National Transport Regulatory Reform Inquiry Draft Report

31 January 2020

Contents

Safety regulation

Aurizon appreciates the opportunity to provide a submission in response to the Productivity Commission's Draft Report of the Inquiry into National Transport Regulatory Reform.

The inclusion of Queensland under the Rail Safety National Law (RSNL) and the transition of regulatory functions to the Office of the National Rail Safety Regulator (ONRSR) was implemented less than two years ago in Queensland. In some important areas, new regulatory approaches and practices are continuing to evolve.

While recognising the relatively recent introduction of the regulatory arrangements in Queensland, an issue of concern to industry is that freight operators are continuing to experience inconsistency with the approaches taken to regulatory practice by Rail Safety Officers within and between states.

As the submission of the Australasian Railway Association (ARA) has noted, there are more than 80 differences, or derogations, in how the RSNL is applied in practice due to State Government preferences[1]. These differences result in additional requirements and costs for rail freight operators.

By way of example, Aurizon has to meet three different sets of regulatory requirements for fatigue management in three different states.

Inconsistencies with Drug and Alcohol Management Plans (DAMPs) remain despite extensive engagement with industry to develop approaches that we had understood were aimed at providing national consistency in these areas of regulation.

As the ARA has stated, where there are differences in regulation that add to costs and administrative requirements without demonstrating a clear benefit or rationale for the different requirements, this is not consistent with best practice regulation[2].

Although the problems with inconsistent approaches to regulation are an important issue that should be addressed, on balance Aurizon considers that the development and implementation of the ONRSR has been preferable to operating under the previous state-based arrangements. We recognise that the establishment of national safety regulation has led to some improvements. However, we have a concern that the inconsistencies outlined above may continue unless significant further improvements are made to regulation.

Further benefits, however, including productivity benefits, could be realised through improving the focus and remit of the regulator. We note the following observation from the Productivity Commission:

> "Participants that supported the idea of ONRSR having a productivity objective did not provide examples of actions by the regulator that materially affected industry productivity[3]."

In supporting the idea of the ONRSR having an extended remit that includes a productivity and innovation objective, the issue for Aurizon is not one of actions that have been taken by the regulator. Rather, we take the view that there are opportunities to contribute to productivity improvement in rail transport and that could be pursued but are not comprehensively pursued at present due to the limited remit of the regulator.

Including productivity and innovation within the remit of the regulator, together with safety, would better support practices and actions by industry that contribute to improved safety outcomes for the following reasons.

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[1] Australasian Railway Association Submission in response to the Productivity Commission's Draft Report, 15 January 2020, p. 4

[2] Ibid.

[3] Productivity Commission (2019), National Transport Regulatory Reform, Draft Report, p. 236.

- Many productivity and innovation developments also contribute to improved safety processes and practices, and in the absence of a remit to specifically consider productivity and innovation the potential safety benefits available might not be fully considered;

- Productivity improvements allow an organisation to perform more efficiently and improve its capacity to meet customer requirements efficiently, grow revenue and invest in safety and other improvements; and

- The 2018 Inquiry into National Freight and Supply Chain Priorities identified new technology, including digital train management systems, as an area that will significantly improve the capacity, performance and safety of railways in Australia[4]. Therefore, an integrated approach to recognising the benefits of new and emerging technology will help to ensure it is effectively utilised within the sector.

While it will not always be the case, these reasons highlight how, in many areas, actions taken to support safety priorities and actions to improve productivity are mutually reinforcing. We note that the remit of the Federal Railroad Administration (FRA) in the United States of American, as stated in the mission of the FRA, is to 'enable the safe, efficient and reliable movement of people and goods'[5].

There would be significant benefits available from having a regulatory body in Australia that continues to develop and improve safety regulation while also having a remit to identify and, where appropriate, to review barriers to innovation and productivity in the rail industry. We regard it as appropriate for this to be undertaken by ONRSR, noting that it would require appropriate changes to the governance and organisational structure of ONRSR.

We support the objective of the ONRSR to provide for 'co-regulation'. This objective would, if it were to be implemented, involve an approach where risks are managed by the parties best able to do so. It would allow operators some flexibility to manage risks relating to their organisations and stakeholders while adhering to core guiding principles. As stated above, however, in practice much of the application of the RSNL involves a focus by the regulator on the enforcement of prescriptive requirements with little or no opportunity given to operators to manage the identified risks.

Aurizon has contributed to, and endorses, the submissions made by the ARA to the National Transport Regulatory Reform Inquiry, including the analysis and conclusions of the ARA in relation to the National Rail Safety Law and ONRSR, and the comparisons made with heavy vehicle regulatory arrangements.

Aurizon also notes that there appears to be no effective coordinating mechanisms between ONRSR and National Heavy Vehicle Regulator to harmonise safety regulation across rail and road transport modes. In particular, fatigue management is an area where opportunities for harmonisation, and bringing the notion of 'co-regulation' to life have been missed.

If changes to the governance and organisational structure of ONRSR were to be considered, we suggest that changes aimed at improved regulatory practices and outcomes should include developing coordination mechanisms with the NHVR.

[4] Inquiry into National Freight and Supply Chain Priorities, Supporting Paper No. 3, *Road and Rail Freight*, March 2018, p. 17

[5] Federal Railroad Administration website: https://railroads.dot.gov/about-fra/about-fra

Access and Productivity

Aurizon's submission to the Issues Paper discussed whether there were additional substantive productivity benefits from reforming access regulation within the rail sector and from adopting a consistent approach to access regulation between competing modes.

The Draft Report appears to acknowledge that there are potentially issues in the productivity of the rail sector in relation to these two issues but does not expand on whether they are likely to be material and should be subject to a further detailed review. The extent to which the Commission addresses issues of rail access and its linkages to productivity can be contrasted with the extensive consideration, and dominance of heavy vehicle access and productivity evaluation within the Draft Report.

This imbalance in the report's assessment of access and productivity of the road and rail sectors and the impact of improving productivity of the former on the productivity of the latter appears largely due to the remit of the respective regulators. As the NHVR has functions and responsibilities across the areas of safety, access and productivity and ONSR's are limited to safety the Draft Report Terms of Reference appear restrictive on the Commission's balanced consideration of how effective transport regulation is at influencing innovation, competition, investment and productivity of the land freight transport sector. The approach also appears influenced by the relative benefits associated with the transport regulation reforms for the respective sectors as shown in figure 6.1 of the Draft Report as reproduced below:

Figure 1. Expected Benefits from the COAG Reforms (Table 6.1 from Draft Report)

Net present values ($billion)	
Heavy vehicles (over 20 years)	
Access for restricted access vehicles	7.0
Access for Higher Mass Limits vehicles	1.8
Intelligent Access Program	1.2
Fatigue – Chain of Responsibility	1.0
Other	1.4
Total heavy vehicles (over 20 years)[a]	**12.4**
Rail safety (over 10 years)	**0.028 to 0.071**
Domestic commercial vessels (over 20 years)	**0.102 to 0.126**

[a] Top down analysis, best bet scenario.

Sources: NAMSRS (2009, p. 10); NTC (2011a, p. 15, 2011b, p. v).

It is clear from the above table that the expected benefits from heavy vehicle reforms are predominantly associated with access management and are substantial relative to the expected benefits from the rail safety reforms.

A key, but overlooked, point in Aurizon's response to the Issues Paper is that the expected benefits from access reform in the rail sector and the associated productivity gains are largely uncertain and are underestimated in the absence of a detailed review of the drivers and barriers to investment and innovation in the rail sector. Importantly, a review should consider the net economic impacts on the rail sector associated with the reforms to heavy vehicle access management.

The Draft Report's conclusion in relation to the productivity issues arising from inconsistent and poorly designed rail access regulation is therefore constrained to an observation that:

> *If, on the other hand, there is a lack of progress on productivity related issues outside the scope of ONRSR's functions, there may be a range of potential solutions, depending on the specific*

> *problem. If transport policy were lagging in regard to rail, it would be useful to consider whether there were issues with decision making processes (that is, by COAG or its members), or with advice provided to policy makers (that is, by TIC or the NTC), or with the publication of data and research (that is, by the NTC, BITRE, and industry bodies), or with effective policy advocacy (that is, by industry bodies and others). If relevant areas of policy are being rigorously addressed, but the outcomes are disputed, it may be the case that further policy review and debate is required, rather than any institutional change.*

This section responds to the Commission's information request 10.1:

> *What productivity related issues could be better progressed in rail freight? What institutional arrangement would be valuable in driving the productivity agenda in rail, and if such changes involve the Office of the National Rail Safety Regulator, what would its role be?*

Improving efficiency in meeting the freight task requires efficient investment and utilisation of both road and rail infrastructure

Aurizon's response to the Issues Paper posited that the overarching transport policy goal where publicly funded roads compete directly with government owned freight rail corridors should be to optimise total public investment and benefits from the use of transport and supply chain infrastructure.

There is a range of policy and regulatory factors which contribute to the failure in meeting this objective. These appear largely assumed away with the Draft Report stating[6]:

> *it should be recognised that the choice of mode is a commercial decision, and government regulation should be neutral between transport modes.*

However, access management is not neutral between the two modes and the commercial decisions regarding modal choice do not promote the efficient investment, utilisation or operation of road or rail infrastructure.

Similarly, given the known negative externalities which are not evaluated in a commercial decision then it is highly debatable whether government regulation should be neutral between modes in all circumstances while material differences in access management remain (i.e. modal shift policy intervention is necessary where it is consistent with achieving the relevant efficiency objectives and it is in the public interest).

The continued absence of an effective heavy vehicle pricing and access management framework which reflects the locational costs of utilising specific road transport routes on the basis mass and distance will inevitably distort modal choice. Aurizon agrees with the Commission's statement that, "*much of the freight load on major routes is not contestable, and in many cases road and rail act as complementary modes of transport*". Nevertheless, the size of the freight task that is contestable is not insignificant and the lags in reforming road pricing and access management is increasing the cross-elasticity of freight tasks where rail has previously maintained inherent advantages.

In the absence of neutrality in the road and rail access management regulatory environments then the commercial decisions of modal choice will represent a market failure. This can be demonstrated by way of the following example which shows the trips required to transport 9,311 tonnes of grain (a standard train consist for grain).

[6] Productivity Commission (2019) National Transport Regulatory Reform, Draft Report, p. 28

Table 1. Rail and Road Trip Comparison for Agricultural Products

Configuration	Number of Trips
27.5M A-Double Truck	128
42M PBS A-Triple Truck	86
120 Wagon 24 Tonne Axle Load Train	1

Source: Department of Transport (Western Australia) Revitalising Agricultural Region Freight Strategy, Draft, p. 19

The modal shift from rail to road represents a material increase in the number of transport movements with consequential impacts:

- additional road maintenance costs that are greater than the marginal revenue from the common average network price in Heavy Vehicle prices;
- potential increase in road investment needed to add additional overtaking lanes;
- an increase in social marginal costs imposed on the community that are not recovered from the road operators;
- there is a reduction in utilisation of the existing rail infrastructure and loss of economies of scale and therefore lower capital productivity; and
- an increase in the budgetary pressure on rail infrastructure managers to raise rail access prices to recover fixed costs from remaining traffic.

Using a stylised example, the commodity is initially transported by rail where the rail service has a competitive advantage over the A-double truck. However, the introduction of the A-Triple induces a modal shift from rail to road. Considering this example, it is worthwhile returning to the Commission's question in chapter 6 of the Draft Report, '*Have the COAG reforms raised productivity?*'. Answering this question would therefore also require consideration of the following:

- what have been the effects of policy induced modal shift from rail to road from heavy vehicle access reforms;
- what impact has that modal shift had on rail productivity; and
- what is the net effect on the efficient investment in, and utilisation of, road and rail infrastructure?

As there has been no substantive analysis of changes of productivity within the rail sector exclusive of the heavy haul coal and iron ore networks it would be difficult for the Commission to reach any definitive conclusion regarding the extent to which COAG reforms have raised productivity. Furthermore, the exclusion of competition and access regulation reforms to the rail sector from the review process means that the Commission's assessment of COAG reforms in the areas of safety and access management for both road and rail sectors is incomplete.

There is an inherent bias in promoting productivity of the road sector due to the public provision of road infrastructure

There are several institutional and regulatory differences between road and rail infrastructure provision which hinders a more holistic assessment of land freight transport productivity impacts from regulatory reforms to access management. These are summarised below:

1. ***Infrastructure ownership***. Road infrastructure is typically funded through government expenditure subject to road agency budgets. Road infrastructure investment is then assessed against the achievement of public benefits rather than whether it provides an appropriate return on government investment in the road network.

   In contrast, rail networks are either corporatised government entities or privatised enterprises which have an explicit commercial imperative to earn commercial rates of return on investment in order to attract the necessary funding and capital from investment in capacity and innovation.

2. ***Data collection***. Rail network owners have a detailed understanding of the costs and revenues at a disaggregated network level and revenues can be directly attributable to costs which ensures that investments are made were the revenues support the associated increase in costs.

   Road network investment reflects engineering-based decisions on local pavement condition with poor data on asset utilisation and no observable or transparent relationship between funding, investment, costs or revenue. This is acknowledged within the Draft Report[7]:

   Data will also have a key role in future productivity reforms discussed earlier in this chapter. In heavy vehicle access management, data will provide local governments and asset owners with more information as to the number and sizes of the heavy vehicles operating on their roads, as well as the routes they take. This information enhances their capacity to make access decisions and allows governments to adequately plan and implement strategies aimed at improving the productivity of their road networks.

3. ***Risk Allocation***. Rail network users make long-lived, substantive and lumpy capital investment. Incentives to make the investments and innovation necessary to improve productivity therefore requires greater policy and regulatory certainty that the issues that have been identified with the management of road infrastructure over successive review processes will be addressed in a timely manner. Promoting the most efficient use of, and investment in, both road and rail infrastructure requires a complementary longer term focussed regulatory framework. Short term modal choice decisions can impair the achievement of longer-term efficiencies if the economies of scale cannot be obtained to support the investment needed to improve the productivity of rail.

Aurizon notes the Commission's observation that[8]:

> *However, some stakeholders have voiced concern about the apparent lack of data (or its use) by governments in their decision making. For example, the Australian Logistics Council stated that the lack of data is constraining the ability of governments to prioritise investments or to measure their impacts (ALC, sub. 12, p. 9).*

Aurizon considers data collection and analysis to be an essential component of evaluating whether reforms to access management have, or will, improve total economic welfare. In this regard, road access management arrangements in Australia can be contrasted with that of the United States of America which

[7] Productivity Commission (2019) National Transport Regulatory Reform, Draft Report, p. 362

[8] Ibid. p. 362

maintains access limits on interstate highways of 80,000 pounds in weight and no more than 28-foot trailers in length. Importantly, the U.S. Department of Transportation's Federal Highway Administration has recognised that a more scientific and data driven approach is necessary to evaluate the impacts of changes to these limits. To achieve this the National Academies of Sciences, Engineering, and Medicine has developed a research roadmap[9] which is inclusive of, among other research areas:

- Development of a truck traffic, weight, and configuration database from nationwide weigh-in-motion installations and other sources; and
- Development of a freight market model for estimating the effect of changes in truck size and weight regulations on shippers' choices of freight mode and truck size.

These research areas recognise that access management should be informed of the impacts of regulatory reforms at a disaggregated level and with regard to the total freight task, rather than macro level changes in heavy vehicle productivity. The policy rational for evaluation of modal shift impacts is stated as[10]:

> *Assessment of potential rail industry impacts has always been necessary in federal truck size and weight studies and has been a factor in legislative decisions on the regulations. These impacts are relevant particularly to the extent that highway user fees and taxes paid by freight-carrying trucks are not commensurate with the cost of providing highway facilities for them.*

The inherent bias towards improving road productivity through public sector investment is also apparent in the consideration of the barriers to technological innovation. The Draft Report address regulatory issues around transport technology and data across all modes. The discussion is predominantly road focussed with the Draft Report concluding in respect of rail that[11]:

> *the uptake of new technologies and its barriers are mostly an issue in heavy vehicles. In rail, a younger fleet and a risk-based regulatory regime are conducive to the use of new technologies.*

Aurizon supports this conclusion but considers the barriers to automation and technology in the rail sector are likely to be broader than safety. Importantly, there is likely to be a substantive range of issues arising from:

- technology harmonisation to ensure network interoperability;
- investment coordination in multi-user rail networks; and
- commercial and structural issues regarding distribution of costs and benefits.

These issues are either a direct or indirect outcome of competition policy and regulation. Similarly, the road and rail interfaces represent barriers to automation of rail networks. Addressing safety issues arising from automation would require investment by road agencies in the removal of the interfaces or the complementary investment in avoidance technology. Both of these options are outside of the control of rail network owners.

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[9] National Academies of Sciences, Engineering, and Medicine. 2019. Research to Support Evaluation of Truck Size and Weight Regulations. Washington, DC: The National Academies Press. https://doi.org/10.17226/25321.

[10] Ibid. p. 132

[11] Productivity Commission (2019) National Transport Regulatory Reform, Draft Report, p. 360

Heavy vehicle access reforms should be required to consider the economic costs of modal shift.

The Draft Report notes that[12]:

> *Regulatory measures which seek to shift more freight from road to rail are likely to be counterproductive by imposing large efficiency costs on freight transport and the community.*

The statement arises from the Commission's assessment that[13]:

> *As road and rail transport have different strengths, they are imperfect substitutes. Much of the freight load on major routes is not contestable, and in many cases road and rail act as complementary modes of transport. Where competition is possible, the relatively agile nature of road transport means that rail is unsuitable for all freight tasks and is less efficient when there is double and triple handling over relatively shorter distances. This makes it difficult to estimate the degree of substitutability, given that it is not possible to assume that all traffic observed on a highway could be replaced by rail.*

Aurizon supports the assumption that a substantial proportion of the land transport freight task is not contestable. This is to be expected given the geographical footprint of the road network is more expansive than that of the rail network. Nevertheless, outside of the coal and iron ore rail networks the degree of substitutability is likely to be higher than assumed by the Commission. The degree of substitutability will depend on the particular commodity and the specifics of the transport corridor. However, as discussed above, the absence of a locational multimodal freight flow model means that assessment of substitutability is typically based on industry wide estimates of cross-price elasticity.

The Commission is correct to be concerned about blunt policy instruments which seek to promote modal shift without consideration of the costs imposed where modal substitutability is not feasible. There is also limited evidence that blunt industry wide modal shift policies have been effective in achieving their desired policy objectives[14].

Despite these issues, the effects of modal complementarity on substitution are potentially overstated having regard to the Commission's modelling of the impacts of reforms undertaking in the 2007 Inquiry Report on Road and Rail Infrastructure Pricing. This report modelled two scenarios:

- a scenario where the heavy vehicle price for both articulated and non-articulated increased (referred to as the BTE approach). The modelling indicated that while rail modal share increased total rail volumes reduced due to a reduction in total freight demand.

- the alternate scenario (referred to as the FAC approach) reallocated costs to raise heavy vehicle prices for articulated trucks and lower freight rates for non-articulated trucks. This approach increases both total freight demand and rail's share of the total freight market.

The results of the FAC approach are not unsurprising given the vehicles configurations most likely to be involved in modal substitution are articulated trucks. Similarly, where there is complementarity between road and rail this will most likely involve non-articulated trucks and small articulated trucks in urban areas

The results are also representative of the modal shift outcomes that are attainable through more targeted modal shift policy. In this example, the targeted price increases to competing vehicles and reductions for

[12] Ibid, p. 29

[13] Ibid, p. 28

[14] www.europarl.europa.eu/RegData/etudes/STUD/2018/629182/IPOL_STU(2018)629182_EN.pdf

complementary vehicles allocates freight to the more efficient mode than the blunt policy of raising prices for all heavy vehicles.

Extending the principle of targeted modal shift policies, Aurizon considers that road agency assessments for approving higher mass and longer heavy vehicles should incorporate a modal shift assessment. That is, the assessment should include a public interest evaluation of the impacts of the granting the permit on the utilisation of rail infrastructure (where that infrastructure is either currently providing a rail transport service for that commodity or is capable of providing an alternate rail transport service).

The assessment process should therefore consider:

- the commodity being transported and the relevant freight market; and
- the impact of any change in the utilisation of rail infrastructure arising from the higher mass limits or increased vehicle length.

Aurizon considers this approach avoids the concerns identified by the Commissions and allows for locational and corridor specific evaluations to mitigate modal choice distortions. Similar requirements exist in the *Northern Australia Infrastructure Facility Investment Mandate Direction 2018* which requires the board to have regard to 'the potential effect of the Project on other infrastructure'. These review obligations would need to remain in place until heavy vehicle pricing reforms are fully implemented.

In addition to these arrangements, improved outcomes for consumers and producers will only be attained when investment, pricing and access regulation is evaluated at a transport corridor level and considers the allocative efficiency improvements from the optimal use of both road and rail infrastructure within that transport corridor.

There are significant but unquantified productivity and efficiency improvements available from improving and harmonising access regulation.

The Draft Report summarises the broad the COAG transport reforms in a broader regulatory context. This includes the Review of Rail Access Regimes undertaken by PWC on behalf of the Department of Infrastructure, Regional Development and Cities.

Aurizon's response to the Issues Paper noted the review's finding that further detailed study was necessary to quantify the benefits of harmonisation rail access regimes. There is considerable scope to achieve harmonisation of rail access through undertaking this more detailed inquiry. In this regard, Aurizon also identified that the various COAG objectives of a simpler and nationally consistent approach to rail access regulation has not been achieved. In addition, the lack of any detailed analysis of productivity changes across the rail freight industry or evaluation of the performance or effectiveness of those regulatory regimes means the benefits from regulatory reform will remain unquantified and uncertain. Notwithstanding, the productivity impacts can be demonstrated by the effects of regulation on investment incentives.

The Draft Report makes the point that '*Improving rail and heavy vehicle productivity requires considered, informed investment*'[15]. Poorly designed and administered access regulation can significantly affect industry participant incentives to make investments required to improve productivity. The concerns

[15] Productivity Commission (2019) National Transport Regulatory Reform, Draft Report, p. 327

regarding the impacts on investment of over or under regulation have been reviewed across various regulated network industries, such as gas pipelines.

Over-regulation which undercompensates the network owner can directly impact the incentives to make investments which expand the capacity of the facility or improve the operational efficiency of downstream users of the facility. The Commission has repeatedly cautioned over multiple reviews that the costs of underinvestment outweighs the those from overinvestment. This is particularly acute in export infrastructure where the costs associated with the higher incentive price for additional capacity investment is disproportionate to the substantial costs of congestion, lost revenue and lower output.

The productivity and efficiency impacts of congestion are identified by the Commission[16]:

> *One key example relates to congestion, which can reduce productivity in the freight transport sector by hindering access to ports and markets and increasing the time and cost of transporting goods.*

However, overly prescriptive regulation precludes network owners from efficiently responding to congestion as identified in the report to Prime Minister on Australia's Export Infrastructure[17]:

> *Regulators may be reluctant, for example, to allow price to rise in line with congestion, as this seems to confer 'windfall profits' on the asset owner. However, holding prices down as capacity constraints approach aggravates the problem: it allows demand to keep rising, and hence imposes the need for some more quantitative form of rationing; and it reduces the attractiveness to the asset owner of capacity expansion. This kind of regulation makes it more, rather than less, likely that bottlenecks will arise and persist.*

Furthermore, undercompensating regulated rail networks also reduces incentives to pursue innovation which is essential to longer term dynamic efficiency. This is consistent with economic literature that profits are a key driver of greater innovation in highly concentrated sectors such as monopoly services[18].

In contrast, the lack of effective information disclosure arrangements and longer-term planning and service quality frameworks on rail networks recovering less than full economic cost can reduce incentives for rail operators to make investment in new technologies and renew capital equipment.

In summary, Aurizon recommends that the Commission should acknowledge that:

- the design and application of access regulation reform to both the road and rail sector is inconsistent; and
- the impact of inconsistent of access regulation within and between modes on the productivity of the rail freight sector (excluding coal and iron ore networks) has not been formally evaluated.

Aurizon also recommends that these impacts should be subject to an independent review of the performance of rail access regulation to identify areas for removing barriers to productivity and lifting the productivity and performance of the sector. The Commission should include a recommendation to this effect in its final report.

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[16] Ibid, p. 343

[17] Exports and Infrastructure Taskforce (2005) Australia's Export Infrastructure: Report to the Prime Minister, p. 21

[18] Soames, L., Brunker, D. and Talgaswatta (2011) Competition, Innovation and Productivity in Australian Businesses, ABS Cat. No. 1351.0.55.035