

26 March 2024

Mr Mike Smart
Chief Economist
IPART
PO Box K35, Haymarket Post Shop
NSW 1240

Dear Mr Smart,

Re: Estimating the Direct Cost of Rail Access

Pacific National welcomes the opportunity to comment on IPART's Information Paper: Estimating the Direct Cost of Rail Access.

Within this submission we highlight several challenges to using a regression model to establish a range for the maintenance and direct cost rate that could be used in regulatory floor tests under the NSW Rail Access Undertaking. This is both in terms of the recent model developed by IPART and the 24 year old regression model developed by the Queensland Competition Authority (QCA).¹ We also question the feasibility and relevance of commencing assessment of the floor test as part of the compliance process.

IPART assesses the ceiling test as part of its compliance process and not the floor test. The floor test is still an existing requirement, but the NSW Undertaking does not currently require IPART to assess the access provider's compliance with it.² However it was recently recommended in the 2023 Review of the NSW Rail Access Undertaking Final Report to start assessing whether access fees are recovering the direct cost of access i.e. the floor test:

Recommendation 28

The NSW rail access framework continues to require access providers to submit an annual compliance proposal to IPART by 31 October (or a date agreed by IPART) each year that demonstrates that they comply with:

- a) the ceiling test;*
- b) the asset valuation roll forward principles; and*
- c) the floor test (this is a new requirement).³*

¹ QCA, Working Paper 2 - Usage-related infrastructure maintenance costs in railways, December 2000

² IPART, Review of the NSW Rail Access Undertaking Final Report, May 2023
<https://www.ipart.nsw.gov.au/Home/Industries/Transport/Reviews/Rail-Access/Review-of-third-party-access-to-Rail-infrastructure-in-NSW>

³ IPART, Review of the NSW Rail Access Undertaking Final Report, May 2023
<https://www.ipart.nsw.gov.au/Home/Industries/Transport/Reviews/Rail-Access/Review-of-third-party-access-to-Rail-infrastructure-in-NSW>

Pacific National believes that the access framework should retain floor and ceiling provisions and that the publication of direct costs of maintaining service on each section can help reduce the occurrence of cross subsidisation. However, we question the need for IPART to start assessing the floor test as part of the compliance process given that IPART is not proposing to take action if prices don't meet the floor test.

During the Public Hearing IPART held on 29 November 2022 for the Review of the NSW Rail Access Undertaking, IPART said it was not proposing an enforcement role if prices don't meet the floor test. IPART did explain that the information could be used in the event of arbitration and that it may guide an arbitration decision so that prices aren't set below the direct and incremental costs of providing a service.⁴

Pacific National suggests that commencing a floor test compliance process is an unnecessary additional regulatory mechanism which is not required, and it imposes an unnecessary burden on access providers and access seekers. As noted in the Public Hearing, IPART is not intending to take an enforcement role, rather it is looking to gather this information in case it becomes useful in an arbitration. If this is the case, it would be preferable for the floor in a specific dispute to be examined at that time.

In terms of the regression analysis outlined in the Information Paper, our specific comments on its use to estimate the direct costs for coal trains are provided below, along with a discussion of its suitability to assess compliance with the NSW Rail Undertaking requirements.

We note that the regression is based on maintenance costs and gross-tonne kilometres and contains ten data points. While ten may be considered a lower bound for sample size, the model nonetheless appears to be a good statistical fit to the data. The p-value for the predictor variable 'track-km' is close to zero and for 'Billion gtk' it is 0.019 and still less than the significance level of 0.05. However beyond the mathematics we question the premise of combining Aurizon Central Queensland Coal Network (CQCN) data with NSW Hunter Valley coal system data to develop a maintenance cost function via linear regression.

Pacific National agrees with IPART's statement that measuring the direct cost of access is not straightforward.⁵ For example, there are different soil / terrain types and climate differences that impact the propensity for flooding and heat-stress on tracks and in turn influence the cost of maintenance. Other significant differences in the NSW and Queensland coal networks that impact the direct cost and maintenance both in terms of frequency and overall cost include:

- The Hunter Valley system is older track while CQCN is a more modern system.
- The CQCN includes electrified systems.

⁴ Public hearing transcript p 34 https://www.ipart.nsw.gov.au/sites/default/files/cm9_documents/Public-hearing-Agenda-Review-of-the-NSW-Rail-Access-Undertaking--29-November-2022.PDF

⁵ IPART Estimating the direct cost of rail access, January 2024, p 1

- NSW Hunter Valley has a higher proportion of mixed traffic including grain and passenger service, as well as coal. By contrast much of the CQCN has purpose-built coal corridors, although there is still some mixed-use.
- Queensland is a narrow gauge line while NSW is standard gauge.

These differences are explored below.

Age

The age and condition of older rail systems can mean high expenses are incurred in maintaining the rail infrastructure. There may be a need to include additional factors such as the age of the track in the regression data sets. Because age and corrosion impact on maintenance costs, accounting for the age of the track being maintained within in the regression model would improve the accuracy of the maintenance cost function.

It is reasonable to expect that some older assets (such as those in the Hunter Valley)⁶ may only still be in use due to continued high maintenance expenditure. This means the use of maintenance data from older tracks and systems could skew the regression results and inflate the maintenance cost function. This is not appropriate, particularly if IPART is considering using the data to estimate a floor price for other types of rail services beyond coal.

Electrification

Queensland has the largest electrified network in Australia, including a number of coal lines in the CQCN. The Goonyella and Blackwater systems that service the Bowen Basin coal region are electrified and maintenance of traction power is approximately 5% of total infrastructure maintenance costs.⁷ This is distinct from the Hunter Valley coal system that is not electrified and therefore has a different maintenance profile to CQCN.

Mixed-use traffic

Although the Hunter Valley rail network primarily carries coal it is also used by non-coal traffic, including passenger, general and bulk freight services such as grain.⁸ This differs somewhat to the CQCN that has less mixed-use and more purpose-built coal corridors. These distinctions create a different maintenance profile within the Queensland and NSW systems.

Narrow versus standard rail gauge

⁶ Hunter Valley coal is older than CQCN and rail track was first laid in the late 1800's. The CQCN is more modern and in many cases they are purpose-built coal tracks.

⁷ Deloitte, ARTC Operating and Maintenance Expenditure Analysis, September 2018
<https://www.accc.gov.au/system/files/ARTC%20Submission%20to%20ACCC%20Opex%20Review%20-%20Appendix%20B%20-%20Deloitte.pdf>

⁸ ACCC, Hunter Valley Coal Network Access Undertaking annual compliance November 2023
<https://www.accc.gov.au/system/files/ACCC%20Background%20and%20approach%20-%20Hunter%20Valley%20Annual%20Compliance%20%28Nov%202023%29.pdf?ref=0&download=y>

CQCN has a narrow gauge rail network configuration and this impacts the required level of maintenance compared to the standard gauge in CQCN.

Maintenance requirements are influenced by increases in axle loads as well as the frequency with which a load is applied. The standard rail gauge in NSW allows for higher axle loads and the operations of heavier trains in the Hunter Valley compared to CQCN. The differences in Tonne Axle Loads (TAL) are shown in Table 1.

Rail is subject to pressure and stress from the weight of trains passing over them and this can lead to fatigue and cracks in the metal. The higher axle loads in the Hunter Valley can therefore lead to reductions in the life of track components and can increase track maintenance costs.

Table 1: Tonne Axle Load (TAL) differences for narrow and standard rail gauges

Network/Corridor	TAL	Electric/Non Electric	Gauge
Aurizon / Blackwater	26t	Diesel Electric & Electric	Narrow
Aurizon / Goonyella	26t	Diesel Electric & Electric	Narrow
Aurizon / Newlands	26t	Diesel Electric	Narrow
ARTC / Hunter Valley	30t	Diesel Electric	Standard
ARTC / Gunnedah Basin	30t	Diesel Electric	Standard

Application of the maintenance cost function

There are issues with combining coal data from two disparate systems and it is questionable whether the resulting maintenance cost function could feasibly be applied to coal networks. It would also not be appropriate to use the coal regression outputs to estimate a floor price for other types of rail services such as passenger or lighter axle-load freight trains.

General maintenance costs on coal networks are likely to be higher than for other service types because of greater track degradation associated with coal services. Higher network utilisation in coal systems and heavier loads result in increased wear and maintenance to repair defects. In the Hunter Valley Network this is observed in the Turravan to Muswellbrook section where increasing utilisation and tonnage have increased maintenance costs

substantially.⁹ The maintenance demands from frequent loading and unloading of heavy coal loads can't be extrapolated to general or mixed freight or grain services.

Different rail services also have different cost profiles. This makes it difficult to apply one maintenance cost function uniformly across services. For example, lines with heavy coal tonnages are likely to have a higher proportion of variable cost compared to lighter axle-load freight and passenger trains.

The age of some of the older rail systems would also be a consideration. It would not be prudent to utilise a maintenance cost function with a high concentration of data points from older assets and apply this to more modern freight or passenger services.

Alternative regression results

The IPART information paper also considers using regression results from a QCA report: Working Paper 2 - Usage-related infrastructure maintenance costs in railways. The report was published in December 2000 and it evaluates the incremental maintenance costs of the Moura, Blackwater, Goonyella and Newlands systems.

Before using regression outputs from this report IPART would first need to assess the prudence of the cost data and confirm there was no risk of cross-subsidisation, given that 24 years ago these CQCN systems were run by a vertically integrated Queensland Government-owned company.

Cost outputs would also need to be adjusted to account for inflation and efficiency improvements since 2000. In recent decades technology has improved the way maintenance is undertaken and made it both safer and more cost-efficient.

It is questionable whether it would be appropriate to benchmark future and current maintenance floor costs against a 24 year-old report when forward-looking maintenance programs are increasingly utilising wireless monitoring, cost-effective predictive maintenance and data analytics to improve maintenance scheduling efficiencies.

Concluding comments

We again welcome the opportunity to engage on the proposed method used to calculate direct costs in assessing compliance with the NSW Rail Undertaking requirements.

We have noted a number of challenges associated with the use of regression model outputs to establish a range for the maintenance and direct cost rate that could be used in regulatory floor

⁹ Deloitte, ARTC Operating and Maintenance Expenditure Analysis, September 2018
<https://www.accc.gov.au/system/files/ARTC%20Submission%20to%20ACCC%20Opex%20Review%20-%20Appendix%20B%20-%20Deloitte.pdf>

tests. These challenges relate not only to the recent IPART regression model, but also the relatively old December 2000 QCA regression model.

We suggest that IPART considers whether the floor test compliance is imposing an unnecessary additional regulatory burden. Rather than floor pricing provisions, it is the ceiling we have legitimate concerns about, given that TAHE exceeded the ceiling test for many years and has not yet returned the over recovery.¹⁰

We trust you find the feedback in our submission useful. If you would like to discuss the contents please contact me on [REDACTED] or at [REDACTED]

Yours sincerely,

[REDACTED]

Susan Furze
Regulation Access & Policy Manager – Pacific National

¹⁰ A process has recently been developed for repayment and it is due to start July 2024.