rail has agreed with Yancoal not to include a reference tariff in DAU2 for the [redacted] scenario, and to continue consultation post lodgement to seek to negotiate an appropriate reference tariff. Queensland Rail does not intend to charge the [redacted] building block ceiling tariff, but rather intends to negotiate a reference tariff below the ceiling tariff.

Queensland Rail has provided the full 'building block' calculation of the [redacted] ceiling tariff as part of this DAU2 explanatory document. However, Queensland Rail is not seeking approval of a [redacted] ceiling tariff at this stage, and will make a further submission on this after stakeholder consultation (post DAU2 lodgement). However, to ensure transparency and meaningful discussions Queensland Rail has included the draft ceiling tariff at [redacted] with full capital and maintenance programs accompanied by peer reviews by independent engineering experts GHD. This will assist to facilitate informed discussions. DAU2 does include the reference tariff at [redacted] for QCA approval.

Queensland Rail understands that Yancoal will write to the QCA confirming its support for this approach. This need for additional consultation with West Moreton System stakeholders has arisen out of the unique circumstances around the DAU2 coal reference tariff development. Queensland Rail is considering the following options, subject to the outcome of consultation:

(1) Loss Capitalisation at the lower tonnage forecast:

To the extent that negotiated reference tariffs will not permit Queensland Rail to recover costs of maintaining and operating the network, Queensland Rail will consider, in consultation with industry, an additional mechanism to address that under recovery.

An approach that has been used by ARTC in the Hunter Valley, the ACCC for the NBN Co and Aurizon Network in Central Queensland is a '*loss capitalisation*' (catch-up) model where losses at low tonnages are capitalised and then recouped at higher tonnages.

Consultation with both Yancoal and New Hope indicated that they are willing to explore the concept further. Yancoal, in particular, has requested that Queensland Rail defer submitting a 'loss capitalisation' model to the QCA until further consultation takes place with the mines. Queensland Rail will also not seek approval for the [redacted] ceiling tariff until after consultation, as the ceiling tariff may form part of any loss capitalisation approach.

(2) Setting reference tariffs at each 1mtpa increment between [redacted] and [redacted]

Queensland Rail will consider options that may result in QCA approved reference tariffs for each 1 mtpa increment between [redacted] and [redacted] However, time is required to further develop this concept in conjunction with a potential loss capitalisation model and to consult with industry to avoid any unintended outcomes that may discourage growth.

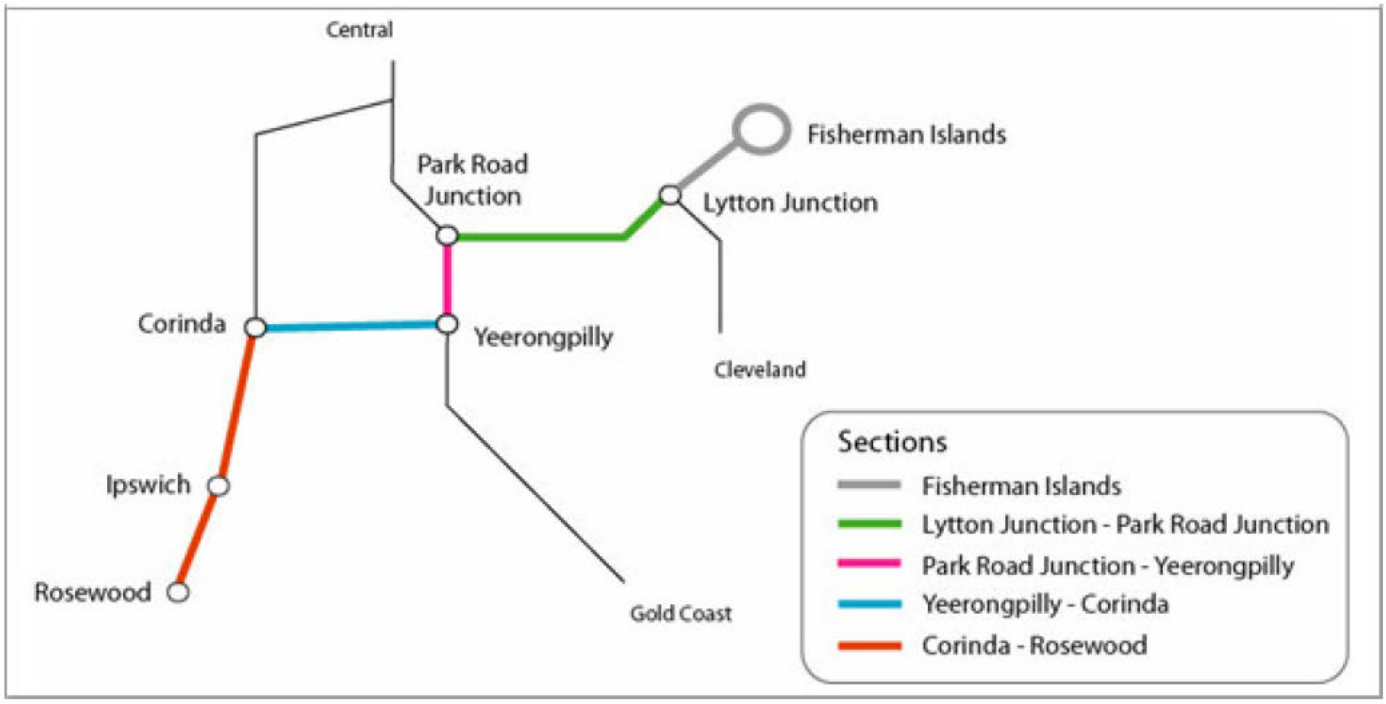
Queensland Rail will continue to work with industry on the access price at [redacted] and the above matters.

3. Metropolitan System Reference Tariffs

3.1 Metropolitan System Characteristics

Coal carrying train services originating in the West Moreton System traverse Queensland Rail's Metropolitan System[26] along approximately 80 route kilometres from Rosewood to the Port of Brisbane (Fisherman Islands). They traverse the Ipswich, Beenleigh, Cleveland suburban lines and then the dedicated dual gauge freight and coal (from Lytton Junction) lines to reach Fisherman Islands. The Metropolitan System has a QCA approved reference tariff for coal carrying train services.

Figure 14: Metropolitan System Coal Route: Rosewood to Fisherman Islands (Port of Brisbane)



3.2 Metropolitan System Reference Tariff — [redacted]

3.2.1 AU1 approach to the Metropolitan reference tariff

Fisherman Islands to Rosewood is dominated by metropolitan passenger services and hence the track quality is higher than that required for coal carrying train services. Assessing a cost for coal carrying train services for this section of track would be a sizeable task likely requiring a valuation, optimisation (in relation to track quality) and allocation (in relation to traffic type).

While previous Depreciated Optimised Replacement Cost (DORC) valuation exercises have been carried out on the Rosewood to Macalister and Macalister to Columboola sections, by both the QCA and QR Network, no such exercise has been attempted for Fisherman Islands to Rosewood. A valuation exercise would require a considerable amount of time and incur significant costs with the likely outcome

[26] The Metropolitan System means that part of the Network bounded to the north by (and including) Nambour station and to the west by (and including) Rosewood and including all branch lines comprised in that part of the Network. Coal trains travel on the System between Rosewood and the Port of Brisbane.

an appraisal appreciably more than that for assets west of Rosewood. Subsequent optimisation and allocation processes would act to reduce the magnitude of the DORC but would be complex and difficult to carry out.

To avoid this complexity, Queensland Rail had previously applied the coal reference tariff derived from Rosewood to Columboola building blocks to the entire route through to Fisherman Islands as this would see an appropriate contribution being made to costs and assets in the Brisbane Metropolitan System. That is, the West Moreton System was considered to be a reliable proxy of the cost for freight services and so was also applied to the Metropolitan System.

The proxy methodology means that the coal contribution to common costs on the Metropolitan System is based on costs assessed on a network where the specific costs that apply to coal services are easier to identify and assess (i.e. the West Moreton System). This is because, among other things, the West Moreton costs reflect coal's share of fixed costs and a share of the wear and tear (i.e. variable costs) that the coal trains originating in the West Moreton System impose on rail infrastructure.

In its 2016 Final Decision on AU1, the QCA decided that the reference tariff developed for the West Moreton System that would have applied from 1 July 2013 should apply to the Metropolitan network as well. From that date:

- CPI **was** to apply to the Metropolitan System reference tariff; and
- a separate Metropolitan System incremental capacity charge was to apply to recover coal-specific investment and a share of relevant freight-specific investment on the network.

The AU1 Metropolitan System reference tariff escalated to $2020-21 is **18.13/'000 gtk** expressed as a one part tariff. No coal-specific capital expenditure is anticipated to be spent for the AU1 period, so there is no incremental capital charge.

3.2.2 DAU2 Coal reference tariff — [redacted] scenario

In its 2016 Final Decision on AU1, the QCA provided guidance as to how post AU1 access undertakings might develop a Metropolitan System reference tariff advising:

> *"The Metropolitan tariff will apply for the term of the undertaking. However, we also seek to give some guidance on the QCA's approach to the Metropolitan tariff more generally. What is said below does not predetermine our decision on any future DAU. Any such DAU will need to be (and will be) considered in accordance with the requirements of the QCA Act at the time it is submitted. However, a relevant matter for the purposes of our Decision is its impact on certainty. We consider that the following comments provide appropriate general guidance in that regard….*
>
> *….We envisage that a proxy methodology will continue to be appropriate, having regard to section 138(2), for deriving the Metropolitan tariff. Further, we acknowledge the broad support for the proxy or extension methodology and we anticipate it will continue to apply. As Queensland Rail said in its March 2016 submission, a proxy 'reflects an efficient and reasonable approach, particularly given the challenges in separately building up the cost structure for the Metropolitan Network'."*[27]

Queensland Rail considers that a continuation of a 'pure' proxy approach is the most appropriate for the Metropolitan System, i.e. the DAU2 West Moreton reference tariff should be extended across the

[27] QCA Decision on Queensland Rail's Draft Access Undertaking, June 2016, pp 173 & 174

Metropolitan System. A pure proxy reference tariff best estimates the changes in the efficient costs of providing the service.

However, Queensland Rail is pragmatically proposing the continuation of the AU1 methodology for the DAU2 Metropolitan System reference tariff at [redacted] (Queensland Rail reserves its rights in relation to future access undertakings). On this basis, Queensland Rail is seeking that the QCA approve a Metropolitan coal reference tariff based upon a continuation of the same methodology as applied in AU1 of:

- **$18.13/'000 gtk** ($2020/21) as a one part tariff; or
- **$1,250.51/rtp** and **$9.07/'000 gtk** ($2020/21) for the two part tariffs to apply to Metropolitan System;

for coal tonnage levels of [redacted]

In proposing this approach, Queensland Rail notes the size of the gap that will arise between the Metropolitan System reference tariff and the West Moreton System reference tariff, if the QCA approves the reference tariff proposed for [redacted]

Queensland Rail is not proposing coal-specific capital expenditure for DAU2 for the Metropolitan System.

3.3 Metropolitan System Reference Tariff — Other tonnages

During Queensland Rail's consultation process on the coal reference tariffs, Yancoal proposed that it is beneficial for all parties if Queensland Rail does not submit coal reference tariffs for lower tonnages at lodgement of the draft access undertaking. This is to allow further consultation with West Moreton stakeholders, and is reflective of the unique difficulties in developing reference tariffs in the DAU2 uncertain environment.

Queensland Rail is committed to meaningful consultation in relation to DAU2's development and agrees with Yancoal's suggestion. On this basis, Queensland Rail has not included Metropolitan System coal reference tariffs below the [redacted] scenario with the lodgement of DAU2. A further submission will be made to the QCA once this consultation has concluded (refer to section 2.11 of this explanatory document for further information regarding this).

4.Standard Access Agreement (SAA)

4.1 Summary of changes to the SAA

The Standard Access Agreement proposed under DAU2 is familiar to current stakeholders and substantially the same as the Standard Access Agreement under the 2016 Access Undertaking. Only a small number of changes are being proposed and many of these arose through agreement during contract negotiations with customers.

The proposed changes to the 2016 SAA are set out in **Table 20**.

Table 20: Proposed Changes to the SAA

Clause	Changes	Rationale
Schedule D - Standard Access Agreement		
1.2, 1.3, 6.7(c), 8.8(b), 18.2(c) and Schedule 3 clauses 2.2 and 5.4(a).	**Deleted reference to good faith.**	The reference to 'good faith' has been deleted as the concept is not defined and is ambiguous and uncertain, particularly in relation to negotiation (as opposed to obligations of performance and enforcement mechanisms). Queensland Rail is required to act reasonably under clause 1.3 and, under clause 8.8(b), must use reasonable endeavours to minimise the impact of proposed amendments as contemplated under that clause. Under clause 18.2(c), Queensland Rail must also act reasonably. The obligation to negotiate in respect of renewals at clause 1.2(b) is retained, to reflect the QCA Act obligation to negotiate for access rights in good faith.
1.3(a)	**Amended clause 1.3(a) by including criteria for Queensland Rail to consider in relation to an amendment proposed by the access holder.**	By specifying the matters relevant to Queensland Rail's consideration of a productivity or efficiency variation, the amendment to clause 1.3(a) promotes certainty.
3	**Restructured for clarity.**	The clause has been restructured with provisions relating to the grant of operational rights and their nature and scope moved to the beginning of clause 3. Clause 3.3 has been amended to clarify drafting regarding its application to Subsequent Operators and simplify the signing process. These amendments reflect those agreed with access holders and Operators who have entered into a tripartite agreement since the AU1 Approval Date.
4.1(c)(i)	**Deleted reference to Subsequent Agreements.** **Amended Nominee Operator to Subsequent Operator**	These amendments have been made to clarify the drafting and refer to the correct defined term. These amendments reflect those agreed with access holders and Operators who have entered into a tripartite agreement since the AU1 Approval Date.
4.6	**Amended so that it is clear that the Operator who is a party to the agreement also provides the representations and warranties.**	Clause 4.6 has been amended to clarify that each party to the agreement (including the Operator) provides the relevant representations and warranties.

Clause	Changes	Rationale
5	**Amended to reflect rail safety legislation changes and clarify that only relevant information is required to be provided.**	Clause 5 has been amended to reflect changes to rail safety legislation and clarify that only relevant information is required to be provided.
7.3 and 8.4	**Deleted clause 7.3(f) and 8.4(d).**	Clauses 7.3(f) and 8.4(d) (requiring parties to notify each other of failures or likely failures to comply with the agreement) have been deleted as they do not reflect customary provisions in commercial contracts and are considered inappropriate. The amendments are reciprocal.
8.12	**Amended to include a control for a risk experienced on the Network Fixed typo in clause 8.12(b).**	Queensland Rail had proposed including an obligation on the Operator to inform Queensland Rail of any potential risks to the Network caused by adverse weather events. This was intended to reflect the obligations contained in operational procedures for an Operator's rail traffic crew to inform Queensland Rail Network Control of, in particular, water or flooding at or in the vicinity of the track. Queensland Rail accepts the feedback provided during consultation that this obligation was too broad and uncertain. Having regard to the fact that access agreements can be long term contracts, Queensland Rail considers it preferable for this obligation to be dealt with in operational documents. Clause 8.12 has been amended to fix a typo.
9.2	**Amended to clarify that changes to the IRMP can be made through the exchange of written notices.**	Clause 9.2 has been amended to clarify that changes to the IRMP can be made through the exchange of written notices by the parties and do not require formal variations to the access agreement. This removes an unnecessary administrative burden, and permits safety issues to be dealt with in an IRMP in an expeditious manner.
9.3	**Amended to reflect new rail safety legislation.**	Clause 9.3 has been amended to reflect the commencement of the *Rail Safety National Law (Queensland)* and the establishment of the Office of the National Rail Safety Regulator as the body responsible for rail safety regulation in Queensland.
9.10	**Amended to reflect changes in safety legislation.**	Clause 9.10 has been amended to reflect the commencement of the *Rail Safety National Law (Queensland)* and the establishment of the Office of the National Rail Safety Regulator as the body responsible for rail safety regulation in Queensland.
13.4	**Amended clause 13.4(a) to include Performance Levels in the liability limitation.**	The limitation of liability under clause 13.4(a) has been amended to include Performance Levels. Under the amended clause, Queensland Rail's liability in connection with failure to meet the Performance Levels is limited in the same way as other matters specified in the clause (such as Network standard or defects). Given the amendments to the Standard Access Agreement to enable more tailored and fit-for-purpose performance levels, performance levels are no longer specified in the Standard Access Agreement upfront but are subject to negotiation between the parties (and thus unknown). In these circumstances it is appropriate to extend the limitation of liability to Performance Levels. Following feedback received during consultation on proposed changes to the SAA, Queensland Rail has included the words 'except as set out in agreed Performance Levels', to clarify that the limitation of liability in clause 13.4 does not exclude any financially based sanctions agreed as part of a performance levels regime. The obligation on parties to monitor, record and assess performance against the Performance Levels has been retained in clause 6.7(f).

Clause	Changes	Rationale
15, 17	**Amended to address incoming ipso facto legislative amendments.**	Clause 15.1 has been included to make clear that clauses 15.2(c), 15.3(c), 15.4(a) and 15.5(a) are subject to relevant legislation and regulations regarding the enforcement of contractual provisions relating to insolvency events. Consequential amendments have been made elsewhere in clause 15 and 17.2.
Former 19.4	**Deleted to remove determination of safety matters by the Rail Safety Regulator.**	Former clause 19.4 has been deleted to reflect the commencement of the *Rail Safety National Law (Queensland)* and the establishment of the Office of the National Rail Safety Regulator as the body responsible for rail safety regulation in Queensland. ONSR has no jurisdiction to resolve disputes.
28	**Amended definitions to reflect changes in rail safety law.**	Certain definitions have been amended to reflect the commencement of the *Rail Safety National Law (Queensland)* and the establishment of the Office of the National Rail Safety Regulator as the body responsible for rail safety regulation in Queensland.
Schedule 1	**Amended in item 11 (Security Amount) to require at least six months' access charges.**	The change has been made to reflect Queensland Rail's risk exposure for the payment of access charges, relinquishment fees or other amounts payable and aligns with Security Amounts approved in other undertakings (e.g. Aurizon Network).
Schedule 3	**Remove references to 'good faith' at clause 2.2 and 5.4(a).**	

5. Changes to Pricing Rules

5.1 Pricing rules under AU1

Queensland Rail has a QCA approved reference tariff for coal services on the West Moreton and Metropolitan Systems. For all other traffics Queensland Rail negotiates access charges with access seekers, within prescribed pricing rules in the access undertaking. In summary the pricing rules set out in AU1, in their order of precedence, are:

- limits on price differentiation, i.e. no discrimination in favour of downstream operators, except to reflect differences in costs or risk of providing access;
- price limits, i.e. access revenue needs to fall within:
    - ceiling limit, which reflects the efficient cost of providing the service; and
    - floor limit, which reflects the incremental cost of providing access;
- network utilisation, where Queensland Rail may charge different rates for train service serving different markets to maximise commercial viability; and
- revenue adequacy, which states that access charges and transport service payments should generate revenue that is at least enough to meet efficient cost of providing access, including a return on investment.

5.2 Summary of proposed changes

Queensland Rail is proposing the following changes to the existing pricing rules:

- amend renewal pricing so that it applies only to coal users and bulk freight, the original intended user groups;
- adopting ARTC approach to limitations of pricing differentiation, which are less restrictive than those currently in AU1; and
- amend the Floor Revenue Limit to take account of TSC Payments.

Each of these changes are discussed in detail below.

5.3 Limits on price differentiation (DAU2 3.3)

5.3.1 Background and arrangements under AU1

The limits on price differentiation are to prevent access providers from giving an access seeker or access holder an unfair competitive advantage over its competitors by providing it with preferential treatment in its access agreement, i.e. when access seekers and access holders are in the same market. As stated in QCA Act clause 168c, an access provider:

> *"must not unfairly differentiate between users of the service in a way that has a material adverse effect on the ability of 1 or more of the users to compete with other users."*

However, Queensland Rail does not compete in the above rail market and therefore is not vertically integrated in a relevant respect, and has no incentive to unfairly differentiate between access seekers and holders in order to favour its own services.

AU1 requires that the access charges set by Queensland Rail for the same commodity in the same geographical area should be the same, except where:

- there are differences in cost or risk to Queensland Rail of providing access; and
- there is insufficient capacity to meet all access seeker requests.

5.3.2 Proposed approach under DAU2

Queensland Rail considers that the drafting of the limits on pricing differentiation in AU1 has become ambiguous, particularly in its lack of recognition of different train types. For example, Queensland Rail cannot charge different train types that move the same commodity in the same geographical region a different access charge as they are considered the same service.

For example, in the North West Minerals Province a number of smaller scale mineral projects are choosing an intermodal logistics solution where products are containerised rather than a traditional bulk logistics solution. Intermodal logistics is more contestable by road freight and in recent years road has been successful in winning concentrate haulage business on the Mount Isa to Townsville transport corridor. Intermodal rail haulage is less efficient than bulk haulage because the net tonne of product transported per gross tonne is less. Under the price differentiation limits in AU1, Queensland Rail is prevented from differentiating train services with the same commodities in the same geographic region other than due to differences in cost or risk over time. Queensland Rail believes that greater economic efficiencies will result where it can price differentiate in a case such as this where there are different train characteristics and efficiencies.

The DAU2 arrangements allow Queensland Rail to differentiate between access seekers who seek a higher quality of service, e.g. higher quality train paths, or certain access conditions unrelated to cost, e.g. departures at a certain time. There is currently no meaningful way for Queensland Rail to identify which access users value these attributes the most, or for access seekers to signal this.

The proposed arrangements also broaden the definition of costs and risks to include the wider implications of providing access, e.g. Queensland Rail will be able to consider the logistical impact on other users and adjust its prices accordingly.

The proposed arrangements allow Queensland Rail to adjust its access charge based on the characteristics of the service provided, and broader costs and risks. It follows that Queensland Rail can provide an improved price signal to access holders and access seekers, thereby promoting allocative efficiency because users who value a higher quality train path or certain departure or arrival times will be allocated those paths.

The proposed new arrangements provide Queensland Rail with a greater ability to differentiate between different users, thereby making Ramsey-type pricing approaches possible. This will:

- encourage uptake of rail services as user groups that are more price sensitive are allocated a lower proportion of fixed cost; and
- help Queensland Rail recover its costs as it can allocate a higher proportion of its fixed cost to user groups that are less price sensitive.

Notably, on much of its network the access revenue Queensland Rail collects from access holders is often significantly below the total efficient cost of providing the service (the price ceiling). For example, Queensland Rail only recovers around 40 per cent of its operating costs on the North Coast Line System. In other words, Queensland Rail's access charges are not directly linked to the cost of providing the services.

Given this, it is difficult to reflect changes in costs and risk in providing access in a methodology for the setting of access charges. Although Queensland Rail can adjust access charges in theory, it is unclear how this would occur in practice. It follows that even in a situation where costs of operating the network are increasing, it may not be possible to pass these costs on to access holders that have renewed their contracts.

Queensland Rail also considers that the AU1 arrangements are overly restrictive, as they do not allow for consideration of other relevant factors, such as the broader commercial and logistic impact of the operator.

In DAU2 Queensland Rail proposes to adopt pricing rules that are currently used in ARTC's interstate rail access undertaking. The ARTC's undertaking, including its pricing rules, have been assessed and approved by the ACCC using an assessment criteria consistent with the QCA's assessment framework.

Adopting ARTC pricing rules allows Queensland Rail to have regard to a number of factors when setting prices, namely characteristics of the service, and commercial and logistical impacts on Queensland Rail's business.

The characteristics of a service include axle load, speed wheel diameter, train length, origin and destination (including the number and length of intermediate stops), departure and arrival times and days of the week.

The commercial effects on Queensland Rail, include:

- the term of the agreement;
- the potential for growth of the business;
- the opportunity cost to Queensland Rail;
- the consumption of Queensland Rail's resources, including capacity;
- the credit risk associated with the business;
- market value of the train path sought;
- the segments of the network access is being sought for; and
- previously negotiated access charges agreed under the framework, where relevant.

The logistical impact on Queensland Rail include:

- the impact on other train services and risk of failure of relevant operator to perform; and
- reduced capacity and system flexibility.

ARTC is also able to consider the capital or other contributions made by an access seeker, and the cost of additional capacity.

When compared to AU1, Queensland Rail's proposed new approach:

- broadens the relevant costs as it includes as relevant opportunity cost to Queensland Rail and costs to other users, e.g. logistical impact;
- specifically includes in the definition of risk the credit risk of the business and risk of operator failure to perform; and
- specifically incorporates other commercial considerations, such as duration of agreement, contributions from the access seeker, and cost of additional capacity.

A number of the factors identified in DAU2 as legitimate reasons for differentiation could be argued to fall under the AU1 allowance of "cost or risk" differences to Queensland Rail. However, Queensland Rail believes that making these explicit would make the process more transparent and clarify the circumstances in which price differentiation is permitted.

5.3.3 Assessment of proposed changes to price differentiation

Queensland Rail engaged HoustonKemp to assess the implications of the proposed changes to price differentiation under DAU2 against the arrangements under AU1 (**refer Attachment 7**).

HoustonKemp assessed the different approaches based on requirements for access undertakings in the QCA Act, which is a foundational reference point for decisions made by the QCA. In summary, this involved assessing whether the different approaches promote:

- the three dimensions of economic efficiency – allocative efficiency, productive efficiency and dynamic efficiency;
- competition in upstream and downstream markets; and
- protects the interest of Queensland Rail, existing access holders, and potential access seekers.

HoustonKemp concluded that the proposed price differentiation arrangements under DAU2 would better promote economic efficiency and the QCA's objectives under the QCA Act when compared with AU1. HoustonKemp's reasoning was that DAU2 arrangements would:

- improve allocative efficiency by providing more refined pricing signals;
- allow for a more efficient recovery of fixed costs and potentially increase network usage;
- allow Queensland Rail more flexibility in negotiations, for example lower access prices can be offered to encourage modal shift from road; and
- allows for Queensland Rail to take account of different Train Service types and the extent to which end-users face different costs because of the differing efficiencies of the train services.

Competition concerns around price differentiation are not relevant to Queensland Rail as the floor and ceiling price controls remain and Queensland Rail does not compete with third parties in the above rail market.

The HoustonKemp report also noted that the ACCC has a similar decision-making criteria in its review of access undertakings, and that the ACCC has approved ARTC's approach to price differentiation as efficiency enhancing.

5.4 Pricing for access rights at renewal

5.4.1 Background

The QCA in its 2016 Final Decision on AU1 determined that coal and bulk freight traffic should have one-off renewal rights where changes to access charges would be limited to changes in risk and costs. The QCA stated in its 2016 Final Decision:

> *"Queensland Rail should give priority to a renewing access holder for coal carrying or other bulk-mineral-carrying train services that satisfy the conditions in the undertaking (i.e. those relating to **contract** period, nature of access rights sought and timeframes for submitting renewal application)." (p.24)*

The purpose of the renewal rights and limitations on changes to renewal prices was to provide coal and bulk freight traffic with more certainty regarding the access price payable. The rationale was that these users incur significant sunk costs at start up, and so certainty in access charges would reduce the risk of having a stranded asset, and so encourage the expansion of their operations.

The QCA also stated in its 2016 Final Decision:

> *"We also do not consider it necessary to extend the renewal provisions to cover intermodal services (as requested by Glencore)." (p.23)*

In other words, the intended target of the renewal right and limitations on changes to access charges was for coal and bulk freight traffic only.

Notwithstanding this, Queensland Rail believes that the combination of clauses 2.9.3 (Renewals), 3.3(e) & (f) (Pricing Principles) and 7.1 (Definitions of Renewal, Renewal Access Seeker and Renewal Application) effectively result in granting all traffics seeking to renew access agreements a one-off renewal on the same access charges, provided certain conditions are met e.g. they are for the same origin and destination, there is no increase in product etc.

5.4.2 Proposed changes for DAU2

For DUA2 Queensland Rail proposes the following changes:

- retain one-off renewals, limited to coal and bulk freight;
- where a renewal right has been provided in AU1, DAU2 will not provide a new renewal; and
- renewals are limited to contracts with terms of five to ten years (inclusive) with a maximum renewal term of five years.

Queensland Rail considers that the first two changes would bring into effect the rights originally intended by QCA in its 2016 Final Decision. That is, coal and bulk freight users are provided with access charge certainty, and that this is a one-off right.

The change to term reflects the diversity of contracts that Queensland Rail has in place. [redacted]

Queensland Rail also notes that under ARTC's current indicative access agreement, which has been assessed and approved by the ACCC:

- operators do not have any automatic or enforceable rights of renewal or extension of any Scheduled Train Paths – clause 2.9(e); and
- any terms and conditions of the new agreement, including charges, will be determined in accordance with the access undertaking clause 2.9(d).

In other words, operators on ARTC's interstate network do not have any renewal rights and there are no limitations on what ARTC can charge on renewed contracts, other than the pricing principles in the access undertaking.

Queensland Rail also notes that under ARTC's current indicative access agreement, which has been assessed and approved by the ACCC:

- an operator does not have any automatic or enforceable rights of renewal or extension of any Scheduled Train Paths – clause 2.9(e); and
- any terms and conditions of the new agreement, including charges, will be determined in accordance with the access undertaking clause 2.9(d).

In other words, operators on ARTC's interstate network do not have any renewal rights and there are no limitations on what ARTC can charge on renewed contracts, other than the pricing principles in the access undertaking.

5.4.3 Assessment of proposed changes to renewal rights

Queensland Rail engaged HoustonKemp to assess the implications of the proposed changes to renewal rights and price under DAU2 and against the arrangements under AU1 (**refer Attachment 8**).

HoustonKemp assessed the different approaches based on requirements for access undertakings in the QCA Act, which is a foundational reference point for decisions made by the QCA. In summary, this involved assessing whether the different approaches promote:

- the three dimensions of economic efficiency – allocative efficiency, productive efficiency and dynamic efficiency;
- competition in upstream and downstream markets; and
- protects the interest of Queensland Rail, existing access holders, and potential access seekers.

HoustonKemp concluded that renewal rights under existing AU1 arrangements are broadly defined, and place significant limitations on the access charges for renewed contracts. HoustonKemp identify that this has the potential to lead to:

- increasing the loss Queensland Rail incurs from providing rail services, i.e., allocative inefficiency, because access holders are only likely to renew their contract if they believe that the existing terms and conditions would be better than those available under a renegotiation; and
- impact upstream or downstream competition as renewal rights provide existing access holders with an advantage over new access seekers – this may create additional barriers to entry and capacity may not be allocated to those who value it highest leading to allocative inefficiency.

The HoustonKemp report further concluded that the proposed arrangements under DAU2 better promote economic efficiency and the QCA's objectives under the QCA Act than AU1. The proposed arrangements under DAU2, limit the impact of renewals by making it clear it is a one-off right that only applies to coal and bulk mineral freight. DAU2 also limits the length of the renewal contract. All these changes will improve allocative efficiency as they allow Queensland Rail to recover closer to its efficient costs (limiting the Government subsidy) and limit the additional barriers to entry that renewals can create.

5.5 Floor revenue limit — TSC

As highlighted earlier, AU1's pricing provisions set floor and ceiling revenue limits between which the access charges are required to be set. Queensland Rail can price below floor with QCA agreement. AU1 is silent on the treatment of TSC payments when determining the floor revenue limit.

However, previous access undertakings applying from 2001 to the approval of AU1 have explicitly stated that when determining the floor pricing limit for a combination of train services in a system (as opposed to an individual train service), Government Transport Service Contract (TSC) payments are to be

considered. TSC revenue is an important input in calculating the system floor revenue price. For example, '*QR Network's Access Undertaking (2008) June 2010*' (**2008AU**) provides:

> ***"6.2.2 Price Limits for Individual Train Services***
>
> *(d) Price limits will apply in respect to Access Charges to be established for each individual Train Service (referred to as "Individual Train Service") such that, over the Evaluation Period, the relevant Access Charge for the Individual Train Service:*
>
> *(i) will not fall below the level that will recover the expected Incremental Cost of providing Access for the Individual Train Service; and*
>
> *(ii) will not:*
>
> *(A) where the Individual Train Service is the only Train Service using a section of the Rail Infrastructure, exceed the level that will recover the expected Stand Alone Cost of providing Access for the Individual Train Service after giving consideration to the level of contribution provided by Transport Service Payments towards the relevant the Rail Infrastructure; or*
>
> *(B) otherwise, exceed the level that will recover the expected Stand Alone Cost of providing Access for the Individual Train Service."*

Many of Queensland Rail's systems are only financially viable with the presence of TSC revenue, and if this revenue cannot be taken into account, achieving the system floor price would be breached for many parts of the network.

DAU2 clarifies that TSC payments are to be considered in relation to floor price limit determinations.

5.6 Conclusion

In summary, Queensland Rail has made the following changes:

- amend renewal pricing so that it applies only to coal users and bulk freight, the original intended user groups;
- adopt ARTC approach to limitations of pricing differentiation, which are less restrictive than those currently in AU1; and
- amend the Floor Revenue Limit to take account of TSC Payments.

Queensland Rail has proposed the first two changes because it believes that this would remove unnecessary pricing constraints that exist under AU1. HoustonKemp has assessed both proposed changes using an assessment framework that is consistent with QCA's own assessment criteria. HoustonKemp concluded that:

- having more flexibility pricing arrangements would lead to allocative efficiency, because:
    - it reduces Queensland Rail's financial loss from providing below rail services; and
    - help allocate train services to users who value them the most;
- there are no competition concerns as the floor and ceiling price controls remain and Queensland Rail doesn't compete with third parties in the above rail market.

Queensland Rail supports the conclusions reached by HoustonKemp and note that these changes would make DAU2 more consistent with ARTC's arrangement, which have been assessed and approved by the ACCC.

The rationale for the clarifying how TSC payments should be treated for the floor revenue limit is to prevent Queensland Rail from inadvertently breaching its pricing rules. Queensland Rail to consider how much TSC payments should be allocated but AU1 does not provide explicit guidance, given rise to uncertainty.

6. Other Proposed Changes

This section sets out other changes that are proposed.

Table 2: Summary of other changes proposed in DAU2

Clause	Change
Preamble	The preamble has been updated to remove dated information and to be more relevant to the reader. The preamble is not legally binding.
Undertaking term (DAU2 1.1)	The proposed term for DAU2 is five years, which is one year longer than the term under AU1.
Master planning and extension coordination (DAU2 1.5)	DAU2 requires Queensland Rail to prepare a RNMP if requested by industry as opposed to having to prepare one by default. The RNMP will continue to be funded by industry, unless otherwise agreed. DAU2 also removes reference to the North Coast System in recognition that the planning and funding authority for this system is the Department of Transport and Main Roads.
Access application	AU1 has a rigid access application process, which can lead to inefficiencies for simple matters such as access agreement renewals or extensions. Access applications can also be submitted to anyone in Queensland Rail, which has caused delays in processing the applications. DAU2 increases the flexibility of the application process while still protecting the rights of access seekers, e.g. retaining the priority queue provisions. DAU2 has also specified where access application should be submitted.
Preliminary steps (DAU2 2.1.2)	AU1 does not clarify that information exchanged in the preliminary steps, including capacity information, is for information purposes only and is not binding. DAU2 clarifies that neither party will be bound by information provided in the preliminary steps.
Requirement for confidentiality (DAU2 2.2.2)	AU1 allows either party to request a confidentiality agreement. DAU2 clarifies that any confidentiality agreement must permit disclosure to the Queensland Rail Transit Authority, Responsible Ministers, and the QCA.
Access Seekers must satisfy prudential requirements (DAU2 2.8.3)	AU1 provides that an access seeker must not have been in material default of this undertaking or the 2008 undertaking. DAU2 updates this clause to reference DAU2 and AU1 instead.
Operating Requirements Manual (DAU2 4.3)	Operating Requirements Manual (**ORM**) is part of the access undertaking, which means that Queensland Rail will need to submit a draft amending access undertaking to the QCA to make minor changes to the ORM. DAU2 removes ORM from the undertaking and requires Queensland to consult industry when changes to ORM will have a material effect on third parties.
Quarterly report (DAU2 5.1)	Change from requiring Queensland Rail to publish 30 days after end of the quarter in AU1 to the last day of the month after the subject quarter in DAU2. DAU2 has also clarified that the report does not include Citytrain and adds in a threshold before planned possessions are considered to be late for reporting purposes.
Obligation to publish annual report (DAU2 5.2.1)	Change release date of annual performance report from 30 October each year to 31 December to be consistent with when Queensland Rail publishes its below rail financial statements.

Clause	Change
Resolution by QCA (DAU2 6.1.4)	AU1 requires dispute to be referred to the National Rail Safety Regulator but under law does not give the regulator powers to resolve disputes. DAU2 proposes that the QCA refer safety disputes to a suitable safety expert with input from Queensland Rail and the access holder.
Transitional provisions DAU2 6.4)	Update transitional provisions to refer that it refers to the correct undertakings.
Part 7 Definitions and interpretation	Update definitions to reflect DAU's provisions.
Schedule E—Maintaining the Regulatory Asset Base	DAU2 simplifies the approval proves for the acceptance of capital expenditure into the regulatory asset base. It also amends the due date for the submission of the Capital expenditure report to the QCA from 31 October of each year to 31 December of each year.
Schedule F—Network Management Principles	DAU2 has simplified and made it clearer the operation of network management principles (**NMP**), without changing the intent the provisions. DAU2 also required disputes of planned possessions to be made within a certain time period after the access holder has been notified.
Schedule H—Standard Access Agreement	Minor amendments, mostly to reflect feedback industry has provided, changes to safety legislation, and other minor amendments.

6.1 Preamble

Queensland Rail has updated the preamble to focus on DAU2 and be more relevant to its own network. The preamble in AU1 includes outdated information, such as Queensland Rail's separation from Aurizon Network. Queensland Rail notes that the preamble is not legally binding and the update is to help better inform the reader of relevant context.

6.2 DAU2 term (DAU2 1.1)

AU1 applied from 11 October 2016 to 30 June 2020 a period of four years. As AU1 has now been tried and tested, and with DAU2 only making targeted amendments to AU1 on an exception basis rather than a major rewrite, Queensland Rail has proposed a term of 5 years for DAU2.

Queensland Rail believes that reducing the frequency of reviews would also lower the costs to Queensland Rail, industry and the QCA, without comprising any outcomes.

6.3 Master planning and extension coordination (DAU2 1.5)

In AU1 the QCA introduced a process requiring that Queensland Rail prepare a regional network master plan (RNMP) for the:

- West Moreton network
- The Mount Isa Network; and
- The North Coast Network.

The process required Queensland Rail to seek industry agreement and funding to develop a RNMP for each line within 12 months of an access undertaking. If industry could not agree on how to fund the

RNMP, then Queensland Rail was under no obligation to commence the RNMP. Industry chose not to fund the RNMPs during AU1, primarily because the lines had spare capacity, and so there was limited need for master planning and extension coordination.

Queensland Rail believes that AU1's provisions requiring Queensland Rail to develop RNMPs is unnecessary and not fit for purpose. Instead, Queensland Rail is proposing a fit for purpose master planning process for the West Moreton System and the Mount Isa Line System for DAU2, where:

- Queensland Rail will prepare a RNMP upon request from stakeholders;
- RNMPs will continue to be funded by stakeholders;
- Industry and Queensland Rail to agree on a realistic timeframe for development; and
- The North Coast line System is excluded as funding and planning is undertaken by Department of Transport and Main Roads rather than Queensland Rail.

6.4 Access applications (2.1.1)

Queensland Rail has retained the overall access application process, with a minor amendment. AU1 includes a rigid process for access applications, and in particular requires all requests for access rights to be in the form of an access application, including prescribed information set out in Schedule B. This effectively requires an access seeker to follow the same process for a request for renewal or extension of an existing agreement, as for a new application. This can be inefficient and time consuming in simple matters such as renewals and extensions, where often only a small amount of information will vary from the original access agreement.

Conversely, AU1 does not require an access application to be submitted to a nominated person or address, which has caused delays in the processing the access applications delivered to areas of Queensland Rail not responsible for the administration of those applications. While the access application form and Queensland Rail website specify the addresses for lodgement, there have been instances where access applications have been delivered to incorrect areas, resulting in delays and a technical breach of AU1's timeframes for the acknowledgment of an access application.

DAU2 allows access seekers to agree to a different form of access application. This allows for flexibility in addressing the business needs of the access seekers, while ensuring that their rights are protected (for example, to priority in a queue).

DAU2 also requires access applications and responses to Queensland Rail requests for additional information etc. to be either delivered to an email address specified by Queensland Rail on the Queensland Rail website, or in writing to Queensland Rail's postal address. This clause will result in a more efficient access application process.

6.5 Preliminary steps (DAU2 2.1.2)

A prospective access seeker may request initial meetings with Queensland Rail prior to submitting an access application. The initial meetings allow Queensland Rail and the prospective access seeker to discuss the proposed access application and the negotiation process. To facilitate the access application, a prospective access seeker can ask Queensland Rail to provide relevant capacity information. Queensland Rail is also required to make preliminary information (for example, interface requirements, and maximum train lengths etc.) available on its website and to keep this information up to date.

AU1 does not expressly state that preliminary information and capacity information provided is non-binding, and for information purposes only. DAU2 clearly states that neither party will be bound by preliminary information, including capacity information or information provided during initial meetings.

Facilitating preliminary, non-binding discussions is particularly beneficial to new access seekers, particularly end user access seekers.

6.6 Requirement for confidentiality agreement (DAU2 2.2.2)

AU1 allows either Queensland Rail or an access seeker to require the other to enter into a confidentiality agreement.

To accommodate Queensland Rail's structure and reporting obligations, these provisions have been amended to permit Queensland Rail to provide information to the Queensland Rail Transit Authority (**QRTA**), Queensland Rail's Responsible Ministers and TMR and for both parties to provide information to the QCA.

6.7 Access Seekers must satisfy prudential requirements (DAU2 2.8.3)

AU1 requires that access seekers satisfy certain prudential requirements including no material default of the 2008 access undertaking, or AU1. This section has been updated to include a reference to DAU2.

6.8 Operating Requirements Manual (DAU2 4.3)

This Operating Requirements Manual (**ORM**) sets out practices, standards, systems, protocols, requirements, rules, policies and other information in relation to or in connection with Network Control and the access to and use of Queensland Rail's network by operators. It also includes interface management and coordination requirements, safeworking procedures, safety standards (including electrical safety requirements), emergency and investigation procedures, requirements for the management of Network Incidents and environmental requirements.

The nature of ORM means that it will need to be updated when there are relevant legislative changes or when Queensland Rail updates the ORM to keep up with industry best practices, and operational requirements to ensure the efficient and safe management of the network.

Under AU1 Queensland Rail is required to submit a draft amending access undertaking to the QCA for approval for any changes to the ORM as the ORM is part of the AU1, which is a burdensome and time consuming process for both Queensland Rail and Access Holders.

Queensland Rail proposes removing the ORM from DAU2 but including in DAU2 a requirement for Queensland Rail to have an ORM and to consult on changes to the ORM where they will materially affect third parties.

The ORM deals with the operational management of Queensland Rail's network. As Queensland Rail is not competing in the above rail market, Queensland Rail is not incentivised to impose operational requirements designed to hinder third party access, so including the ORM in an access undertaking for QCA oversight is unnecessary.

6.9 Quarterly network train performance report (DAU2 5.1)

The AU1 quarterly performance report includes reporting on matters such as the cause of lateness of non-Citytrain services, train cancellations and network performance. Under AU1:

- quarterly reports to be published by 30 days after the subject quarter; and
- reporting of Planned Possessions that did not start or finish on time includes a Planned Possession that starts one second early or one second late.

Queensland Rail proposes that in DAU2:

- quarterly reports are to be published by the last day of the month after the subject quarter, and where this is a weekend or public holiday the next working day, unless it is agreed with the QCA that such longer period should be allowed. The ability to agree a longer period will make this quarterly report requirement consistent with the annual report;
- add a 30 minute threshold to Planned Possessions reporting so that the reporting is more meaningful. This will make the KPI consistent with other on time reporting in the quarterly report, where thresholds apply; and
- clarifies that the reporting does not include Citytrain, noting that Queensland Rail does not currently include Citytrain under AU1 but the drafting in AU1 is unclear.

Consistent with the 2008AU, Queensland Rail's intention in AU1 was that quarterly reporting requirements were to apply to non-passenger services, and long distance passenger services. This was to ensure statistically relevant data can be extracted by access holders relating to the treatment of their services in comparison to other relevant traffic types, and would exclude Citytrain so that Citytrain does not distort the reported KPIs. DAU2 clarifies this approach.

Queensland Rail Citytrain currently operates over 7800 services weekly across the Metropolitan System. Most of the lines are not utilised by third party services. Including the large volume of Metropolitan System Citytrain services in comparison to third party train services in the quarterly report would mean that the treatment of third party train services in the Metropolitan System would effectively not be reported on, reducing the quality of output and distorting the meaningfulness of the outcomes.

Further, the Metropolitan System includes a number of branch lines that are not utilised by non-passenger services or long distance passenger services (such as the Shorncliffe line). Including data on the use of those branch lines would further skew data output.

The exclusion of Citytrain provides transparency as to how third parties are treated on the Metropolitan System.

Queensland Rail has also clarified that long distance passenger services are included and has applied an on-time threshold of 20 minutes.

Extensive information on Citytrain on-time running and reliability, and safety and security incidents are published on Queensland Rail's website.

6.10 Obligation to publish annual report (DAU2 5.2.1)

AU1 requires that Queensland Rail produce and publish audited Below Rail Financial Statements (**BRFS**) developed in accordance with the Cost Allocation Manual (**Costing Manual**) by 31 December of each year, relevant for the previous financial year of the report (AU1 clause 5.3.1). Maintenance and operating costs are included in the BRFS.

Maintenance and operating costs are also included in the '*Annual Report on the Negotiation Process*' (**annual report)** in accordance with AU1 clauses 5.2.2(i) and 5.2.2(j). However, the annual report is to be produced and published by 30 October each year (clause 5.2.1(a)) rather than 31 December.

Queensland Rail's auditor is the Queensland Audit Office (**QAO**). The QAO first audits Queensland Rail's general financial statements (**Financial Statements**), and then subsequently audits the BRFS using information contained in the Financial Statements.

The QAO cannot commence the audit of Queensland Rail's BRFS until after the Queensland Government departmental financial statements are tabled at the end of September each year. This means that the audit of Queensland Rail's BRFS starts in October of the relevant year so the publication of the BRFS cannot be finalised by 31 October.

This also means that the maintenance costs, operating expenditure, and application of the allocators contained in the Costing Manual will not have been audited by 30 October to align with the publication of the annual report, as required in AU1.

DAU2 proposes to align the publication of the annual report and the BRFS, so that the annual report contains audited financial information that is consistent with the BRFS at publication.

This approach addresses comments made by New Hope in its submission on Queensland Rail's 2016 draft Costing Manual, seeking that maintenance and operating information in the Annual Performance Report be both audited and consistent with the Below Rail financial Statements:

> *"We therefore will have three potentially different sources of cost information for the West Moreton Network, being:*
>
> - *The information contained in the QCA's final decision, and in QR's model, which is the basis of the approved Reference Tariffs.*
> - *The information reported under clause 5.2.2(i).*
> - *The Financial Reports prepared under clause 5.3 (using the Costing Manual).*
>
> *Our key requirement in regard to the overall package of reported information is that these three sources of information should be prepared on consistent basis, or be reconciled with each other…..*
>
> *….This will ensure that a version of the Clause 5.2.2 information regarding maintenance and operating costs is prepared which is based on allocation methodologies consistent with those used to develop reference tariffs."*

Including audited maintenance and operating cost information in the Annual Performance Report will improve the quality of and public confidence in the report, and also ensure consistency with the BRFS, as the underlying information will be subject to the QAO's independent audit process.

DAU2 provides for the due date of the annual report to be 31 December, thereby, aligning with the due date of the BRFS.

6.11 Resolution by QCA (DAU2 6.1.4)

AU1 requires the QCA to refer safety related disputes to the Office of the National Rail Safety Regulator (**ONSR**). However, the Rail Safety National Law does not give the ONSR the power to resolve disputes. DAU2 proposes that the QCA refer safety disputes to a suitable safety expert, selected with input from Queensland Rail and the access holder.

6.12 Transitional provisions (DAU2 6.4)

The introduction of a new access undertaking means that the transitional provisions required updating. DAU2 contains minor amendments to the transitional provisions.

6.13 Part 7 Definitions and interpretation

DAU2 definitions have been updated to reflect DAU2's provisions.

6.14 Schedule E—Maintaining the Regulatory Asset Base

AU1 is the first access undertaking where Queensland Rail has been required to maintain a regulatory asset base for the West Moreton System. Queensland Rail has proposed amendments to Schedule E incorporating lessons from the AU1 process.

DAU2 also amends the due date for the submission of the capital expenditure report to the QCA from 31 October of each year to 31 December of each year. This will align the annual reports. More significantly, the new timeframe will assist in more comprehensive reports to be submitted to the QCA and will result in improved overall efficiencies.

6.15 Schedule F – Network Management Principles (NMP)

The NMP set out Queensland Rail's approach to train planning and network control. DAU2 contains the following changes in the DAU2 NMP from AU1:

- amendment to the process for lodging a dispute for planned possessions; and
- clarification around planned possessions (this change will not alter the operation of the NMP but will clarify existing practice).

6.15.1 Dispute mechanism

AU1's NMP provides that Queensland Rail cannot proceed with the planned possession once a dispute is lodged until the dispute is resolved. A dispute can be lodged right up to the day of the Planned Possession. AU1 provides:

> *"Except in relation to Emergency Possessions and Urgent Possessions, if there is a bona fide dispute between an Access Holder and Queensland Rail in relation to any proposed changes or modifications to the MTP, the proposed change will not take effect until the dispute has been resolved using the dispute resolution provisions of the Undertaking."*

Queensland Rail may have multiple contracts in place with external contractors over several worksites across the network linking into one Planned Possession. Requiring Queensland Rail to stop the work right up until the day of the possession is not reasonable or effective, and in many cases would result in reputational damage and financial compensation to external contractors potentially in the order of millions of dollars.

Queensland Rail considers that the level of prescription in AU1's NMP is reflective of an access undertaking that was developed from regulation for an integrated organisation competing in the above rail market.

No other rail access undertaking in Australia, including Aurizon's access undertaking, has this level of prescription. This level of prescription that could result in major work sites across the network being

planned and equipment, material and workforce resources being committed well in advance, but unable to operate on the day of the Planned Possession.

Queensland Rail is incentivised to run an efficient network, and is not incentivised to hinder the operation of third party train services.

This compares with the ARTC interstate access undertaking which provides considerable flexibility:

> ***"9.3 Repairs, Maintenance and Upgrading of the Network***
>
> ***(a)*** *Notwithstanding any other provisions to the contrary in this clause 9, but subject only to clauses 9.3(b), 9.3(c) and 9.4 ARTC may, without notice to the Operator, perform repairs, maintenance or upgrading of the Network, carry out any new work on the Network, or take possession of any part of the Network, at any time.*
>
> ***(b)*** *If repairs, maintenance or upgrading of the Network, the carrying out any new work on the Network, or taking possession of the Network, are reasonably likely to materially affect the Scheduled Train Paths, ARTC will, prior to commencement of the works:*
>
> *(i) take all reasonable steps to minimise any disruption to the Scheduled Train Paths;*
>
> *(ii) notify the Operator of the works as soon as reasonably practicable; and*
>
> *(iii) use its best endeavours to provide an alternative Train Path,*
>
> *but need not obtain the Operator's consent to such repairs, maintenance or upgrading, or possession of the Network.*
>
> ***(c)*** *Possession of the Network means closure of the relevant part of the Network to all traffic for the purpose of effecting repairs, maintenance or upgrading. ARTC will consult with the Operator a reasonable time before taking possession of the Network (except in the case of an emergency) with a view to efficient possession planning and with a view to minimising disruption to Services and ARTC may at its discretion waive the flagfall charge applicable to any Services affected by this clause."*

Queensland Rail is seeking that the QCA reconsider the inclusion of this provision requiring a Planned Possession not to go ahead where a third party access seeker lodges a dispute.

Attachment 1: West Moreton Tonnage Forecasts

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Letter from New Hope West Moreton Tonnage Forecast

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Letter from New Hope West Moreton Tonnage Forecast

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