Chapter 2

Current state of Australia's rail industry

2.1 The following chapter provides an overview of the current state of Australia's rail industry. In addition to outlining the role of the ARTC, the chapter reviews the level of progress that has been made in relation to the standardisation and harmonisation of Australia's rail network. The chapter also summarises the evidence provided by stakeholders regarding some of the issues currently impacting the rail industry, including the inefficiencies associated with competing standards, standards that differ across state borders and the need to increase efficiencies in freight haulage. The current level of importation – specifically in relation to equipment, knowledge, technology and skills – was also identified as a matter of concern by a number of industry stakeholders.

2.2 Industry stakeholders also pointed to some of the problems currently being experienced by the rail manufacturing sector. Issues of concern include increasing costs, procurement and local content guidelines, issues of scale, contracts and tender processes, changing state and federal governments and their respective policy and priority differences, as well as short-term planning processes. In addition to these complicating factors – which contribute to the 'peaks and troughs' experienced by the rail manufacturing sector and its workforce, and to the uncertainty around investment – stakeholders also reported a decline in skills-based training and a fall in the number of apprentices being employed across the sector.

Australia's rail industry

2.3 The significance of the rail industry (and the critical contribution it makes to Australia's economy) has, over recent years, been increasingly recognised. In 2014-15, approximately 1.2 billion net tonnes of freight – or 49 per cent of Australia's national freight task – was carried by rail. This is in addition to the 849 million urban heavy and light rail passenger journeys recorded over the same period.[1]

2.4 The Australian rail sector – supported by the rail manufacturing and construction industry – is currently in transition. Following a period of rapid growth – driven, in part, by the construction phase of the mining boom – the rail industry is currently moving to a more established market, sustained by the ongoing extraction-based phase of the mining boom. DIRD noted that this phase has enabled infrastructure operators and investors to make increasing use of global supply chains for rail products. DIRD also argued that spending by successive Commonwealth and

1 Department of Infrastructure and Regional Development, *Submission 14*, p. 2.

state governments (on both passenger and freight rail projects) has, in part, offset the decline from the construction phase of the mining boom.[2]

2.5 A 2016 IBISWorld report forecast that by the end of 2016-17, rail manufacturing sector revenue in Australia will have contracted significantly. The report also predicted, however, that given the expected increase in public sector spending and the need for ongoing maintenance services, the rail manufacturing industry can also expect some growth over the next five years.[3] It was also noted that between 2013-14 and 2019-20, the Commonwealth Government intends to invest over $4.4 billion on passenger rail projects and over $3.1 billion – which includes equity funded projects – on freight rail and intermodal projects.[4]

Crossroads

2.6 Stakeholders acknowledged that a strong, efficient and modern rail industry is central to Australia's transport infrastructure future. Stakeholders also agreed that the rail manufacturing sector is at a critical juncture, and the future of Australia's rail industry will depend on how the industry deals with the many challenges that are ahead.

2.7 Stakeholders agreed that given the right policy settings and cooperation across the sector, there is a strong possibility that the rail industry will have a strong and sustainable future. Stakeholders also acknowledged, however, that there is another, less favourable alternative – a continuation of the status quo – including grants and programs which focus on short term strategies and ad hoc government tenders. Preserving the status quo would, ultimately, make it increasingly difficult for domestic rail manufacturers to invest in capital expansion, innovation and research and development and would do nothing to remove the current barriers to increasing competition and productivity.[5]

Reviews and reports

2.8 Over recent years the rail industry and the rail manufacturing sector have been the subject of a number of reviews and reports. These reports have examined a range of issues including the current state of the industry, ways to increase global competitiveness, and the economic benefits of harmonisation. The following reviews and reports have been particularly influential and have informed debate across the industry. These reports were also cited in a number of the submissions provided by stakeholders.

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2 Department of Infrastructure and Regional Development, *Submission 14*, p. 2.

3 IBISWorld, *Railway Equipment Manufacturing and Repair in Australia: Market Research Report*, October 2016, cited in Department of Infrastructure and Regional Development, *Submission 14*, p. 9.

4 Department of Infrastructure and Regional Development, *Submission 14*, p. 2.

5 Rail Manufacturing CRC, *Submission 9*, p. 2.

The Taig Review

2.9 In 2012, as part of its funding agreement with the RISSB, the Commonwealth arranged for a review of RISSB's processes and activity to be conducted. The review was carried out by a specialist international consultant, Mr Tony Taig.[6]

On Track to 2040

2.10 The *On Track to 2040 – Preparing the Australian Rail Supply Industry for Challenges and Growth* report was also published in 2012. The review was commissioned by the former Department of Innovation Industry Science and Research (DIISR) and was funded by the Commonwealth and the state governments of New South Wales, Victoria and Queensland and the ARA on behalf of industry.[7]

2.11 The detailed consultation process undertaken across the rail industry during the review, the findings of which were set out in the *On Track to 2040* report, led to the formation of the RMCRC.[8] The review identified 80 opportunities for technological development in the rail manufacturing sector, which were subsequently organised into broad themes and ranked according to priority by the industry. The RMCRC's three strategic research themes – *Power and Propulsion, Materials and Manufacturing,* and *Design, Modelling and Simulation* – were also drawn from this list.[9]

CEDA – Advanced Manufacturing

2.12 In April 2014, the Committee for Economic Development of Australia (CEDA) released a report titled *Advanced Manufacturing: Beyond the production line*. The report examined where Australia's opportunities for advanced manufacturing lie and the ways in which these opportunities could play a role in supporting Australia's long-term growth. The report also included a proposed reform agenda, which outlined 14 key areas that should be addressed under the umbrella of an Advanced Manufacturing Industry Plan.[10]

IBISWorld Industry Report

2.13 The IBISWorld Industry Report, *Railway Equipment Manufacturing and Repair in Australia*, published in May 2015, provided an analysis of the issues impacting the rail industry, including economic and demographic factors, distribution

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6 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

7 Rail Manufacturing CRC, *Submission 9*, p. 1.

8 Participants in the Rail Manufacturing CRC include rail manufacturers such as Bombardier Transportation, OneSteel, Downer Rail, UGL and Faiveley Transport.

9 Rail Manufacturing CRC, *Submission 9*, p. 1.

10 Committee for Economic Development of Australia, *Advanced Manufacturing: Beyond the production line*, April 2014.

and supply chain factors and pricing issues. The report also reviewed emerging industry trends and identified a number of factors that could have a positive influence across the sector, including: increased demand for rail freight transport, more focused technical research and development and the achievement of economies of scope and scale.

Regulatory environment

2.14 Railways in Australia currently operate under a co-regulatory model adopted by the Commonwealth. The co-regulatory model takes into account the diversity in size and scope of Australian rail operations and promotes a co-operative approach to safety issues.

2.15 Under the current co-regulatory model, governments and industry have distinct but complementary roles. Governments are responsible for creating the legislative framework, while industry is responsible for safe railway operations and standards. The key elements and responsibilities under the model can be summarised as follows:

- Role of the Office of the National Rail Safety Regulator (ONRSR)
  - improving rail safety;
  - providing seamless national safety regulation;
  - enforcing regulatory compliance; and
  - decreasing regulatory burden on rail industry.
- Role of industry
  - to develop effective national standards and codes of practice that improve safety and efficiency in the industry.
- Role of individual rail company
  - each rail company is to develop and apply safety management systems (including standards) to ensure that their operations are managed to minimise risk.[11]

2.16 The fact that Australia's rail networks range across large areas – and frequently operate across multiple state access regimes – is in itself a barrier to productivity and growth according to a number of stakeholders.[12] Stakeholders also

11 Rail Industry Safety and Standards Board, *Submission 6*, p. 4.

12 See, for example Mr John Austen, *Submission 1,* Rail Industry Safety and Standards Board, *Submission 6,* CBH Group, *Submission 8,* Australian Manufacturing Workers' Union, *Submission 11* and Queensland Department of Transport and Main Roads, *Submission 15.*

provided evidence of situations where, in the face of decreasing rail performance standards, rail users are also required to meet increasing access fees.[13]

2.17 One rail user, the Cooperative Bulk Handling Group (CBH), submitted that the Western Australian grain industry is a significant contributor to the national economy. CBH argued that it is therefore essential that CBH (and Western Australian grain growers) have access to an efficient and cost effective inland transport network: to ensure that grain is available at port (as required by the market) and that Western Australia remains competitive with other international suppliers.[14]

2.18 CBH explained that in 2010-11, the company decided to pursue enhanced 'above rail' efficiencies by investing $175 million in new rolling stock – including locomotives and wagons – to be operated by a new above rail operator for the dedicated service of grain haulage. CBH's submission outlined its attempts to negotiate a long term 'below rail' access agreement and its efforts to access the Western Australian Grain Freight Rail Network (WAGFRN) under the Railways Access Code (Code) via the Economic Regulation Authority (ERA).

2.19 CBH told the committee that the process of obtaining access under the Code:

> …had a significant negative effect on the efficiency of CBH's operations, and has resulted in uncertainty and increased costs for CBH and its grain grower members. Not being able to secure long-term access on reasonable terms to a vital part of the grain supply chain has jeopardised the competitiveness of Western Australian grain growers, and their ability to transport their grain efficiently and effectively to highly competitive international markets.[15]

2.20 CBH indicated that in addition to having an impact on the competitiveness of the Western Australian grain industry, these types of situations reflect poorly on the "reputation of rail as an effective and efficient mode of transport".[16] Based on this experience, CBH argued that the current regulatory framework lacks consistency and the current price setting and performance monitoring systems are less than efficient. Further, it was argued that improvements in these areas are required to allow the movement of goods across Australia (and for export) to operate as efficiently as possible.[17]

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13 Cooperative Bulk Handling Group, *Submission 8,* [p. 3]. Also note: Western Australia's rail industry currently operates under a below rail access regime which provides for a third party operator to gain access to a network by operating its own rolling stock on that network. Under the WA regime, companies seeking to transport commodities on the rail line are charged access fees.

14 Cooperative Bulk Handling Group, *Submission 8,* [p. 1].

15 Cooperative Bulk Handling Group, *Submission 8,* [p. 2].

16 Cooperative Bulk Handling Group, *Submission 8,* [p. 2].

17 Cooperative Bulk Handling Group, *Submission 8,* [p. 3].

Standardisation and harmonisation

2.21 Evidence to the inquiry made it clear that the competitiveness of Australia's rail industry will depend on rolling stock manufactured in Australia being built to international standards. It was acknowledged that like a number of other Australian manufacturing sectors, when compared to the US and Europe, Australia's rail manufacturing sector is relatively small scale. The committee was told that, given the smaller market, it has become increasingly important for industry to optimise both the scale and volume of rail production. One of the key barriers to Australian rail manufacturers achieving this, however, is the lack of harmonised standards between states and territories.

2.22 As noted in the previous chapter, the lack of standardisation (or harmonisation) is just one of the historical legacies that characterise the Australian rail manufacturing industry. A fragmented rail system – across a number of states and territories – means that each state also has its own rail manufacturing economy to service its particular needs and operations. This translates to smaller markets – less for manufacturers to supply to – and limits manufacturers' ability to expand and compete globally.

2.23 It was argued that Australia's lack of standardisation serves as a de facto barrier to competition from export competitors. More significantly, however, it currently operates as a barrier to achieving scale and volume within the domestic rail rolling stock production industry.[18]

2.24 The 2012 review of the RISSB – the Taig Review – examined, amongst other things, the economic benefits of harmonisation. The review reported that at that time the total economic value added by the Australian rail industry was approximately $10 billion per year. The review also noted that while nationally, Australia's railway industry represents a large and important industry, by world standards it is a relatively modest player.[19]

2.25 It was submitted that due to the high cost of labour and the country's distance from overseas suppliers and markets, Australia's railway supply costs will never be competitively low. The current lack of harmonisation only adds to these costs. Estimates regarding costs in Australia vary, but they include interstate project expenditure and training which combine to create costs which are up to 2.5 times more than international competitors for train fleet procurement.[20] The Taig Review estimated that the lack of harmonisation adds:

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18 Rail Manufacturing CRC, *Submission 9*, p. 7.

19 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 13.

20 These costs range from an additional 4 to 5 per cent to any interstate project. They may also include several additional weeks training for train crews to maintain their qualifications.

> …somewhere between a few % and a few 10's of % to the cost of railway goods and services in Australia, and potentially substantially more where interoperability is at issue.[21]

2.26 More specifically, the Taig Review noted that a lack of harmonisation of standards impacts railway costs in two major ways:

- The already modest (by international standards) Australian rail market is fragmented into much smaller units. [Taig noted that one rolling stock manufacturer delivered 27 different structure gauges for Australian customers].
- Safe interoperability requires trains to carry equipment, and suitably trained and accredited staff, for every different infrastructure over which they operate (at a minimum of one for each major state). [Taig noted that until the ARTC National Train Communication was introduced and provided full coverage from Perth to Brisbane on the interstate network, multiple radio systems operated across different stages and infrastructure].[22]

2.27 Further, the review observed that should Australian railways continue at 2012 levels of activity, the industry may see some economic benefits from harmonisation. It was argued, however, that these benefits "would be magnified by current government and private sector plans to invest heavily in railways over the coming years and decades".[23]

2.28 The Taig Review concluded by asserting that it was a "fairly safe bet"[24] that any growth in rail traffic in most developed countries would be relatively modest, and between 2012 and 2032 there would be little change in these rail networks. In Australia, however, Taig argued that:

> …there is a serious and very exciting prospect that rail networks might double or treble in size over that period. There is a real opportunity, if harmonisation can be progressed quickly, to make the railways of the future considerably better value than those which exist at present.[25]

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21 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 13.

22 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 13.

23 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 14.

24 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 14.

25 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 14.

Role of the Australian Rail Track Corporation (ARTC)

2.29 As outlined in the previous chapter, trains first started operating in Australia when the country was still a group of separate colonies. The first train lines – which were initially limited to Sydney, Melbourne and Adelaide – only developed as people started to move further inland, and were primarily used to transport farm and mining produce to the coastal cities and ports and to send supplies back to inland communities.

2.30 As previously noted, when railway construction began, the engineers working on projects tended to favour the specific gauge system they were most familiar with. As train lines were expanded to include travel between states, both the train lines and the equipment were incompatible, resulting in passengers and freight frequently having to be transferred from one train to another at state borders. Over time, this issue was addressed, and mainland interstate lines were standardised to allow passengers and freight to travel between capital cities without the need to change trains.

2.31 In the 1990's the Commonwealth and state governments reached agreement regarding the creation of what was referred to as a 'one stop shop' for all operators wanting access to a standardised national interstate rail network and in 1997, the ARTC officially took on this role.[26] The ARTC is a government business enterprise, as described under section 5(2) of the *Public Governance, Performance and Accountability Act 2013*. It is currently responsible for managing over 8500 route kilometres of standard gauge interstate track in South Australia, Victoria, Western Australia, Queensland and New South Wales. ARTC also manages the Hunter Valley coal rail network and other regional rail links in New South Wales.[27]

2.32 Following its creation, the ARTC initially focused on infrastructure investment and the modernisation of the interstate rail network. The corporation was also heavily involved in building, extending and upgrading the rail track and bringing the network up to a safe, consistent and reliable operating standard. Following an initial period of major investment and significant network growth, the ARTC's focus shifted to include a role in the transport supply chain. The ARTC's mandate – through the Commonwealth – is to increase the freight volume carried on its network while at the same time, operating as a sustainable commercial enterprise.

2.33 Currently, the ARTC network supports industries and businesses that are of critical importance to the Australian economy by facilitating the movement of a range of commodities – including general freight, coal, iron ore (and other bulk minerals) as

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26 Australian Rail Track Corporation website: https://www.artc.com.au/about/our-history/, accessed 18 September 2017.

27 Australian Rail Track Corporation , *Submission 18,* p. 2.

well as agricultural products. The ARTC's network also plays a significant role in providing access for both interstate and inter-city passenger services.[28]

Role of the Rail Industry Safety and Standards Board (RISSB)

2.34 The 'Code Management Company', was originally established in June 2003. Renamed in 2007, it became the Rail Industry Safety and Standards Board (RISSB). Established under the ownership of the ARA, it was wholly owned by the ARA until March 2015 when the new Constitution and ownership arrangements were introduced. Ownership was recently transferred to the organisations which fund RISSB – including rail freight and passenger operators, track managers, suppliers and contractors.

2.35 Membership of the RISSB is open to all rail transport operators, both in Australia and overseas, as well as network owners, managers and contractors and suppliers to the rail industry. The RISSB currently has 43 members from all Australian rail sectors as well as overseas.

2.36 The RISSB was established by the rail industry for the purpose of developing a set of common rules and practices, standards and codes and to improve the safety and efficiency of rail traffic tasks. Specifically, under its Company Constitution, RISSB was established to:

(a) develop, manage and promote a suite of standards, rules, guidance materials and other documents, including the Australian Code of Practice (ACOP) and Australian Network Rules and Procedures (ANRP), to assist the rail industry to manage rail safety, improve efficiency and achieve safety outcomes through standardisation, interoperability and harmonisation;[29]

(b) develop a risk model for the Australian rail operating environment that is based on data and other inputs that will help drive safety improvements by guiding prioritisation of standards development and regulatory activity; and for use by the rail industry participants in directing their approach to safety management;

(c) provide independent technical advice; and

(d) undertake initiatives to support the rail industry's role in the co-regulatory model for rail safety in Australia.[30]

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28 Australian Rail Track Corporation website: https://www.artc.com.au/about/our-history/, accessed 18 September 2017 and Australian Rail Track Corporation , *Submission 18*, p. 2.

29 ACOP is the term used to describe company products, namely standards, codes of practice, rules and guidelines. ANRP is the master set of rules and procedures that define how Rail Transport Operators operate safely on the Australian Rail Network.

30 Rail Industry Safety and Standards Board, *Submission 6*, p. 1.

2.37 The RISSB noted that its membership acknowledge and recognise the major inefficiencies that have resulted from the "proliferation and use of differing standards across the industry".[31] The committee was also told, however, that the idea of mandating the adoption of new standards has been discussed extensively and the view of the industry is that "it would be impractical and counterproductive to mandate the adoption of standards and codes of practice across the industry".[32]

2.38 There are a number of areas where it is relatively simple to change the standards used. There are other areas, however, where significant expense would be involved in moving to a new standard. The industry, and the RISSB members therefore:

> …support the progressive voluntary adoption of standards and harmonised practices where individual companies consider that there is a business case for this change in their operation that takes account of the cost and benefit of such a change.[33]

2.39 The RISSB explained that the focus of its standards development work revolves around creating performance-based documents which are not prescriptive about the way to achieve an outcome, but rather focus on specifying the outcome itself. The RISSB argued that this approach "admits and encourages innovation and avoids entrenching specific technologies and products in the market" which fits with the industry's objective of "having a framework that promotes efficiency, improved productivity and the industry's competitiveness in the transport sector".[34]

Progress

2.40 The RISSB submitted that, at the time of providing its submission, the organisation had published approximately 46 per cent of the standards that the rail industry considers necessary, and were actively working on a further 27 per cent. It was noted that, at the current rate of development, it was expected that a full suite of standards would be completed in 2021-22.[35]

2.41 The 2012 Taig Review identified several areas where the RISSB's performance could be improved. The review also observed, however, that the RISSB's business model is relatively low cost, involves low financial risk, and has delivered good value for money (when compared to other alternative, transport-focused standards development models).[36]

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31 Rail Industry Safety and Standards Board, *Submission 6*, p. 2.

32 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

33 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

34 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

35 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

36 Rail Industry Safety and Standards Board, *Submission 6*, p. 3.

2.42 In addition, the Taig Review also concluded that:

> A good overall measure of RISSB's performance is that everyone consulted during this review, including the harshest of critics of its standards products, considers that RISSB has achieved a great deal more than its predecessors in bringing industry together and creating an environment in which practices are shared openly and harmonised standards can and do develop. The strong general view is thus that governments and the industry should build on RISSB in addressing the issues identified above, rather than starting again with something different.[37]

2.43 In evidence, Mr Paul Daly, Chief Executive Officer of the RISSB, was asked whether he was satisfied with the progress that had been made in relation to harmonisation. Mr Daly indicated that he had been the RISSB's Chief Executive Officer for approximately 18 months, and told the committee that:

> When I first started with RISSB, I would talk to industry—we were going through the transition at the time—and my own staff and ask them for their views on how RISSB in particular and [how] the standards were going. We were taking anywhere between three and five years to build a standard. My view of that was that, if it takes us five years to build a standard, industry does not need that standard. So we heavily revamped our processes. We have taken it from what some in the industry saw as an organic process into a project management process. It must be done. Industry wants a standard or a guideline on something. We have to build it in accordance with our standards development organisational area but for the needs of industry. We have been very happy with the take-up and buy-in from industry, in the last two years at least, as we have developed more efficient standard development processes so that we get it to within 12 months of when they ask for it.
>
> The second thing we are now also doing is trying to look in front of the curve. We are asking industry not what they need right now but what they need in the next 12 months, two years and five years. That is helping us a lot. We are not getting industry coming to us saying: 'We're about to build a tunnel. We have known for five years we've needed to build this tunnel and we're about to start the digging. Why don't we have standards for tunnels in rail?'[38]

37 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 3.

38 Mr Paul Daly, Rail Industry Safety and Standards Board, *Committee Hansard*, 30 August 2017, p. 2.

Procurement and local content guidelines

2.44 It has been estimated that over the next 30 years, state governments will spend approximately $30 billion on the procurement of heavy rail passenger rolling stock, to meet the increasing needs of public transport and replace ageing fleets.[39]

2.45 As part of its inquiry, the committee received evidence regarding procurement processes and their impact on the rail industry. Submitters pointed to the impact that content requirements, government procurement policies and procurement demand can have on the manufacture of rolling stock and rail products, the stability of the workforce and the sustainability of the industry.

2.46 A number of stakeholders were critical of current Commonwealth and state procurement and local content guidelines.[40] Those critics included Mr Phillip Walters, a 30 year veteran of the locomotive and passenger railcar manufacturing industry. Mr Walters argued that as the current NSW State Government has no local content policy, its procurement policy demands that a large number of rail cars be built and delivered in a relatively short period of time – a situation which encourages local manufacturers to source rail cars from South Korea and China. Mr Walters told the committee that:

> Governments need to consider smoothing out their procurement demands, instead of a huge peak in demand and then an equally big downturn at the contract end, a constant steady build program and a well thought out local content policy would encourage manufacturers to invest in new, more efficient equipment and processes and allow efficiencies due to a constant steady build program.[41]

2.47 Further, Mr Walters argued that the development of procurement and local content guidelines, and the roll-out of a steady build program, would provide consistent employment for rail manufacturing workers, and save local families from the stress and trauma of retrenchment and unemployment.[42]

2.48 Mr Walters also pointed to the suggestion that the Australian rail industry is planning to spend many billions of dollars on the procurement of rolling stock over coming years, and asked the question:

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39 Australasian Railway Association, *Opportunities for Greater Passenger Rolling Stock Procurement Efficiency*, September 2013, p. 4.

40 See, for example, Mr Shaun Goss, *Submission 3,* [p. 1], Mr Darren Mitchell, *Submission 4,* [p. 1], Mr Phillip Walters, *Submission 5,* Rail Industry Safety and Standards Board, *Submission 6,* Australasian Railway Association, *Submission 7,* Rail Manufacturing CRC, *Submission 9,* and Australian Workers' Union, *Submission 12.*

41 Mr Phillip Walters, *Submission 5*, [p. 1].

42 Mr Phillip Walters, *Submission 5*, [p. 1].

> Should we invest in overseas manufacture and see all of the benefits it will bring them or invest in Australian manufacture and reap the rewards that a smart country that makes thing[s] deserves?[43]

2.49 It was noted that Victoria has been proactive in developing local content and procurement guidelines. Submitters also argued that by requiring a percentage of local content in the manufacture of rolling stock and rail products, benefits are passed on across the entire industry and beyond. It was argued that greater harmonisation of best-practice procurement and local content guidelines can also reduce the cost burden.

2.50 The Australia Institute's Centre for Future Work (CFW), argued that awarding railway equipment procurement contracts to Australian-based suppliers:

> …generates significant direct and indirect economic benefits, including a significant fiscal return to government itself. These second-order effects must be considered in awarding procurement contracts, in order to best maximize the comprehensive net benefits to Australians of those decisions.[44]

The need for national coordination

2.51 In evidence, the RISSB's Chief Executive Officer, Mr Paul Daly told the committee that one of the issues currently impacting on the rail industry was the way in which governments approach procurement. Mr Daly asserted that the purchases that governments propose, and the financial outlay they intend to make, can have a major influence on what future rolling stock will look like – including standards, specifications and suppliers. Further, he noted that:

> What we do have at the moment is a series of state governments procuring in a silo type environment rather than an overarching procurement strategy, of which harmonisation of the specifications would be a part.[45]

2.52 The CFW told the committee that its analysis of Australia's rail industry clearly showed that the net increase in government sector revenue (associated with domestic sourcing) is shared between the two levels of government. However, most decisions over procurement sourcing are only made by one level of government – the state.[46]

2.53 The CFW contended that this situation creates a "potential irrationality in decision-making". Expanding on this argument, it noted that a decision made by a state government regarding whether to purchase overseas or domestically, has major

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43 Mr Phillip Walters, *Submission 5*, [p. 1].

44 The Australia Institute, Centre for Future Work, *Submission 10*, p. 3.

45 Mr Paul Daly, Rail Industry Safety and Standards Board, *Committee Hansard*, 30 August 2017, p. 4.

46 The Australia Institute, Centre for Future Work, *Submission 10*, p. 13.

financial implications for the Commonwealth government, which, it argued "supports the procurement in the first place (with both current fiscal transfers and targeted capital subsidies) but does not control sourcing decisions". Further it was argued that:

> This artificial separation of cost from benefit makes it more likely that inefficient decisions will be made by government – especially one motivated by single-minded focus on minimizing current expenditures, regardless of the damage to national economic well-being.[47]

2.54 The committee was also told that there are a number of reasons why it is vital that procurement decisions are coordinated across the various levels of government. It was argued, for example, that the benefits of domestic sourcing "can spill over to other jurisdictions". Additionally, the collective impact of sourcing decisions made by multiple governments "would have an important cumulative effect on the efficiency and competitiveness of the entire Australian railway equipment manufacturing sector".[48]

2.55 The CFW cited research by Deloitte Access Economics which suggested that better coordination of procurement would result in a more stable flow of work – instead of the 'lumpy' patterns of work typical of past procurement practice – and could facilitate cost improvements of more than 20 per cent.[49]

2.56 The CFW also submitted that decisions by individual state governments exacerbate what it described as an "irrational fragmentation of decision-making". It asked the committee to consider the ramifications of a recent decision made by the NSW Government to "unilaterally offshore sourcing of major new passenger rail purchases [to South Korea]".[50] The CFW argued that:

> The loss of potential economies of scale, and efficiencies in scheduling, as a result of this major offshore sourcing constitutes an external burden imposed on the national railway equipment manufacturing industry by the NSW decision. Australian railway equipment manufacturing has already lost about 40 per cent of its employment in the last decade, in large part because of the growing penetration of imported equipment during that time. Given the challenges and uncertainty that have faced all manufacturers in Australia in recent years, and the potential vulnerability of entire clusters of industry to loss of critical mass, decisions by individual state governments to shift more work to offshore suppliers, without adequate consideration of the fully integrated costs and benefits of its actions, are all the more lamentable.[51]

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47 The Australia Institute, Centre for Future Work, *Submission 10*, p. 13.

48 The Australia Institute, Centre for Future Work, *Submission 10*, p. 14.

49 The Australia Institute, Centre for Future Work, *Submission 10*, p. 14.

50 The Australia Institute, Centre for Future Work, *Submission 10*, p. 14.

51 The Australia Institute, Centre for Future Work, *Submission 10*, p. 14-15.

Issues which have an impact of competitiveness, productivity and growth

2.57 In addition to the issues around harmonisation and procurement and local content guidelines, stakeholders also identified a number of other issues which currently act as barriers to productivity, or restrict competitiveness and growth in the rail sector.

Issues of scale

2.58 The commercial viability of the rail sector is very much dependent on its ability to achieve significant economies of scale and freight density. Given Australia's size and its low and widely dispersed population, one of the primary challenges for rail – particularly the non-mining networks – is in achieving economies of scale. Rail is very much suited to high volume, bulk commodities generally transported over long and shorter distances. One of the strengths of rail industry is that it has traditionally been the chosen mode of transport for the freight market – particularly for high-volume products such as agricultural and mining commodities.[52]

2.59 In terms of the provision of non-bulk freight services, rail is also generally more suited to longer haul distances. This is the case largely because of the need to offset the additional handling to facilitate inter-modal operations and the use of 'pick up' and 'delivery' freight movements between rail terminals and customer facilities. It is within this segment particularly that road freight has been successful in capturing market share from rail over shorter distances. This has largely been realised through the introduction of larger, higher productivity vehicles which can be accommodated on our national highways following decades of sustained, high value road investment.

Impact of state policy and priority differences

2.60 The need for consistency of policy across both Commonwealth and state governments was raised by a number of stakeholders.[53] It was noted that Australian rail manufacturing – particularly small regional manufacturers would benefit from a national manufacturing framework for the rail industry. As pointed out in Lovells Springs' submission, without a united approach and united support for local manufacturing, politics can have a significant impact on local manufacturing companies.[54]

2.61 Lovells explained that the last NSW Labor Government commissioned Australian-made passenger rolling stock for the extended Sydney electrified network – the Oscar Project – through primary contractor UGL. With some financial assistance

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52 Australian Rail Track Corporation , *Submission 18,* p. 3.

53 See, for example, Mr Phillip Walters, *Submission 5*, Rail Industry Safety and Standards Board, *Submission 6*, Australasian Railway Association, *Submission 7*, Rail Manufacturing CRC, *Submission 9,* and Centre for Future Work, *Submission 10*.

54 Lovells Springs Pty Ltd, *Submission 20,* [p. 3].

from the state government at the time, Lovells set up a new manufacturing facility: Lovells Technology Pty Ltd.[55]

2.62 The committee was told that, as a subcontractor for the Oscar passenger fleet, Lovells produced the wiring harnesses and electrical sub-assemblies for UGL. Lovells told the committee that this situation changed and:

> When the current Liberal government was elected they scrapped the project leaving Lovells with a $1.5m net loss with no compensation. The facility, employing 26 people was closed by Lovells immediately.[56]

2.63 Lovells argued that Australia as a whole can only support one world-scale passenger rail car manufacturer, but noted that our "federal structure makes this very hard to organise, with Federal-State and State-State cooperation non-existent".[57]

Manufacturing standards

2.64 As previously noted, the history of Australia's rail industry has led to the current diversity of rail operating environments. The industry has, therefore, adopted a process of progressive reform and standardisation.

2.65 The ARTC pointed to the fact that the rail industry has 'significantly matured' over the past five years and argued that the establishment of the ONRSR and the RISSB have played an important part in harmonising standards.

2.66 The ARTC indicated that it is generally supportive of a national, coordinated approach to rail manufacturing standards. The Corporation also made clear, however, that while it acknowledges the potential safety and efficiency benefits that come with standardisation and harmonisation, it is of the view that manufacturing standards need to be flexible to ensure cost effectiveness. It also argued that standards should be economically sound, practically feasible and not inhibit innovation.[58]

2.67 Further, the ARTC submitted that freight rail in Australia includes a large component of interstate freight movement, but the ease of these freight movements for above rail operators is often complicated by different state approaches to access, environment and operations. The ARTC therefore supports efforts to accelerate streamlining of the multiple rules, regulations and legislation which apply – often on the one rail track. The ARTC also indicated that it would back any proposed review to develop a scope of work to harmonise and streamline Australian freight rail legislation and regulation.[59]

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55 Lovells Springs Pty Ltd, *Submission 20,* [p. 3].

56 Lovells Springs Pty Ltd, *Submission 20,* [p. 3].

57 Lovells Springs Pty Ltd, *Submission 20,* [p. 3].

58 Australian Rail Track Corporation , *Submission 18,* pp 2 and 4.

59 Australian Rail Track Corporation , *Submission 18,* p. 4.

2.68 The ARTC also submitted that issues around technological advancement – including information technology systems – also need to be taken into account as part of any nationally coordinated approach. It was argued that it is important that the legacy issues currently impacting the rail industry (ie around track gauges) do not "manifest in a different form because of the adoption of one technology by a company which poses challenges across the supply-chain".[60]

2.69 It was also suggested by the ARTC that:

> By having a coordinated approach we will ensure operations aren't stifled by incompatible systems causing inefficiencies in the supply chain and extra costs to all users. In order to promote equality of access to information technology systems, there must be cooperative agreements between jurisdictions and business in the logistics space. Through the application and adoption of common standards, including the harmonisation of guidelines and policies, rail based technological solutions can support an effective connection between rail track owners and operators.[61]

Peaks and troughs

2.70 The inquiry heard that Australia's rail industry – particularly the public transport wagon manufacturing sector – has historically operated on a 'boom and bust' or 'lumpy' cycle with very high volume production years sometimes followed by years where no orders are sought at all.[62]

2.71 In recent times, the rail manufacturing sector has been shaped by the lack of a strong pipeline of investment in the manufacture of rolling stock. It was noted that this lack of investment and certainty has been a key contributor to low levels of innovation and R&D investment. The RMCRC told the committee that:

> …the ad hoc and uncoordinated approach to rolling stock orders creates uncertainty through a 'stop-start' cycle of production. This short-term horizon represents a disincentive for businesses to invest in expensive capital equipment and the application of increased R&D.[63]

2.72 The RMCRC also noted, however, that even with current evidence of a continuous, strong pipeline of projects and a renewed interest in rail transport – to address urban congestion and future environmental challenges – business confidence is still not high.[64]

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60 Australian Rail Track Corporation , *Submission 18,* p. 4.

61 Australian Rail Track Corporation , *Submission 18,* pp 4 and 5.

62 Australian Manufacturing Workers' Union, *Submission 11*, p. 14.

63 Rail Manufacturing CRC, *Submission 9*, p. 5.

64 Rail Manufacturing CRC, *Submission 9*, p. 5.

2.73 The AMWU referred to the ARA's 2013 assessment of future orders of both single and double-deck wagons (of both the legacy and new generation types). The ARA predicted that under the current fragmented model of procurement, local manufacturers will continue to experience 'boom and bust' "until very large order volumes start to arrive". By this time, the AMWU argued, the local manufacturing industry may well be lost to a full import model.[65]

2.74 In addition to decreased business confidence, the uncertainty around future contracts has also led to decreased investment – particularly in new technology. The RMCRC identified a lack of in-house R&D expertise in rail manufacturing businesses, which, it was argued, has created barriers to innovation and has become a significant challenge to governments which are seeking to promote and encourage innovation.[66]

Import of rail equipment

2.75 Australia is currently a net importer of rail equipment. According to an IBISWorld report, in 2014-15, the value of imports in this sector was $1.4 billion, while the value of exports was $98.8 million.[67] The RMCRC indicated that imports of rail equipment are predicted to grow at approximately 13.1 per cent over the next five years. Exports, however, are smaller and it is anticipated that they will remain consistent with the past five years – at approximately 2.9 per cent.[68]

2.76 Stakeholders stressed that the purchase of less expensive imports – at the expense of our own manufacturing industry – has only created another level of problems for the rail industry. The committee was told, for example, that imported rolling stock often did not represent value for money. There had been reports of poor quality, equipment requiring modification to meet Australian needs and significant costs associated with maintenance of imported equipment – including rolling stock.

2.77 Submissions provided by experienced rail workers told the committee that while imported rolling stock may be less expensive, when it comes to the quality of the product "you get what you pay for".[69]

2.78 Stakeholders also indicated that in addition to a lack of quality, imports frequently required expensive modifications to meet Australian requirements and standards. A number of problems (associated with the maintenance of imported equipment) have also been reported.

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65 Australian Manufacturing Workers' Union, *Submission 11*, p. 14.

66 Rail Manufacturing CRC, *Submission 9*, p. 6.

67 IBISWorld Industry Report C2393, *Railway Equipment Manufacturing and Repair in Australia*, May 2015, cited in Rail Manufacturing CRC, *Submission 9*, p. 5.

68 Rail Manufacturing CRC, *Submission 9*, p. 5.

69 Mr Shaun Goss, *Submission 3*, [p. 1].

2.79 Mr Amedeo D'Aprano, an Industrial Officer with the Australian Rail Tram and Bus Industry Union (ARTBIU) also raised concerns about the quality of imported products. Mr D'Aprano told the committee that union members had seen, first hand, the "pitfalls" of government procurement policies "that do not put Australian skills, jobs and quality assurance first".[70] The union's concerns were based on the fact that imported trains had been found to have various problems. The problems identified included, but were not limited to, "poor design that does not suit Australian conditions, manufacturing defects and the use of asbestos."[71]

2.80 The ARTBIU representative pointed to the example of the NSW Government's order of Waratah passenger trains from China, which, he noted, ran 18 months late and was plagued by cost overruns. Some of the problems identified in these trains were:

> …windscreen visibility issues, including screens that went milky when facing late afternoon sun; doors that could not open when the windows were down, potentially preventing emergency evacuations; computer screens in the driver's cabin and guard compartment that had an unacceptable level of glare; and exposed wiring.[72]

2.81 A second example provided by Mr D'Aprano involved an order of Comeng LHB bogies that were manufactured in India, prior to being shipped to Australia for installation by Alstom. The bogies arrived with a multitude of issues that put the project out by over six months, and the problems identified included: "buckled frames, holes in wrong locations and bogies out of height with the specifications". Mr D'Aprano also noted that there have frequently been problems with safety standards:

> ….we have experienced numerous instances where asbestos has been imported from countries where restrictions and regulations are not in line with Australia's standards, ultimately exposing Australians to risks that we work so hard to control. When we source trains from overseas suppliers we not only sacrifice local jobs and opportunities for our own economy; we sacrifice safety and put lives at risk through poorer standards.[73]

2.82 The Lovells Springs company – an Australian manufacturer of suspension systems and components for the rail industry – submitted that the rail industry currently represents approximately 30 per cent of its domestic demand. This figure was, however, as high as 60 per cent only five years ago. It was explained that the significant fall in rail business is due to the almost complete cessation of new-build

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70 Mr Amedeo D'Aprano, Australian Rail Tram and Bus Industry Union, *Committee Hansard,* 16 June 2017, p. 8.

71 Mr Amedeo D'Aprano, Australian Rail Tram and Bus Industry Union, *Committee Hansard,* 16 June 2017, p. 8.

72 Mr Amedeo D'Aprano, Australian Rail Tram and Bus Industry Union, *Committee Hansard,* 16 June 2017, p. 8.

73 Mr Amedeo D'Aprano, Australian Rail Tram and Bus Industry Union, *Committee Hansard,* 16 June 2017, p. 8.

rolling stock manufacture in Australia over that time. Lovells argued that the rolling stock suspension components it manufactures – using locally produced steel – are equal to, or superior, to any sourced internationally, and told the committee that the company is:

> …regularly called upon, at short notice, to produce many thousand springs to replace failed or failing imported springs.[74]

2.83 While Australia's historical position as an importer of rail equipment was acknowledged, stakeholders were also in fierce agreement that an efficient, modern and resilient rail industry will play a vital part in Australia's transport infrastructure future. For this future to be realised, however, stakeholders argued that the purchase of imported equipment and components – particularly on the manufacturing sector – needs to be addressed.

Workforce issues

2.84 Historically, the rail sector has provided employment for a large number of Australians. The rail network – including rail freight and passenger movements provides employment for a significant number of people in rural and regional areas. In addition, the rail manufacturing industry has traditionally also been a source of employment, apprenticeships and for young Australians across a large number of trades and engineering disciplines.

2.85 The committee received a number of submissions which raised concerns about the loss of employment, traineeships and apprenticeships for Australians in the rail industry.[75]

2.86 In his submission, rail industry worker and AMWU delegate, Mr Andrew Peach, told the committee that since the 1980's – when he completed his own electrical trade apprenticeship – there has been a significant drop in the number of apprenticeships being offered. Mr Peach argued that the industry is facing a "siphon of knowledge" as tradespeople retire and are not replaced, and skills, knowledge and experience are not being passed on.[76]

2.87 The Lovells Springs company stressed the importance of Australia maintaining a technical skills training capability. The committee was told, for example that the company's employees are often called upon to offer technical support to

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74 Lovells Springs Pty Ltd, *Submission 20*, [p. 2].

75 See, for example, Mr Andrew Peach, *Submission 2*, [p. 1], Mr Shaun Goss, *Submission 3*, [p. 1], Mr Darren Mitchell, *Submission 4*, [p. 1], Mr Phillip Walters, *Submission 5*, [p. 1], Rail Manufacturing CRC, *Submission 9*, Centre for Future Work, *Submission 10*, Australian Manufacturing Workers' Union, *Submission 11* and Victorian Department of Economic Development, Jobs, Transport and Resources, *Submission 19*.

76 Mr Andrew Peach, *Submission 2*, [p. 1].

Australian rail fleet suppliers and operators on suspension matters – something it frequently does at no charge.

2.88 Noting that the loss of the civilian ship building, car production and white goods manufacturing sectors is already having an impact on Australia's capacity to train young people in technical skills, Lovells argued that it is "proud of its record of building all its equipment and writing all its software in house" which has allowed it to:

> …[train] many young people to be first class technicians and tradespeople in Industrial Automation, Combustion Engineering, Hydraulics and Pneumatics, Process Control and Toolmaking.[77]

Regional investment

2.89 The rail industry is a significant source of employment – particularly in rural and regional Australia. It is noted, for example, that a large proportion of the 1200 people employed by ARTC work in rural and regional areas. There are also a number of additional benefits which flow from the investment and employment the ARTC provides to these regional communities:

> Maintenance and construction works for example, directly support regional businesses to the tune of more than $200 million a year, through everything from using local contract labour, to hire companies, quarries, service stations, local shops, cafes, accommodation and office supplies.[78]

2.90 The ARTC also advised that while the investment provided supports local jobs and businesses, it also provides a "vital lifeline for many of these communities – the rail line itself – [which] remains safe and continues to be upgraded". As part of its social engagement, the ARTC participates in, and supports a number of community and rail safety initiatives and has made a conscious effort to develop positive relationships with rural and regional councils.[79]

2.91 The Adelaide to Tarcoola Upgrade Acceleration Project, the Inland Rail Project and the Murray Basin Freight Rail Project are examples of projects that are currently being undertaken across Australia, and which will have positive outcomes for rural and regional communities.

Adelaide to Tarcoola Upgrade Acceleration Project[80]

2.92 With the assistance of Commonwealth funding, the ARTC has brought forward a major package of re-railing upgrade work to improve the capability of the

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77 Lovells Springs Pty Ltd, *Submission 20,* [p. 2].

78 Australian Rail Track Corporation , *Submission 18,* p. 2.

79 Australian Rail Track Corporation , *Submission 18,* p. 3.

80 Australian Rail Track Corporation , *Submission 18,* p. 3 and Department of Infrastructure and Regional Development, *Submission 14*, pp 7-8.

rail line between Adelaide and Tarcoola in South Australia. The project – which has been assessed by Infrastructure Australia as a 'high priority' – involves the upgrade of the rail track. This network supports intermodal traffic to and from Western Australia, in addition to a substantial amount of heavy minerals rail freight. It is envisaged that the project – which will cost approximately $252 million – will allow for higher axle loads and increase the rail size along the interstate line which will improve the line's capacity.

2.93 In addition to the infrastructure improvements, this project will:

- create and support a number of jobs in regional South Australia;
- directly support steel manufacturing (with over 70 000 tonnes of Australian-made Whyalla steel rail to be delivered as part of this project); and
- create 130 direct jobs at the ARTC's welding facility at Spencer Junction in Port Augusta (and in construction and project management jobs to deliver the re-railing itself over the next few years).

2.94 Further, the ARTC argued that with additional government investment, there may be opportunities for the Adelaide to Tarcoola re-railing project to be extended as part of a broader program of works.

The Inland Rail Project[81]

2.95 The Inland Rail Project, which is currently on the Commonwealth's forward infrastructure agenda, would also provide benefits to regional communities. The Inland Rail will link Melbourne with Brisbane through regional Victoria, New South Wales and Queensland.

2.96 The project is described as "an important strategic investment in Australia's infrastructure capability"[82] which would:

- provide the capacity to serve the east coast freight market for the next fifty years;
- enhance productivity;
- increase consumer freight chain options; and
- open up new export markets and employment opportunities for areas of rural and regional Australia.[83]

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81 Australian Rail Track Corporation , *Submission 18,* p. 3 and Department of Infrastructure and Regional Development, *Submission 14*, p. 8.

82 Australian Rail Track Corporation , *Submission 18,* p. 3.

83 Australian Rail Track Corporation , *Submission 18,* p. 3.

2.97 The Commonwealth has committed a total of $893.7 million toward the development of the Inland Rail. The funding is made up of $300 million for preconstruction activities, with a further $593.7 million in equity for the ARTC to make the project construction ready, including land acquisition.

2.98 As of January 2017, $137.07 million has been provided to the ARTC to continue preconstruction and development work including detailed reference design, environmental assessments, alignment studies and stakeholder engagement activities.[84]

2.99 It is noted that the majority of the construction and capital expenditure related to the project will happen in regional areas. In terms of employment, ARTC estimate that the project will create up to 16 000 direct jobs during construction, and an average of 600 jobs per year when the Inland Rail becomes operational.

Murray Basin Freight Rail Project[85]

2.100 The Commonwealth is committing $220 million toward a $440 million project to upgrade the Murray Basin Freight Rail Network. It is proposed to restore, gauge standardise and upgrade more than 1000 km of railway line in the prime agricultural area of regional Victoria. The project will also support the freight requirements of primary producers and the development of other freight dependent industries in the region. The project also aims to better connect primary producers with the ports of Portland, Geelong and Melbourne, to promote competition between the three ports and to provide an incentive for investment in grain handling and other facilities – at both the upstream rail terminal and port ends of the supply chain.

2.101 It is proposed that standardising the rail gauges in this area will improve port access and competition and encourage greater investment in port infrastructure. The project also aims to provide an economical alternative to road freight and encourage greater competition within the freight sector which will benefit business, primary producers and consumers. The project is also expected to cater of an additional 311 000 tonnes of grain to be transported via rail each year.[86]

2.102 In March 2016, the Victorian Government awarded Geelong manufacturer Austrak an $11 million contract to supply more than 125 000 concrete sleepers for the project, supporting more than 20 jobs at their Port Wilson facility, as well as the almost 280 jobs the project is expected to create.

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84 Department of Infrastructure and Regional Development, *Submission 14*, p. 8.

85 Department of Infrastructure and Regional Development, *Submission 14*, pp 8-9.

86 The Department of Infrastructure and Regional Development cited evidence that this represents a 10 per cent modal shift, reducing heavy vehicle road use and improving overall safety for all road users.

2.103 It is noted that the project is expected to see 95 per cent of its materials sourced from within Australia, with 90 per cent being sourced directly from regional Victorian suppliers.

Industry capability

2.104 Australia's rail manufacturing sector has been undergoing a significant transition. It is slowly evolving from a more traditional manufacturing model of end-to-end rolling stock production to a more advanced manufacturing model, and low-volume, high-value production.

2.105 The transition of the rail manufacturing sector can be seen in an analysis of the size of the various areas of rail manufacturing. A 2015 IBISWorld report on the sector identified that end-to-end manufacture currently comprises only 6.8 per cent of rail production. However, it was also noted that other areas of the rail industry are becoming increasingly more significant: with repair and maintenance now representing 21.3 per cent, passenger railcars fit out 20.8 per cent, locomotive components 19.5 per cent, and freight wagons 10.7 per cent.[87]

Technology

2.106 As noted by the RMCRC, the rapid advances in technology and the changing face of manufacturing generally, means that Australia's rail manufacturing sector is facing the immediate challenge of incorporating new manufacturing technologies and processes into their businesses. It was also noted, however, that the adoption of new technologies will also present significant opportunities for Australian manufacturers. The RMCRC pointed, for example, to a number of current economic factors, including a lower exchange rate on the Australian dollar and increasing local demand for rolling stock, which provide domestic industry with a golden opportunity to re-capitalise and invest in innovation. [88]

2.107 It was also noted that, given the number of free-trade agreements Australia is signatory to, our manufacturing industries are now open to international competition and international opportunities. It was argued that those industry participants (across the Australian supply chain) who decide quickly to adopt a new, advanced manufacturing model, will have an opportunity to become world-leading manufacturers and secure their long term future.[89]

2.108 In response to this changing industry profile, governments have started to play a role in supporting the process of transition in more traditional industries such as rail manufacturing.

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87 IBISWorld Industry Report C2393, *Railway Equipment Manufacturing and Repair in Australia,* May 2015, cited in Rail Manufacturing CRC, *Submission 9,* p. 4.

88 Rail Manufacturing CRC, *Submission 9,* pp 2-4.

89 Rail Manufacturing CRC, *Submission 9,* p. 3.

2.109 The following chapter (Chapter 3) expands on the importance of Australia's rail industry and the contribution it makes to the Australian economy. The chapter outlines the industries, manufacturers and suppliers that currently exist in Australia and examines the importance of developing a world class industry that incorporates world class research and development, standards and technology.

2.110 Chapter 3 also outlines the consequences of a decline in the Australian rail manufacturing sector. It examines the impact any loss of capability would have and the importance of the rail industry in relation to transport infrastructure, access, employment and regional development, and the vital contribution it makes to Australia's economy.